

* 学生発表賞候補演題

* Student Presentation Award Candidate Poster

1日目(9月28日(水)) / Day 1 (Sep. 28 Wed.)

蛋白質：構造 / Protein: Structure

- [1Pos001](#) 珪藻 *Thalassiosira pseudonana* 由来ルビスコの構造解析及び新規ピレノイドタンパク質との相互作用解析
Structural study of RubisCO from diatom *Thalassiosira pseudonana* and its interaction with novel pyrenoid proteins
Taiiki Fukuzawa¹, Rei Tohda¹, Nawely Hermanus², Natumi Morishima², Ryosuke Okubo², Yoshinori Tsuji², Akihiro Kawamoto¹, Hideaki Tanaka¹, Gerle Christogh¹, Yusuke Matsuda², Genji Kurisu¹ (¹*Institute for Protein Research, Osaka University*, ²*School of Biological and Environmental Sciences, Kwansei Gakuin University*)
- [1Pos002](#) ヒト B 細胞抑制性共受容体 CD72 の構造解析
Structure analysis of human B cell inhibitory co-receptor CD72
Xibin Quan¹, Nobutaka Numoto¹, Takeshi Tsubata^{2,3}, Nobutoshi Ito¹ (¹*Dept. Struct. Biol., Med. Res. Inst., Tokyo Med. Dent. Univ.*, ²*Dept. Immunol., Med. Res. Inst., Tokyo Med. Dent. Univ.*, ³*Sch. Dent., Nihon Univ.*)
- [1Pos003](#) Generation of protein distance matrices and novel structures utilizing Generative Adversarial Networks(GAN)
Taihei Yamaguchi (*Grad. Sch. Agr. Life Sci., Univ. Tokyo*)
- [1Pos004](#) ヒト由来電位依存性カリウムイオンチャネルのクライオ電子顕微鏡単粒子解析
Cryo-EM single particle analysis of a human voltage-gated potassium channel
Natsuko Sekido¹, Tomona Iizuka², Tomoyasu Aizawa², Makoto Sasaki¹, Haruhiko Fuwa³, Mari Yotsu-Yamashita⁴, Keiichi Konoki⁴, Takeshi Yokoyama¹, Yoshikazu Tanaka¹ (¹*Grad. Sch. Life Sci., Tohoku Univ.*, ²*Grad. Sch. Life Sci., Hokkaido Univ.*, ³*Fac. Sci. & Eng., Chuo Univ.*, ⁴*Grad. Sch. Agri Sci., Tohoku Univ.*)
- [1Pos005](#) 電子線クライオトモグラフィーで可視化したスピロプラズマの細胞骨格リボン
Cytoskeletal ribbon of *Spiroplasma* revealed by cryo electron tomography
Yuya Sasajima¹, Takayuki Kato², Tomoko Miyata³, Akihiro Kawamoto², Fumiaki Makino^{3,4}, Keiichi Namba^{3,5,6}, Makoto Miyata^{1,7} (¹*Grad. Sch. Sci., Osaka Metropolitan Univ.*, ²*IPR., Osaka Univ.*, ³*Grad. Sch. Front. Biosci., Osaka Univ.*, ⁴*JEOL Ltd.*, ⁵*BDR & Spring-8 Center, Riken*, ⁶*JEOL YOKOGUSHI Res. Alliance. Lab. Osaka Univ.*, ⁷*OCARINA, Osaka Metropolitan Univ.*)
- [1Pos006](#) 左巻き $\beta\alpha\beta$ モチーフをもつタンパク質のデノボデザインに向けて
Toward *de novo* design of left-handed $\beta\alpha\beta$ -motif-containing proteins
Hiroto Murata, George Chikenji (*Dept of Appl. Phys., Grad. Sch of Eng., Nagoya Univ.*)
- [1Pos007](#) CRISPR-Cas7-11 の構造とエンジニアリングによる RNA ノックダウンツールへの応用
Structure and engineering of the type III-E CRISPR-Cas7-11 effector complex
Kazuki Kato¹, Wenyuan Zhou², Sae Okazaki¹, Yukari Isayama¹, Tomohiro Nishizawa³, Jonathan S. Gootenberg², Omar O. Abudayyeh², Hiroshi Nishimasu¹ (¹*RCAST, Univ. Tokyo*, ²*MIBR, MIT*, ³*Grad. Sch. Med. Life Sci., Univ. Yokohama City*)
- [1Pos008](#) 疑似電子顕微鏡画像を機械学習することにより生体分子の同定手法を開発する
Deep learning of computer-generated electron microscopy images to identify biomolecules
Atsushi Matsumoto (*Institute for Quantum Life Science, National Institutes for Quantum Science and Technology*)

- [1Pos009](#) Time-resolved X-ray crystallography of *E. coli* MutT, a Nudix hydrolase
Teruya Nakamura^{1,2}, Yuriko Yamagata^{1,3} (¹*Grad. Sch. of Pharmaceut. Sci., Kumamoto Univ.*, ²*Priority Organization for Innovation and Excellence, Kumamoto Univ.*, ³*Shokei University and Shokei University Junior College*)
- [1Pos010](#) X線自由電子レーザーを用いた単粒子解析における分子サイズ効果
Molecular size effect on the single-particle analysis using X-ray free electron laser
Miki Nakano¹, Osamu Miyashita¹, Florence Tama^{1,2,3} (¹*RIKEN Center for Computational Science*, ²*Grad. Sch. Sci., Nagoya Univ.*, ³*ITbM, Nagoya Univ.*)
- [1Pos011](#) クライオ電子顕微鏡を用いた纖毛軸糸ダイニンコンポーネント Calaxin の機能解析
Cryo-electron tomography revealed that Calaxin stabilizes the docking of outer arm dyneins onto ciliary doublet microtubule in vertebrate
Hiroshi Yamaguchi, Masahide Kikkawa (*Grad. Sch. Med., Univ. Tokyo*)
- [1Pos012](#) スーパーフォールドを区別する構造ルールの探索: フェレドキシン構造とリバースフェレドキシン構造の解析
The structural rule distinguishing a superfold: A case study of ferredoxin fold and the reverse ferredoxin fold
Takumi Nishina, George Chikenji (*Dept of Appl. Phys., Grad. Sch. of Eng., Nagoya Univ.*)
- [1Pos013](#) ネフローゼ症候群原因タンパク質 podocin の調製と結晶化
Preparation and crystallization of podocin, associated with nephrotic syndrome
Koki Ando¹, Hideshi Yokoyama² (¹*Grad. Sch. Pharm. Sci., Tokyo Univ. Sci.*, ²*Fac. Pharm. Sci., Tokyo Uni. Sci.*)
- [1Pos014](#) TMD シミュレーションを用いたギャップ結合ファミリータンパク質のクローズ機構及び周囲の脂質分子の流動性の解析
Analysis on the closing mechanism of gap junction family proteins and fluidity of surrounding lipid molecules by TMD simulation
Ikuma Kaneshiro¹, Florence Tama^{1,2}, Osamu Miyashita² (¹*Grad. Sch. Sci., Univ. Nagoya*, ²*Kobe Inst., Riken*)
- [1Pos015](#) レジリン蛋白質における自己組織化能の評価
Evaluation of Self-Assembling Ability in Resilin Proteins
Risa Tani¹, Yoichi Yamazaki¹, Kento Yonezawa^{1,2}, Sachiko Toma¹, Hironari Kamikubo^{1,2} (¹*NAIST, MS*, ²*NAIST, CDG*)
- [1Pos016](#) 代謝安定型作動薬と LysoPS 受容体 LPS1 の構造解析
Cryo-EM structure of LysoPS Receptor LPS1 in complex with Metabolically Stable Agonist
Ryo Kawahara¹, Fumiya Sano¹, Akiharu Uwamizu², Luying Chen², Tomohiko Ohwada², Junken Aoki², Wataru Shihoya¹, Osamu Nureki¹ (¹*Grad. Sch. Sci., Univ. Tokyo*, ²*Grad. Sch. Pharm., Univ. Tokyo*)
- [1Pos017](#) 免疫受容体 LILRA2 の ANGPTL6 認識機構
Molecular mechanism of ANGPTL6 recognition by immune activation receptor LILRA2
Jiaqi Wang¹, Atsushi Furukawa^{1,2}, Rika Yamazaki¹, Kouyuki Hirayasu^{3,4}, Tsuyoshi Kadomatsu⁵, Yuichi Oike⁵, Hisashi Arase³, Katsumi Maenaka¹ (¹*Pharm. Sci. Hokkaido Univ.*, ²*Pharm. Kanazawa Univ.*, ³*Res. Inst. Microbial Diseases, Osaka Univ.*, ⁴*Adv. Preventive. Med. Sci. Res. Center, Kanazawa Univ.*, ⁵*Med., Kumamoto Univ.*)
- [1Pos018](#) gREST 法による VHH 構造の効率的サンプリング
Enhanced Conformational Sampling of VHH by Generalized Replica-Exchange with Solute Tempering
Ren Higashida, Kouhei Yamaguchi, Yasuhiro Matsunaga (*Grad. Sch. Sci. Eng., Saitama Univ.*)
- [1Pos019](#) 毛髪ダメージに伴う毛髪繊維の変形とその分光学的解析
Deformation of hair fibers due to hair damage and its spectroscopic analysis
Kazuki Kobayashi, Atsushi Baba, Kazuyuki Suzuta, Len Ito (*MILBON Co., Ltd.*)

- [1Pos020](#) ミトコンドリア蛋白質搬入ゲート TOM 複合体の高速原子間力顕微鏡解析
High-speed atomic force microscopy analysis of the mitochondrial protein import gate TOM complex
Yuhei Arai¹, Nanako Kobayashi¹, Kana Kuzasa¹, Hirotsu Imai², Aimi Makino², Akihiro Inazu¹, Noriyuki Kodera², Toshiya Endo^{3,4} (¹*Dept. of Clin. Lab. Sci., Div. of Health Sci., Kanazawa Univ.*, ²*WPI-NanoLSI, Kanazawa Univ.*, ³*Fac. of Life Sci., Kyoto Sangyo Univ.*, ⁴*Inst. of Protein Dynamics, Kyoto Sangyo Univ.*)
- [1Pos021](#) カイコ storage protein の単粒子解析
Single particle analysis of silkworm storage proteins
Shunsuke Kita, Yuki Anraku, Cong Tian, Katsumi Maenaka (*Faculty of Pharmaceutical Sciences, Hokkaido University*)
- [1Pos022](#) 狂犬病ウイルスの P 蛋白質が宿主の JAK-STAT 経路を阻害する分子機構の解明
Molecular dissection on how rabies virus P-protein inhibits JAK-STAT pathway of host
Aoi Sugiyama¹, Miku Minami¹, Yukihiko Sugita², Mika Hirose³, Shunsuke Kita^{1,4}, Katsumi Maenaka^{1,4}, Min Yao^{1,5}, Toyoyuki Ose^{1,5} (¹*Grad. Sch. Life Sci., Hokkaido Univ.*, ²*Inst. Front. Life and Med. Sci., Kyoto Univ.*, ³*Inst. Protein, Osaka Univ.*, ⁴*Fac. Pharm. Sci., Hokkaido Univ.*, ⁵*Fac. Adv. Life Sci., Hokkaido Univ.*)
- [1Pos023](#) 一分子蛍光測定を目指した SARS-CoV2 の N 蛋白質の精製及びラベル化
Purification and fluorophore labeling of SARS-CoV2 N protein aiming at single molecule fluorescence measurements
Shun Endo^{1,2}, Leo Suzuki^{1,2}, Yuji Itoh^{1,2}, Hiroyuki Oikawa^{1,2}, Satoshi Takahashi^{1,2} (¹*Tohoku Univ.Inst., Tagenken*, ²*Grad.Sch.Sci., Univ.Tohoku*)
- [1Pos024](#) 高分解能中性子構造解析によるペプチド結合の平面性の再検討
Revisiting the peptide bond planarity by high-resolution neutron structure
Yuya Hanazono^{1,2,3}, Yu Hirano^{2,4}, Kazuki Takeda¹, Katsuhiro Kusaka⁵, Taro Tamada², Kunio Miki¹ (¹*Grad. Sch. Sci., Kyoto Univ.*, ²*Inst. Quant. Lif. Sci., QST*, ³*Med. Res. Inst., Tokyo Med. Dent. Univ.*, ⁴*PRESTO, JST*, ⁵*Front. Res. Cent. for Appl. Atom. Sci., Ibaraki Univ.*)

蛋白質：構造機能相関／Protein: Structure & Function

- [1Pos025](#) 大腸菌由来 ribonuclease HI の金属イオン結合熱力学解析と活性との相関
Metal-ion binding and folding thermodynamics of *Escherichia coli* ribonuclease HI in correlation with its activity
Yumi Kitagawa¹, Zengwei Liao¹, Kosuke Morikawa², Masayuki Oda¹ (¹*Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ.*, ²*Grad. Sch. Biostudies, Kyoto Univ.*)
- [1Pos026](#) 大規模な薬剤データセットにおける心筋イオンチャネル-薬剤間の結合自由エネルギー計算
Calculation of the binding free energies between cardiac ion channels and drugs on a large data set
Tatsuki Negami, Tohru Terada (*Grad. Sch. Agr. Life Sci., Univ. Tokyo*)
- [1Pos027](#) (2SBP-6) Automated Density Extraction of Isomorphous Difference map and Occupancy-estimation for Conformer Fitting
Sriram Srinivasa Raghavan¹, Florence Tama^{1,2,3}, Osamu Miyashita¹ (¹*RIKEN Center for Computational Science, Kobe, Japan.*, ²*Institute of Transformative Biomolecules (WPI-ITbM), Nagoya University, Aichi, Japan.*, ³*Department of Physics, Graduate School of Science, Nagoya University, Aichi, Japan.*)
- [1Pos028](#) HIV-1 の Nelfinavir 耐性プロテアーゼ D30N/N88D 変異体に対する動的残基間相互作用ネットワーク解析
Dynamic Residue Interaction Network Analysis of the Protease D30N/N88D Mutant Conferring Nelfinavir Resistance in HIV-1
Ayaka Ojima, Norifumi Yamamoto (*Chiba Tech*)

- [1Pos029](#) Elucidating the Mechanisms of the Bacterial Flagella ATPase Subcomplex
Thomas Stefan Davies^{1,2}, Peter John Bond¹, Alexander Krah¹, Chrystala Constantinidou² (¹*A*STAR Singapore*, ²*University of Warwick*)
- [1Pos030](#) Molecular dynamics study of phase behaviors of heat-resistant obscure proteins and their anti-aggregation functions
Cheng Tan¹, Ai Niitsu², Yuji Sugita^{1,2,3} (¹*Computational Biophysics Research Team, RIKEN Center for Computational Science*, ²*Theoretical Molecular Science Laboratory, RIKEN Cluster for Pioneering Research*, ³*Laboratory for Biomolecular Function Simulation, RIKEN Center for Biosystems Dynamics Research*)
- [1Pos031](#) インバース共溶媒分子動力学法による分子プローブ周辺アミノ酸残基環境の可視化
 Inverse Mixed-Solvent Molecular Dynamics for Visualization of Amino Acid Residue Interaction Profile of Molecular Probes
Keisuke Yanagisawa¹, Ryunosuke Yoshino^{2,3}, Genki Kudo⁴, Takatsugu Hirokawa^{2,3} (¹*Comput. Sci., Sch. Comput., Tokyo Tech.*, ²*Faculty Med., Univ. Tsukuba*, ³*TMRC, Univ. Tsukuba*, ⁴*Appl. Sci., Grad. Sch. Sci. Tech., Univ. Tsukuba*)
- [1Pos032](#) タイプIインターフェロン経路を阻害する麻疹ウイルスVタンパク質の機能解析
 Mechanistic analysis of type I interferon pathway inhibition by Measles virus V protein
Daiki Ito¹, Madoka Kimoto¹, Nanaka Goda¹, Kiichi Hirohata², Takahiro Maruno², Susumu Uchiyama², Min Yao³, Toyoyuki Ose³ (¹*Grad. Sch. Life Sci., Univ. Hokkaido*, ²*Grad. Sch. Eng., Univ. Osaka*, ³*Grad. Sch. Adv. Life Sci., Univ. Hokkaido*)
- [1Pos033](#) SMN タンパク質のプロリン残基異性化による機能変化
 Functional changes in SMN proteins by isomerization of proline residues
Saki Ohazama¹, Shinichi Nakagawa², Hiroshi Maita² (¹*Graduate School of Life Science, Hokkaido Univ.*, ²*Faculty of Pharmaceutical Sciences, Hokkaido Univ.*)
- [1Pos034](#) MD シミュレーションとクライオ電顕を用いた p97 の構造変化の研究
 Conformational change of p97 by MD simulations and experimental data
Tepei Deguchi¹, Florence Tama^{1,2,3}, Osamu Miyashita^{1,3} (¹*Grad. Sch. Sci., Univ. Nagoya*, ²*ITbM., Univ. Nagoya*, ³*R-CCS, RIKEN*)
- [1Pos035](#) ホソイトスギ由来パンアレルゲン、ポルカルシンの組換え発現と NMR 構造
 Recombinant expression and NMR structural analysis of a pan-allergen, polcalcin from European cypress
Peiwen Fan, Shaokai Zhao, Tomona Iizuka, Jingkang Zheng, Mitsuki Shibagaki, Tomoyasu Aizawa (*Grad. Sch. Life Sci., Hokkaido Univ.*)
- [1Pos036](#) STAT2 との相互作用に必要な麻疹ウイルス V 蛋白質最小領域の同定と相互作用特性
 Characterization of the minimum region of measles virus V protein to interact with STAT2
Nanaka Goda¹, Madoka Kimoto¹, Daiki Ito¹, Kaho Morita¹, Hiroyuki Kumeta², Min Yao², Toyoyuki Ose² (¹*Grad. Sch. Life Sci., Univ. Hokkaido*, ²*Grad. Sch. Adv. Life Sci., Univ. Hokkaido*)
- [1Pos037](#) ストレスファイバーにおけるアクチンサブユニットの張力依存的な構造状態
 Tension-dependent structural state of actin subunits in stress fibers
Yuki Karan, Taro Q.P. Noguchi (*National Institute of Technology, Miyakonjo College*)
- [1Pos038](#) Structural dynamics and *in silico* design of pyrazolopyran-based inhibitors against *Plasmodium* serine hydroxymethyltransferases
Pitchayathida Mee-udorn¹, Bodee Nutho², Romchalee Chootrakool³, Somchart Maenpuen⁴, Ubolsree Leartsakulpanich⁵, Penchit Chitnumsub⁵, Thanyada Rungrotmongkol^{1,3} (¹*Program in Bioinformatics and Computational Biology, Grad. Sch., Chulalongkorn Univ., Bangkok, Thailand*, ²*Department of Pharmacology, Science, Mahidol Univ., Bangkok, Thailand*, ³*Biocatalyst and Environmental Biotechnology Research Unit, Biochemistry, Science, Chulalongkorn Univ., Bangkok, Thailand*, ⁴*Department of Biochemistry, Science, Burapha Univ., Chonburi, Thailand*, ⁵*National Center for Genetic Engineering and Biotechnology, Thailand Science Park, Bangkok, Thailand*)

- [1Pos039](#) SARS-CoV-2 スパイク蛋白質と NTD 結合抗体との糖鎖を介した相互作用の解析
Investigation of interactions between SARS-CoV-2 spike and NTD-binding antibody through glycans
Mao Oide¹, Yuji Sugita^{1,2,3} (¹*RIKEN CPR*, ²*RIKEN BDR*, ³*RIKEN R-CCS*)
- [1Pos040](#) Recombinant production, functional and structural analysis of antimicrobial peptides in mouse cryptdin family
Shaonan Yan, Yuchi Song, Yi Wang, Weiming Geng, Shinya Yoshino, Tomoyasu Aizawa (*Graduate School of Life Science, Hokkaido University*)
- [1Pos041](#) *Dictyostelium discoideum* の filopodia の cryo-EM 観察
Observation of filopodia in *Dictyostelium discoideum* by cryo-EM
Yuki Gomibuchi, Yukihisa Hayashida, Yusuke V. Morimoto, Takuo Yasunaga (*Grad. Sch Comp. Sci and Sys. Eng., KIT*)
- [1Pos042](#) Unraveling the coupling between conformational changes and ligand binding in ribose binding protein using MD simulations
Weitong Ren¹, Hisham Dokainish¹, Ai Shinobu², Hiraku Oshima², Yuji Sugita^{1,2,3} (¹*RIKEN Cluster for Pioneering Research*, ²*RIKEN Center for Biosystems Dynamics Research*, ³*RIKEN Center for Computational Science*)
- [1Pos043](#) コーヒーポリフェノールと乳タンパク質の相互作用に関する分光学的研究
Spectroscopic study of the interaction between coffee polyphenols and milk proteins
Kazuki Horita^{1,2}, Hiroshi Suga¹, Atsushi Hirano^{1,2} (¹*Grad. Sch. Eng., Chiba Tec.*, ²*NMRI, AIST*)
- [1Pos044](#) CD28 ペプチドとの相互作用に伴う PI3K nSH2 ドメインの構造動態変化
Changes in structural dynamics of PI3K nSH2 upon interaction with CD28 peptide
Yohei Miyanoiri², Suyong Re³, Yuhi Hosoe¹, Yuya Asahina², Toru Kawakami², Masataka Kuroda^{3,4}, Kenji Mizuguchi^{2,3}, Masayuki Oda¹ (¹*Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ.*, ²*Inst. Prot. Res., Osaka Univ.*, ³*ArCHER, Natl. Inst. Biomed. Innov. Health Nutrition*, ⁴*Discov. Tech. Lab., Mitsubishi Tanabe Pharma Corp.*)
- [1Pos045](#) Acceleration of residue-level coarse-grained molecular dynamics by new development of parallelization
Jaewoon Jung^{1,2}, Cheng Tan¹, Chigusa Kobayashi¹, Diego Ugarte¹, Yuji Sugita^{1,2,3} (¹*RIKEN R-CCS*, ²*RIKEN CPR*, ³*RIKEN BDR*)
- [1Pos046](#) 新型コロナウイルスのスパイクタンパク質の動的残基相互作用ネットワーク分析
Dynamic Residue Interaction Network Analysis of the Spike Protein of SARS-CoV-2
Hirokazu Murata, Norifumi Yamamoto (*Chiba Tech*)
- [1Pos047](#) 詳細反応モデリングとベイズパラメータ推定による KaiC の多量体構造の機能的役割の解明
Functional roles of the multimeric structure of KaiC revealed by detailed kinetic modeling and Bayesian parameter inference
Shin-ichi Koda^{1,2}, Shinji Saito^{1,2} (¹*Institute for Molecular Science*, ²*SOKENDAI*)

蛋白質：物性（安定性 折れたたみなど）／Protein: Property

- [1Pos048](#) 抗体の親和性成熟と安定性の変化；成熟した C6 とそのジャームライン型抗体
Antibody evolution for antigen binding and stability; matured C6 and its germline-type antibodies
Saaya Yabuno¹, Takahiro Hayashi², Masayuki Oda^{1,2} (¹*Faculty Life. Environ. Sci., Kyoto Pref. Univ.*, ²*Grad. Sch. Life. Environ. Sci., Kyoto Pref. Univ.*)
- [1Pos049](#) 抗体の親和性成熟と安定性の変化；抗ニトロフェニル抗体の重鎖 58 番と 102 番残基の役割
Antibody evolution for antigen binding and stability; Role of residues at 58 and 102 of heavy chain of anti-nitrophenyl antibody
Mutsumi Yoshida¹, Yumi Kitagawa², Masayuki Oda^{1,2} (¹*Faculty Life. Environ. Sci., Kyoto Pref. Univ.*, ²*Grad. Sch. Life. Environ. Sci., Kyoto Pref. Univ.*)

- [1Pos050](#) Amyloid β aggregation and accumulation process under physiological conditions
Masahiro Kuragano, Shinya Yamanaka, Kiyotaka Tokuraku (*Grad. Sch. Eng., Muroran Inst. of Tech.*)
- [1Pos051](#) PSD95-PDZ3 の高温での可逆的なオリゴマー形成における速度論的効果の定量的な評価
The quantitative evaluation of kinetic effect on PSD95-PDZ3's reversible oligomerization at high temperature
Tomonori Saotome¹, Sawaros Onchaiya², Jose C Martinez³, Yutaka Kuroda², Shun-ichi Kidokoro¹
(¹*Dept. of Mate. Sci. and Bio., Nagaoka Univ. of Tech., Japan*, ²*Dept. of Biotech. and Life Sci., Tokyo Univ. of Agric. and Tech., Japan*, ³*Dept. of Phys. Chem., Univ. of Granada, Spain*)
- [1Pos052](#) 変性して小さくなる蛋白質
Antibody proteins can be smaller by denaturation
Hiroshi Imamura^{1,2,3}, Ayako Oishi³, Shinya Honda³ (¹*Dept. Bio-sci., Nagahama Inst. Bio-Sci. Tech.,*
²*Coll. Life Sci., Ritsumeikan Univ.*, ³*Biomed. Res. Inst., AIST*)
- [1Pos053](#) タンパク質表面電荷が溶解性に及ぼす影響の格子モデル解析
Lattice-model analysis of protein surface charge distribution on amorphous aggregation and condensation
Yutaka Kuroda, Yuki Matsuzawa, Shin Kohara (*Tokyo University of Agriculture and Technology (TUAT)*)
- [1Pos054](#) (1SAA-8) GGGGCC-RNA は、TDP43 およびそのカルボキシ断片の凝集を抑制する
(1SAA-8) GGGGCC-RNA prevents aggregation of TDP43 and its carboxy terminal fragments
Ai Fujimoto¹, Masataka Kinjo², Akira Kitamura² (¹*Grad. Sch. of Life Sci., Hokkaido. Univ.*, ²*Fac. Adv. Life Sci., Hokkaido. Univ.*)
- [1Pos055](#) Difference between the A β 40 and A β 42 aggregation processes at the atomic level
Satoru G. Itoh^{1,2,3}, Maho Yagi-Utsumi^{1,2,3,4}, Koichi Kato^{1,2,3,4}, Hisashi Okumura^{1,2,3} (¹*IMS,* ²*ExCELLS,*
³*SOKENDAI,* ⁴*Nagoya City Univ.*)
- [1Pos056](#) 翻訳アレスト時のポリペプチド鎖を可視化する試み
Attempt to visualize the synthetic polypeptide during translational arrest
Takehito Tanzawa, Takayuki Kato (*IPR., Osaka Univ.*)
- [1Pos057](#) Kinetic mechanisms of amyloid- β -(16–22) fibrillation
Keisuke Ikeda¹, Moe Yamazaki¹, Tomoshi Kameda², Hiroyuki Nakao¹, Minoru Nakano¹ (¹*Fac. Pharm. Sci., Univ. Toyama,* ²*AIST*)
- [1Pos058](#) アミロイド β ペプチドの凝集に対する NaCl 結晶の過渡的形成的影響
Effect of temporary NaCl crystal on the aggregation of amyloid β peptides
Masafumi Gushiken, Ikuo Kurisaki, Shigenori Tanaka (*Grad. Sch. system informatics., Univ. Kobe*)
- [1Pos059](#) リン酸基で修飾したジルコニア粒子を用いた His タグタンパク質の精製
Purification of histidine-tagged proteins using phosphate-modified zirconia particles
Shogo Kanoh^{1,2}, Kentaro Shiraki³, Momoyo Wada², Takeshi Tanaka², Msahiro Kitamura⁴,
Katsuya Kato⁵, Atsushi Hirano² (¹*Pure & Appl. Sci., Univ. Tsukuba,* ²*NMRI, AIST,* ³*Pure & Appl. Sci., Univ. Tsukuba,* ⁴*NGK SPARK PLUG CO., LTD,* ⁵*MMRI, AIST*)
- [1Pos060](#) ヘモグロビンの S 字型酸素結合曲線によるカメレオンモデルの協同性の研究
Testing cooperativity of chameleon model by sigmoidal oxygen binding curve of hemoglobin
Itsuki Yoshida, Tomoki P. Terada (*Dept. Appl. Phys., Grad. Sch. Eng., Nagoya Univ.*)
- [1Pos061](#) SARS-CoV-2 3CL プロテアーゼと基質ペプチドの結合解離過程の解析
Binding and unbinding kinetics of peptide substrate on SARS-CoV-2 3CL protease
Kei Moritsugu^{1,2}, Akinori Kidera¹ (¹*Grad. Sch. Med. Life Sci., Yokohama City Univ.,* ²*Grad. Sch. Sci., OMU*)
- [1Pos062](#) クモ糸タンパク質フィブロインのナノファイバーの単位構造の解明
A Unit Structure of Nanofiber composed of Spider Silk Protein Fibroin
Rakuri Aiba¹, Kento Yonezawa², Yusuke Okamoto¹, Haruya Kajimoto¹, Takehiro Sato³,
Yoichi Yamazaki¹, Sachiko Toma-Fukai¹, Hironari Kamikubo^{1,2} (¹*MS.,NAIST,* ²*CDG., NAIST,* ³*Spiber Inc.*)

- [1Pos063](#) フィブロインナノファイバーの違いによる延伸乾燥ハイドロゲルの特性の比較
Comparison of Properties of Stretch-Dried Hydrogels with Different Fibroin Nanofibers
Kenta Kimura¹, Kento Yonezawa^{1,2}, Yuki Nakatani¹, Satoru Onishi¹, Haruya Kajimoto¹, Takehiro Sato³, Yoichi Yamazaki¹, Sachiko Toma-Fukai¹, Hironari Kamikubo^{1,2} (¹NAIST, MS, ²NAIST, CDG, ³Supiber inc)

蛋白質：機能（反応機構 生物活性など）／Protein: Function

- [1Pos064](#) Role of the si-face Tyr of *Bacillus subtilis* ferredoxin-NADPH oxidoreductase in the enzyme-substrate interactions
Daisuke Seo (*Grad. Sch. Nat. Sci. Tec., Kanazawa Univ.*)
- [1Pos065](#) SOD1 への基質接近に対する静電ループと Arg143 の役割
Role of electrostatic loop and Arg143 on substrate approach to SOD1
Miu Nakamura¹, Yoshifumi Fukunishi², Juha Lintuluoto³, Masami Lintuluoto¹ (¹Grad. Sch. Life and Environ. Sci., Kyoto Pref. Univ., ²AIST, CMB, ³Grad. Sch. Eng., Kyoto Univ.)
- [1Pos066](#) Truncated mutant of the hemolytic lectin CEL-III revealed the interaction between protomer in hemolytic oligomer
Shuichiro Goda^{1,2}, Keisuke Fukumoto¹, Yuta Yamawaki¹, Hideaki Unno¹, Tomomitsu Hatakeyama¹ (¹Grad. Sch. Of Eng., Nagasaki Univ., ²GalSIC, Soka Univ.)
- [1Pos067](#) Effect of microtubule-binding proteins on microtubule flexural rigidity
Takuto Nakamichi, Kosuke Matsumura, Keiya Shimamori, Kohei Nishida, Kiyotaka Tokuraku, Masahiro Kuragano (*Grad. Sch. Eng., Muroran Inst. of Tech*)
- [1Pos068](#) Characterization of fibrous condensations of CAHS proteins from an anhydrobiotic tardigrade
Seiji Nishimura¹, Maho Yagi-Utumi^{1,2,3}, Kazuhiro Aoki^{2,4}, Kazuharu Arakawa^{2,5}, Koichi Kato^{1,2,3} (¹Graduate School of Pharmaceutical Sciences, Nagoya City University, ²Exploratory Research Center on Life and Living Systems (ExCELLS), National Institutes of Natural Sciences, ³Institute for Molecular Science (IMS), National Institutes of Natural Sciences, ⁴National Institute for Basic Biology (NIBB), National Institutes of Natural Sciences, ⁵Institute for Advanced Biosciences, Keio University)
- [1Pos069](#) 微小管切断酵素カタニンの活性評価と高速 AFM による可視化
Biochemical characterization and high-speed AFM visualization of AAA ATPase Katanin
Hayato Shibuya¹, Noriyuki Kodera², Ikuko Hayashi¹ (¹Grad. Sch. of Med. Lif. Sci., Yokohama City Univ., ²NanoLS., Kanazawa Univ.)
- [1Pos070](#) Target DNA binding dynamics of *Staphylococcus aureus* Cas9 as revealed by high-speed atomic force microscopy
Leonardo Puppulin^{1,2}, Junichiro Ishikawa³, Hiroshi Nishimatsu³, Mikihiro Shibata^{1,4} (¹Nano Life Science Institute (WPI-NanoLSI), Kanazawa University, ²Kyoto Prefectural University of Medicine, Department of Pathology and Cell Regulation, ³Structural Biology Division, Research Center for Advanced Science and Technology, The University of Tokyo, ⁴Infinity for Frontier Science Initiative, Kanazawa University)
- [1Pos071](#) Analysis of amyloid β aggregation inhibitory activities and cytotoxicity suppressing activities of mushroom extracts from Hokkaido
Tuya Gegen¹, Rina Sasaki¹, Enkhmaa Enkhbat², Masahiro Kuragano¹, Keiya Shimamori¹, Yoshiko Suga², Yuta Murai², Masaki Anetai², Kenji Monde², Kiyokata Tokuraku¹ (¹Division of Sustainable and Environmental Engineering, Muroran Institute of Technology, ²Frontier Research Center for Advanced Material and Life Science, Faculty of Advanced Life Science, Hokkaido University)
- [1Pos072](#) Escherichia coli inhibited amyloid β aggregation in a concentration-dependent manner
Sohta Katagiri, Na Zhu, Masahiro Kuragano, Kiyotaka Tokuraku (*Grad. Sch. Eng., Muroran Inst. of Tech.*)

[1Pos073](#) 機械学習を用いたペプチドの血圧降下活性の予測
Prediction of antihypertensive activity of peptides using machine learning
Kazushi Tamura, Yoshitaka Moriwaki, Tohru Terada, Kentaro Shimizu (*Grad. Sch. Agri. & Life Sci., Univ. Tokyo*)

蛋白質：計測・解析の方法論／Protein: Measurement & Analysis

[1Pos074](#) 回転拡散と並進拡散の解析による凝集性タンパク質の検出
Detection of protein aggregates using rotational and translational diffusion analysis
Riku Ando¹, Johtaro Yamamoto^{2,3}, Akira Kitamura³, Nori Nakai⁴, Sumio Terada⁴, Masataka Kinjo³
(¹Grad. Sch. Life Sci., Hokkaido Univ., ²Nat. Inst. Adv. Ind. Sci. & Tech., ³Fac. Adv. Life Sci., Hokkaido Univ., ⁴Grad. Sch. Med. & Dent. Sci., Tokyo Med. & Dent. Univ.)

[1Pos075](#) 非発光タンパク質の発光酵素反応
Enzymatic luminous reaction of non-bioluminescent proteins
Ryo Nishihara^{1,2}, Kazuki Niwa¹, Tatsunosuke Tomita¹, Ryoji Kurita¹ (¹National Institute of Advanced Industrial Science and Technology (AIST), ²Japan Science and Technology Agency (JST), PRESTO)

[1Pos076](#) (1SBA-4) 3D structural determination of proteins from fluctuation X-ray scattering data
Wenyang Zhao¹, Osamu Miyashita¹, Florence Tama^{1,2} (¹Center for Computational Science, RIKEN, ²Grad. Sch. Sci., Univ. Nagoya)

[1Pos077](#) 残基特異的な熱力学・速度論解析が明らかにするスペクトリン SH3 ドメインの共同性の低いフォールディング
Reduced cooperativity of spectrin SH3 domain folding revealed by combined per-residue thermodynamic and kinetic analysis
Seiichi Hayashi¹, Daisuke Fujinami², Daisuke Kohda¹ (¹Med. Inst. Bioreg., Kyushu Univ., ²Grad. Sch. Integr. Pharm. Nutr. Sci., Univ. Shizuoka)

[1Pos078](#) 残基特異的 QFER (自由エネルギー 2 次関係) はスムーズな蛋白質折れ畳みを実現するコンシステンシー原理の数学的表現である
Residue-based Quadratic Free Energy Relationship is a Mathematical Formulation of the Consistency Principle of Protein Folding
Daisuke Kohda¹, Seiichi Hayashi¹, Daisuke Fujinami² (¹Med. Inst. Bioreg., Kyushu Univ., ²Grad. Sch. Integr. Pharm. Nutr. Sci., Univ. Shizuoka)

[1Pos079](#) 自由エネルギー摂動法を用いた VHH フレームワーク部位のアミノ酸配列最適化
In silico optimization of VHH framework sequence using free energy perturbation method
Kazuma Okada, Yasuhiro Matsunaga (*Grad. Sch. Sci. Eng., Saitama Univ.*)

[1Pos080](#) 新型コロナウイルス並びにインフルエンザウイルス A 型を検出するチオ NAD サイクリング ELISA 法の開発
Development of Thio-NAD Cycling ELISA for Detection of SARS-CoV-2 and Influenza Virus Type A

Yuta Kyosei¹, Sou Yamura¹, Mayuri Namba¹, Etsuro Ito^{1,2} (¹Department of Biology, Waseda University, ²Waseda Research Institute for Science and Engineering, Waseda University)

[1Pos081](#) gr Predictor : 深層学習を活用したタンパク質水和分布の高速計算法
gr Predictor : An Efficient Method for Computing the Hydration Structure around Proteins using Deep Learning

Kosuke Kawama¹, Yusaku Fukushima¹, Mitsunori Ikeguchi^{2,3}, Masateru Ohta³, **Takashi Yoshidome**¹
(¹Dep. of Appl. Phys., Tohoku Univ., ²Grad. Sch. of Med. Life Sci., Yokohama City Univ., ³RIKEN)

[1Pos082](#) タンパク質の局所構造の形状操作性に関するロボット工学的解析手法
Robotics-Based Method for Analyzing Shape Manipulability of Localized Protein Structures
Keisuke Arikawa (*Fcl. Eng., Kanagawa Inst. of Tech.*)

- [1Pos083](#) マルチチェーン/マルチドメインタンパク質の構造変化の解析法について
A method for analyzing structural changes of protein with multi-chains/multi-domains
Chigusa Kobayashi¹, Hisham Dokainish², Suyong Re³, Takaharu Mori², Jaewoon Jung^{1,2}, Yuji Sugita^{1,2,4} (¹RIKEN R-CCS, ²RIKEN CPR, ³NIBIOHN, ⁴RIKEN BDR)
- [1Pos084](#) Cryo-CLEM 法および Cryo-ET 法による糸状仮足先端の三次元構造観察
Observation of three dimensional structure of filopodial tips by Cryo-CLEM and Cryo-ET methods
Miho Nakafukasako¹, Tomoya Higo¹, Yuki Gomibuchi², Hiroko Takazaki³, Yusuke V. Morimoto², Takayuki Kato³, Takuo Yasunaga² (¹Grad. Sch. Comp. Sci. Syst. Eng., Kyushu Inst. Tech., ²Dept. of Phys. Info. Tech., Kyushu Inst. Tech., ³IPR, Univ. Osaka)
- [1Pos085](#) タイムタグ光子測定方式によるナノ秒蛍光相関分光測定システムの開発
Development of the time-tag photon detection method of nanosecond fluorescence correlation spectroscopy
Yutaka Sano^{1,2}, Hiroyuki Oikawa^{1,2}, Satoshi Takahashi^{1,2} (¹Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, ²Department of Chemistry, Graduate School of Science, Tohoku University)
- [1Pos086](#) 生細胞中の細胞質タンパク質 CRAF の二量体化状態および構造状態遷移に関する詳細解析
Detailed analyses of dimerization state and conformational state transitions of cytoplasmic protein CRAF in live cells
Kenji Okamoto, Yasushi Sako (*RIKEN CPR*)
- [1Pos087](#) ラマン分光法を用いたタンパク質相分離液滴の濃度と熱力学的性質の検討
Investigation of concentration changes and thermodynamic properties of a single phase-separated protein droplet using Raman microscopy
Kohei Yokosawa¹, Shinji Kajimoto^{1,2}, Takakazu Nakabayashi¹ (¹Grad. Sch. Pharm. Sci., Tohoku Univ., ²JST PRESTO)

蛋白質：蛋白質工学／進化学／Protein: Engineering

- [1Pos088](#) Algorithm and Neural Network-Based Design, and Experimental Evaluations of Antimicrobial Peptides
Je-Wen Liou^{1,2,3}, Te-Man Liu², Yu-Ren Chen², Chin-Hao Yang¹, Hemalatha Mani³ (¹Department of Biochemistry, School of Medicine, Tzu Chi University, Hualien, Taiwan, ²Department of Laboratory Medicine and Biotechnology, Tzu Chi University, Hualien, Taiwan, ³Institute of Medical Sciences, Tzu Chi University, Hualien, Taiwan)
- [1Pos089](#) Generation of microtubule superstructures by mimicking ciliary microtubule structures
Muneyoshi Ichikawa¹, Hiroshi Inaba², Yurina Sueki², Arif Md. Rashedul Kabir³, Takashi Iwasaki⁴, Hideki Shigematsu⁵, Akira Kakugo³, Kazuki Sada³, Tomoya Tsukazaki¹, Kazunori Matsuura² (¹Div. of Biol. Sci., NAIIST, ²Grad. Sch. of Eng., Tottori Univ., ³Grad. Sch. of Chem. Sci. and Eng., Hokkaido Univ., ⁴Grad. Sch. of Agric. Sci., Tottori Univ., ⁵Struct. Biol. Div., Jap. Synchrotron Radiat. Res. Instit.)
- [1Pos090](#) ウシ由来抗菌ペプチド BMAPs の大量発現系構築および機能・構造解析
Construction of an overexpression system and functional and structural analysis of bovine antimicrobial peptides BMAPs
Fumi Hirai¹, Mitsuki Shibagaki², Kotaro Tsukioka¹, Hao Gu², Tomoyasu Aizawa^{1,2} (¹Sch. Sci., Hokkaido Univ., ²Grad. Sch. Life Sci., Hokkaido Univ.)
- [1Pos091](#) ヘリックスループ-ヘリックスモチーフのヘリックス-ヘリックス角に着目したタンパク質複合体構造の計算機デザイン
Computational design of protein complexes focusing on the helix-helix angle of the helix-loop-helix motif
Marino Yamamoto, Naoya Kobayashi, Shun Hirota (*NAIIST, Mat. Sci.*)

- [1Pos092](#) 機械学習を組み合わせたファージ提示法による抗体断片の指向性進化
Machine-learning application for in vitro selection of antibody fragments from a phage display library
Sakiya Kawada¹, Yoichi Kurumida², Tomoyuki Ito¹, Thuy Duong Nguyen², Hikaru Nakazawa¹, Hafumi Nishi^{3,4,5}, Yutaka Saito^{2,6,7,8}, Tomoshi Kameda^{2,8}, Koji Tsuda^{7,8,9}, Mitsuo Umetsu^{1,8} (¹*Grad. Sch. Eng., Tohoku Univ.*, ²*AIRC, AIST*, ³*Grad. Sch. Information Sci., Tohoku Univ.*, ⁴*ToMMo, Tohoku Univ.*, ⁵*Fac. Core Res., Ochanomizu Univ.*, ⁶*CBBD-OIL, AIST-Waseda Univ.*, ⁷*Grad. Sch. Frontier Sci., The Univ. of Tokyo*, ⁸*Adv. Intell. Pro., RIKEN*, ⁹*MaDIS, NIMS*)
- [1Pos093](#) ファージ提示ライブラリーを用いた進化分子工学操作への機械学習利用による抗体様分子開発
Machine-learning-assisted molecular evolution with a phage display library of antibody mimetics
Tomoyuki Ito¹, Thuy Duong Nguyen², Yutaka Saito^{2,3,4,5}, Yoichi Kurumida², Hikaru Nakazawa¹, Sakiya Kawada¹, Hafumi Nishi^{6,7,8}, Koji Tsuda^{4,5,9}, Tomoshi Kameda^{2,5}, Mitsuo Umetsu^{1,5} (¹*Grad. Sch. Eng., Tohoku Univ.*, ²*AIRC, AIST*, ³*CBBD-OIL, AIST-Waseda Univ.*, ⁴*Grad. Sch. Frontier Sci., The Univ. of Tokyo*, ⁵*Adv. Intell. Pro., RIKEN*, ⁶*Grad. Sch. Information Sci., Tohoku Univ.*, ⁷*ToMMo, Tohoku Univ.*, ⁸*Fac. Core Res., Ochanomizu Univ.*, ⁹*MaDIS, NIMS*)
- [1Pos094](#) 抗菌ペプチド α ディフェンシンの高濃度変性剤存在下における野生型ジスルフィド結合形成機構の解析
Mechanism of correct disulfide bonds formation of α-defensins in the presence of high concentrations of denaturing agents
Shinya Yoshino, Hiromichi Taguchi, Yi Wang, Yuchi Song, Weiming Geng, Shaonan Yan, Tomoyasu Aizawa (*Grad. Sch. Life Sci., Hokkaido Univ.*)
- [1Pos095](#) PD-1 アゴニスト開発に向けた PD-1 結合タンパク質の合理的設計
Rational design of PD-1 binding proteins to develop PD-1 agonists
Hirotoar Shimamura¹, Shunji Suetaka², Nao Sato², Yuuki Hayashi^{2,3}, Munchito Arai^{1,2} (¹*Dept. Phys., Univ. Tokyo*, ²*Dept. Life Sci., Univ Tokyo*, ³*Environmental Science Center, Univ. Tokyo*)
- [1Pos096](#) Analysis of receptor signaling using growth factor mutants designed by an in silico approach
Yuga Okada¹, Akihiro Eguchi², Daisuke Kuroda³, Kohei Tsumoto¹, Ryosuke Ueki¹, Shinsuke Sando¹ (¹*Grad. Sch. Eng., Univ. Tokyo*, ²*Faculty of Health and Medical Sciences, University of Copenhagen.*, ³*National Institute of Infectious Diseases, Ministry of Health, Labour, and Welfare.*)
- [1Pos097](#) NMR 解析に向けたマウス由来抗菌ペプチド cathelicidin, CRAMP(cathelicidin related anti-microbial peptide)の大腸菌を用いた大量発現系構築
Construction of an overexpression system of mouse-derived antimicrobial peptide cathelicidin, CRAMP in *E. coli* for NMR analysis
Kotaro Tsukioka¹, Waka Ueda¹, Humi Hirai¹, Mitsuki Shibagaki², Hao Gu², Tomoyasu Aizawa³ (¹*Sch.Sci.,Hokkaido Univ.*, ²*Grad. Sch. Life Sci., Hokkaido Univ.*, ³*Fac. Adv. Life Sci., Hokkaido Univ.*)

ヘム蛋白質／Heme proteins

- [1Pos098](#) ナノディスクに再構成した鉄還元膜タンパク質 CYB561D2 によって誘起される脂質過酸化の解析
Analysis of lipid peroxidation induced by iron-reducing membrane heme protein; CYB561D2 in nanodiscs
Aoi Yamaguchi, Motonari Tsubaki, Tetsunari Kimura (*Dept. of Chem., Grad Sch. of Sci., Kobe Univ.*)
- [1Pos099](#) プロテオリポソーム中における Higd1A によるシトクロム c 酸化酵素の活性増強機構
The positive regulation mechanism of cytochrome c oxidase by Higd1A in proteoliposome
Wataru Sato¹, Sachiko Yanagisawa¹, Kyoko Shinzawa-Ittoh¹, Yuya Nishida², Takemasa Nagao², Yasunori Shintani², Minoru Kubo¹ (¹*Grad. Sch. Sci., Univ. Hyogo*, ²*Mol. Pharmacol., NCVC*)

- [1Pos100](#) 酸素バリア性フィルムを利用した嫌気下での構造解析の試み
Attempt to structural analysis under anaerobic condition using oxygen barrier film
Takehiko Toshi¹, Kanji Shimba², Hiroaki Matsuura¹, Kunio Hirata¹, Masaki Yamamoto¹, Yoshitsugu Shiro² (¹*RIKEN SPring-8*, ²*University of Hyogo*)

膜蛋白質／Membrane proteins

- [1Pos101](#) LoCoMock: LogP によって補正されたスコアによるタンパク質-リガンド-膜複合体のドッキングシミュレーション
LoCoMock: LogP-corrected Membrane Docking Score Screens Protein-Ligand-Membrane Complexes
Rikuri Morita, Yasuteru Shigeta, Ryuhei Harada (*CCS, Univ. Tsukuba*)
- [1Pos102](#) γ 切断酵素と APP/Notch のドッキング過程の粗視可モデルシミュレーション研究
Coarse-grained model Simulation study of the docking process of γ -secretase and APP/Notch
Chika Minami, Lisa Matsukura, Naoyuki Miyashita (*Grad. Sch. BOST, KINDAI Univ.*)
- [1Pos103](#) 遺伝子変異が引き起こす EGFR 動態変化の 1 分子解析
Single-molecule analysis of mutation induced changes in EGF receptor behavior
Michio Hiroshima^{1,2}, Masahiro Ueda^{1,3} (¹*RIKEN BDR*, ²*RIKEN CPR*, ³*FBS, Osaka Univ.*)
- [1Pos104](#) 1 分子イメージングを用いた薬剤スクリーニング
Drug screening platform using single molecule imaging
Daisuke Watanabe^{1,2}, Michio Hiroshima², Masahiro Ueda^{1,2} (¹*FBS Osaka Univ.*, ²*RIKEN BDR*)

核酸結合蛋白質／Nucleic acid binding proteins

- [1Pos105](#) 計算科学的に明らかにするホモ二量体チロシル tRNA 合成酵素 (TyrRS) のハーフサイト活性
A Computational Study on the Half-Site Activity Mechanism of Homodimeric Tyrosyl tRNA Synthetase (TyrRS)
Yoshino Okamoto¹, Takunori Yasuda², Rikuri Morita³, Yasuteru Shigeta³, Ryuhei Harada³ (¹*College of biological sciences, University of Tsukuba*, ²*Doctoral program in biology, University of Tsukuba*, ³*Center for computational Sciences*)
- [1Pos106](#) Elucidation of nucleosome sliding mechanism in all-atom detail via MD simulations
Syed Hashim Shah, Giovanni Bruno Brandani, Shoji Takada (*Department of Biophysics, Graduate school of science, Kyoto University, Kyoto*)
- [1Pos107](#) PPRP の RNA からの解離機構のシミュレーション研究
Simulation study of the dissociation mechanism of the PPRP with RNA
Sumile Tanaka¹, Lisa Matsukura¹, Masaki Ottawa², Naoyuki Miyashita¹ (¹*Grad. Sch. BOST, KINDAI Univ.*, ²*Sch. Phys. Sci., GUAS*)
- [1Pos108](#) 部分的にアンラップされたヌクレオソームからの、Nap1 による H2A/H2B 解離メカニズム
Nap1 dismantles a H2A/H2B dimer from a partially unwrapped nucleosome
Fritz Nagae, Shoji Takada, Tsuyoshi Terakawa (*Grad. Sch. Sci., Kyoto Univ.*)

- [1Pos109](#) Simulation for the phase separation of DNA droplet with chemical reactions
Ryohei Furuichi¹, Tomoya Maruyama², Akihiro Yamamoto¹, Masahiro Takinoue^{1,2} (¹*School of Computing, Tokyo Institute of Technology*, ²*School of Life Science and Technology, Tokyo Institute of Technology*)
- [1Pos110](#) スクレオゾーム上を動く酵母 RNAPolymerase II の粗子化 MD シミュレーション
 Coarse-grained MD simulations of an elongation process of yeast RNA Pol2 moving toward a nucleosome
Takafumi Yamauchi, Genki Shino, Shoji Takada (*Kyoto University*)
- [1Pos111](#) Mg イオンによるリボザイムのフォールディングとミスフォールディング機構
 Mg-induced folding and misfolding of ribozymes
Naoto Hori¹, D Thirumalai² (¹*School of Pharmacy, University of Nottingham*, ²*Department of Chemistry, University of Texas at Austin*)
- [1Pos112](#) 線形および環状 DNA の交流電場応答の直接観測
 Dynamics of circular and linear DNA under AC electric fields
Yunosuke Fuji, Shin Takano, Seiwa Yamagishi, Yuuta Moriyama, Toshiyuki Mitsui (*Dept. Phys. Sch. Sci. Aogaku Univ.*)
- [1Pos113](#) 染色体レオロジー特性を介した核内ストレス顆粒のポジショニング機構
 Mechanisms of nuclear stress granule positioning in the nucleus via rheological properties of chromatin
Takuya Nara, Haruko Takahashi, Yutaka Kikuchi (*Graduate School of Integrated Sciences for Life, Hiroshima University*)
- [1Pos114](#) 高分子の表面吸着問題から理解する分裂酵母の構成的ヘテロクロマチン形成
 Essence of assembly of constitutive heterochromatin in fission yeast lies in surface adhesion of polymers?
Tetsuya Yamamoto¹, Takahiro Asanuma², Yota Murakami³ (¹*ICREDD, Hokkaido Univ.*, ²*Grad. Sch. Chem. Sci. Eng., Hokkaido Univ.*, ³*Dep. Chem. Fac. Sci., Hokkaido Univ.*)
- [1Pos115](#) クロマチンのもつ液滴の性質
 Intrinsic liquid droplet property of chromatin
Kazuhiro Maeshima¹, Sachiko Tamura¹, Tatsuya Fukuyama², Yusuke Maeda² (¹*National Institute of Genetics & SOKENDAI*, ²*Department of Physics, Kyushu University*)
- [1Pos116](#) 修飾核酸特有の低質量プロダクトイオンによる定量を行うソフトウェア
 Software for Quantification with Low-mass Product Ions peculiar to Modified Nucleic Acids
Yuki Matsubara¹, Masami Koike², Yuko Nobe³, Hiroko Tsuchida², Yasuto Yokoi¹, Masato Taoka³, Hiroshi Nakayama² (¹*Mitsui Knowledge Industry*, ²*RIKEN CSRS*, ³*Tokyo Metropolitan University*)
- [1Pos117](#) 単分散 GUV を用いた濃度制御による DNA 凝集体の生成
 GENERATION OF DNA CONDENSATES BY CONCENTRATION CONTROL IN MONODISPERSE GIANT UNILAMELLAR VESICLES
Ryotaro Yoneyama¹, Ryota Ushiyama¹, Tomoya Maruyama², Masahiro Takinoue^{2,3}, Hiroaki Suzuki¹ (¹*Graduate School of Science and Engineering, Chuo University*, ²*Life Science and Technology, Tokyo Institute of Technology*, ³*Department of Computer Science, Tokyo Institute of Technology*)

- [1Pos118](#) microRNA の機能発現を 1 細胞 1 分子レベルで可視化する新規技術の開発
 In situ single-molecule imaging of microRNA function
Hotaka Kobayashi^{1,2} (¹*JST PRESTO*, ²*IQB, The University of Tokyo*)

- [1Pos119](#) *In silico* アプローチによるアプタマー-IgG 結合の熱力学的プロファイルの解析
In silico approach for identification of the thermodynamic profiles of aptamer-IgG binding
Ryoji Yamazaki¹, Azumi Ito², Tomoki Sakamoto^{3,4}, Masaki Komine², Takeshi Ishikawa⁵,
 Masato Katahira^{3,4}, Takashi Nagata^{3,4}, Taiichi Sakamoto², Kenji Yamagishi¹ (¹*Graduate School of Engineering Nihon University*, ²*Faculty of Advanced Engineering Chiba Institute of Technology*,
³*Graduate School of Energy Science Kyoto University*, ⁴*Institute of Advanced Energy, Kyoto University*,
⁵*Graduate School of Science and Engineering Kagoshima University*)
- [1Pos120](#) IgG に結合するアプタマーへの化学修飾の影響
 Effect of chemical modification on the aptamer that binds to IgG
Azumi Ito¹, Yuuki Yatabe¹, Hisae Yoshida², Masahiro Sekiguchi², Kazumasa Akita³,
 Yoshikazu Nakamura³, Yusuke Nomura⁴, Takeshi Ishikawa⁵, Kenji Yamagishi², Taiichi Sakamoto¹
 (¹*Chiba Institute of Technology*, ²*Nihon University*, ³*Ribomic Inc.*, ⁴*National Institute of Health Science*,
⁵*Kagoshima University*)
- [1Pos121](#) (2SEP-2) 自由エネルギー地形から探る開始コドン認識機構
 (2SEP-2) Computational Analysis of the Start Codon Recognition Mechanism Based on Free Energy Landscape
Takeru Kameda¹, Katsura Asano^{2,3,4}, Yuichi Togashi^{1,5} (¹*Coll. Life Sci., Ritsumeikan Univ.*, ²*Div. Biol., Kansas State Univ.*, ³*HiHA, Hiroshima Univ.*, ⁴*Grad. Sch. Integ. Sci. Life, Hiroshima Univ.*, ⁵*RIKEN BDR*)
- [1Pos122](#) スクレオソームから H2A-H2B 量体が脱離する際の自由エネルギー曲線解析
 Analysis of free energy curve of H2A-H2B dimer displacement from the nucleosome
Hisashi Ishida, Hidetoshi Kono (*Institute for Quantum Life Science, National Institutes for Quantum Science and Technology*)
- [1Pos123](#) 細菌の翻訳開始前複合体における tRNA とリボソームタンパク質の相互作用に関する理論的考察
 Theoretical investigation of the interactions between a tRNA and ribosomal proteins in bacterial translation pre-initiation complex
Yoshiharu Mori, Shigenori Tanaka (*Grad. Sch. Sys. Inf., Kobe Univ.*)
- [1Pos124](#) 遠隔操作が可能な DNA 流体のマイクロ流制御
 Microflow manipulation of DNA fluid with remote controllability
Hirotake Udo¹, Shin-ichiro Nomura M.², Masahiro Takinoue¹ (¹*Sch. Comp., TiTech*, ²*Grad. Sch. Eng., Tohoku Univ.*)
- [1Pos125](#) 光ピンセットを用いたソレ効果による相分離ドロップレットの生成と DNA 濃縮 II
 Generation of Phase Separated Droplet Induced by Soret Effect and DNA Enrichment by Optical Tweezers II
Mika Kobayashi, Yoshihiro Minagawa, Hiroyuki Noji (*Grad. Sch. of Eng., Univ. Tokyo*)

電子状態 / Electronic state

- [1Pos126](#) 一定終状態光電子収量分光法を用いたタンパク質薄膜の電子構造観察
 Application of Constant Final State Photoelectron Yield Spectroscopy to Protein Films to Elucidate Their Occupied Electronic Structure
Masaki Tomita¹, Bera Sudipta⁴, Ryotaro Nakazawa¹, Rio Ushiroda¹, Ichiro Ide¹, Cahen David⁴,
 Hisao Ishii^{1,2,3} (¹*GSSE Chiba Univ.*, ²*CFS Chiba Univ.*, ³*MCRC Chiba Univ.*, ⁴*Weizmann Inst*)
- [1Pos127](#) 電子線回折を利用した構造解析における電子状態を考慮した構造精密化
 Structural refinement considering the electron orbitals in structural analysis using electron diffraction
Yasuhisa Honda, Keigo Takahira, Takuo Yasunaga (*Dept of Computer Science and Engineering, Kyushu Institute of Technology*)

- [1Pos128](#) 酸化型[NiFe]ヒドロゲナーゼの生成経路と活性中心の電子・幾何構造についての理論的研究
Theoretical characterization of the active site and its formation pathway in oxidized [NiFe]-hydrogenase
Yuta Hori, Yasuteru Shigeta (*Center for Computational Sciences, Univ. Tsukuba*)
- [1Pos129](#) Scala 言語を用いた生体高分子計算科学ツール STCSB への量子化学計算機能の追加
Further development of STCSB, Scala Tool for the Computational Science of Biomolecules, to add a quantum-chemistry calculation module
Ryoutarou Matsuda, Mika Mitsumatsu, Itaru Onishi, Masayuki Irida (*Kyushu Inst. of tech*)

発生・分化／Development & Differentiation

- [1Pos130](#) Continuum model for analyzing mechanical properties of *Dictyostelium* fruiting-body development
Seiya Nishikawa, Satoshi Kuwana, Hidenori Hashimura, Satoshi Sawai, Shuji Ishihara (*Grad. Sch. Arts & Sci., Univ. Tokyo*)
- [1Pos131](#) ゼブラフィッシュ自己組織化細胞塊における細胞挙動の解析
Characterization of cell dynamics in the process of self-organization in zebrafish explants
Momoka Tochizawa (*Dept. Phys. Sch. Sci. Aogaku Univ.*)
- [1Pos132](#) 線虫の初期胚発生における力学モデル
Mechanical Model in Early Embryogenesis of *C. elegans*
Takehiro Kurihara¹, Toshikazu Chiba¹, Naohito Urakami², Kazunori Yamamoto³, Akatsuki Kimura⁴
(¹*Soft Matter and Biophysics Lab., Department of Physics, Faculty of Science, Tohoku University,*
²*Graduate School of Sciences and Technology for Innovation, Yamaguchi University,* ³*Department of Applied Bioscience, Faculty of Applied Bioscience, Kanagawa Institute of Technology,* ⁴*Cell Architecture Laboratory, Department of Chromosome Science, National Institute of Genetics*)
- [1Pos133](#) 多細胞系の形態形成の近似モデルとしての細胞間相互作用の実効ポテンシャル
Effective mechanical potential of cell-cell interactions: approximated model for multicellular morphogenesis
Hiroshi Koyama, Toshihiko Fujimori (*Div. Embryology, Nat. Inst. Basic Biology*)

分子モーター／Molecular motor

- [1Pos134](#) 好熱菌 F₀F₁-ATPase のユニサイト触媒作用の構造的基盤
Structural basis of unisite catalysis of thermophilic F₀F₁-ATPase
Momoko Aoyama¹, Atsuki Nakano¹, Jun-ichi Kishikawa², Ken Yokoyama¹ (*¹Department of Molecular Biosciences, Kyoto Sangyo Univ., ²IPR, Osaka Univ.*)
- [1Pos135](#) 祖先型 ATPase の作製と機能解析
Resurrection of the Ancestral ATPase
Aya Suzuki¹, Ryutaro Furukawa¹, Hiroshi Ueno¹, Satoshi Akanuma², Hiroyuki Noji¹ (*¹Grad. Sch. Eng., Univ. Tokyo, ²Fac. Human Sci., Waseda Univ.*)
- [1Pos136](#) Rotation dynamics and structure of F1-ATPase with all α -subunit-type P-loops
Hiroshi Ueno¹, Meghna Sobti^{4,5}, Rie Koga², Tomoko Masaike³, Alastair Stewart^{4,5}, Nobuyasu Koga², Hiroyuki Noji¹ (*¹Grad. Sch. Eng., Univ. Tokyo, ²ExCELLs, NINS, ³Dept. Appl. Biol. Sci., Tokyo Univ. Sci., ⁴Mol. Struct. Comp. Biol. Div., The Victor Chang Cardiac Research Institute, ⁵Facul. Med., UNSW Sydney*)

- [1Pos137](#) (2SFA-5) Plus and minus ends of microtubules respond asymmetrically to kinesin binding by a long-range directionally driven allosteric mechanism
Huong T Vu¹, Zhechun Zhang², Riina Tehver³, Dave Thirumalai⁴ (¹University of Warwick, ²Harvard University, ³Denison University, ⁴University of Texas)
- [1Pos138](#) Kinesin-1 および Kinesin-14 の In vitro 合成とデザイン
 In vitro synthesis and design of kinesin-1 and kinesin-14
Daisuke Inoue¹, Ohashi Keisuke^{2,3}, Takasuka Taichi^{2,3}, Kakugo Akira⁴ (¹Fac. Des., Kyushu Univ., ²Grad. Sch. Glo. Food Res., Hokkaido Univ., ³Res. Fac. Agr., Hokkaido Univ., ⁴Fac. Sci., Hokkaido Univ.)
- [1Pos139](#) A novel photochromic regulator inhibits kinesin Eg5 at the ADP state in the ATPase cycle
Md Alrazi Islam¹, Kozue Satoh², Shinsaku Maruta^{1,2} (¹Grad. Sch. Sci & Eng., Soka Univ., ²Grad. Sch. Sci & Eng., Soka Univ.)
- [1Pos140](#) 野生型と疾患関連変異型で構成されるヘテロダイマー KIF1A(キネシン-3)の二足歩行運動モデル
 A bipedal walking model for heterodimeric motors composed of wild-type KIF1A and disease-associated KIF1A
Tomoki Kita¹, Kazuo Sasaki¹, Shinsuke Niwa^{2,3} (¹Grad. Eng., Tohoku Univ., ²Grad. Life. Sci., Tohoku Univ., ³FRIS, Tohoku Univ.)
- [1Pos141](#) How does giraffe kinesin cope with the long distance axonal transport?
Taketoshi Kambara¹, Daisuke Taniguchi², Tomoya Mukai³, Yasushi Okada^{1,2,3,4,5} (¹BDR, RIKEN, ²JRCN, Univ. Tokyo, ³Grad. Sch. Sci., Univ. Tokyo, ⁴Grad. Sch. Med., Univ. Tokyo, ⁵UBI, Univ. Tokyo)
- [1Pos142](#) QCM 測定による周波数変化から測定したアクトミオシン滑り運動の機構
 Sliding mechanism of actomyosin motility assay measured from frequency change by QCM
Honoka Kobayashi, Naoki Matsumoto, Taiki Nishimura, Yuki Sakurai, Kaho Yokomuro, Kazuya Soda, Ikuko Fujiwara, Hajime Honda (Dept. of Matl. Sci. and Bioeng., Nagaoka Univ. of Tech)
- [1Pos143](#) QCM 上でのアクトミオシンの滑走速度と周波数変化の関係
 The relation between sliding velocities and frequency changes of actomyosin on the QCM
Taiki Nisimura¹, Naoki Matsumoto¹, Honoka Kobayashi², Yuuki Sakurai¹, Kaito Kobayashi¹, Kaho Yokomuro¹, Ikuko Fujiwara², Hajime Honda² (¹Dept. of Bioeng., Nagaoka Univ. of Tech., ²Dept. of Matl. Sci. and Bioeng., Nagaoka Univ. of Tech.)
- [1Pos144](#) 鞭毛内輸送を行うダイニンがどのように歩行する微小管を選択するのに関する粗視化 MD 研究
 Coarse-grained MD study on the function of dynein in selecting walking microtubules
Shintaroh Kubo^{1,2}, Huy Bui Khanh² (¹Grad. Sch. Med., The Univ. of Tokyo, ²Dept. Anatomy and Cell Biol., McGill Univ.)
- [1Pos145](#) Discovery of the fastest myosin, its amino acid sequence, and structural features
Takeshi Haraguchi¹, Masanori Tamanaha¹, Kano Suzuki², Kohei Yoshimura¹, Takuma Imi¹, Motoki Tominaga^{3,4}, Hidetoshi Sakayama⁵, Tomoaki Nishiyama⁶, Takeshi Murata², Kohji Ito¹ (¹Dept. of Bio. Sci., Grad. Sch. of Sci and Eng., Univ. of Chiba, ²Dept. of Che. Sci., Grad. Sch. of Sci and Eng., Univ. of Chiba, ³Grad. Sch. Adv. Sci. and Eng., Univ. Waseda, ⁴Fac. Educ. Integrated Arts. Sci., Bio., Univ. Waseda, ⁵Dept. of Bio. Sci., Grad. Sch. of Sci., Univ. of Kobe, ⁶Adv. Sci. Res. Ctr., Univ. of Kanazawa)
- [1Pos146](#) バクテリアのべん毛モーターは減速機を持つか？
 Does bacterial flagellar motor have a reduction drive?
Ryota Iino^{1,2} (¹IMS, NINS, ²SOKENDAI)
- [1Pos147](#) 高度好塩菌アーキアの回転モーターのステップ状回転の検出
 Detection of stepwise rotation of the archaeal motor in *Haloferax volcanii*
Yoshiaki Kinoshita, Jun Ando, Tastuya Iida, Rikiya Watanabe (Molecular Physiology Lab, RIKEN)
- [1Pos148](#) Cryo-EM structure analysis of the PomAB complex, a bacterial flagellar stator of sodium-driven motor in *Vibrio alginolyticus*
Tatsuro Nishikino¹, Norihiro Takekawa², Jun-ichi Kishikawa¹, Mika Hirose¹, Seiji Kojima³, Michio Homma³, Takayuki Kato¹, Katsumi Imada² (¹IPR., Osaka Univ., ²Dept. of Macromol. Sci., Grad. Sch. of Sci., Osaka Univ., ³Div. Biol. Sci. Grad. Sch. Sci., Nagoya Univ.)

- [1Pos149](#) バクテリアの膜電位揺らぎの解析手法の開発
Development of a method for analyzing membrane potential fluctuations in bacterial cells
Kenta Takemori, Yusuke V. Morimoto (*Fac, Comp. Sci. and Sys. Eng., Kyushu Inst. Tech*)
- [1Pos150](#) 分子動力学シミュレーションによる SMC 蛋白質の DNA によって刺激される ATPase 活性の分子機構解明
Molecular Dynamics Simulations to Reveal Molecular Mechanism of DNA-Stimulated ATPase Activity of SMC Proteins
Masataka Yamauchi, Tsuyoshi Terakawa, Giovanni B. Brandani, Shoji Takada (*Dept. of Biophysics, Grad. of Sci., Kyoto Univ.*)
- [1Pos151](#) 除膜クラミドモナス細胞の巨大リポソームへの封入
Encapsulation of demembranated *Chlamydomonas* cell into giant liposomes
Koichiro Akiyama, Syunsuke Shiomi, Masahito Hayashi, Tomoyuki Kaneko (*Frontier Bioscience, Hosei Univ.*)

細胞生物学的課題（接着，運動，骨格，伝達，膜）／Cell biology

- [1Pos152](#) リゾチームアミロイド線維との接触に対する運動するアクチン線維の応答
Response of a moving actin filament to a contact with a lysozyme amyloid fibril
Kuniyuki Hatori, Ryusei Murata, Kazuto Mima (*Dep. Mech. Eng., Yamagata Univ.*)
- [1Pos153](#) 細胞配置換えの分子基盤の解明
Elucidating molecular basis of cell rearrangement
Keisuke Ikawa¹, Kaoru Sugimura² (¹*Grad. Sch. Sci., Nagoya Univ.*, ²*Grad. Sch. Sci., Univ. Tokyo*)
- [1Pos154](#) ウニ胚の細胞骨格分布極性に起因する外腸胚形成
Exogastrulation due to cytoskeletal polarity distribution in sea urchin embryo
Kaichi Watanabe¹, Yuhei Yasui¹, Yuta Kurose², Naoaki Sakamoto¹, Akinori Awazu¹ (¹*Grad. Sch. Int., Univ. Hiroshima*, ²*Grad. Sch. Sci., Univ. Hiroshima*)
- [1Pos155](#) アクチンとミオシン細胞骨格の組織化によって細胞質のカイラルな回転流が生まれる
Chiral cytoplasmic flow emerging from the spatial organization of actin and myosin cytoskeleton
Takaki Yamamoto, Tomoki Ishibashi, Sylvain Hiver, Mitsusuke Tarama, Yuko Mimori-Kiyosue, Masatoshi Takeichi, **Tatsuo Shibata** (*RIKEN BDR*)
- [1Pos156](#) サルモネラ菌の感染時におけるアクチン細胞骨格動態の顕微力学解析
Micromechanical analysis of actin cytoskeleton dynamics during the *Salmonella* infection
Hiroaki Kubota¹, Togo Shimozawa², Kai Kobayashi¹, Morika Mitobe¹, Jun Suzuki¹, Kenji Sadamasu¹ (¹*Dept. Microbiol., Tokyo Metropolitan Institute of Public Health*, ²*Sch. Sci., Univ. Tokyo*)
- [1Pos157](#) K⁺-induced decrease in the matrix pH of mitochondria
Jannatul Naima^{1,2}, Yoshihiro Ohta¹ (¹*Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology*, ²*Department of Pharmacy, University of Chittagong, Bangladesh*)
- [1Pos158](#) RacGAP 因子 FilGAP は腎ポドサイトの細胞-基質接着と突起形成を制御する
FilGAP, a GAP for Rac1, controls cell-extracellular matrix adhesion and process formation of kidney podocytes
Koji Saito¹, Seiji Yokawa¹, Sari Mizuta¹, Kanae Tada¹, Moemi Oda¹, Hiroyasu Hatakeyama², Noriko Takahashi², Hidetake Kurihara³, Yasutaka Ohta¹ (¹*Division of Cell Biology, Department of Biosciences, School of Science, Kitasato University*, ²*Department of Physiology, School of Medicine, Kitasato University*, ³*Department of Physical Therapy, Faculty of Health Sciences, Aino University*)
- [1Pos159](#) パターン化モデル生体膜上でのアクチンのネットワーク形成
Actin network assembly on a patterned model membrane
Yosuke Yamazaki¹, Yuri Miyata², Kenichi Morigaki^{2,3}, Makito Miyazaki^{1,4,5,6} (¹*Dept. Phys., Kyoto Univ.*, ²*Grad. Sch. Agr., Kobe Univ.*, ³*Biosignal, Kobe Univ.*, ⁴*Hakubi Ctr., Kyoto Univ.*, ⁵*PRESTO, JST*, ⁶*Inst. Curie*)

- [1Pos160](#) 細胞中のジュール熱産生
Joule heat production in cells
Tetsuichi Wazawa, Kai Lu, Takeharu Nagai (*SANKEN, Osaka Univ*)
- [1Pos161](#) Highly conserved GYXLI motif of FlhA is directly involved in hierarchical flagellar protein export in *Salmonella*
Tohru Minamino¹, Miki Kinoshita¹, Keiichi Namba^{1,2} (¹*Grad. Sch. Frontier Biosci., Osaka Univ.*, ²*RIKEN Spring-8*)
- [1Pos162](#) Aberrant shape formation of fission yeast spheroplasts under microfluidic conditions
Hironori Sugiyama¹, Yuhei Goto^{1,2,3}, Kazuhiro Aoki^{1,2,3} (¹*ExCELLS, NINS*, ²*NIBB, NINS*, ³*Sch. Life Sci., SOKENDAI*)
- [1Pos163](#) 赤外線レーザー照射中の心筋細胞シートの伝導変化
Changes in conduction of cardiomyocyte sheet during infrared laser irradiation
Kentaro Kito, Masahito Hayashi, Tomoyuki Kaneko (*Frontier Bioscience, Grad. Sch. Sci. & Eng., Hosei Univ.*)
- [1Pos164](#) 好中球様細胞に分化させた HL-60 細胞のケモタキシスにおけるミトコンドリア関連タンパク質の役割
Roles of mitochondria associated protein in chemotaxis of neutrophil-like differentiated HL-60 cells
Yuichi Mazaki¹, Tsunehito Higashi¹, Yasuhito Onodera² (¹*Dept. Cell. Pharm., Grad. Sch. Med., Hokkaido Univ.*, ²*Gib. Ctr. Biomed. Sci. Eng., Fac. Med., Hokkaido Univ*)
- [1Pos165](#) Trans-dimer conformations of full-length ectodomains of Celsr cadherin in solution visualized using high-speed atomic force microscopy
Shigetaka Nishiguchi¹, Rinshi Kasai², Takayuki Uchihashi^{1,3,4} (¹*ExCELLS*, ²*iGCORE, Gifu Univ.*, ³*Nagoya Univ.*, ⁴*iGCORE, Nagoya Univ.*)
- [1Pos166](#) アミロイド β 凝集体はヒト脳微小血管内皮細胞の異常なアクチンの組織化と細胞死を誘発する
Amyloid-β aggregates induce abnormal actin organization and death of human brain microvascular endothelial cell
Keiya Shimamori¹, Yushiro Take², Yusaku Chikai¹, Yukina Kuroraki¹, Masahiro Kuragano¹, Kiyotaka Tokuraku¹ (¹*Grad. Sch. of Eng., Muroran Inst. of Tech.*, ²*Ohkawara Neurosurgical Hospital*)
- [1Pos167](#) 酸素消費を伴わないミトコンドリア電子伝達機構
Mitochondrial electron transfer mechanism without oxygen consumption
Marino Neda¹, Hinako Tanaka¹, Emika Shida¹, Yoshihiro Ohta² (¹*Department of Biotechnology and Life Sciences, Graduate school of Engineering, Tokyo University of Agriculture and Technology*, ²*Department of Biotechnology and Life Sciences, Associate Professor, Tokyo University of Agriculture and Technology*)
- [1Pos168](#) 局所加熱法を用いた表皮細胞内変異型ケラチンフィラメント熱ストレス応答の経時変化解析
Time-course analysis of mutant keratin filament dynamics in cultured epidermal cells under thermal stress using a local heating method
Masato Kaya^{1,2}, Hideki Itoh⁴, Yoshie Harada^{2,3}, E. Birgitte Lane⁴, Madoka Suzuki² (¹*Department of Biological Sciences, Graduate School of Science, Osaka University*, ²*Institute for Protein Research, Osaka University*, ³*Center for Quantum Information and Quantum Biology, Osaka University*, ⁴*Skin Research Institute of Singapore*)
- [1Pos169](#) シグナル伝達機構解明のための巨大細胞利用
Use of giant cells to study cell-cell signaling mechanisms
Yukihisa Hayashida, Yusuke Morimoto (*Kyushu Institute of Technology (Grad. Sch. Comp. Sci. and Sys. Eng., Kyushu Inst. Tech.)*)
- [1Pos170](#) べん毛のロッド-フック型タンパク質の輸送順序
Transport order of the flagellar rod-hook type proteins
Reika Igarashi, Norihiro Takekawa, Katsumi Imada (*Dept. Macromol. Sci., Grad. Sch. Sci., Osaka Univ.*)

- [1Pos171](#) 無傷のミトコンドリアの単離・保存法の検討
Methods for isolating and preserving intact mitochondria
Asaka Ogihara, Arima Okutani, Wataru Uchiumi, Miki Kanatani, Yoshihiro Ohta (*Department of Biotechnology and Life Sciences, Graduate school of Engineering, Tokyo University of Agriculture and Technology*)
- [1Pos172](#) アミロイド β の凝集が細胞の集合に与える影響の解析
Analysis of the effect of amyloid β aggregation on cell assembly
Ayaka Ota, Masahiro Kuragano, Kiyotaka Tokuraku (*Grad. Sch. Eng., Muroran Inst. of Tech.*)
- [1Pos173](#) Theoretical studies on macrophase separation in systems composed of two solutes and one solvent using a solvent-free coarse-grained model
Yuki Norizoe, Naoki Iso, Takahiro Sakaue (*Department of Physical Sciences, Aoyama Gakuin University*)
- [1Pos174](#) 自発運動する細胞の興奮系 Ras を抑制する GAP の同定
Identification of GAP that suppresses the excitatory Ras in spontaneous cell motility
Guangyu Cheng¹, Satomi Matsuoka^{1,2,3}, Masahiro Ueda^{1,2,3} (¹*Grad. Sch. Sci., Osaka University*, ²*Grad. Sch. of Front. Biosci., Osaka University*, ³*BDR, RIKEN*)
- [1Pos175](#) マイコプラズマ・モービレの滑走方向は細胞体の非対称な形状と相関がある
Gliding direction of *Mycoplasma mobile* correlates with asymmetric configuration of the cell body
Kana Suzuki¹, Daisuke Nakane², Azusa Kage¹, Takayuki Nishizaka¹ (¹*Dept. Physics, Gakushuin Univ.*, ²*Univ. of Electro-Communications*)
- [1Pos176](#) Direct observation of the functional dynamics by which CAP1 interacts with F-actin and cofilin by high-speed AFM
Phuong Doan N. Nguyen¹, Hiroshi Abe², Shoichiro Ono³, Noriyuki Kodera⁴ (¹*Grad. Sch. NanoLS, Kanazawa Univ.*, ²*Dept. Biol., Chiba Univ.*, ³*Dept. Pathol. & Cell Biol., Emory Univ.*, ⁴*WPI-NanoLSI, Kanazawa Univ.*)
- [1Pos177](#) 細胞の自発運動において Ras 興奮系のノイズ強度の最適化にスフィンゴミエリン代謝系が関与する
Noise generation by sphingomyelin metabolism optimizes Ras excitability for cell migration
Dayoung Shin^{1,2}, Hiroaki Takagi^{2,3}, Michio Hiroshima², **Satomi Matsuoka**^{1,2,4}, Masahiro Ueda^{1,2,4} (¹*Grad. Sch. Sci., Osaka Univ.*, ²*BDR, RIKEN*, ³*Sch. Med., Nara Med. Univ.*, ⁴*Grad. Sch. Frontier Biosci., Osaka Univ.*)
- [1Pos178](#) TIRF 観察によるアクチン線維に対するサイトカラシン D の作用理解
Inhibitory mechanism of cytochalasin D on actin by TIRF observations
Takahiro Mitani¹, Hikaru Empuku², Shuichi Takeda³, Ikuko Fujiwara², Hajime Honda² (¹*Dept. of Bioeng., Nagaoka Univ. of Tech.*, ²*Dept. of Matl. Sci. and Bioeng., Nagaoka Univ. Tech.*, ³*Okayama Univ., RIIS*)
- [1Pos179](#) 極性形成に関わる膜タンパク質 Frizzled の細胞間隙での蛍光 1 分子観察
Single molecule observation of polarity-related membrane proteins at the cell-cell interface; immobilization and accumulation of Frizzled
Rinshi Kasai¹, Yuri Nemoto² (¹*iGCORE, Gifu Univ.*, ²*OIST*)
- [1Pos180](#) Bottom-up strategy による軸糸の屈曲波の再構築
Reconstitution of the axonemal beating by bottom-up strategy
Isabella Guido¹, Kenta Ishibashi², Hitoshi Sakakibara², Andrej Vilfan³, Eberhard Bodenschatz¹, Ramin Golestanian¹, **Kazuhiro Oiwa**^{2,4} (¹*MPI. Dynamics Self-Organization*, ²*Adv. ICT Res. Inst., NICT*, ³*Jozef Stefan Inst.*, ⁴*Grad. Sch. Sci., Univ. Hyogo*)
- [1Pos181](#) Anomalous dynamics of cardiomyocytes and fibroblasts on PDMS substrate
Arata Nagai, Kaito Kojima, Ryu Kidokoro, Shota Nozaki, Ayu Sasaki, Yuuta Moriyama, Toshiyuki Mitsui (*Dept. Phys. Sch. Sci. Aogaku Univ.*)
- [1Pos182](#) ミトコンドリア電子伝達系複合体の時間依存的酸化ダメージの検出
Detection of time-dependent oxidative damages of mitochondrial electron transfer complexes
Shizuku Saito, Yoshihiro Ohta (*Department of Biotechnology and Life Science, Graduate school of Engineering, Tokyo University of Agriculture and Technology*)

- [1Pos183](#) 回転方向に依存した大腸菌べん毛モーターの回転揺らぎの原因
Investigation for the cause of rotational fluctuations depending on the rotational direction of flagellar motor
Kazumi Akahoshi, Yumiko Uchida, Yong-Suk Che, Akihiko Ishijima, Hajime Fukuoka (*Grad. Sch. Frontier Biosci. Osaka Univ*)
- [1Pos184](#) 酵母ミトコンドリアの膜電位変動観察の試み
Observation of membrane potential fluctuations of yeast mitochondria
Sora Maekawa, Yoshihiro Ohta (*Department of Biotechnology and Life Sciences, Graduate school of Engineering, Tokyo University of Agriculture and Technology*)
- [1Pos185](#) デスミンフィラメントとアクチンフィラメントとの相互作用の観察
Observation of the interaction between single desmin filaments and single actin filaments in a reconstituted motility system
Takumi Ishizaka, Kuniyuki Hatori (*Grad. Sch. Sci. Eng., Yamagata Univ*)
- [1Pos186](#) 1 粒子観察による細胞外小胞の細胞選択的結合の分子機構解明
Molecular mechanisms of selective binding of small extracellular vesicles to recipient cells as revealed by single-particle imaging
Tatsuki Isogai¹, Koichiro M. Hirosawa², Miki Kanno³, Ayano Syo⁴, Yasuhiko Kizuka^{2,5}, Yasunari Yokota⁶, Kenichi G. N. Suzuki^{2,5} (¹UGSAS, Gifu Univ., ²iGCORE, Gifu Univ., ³Grad. Sch. Nat. Sci. Tech., Gifu Univ., ⁴Dept. App. Bio. Sci., Gifu Univ., ⁵CREST, JST, ⁶Dept. Eng., Gifu Univ.)

生体膜・人工膜：構造・物性／Biological & Artificial membrane: Structure & Property

- [1Pos187](#) Morphology of Adhering Vesicles
Toshikaze Chiba¹, Hironori Sugiyama², Taro Toyota³, Yuka Sakuma¹, Masayuki Imai¹, Primož Zihnerl^{4,5} (¹Department of Physics, Tohoku University, ²ExCELLS, National Institutes of Natural Sciences, ³Department of Basic Science, Graduate School of Arts and Sciences, The University of Tokyo, ⁴Faculty of Mathematics and Physics, University of Ljubljana, ⁵Jožef Stefan Institute)
- [1Pos188](#) 基板支持リン脂質積層膜の軟 X 線直線偏光による相状態解析
Soft X-ray polarization analysis of lipid order for phospholipid multilayers supported on hydrophilic surfaces
Shin-ichi Wada^{1,2}, Masataka Tabuse¹ (¹Grad. Sch. Adv. Sci. Eng., Hiroshima Univ., ²HiSOR, Hiroshima Univ.)
- [1Pos189](#) 薬剤代謝におけるコレステロールの役割を探るためのモデル生体膜と薬剤の相互作用研究：リン脂質 POPE/コレステロール/クロロゾキサゾン系
A model biomembrane study on the role of cholesterol in cytochrome P450 drug metabolism: POPE/cholesterol/ chlorzoxazone systems
Shosei Kano, **Hiroshi Takahashi** (*Grad. Sch. Sci. Tech., Gunma Univ*)
- [1Pos190](#) 薬物添加による血液脳関門モデル膜の膜厚変化に関する X 線回折研究：スフィンゴミエリンの役割
An X-ray diffraction study of changes in the blood-brain barrier model membrane thickness induced by adding drugs : role of sphingomyelin
Anna Ajima, Hiroshi Takahashi (*Grad. Sch. Sci. Tech., Gunma Univ*)
- [1Pos191](#) パターン化人工膜へのエクソソーム導入技術の開発
Reconstitution of exosomes into a patterned model membrane
Yu Yoshimura¹, Ayane Sugimachi¹, Fumio Hayashi², Koichiro M. Hirosawa³, Rinshi S. Kasai³, Kenichi G. N. Suzuki³, Kenichi Morigaki^{1,4} (¹Grad. Sch. Agri., Kobe Univ., ²Grad. Sch. Sci., Kobe Univ., ³iGCORE, Gifu Univ., ⁴Biosignal Research Center, Kobe Univ.)

- [1Pos192](#) Laurdan の時間分解蛍光解析法からみる脂質膜水和状態
Lipid-Surrounding Hydration States Probed by Time-Resolved Emission Spectra of Laurdan
Nozomi Watanabe¹, Keishi Suga², J. Peter Slotte³, Thomas K. M. Nyholm³, Hiroshi Umakoshi¹
(¹Graduate School of Engineering Science, Osaka University, ²Graduate School of Engineering, Tohoku University, ³Faculty of Science and Engineering, Åbo Akademi University)

生体膜・人工膜：ダイナミクス／Biological & Artificial membrane: Dynamics

- [1Pos193](#) エクソソーム評価系としてのブラウン運動解析
Brownian motion analysis as an exosome evaluation system
Kei Takahashi, Yui Miyabayashi, Takuo Yamaki (*CellSource Co., Ltd.*)
- [1Pos194](#) 細胞質型ホスホリパーゼ A₂ 活性化とセラミド 1-リン酸の膜動態の関連性
Relationship between the membrane dynamics of ceramide 1-phosphate domains and the activation of cytosolic phospholipase A₂
Tomokazu Yasuda^{1,2}, Daiki Ueura¹, Madoka Nakagomi², Shinya Hanashima¹, J Peter Slotte³, Michio Murata¹ (¹Graduate School of Science, Osaka University, ²Research Foundation Itsuu Laboratory, ³Åbo Akademi University)
- [1Pos195](#) 浸透圧下の巨大リポソームでの抗菌ペプチド・マガイニン 2 のポア形成とその進化
Antimicrobial peptide magainin 2 (Mag)-induced pore formation and its evolution in single GUVs under osmotic pressure (Π)
Md. Masum Billah¹, Samiron Kumar Saha¹, Masahito Yamazaki^{1,2,3} (¹Grad. Sch. Sci. Tech., Shizuoka Univ., ²Res. Inst. Ele., Shizuoka Univ., ³Grad. Sch. Sci., Shizuoka Univ.)
- [1Pos196](#) 酸性アミノ酸の側鎖長を調整することによる環状ペプチドの pH 依存性膜透過性の制御
Control of pH-dependent membrane permeation of cyclic peptides by adjusting side chain length of acidic amino acids
Motomi Matsuda, Keisuke Ikeda, Minoru Nakano, Hiroyuki Nakao (*Grad. Sch. Med. Phar. Sci., Univ. Toyama / Japanese*)
- [1Pos197](#) 粗視化陰溶媒脂質力場、iSoLF、を用いて GENESIS による多成分脂質システムの分子動力学シミュレーション
Extension of the Implicit Solvent Lipid Force Field, iSoLF, for the simulation of large multi-component lipidic systems using GENESIS
Diego Ugarte¹, Shoji Takada², Yuji Sugita^{1,3,4} (¹Computational Biophysics Research Team, RIKEN R-CCS, ²Dept. Biol., Sch. Sci., Kyoto Univ., ³Laboratory for Biomolecular Function Simulation, RIKEN BDR, ⁴Theoretical Molecular Science Laboratory, RIKEN CPR)
- [1Pos198](#) 一定張力による GUV 中のポア形成に対する脂質成分や分布の効果
Effect of lipid composition and distribution on constant tension-induced pore formation in GUVs
Kanta Tazawa¹, Junichi Higuchi¹, Masahito Yamazaki^{1,2,3} (¹Grad. Sch. Sci., Shizuoka Univ., ²Res. Inst. Ele., Shizuoka Univ., ³Grad. Sch. Sci. Tech., Shizuoka Univ.)

生体膜・人工膜：興奮・チャネル／Biological & Artificial membrane: Excitation & Channels

- [1Pos199](#) Design and characterization of enzyme-responsive synthetic ion channels
Iiro Kiiski¹, Nanami Takeuchi¹, Alexandre Legrand², Reiko Sakaguchi³, Kenji Usui⁴, Shuhei Furukawa², Ryuji Kawano¹ (¹Tokyo University of Agriculture and Technology, ²Kyoto University, ³University of Occupational and Environmental Health, ⁴Konan University)

- [1Pos200](#) 膜水系における環状人工イオンチャネルの QM/MM シミュレーション
QM/MM simulations of cyclic artificial ion channel in membrane-water system
Mayuko Nakagawa¹, Toru Ekimoto¹, Tsutomu Yamane², Kohei Sato³, Kazushi Kinbara³, Mitsunori Ikeguchi^{1,2} (¹*Dept. of Med. Life Sci., Yokohama City Univ.*, ²*R-CCS, Riken*, ³*Sch. of Life Sci. and Tech., Tokyo Inst. of Tech.*)
- [1Pos201](#) CBB 法を用いた再構成膜でのアควアポリン 6 のイオン透過特性の解析
Ion conducting properties of Aquaporin 6 reconstituted in the contact bubble bilayer
Takahisa Maki¹, Shigetoshi Oiki², Masayuki Iwamoto¹ (¹*Dept. Mol. Neurosci., Facul. Med. Sci., Univ. Fukui*, ²*Biomed. Imaging Res. Center, Univ. Fukui*)
- [1Pos202](#) アガロースゲルビーズを用いた人工膜チャネル電流測定
An artificial lipid bilayer ion-channel recording method using agarose gel beads
Mami Asakura¹, Atsuya Mukuno¹, Minako Hirano², Toru Ide² (¹*Fac. Eng., Okayama Univ.*, ²*Grad. Sch. Health Sys., Okayama Univ.*)

生体膜・人工膜：輸送・情報伝達／Biological & Artificial membrane: Transport & Signal transduction

- [1Pos203](#) リポソーム内タンパク質機能発現制御のための膜透過性ペプチドの利用
Use of Cell penetrating peptide for the regulation of protein functional expression in giant unilamellar vesicles
Akari Miwa, Koki Kamiya (*Grad. Sch. Sci. Tech., Gunma Univ.*)
- [1Pos204](#) Development of DNA nanostructures that function as artificial channel/transducer on a giant vesicle membrane
Shoji Iwabuchi¹, Yusuke Sato², Ibuki Kawamata^{1,3}, Satoshi Murata¹, Shin-ichiro Nomura¹ (¹*Tohoku University*, ²*Kyushu Institute of Technology*, ³*Ochanomizu University*)
- [1Pos205](#) Membrane Permeability of Mono-Amino Acids Estimated by Planar Lipid Bilayer System
Kaiyi Zheng, Kayano Izumi, Ryuji Kawano (*Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology, Japan*)
- [1Pos206](#) 分子動力学計算による CLC^F における F 輸送機構の解析
F⁻ export mechanism in CLC^F using molecular dynamics simulations
Akihrio Nakamura^{1,2}, Takashi Tokumasu², Takuya Mabuchi^{2,3} (¹*Graduate School of Engineering, Tohoku University*, ²*Institute of Fluid Science, Tohoku University*, ³*Frontier Research Institute for Interdisciplinary Sciences, Tohoku University*)
- [1Pos207](#) 筋小胞体 Ca ポンプのヘリックス M2 と M6 の Ca 輸送における役割
Role of M2 and M6 helices of sarcoplasmic reticulum Ca pump in Ca transport
Takashi Daiho (*Asahikawa Med. Univ. Biochemistry*)
- [1Pos208](#) PI3K シグナル伝達は S-G2 期の ERK の時間的調節において重要な役割を果たす
PI3K signaling plays a critical role in the temporal regulation of ERK in the S-G2 phase
Ryo Yoshizawa, Nobuhisa Umeki, Yasushi Sako (*Wako Inst., Riken*)
- [1Pos209](#) ペプチドナノディスクを用いた光受容体ロドプシンのパターン化モデル生体膜への再構成
Reconstitution of photoreceptor rhodopsin into a patterned model membrane using peptide nanodisc
Masato Koezuka¹, Fuko Kueda², Fumio Hayashi³, Kenichi Morigaki^{2,4} (¹*Fac. Agri., Kobe Univ.*, ²*Grad. Sch. Agri., Kobe Univ.*, ³*Grad. Sch. Sci., Kobe Univ.*, ⁴*Biosignal Research Center, Kobe Univ.*)

- [1Pos210](#) 色素再構成系を用いたシアノバクテリオクロム型光受容体の光変換機構の解析
Analysis of the photoconversion mechanism of cyanobacteriochrome-class photosensors using in vitro reconstitution approach
Takaaki Matsushita, Toshihiko Eki, Yuu Hirose (*Toyohashi Univ. of Tech*)
- [1Pos211](#) Thermodynamic and kinetic factors affecting the redox chemistry of a flavin cofactor in photolyases
Yuhei Hosokawa, Hiroyoshi Morita, Mai Nakamura, Shigenori Iwai, Junpei Yamamoto (*Grad. Sch. Eng. Sci., Osaka Univ.*)
- [1Pos212](#) ロドプシンクラスター上における G 蛋白質トランスデューシンの高速 AFM による 1 分子動態観察
Single molecule observation of G protein transducin on rhodopsin cluster by high-speed AFM
Hayato Yamashita¹, Akihiro Tsuji¹, Fumio Hayashi², Kenichi Morigaki^{3,4}, Masashi Fujii^{5,6}, Akinori Awazu^{5,6}, Kazuhiko Hoshikaya¹, Masayuki Abe¹ (¹*Grad. Sch. Eng. Sci., Osaka Univ.*, ²*Grad. Sch. Sci., Kobe Univ.*, ³*Grad. Sch. Agr. Sci., Kobe Univ.*, ⁴*Biosignal Research Center, Kobe Univ.*, ⁵*Grad. Sch. Sci., Hiroshima Univ.*, ⁶*Grad. Sch. Int., Hiroshima Univ.*)
- [1Pos213](#) 繊毛型光受容細胞で機能するオプシンにおける収斂的な対イオン変位
Convergent evolutionary counterion displacement of ciliary opsins
Kazumi Sakai, Hiroki Ikeuchi, Chihiro Fujiyabu, Yasushi Imamoto, **Takahiro Yamashita** (*Grad. Sch. of Sci., Kyoto Univ.*)
- [1Pos214](#) 光サイクル型視覚ロドプシンを用いた細胞内 cAMP 濃度の一過的变化誘導
Transient induction of intracellular cAMP level changes using photocyclic visual rhodopsin
Kazumi Sakai, Shion Aoki, Takahiro Yamashita (*Grad. Sch. Sci., Kyoto Univ.*)
- [1Pos215](#) 新奇微生物ロドプシン・ベストロドプシンのユニークな発色団レチナール異性化特性
Unique chromophore isomerization properties of a novel microbial rhodopsin bestrodopsin
Takashi Nagata¹, Yuma Kawasaki¹, Masae Konno^{1,2}, Yujiro Nagasaka¹, Mako Aoyama³, Kota Katayama^{2,3}, Andrey Rozenberg⁴, Igor Kaczmarczyk⁵, Donna Matzov⁵, Moran Shalev-Benami⁵, Oded Bèjà⁴, Hideki Kandori³, Keiichi Inoue¹ (¹*ISSP, Univ. Tokyo*, ²*PRESTO, JST*, ³*Nagoya Inst. Tech.*, ⁴*Technion-Israel Inst. Tech.*, ⁵*Weizmann Inst. Sci.*)
- [1Pos216](#) 新規微生物ロドプシン SmChR のイオン透過性
Ion permeability of the novel microbial rhodopsin SmChR
Yo Yamashita¹, Shoko Hososhima¹, Suneel Kateriya², Hideki Kandori¹, Satoshi Tsunoda¹ (¹*Nagoya Institute of Technology*, ²*Laboratory of Optobiology, Jawaharlal Nehru University, India*)
- [1Pos217](#) (2SCA-2) Conversion of light-driven outward proton pump rhodopsin into inward proton pump
Maria Del Carmen Marin Perez¹, Masae Konno^{1,2}, Himoru Yawo¹, Keiichi Inoue¹ (¹*ISSP, Univ. Tokyo*, ²*PRESTO, Japan Science and Technology Agency*)
- [1Pos218](#) 宿主由来のレチナールを利用する共生細菌 Saccharibacteria 由来 Type-1 ロドプシンの分子特性
Molecular properties of Type-1 rhodopsin from Saccharibacteria that may use host-derived all-trans retinal
Masae Konno^{1,2}, Alexander L. Jaffe³, Yuma Kawasaki¹, Chihiro Kataoka⁴, Oded Bèjà⁵, Hideki Kandori^{4,6}, Jillian F. Banfield^{7,8,9}, Keiichi Inoue¹ (¹*The Institute for Solid State Physics, The University of Tokyo*, ²*PRESTO, Japan Science and Technology Agency*, ³*Department of Plant and Microbial Biology, University of California*, ⁴*Department of Life Science and Applied Chemistry, Nagoya Institute of Technology*, ⁵*Faculty of Biology, Technion-Israel Institute of Technology*, ⁶*OptoBioTechnology Research Center, Nagoya Institute of Technology*, ⁷*Innovative Genomics Institute, University of California*, ⁸*Department of Earth and Planetary Science, University of California*, ⁹*Department of Environmental Science, Policy, and Management, University of California*)

- [1Pos219](#) 高熱安定性光駆動型内向き H⁺ポンプロドプシンにおける熱安定性要因の研究
Study on the factors contributing to the high thermal stability of thermostable light-driven inward H⁺ pump rhodopsins
Yuma Kawasaki¹, Masae Konno^{1,2}, Keiichi Inoue¹ (¹*ISSP, Univ. Tokyo*, ²*JST・さきがけ*)
- [1Pos220](#) 多様な温度環境に分布するプロトンポンプ型ロドプシンの熱力学的性質の網羅的解析
Comprehensive thermodynamic analysis for microbial proton pump rhodopsins identified in various temperature environments
Ryouhei Ohtake¹, Kaori Kondo¹, Makoto Demura², Takashi Kikukawa², Takashi Tsukamoto²
(¹*Graduate School of Life Science, Hokkaido University*, ²*Faculty of Advanced Life Science, Hokkaido University*)
- [1Pos221](#) 光駆動 Na⁺/H⁺ハイブリッドポンプ型ロドプシン KR2 における N112 変異体のプロトン選択的ポンプ機構の研究
Study of proton-selective pumping mechanism of N112 mutants in light-driven Na⁺/H⁺ hybrid pump-type rhodopsin KR2
Yuki Ichikawa¹, Yuji Furutani^{1,2} (¹*Graduate School of Engineering, Nagoya Institute of Technology*, ²*OptoBio, Nagoya Institute of Technology*)
- [1Pos222](#) Time-resolved cryo-Raman study of Na⁺ uptake and release by a sodium pumping rhodopsin from *Indibacter alkaliphilus*
Tomotsumi Fujisawa¹, Kouta Kinoue¹, Ryouhei Seike¹, Takashi Kikukawa², Masashi Unno¹ (¹*Fac. Sci. Eng., Saga Univ.*, ²*Fac. Adv. Life Sci., Hokkaido Univ.*)

光生物：光合成／Photobiology: Photosynthesis

- [1Pos223](#) 励起子電荷分離混成が酸素発生型光合成を駆動する
Exciton-charge transfer mixing drives oxygenic photosynthesis
Yusuke Yoneda^{1,2,3}, Eric A. Arsenaault^{1,2}, Shiun-Jr Yang^{1,2}, Kaydren Orcutt^{1,2}, Masakazu Iwai^{1,2}, Graham R. Fleming^{1,2} (¹*University of California, Berkeley*, ²*Lawrence Berkeley National Laboratory*, ³*Institute for Molecular Science*)
- [1Pos224](#) 遠赤色光に適応した光化学系Ⅰの光捕集における Chlorophyll-f と Red-Chlorophyll の役割に関する理論的研究
Theoretical study on the role of Chlorophyll-f and Red-Chlorophyll in light-harvesting mechanism in far-red light adapted photosystem I
Yuka Nakamura, Mikihito Okochi, Shigeru Itoh, Akihiro Kimura (*Grad. Sch. Sci., Nagoya Univ.*)
- [1Pos225](#) Electrostatic charge controls spectral properties and thermal stabilities of LH1-RCs from triply extremophilic *Halorhodospira halochloris*
Yukihiro Kimura¹, Kazuna Nakata¹, Shingo Nojima¹, Shinji Takenaka¹, Michael T. Madigan², Zheng-Yu Wang-Otomo³ (¹*Department of Agrobioscience, Graduate School of Agriculture, Kobe University*, ²*Department of Microbiology, Southern Illinois University*, ³*Faculty of Science, Ibaraki University*)
- [1Pos226](#) フェムト秒ポンプ・プローブ分光法によるヘリオバクテリア反応中心におけるカロテノイドの励起エネルギー移動解析
Analysis of excitation energy transfer of carotenoids in the reaction center of heliobacteria with femto-second pump-probe spectroscopy
Risa Kojima¹, Masatoshi Kida², Daisuke Kosumi³, Hirozo Oh-oka^{1,4} (¹*CELAS, Osaka Univ.*, ²*Grad. Sch. Sci. & Tech., Kumamoto Univ.*, ³*IINa, Kumamoto Univ.*, ⁴*Grad. Sch. Sci., Osaka Univ.*)

- [1Pos227](#) FTIR monitoring of photosynthetic quinone transport in the light-harvesting 1 reaction center complexes from purple bacteria
Yosuke Nakamoto¹, Rikako Kishi¹, Shinji Takenaka¹, Michael T. Madigan², Kenji V. P. Nagashima³, Zheng-Yu Wang-Otomo⁴, Yukihiro Kimura¹ (¹*Department of Agrobioscience, Graduate School of Agriculture, Kobe University*, ²*Department of Microbiology, Southern Illinois University*, ³*Research Institute for Integrated Science, Kanagawa University*, ⁴*Faculty of Science, Ibaraki University*)
- [1Pos228](#) Wavelength-Dependent Optical Response of Single Photosynthetic Antenna Complexes from Siphonous Macrogreen Alga *Codium fragile*
 Tatas H. P. Brotosudarmo^{1,2}, Bernd Wittmann¹, Soichiro Seki³, **Ritsuko Fujii**^{3,4}, Jürgen Köhler¹ (¹*Spectrosc. Soft Matter, Univ. Bayreuth, Germany*, ²*Dept. Food Tech., Univ. Ciputra, Surabaya, Indonesia*, ³*Grad. Sch. Sci., Osaka City Univ., Japan*, ⁴*ReCAP, Osaka Metropolitan Univ., Japan*)
- [1Pos229](#) クロロフィル *f* を含む光化学系 I の近赤外光による反応メカニズム解明を目指した蛍光バンドの帰属
 Assignment of fluorescence bands of chlorophyll-*f* containing photosystem I to elucidate its reaction mechanism by near-infrared light
Rin Taniguchi¹, Toshiyuki Shinoda², Tatsuya Tomo², Shen Ye¹, Yutaka Shibata¹ (¹*Department of Chemistry, Graduate School of Science, Tohoku University*, ²*Department of Biology, Faculty of Science, Tokyo University of Science*)
- [1Pos230](#) 緑色硫黄細菌の光合成反応中心複合体の表在性タンパク質の結合は PscB が足場となる
 PscB is the scaffold for binding of other water-soluble subunits to the photosynthetic reaction center complex of green sulfur bacteria
Tomomi Inagaki, Kazuki Terauchi, Chihiro Azai (*Grad. Sch. Life Sci., Ritsumeikan Univ.*)
- [1Pos231](#) 極性カロテノイドの結合性向上を目指したシフォナス緑藻の光合成アンテナの in-vitro 再構成
 Enhancement of polar-carotenoid binding in in-vitro reconstitution of a photosynthetic light-harvesting complex from siphonous green alga
Hikari Takakura¹, Naoko Norioka², Naohiro Oka³, Soichiro Seki¹, Hideaki Tanaka^{2,4}, Genji Kurisu^{2,4}, Ritsuko Fujii^{1,5} (¹*Grad. Sch. Sci., Osaka City Univ.*, ²*Inst. Protein Res., Osaka Univ.*, ³*BRIC., Tokushima Univ.*, ⁴*Grad. Sch. Sci., Osaka Univ.*, ⁵*ReCAP, Osaka Metropolitan Univ.*)

光生物：光遺伝学・光制御／Photobiology: Optogenetics & Optical Control

- [1Pos232](#) Ras photocontrol by regulatory factor GAP modified with azobenzene derivative.
Rajib Ahmed, Nobuyuki Nishibe, Natsuki Yamamura, Kazunori Kondo, Shinsaku Maruta (*Department of Biosciences, Graduate School of Science and Engineering Soka University, Hachioji, Tokyo.*)
- [1Pos233](#) 藍色光を吸収するチャネルロドプシン KnChR のイオン選択性と光遺伝学
 Ion selectivity and optogenetics application of a deep blue absorbing channelrhodopsin
Satoshi Tsunoda^{1,2}, Rintaro Tashiro¹, Shoko Hososhima^{1,2}, Hideki Kandori^{1,2} (¹*Nagoya Institute of Technology, Department of Life Science and Applied Chemistry*, ²*Nagoya Institute of Technology, OptoBioTechnology Research Center*)
- [1Pos234](#) G タンパク質 $\beta\gamma$ サブユニット依存的イオンチャネル応答を選択的に駆動する無脊椎動物オプシン
 An invertebrate opsin functionally biased for G $\beta\gamma$ -dependent ion channel responses
Hisao Tsukamoto¹, Yoshihiro Kubo² (¹*Department of Biology, Kobe University*, ²*Department of Molecular Physiology, National Institute for Physiological Sciences*)
- [1Pos235](#) 微生物型ロドプシンの吸収波長とプロトン移動の制御機構
 Regulation of absorption wavelength and proton transfer in microbial rhodopsins
Masaki Tsujimura¹, Hiroshi Ishikita^{1,2} (¹*Grad. Sch. Eng., Univ. Tokyo*, ²*RCAST, Univ. Tokyo*)

- [1Pos236](#) Photocontrol of chromatin remodelers Snf2 and BRG1 as an ATP driven molecular motor by photoresponsive protein Dronpa
Choi Eunji¹, Ziyun Zhang¹, Shinya Watanabe², Kazunori Kondo¹, Shinsaku Maruta¹ (¹*Grad. Sch. Sci., Univ. Soka*, ²*Med. Sch., Univ. Massachusetts*)
- [1Pos237](#) QM/MM 分子シミュレーションによる光活性化酵素 OaPAC の研究
 Study on photoactivated enzyme OaPAC by QM/MM molecular simulation
Masahiko Taguchi, Shun Sakuraba, Justin Chan, Hidetoshi Kono (*Inst. Quant. Life Sci., QST*)

生命の起源・進化／Origin of life & Evolution

- [1Pos238](#) Cationic Polyester Microdroplets as RNA-containing Protocells
Tony Z Jia^{1,2}, Niraja V. Bapat^{1,3}, Ajay Verma³, Irena Mamanjanov¹, H. James Cleaves II^{1,2}, Kuhan Chandru⁴ (¹*Earth-Life Science Institute, Tokyo Institute of Technology*, ²*Blue Marble Space Institute of Science*, ³*Department of Biology, Indian Institute of Science Education and Research*, ⁴*Space Science Centre (ANGKASA), Institute of Climate Change, National University of Malaysia*)
- [1Pos239](#) DNA 相互作用を用いたコアセルベート間でのタンパク質輸送
 DNA-Mediated Protein Shuttling between Coacervate-Based Artificial Cells
Tsuyoshi Mashima¹, Jan van Hest², Luc Brunsveld² (¹*NAIST*, ²*Eindhoven Univ. Tech.*)
- [1Pos240](#) ベシクルの自己生産: 人工ミニマルセルのボトムアップなデザイン
 Reproduction of Vesicles: The Bottom-up Design for Synthetic Minimal Cell
Minoru Kurisu¹, Peter Walde², Yuka Sakuma¹, Masayuki Imai¹ (¹*Dept. Physics, Grad. Sch. Sci., Tohoku Univ.*, ²*ETH Zurich*)
- [1Pos241](#) 配列情報と連携したベシクル膜の成長: 進化可能なミニマルセルを目指して
 Vesicle membrane growth coupled with sequence information: toward evolvable minimal cell
Ryosuke Katayama, Minoru Kurisu, Yuka Sakuma, Masayuki Imai (*Grad. Sch. Sci., Tohoku Univ.*)
- [1Pos242](#) Formation of self-growing artificial cell droplets in aqueous two-phase separation system by internal amplification of nucleic acids
Yoshihiro Minagawa, Moe Yabuta, Hiroyuki Noji (*Department of Applied Chemistry, Graduate School of Engineering, The University of Tokyo.*)
- [1Pos243](#) 細胞モデル進化における表現型拘束に起因した交差耐性
 Cross-resistance induced by phenotypic constraint in a cell model evolution
Takuya Sato¹, Kunihiro Kaneko² (¹*RIKEN, BDR*, ²*Niels Bohr Institute*)

ゲノム生物学: ゲノム機能／Genome biology: Genome function

- [1Pos244](#) Coarse-grained modeling of Nanog gene locus: Towards understanding enhancer-promoter communication
Soundhara Rajan Gopi¹, Giovanni Brandani¹, Cheng Tan², Jaewoon Jung^{2,3}, Chenyang Gu¹, Azuki Mizutani¹, Chigusa Kobayashi², Hiroshi Ochiai^{4,5}, Yuji Sugita^{2,3,6}, Shoji Takada¹ (¹*Department of Biophysics, Graduate School of Science, Kyoto University, Kyoto 606-8502, Japan*, ²*Computational Biophysics Research Team, Riken Center for Computational Science, Kobe 650-0047, Japan*, ³*Theoretical Molecular Science Laboratory, RIKEN cluster for Pioneering Research, Saitama 351-0198, Japan*, ⁴*Program of Mathematical and Life Sciences, Graduate School of Integrated Sciences for Life, Hiroshima University, Higashi-Hiroshima, Hiroshima 739-8511, Japan*, ⁵*Genome Editing Innovation Center, Hiroshima University, Higashi-Hiroshima, Hiroshima 739-8511, Japan*, ⁶*Laboratory for Biomolecular Function Simulation, RIKEN center for Biosystems Dynamics Research, Kobe 650-0047, Japan*)

- [1Pos245](#) Biochemical fractionation separating open and compact chromatin based on local assembly of adjacent nucleosomes
Satoru Ishihara (*Fujita Health Univ. Sch. Med.*)
- [1Pos246](#) 1 分子イメージングで迫るヒト染色体の凝縮機構
 Single molecule imaging unveils human chromosome condensation
Kayo Hibino^{1,2,3}, Yuji Sakai⁴, Masato Kanemaki^{1,2}, Kazuhiro Maeshima^{1,2} (¹*NIG*, ²*SOKENDAI*, ³*JST, PRESTO*, ⁴*Inst. LiMe, Kyoto Univ.*)

生命情報科学：分子進化／Bioinformatics: Molecular evolution

- [1Pos247](#) HDV ゲノムの分子進化における二次構造の制約の解析
 Constraint of Base Pairing on HDV Genome Evolution
Saki Nagata, Ryoji Kiyohara, Hiroyuki Toh (*Grad. Sch. of Sci. Tech., KGU*)
- [1Pos248](#) GPCR 間相互作用ペア予測手法の改善
 Improvement of a method to predict interacting GPCR-GPCR pairs
Aoi Fukushima¹, Hiroaki Teruse², Sakie Shimamura¹, Hiroyuki Toh², Wataru Nemoto¹ (¹*Dept. Sch. & Tech., Tokyo Denki Univ.*, ²*Dept. of Sci. & Tech., Kwanseigakuin Univ.*)
- [1Pos249](#) Chiral selectivity mechanism on aminoacylation of an RNA minihelix studied by quantum mechanics/molecular mechanics simulations
Tadashi Ando (*Dep. of Appl. Elec., Tokyo Univ. of Sci.*)
- [1Pos250](#) 光ピンセットを用いた fL リアクタ回収技術の開発
 Development of new DNA recovery technology from fL droplet array using optical tweezers
Tetsuya Ohashi, Hiroshi Ueno, Yoshihiro Minagawa, Hiroyuki Noji (*Department of Applied Chemistry, Univ. Tokyo*)
- [1Pos251](#) 深層生成モデル CM-VAE を用いた RNA ファミリー人工配列生成
 CM-VAE: a generative model for designing artificial members of RNA family
Shunsuke Sumi^{1,2}, Michiaki Hamada², Hirohide Saito² (¹*Center for iPS Cell Research and Application, Kyoto University*, ²*Graduate School of Advanced Science and Engineering, Waseda University*)

生態／環境／Ecology & Environment

- [1Pos252](#) 人工的微生物複合系において観察された機能的安定性と不安定性
 Functional stability and instability observed in engineered microbial complex systems
Rei Ikeda¹, Koki Amano¹, Masahiro Honjo², Nobuhiro Takahashi¹, Kenshi Suzuki³, Futoshi Kurisu⁴, Motohiko Kimura¹, Yosuke Tashiro¹, Hiroyuki Futamata⁵ (¹*Department of Applied Chemistry and Biochemical Engineering, Graduate School of Engineering, Shizuoka University*, ²*Graduate School of Science and Technology, Shizuoka University*, ³*Microbial Ecotechnology, Department of Biotechnology, Graduate School of Agricultural and Life Sciences, The University of Tokyo*, ⁴*Research Center for Water Environment Technology, School of Engineering, The University of Tokyo*, ⁵*Research Institution of Green Science and Technology, Shizuoka University*)
- [1Pos253](#) Diversity of swimming endurance and foraging strategy in marine bacteria
Kyosuke Takabe¹, Yiyun Zhang², Katsuki Hara², Tomohiro Hirayama², Yutaka Yawata^{1,3} (¹*Faculty of Life and Environmental Sciences, University of Tsukuba*, ²*Master's Program in Agro-Bioresources Science and Technology, University of Tsukuba*, ³*Microbiology Research Center for Sustainability, University of Tsukuba*)

- [1Pos254](#) 北海道南部産ダルス内の PE 量に光が与える影響
Effect of light on the amount of PE in dulse from southern Hokkaido
Yukiko Sawayama, Yuzuka Takahashi, Rio Fukuda, Hibiki Nakamura (*HAKURYO High School attached to Hakodate University*)

数理生物学 / Mathematical biology

- [1Pos255](#) 3次元形態形成を表す隣接細胞間ネットワークモデル
Simulating Three-Dimensional Epithelial Morphogenesis: A Network Model Based on the Interactions Between Adjacent Cells
Tomohiro Mimura, Yasuhiro Inoue (*Grad. Sch. Eng., Univ. Kyoto*)
- [1Pos256](#) 空間的局所相互作用を伴う動的可塑的ネットワーク系の自発的構造形成
Spontaneous Network Organizations of Dynamic-Plastic Network System with Spatial Local Interactions
Taito Nakanishi (*Grad. Sch. Int., Univ. Hiroshima*)
- [1Pos257](#) 乳がんの転移に関連するオントロジグループに基づいた遺伝子相関ネットワーク解析による予後予測
Prognosis prediction of breast cancer by gene correlation network analysis based on Gene Ontology terms involved in metastasis
Ayaka Yakushi¹, Masahiro Sugimoto², Takanori Sasaki¹ (¹*Fac. Adv. Math. Sci., Meiji Univ.*, ²*Tokyo Med. Univ.*)
- [1Pos258](#) 種内多型から テントウムシの模様形成メカニズムを予測する
Prediction of the pattern formation mechanism in ladybirds from polymorphism
Ryo Takeda (*Grad.sch.Sci., Univ. Osaka*)
- [1Pos259](#) 大腸菌走化性応答における細胞内シグナル伝達のデータ駆動によるモデル構築
Data-driven model construction of intracellular signal transduction in E. coli chemotaxis response
Hiroto Tanaka, Yasuaki Kazuta, Hiroaki Kojima (*Frontier Research Lab, Adv ICT Res Inst, NICT*)
- [1Pos260](#) 混雑下での分子の構造変化を考慮した反応拡散モデル
A reaction-diffusion model considering the conformational change of molecules and crowded states
Masaki Okada¹, Yuichi Togashi^{2,3} (¹*Grad. Sch. of Integr. Sci. for Life, Hiroshima Univ.*, ²*Coll. Life Sci., Ritsumeikan Univ.*, ³*Riken BDR*)
- [1Pos261](#) 細胞の遺伝子発現制御における学習過程
Learning processes in gene-expression regulation
Tomoyuki Yamaguchi (*Research Institute, Nozaki Tokushukai Hospital*)
- [1Pos262](#) 細胞集団運動における界面張力の効果
Interface Tension Effect on Collective Cell Migration
Katsuyoshi Matsushita, Taiko Arakaki, Naoya Kamamoto, Maki Sudo, Koichi Fujimoto (*Dep. Bio. Sci., Osaka Univ.*)

非平衡・生体リズム / Nonequilibrium state & Biological rhythm

- [1Pos263](#) 筋芽細胞集団が示す位相欠陥と収縮性流れの幾何的制御
Geometric control of topological defects and contractile flow in confined myoblast cell populations
Ryo Ienaga¹, Yusuke Maeda¹, Kazusa Beppu² (¹*Grad. Sch. Sci. Phys., Univ. Kyushu*, ²*Applied Phys., Univ. Aalto*)

- [1Pos264](#) ヒト iPS 細胞由来ニューロンの神経突起伸長過程における形態変化の数理解析とタンパク質凝集体発現の観察
Analysis of morphological change and observation of protein aggregations in the developmental process of neurites of iPSC-derived neurons
Narumi Maeda¹, Rio Hine¹, Yudai Kitayama², Yusuke Shibasaki¹, Yuka Shirakawa³, Minoru Saito^{1,2,3}
(¹Grad. Sch. of Integ. Bas. Sci., Nihon Univ., ²Coll. Hum. Sci., Nihon Univ., ³Nat. Inst., Coll. Hum. Sci., Nihon Univ.)
- [1Pos265](#) 解糖系の振動現象に及ぼす飢餓処理の影響
Effect of starvation on the glycolytic oscillation in yeast cells
Keiya Goto¹, Seiji Hatano¹, Noboru Nagata¹, Yutetsu Kuruma², Masayuki Imai¹ (¹Grad. Sch. Sci., Tohoku Univ., ²Japan Agency for Marine-Earth Science & Technology)
- [1Pos266](#) Neuro2a 細胞の神経突起伸長過程における形態変化のリアルタイム数理解析
Real-time mathematical analysis of morphological change in the developmental process of neurites of Neuro2a cells
Rio Hine¹, Narumi Maeda¹, Yudai Kitayama², Yusuke Shibasaki³, Yuka Shirakawa³, Minoru Saito^{1,2,3}
(¹Grad. Sch. of Integ. Bas. Sci., Nihon Univ., ²Coll. Hum. Sci., Nihon Univ., ³Nat. Inst., Coll. Hum. Sci., Nihon Univ.)
- [1Pos267](#) 結合 BZ 反応の系の光応答性とその同期現象
Photoresponsivity and synchronization of coupled BZ reaction systems
Ryota Yamazaki¹, Sigeru Sakurazawa² (¹Grad. Sch., Future Univ. Hakodate, Systems Information Science, ²Future Univ. Hakodate, School of systems information science, Department of complex and intelligent systems)
- [1Pos268](#) 上皮細胞の集団運動とペアリング秩序転移
Collective motion and pairing order transition of confined epithelial cells
Kazuyuki Shigeta¹, Kazusa Beppu¹, Aya Tanaka², Yusuke Maeda¹ (¹Dept. Phys. Kyushu Univ., ²NTT BRL, BMC)

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- [1Pos269](#) 補償光学系と機械学習を用いて 1 分子輝点の 3 次元座標を精度良く計測する方法のシミュレーション研究
A simulation study to measure precisely three-dimensional coordinates of single molecule images using adaptive optics and machine learning
Xiang Zhou, Yuma Ito, **Makio Tokunaga** (Sch. Life Sci. Tech., Tokyo Tech)
- [1Pos270](#) 細胞内ナノドメインにおける分子ダイナミクスの精密な測定を可能にする一粒子追跡手法の開発
A novel single-particle tracking system for precise measurement of molecular dynamics in intracellular nanodomains
Shinkuro Kobayashi, Shigeyuki Namiki, Daisuke Asanuma, Kenzo Hirose (Grad. Sch. Med., Univ. Tokyo)
- [1Pos271](#) Live prediction with image-based deep learning accesses temporal variability of single-cell transcriptomic states
Tobias Frick^{1,2}, Katsuyuki Shiroguchi² (¹Osaka University, Graduate School of Frontier Biosciences (FBS), ²RIKEN Center for Biosystems Dynamics Research (BDR))
- [1Pos272](#) 聴覚の末梢器官である内耳蝸牛の感覚上皮振動に含まれる直流動作の検出と分析
Analyses of the sound-evoked nanoscale offset motion in the cochlea of the inner ear
Takeru Ota¹, Hiroshi Hibino^{1,2} (¹Grad. Sch. Med., Univ. Osaka, ²AMED-CREST, AMED)

- [1Pos273](#) 気液界面を用いた細胞メカニクス解析技術の開発
Development of gas-liquid interface-based cell mechanics analysis technology
Masaki Moriyama¹, Naoya Ishizawa¹, Ryo Kobayashi¹, Seri Hayashi¹, Makiko Takubo¹, Kaede Yokoyama¹, Masataka Murakami¹, Tetsuro Hoshino¹, Akio Iwasa¹, Masafumi Mimura¹, Hirohide Murai², Taichi Nakamura², Kiyoshi Nozaki¹, Shuhei Tanaka¹ (¹*Nikon Corporation*, ²*Nikon Systems Inc.*)
- [1Pos274](#) ラマンイメージングによる老化細胞のラベルフリー検出
Label-free detection of senescent cells by Raman imaging
Hiroko Kodama¹, Ren Shibuya², Shinji Kajimoto^{1,2,3}, Takakazu Nakabayashi^{1,2} (¹*Faculty of Pharmaceutical Sciences, Tohoku Univ.*, ²*Graduate School of Pharmaceutical Sciences, Tohoku Univ.*, ³*JST PRESTO*)
- [1Pos275](#) 多様体学習と機械学習の外力下での細胞運動ダイナミクスへの適用
Manifold and machine learning techniques applied to cell movement dynamics under external forces
Hiroshi Fujisaki¹, Kenta Odagiri², Hiromichi Suetani³, Hiroya Takada¹, Rei Ogawa¹ (¹*Nippon Medical School*, ²*Senshu Univ.*, ³*Oita Univ.*)
- [1Pos276](#) ソリッドステートナノポアによる H2A.B スクレオソームの構造安定性に関する研究
A study on the structural dynamics of the nucleosome containing H2A.B using solid-state nanopores
Hikaru Nozawa¹, Hirohito Yamazaki¹, Ryo Iizuka¹, Rina Hirano^{1,2}, Tomoya Kujirai^{2,3}, Hitoshi Kurumizaka^{1,2}, Sotaro Uemura¹ (¹*Department of Biological Sciences, Graduate School of Science, The University of Tokyo*, ²*Institute for Quantitative Biosciences, The University of Tokyo*, ³*RIKEN Center for Biosystems Dynamics Research*.)
- [1Pos277](#) ナノポア計測による CALHM2 チャネルダイナミクスの解明
Investigation of CALHM2 Channel Dynamics using Nanopore measurement
Sotaro Nakamura, Hirohito Yamazaki, Wataru Shihoya, Osamu Nureki, Sotaro Uemura (*Department of Biological Sciences, The University of Tokyo*)
- [1Pos278](#) 赤外超解像顕微鏡による爪ケラチンタンパク質の分布・配向観察
IR super-resolution imaging of keratin proteins in human nails based on non-linear optical process
Hirona Takahashi, Tetsuya Ida, Kohei Katayama, Makoto Sakai (*Faculty of Sci., Okayama Univ. of Sci.*)
- [1Pos279](#) 近赤外光検出が可能な微弱光検出器の現状
Current status of low-light photodetectors capable of detecting near-infrared light
Atsuhito Fukasawa¹, Minako Hirano², Toru Ide², Hiroaki Yokota³ (¹*Hamamatsu Photonics K.K.*, ²*Grad. Sch. Interdiscip. Sci. Eng. Health Sci., Okayama Univ.*, ³*Grad. Sch. Creation Photon Indust.*)
- [1Pos280](#) 表面増強ラマン分光を用いたジペプチド繰り返し配列を有するペプチドの液-液相分離液滴の計測
Surface Enhanced Raman Spectroscopy of liquid-liquid phase separation droplets consisting of dipeptide repeats
Yui Yamazaki¹, Masayuki Fujiwara², Ryo Kato², Kohsuke Kanekura³, Taka-aki Yano², Yuhei Hayamizu¹ (¹*Dept. of Mat. Sci. and Eng., Tokyo Tech*, ²*pLED, Tokushima Univ.*, ³*Dept. of Molecular pathology, Tokyo Medical Univ.*)
- [1Pos281](#) CRISPR-Cas13 を用いたデュアルプローブシステムおよび液液相分離濃縮による RNA の高感度 1 分子計測
Sensitive CRISPR-Cas13 mediated digital bioassay of RNA with dual probe system and enrichment by liquid-liquid phase separation
Yutaro Ii, Yoshihiro Minagawa, Hiroyuki Noji (*Dept. Appl. Chem., Grad. Sch. Eng., Univ.Tokyo*)

- [1Pos282](#) 高速原子間力顕微鏡で観察されたミオシン V の歩行運動の隠れマルコフモデル解析
Hidden Markov model analysis of myosin V walking observed by high-speed atomic force microscopy
Sotaro Fuchigami¹, Yasuhiro Matsunaga², Shoji Takada¹ (¹*Grad. Sch. of Science, Kyoto Univ.*, ²*Grad. Sch. Sci. Eng., Saitama Univ.*)
- [1Pos283](#) (1SEP-6) Centromere-kinetochore structures revealed by 12x modified expansion microscopy
Yasuhiro Hirano¹, Aussie Suzuki², Yasushi Hiraoka¹, Tatsuo Fukagawa¹ (¹*Graduate School of Frontier Biosciences, Osaka University*, ²*McArdle Laboratory for Cancer Research, University of Wisconsin-Madison*)
- [1Pos284](#) Fluorescence polarization light-sheet microscopy for studying 3D molecular architectures *in vivo*
Tomomi Tani (*Biomedical Research Institute, National Institute of Advanced Industrial Science and Technology*)
- [1Pos285](#) 細胞分化に伴うクロマチン構造における状態特異的なヒストン動態の 1 分子イメージング
Single-molecule analysis of state-specific histone mobility in chromatin subcompartments during cellular differentiation
Masanori Hirose, Yuma Ito, Makio Tokunaga (*Sch. Life Sci. Tech., Tokyo Tech*)
- [1Pos286](#) AlphaFold2 による遺伝子にコードされた FRET 型カルシウム指示薬の設計
AlphaFold2-assisted design of a genetically-encoded FRET-based calcium indicator
Shinya Sakai¹, Kei-ichi Okazaki², Tomoki Matsuda³, Takeharu Nagai³ (¹*Graduate School of Frontier Biosciences, Osaka University, Japan.*, ²*Research Center for Computational Science, Institute for Molecular Science, Japan.*, ³*SANKEN, Osaka University, Japan*)
- [1Pos287](#) 細胞性粘菌における c-di-GMP シグナルの解析
Fluorescence imaging of cyclic di-GMP signal in *Dictyostelium discoideum*
Hayato Ide, Yusuke Morimoto (*Grad. Sch. Comp. Sci. and Sys. Eng., Kyushu Inst. Tech.*)
- [1Pos288](#) (3SAA-6) Size determination of cytoplasmic condensates of optineurin using spatial image correlation spectroscopy (SICS)
Yuta Hamada¹, Masataka Kinjo², Akira Kitamura² (¹*Grad. Sch. Sci. of Life Sci., Hokkaido Univ.*, ²*Fac. of Adv. Life Sci., Hokkaido Univ.*)
- [1Pos289](#) (3SAA-4) Morphological Analysis of Hydrogel Induced Cancer Stem Cells in Synovial Sarcoma Model Cells
Zannatul Ferdous¹, Masumi Tsuda^{1,3,4}, Jean-Emmanuel Clément³, Jian Ping Gong^{1,3,6}, Shinya Tanaka^{3,4,6}, Tamiki Komatsuzaki^{2,3,5}, Koji Tabata² (¹*Graduate School of Life Science, Hokkaido University*, ²*Research Center of Mathematics for Social Creativity, Research Institute for Electronic Science, Hokkaido University, Sapporo, Japan.*, ³*Institute for Chemical Reaction Design and Discovery (WPI-ICReDD), Hokkaido University, Sapporo, Japan.*, ⁴*Department of Cancer Pathology, Hokkaido University Faculty of Medicine, Sapporo.*, ⁵*Graduate School of Chemical Sciences and Engineering, Hokkaido University, Sapporo, Japan.*, ⁶*Global Station for Soft Matter, Global Institution for Collaborative Research and Education (GI-CoRE), Hokkaido University, Sapporo, Japan*)
- [1Pos290](#) 細胞内ストレス顆粒の近赤外蛍光・ラマンイメージング：細胞固定化の相分離液滴への影響
Near-infrared fluorescence and Raman imaging of intracellular stress granules: Effects of cell fixation on droplets formed by LLPS
Ren Shibuya¹, Shinji Kajimoto^{1,2}, Tetsuro Ariyoshi^{3,4}, Yasushi Okada^{3,4}, Takakazu Nakabayashi¹ (¹*Grad. Sch. Pharm. Sci., Tohoku Univ.*, ²*JST PRESTO*, ³*RIKEN BDR*, ⁴*Grad. Sch. Med., Univ. Tokyo*)

- [1Pos291](#) 情報理論を使ったラマン画像に含まれる化学情報と形態情報の関係性の定量
Quantification of the relationship between chemical and spatial information in Raman images using information theory
Ryoya Kondo¹, James Nicholas Taylor², Yuta Mizuno^{1,2,3}, Jean-Emmanuel Clement^{2,3}, Katsumasa Fujita⁴, Yoshinori Harada⁵, Tamiki Komatsuzaki^{1,2,3} (¹*Grad. Chem. Sci. Eng., Hokkaido Univ.*, ²*Res. Inst. Electr. Sci., Hokkaido Univ.*, ³*WPI-ICReDD, Hokkaido Univ.*, ⁴*Grad. Eng., Osaka Univ.*, ⁵*Kyoto Pref. Univ. Med.*)
- [1Pos292](#) シグナル伝達反応進行過程における細胞膜上受容体動態の変化
Oligomerization and dynamics of receptor molecules during the signaling process
Hideaki Yoshimura, Takeaki Ozawa (*Sch. Sci., Univ. Tokyo*)
- [1Pos293](#) デュアルコム干渉計を用いた細胞膜電位のラベルフリー検出
Label-free detection of membrane potential using dual-comb interferometry
Satoshi Araoka^{1,3}, Yusuke Takashima², Yoshiki Naoi^{2,3}, Akira Emoto³, Kazumichi Yoshii³, Masatake Akutagawa², Hiroki Takanari³ (¹*Graduate School of Sciences and Technology for Innovation, Tokushima University*, ²*Graduate School of Technology, Industrial and Social Science, University of Tokushima*, ³*Institute of Post-LED Photonics, University of Tokushima*)
- [1Pos294](#) 脂質、ヌクレオチド依存的 Prx 高分子量複合体形成メカニズムの解明
Study on the formation mechanism of peroxiredoxin high molecular weight complex with lipid and nucleotide
Ryusei Yamada¹, Hiroki Konno² (¹*Grad. Sch. of Nat. Sci. & Technol., Kanazawa University*, ²*WPI Nano Life Sci. Inst. (WPI-NanoLSI), Kanazawa Univ*)
- [1Pos295](#) イメージプロセッシングによる細胞内小胞輸送の3次元トラッキングデータ解析の自動化に関する研究
An automatic detection and tracking method for the 3D reconstruction of vesicle movement in a living cell
Seohyun Lee¹, Hyuno Kim², Hideo Higuchi³ (¹*Institute for quantitative biosciences, The University of Tokyo*, ²*Institute of Industrial Science, The University of Tokyo*, ³*Graduate School of Science, The University of Tokyo*)
- [1Pos296](#) 機械学習を駆使して高速 AFM 画像から細胞骨格ネットワーク構造の再構成
Machine learning-guided reconstruction of cytoskeleton network from Live-cell AFM Images
Kanaki Kiku¹, Shigehiro Yoshimura¹, Skibbe Henrik², Naoki Honda³ (¹*Graduate School of Biostudies, Kyoto University, Japan*, ²*Brain Image Analysis Unit, RIKEN Center for Brain Science, Wako, Japan*, ³*Graduate School of Integrated Sciences for Life, Hiroshima University, Japan*)
- [1Pos297](#) ランダムドメイン挿入法を用いた FRET 型植物ホルモンセンサーのスクリーニング
Screening of FRET-type plant hormone sensor using Random domain insertion method
Ami Nakano (*Grad. Sch. Sci. Eng., Saitama Univ.*)
- [1Pos298](#) 寒天培地上での海洋微生物の構造色の出現と発達のタイムラプス観察
Timelapse observation of the emergence and development of structural color of a marine bacterium on agar plates
Mikiko Tsudome, Shigeru Deguchi (*JAMSTEC*)
- [1Pos299](#) 生体内高感度シングルショット 3D 温度イメージング技術の開発
Sensitive single-shot 3D temperature imaging *in vivo*
Haruka Maeoka¹, Ryuji Igarashi², Shin Usuki³, Takuma Sugi¹ (¹*Program of Biomedical Science, Graduate School of Integrated Sciences for Life, Hiroshima University*, ²*Quantum Science and Technology Organization*, ³*Research Institute of Electronics, Shizuoka University*)
- [1Pos300](#) Kilohertz imaging of intracellular heat diffusion with a genetically encoded temperature indicator
Kai Lu¹, Tetsuichi Wazawa¹, Joe Sakamoto³, Cong Quang Vu^{1,2}, Masahiro Nakano¹, Yasuhiro Kamei³, Takeharu Nagai^{1,2} (¹*SANKEN, Osaka Univ.*, ²*Graduate School of Frontier Biosciences, Osaka Univ.*, ³*NIBB*)

- [1Pos301](#) 従来の超解像用、生理機能用蛍光指示薬による生理機能超解像イメージング法
Functional super-resolution (fSR) imaging with conventional SR and functional fluorescent indicators
Ryohei Noma¹, Satoshi Hara¹, Tomoki Matsuda¹, Tetsuichi Wazawa¹, Takashi Washio^{1,2}, Takeharu Nagai^{1,2} (¹SANKEN (The Institute of Scientific and Industrial Research), Osaka University, Japan, ²Transdimensional Life Imaging Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka University, Japan)
- [1Pos302](#) 長期間ライブイメージングを可能にする光損傷を軽減する撮影条件の最適化
Optimization of image acquisition methods to reduce photodamage for long-term live-imaging
Go Shioi¹, Tomonobu M Watanabe¹, Junichi Kaneshiro¹, Yusuke Azuma², Shuichi Onami² (¹Laboratory for Comprehensive Bioimaging, RIKEN Center for Biosystems Dynamics Research, ²Laboratory for Developmental Dynamics, RIKEN Center for Biosystems Dynamics Research)
- [1Pos303](#) 1分子動態と局在による機能的クロマチン-RNA polymerase II 相互作用の統合解析
An integrated analysis of functional chromatin-RNA polymerase II interaction using single-molecule dynamics and localization
Yuma Ito, Makio Tokunaga (Sch. Life Sci. Tech., Tokyo Tech)
- [1Pos304](#) クライオ電子線トモグラフィー法による糸状仮足中のアクチン繊維上ファシンのサブトモグラム平均化
Subtomogram Averaging of Fascin on Actin Filaments in Filopodia by Cryo-Electron Tomography
Kaoru Mitsuoka¹, Naoko Kajimura¹, Takuo Yasunaga² (¹Research Center for Ultra-High Voltage EM, Osaka Univ., ²Grad. Sch. Comp. Sci. Syst. Eng., KIT)
- [1Pos305](#) *Gloeobacter violaceus* の顕微分光イメージング
Microimaging of *Gloeobacter violaceus*
Kento Hashimoto¹, Reo Minami¹, Akio Murakami², Mamoru Nango³, Mitsuru Sugisaki^{3,4} (¹Grad. Sch. Sci., Osaka City University, ²Grad. Sch. Sci., Kobe University, ³Grad. Sch. Sci., Osaka Metropolitan University, ⁴NITEP, Osaka Metropolitan University)
- [1Pos306](#) 骨格アニメーション法を活用したタンパク質構造変化の検証法
Utilizing skeletal animation for understanding structural change of proteins
Yutaka Ueno (Artificial Intelligence Research Center, AIST)

バイオエンジニアリング／Bioengineering

- [1Pos307](#) CRISPR 関連タンパク質によるプログラム可能な哺乳類細胞翻訳調節器
Programmable mammalian translational modulators by CRISPR-associated proteins
Shunsuke Kawasaki, Takeru Kuwabara, Hirohide Saito (Center for iPS Cell Research and Application, Kyoto University)
- [1Pos308](#) カップ型微小電極を用いた非接着細胞表面分子計測技術の開発
Development of a technology to detect surface molecules on non-adherent cells by using Cup-shaped microelectrodes
Taro Sasaki^{1,2}, Kohki Uchiyama^{1,2}, Tomoyuki Kamata³, Dai Kato³, Naoshi Kojima³, Shohei Yamamura³, Hyonchol Kim^{1,2} (¹Cell. Mol. Biotechnol. Res. Inst., AIST, ²Grad. Sch. Eng., Tokyo Univ. Agric. Technol., ³Health Med. Res. Inst., AIST)
- [1Pos309](#) 3D DNA nanostructure-based assembled structures toward a construction of chromatin-like heterogeneous system
Hong Xuan Chai¹, Masahiro Takinoue² (¹Department of Life Science and Technology, School of Life Science and Technology, Tokyo Institute of Technology, ²Department of Computer Science, School of Computing, Tokyo Institute of Technology)

- [1Pos310](#) DNA 増幅を動力源とするナノモーターの設計と評価
Design and evaluation of nanomotors powered by DNA amplification
Riku Yoshino¹, Richard James Archer¹, Satoshi Murata¹, Shinichiro Nomura¹, Ibuki Kawamata^{1,2}
(¹Grad. Sch. Eng., Univ. Tohoku, ²Fuc. Core Reserch, Univ Ochanomizu)
- [1Pos311](#) DNA を用いたシグナル伝達のための核酸生成回路の検証
Characterization of Nucleic Acid Generation Circuits for DNA-based Signal Transduction
Ken Komiya, Chizuru Noda (*X-star, JAMSTEC*)
- [1Pos312](#) リン脂質-タンパク質非対称膜小胞を用いた小胞分裂モデルの構築
Construction of vesicle fission model using asymmetric phospholipid-protein vesicles
Masato Suzuki (*Facut. Sci. Tech., Gunma. Univ*)
- [1Pos313](#) 原子間力顕微鏡液中測定によるパパイン分子と DNA で被覆された単層カーボンナノチューブとの相互作用の pH の影響の研究
Effects of pH on interaction of papain and DNA wrapped single walled carbon nanotubes studied by atomic force microscopy in fluid
Masaki Kitamura, Kazuo Umemura (*Physics. Science. Tokyo university of science/ Japanese*)
- [1Pos314](#) フェリチンに内包されたマグネタイトナノ粒子の高周波磁場による加熱
Heat production by magnetite nanoparticles encapsulated in ferritin under alternating magnetic field
Kanamaru Tomoko¹, Yuta Hayashi¹, Hiroto Goshima¹, Toshiki Higuchi¹, Arun Kasimchetty¹, Shuji Kanamaru², **Hideyuki Yoshimura**¹ (¹Meiji Univ., ²Tokyo Institute of Technology)
- [1Pos315](#) Inhibitory effect of nucleotides on acetylcholinesterase activity and its microflow based actuation in human plasma
Deshwal Akshi¹, Gill Arshdeep Kaur², Nain Surajmal¹, Patra Dr.Debabrata², Maiti Subhabrata¹ (¹Indian Institute of Science Education and Research Mohali, Punjab 140306, India, ²Institute of Nano Science and Technology, Mohali, Punjab 140306)

結晶成長・結晶化技術／Crystal growth & Crystallization technique

- [1Pos316](#) 無細胞合成を用いたタンパク質結晶化と構造解析
Protein crystallization and structure analysis using cell-free protein synthesis
Satoshi Abe, Junko Tanaka, Mariko Kojima, Takafumi Ueno (*Sch. Life Sci. Tech., Tokyo Tech.*)
- [1Pos317](#) 細胞内タンパク質結晶を用いた天然変性タンパク質の網羅的構造解析
Comprehensive structure analysis of intrinsically disordered protein using in-cell protein crystal
Mariko Kojima, Satoshi Abe, Takafumi Ueno (*Sch. Life Sci. & Tech., Tokyo Tech*)

その他／Miscellaneous topics

- [1Pos318](#) 大気圧温度制御プラズマによる植物細胞への直接タンパク質導入法の開発及び導入機構解明
Direct protein introduction into plant cells by a temperature controllable atmospheric-pressure plasma and elucidation of the mechanism
Yuki Yanagawa^{1,2}, Yusuke Iijima³, Toshiki Aizawa³, Yuma Suenaga³, Akitoshi Okino³, Ichiro Mitsuhashi⁴ (¹Grad. Sch. Hortic., Chiba Univ., ²CSRS, RIKEN, ³FIRST, Tokyo Inst. Tech., ⁴NIAS, NARO)
- [1Pos319](#) 新規カロテノプロテインの分離と構造解析—青色にもピンク色にもなるアスタキサンチン
Isolation and structure analysis of a novel marine sponge carotenoprotein
Momoko Ishida, Momose Kuroda, Suzuho Iseya, Yui Fujita, Satoko Matsunaga (*N.I.T., Hakodate Col.*)

- [1Pos320](#) Construction of novel lipidomics platform combined of targeted and non-targeted analysis
Hideaki Kasahara, Yasuto Yokoi, Hideya Kuwabara, Tadahiro Hoshino (*MITSUI KNOWLEDGE INDUSTRY CO., LTD.*)
- [1Pos321](#) ヒト角栓内部における脂質の不均一分布
Heterogeneous spatial distribution of lipid components in a follicular cast
Hitomi Matsushita¹, Hiromitsu Nakazawa¹, Noboru Ohta², Taro Moriwaki², Satoru Kato¹ (¹*Grad. Sch. SciTech., Kwansei Gakuin Univ.*, ²*JASRI/SPRING-8*)
- [1Pos322](#) 変分オートエンコーダを用いた下顎骨形態の定量化
A method for morphological feature extraction based on variational auto-encoder: an application to mandible shape
Masato Tsutsumi¹, Nen Saito^{2,3,4}, Daisuke Koyabu^{5,6}, Chikara Furusawa^{4,7} (¹*Dept. of Physics, Grad. Sch. Sci., The Univ. of Tokyo*, ²*Grad. Sch. Integr. Sci. for Life, Hiroshima Univ.*, ³*ExCELLS, NIBB*, ⁴*UBI, The Univ. of Tokyo*, ⁵*Res. and Dev. Center for Precision Med., Tsukuba Univ.*, ⁶*Jockey Club College of Veterinary Medicine and Life Sciences, City University of Hong Kong*, ⁷*BDR, RIKEN*)
- [1Pos323](#) Evaluation of the Potent SARS-CoV-2 Main Protease Inhibitors using LB-PaCS-MD/FMO Technique
Kowit Hengphasatporn, Ryuhei Harada, Yasuteru Shigeta (*Center for Computational Sciences, Univ. Tsukuba*)
- [1Pos324](#) Flory-Huggins 理論を用いた 3 成分系における相分離挙動の解析
Analysis of phase separation behavior in three-component systems based on the Flory-Huggins theory
Naoki Iso, Takahiro Sakaue, Yuki Norizoe (*Aoyama Gakuin University*)
- [1Pos325](#) 多孔質ハイドロゲル固体試料中における紫膜積層に適した孔サイズ分布
Pore size distributions related to spontaneous purple membrane stacking in porous hydrogels
Yasunori Yokoyama^{1,2}, Morise Karasawa¹, Kingo Takiguchi³, Hiroshi Takahashi⁴, Takashi Kikukawa⁵, Masashi Sonoyama^{4,6,7}, Koshi Takenaka¹ (¹*Grad. Sch. Eng., Nagoya Univ.*, ²*Natl. Inst. Tech., Hakodate Coll.*, ³*Grad. Sch. Sci., Nagoya Univ.*, ⁴*Grad. Sch. Sci. Tech., Gunma Univ.*, ⁵*Fac. Adv. Life Sci., Hokkaido Univ.*, ⁶*GIAR, Gunma Univ.*, ⁷*GUCFW, Gunma Univ.*)

2 日目 (9 月 29 日 (木)) / Day 2 (Sep. 29 Thu.)

蛋白質：構造／Protein: Structure

- [2Pos001*](#) クライオ電子顕微鏡によるヒト LPA1 受容体の構造解析
Cryo-EM structure of Human Lysophosphatidic Acid Receptor 1
Hiroaki Akasaka, Tatsuki Tanaka, Fumiya Sano, Wataru Shihoya, Osamu Nureki (*Grad. Sch. Sci., The Univ. of Tokyo*)
- [2Pos002*](#) クライオ電子顕微鏡を用いたコレラ菌 Na⁺輸送性 NADH-ユビキノン酸化還元酵素の構造解明
Cryo-EM structures of Na⁺-pumping NADH-ubiquinone oxidoreductase from *Vibrio cholerae*
Moe Ishikawa¹, Jun-ichi Kishikawa², Takahiro Masuya¹, Masatoshi Murai¹, Yuki Kitazumi¹, L. Nicole Butler³, Takayuki Kato², Blanca Barquera^{3,4}, Hideto Miyoshi¹ (¹*Grad. Sch. Agri., Kyoto Univ./ Japanese*, ²*Inst. Prot. Res., Osaka Univ./ Japanese*, ³*Bio. Sci., RPI/ USA*, ⁴*CBIS, RPI/ USA*)
- [2Pos003*](#) (3SFA-3) クライオ電子顕微鏡による高分解能解析によって明らかになってきた二成分毒素の膜透過機構
(3SFA-3) High-resolution Cryo-EM analysis reveals the mechanism of binary toxin translocation
Tomohito Yamada¹, Yukihiro Sugita^{2,3}, Takeshi Noda², Hideaki Tsuge¹ (¹*Graduate School of Life Science, Kyoto Sangyo University*, ²*Laboratory of Ultrastructural Virology, Institute for Life and Medical Sciences, Kyoto University*, ³*Hakubi Center for Advanced Research, Kyoto University*)

- [2Pos004](#) タンパク質間相互作用阻害を機序とする抗新型コロナウイルス薬の創出
Screening for new types of coronavirus inhibitors that block protein-protein interaction
Ryusei Hamajima¹, Haruka Takagi¹, Takeshi Tenno¹, Youichi Suzuki², Hong Wu², Hidekazu Hiroaki¹
(¹*Grad. Sch. Pharm. Sci., Nagoya Univ.*, ²*School of Medicine, Osaka Medical and Pharmaceutical University*)
- [2Pos005*](#) クライオ電子顕微鏡によるヒト由来メラトニン受容体シグナル伝達複合体の立体構造解析
Cryo-EM structure of the human MT₁-G_i signaling complex
Hiroyuki Okamoto¹, Hirotake Miyauchi¹, Asuka Inoue², Francesco Raimondi³, Hirokazu Tsujimoto⁴, Tsukasa Kusakizako¹, Wataru Shihoya¹, Keitaro Yamashita^{1,5}, Ryoji Suno⁶, Norimichi Nomura⁴, Takuya Kobayashi⁶, So Iwata^{4,7}, Tomohiro Nishizawa⁸, Osamu Nureki¹ (¹*Graduate School of Science, The University of Tokyo.*, ²*Graduate School of Pharmaceutical Sciences, Tohoku University.*, ³*Laboratorio di Biologia Bio@SNS, Scuola Normale Superiore.*, ⁴*Graduate School of Medicine, Kyoto University.*, ⁵*MRC Laboratory of Molecular Biology.*, ⁶*Department of Medical Chemistry, Kansai Medical University.*, ⁷*RIKEN SPring-8 Center.*, ⁸*Graduate School of Medical Life Science, Yokohama City University.*)
- [2Pos006*](#) FlhAc の高速原子間力顕微鏡画像の解析
Analysis of High Speed Atomic Force Microscopy Image of FlhAc
Riku Osawa¹, Naoya Terahara², Noriyuki Kodera³, Katsumi Imada⁴, Tohru Minamino⁵, Akio Kitao¹
(¹*Sch. Life Science and Technology, Tokyo Tech.*, ²*Dep. Physics Faculty of Science and Engineering, Chuo Univ.*, ³*Bio-AFM Frontier Research Center, Kanazawa Univ.*, ⁴*Dep. Macromolecular Science, Grad. Sch. Science, Osaka Univ.*, ⁵*Grad. Sch. Frontier Biosciences, Osaka Univ.*)
- [2Pos007](#) デングウイルス由来 RNA 依存性 RNA ポリメラーゼと天然物ライブラリーから得られたその阻害剤との複合体の立体構造解析
Structure analysis of the dengue viral RNA-dependent RNA polymerase in complex with its inhibitor obtained from marine natural products
Nami Hosoi¹, Haruka Nakatani², Lakkana Thaveepornkul³, Arisa Suto⁴, Naoki Sakai^{5,6}, Hiroaki Matsuura⁶, Masaki Yamamoto⁶, Takashi Matsui^{7,8}, Yoshio Kodera^{7,8}, Sarin Chimnaronk³, Ryuichi Sakai², Takeshi Yokoyama¹, Yoshikazu Tanaka¹ (¹*Grad. Sch. Life Sci., Tohoku Univ.*, ²*Grad. Sch. Fisheries Sci., Hokkaido Univ.*, ³*The Laboratory of RNA Biology, Institute of Molecular Biosciences, Mahidol University.*, ⁴*Grad. Sch. Sci., Kitasato Univ.*, ⁵*Strut. Biol. Div. JASRI.*, ⁶*Life Sci. Res. Infra. Gr., RIKEN RSC.*, ⁷*Sch. Sci., Kitasato Univ.*, ⁸*Cent. Disease Proteomics, Kitasato Univ.*)
- [2Pos008*](#) フェレドキシン-NADP⁺還元酵素の中性子結晶構造解析
Neutron crystallographic analysis of ferredoxin-NADP⁺ reductase
Midori Uenaka^{1,2}, Yusuke Ohnishi¹, Hideaki Tanaka^{1,2}, Genji Kurisu^{1,2} (¹*IPR., Osaka Univ.*, ²*Grad. Sch. Sci., Osaka Univ.*)
- [2Pos009*](#) クライオ電子顕微鏡を用いたビタミン C トランスポーター SVCT1 の構造解析
Cryo-EM structures of vitamin C transporter SVCT1
Takaaki Kobayashi, Hiroto Shimada, Fumiya Sano, Tsukasa Kusakizako, Osamu Nureki (*Dept. Biol. Sci., Grad. Sch. Sci., Univ. Tokyo*)
- [2Pos010](#) 赤色蛍光タンパク質の単一復帰変異による赤色蛍光消失の構造基盤
Structural basis of the loss of red fluorescence by single back mutation of an artificial red fluorescent protein
Shiho Otsubo¹, Hiromi Imamura², Norihiro Takekawa¹, Katsumi Imada¹ (¹*Grad. Sch. Sci., Osaka Univ.*, ²*Grad. Sch. Biost., Kyoto Univ.*)
- [2Pos011](#) MD シミュレーションによる LIM2 ドメインの構造解析
Structural analysis of Lim2 domain by MD simulation
Motokuni Nakajima¹, Yoh Noguchi^{1,3}, Hironao Yamada^{2,3}, Ryota Morikawa¹, Masako Takasu¹, Yukiko K. Hayashi⁴ (¹*Sch. of Life Sci., Tokyo Univ. of Pharm. and Life Sci.*, ²*Sch. of Pharm., Tokyo Univ. of Pharm. and Life Sci.*, ³*The Inst. of Statist. Math.*, ⁴*Tokyo Med. Univ.*)

- [2Pos012](#) 尿素とトリエチルアミン N-オキシドが KaiC の ATPase 活性に及ぼす影響
Effects of urea and trimethylamine N-oxide on the ATPase activity of KaiC
Nanaka Hara¹, Keita Mitsushashi², Haruka Horiuchi³, Masahiro Miyamoto¹, Ayumi Masuda¹, Soichiro Kitazawa³, Ryo Kitahara³ (¹*Graduate School of Pharmaceutical Sciences, Ritsumeikan University*, ²*Graduate School of Life Sciences, Ritsumeikan University*, ³*College of Pharmaceutical Sciences, Ritsumeikan University*)
- [2Pos013](#) 原子分解能でみた概日時計の朝夕昼夜
Visualizing a Day of Circadian Clock at Atomic Resolution
Yoshihiko Furuike^{1,2}, Atsushi Mukaiyama^{1,2}, Eiki Yamashita³, Takao Kondo⁴, Shuji Akiyama^{1,2} (¹*Research Center of Integrative Molecular Systems (CIMO), Institute for Molecular Science (IMS)*, ²*The Graduate University for Advanced Studies (SOKENDAI)*, ³*Institute for Protein Research (IPR), Osaka University*, ⁴*Graduate School of Science, Nagoya University*)
- [2Pos014](#) 分子動力学シミュレーションを活用した VHH-抗原複合体のアンサンブルドッキング
Ensemble Docking of VHH-Antigen Complexes using Molecular Dynamics Simulations
Kohei Yamaguchi, Ren Higashida, Yasuhiro Matsunaga (*Grad. Sch. Sci. Eng., Saitama Univ.*)
- [2Pos015](#) Structure and stability analysis of Cry j 7, an antimicrobial peptide from Japanese cedar that causes the pollen-food allergic syndrome
Jingkang Zheng, Tomona Iizuka, Hiroyuki Kumeta, Yasuhiro Kumaki, Ami Hanaoka, Ichiho Yoshikawa, Yurie Nakajima, Soma Ishihara, Tomoyasu Aizawa (*Grad. Sch. Life Sci., Hokkaido Univ.*)
- [2Pos016](#) 細菌由来グルカンスクララーゼのアクセプター特異性に関連するループ構造
The loop structure responsible to the acceptor specificity of bacterial glucansucrase
Takafumi Inoue, Hideyuki Komatsu (*Dept. of Bioscience and Bioinformatics, Kyushu Inst. Tech.*)
- [2Pos017](#) 構造解析に向けたヒト免疫不全ウイルス 2 (HIV-2) エンベロープ糖タンパク質の調製
Preparation of human immunodeficiency virus type-2 (HIV-2) envelope glycoprotein for structure analysis
Yuki Anraku¹, Shunsuke Kita¹, Hideo Fukuhara¹, Haruka Kawabata¹, Takaki Akiyama¹, Simon Davis², Atsushi Furukawa¹, Thushan I. de Silva², James E. Robinson³, Yuguang Zhao², E. Yvonne Jones², David Stuart², Juha T Huiskonen², Sarah Rowland-Jones², Katsumi Maenaka¹ (¹*Fac. Pharm. Sci., Univ. Hokkaido*, ²*Univ. Oxford*, ³*Univ. Tulane*)
- [2Pos018](#) 粗視化モデルによる微小管の安定性の理論的研究
Theoretical study of stability of microtubules by a coarse-grained model
Ayasa Kurahashi, Hiro Takeda, Kazutomo Kawaguchi, Hidemi Nagao (*Grad. Sch. Nat. Sci. Tech., Kanazawa Univ.*)
- [2Pos019](#) X 線小角散乱測定を用いたクラミドモナス由来クリプトクロムの溶液構造解析
Structural analyses of the animal-like cryptochrome from *Chlamydomonas reinhardtii* by small angle X-ray scattering
Soma Matsuda, Satoshi Nagao, Daichi Yamada, Minoru Kubo (*Grad. Sch. Sci., Univ. Hyogo*)
- [2Pos020](#) 蛋白質天然変性領域を模倣する生理活性化合物の探索
Search of bioactive compounds that imitate intrinsically disordered regions of proteins
Haruki Fukuyama¹, Takuya Takahashi², Kota Kasahara² (¹*Grad. Sci. Life Sci., Ritsumeikan Univ.*, ²*Coll. Life Sci., Ritsumeikan Univ.*)
- [2Pos021](#) Effect of a narrowest clamp of binary toxin on cell toxicity
Yuto Uchida¹, Toru Yoshida², Tomohito Yamada¹, Hideaki Tsuge¹ (¹*Graduate of Life Scienc, kyoto Sangyo University*, ²*Fac. Sci., Japan Women's Univ.*)
- [2Pos022](#) β シートにおける隣接ストランド間でのペア特異的 Ca 距離の解析
Pair-specific analysis of Ca distances between adjacent strands in β-sheets
Hiromi Suzuki (*Sch. Agri., Meiji Univ.*)

- [2Pos023](#) 分子動力学シミュレーションによる凝集性を有するペプチドの密度依存性に着目した構造分布解析
Distribution and structure analysis of fibril-forming peptides focusing on concentration dependency by molecular dynamics simulation
Yoshitake Sakae^{1,2}, Takeshi Kawasaki², Yuko Okamoto³ (¹*RIST*, ²*Dep. Phys., Nagoya Univ.*, ³*Info. and Comm., Naogya Univ.*)
- [2Pos024](#) An extended bound-water network and hydrophobic hydration determine the activity of microbial antifreeze protein
Hidemasa Kondo^{1,2}, N. M.-Mofiz Uddin Khan^{2,3}, Tatsuya Arai⁴, Sakae Tsuda^{4,5,6}, Yasushi Ohyama¹
(¹*Bioproduction Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)*, ²*Graduate School of Life Science, Hokkaido University*, ³*Department of Chemistry, Dhaka University of Engineering and Technology, Gazipur*, ⁴*Graduate School of Frontier Sciences, The University of Tokyo*, ⁵*OPERANDO Open Innovation Laboratory, National Institute of Advanced Industrial Science and Technology (AIST)*, ⁶*Faculty of Advanced Life Science, Hokkaido University*)

蛋白質：構造機能相関／Protein: Structure & Function

- [2Pos025](#) Gly-kink 導入 β バレルナノポアを用いた単一分子検出
Single-molecule detection using β-barrel nanopore with Gly-kink
Ikuro Mizoguchi¹, Masataka Usami¹, Keisuke Shimizu¹, Shuhei Yoshida², Yoshio Hamada², Yuto Suzuki³, Yuzuha Araki³, Kenji Usui², Izuru Kawamura³, Ryuji Kawano¹ (¹*Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology*, ²*Faculty of Frontiers of Innovative Research in Science and Technology, Konan University*, ³*Graduate School of Engineering Science, Yokohama National University*)
- [2Pos026*](#) (2SDP-5) Structural basis of the significant metal-histidine coordination in *E. coli* RNase HI
Zengwei Liao¹, Takuji Oyama², Yumi Kitagawa³, Katsuo Katayanagi⁴, Kosuke Morikawa⁵, Masayuki Oda³ (¹*Grad. Sch. Agri. and Life Sci., the Univ. of Tokyo*, ²*Faculty of Life and Environ. Sci., Univ. of Yamanashi*, ³*Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ.*, ⁴*Grad. Sch. Integrated Sci. for Life, Hiroshima Univ.*, ⁵*Grad. Sch. Biostudies, Kyoto Univ.*)
- [2Pos027*](#) *De novo* ペプチドナノポアの無細胞合成へのアプローチ
Approaches to cell-free synthesis of *de novo* peptide nanopores
Shoko Fujita, Miyu Fukuda, Ikuro Mizoguchi, Ryuji Kawano (*Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology*)
- [2Pos028*](#) K48 結合型環状ユビキチン鎖の物性解析
Physical property analysis of cyclic K48-linked ubiquitin chains
Tomoki Sorada¹, Daichi Morimoto¹, Erik Walinda², Kenji Sugase³ (¹*Grad. Sch. Eng., Univ. Kyoto*, ²*Grad. Sch. Med., Univ. Kyoto*, ³*Grad. Sch. Agr., Univ. Kyoto*)
- [2Pos029](#) アミノ酸生産菌の呼吸鎖の拡張型超複合体の電子顕微鏡による観察と解析
Electron microscopic observation and analysis of extended supercomplexes of the respiratory chain of amino acid-producing bacteria
Ayumi Moriyasu¹, Tomoichirou Kusumoto¹, Hiroko Takazaki², Takuo Yasunaga¹, Takayuki Kato²
(¹*Grad. Sch. Comp. Sci. Syst. Eng., KIT*, ²*IPR, Univ. Osaka*)
- [2Pos030](#) グルタミン酸脱水素酵素における補酵素結合経路のクライオ電子顕微鏡観察
Cofactor binding pathway in glutamate dehydrogenase studied using cryoTEM
Taiki Wakabayashi^{1,2}, Mao Oide^{1,2}, Takayuki Kato³, Masayoshi Nakasako^{1,2} (¹*Dept. Phys., Keio Univ.*, ²*RSC, RIKEN*, ³*Protein Inst., Osaka Univ.*)

- [2Pos031*](#) *In silico* design of cross-reactive antibodies binding to SARS-CoV and SARS-CoV-2 spike RBDs
Yoshiki Yasuda¹, Daisuke Kuroda², Jiei Sasaki³, Makoto Nakakido¹, Ryo Matsunaga¹, Hashiguchi Takao³, Kouhei Tsumoto¹ (¹*Grad. Sch. Eng., The University of Tokyo*, ²*Research Center for Drug and Vaccine development, National Institute of Infectious Diseases*, ³*Laboratory of Medical Virology, Institute for Life and Medical Sciences, Kyoto University*)
- [2Pos032](#) 動的・静的構造解析による南極産好冷細菌由来グルコキナーゼの低温適応・高熱安定性機構の解明
X-ray crystallography and spin-labeling ESR reveal cold adaptation and high thermal stability mechanism of cold-adapted glucokinase
Akane Yato¹, Rio Asaka², Hiroshi Sugimoto³, Keiichi Watanabe², Masaki Horitani² (¹*United Grad. Sch. Agri. Sci., Kagoshima Univ.*, ²*Agri., Saga Univ.*, ³*Spring-8, RIKEN*)
- [2Pos033](#) EPR 法による中温菌、好冷細菌由来複核 Mn 酵素の活性中心における微細構造変化の検出
EPR Spectroscopy Reveals the Differences of Active Site Structures for Di-Mn Enzymes from Mesophilic and Psychrophilic Bacteria
Masaki Horitani^{1,2}, Yuri Kasu¹ (¹*Fac. Agric., Saga Univ.*, ²*Unit. Grad. Sch. Agric. Sci., Kagoshima Univ.*)
- [2Pos034*](#) FixL 二量体感覚領域のリガンド認識機構
Computational Study on the Ligand Discrimination of Dimeric Sensory Domain of FixL Protein
Tingting Wang, Takahisa Yamato (*Graduate School of Science, Nagoya University*)
- [2Pos035](#) QM/MM 法による C-メチル基転移酵素 Fur6 の反応機構解析
QM/MM study on the catalytic mechanism of the C-methyltransferase Fur6
Fan Zhao¹, Tomohiro Noguchi¹, Yoshitaka Moriaki¹, Tohru Terada¹, Tomohisa Kuzuyama^{1,2}, Kentaro Shimizu¹ (¹*Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo*, ²*CRIIM, Univ. of Tokyo*)
- [2Pos036](#) CD28 結合と構造安定性に寄与する Grb2 のドメイン間相互作用
Interdomain interactions in Grb2 contribute to the conformational stability and CD28 binding
Saki Ochi, Momoka Iiyama, Masayuki Oda (*Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ.*)
- [2Pos037*](#) リョビウウイルスの核蛋白質-RNA 複合体のクライオ電子顕微鏡構造
Cryo-EM structure of the nucleoprotein-RNA complex of a novel filovirus, Llovium virus
Shang fan Hu^{1,2,3}, Yoko Fujita-Fujiharu^{1,2,3}, Yukihiko Sugita^{1,2,4}, Lisa Wendt⁵, Yukiko Muramoto^{1,2,3}, Masahiro Nakano^{1,2,3}, Thomas Hoenen⁵, Takeshi Noda^{1,2,3} (¹*Laboratory of Ultrastructural Virology, Institute for Life and Medical Sciences, Kyoto University*, ²*Laboratory of Ultrastructural Virology, Graduate School of Biostudies, Kyoto University*, ³*CREST, Japan Science and Technology Agency*, ⁴*Hakubi Center for Advanced Research, Kyoto University*, ⁵*Laboratory for Integrative Cell and Infection Biology, Institute of Molecular Virology and Cell Biology, Friedrich-Loeffler-Institut*)
- [2Pos038](#) シトクロム P450 によるメチレンジオキシブリッジ形成の反応機構
Reaction mechanism of methylenedioxybridge formation by cytochrome P450
Kenshin Kondoh, Ryo Yonezawa, Eiichi Mizohata (*Grad.Sch.Eng., Osaka Univ.*)
- [2Pos039*](#) ヒト stomatin SPFH ドメインのリン酸イオンに依存した線維状構造
The SPFH domain of human stomatin forms fibril-like assembly at high concentrations, whose formation is promoted by phosphate ions
Koki Kataoka¹, Shota Suzuki¹, Takeshi Tenno¹, Natsuko Goda¹, Emi Hibino¹, Atsunori Oshima^{1,2,3}, Hidekazu Hiroaki^{1,2} (¹*Grad. Sch. Pharm. Sci., Nagoya Univ.*, ²*Cellular and Structural Physiology Institute (CeSPI)*, ³*iGCORE, Toaki National Higher Education and Research System*)
- [2Pos040*](#) 天然変性タンパク質が引き起こす滑膜肉腫発生の新規メカニズム
A Novel Mechanism of Synovial Sarcoma Induced by Intrinsic Disordered Proteins
Kanami Takahashi¹, Naoki Horikoshi², Kazutoshi Tani³, Yohei Miyanoiri⁴, Noriyuki Kodera⁵, Masahiro Nishimura², Kohsuke Kato⁶, Satoshi Takenaka⁷, Hitoshi Kurumizaka², Kenji Iwasaki⁸ (¹*Grad. Sch. Sci. and Tech., Univ. of Tsukuba*, ²*IQB, Univ. of Tokyo*, ³*Grad. Sch. of Med., Mie Univ.*, ⁴*IPR, Osaka Univ.*, ⁵*NanoLSI, Kanazawa Univ.*, ⁶*Grad. Sch. of Comprehensive Human Sciences, Univ. of Tsukuba*, ⁷*Osaka International Cancer Inst. Hosp.*, ⁸*TARA, Univ. of Tsukuba*)

- [2Pos041](#) HSP40 結合による HSP70 の安定性への影響
HSP40 binding affects the stability of HSP70
Lisa Matsukura, Naoyuki Miyashita (*Grad. Sch. BOST, KINDAI Univ.*)
- [2Pos042*](#) 緑藻クラミドモナス由来シトクロム $b_6 f$ 複合体のクライオ電子顕微鏡構造が示す Rieske 鉄硫黄蛋白質の機能的構造変化
Cryo-EM structure of cytochrome $b_6 f$ complex from *Chlamydomonas reinhardtii* reveals the functional domain movement of Rieske ISP
Hatsuki Tanabe^{1,2}, Shinichiro Ozawa³, Akihiro Kawamoto^{1,2}, Hideaki Tanaka^{1,2}, Yuichiro Takahashi⁴, Genji Kurisu^{1,2} (¹IPR., Osaka Univ., ²Grad. Sch. Eng., Osaka Univ., ³IPSR, Okayama Univ., ⁴RIIS, Okayama Univ.)
- [2Pos043](#) 疾患関連変異のタンパク質構造上の三次元分布に基づく新規機能部位の探索
Search for undiscovered protein functional sites based on the spatial distribution of disease-associated missense variants
Chie Motono^{1,2}, Atsushi Hijikata³, Takatsugu Hirokawa^{4,5}, Kenichiro Imai¹ (¹Cell. Mol. Biotechnology RI, AIST, ²CBBD-OIL, AIST, ³Sch.Life Sci., Tokyo Univ. Pharm. Life Sci., ⁴Faculty Med., Univ. of Tsukuba, ⁵Transborder Med. Res. Center, Univ. of Tsukuba)
- [2Pos044](#) 拡張アンサンブル法を用いた 3 次元ドメインスワッピング(3D-DS)の研究
3 Dimensional Domain Swapping (3D-DS) Studied by Advanced Molecular Dynamics Simulation
Hiromitsu Shimoyama, Yasuteru Shigeta (*CCS, Tsukuba Univ.*)
- [2Pos045](#) 構造に基づくキラターゼ CfbA のポルフィリン型基質選択性の理解
Structural insights into porphyrinoid substrate selectivity of chelataase CfbA
Shoko Ogawa¹, Yuma Oyamada¹, Masahide Hikita², Takashi Fujishiro¹ (¹Dept. of Biochem. Mol. Biol., Grad. Sch. Sci. Engineer., Saitama Univ. / Japanese, ²IMSS, KEK / Japanese)
- [2Pos046](#) Structure-function relationship of Zn finger domain in Heliorhodopsin
Manish Singh¹, Kota Katayama¹, Yuji Furutani¹, Oded Bèjà², Rohit Ghai³, Hideki Kandori¹ (¹Nagoya Institute of Technology (Japan), ²Technion –Israel Institute of Technology (Israel), ³Department of Aquatic Microbial Ecology (Czech Republic))
- [2Pos047](#) Torque transmission of the F₁-ATPase with an inelastic driveshaft
Shou Furuike, Yasushi Maki, Hideji Yoshida (*Dept. of Phys. Osaka Med. Pharm. Univ.*)

蛋白質：物性（安定性 折れたたみなど）／Protein: Property

- [2Pos048](#) 環境変化によるタンパク質の構造変化を取り込んだ粗視化タンパク質モデル
An improved coarse grained protein model to include an environment-driven conformational change
Tepei Yamada¹, Wataru Shinoda² (¹Graduate School of Natural Science, Okayama University, ²Research Institute for Interdisciplinary Science, Okayama University)
- [2Pos049*](#) 表面電荷改変抗体のコロイド安定性・結合親和性とその溶媒依存性の解析
Analysis of buffer-dependent colloidal stability and binding affinity of supercharged antibodies
Keisuke Kasahara¹, Daisuke Kuroda², Satoru Nagatoishi³, Kouhei Tsumoto^{1,3} (¹Dept. Bioeng., Grad. Sch. Eng., Univ. Tokyo, ²Res. Ctr. Drug Vaccine Dev., NIID, ³Inst. Med. Sci., Univ. Tokyo)
- [2Pos050*](#) (1SBA-3) タンパク質ケージ内における芳香環相互作用ネットワークの熱力学・分子動力学解析
(1SBA-3) Thermodynamic and Molecular Dynamic Analysis of Aromatic Interaction Networks in Protein Cages
Yuki Hishikawa¹, Noya Hiroki¹, Asuka Asanuma¹, Basudev Maity¹, Satoru Nagatoishi², Kouhei Tsumoto^{2,3}, Satoshi Abe¹, Takafumi Ueno¹ (¹Sch. Life Sci. Technol., Tokyo Inst. Technol., ²Inst. Med. Sci., Univ. Tokyo, ³Sch. Eng., Univ. Tokyo)

- [2Pos051](#) (1SAA-7) 蝶々型金ナノデバイスが可能にするタンパク質液液相分離過程の制御
(1SAA-7) Control of protein condensation by butterfly-shaped gold nanodevices
Tomohiro Nobeyama¹, Koji Takata², Tatsuya Murakami², Kentaro Shiraki^{1,2} (¹*Pure and Appli.Sci., Univ.Tsukuba*, ²*Grad. Sch. Sci. Toyama Pref. Univ*)
- [2Pos052](#) 6 M 塩化 Guanidinium 中でアンフォールドした 3 ヘリックス・バンドル蛋白質の残存構造の H/D 交換 2 次元 NMR による研究
Residual structures in the unfolded state in a three-helix-bundle protein in 6 M guanidinium chloride studied by H/D-exchange 2D NMR
Kunihiro Kuwajima¹, Saeko Yanaka², Maho Yagi-Utsumi², Koichi Kato² (¹*Grad. Sch. Sci., Univ. Tokyo*, ²*ExCELLS & IMS, NINS*)
- [2Pos053](#) Isolation and characterization of a 200kDa fibroin precursor
Kok Sim Chan¹, Kento Yonezawa², Haruya Kajimoto¹, Takehiro Sato³, Yoichi Yamazaki¹, Sachiko Toma-Fukai¹, Hironari Kamikubo^{1,2} (¹*IDivision of Materials Science, Graduate School of Science and Technology, Nara Institute of Science and Technology*, ²*Center for Digital Green-innovation, Nara Institute of Science and Technology*, ³*Spiber Inc.*)
- [2Pos054](#) スタフィロコッカール・ヌクレアーゼにおける、自発的フォールディングからリガンド誘導フォールディングへの機構転移
How to shift the mechanisms from spontaneous folding to ligand-induced folding of staphylococcal nuclease?
Yujiro Mori¹, Issei Suzuki², Shingo Fukazawa², Kosuke Maki¹ (¹*Grad. Sch. Sci., Nagoya Univ.*, ²*Sch. Sci., Nagoya Univ.*)
- [2Pos055](#) 液-液相分離により形成されるドロップレット内部でのタンパク質及び RNA の分子ダイナミクス
Molecular dynamics of proteins and RNA within droplets formed by liquid-liquid phase separation
Fuga Watanabe¹, Takuma Akimoto², Eiji Yamamoto³ (¹*Grad. Sch. Sci. Tech., Keio Univ.*, ²*Dept. Phys., Tokyo Univ. Sci.*, ³*Dept. Syst. Des. Eng., Keio Univ.*)
- [2Pos056](#) 剪断応力がフィブロインナノファイバーに及ぼす影響
Effect of shear stress on fibroin nanofibers
Keita Iwasaki¹, Kento Yonezawa^{1,2}, Satoru Onishi¹, Muneya Daidai¹, Haruya Kajimoto¹, Takehiro Sato³, Yoichi Yamazaki¹, Sachiko Toma-Fukai¹, Hironari Kamikubo^{1,2} (¹*NAIST, MS*, ²*NAIST, CDG*, ³*Spiber Inc*)
- [2Pos057*](#) 神経変性疾患関連タンパク質 Ataxin-3 の液-液相分離と凝集ダイナミクスのポリ Q 鎖長依存性
PolyQ chain length dependence of liquid-liquid phase separation and aggregation dynamics of a neurodegeneration-related protein ataxin-3
Uchu Matsuura¹, Shinya Tahara¹, Shinji Kajimoto^{1,2}, Takakazu Nakabayashi¹ (*1Graduate School of Pharmaceutical Sciences, Tohoku University*, *2JST PRESTO, Japan.*)
- [2Pos058](#) 疾病関連 α-シヌクレイン変異体の構造およびダイナミクス特性
Structural and dynamical properties of the disease-related mutants of α-synuclein
Satoru Fujiwara¹, Kai Nishikubo¹, Kensuke Ikenaka², César Aguirre², Hideki Mochizuki² (¹*Inst. Quantum Life Science, QST*, ²*Grad. Sch. Medicine, Osaka Univ.*)
- [2Pos059](#) 統計力学モデルによるアポミオグロビンのフォールディング反応機構の予測
Folding mechanisms of apomyoglobin predicted by an extended statistical mechanical model
Koji Ooka¹, Munechito Arai^{2,3} (¹*Col. Arts & Sci., Univ. Tokyo*, ²*Dept. Life Sci., Univ. Tokyo*, ³*Dept. Phys., Univ. Tokyo*)
- [2Pos060](#) コンタクト計算を厳密化した改良型統計力学モデルによるタンパク質フォールディング経路の予測
Predicting protein folding pathways using the statistical mechanical model modified with accurate contact calculation
Runjing Liu¹, Koji Ooka², Munechito Arai^{1,3} (¹*Dept. Life Sci., Univ. Tokyo*, ²*Col. Arts & Sci., Univ. Tokyo*, ³*Dept. Phys., Univ. Tokyo*)

- [2Pos061](#) AlphaFold は条件付きでフォールドする天然変性タンパク質・天然変性領域 (ProS) の構造をどのように予測したか
How AlphaFold predicts conditionally-foldable segments in intrinsically disordered proteins
Koya Sakuma¹, Hiroto Anbo², Satoshi Fukuchi², Motonori Ota¹ (¹*Grad. Sch. Informatics, Nagoya Univ.*, ²*Faculty of Engineering, Maebashi Inst. of Technology*)
- [2Pos062](#) Liquid-liquid phase separation and amyloid formation of Sup35 from four different yeast species
Yumiko Ohhashi¹, Suguru Nishinami², Kentaro Shiraki², Eri Chatani¹ (¹*Grad. Sch of Sci., Kobe Univ.*, ²*Inst. Appl. Phys., Univ. of Tsukuba*)
- [2Pos063](#) トランスサイレチン断片のアミロイド線維形成
Amyloid fibril formation of transthyretin fragments
Keisuke Yuzu¹, Misato Matsumura¹, Naoki Yamamoto², Masatomo So³, Keiichi Yamaguchi⁴, Yuji Goto⁴, Eri Chatani¹ (¹*Grad. Sch. Sci., Kobe Univ.*, ²*Fac. Med., Jichi Med. Univ.*, ³*Inst. Protein Res., Osaka Univ.*, ⁴*Grad. Sch. Eng., Osaka Univ.*)

蛋白質：機能（反応機構 生物活性など）／Protein: Function

- [2Pos064*](#) β アレスチンの新規 PIP2 結合サイトとその機能
Novel PIP2 binding site of βarrestin and its function
Ritsuki Kuramoto, Tatsuya Ikuta, Koki Kawakami, Asuka Inoue (*Graduate School of Pharmaceutical Sciences, Tohoku University*)
- [2Pos065](#) クチナーゼ様酵素 Cut190 による微粉化 PET 分解
Degradation of homogenized PET with cutinase-like enzyme Cut190 from *Saccharomonospora viridis* AHK190
Fumiya Kondo¹, Miho Emori², Masayuki Oda^{1,2} (¹*Faculty Life. Environ. Sci., Kyoto Pref. Univ.*, ²*Grad. Sch. Life. Environ. Sci., Kyoto Pref. Univ.*)
- [2Pos066](#) 不凍タンパク質と粘性物質を組み合わせた培養細胞の新規凍結保護剤
Novel cryoprotectants consist of antifreeze protein and viscous additive for cryopreservation of cultured cells
Luyan Zhang^{1,2}, Akari Yamauchi⁶, Sakae Tsuda^{3,4,5}, Yasushi Ohyama², Hidemasa Kondo^{1,2} (¹*Graduate School of Life Science, Hokkaido University*, ²*Bioproduction Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)*, ³*Graduate School of Frontier Sciences, The University of Tokyo*, ⁴*OPERANDO Open Innovation Laboratory, National Institute of Advanced Industrial Science and Technology (AIST)*, ⁵*Faculty of Advanced Life Science, Hokkaido University*, ⁶*Hibernation Metabolism, Physiology and Development Group, Institute of Low Temperature Science, Hokkaido University*)
- [2Pos067](#) オオクワガタ由来不凍タンパク質の特性評価
Characterization of antifreeze protein from a stag beetle *Dorcus hopei binodulosus*
Yuki Iida^{1,2}, Tatsuya Arai³, Akari Yamauchi⁶, Sakae Tsuda^{3,4,5}, Yasushi Ohyama², Hidemasa Kondo^{1,2} (¹*Graduate School of Life Science, Hokkaido University*, ²*Bioproduction Research Institute, National Institute of Advanced Industrial Science and Technology*, ³*Graduate School of Frontier Sciences, The University of Tokyo*, ⁴*OPERANDO Open Innovation Laboratory, National Institute of Advanced Industrial Science and Technology*, ⁵*Faculty of Advanced Life Science, Hokkaido University*, ⁶*Hibernation Metabolism, Physiology and Development Group, Institute of Low Temperature Science, Hokkaido University*)
- [2Pos068](#) 氷結晶結合蛋白質の非凍結細胞保護機能の分子メカニズム解明
Elucidating the molecular mechanism of cell protective function of ice-binding proteins at non-freezing temperature
Tatsuya Arai^{1,2}, Yue Yang¹, Sakae Tsuda¹, Kazuhiro Mio², C. Yuji Sasaki^{1,2} (¹*Grad. Sch. Frontier Sci., Univ. Tokyo*, ²*AIST-U Tokyo OPERANDO-OIL*)

- [2Pos069*](#) アミロイド β と細胞骨格蛋白質のアクチンおよびチューブリンの間の相互作用は、それらの重合状態に依存する
The interaction between amyloid β and cytoskeletal proteins, actin and tubulin, depends on their polymerization state
Yukina Kurotaki¹, Ragheed H. Yousif², Masahiro Kuragano¹, Kiyotaka Tokuraku¹ (¹*Muroran Institute of Technology*, ²*Al-Farahidi University*)
- [2Pos070](#) ヒト血清のアミロイド β 凝集阻害活性の評価
Evaluation of Amyloid β aggregation inhibitory activity of human serum
Yuku Yamada, Keiya Shimamori, Tomohiko Katakawa, Masahiro Kuragano, Kiyotaka Tokuraku (*Grad. Sch. Eng., Muroran Inst. of Tech.*)
- [2Pos071](#) セリンプロテアーゼ Neuropsin の基質特異性の決定因子に関する MD 研究
MD simulation study on determinant factors for substrate specificity of serine protease neuropsin
Masami Lintuluoto¹, Yota Horioka¹, Mitsumasa Abe¹, Yoshifumi Fukunishi², Juha Mikael Lintuluoto³, Hideki Tamura⁴ (¹*Grad. Sch. Life and Env. Sci., Kyoto Pref. Univ.*, ²*AIST, CMB*, ³*Grad. Sch. Eng. Kyoto Univ.*, ⁴*Hoshi Univ. Sch. Pharm. and Pharm. Sci.*)
- [2Pos072*](#) 改良型 Raichu を用いた静水圧印加時の Ras 活性測定
Ras activity measurement under hydrostatic pressure using improved Raichu
Teruhiko Matsuda¹, Minki Chang², Katsuko Furukawa², Takashi Ushida³, Taro QP Uyeda¹ (¹*Dept. Pure & Appl. Physics, Grad. Sch. Adv. Sci. & Eng., Waseda Univ./Japanese*, ²*Dept. Bio Eng., Fac. Eng., Univ. Tokyo/Japanese*, ³*Dept. Mech. Eng., Fac. Eng., Univ. Tokyo/Japanese*)
- [2Pos073](#) EcoRV による DNA 加水分解におけるプロトン移動の量子化学計算による観察
Proton-transfer in hydrolysis of DNA by EcoRV calculated by quantum-chemical metadynamics
Mika Mitsumatsu¹, Itaru Onishi¹, Norio Yoshida², Fumio Hirata³, Masayuki Iriza¹ (¹*Kyushu Inst. of Tech.*, ²*Nagoya Univ.*, ³*IMS*)

蛋白質：計測・解析の方法論／Protein: Measurement & Analysis

- [2Pos074*](#) Molecular structure dynamics identification method development based on High speed AFM imaging data
Yui Kanaoka¹, Yuto Nonaka¹, Norie Hamaguchi², Takeshi Murata², Florence Tama^{1,3}, Takayuki Uchihashi¹ (¹*Grad. Sch. Sci., Univ. Nagoya*, ²*Grad. Sch. Sci., Univ. Chiba*, ³*R-CSS*)
- [2Pos075*](#) ブリルアン・ラマン同時イメージングによる液-液相分離によるタンパク質液滴の変化の観測
Observation of the change in physical condition of a liquid droplet formed by liquid-liquid phase separation using Brillouin-Raman imaging
Daiki Shibata¹, Shinji Kajimoto^{1,2}, Takakazu Nakabayashi¹ (¹*Grad. Sch. Sci., Tohoku Univ.*, ²*JST PRESTO*)
- [2Pos076](#) タンパク質モーフィング手法と半自動簡略化経路探索法の膜タンパク質二量体のダイナミクスへの適用
Application of the Protein Morphing Method and the Semi-automatic Simplified Path Exploration to the Membrane Protein Dimers Dynamics
Ryota Kiyooka¹, Masaki Ottawa², Lisa Matsukura¹, Naoyuki Miyashita¹ (¹*Grad. Sch. BOST, KINDAI Univ.*, ²*Grad. Sch. Phys. Sci., GUAS*)

- [2Pos077*](#) 蛍光寿命を用いた LLPS によって生じた FUS LC 液滴の時間変化ダイナミクスの定量解析
Quantitative analysis of time-dependent dynamics of FUS LC droplets formed by LLPS using fluorescence lifetime
Kaichi Nagai¹, Shinya Tahara², Uchuu Matusura², Mizuki Sugimoto³, Eita Sasaki⁴, Shinji Kajimoto^{2,5}, Kenjiro Hanaoka⁴, Takakazu Nakabayashi² (¹*Faculty of Pharmaceutical Sciences, Tohoku University*, ²*Graduate school of Pharmaceutical Sciences, Tohoku University*, ³*Faculty of Pharmacy, Keio University*, ⁴*Graduate School of Pharmaceutical Sciences, Keio University*, ⁵*JST PRESTO*)
- [2Pos078](#) スプリット Akaluc を用いた個体深部における GPCR/ β -アレステン相互作用と細胞融合の検出法
Split Akaluc reconstitution methods for detecting GPCR/ β -arrestin interaction and cell fusion event in deep tissues
Yiling Li, Genki Kawamura, Qiaojing Li, Takeaki Ozawa (*Department of Chemistry, School of Science, The University of Tokyo*)
- [2Pos079](#) X 線 1 分子追跡法によるイベルメクチン存在下での nAChR $\alpha 7$ の逆回転運動の測定
The Opposite Twisting Motions of Ivermectin-nAChR $\alpha 7$ Monitored by Diffracted X-ray Tracking
Yue Yang¹, Tatsuya Arai^{1,2}, Daisuke Sasaki¹, Masahiro Kuramochi^{1,3}, Hiroshi Sekiguchi⁴, Kazuhiro Mio², Tai Kubo⁵, Yuji C. Sasaki^{1,2,4} (¹*Grad Sch. of Fron. Sci., Univ. Tokyo*, ²*AIST-UTokyo*, ³*Grad Sch. of Sci. and Eng., Univ. Ibaraki*, ⁴*JASRI/SPRING-8*, ⁵*GlyTech Inc.*)
- [2Pos080*](#) 凝集体形成機構解明に向けた電場存在下におけるタンパク質の動的構造解析基盤の確立
Development of a platform for dynamic structural analysis of proteins in electric fields to elucidate the mechanism of aggregate formation
Yusuke Shuto¹, Erik Walinda³, Daichi Morimoto², Kenji Sugase¹ (¹*Grad. Agr., Univ. Kyoto*, ²*Grad. Eng., Univ. Kyoto*, ³*Grad. Med., Univ. Kyoto*)
- [2Pos081](#) 糊化デンプンを使用したマイクロプレートへの MBP 融合タンパク質固定化法の開発及びタンパク質間相互作用解析への応用
An immobilization method of MBP-fusion proteins using a gelatinized starch-agarose mixture and its application for PPI analysis
Ryoya Katayama¹, Yuri Emoto², Reiji Hijikata³, Emi Hibino², Natsuko Goda², Takeshi Tenno², Hidekazu Hiroaki², Akihiro Narita¹ (¹*Graduate School of Science, Nagoya University*, ²*Graduated School of Pharmaceutical Sciences, Nagoya University*, ³*School of Science, Nagoya University*)
- [2Pos082*](#) インタクトなミトコンドリアにおける電子伝達複合体活性計測
Measurements of electron transfer complex activities in intact mitochondria
Saki Koyama, Momoka Kutami, Yoshiki Suganuma, Hiroko Kashiwagi, Yoshihiro Ohta (*Department of Biotechnology and Life Sciences, Graduate school of Engineering, Tokyo University of Agriculture and Technology*)
- [2Pos083](#) ペプチドの伸長に伴うエネルギー準位統計の分化と分子進化
Evolution of Energy Level Statistics and Molecular Evolution with Peptide Elongation
Masanori Yamanaka (*CST, Nihon Univ.*)
- [2Pos084](#) ポリアミノ酸検出のためのナノポア阻害電流解析法の開発
Developing Current Analyses for Nanopore Detection of Poly(amino acid)s
Misa Yamaji, Ryuji Kawano (*Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology*)
- [2Pos085*](#) 生体用ナノポアを用いた α -helix 及び β -hairpin ペプチドのアンフォールディング挙動観察
Observation of unfolding behavior of peptides with α -helix and β -hairpin through a biological nanopore
Miyu Fukuda, Ryuji Kawano (*Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology*)

- [2Pos086*](#) 合理的設計手法による SARS-CoV-2 変異体に対する中和抗体の開発
Development of neutralizing antibodies against SARS-CoV-2 variants by rational design
Rina Aoyama¹, Sairi Matsumoto¹, Nao Sato¹, Shunji Suetaka¹, Yuuki Hayashi^{1,2}, Munchito Arai^{1,3}
(¹*Dept. Life Sci., Univ. Tokyo*, ²*Environmental Sci. Ctr., Univ. Tokyo*, ³*Dept. Phys., Univ. Tokyo*)
- [2Pos087*](#) Reverse Engineering Analysis of the High-Temperature Reversible Oligomerization and Amyloidogenicity of PSD95-PDZ3
Sawaros Onchaiya¹, Tomonori Saotome², Kenji Mizutani³, Jose C. Martinez⁴, Jeremy R. H. Tame³, Shun-ichi Kidokoro², Yutaka Kuroda¹ (¹*Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology, 2-24-16, Naka-cho, Koganei-shi 184-8588, Tokyo, Japan*, ²*Department of Bioengineering, Nagaoka University of Technology, 1603-1, Kamitomioka-cho, Nagaoka-shi 940-2188, Niigata, Japan*, ³*Graduate School of Medical Life Science, Yokohama City University, 1-7-29 Suehiro, Yokohama 230-0045, Kanagawa, Japan*, ⁴*Department of Physical Chemistry, Institute of Biotechnology, Faculty of Sciences, University of Granada, 18071 Granada, Spain*)
- [2Pos088](#) アレルギー疾患を阻害するタンパク質の合理的設計
Rational design of proteins that can inhibit allergic diseases
Mizuki Teranishi¹, Nao Sato¹, Shunji Suetaka¹, Mio Sano¹, Yuuki Hayashi^{1,2}, Munchito Arai^{1,3} (¹*Dept. Life Sci., Univ. Tokyo*, ²*Environment Science Center, Univ. Tokyo*, ³*Dept. Phys., Univ. Tokyo*)
- [2Pos089*](#) タンパク質間相互作用を阻害するヘリックス模倣化合物の探索
Search for helix-mimetic compounds that inhibit protein-protein interactions
Nao Sato¹, Shunji Suetaka¹, Eiji Honda², Hajime Takashima², Dai Takehara², Atsushi Yoshimori³, Yuuki Hayashi^{1,4}, Munchito Arai^{1,5} (¹*Department of Life Sciences, The University of Tokyo*, ²*PRISM BioLab Co., Ltd.*, ³*Institute for Theoretical Medicine, Inc.*, ⁴*Environmental Science Center, The University of Tokyo*, ⁵*Department of Physics, The University of Tokyo*.)
- [2Pos090*](#) *Pichia pastoris* を用いた組換えタンパク質発現系におけるシステインに富んだタンパク質の折りたたみと収量に関わる因子の解明
Factors involved in the folding and yield of cysteine-rich proteins in recombinant expression system using *Pichia pastoris*.
Ami Hanaoka¹, Tomona Iizuka¹, Jingkan Zheng¹, Ichihō Yoshikawa², Wenqing Cai¹, Yurie Nakajima¹, Soma Ishihara², Tomoyasu Aizawa^{1,2} (¹*Grad. Sch. Life Sci., Hokkaido Univ.*, ²*Sch. Sci., Hokkaido Univ.*)
- [2Pos091*](#) 細胞内光遺伝学ツール Magnets 変異体の比較とさらなる改良
Comparison and further improvement of the intracellular optogenetic tool Magnets variants
Masataka Yoshimura¹, Yuki Aono¹, Yuuki Hayashi^{1,2}, Fuun Kawano¹, Moritoshi Sato¹, Munchito Arai^{1,3} (¹*Dept. Life Sci., Univ. Tokyo*, ²*Env. Sci. Ctr., Univ. Tokyo*, ³*Dept. Phys., Univ. Tokyo*)
- [2Pos092](#) ピキア酵母を用いたシステインリッチアレルゲン蛋白質の過剰発現系における非天然型ジスルフィド結合と修飾の検討
Investigation of non-native disulfide bonds and modification in the overexpression of cysteine-rich allergens by *Pichia pastoris*
Ichihō Yoshikawa¹, Ami Hanaoka², Tomona Iizuka², Jingkan Zheng², Wenqing Cai², Soma Ishihara¹, Yurie Nakajima², Tomoyasu Aizawa^{1,2} (¹*Sch. Sci., Hokkaido Univ.*, ²*Grad. Sch. Life Sci., Hokkaido Univ.*)
- [2Pos093*](#) LL-37 型 cathelicidin ファミリー抗菌ペプチドの組換え発現と NMR 解析による免疫進化研究
Immunological evolution studies combining NMR and recombinant overexpression of the LL-37-like cathelicidin family antimicrobial peptides
Mitsuki Shibagaki¹, Waka Ueda¹, Kohei Kano¹, Hao Gu¹, Tomoyasu Aizawa^{1,2} (¹*Grad. Sch. Life Sci., Hokkaido Univ.*, ²*Fac. Adv. Life Sci., Hokkaido Univ.*)

[2Pos094*](#)

相分離タンパク質の天然変性領域の配列に基づく、相分離ペプチドの合理的設計

Rational design of phase-separating peptides based on natural phase-separating protein disordered sequence

Atsumi Hando^{1,2}, Maulana Ariefai^{1,3}, Nanako Iwaki^{1,4}, Saori Kanbayashi¹, Keisuke Ikeda⁵, Kiyoto Kamagata^{1,2,3,4} (¹IMRAM, Tohoku Univ., ²Grad. Sch. Life Sci., Tohoku Univ., ³Dep. Chem., Fac. Sci., Tohoku Univ., ⁴Dep. Chem., Grad. Sch. Sci., Tohoku Univ., ⁵Fac. Pharm. Sci., Univ. Toyama)

ヘム蛋白質／Heme proteins

[2Pos095*](#)

シトクロム P450BM3 の非天然反応を誘起するペプチド性小分子の開発およびその作用の解明
Evolution of Dipeptidic Molecules for the Induction of the Non-native Catalysis of Cytochrome P450BM3 and the Analysis of the Mechanisms

Kai Yonemura¹, Shinya Ariyasu¹, Hiroshi Sugimoto², Shigeru Matsuoka³, Osami Shoji¹ (¹Graduate School of Science, Nagoya University, ²RIKEN/SPRING-8, ³Faculty of Medicine, Oita University)

[2Pos096](#)

Direct Visualization of Hydrogen Atoms in the Haem-Acquisition Protein HasA Capturing a Synthetic Metal Complex by Protein Crystallography

Yuma Shisaka¹, Hiroshi Sugimoto², Naomine Yano³, Katsuhiro Kusaka³, Masaki Unno^{3,4}, Osami Shoji⁵ (¹RIKEN Center for Sustainable Resource Science, ²RIKEN SPRING-8 Center, ³Frontier Research Center for Applied Atomic Sciences, Ibaraki University, ⁴Graduate School of Science and Engineering, Ibaraki University, ⁵Graduate School of Science, Nagoya University)

[2Pos097](#)

インドールアミン 2,3-ジオキシゲナーゼの電気化学的なレドックス制御と迅速な阻害アッセイ
Redox control of human indoleamine 2,3-dioxygenase at nanostructured electrode surface and its inhibitor screening

Yasuhiro Mie¹, Chitose Mikami¹, Yoshiaki Yasutake^{1,2}, Yuki Shigemura³, Hirofumi Tsujino^{3,4}, Taku Yamashita⁵ (¹Bioproduction Res. Inst., AIST, ²CBBD-OIL, AIST-Waseda Univ., ³Grad. Sch. Pharm. Sci., Osaka Univ., ⁴Museum, Osaka Univ., ⁵Sch. Pharm., Mukogawa Women's Univ.)

[2Pos098](#)

ミオグロビンへの協同的な配位子結合性付与に向けた二量体の合理的設計

Rational design of myoglobin dimers for ligand binding cooperativity

Satoshi Nagao¹, Chihiro Maruo², Masashi Yamada², Daichi Yamada¹, Minoru Kubo¹ (¹Grad. Sch. Sci., Univ. Hyogo, ²Sch. Sci., Univ. Hyogo)

膜蛋白質／Membrane proteins

[2Pos099](#)

シュウ酸トランスポーター OxIT の未解明構造の分子動力学の探索

Molecular dynamics search for the unknown structural state of oxalate transporter OxIT

Jun Ohnuki, Kei-ichi Okazaki (Institute for Molecular Science)

[2Pos100](#)

ヒト L 型アミノ酸トランスポーター LAT1-CD98hc 複合体の基質輸送シミュレーション

Substrate transport simulations of human L-type amino acid transporter LAT1-CD98hc complex coupled with conformational changes

Natsumi Yoshida¹, Toru Ekimoto¹, Tsutomu Yamane², Mitsunori Ikeguchi^{1,2} (¹Grad. Sch. Med. Life Sci., Yokohama City Univ., ²RIKEN R-CCS)

[2Pos101](#)

病原菌ヘム ABC トランスポーターのクライオ電子顕微鏡解析

Cryo-EM analysis of bacterial heme ABC transporter

Machika Kataoka^{1,2}, Ayaho Abe^{1,2}, Gopalashingham Chai², Gerle Christoph², Yoshitsugu Shiro¹, Masaki Yamamoto², Hideki Shigematsu³, Hiroshi Sugimoto^{1,2} (¹Grad. Sch. Sci., Univ. Hyogo, ²RIKEN SPRING-8 Center, ³JASRI)

- [2Pos102](#) 高速 AFM による ABC トランスポーター P-gp の動態観察
HS-AFM Observation of Conformational Dynamics of ABC transporter P-gp
Yuto Nonaka¹, Norie Hamaguchi², Fumi Nakagawa², Satoru Ogasawara², Takeshi Murata², Takayuki Uchihashi¹ (¹*Grad. Sch. Phys., Univ. Nagoya / Japanese*, ²*Grad. Sch. sci., Univ. Chiba. / Japanese*)
- [2Pos103*](#) 局所熱パルス法を用いた 1 型リアノジン受容体の中間領域変異体の高熱感受性解析
Malignant hyperthermia-implicated heat hypersensitive mutations in the central region of RyR1 channel studied by a local heat pulse method
Chujie Liu^{1,2}, Takashi Murayama³, Toshiko Yamazawa⁴, Kotaro Oyama⁵, Yoshie Harada^{2,6}, Madoka Suzuki² (¹*Department of Biological Sciences, Graduate School of Science, Osaka University*, ²*Institute for Protein Research, Osaka University*, ³*Department of Cellular and Molecular Pharmacology, Juntendo University Graduate School of Medicine*, ⁴*The Jikei University School of Medicine*, ⁵*National Institutes for Quantum Science and Technology*, ⁶*Center for Quantum Information and Quantum Biology, Osaka University*)
- [2Pos104](#) ナノディスクに挿入したカリウムチャネル **KcsA** の構造
KcsA K⁺ Channel Structure Incorporated into Nanodisc
Hiroko Takazaki¹, Hirofumi Shimizu², Takuo Yasunaga³ (¹*IPR, Univ. Osaka*, ²*Fac. Med. Sci., Univ. Fukui*, ³*Grad. Sch. Comp. Sci. Syst. Eng., KIT*)
- [2Pos105](#) X 線 1 分子追跡法を用いた TRPV1 チャネルの細胞内ドメイン動態計測
Intramolecular dynamics of TRPV1 channel using Diffracted X-ray Tracking
Tatsunari Ohkubo^{1,2}, Shoko Fujimura^{2,3}, Kazuhiro Mio^{1,2}, Hiroshi Sekiguchi⁴, Yuji C. Sasaki^{2,3,4} (¹*Grad. Sch. Med. Sci., Yokohama CU*, ²*Operand OIL, AIST*, ³*Grad. Sch. of Front. Sci., The Univ of Tokyo*, ⁴*JASRI*)
- [2Pos106*](#) EXP2 ナノポアとその変異体を用いたペプチドの 1 分子検出
Single-molecule detection of peptides using EXP2 nanopore and its variant
Mitsuki Miyagi, Sotaro Takiguchi, Kazuaki Hakamada, Masafumi Yohda, Ryuji Kawano (*Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology*)

核酸結合蛋白質／Nucleic acid binding proteins

- [2Pos107](#) DNA 液滴内での DNA 結合タンパク質の標的 DNA 探索の単分子観察
Single-molecule characterization of target search of DNA-binding proteins inside liquid DNA droplets
Ryo Kusano^{1,2}, Trishit Banerjee^{1,2}, Saori Kambayashi¹, Kiyoto Kamagata¹ (¹*IMRAM, Tohoku Univ.*, ²*Department of Chemistry, Tohoku Univ.*)
- [2Pos108](#) Molecular dynamics study of the three prime repair exonuclease 1 and its mutants
Hiroki Otaki (*Grad. Sch. of Biomedical Sci., Nagasaki Univ.*)
- [2Pos109*](#) (2SEP-3) RNase T2 のリボソームへの結合を介した翻訳阻害機構
(2SEP-3) Regulation mechanism of translation through the interaction of RNase T2 with ribosome
Atsushi Minami¹, Takehito Tanzawa², Zhuohao Yang³, Takashi Funatsu³, Takayuki Kato², Tomohisa Kuzuyama^{1,4}, Hideji Yoshida⁵, Tetsuhiro Ogawa^{1,4} (¹*Grad. Sch. Agri. and Life Sci., Univ. Tokyo*, ²*IPR, Osaka Univ.*, ³*Grad. Sch. Pharm. Sci., Univ. Tokyo*, ⁴*CRIM, Univ. Tokyo*, ⁵*Fac. Med., Osaka Med. Pharm. Univ.*)
- [2Pos110](#) クレオリン核酸結合ドメインと 4 重鎖 DNA との結合過程
The binding process of quadruplex DNA to RNA/DNA binding domains of nucleolin
Masato Morikawa¹, Kota Yamaguchi¹, Kazuki Kawada², Koji Umezawa^{1,2,3} (¹*Grad. Sch. of Sci. & Tech., Shinshu Univ.*, ²*Dept. Agri., Shinshu Univ.*, ³*IBS, Shinshu Univ.*)

- [2Pos111](#) 微小閉鎖空間がポリヌクレオソーム凝縮に与える影響の検討
Investigation of the effect of spherical (three-dimensional) confinement on the higher order structure of 12-mer nucleosome arrays
Masahiro Okabe (*Dept. Biol. Sci., Grad. Sch. Sci., The Univ. Tokyo*)
- [2Pos112](#) 一本鎖 DNA は核小体周囲に凝集体を形成する
Single-stranded DNA forms condensates surrounding nucleoli
Koichiro Maki^{1,2}, **Jumpei Fukute**^{1,3}, **Taiji Adachi**^{1,2,3} (¹*Inst. Life Med. Sci., Kyoto University*, ²*Grad. Sch. Eng., Kyoto University*, ³*Grad. Sch. Biostudies, Kyoto University*)
- [2Pos113*](#) ヒト生細胞内環境における三重鎖 DNA 分子の構造及びダイナミクスの解析
Analysis of the structure and dynamics of triplex forming oligodeoxynucleotide in living human cells
Tomoki Sakamoto^{1,2}, **Yudai Yamaoki**^{1,2}, **Takashi Nagata**^{1,2}, **Masato Katahira**^{1,2} (¹*Inst. Adv. Energy, Kyoto Univ.*, ²*Grad. Sch. Energy Sci., Kyoto Univ.*)
- [2Pos114](#) 動的ループによる染色体コンパートメントの形成と変化
Dynamic loops shape and reshape chromosome compartments
Shin Fujishiro^{1,2}, **Masaki Sasai**^{1,2} (¹*Fukui Inst. Fund. Chem., Kyoto Univ.*, ²*Dept. Complex Sys. Sci., Nagoya Univ.*)
- [2Pos115](#) FRET study of the sequence dependence of nucleosomal DNA unwrapping
Tomoko Sunami, **Hidetoshi Kono** (*QST, iQLS*)
- [2Pos116*](#) (2SBA-4) 細胞核内における underwound DNA の蛍光イメージング
(2SBA-4) Fluorescence imaging of underwound DNA in the cell nucleus
Jumpei Fukute^{1,2}, **Koichiro Maki**^{1,3}, **Taiji Adachi**^{1,2,3} (¹*Inst. Life & Med. Sci., Kyoto Univ.*, ²*Grad. Sch. Biostudies, Kyoto Univ.*, ³*Grad. Sch. Eng., Kyoto Univ.*)
- [2Pos117](#) ラマン顕微鏡を用いた生細胞内のクロモセーターのラベルフリー成分・構造解析
Label-free compositional and structural analysis of chromocenters in living cells using Raman microscopy
Masato Machida¹, **Atsushi Shibata**², **Kentaro Hujii**³, **Shinji Kajimoto**^{1,4}, **Takakazu Nakabayashi**¹ (¹*Grad. Sch. Pharm. Sci., Univ. Tohoku*, ²*GIAR., Univ. Gunma*, ³*QST.*, ⁴*JST PRESTO.*)

核酸：相互作用・複合体／Nucleic acid: Interaction & Complex formation

- [2Pos118*](#) 高速原子間力顕微鏡による H2A.Z.1 ヌクレオソームの DNA 上での自発的スライディングの直接観察
Direct imaging of spontaneous sliding along DNA of H2A.Z.1 nucleosome by high-speed atomic force microscopy
Shin Morioka¹, **Shoko Sato**², **Naoki Horikoshi**², **Tomoya Kujirai**², **Hitoshi Kurumizaka**², **Mikihiro Shibata**^{3,4} (¹*Grad. Sch. Math. & Phys., Kanazawa Univ.*, ²*Institute of Quantitative Biosciences, Tokyo Univ.*, ³*WPI-NanoLSI, Kanazawa Univ.*, ⁴*InFinity, Kanazawa Univ.*)
- [2Pos119*](#) DNA ハイブリダイゼーションのカイネティックなエラー抑制
Kinetic error suppression of DNA hybridization
Hiroyuki Aoyanagi¹, **Simone Pigolotti**², **Shinji Ono**¹, **Shoichi Toyabe**¹ (¹*Grad. Sch. Eng., Tohoku Univ.*, ²*OIST*)
- [2Pos120*](#) (1SGA-2) 人工核酸 PNA を用いた DNA の液-液相分離制御
(1SGA-2) Regulation of liquid-liquid phase separation of DNA using peptide nucleic acid (PNA)
Rikuto Soma, **Yuichiro Aiba**, **Masanari Shibata**, **Shinya Ariyasu**, **Osami Shoji** (*Graduate School of Science, Nagoya University.*)

- [2Pos121*](#) 非平衡ダイナミクスを示す酵素反応によって活性化された DNA 液滴
Enzymatically activated DNA-droplets exhibiting non-equilibrium dynamics
Tomoya Maruyama¹, Masahiro Takinoue^{1,2} (¹*School of Life science and Technology, Tokyo Institute of Technology*, ²*School of Computer Science, Tokyo Institute of Technology*)
- [2Pos122*](#) 再構成転写翻訳系におけるトランスファー RNA の合成と共役した翻訳および DNA 複製システム
Transfer RNA synthesis-coupled translation and DNA replication in a reconstituted transcription/translation system
Ryota Miyachi¹, Yoshihiro Shimizu², Norikazu Ichihashi^{1,3,4} (¹*Grad. Sch. Arts Sci., Univ. Tokyo*, ²*Center for Biosystems Dynamics Research, Riken*, ³*Komaba Institute for Science, Univ. Tokyo*, ⁴*Research Center for Complex Systems Biology, Universal Biology Institute, Univ. Tokyo*)

水・水和／電解質／Water & Hydration & Electrolyte

- [2Pos123](#) MD シミュレーションによるタンパク質モデルペプチド周囲の水和ダイナミクスの解明
MD simulations reveals hydration dynamics around protein model peptides
Takuya Takahashi¹, Ryutarou Inoue², Yui Nakamura² (¹*Coll. Life Sci., Ritsumeikan Univ.*, ²*Grad. Sch. Life Sci., Ritsumeikan Univ.*)
- [2Pos124*](#) Effect of local electric field on the rotational dynamics of water dipole in protein solutions
Kang Hu^{1,2}, Ryo Shirakashi¹ (¹*IIS, Univ. Tokyo*, ²*Grad. Sch. Eng., Univ. Tokyo*)
- [2Pos125](#) ニューラルネットワークと経験分布の融合的手法による膜蛋白質の水和構造予測
Prediction of hydration structures of membrane proteins using neural networks in combination with the empirical hydration distribution
Kochi Sato^{1,2}, Mao Oide^{1,2}, Masayoshi Nakasako^{1,2} (¹*Dept. Phys., Keio Univ.*, ²*RSC, RIKEN*)
- [2Pos126](#) Free energy analysis of the addition of small molecules with simple structures to elucidate co-solvent effects in insulin dissociation
Simon Hikiri, Nobuyuki Matubayasi (*Grad. Sch. Eng. Sci., Osaka Univ.*)
- [2Pos127*](#) 酸性タンパク質凝集解明のための分子シミュレーションによる電解質溶液中のアニオン間実効引力の研究
Molecular simulation study of effective attraction between anions in an electrolyte solution for elucidation of acidic protein aggregation
Michika Takeda¹, Ryo Akiyama² (¹*Grad. Sch. Sci. Kyushu Univ.*, ²*Inst. Sci. Kyushu Univ.*)
- [2Pos128](#) 水と生体分子のシミュレーションにおける静電相互作用計算：オンサーガモデルによる理論的検証
Theoretical study on the electrostatic calculation in biomolecular simulation
Yoshiteru Yonetani (QST)

発生・分化／Development & Differentiation

- [2Pos129*](#) 幹細胞分化のモデル系を模した人工遺伝子回路の生じる空間パターン
Spatial patterns formed by a synthetic genetic circuit mimicking the model of stem cell differentiation
Kei Ikemori, Yuichi Wakamoto (*Grad. Sch. of Art. & Sci., Univ. Tokyo*)
- [2Pos130](#) Planar cell polarity-dependent asymmetric organization of microtubules for polarized positioning of the basal body in node cells
Xiao Rei Sai¹, Kastura Minegishi², Hiroshi Hamada¹ (¹*Riken BDR*, ²*National Center of Neurology and Psychiatry*)

- [2Pos131](#) マウスノード不動繊毛は変形の向きを感知して左右軸を決定する: 非対称性を生み出すメカニカルな機構
 Mouse nodal immotile cilia sense bending direction for left-right determination: Mechanical regulation in initiation of symmetry breaking
Takanobu A Katoh¹, Toshihiro Omori², Katsutoshi Mizuno³, Takeshi Itabashi¹, Atsuko H. Iwane¹, Takuji Ishikawa², Yasushi Okada^{1,4}, Takayuki Nishizaka⁵, Hiroshi Hamada¹ (¹*BDR, Riken*, ²*Grad. Sch. Eng., Tohoku Univ.*, ³*Fac. Med. Sci., Univ. of Fukui*, ⁴*Grad. Sch. Med., Grad. Sch. Sci., UBI, WPI-IRCIN, The Univ. of Tokyo*, ⁵*Fac. Sci., Gakushuin Univ.*)
- [2Pos132*](#) 物理的環境の非対称性が上皮折り畳みパターン選択に果たす役割
 Role of asymmetry of physical environment in epithelial folding pattern selection
Kentaro Morikawa, Daich Kuroda, Yasuhiro Inoue (*Grad. Sch. Eng., Kyoto Univ.*)

筋肉 (筋蛋白質・収縮) / Muscle

- [2Pos133](#) 微小管脱重合薬により骨格筋の粘弾性は変化する
 The viscoelasticity of skeletal muscle is altered by microtubule destabilized agent
Takuya Kobayashi, Takashi Murayama, Nagomi Kurebayashi (*Dept. of Cellular and Molecular Pharmacology, Juntendo University*)
- [2Pos134](#) 細菌アクチン MreB の繊維構造多型
 Filament structural polymorphism of bacterial actin MreB
Daichi Takahashi¹, Ikuko Fujiwara^{1,2,3}, Akihiro Narita⁴, Makoto Miyata^{1,2} (¹*Grad. Sch. Sci., Osaka Metropolitan Univ.*, ²*OCARINA, Osaka Metropolitan Univ.*, ³*Dept. Mater. Sci. Bioeng., Nagaoka Univ. Tech.*, ⁴*Grad. Sch. Sci., Nagoya Univ.*)
- [2Pos135](#) Absolute Reward in Large Feature Space: Tracking by Linear Bandit
Md Menhazul Abedin^{1,2}, Koji Tabata^{3,4}, Tamiki Komatsuzaki^{1,3,4} (¹*Graduate School of Chemical Sciences and Engineering, Hokkaido University, Japan*, ²*Khulna University, Bangladesh*, ³*Institute for Chemical Reaction Design and Discovery (ICReDD), Hokkaido University, Japan*, ⁴*Research Institute for Electronic Science, Hokkaido University, Japan*)
- [2Pos136](#) アクトミオシンの弱結合ー強結合転移におけるクーロン駆動機構
 Coulombic drive for the weak-to-strong binding transition in actomyosin
Kyohei Shoji, Mitsunori Takano (*Dept. of Pure & Appl. Phys., Grad. Sci. Adv. Sci. & Eng., Waseda Univ.*)
- [2Pos137](#) 自由エネルギーランドスケープの切り替えとパワーストロークを考慮した筋収縮の6状態モデルの構築
 Construction of six-state model of muscle contraction with switched free energy landscape and power stroke
Shunta Oda, Tomoki P. Terada (*Dept. Appl. Phys., Grad. Sch. Eng., Nagoya Univ.*)

分子モーター / Molecular motor

- [2Pos138](#) F_0F_1 -ATPase の非触媒部位の機能解明
 Functional elucidation of the non-catalytic site of F_0F_1 -ATPase
Ren Kobayashi, Atsuki Nakano, Ken Yokoyama (*Department of Molecular Biosciences, Kyoto Sangyo*)
- [2Pos139*](#) 無細胞タンパク質合成と1分子回転観察を組み合わせた F_1 -ATPase の *in vitro* スクリーニング
In vitro screening of F_1 -ATPase based on single molecule rotation assay coupled to cell-free protein synthesis
Mai Taguchi, Hiroshi Ueno, Hiroyuki Noji (*Grad. Sch. Eng., Univ. Tokyo*)

- [2Pos140](#) **H⁺輸送律速における変異型 F₀F₁-ATPase の回転**
ATP driven rotation of mutant F₀F₁ where H⁺ translocation is rate-limiting
Kiyoto Yasuda¹, Daichi Ando¹, Ryohei Kobayashi^{1,2}, Hiroshi Ueno¹, Hiroyuki Noji¹ (¹*Appl. Chem., Grad. Sch. Eng., Univ. Tokyo*, ²*Inst. for Mol. Sci.*)
- [2Pos141*](#) **Vo 部分での回転によるプロトン輸送機構の分子基盤**
Structural basis on the rotary mechanism of Vo domain by proton translocation
Yui Nishida¹, Junichi Kishikawa², Atsuko Nakanishi³, Atsuki Nakano⁴, Ken Yokoyama^{1,4} (¹*Dept. of Bioscience., Kyoto Sangyo Univ.*, ²*IPR, Osaka Univ.*, ³*Research Center for UHVEM.*, ⁴*Grad. Sch. Bioscience., Kyoto Sangyo Univ.*)
- [2Pos142](#) **分子動力学計算による F₁-ATPase のリン酸放出経路の探索**
Exploration of phosphate release pathway of F₁-ATPase with molecular dynamics calculation
Masahiro Motohashi¹, Mao Oide², Eiro Muneyuki¹, Yuji Sugita² (¹*Grad. Sch. Sci. Eng., Univ. Chuo*, ²*Wako Inst., Riken*)
- [2Pos143](#) **Single molecule observation of kinesin-1 on collectively aligned microtubules**
Tomoka Kashiwabara¹, Syeda Rubaiya Nasrin², Arif Md. Rashedul Kabir², Akira Kakugo², Yusuke T. Maeda¹ (¹*Fac. Sci. Grad. Sch. Sci., Univ. Kyushu*, ²*Fac. Science, Hokkaido University*)
- [2Pos144](#) **Hybrid kinesin-1 dimer conjugated with synthetic PEG linker shows processive and fast motion with robust hand-over-hand mechanism**
Jakia Jannat Keya¹, Akasit Visootsat¹, Kimitoshi Takeda¹, Akihiro Otomo¹, Wijak Yospanya², Sanghun Han², Kazushi Kinbara², Ryota Iino¹ (¹*Institute for Molecular Science, National Institutes of Natural Sciences*, ²*School of Life Science and Technology, Tokyo Institute of Technology*)
- [2Pos145*](#) **The movement of kinesin with the neck linker hanging free in solution**
Rieko Sumiyoshi, Masahiko Yamagishi, Mitsuhiro Sugawa, Junichiro Yajima (*Grad. Arts & Sci., Univ. Tokyo*)
- [2Pos146](#) **架橋微小管-キネシンの *in vitro* 運動系でマクロに出力する微小管群の観察**
Observation of cross-linked microtubules transmitting integrated forces of multiple kinesin motors *in vitro*
Ryuzo Kawamura¹, Naruaki Tsuji¹, Naritaka Kobayashi², Takahisa Matsuzaki^{1,3}, Hiroshi Y. Yoshikawa^{1,3} (¹*Grad. Sch. Sci. Eng., Saitama Univ.*, ²*Sch. Eng., Univ. of Shiga Pref.*, ³*Grad. Sch. Eng., Osaka Univ.*)
- [2Pos147](#) **タンパク質の 2D 投影像の深層学習によるミオシンの構造分類法の研究**
Structure classification of myosin by deep learning of 2D projection images
Hitomi Wada¹, Hiroko Takazaki², Takuo Yasunaga¹ (¹*Grad. Sch. Comp. Sci. Syst. Eng., KIT.*, ²*IPR, Univ. Osaka*)
- [2Pos148*](#) **ミオシン 1c に駆動される F-アクチンのコークスクリュー運動**
Corkscrew motion of F-actin driven by myosin-1c
Yusei Sato¹, Kohei Yoshimura², Kyohei Matsuda¹, Akisato Marumo¹, Takeshi Haraguchi³, Masahiko Yamagishi¹, Mitsuhiro Sugawa¹, Kohji Ito^{2,3}, Junichiro Yajima¹ (¹*Dep. of Life Sciences, Grad. School of Arts and Sciences, The University of Tokyo*, ²*Dep. of Biology, Chiba Uni.*, ³*Dep. of Biology, Chiba Uni.*)
- [2Pos149](#) **軸糸ダイニンの協調性は外腕ダイニン中間鎖 2 によって制御される**
Cooperative interactions between axonemal dyneins are regulated by the intermediate chain 2 of outer-arm dynein
Yusuke Kondo¹, Tomoka Ogawa², Emiri Kanno³, Masafumi Hirono⁴, Takako Minoura³, Ritsu Kamiya³, Toshiki Yagi^{1,2} (¹*Grad. Sch. comp. Sci., Pref. univ. Hiroshima*, ²*Fac. Biores. Sci., Pref. univ. Hiroshima*, ³*Fac. Sci., Chuo. Univ.*, ⁴*Dept. of Front. Life Sci., Hosei Univ.*)

- [2Pos150](#) 細菌べん毛モーター回転子-固定子間相互作用のアミノ酸レベルでの解析
Analysis of the interaction interface between the rotor and stator of the bacterial flagellar motor at the amino acid residue level
Jin Nakaya¹, Yumi Kumazaki¹, Tsubasa Ishida², Myu Yoshida³, Rie Ito³, Yoshiyuki Sowa^{1,2,3} (¹*Grad. Sch. Sci. & Eng., Hosei Univ.*, ²*Res. Cent. Micro-nano Tech., Hosei Univ.*, ³*Dept. Frontier Biosci., Hosei Univ.*)
- [2Pos151](#) 真核生物鞭毛・纖毛軸糸構造のX線回折トモグラフィー：クシクラゲ櫛板の利用
X-ray diffraction-based computed tomography of axonemal structure of eukaryotic flagella/cilia: Use of Ctenophore comb plates
Hiroyuki Iwamoto¹, Kei Jokura², Kazuhiro Oiwa³, Kazuo Inaba² (¹*SPRING-8, JASRI*, ²*Shimoda Marine Res. Ctr., Univ. Tsukuba*, ³*Bio-ICT Lab., Nat. Inst. Inf. Com. Tech.*)
- [2Pos152](#) べん毛 III 型輸送 ATPase 複合体の構造変化と作動機構
Structural change of the ATPase ring complex of the flagellar Type III export apparatus
Asako Usui¹, Tatsunari Yano¹, Yuki Tajimi², Norihiro Takekawa¹, Miki Kinoshita³, Tohru Minamino³, Takayuki Uchihashi², Katsumi Imada¹ (¹*Dept. of Macromol. Sci., Grad. Sch. of Sci., Osaka Univ.*, ²*Dept. of phys. Sci., Grad. Sch. of Sci., Nagoya Univ.*, ³*Grad. Sch. of Frontier Biosci., Osaka Univ.*)
- [2Pos153](#) Structural modeling of condensin by assimilating high-speed atomic force microscopy images
Hiroki Koide¹, Noriyuki Kodera², Mayu Terakawa¹, Shoji Takada¹, Tsuyoshi Terakawa¹ (¹*Grad. Sch. Sci. Kyoto Univ.*, ²*NanoLSI Kanazawa Univ.*)
- [2Pos154*](#) べん毛 III 型分泌装置の ATPase Flil の HS-AFM 観察
Observation of flagellar type III secretion system ATPase Flil by HS-AFM
Yuki Tajimi¹, Asako Usui², Tatsunari Yano², Norihiro Takekawa², Katsumi Imada², Takayuki Uchihashi^{1,3} (¹*Dept. of phys. Sci., Grad. Sch. of Sci., Nagoya Univ.*, ²*Dept. of Macromol. Sci., Grad. Sch. of Sci., Osaka Univ.*, ³*ExCELLS*)

細胞生物学的課題（接着，運動，骨格，伝達，膜）／Cell biology

- [2Pos155*](#) 蛍光色や偏光方向を選択可能な汎用的分子配向プローブ Nanobody-based POLARIS の開発
Nanobody-based POLARIS: a versatile molecular orientation probe with options of colors and fluorescence polarization orientations
Nori Nakai-Kadowaki¹, Keisuke Sato¹, Tomomi Tani², Masahiko Kawagishi¹, Hiromasa Ka¹, Kenta Saito¹, Sumio Terada¹ (¹*Dept. of Neuroanatomy and Cellular Neurobiology, Grad. Sch. Med. & Dent. Sci., Tokyo Med. & Dent. Univ.*, ²*Biomedical Research Institute, Nat. Inst. Adv. Ind. Sci. & Tech.*)
- [2Pos156](#) Understanding of robustness in cancer morphology in cold temperature
Yuta Sekiguchi, Hideo Higuchi, Motoshi Kaya (*Grad. Sch. Sci., Univ. Tokyo*)
- [2Pos157*](#) 酵母母子の形成・復帰過程における分子混雑の可逆的な制御
Reversible regulation of molecular crowding in fission yeast during sporulation and germination
Keiichiro Sakai^{1,2,3}, Yuhei Goto^{1,2,3}, Yohei Kondo^{1,2,3}, Kazuhiro Aoki^{1,2,3} (¹*NIBB*, ²*ExCELLS*, ³*SOKENDAI*)
- [2Pos158](#) 光照射による多細胞システムの運動制御
Regulation of cell motility in a multicellular system by photodamage
Shinji Yokoyama (*grad. Sch Comp. Sci and Sys. Eng., Kyushyu Inst. Tech*)
- [2Pos159](#) 深層学習を用いた *D. discoideum* の 2 細胞型混合集団運動における運動規則の推定
Deep learning-based estimation of motion rules for 2-cell type mixed collective motion of *D. discoideum*
Masahito Uwamichi, Hidenori Hashimura, Tomoko Adachi, Sumie Eto, Satoshi Sawai (*Grad. Sch. Arts and Sci., The Univ. of Tokyo*)

- [2Pos160*](#) ATP 産生阻害した細胞における細胞内流動性低下の定量的評価
Quantitative evaluation of the decrease in intracellular mobility of cells in which ATP synthesis is inhibited
Hideaki Ota, Hideo Higuchi (*Grad. Sch. Sci., Univ. Tokyo*)
- [2Pos161](#) プライマリー神経堤細胞の定量的運動解析
Quantitative characterization of random and persistent locomotion in neural crest cell primary cultures
Takehiro Nakamura, Satoshi Sawai (*Grad. Sch. Arts & Sci., Univ. Tokyo*)
- [2Pos162*](#) ケラトサイト細胞集団運動におけるアクトミオシンケーブルの切断と集団運動での役割
Breaking of actomyosin cables in keratocyte collectives and their role in the coordinated collective migration
Misaki Iwanaga¹, Chika Okimura¹, Tatsunari Sakurai², Tasuku Ueno³, Yasuteru Urano^{3,4}, Yoshiaki Iwadata¹ (¹*Grad. Sch. Sci. Tech., Yamaguchi Univ.*, ²*Dept. Math. Eng., Musashino Univ.*, ³*Grad. Sch. Pharm. Sci., Univ. Tokyo*, ⁴*Grad. Sch. Med. Univ., Tokyo*)
- [2Pos163](#) 真核生物の走化性に焦点を当てた、細胞膜上での Ga2 の PALM イメージングと空間的解析
PALM imaging and spatial analysis of Ga2 across the cell membrane: exploring the meaning in eukaryotic chemotaxis
Atsuhiko Mii¹, Satomi Matsuoka^{1,2,3}, Masahiro Ueda^{1,2,3} (¹*Grad. Sch. Front. Biosci., Osaka Univ.*, ²*Dept. Biol. Sci., Grad. Sch. Sci., Osaka Univ.*, ³*BDR, RIKEN*)
- [2Pos164*](#) GEFB と GEFX は細胞運動に重要な興奮系 Ras の自発的対称性の破れを制御する
GEFB and GEFX regulate spontaneous symmetry breaking of the excitable system Ras for cell motility
Koji Iwamoto¹, Satomi Matsuoka^{1,2,3}, Masahiro Ueda^{1,2,3} (¹*Grad. Sch. Sci. Bio, Univ. Osaka*, ²*Grad. Sch. of Front. Biosci., Univ. Osaka*, ³*BDR., Riken*)
- [2Pos165](#) Loss of synchronous behavior in cardiomyocyte networks is independent of their spatial network patterns during hERG ion channel blocking
Kazufumi Sakamoto, Kenji Yasuda (*Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*)
- [2Pos166*](#) 電子線トモグラフィーによる *Mycoplasma mobile* 内部滑走装置の解析
Mycoplasma mobile internal gliding machinery analyzed by electron tomography
Minoru Fukushima¹, Takuma Toyonaga^{1,2}, Yuhei Oba Tahara¹, Daisuke Nakane³, Makoto Miyata^{1,2} (¹*Grad. Sch. Sci., Osaka Metropolitan Univ. Osaka*, ²*OCARINA, Osaka Metropolitan Univ.*, ³*Grad. Sch. Info. Eng., Univ. Electro-Communication. Tokyo*)
- [2Pos167](#) ヒト原腸形成の自己組織化を模倣する：ヒト iPS 細胞のマイクロパターン培養
Mimicking the self-organization of human gastrulation: micro pattern culture of human iPS cells
Chihiro Takeuchi¹, Ryo Kobayashi¹, Kiyoshi Ohnuma² (¹*Grad. Sch. Eng., Univ. Nagaoka Tech.*, ²*Inn., Univ. Nagaoka Tech.*)
- [2Pos168](#) Real-Time Feedback 機構を用いた細胞集合体への機械刺激
Mechanical stimulus on cell aggregation with Real-Time Feedback control
Ayu Sasaki, Ryu Kidokoro, Shota Nozaki, Kaito Kojima, Arata Nagai, Yuuta Moriyama, Toshiyuki Mitsui (*Grad. Sch. Sci., Univ. Aogaku*)
- [2Pos169](#) ゆらぎの定理に基づく細胞張力ホメオスタシスに関する研究
Analyzing cellular tensional homeostasis from a physical point of view
Shinji Deguchi, Yuika Ueda (*Grad. Sch. Eng. Sci., Osaka Univ.*)
- [2Pos170](#) 制御理論に基づくアクチン細胞骨格の力学・生化学応答に関する理論解析
Modeling mechanochemical reaction of the actin cytoskeleton based on control theory
Eiji Matsumoto, Daiki Matsunaga, Shinji Deguchi (*Grad. Sch. Eng. Sci., Osaka Univ.*)

- [2Pos171*](#) 脱水ストレス依存に細胞骨格様の線維やゲルを形成するクマムシタンパク質 CAHS による細胞の機械的強度の向上
Stress-dependent cell stiffening by tardigrade tolerance proteins CAHS reversibly forming cytoskeleton-like filament networks and gels
Akihiro Tanaka¹, Tomomi Nakano¹, Kento Watanabe¹, Kazutoshi Masuda^{2,3}, Gen Honda^{2,3}, Shuichi Kamata¹, Reitaro Yasui¹, Satoshi Sawai^{1,3}, Miho Yanagisawa^{2,3}, Takekazu Kunieda¹ (¹*Dept. of Bio. Sci., Grad. Sch. of Sci., Univ. of Tokyo.*, ²*Komaba Inst. for Sci., Grad. Sch. of Arts and Sci., Univ. of Tokyo.*, ³*Dept. of Basic Sci., Grad. Sch. of Arts and Sci., Univ. of Tokyo*)
- [2Pos172](#) Jasplakinolide または Phalloidin が結合したアクチンフィラメントのゆらぎの違いを FRET 解析により可視化した
Fluctuation difference in actin filaments bound Jasplakinolide or Phalloidin was visualized by using FRET
Ai Takahashi¹, Miku Nezasa², Kuruto Toda², Irfan Huzifah Ahmad², Ichiro Nishikata⁴, Kenji Kamimura³, Ikuko Fujiwara¹, Hajime Honda¹ (¹*Dept. of Matl. Sci. and Bioeng., Nagaoka Univ. of Tech.*, ²*Dept. Bioeng., Nagaoka Univ. of Tech.*, ³*Dept. of Elect.Ctrl.Eng., NIT. Nagaoka College*, ⁴*ACEM., NIT. Nagaoka college*)
- [2Pos173*](#) 2 種の細菌アクチン MreB が駆動する最小の細胞運動システム
Minimal cell motility system driven by two bacterial actin MreB
Hana Kiyama¹, Shigeyuki Kakizawa², Yuya Sasajima¹, O Yuhei Tahara^{1,3}, Daichi Takahashi¹, Makoto Miyata^{1,3} (¹*Graduate school of Science, Osaka Metropolitan University, Japan*, ²*Bioproduction Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), Japan*, ³*OCARINA, Osaka Metropolitan University, Japan*)
- [2Pos174](#) 腫瘍微小環境におけるエクソソーム中 GRP78 タンパク質の増加が腫瘍進行を促進する
Increased GRP78 protein in exosomes in the tumor microenvironment promotes tumor progression
Kanako Iha, Etsuro Ito (*Department of Biology, Waseda University*)
- [2Pos175*](#) 細胞の生死の網羅的・定量的理解に向けた、機械学習による細胞の運命予測
Predicting cell fates by image-based machine learning for comprehensive and quantitative understanding of cell death and survival
Tomooki Okaniwa^{1,2}, Katsuyuki Shiroguchi¹ (¹*RIKEN BDR*, ²*Grad. Sch. Frontier Biosciences, Osaka Univ.*)
- [2Pos176](#) Understanding the results of black box Convolution Neural Network to identify Follicular thyroid cancer
Abdul Halim Bhuiyan^{1,2}, Jean-Emmanuel Clément^{3,4}, Kentaro Mochizuki⁵, James Nick Taylor³, Koji Tabata^{3,4}, Yuta Mizuno^{1,3,4}, Atsuyoshi Nakamura⁶, Yoshinori Harada⁷, Katsumasa Fujita^{5,8,9}, Tamiki Komatsuzaki^{1,3,4} (¹*Graduate School of Chemical Sciences and Engineering, Hokkaido University, Sapporo, Japan.*, ²*Bangladesh University of Engineering and Technology, Dhaka 1000, Bangladesh.*, ³*Research Center of Mathematics for Social Creativity, Research Institute for Electronic Science, Hokkaido University, Sapporo, Japan*, ⁴*Institute for Chemical Reaction Design and Discovery, Hokkaido University, Sapporo, Japan*, ⁵*Department of Applied physics, Graduate School of Engineering, Osaka University, Japan*, ⁶*Graduate school of Information Science and Technology, Hokkaido University, Japan*, ⁷*Department of Pathology & Cell Regulation, Kyoto Prefectural University of Medicine, Japan*, ⁸*Advanced Photonics and Biosensing Open Innovation Laboratory, AIST-Osaka University, Japan*, ⁹*Transdimensional Life Imaging Division, Osaka University, Japan*)
- [2Pos177](#) Elucidation of macrophage's spatial discrimination limit between target antigen and non-target objects
Maiha Ando¹, Dan Horonushi², Sota Suzuki², Masato Yamazaki¹, Amane Yoshida², Kenji Yasuda^{1,2} (¹*Dept. Phys., Sch. Adv. Sci. & Eng., Waseda Univ.*, ²*Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*)

- [2Pos178](#) 細胞内のタンパク質動態の3次元の流れとその定量化に関する研究
Research on three-dimensional flow of protein dynamics in cells and its quantification
Yuya Enokida (*Grad. Sch. Comp. Sci. and Sys. Eng., Kyushu Inst. Tech*)
- [2Pos179](#) 海洋ビブリオ細胞分化におけるべん毛モーター回転制御因子 CheY の役割
Role of the flagellar motor-controlling factor CheY in cell differentiation of marine *Vibrio*
Karin Yamane¹, Mayu Ito², Masatoshi Nishikawa^{1,2}, Hirotaka Tajima³, Ikuro Kawagishi^{1,2,3} (¹*Grad. Sch. Eng., Hosei Univ.*, ²*Dept. Frontier Biosci., Hosei Univ.*, ³*Res. Cen. Micro-Nano Tech., Hosei Univ.*)
- [2Pos180](#) 海洋性ビブリオ菌において細胞極局在膜タンパク質 HubP はべん毛本数制御因子 FlhG の ATPase 活性を上昇させる
The polar landmark protein HubP enhances the ATPase activity of the flagellar number regulator FlhG in *Vibrio alginolyticus*
Yuxi Hao¹, Norihiro Takekawa², Michio Homma¹, Seiji Kojima¹ (¹*Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ.*, ²*Dept. Macromol. Sci., Grad. Sch. Sci., Osaka Univ.*)
- [2Pos181](#) クラスリン軽鎖の細胞膜上での構造変化は被覆構造、そしてエンドサイトーシスを制御する
A conformational switch in clathrin light chain regulates lattice structure and endocytosis at the plasma membrane of mammalian cells
Kazuki Obashi, Kem Sochacki, Marie-Paule Strub, Justin Taraska (*National Heart, Lung, and Blood Institute, National Institutes of Health*)
- [2Pos182](#) 歯周病菌の Fim 線毛の先端タンパク質 FimC の構造
Structure of FimC, a tip protein of the Fim pilus in a gum disease bacterium *Porphyromonas gingivalis*
Norihiro Takekawa¹, Rei Kojima¹, Mikio Shoji², Katsumi Imada¹ (¹*Grad. Sch. Sci., Osaka Univ.*, ²*Grad. Sch. Biomed Sci., Nagasaki Univ.*)
- [2Pos183](#) 細胞外小胞が引き起こす標的細胞でのシグナル伝達機構の解明：超解像顕微鏡法と1粒子追跡による研究
Intracellular signaling triggered by small extracellular vesicles as revealed by super-resolution microscopy and single-particle tracking
Koichiro M. Hirose¹, Yasunari Yokota², Kenichi G. N. Suzuki^{1,3} (¹*iGCORE, Gifu Univ.*, ²*Dept. Eng., Gifu Univ.*, ³*CREST・JST*)
- [2Pos184*](#) アミノアシル tRNA 合成酵素 20 種の自己再生産と共役した DNA 複製系の構築
In vitro transcription/translation-coupled DNA replication through the regeneration of 20 aminoacyl-tRNA synthetases
Katsumi Hagino¹, Norikazu Ichihashi^{1,2,3} (¹*Department of Life Science, Graduate School of Arts and Science, The University of Tokyo.*, ²*Komaba Institute for Science, The University of Tokyo.*, ³*Research Center for Complex Systems Biology, Universal Biology Institute, The University of Tokyo.*)
- [2Pos185](#) 1 細胞内での CheB 局在変化による忌避応答および適応
Repellent response and adaptation through the CheB-localization in single E. coli cell
Taiga Deguchi¹, Yumiko Uchida¹, Yong-Suk Che¹, Akihiko Ishijima¹, Tatsuki Hamamoto², Hajime Fukuoka¹ (¹*Grad. Sch. Frontier Biosci. Osaka Univ.*, ²*OIST Grad. Univ.*)

生体膜・人工膜：構造・物性／Biological & Artificial membrane: Structure & Property

- [2Pos186*](#) 膜融合性リボソーム膜のデザインのための系統的な膜特性解析
Systematic membrane characteristic analysis for the design of fusogenic liposome
Natsuumi Ito, Nozomi Watanabe, Yukihiro Okamoto, Hiroshi Umakoshi (*Bio-Inspired Chemical Engineering Laboratory / Division of Chemical Engineering / Graduate School of Engineering Science / Osaka University*)
- [2Pos187](#) A Liposome Prepared by Microfluidic Device Vomits the Inner Solution
Jiajue Ji, Kayano Izumi, Ryuji Kawano (*Department of Biotechnology and Life Science, University of Agriculture and Technology*)

- [2Pos188*](#) (3SGA-5) DNA ゲル骨格が決定する人工細胞の力学特性
(3SGA-5) Cytoskeletons of self-assembled DNA regulate the mechanical properties of artificial cells
Kazutoshi Masuda¹, Fuyu Ohno², Miho Yanagisawa^{1,2} (¹*College of Arts and Sciences, The University of Tokyo*, ²*Graduate school of Arts and Sciences, The University of Tokyo*)
- [2Pos189](#) 両親媒性ブロックポリマーを用いたポリマー二分子膜の作製
Preparation of planar bilayer polymer membrane using amphiphilic di- and tri-block copolymers
Hiroaki Kihara, Harune Suzuki, Ryuji Kawano (*Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology*)
- [2Pos190](#) 海水中で長期間安定に存在し得るリポソームの調製
Preparation for long-term stable liposomes in seawater
Kayano Izumi¹, Keiichiro Koikiwa², Ryuji Kawano¹ (¹*Tokyo University of Agriculture and Technology*, ²*Tokyo University of Marine science and Technology*)
- [2Pos191*](#) 脂質二重膜へのエタノール分子の浸透に対する塩添加の影響：分子動力学法による検討
Effect of salt addition on the penetration of ethanol molecules into lipid bilayers: a molecular dynamics study
Haru Kitaoka, Naoya Nishi, Yuko Yokoyama, Tetsuo Sakka (*Graduate School of Engineering, Kyoto University*)
- [2Pos192](#) 高分子液滴を用いた細胞サイズ依存的な相分離
Cell-size dependent phase separation in polymer droplet
Chiho Watanabe^{1,2}, Tomohiro Furuki², Yuki Kanakubo², Fumiya Kanie², Keisuke Koyanagi³, Jun Takeshita², Miho Yanagisawa² (¹*Hiroshima Univ.*, ²*Univ. Tokyo*, ³*Tokyo Univ. Agri. Tech.*)
- [2Pos193](#) マガイニン 2 の膜相互作用に対する膜相転移の効果
Contributions of Membrane Phase Transitions to Interaction of Magainin 2 with Membrane
Ryoga Tsuji¹, Munehiro Kumashiro², Koichi Matsuo³ (¹*Grad. Sch. Adv. Sci. Eng., Hiroshima Univ.*, ²*Inst. Adv. Med. Sci., Tokushima Univ.*, ³*HiSOR, Hiroshima Univ.*)

生体膜・人工膜：ダイナミクス／Biological & Artificial membrane: Dynamics

- [2Pos194*](#) 生体膜の不均一性が分子の拡散性に与える影響
Effect of biological membrane's heterogeneity on the diffusivity of molecules
Ken Sakamoto¹, Takuma Akimoto², Mayu Muramatsu³, Mark S. P. Sansom⁴, Ralf Metzler⁵, Eiji Yamamoto⁶ (¹*Grad. Sch. Sci. Tech., Keio Univ.*, ²*Dept. Phys., Tokyo Univ. Sci.*, ³*Dept. Mech. Eng., Keio Univ.*, ⁴*Dept. Biochem., Univ. Oxford*, ⁵*Inst. Phys. Astron., Univ. Potsdam*, ⁶*Dept. Syst. Des. Eng., Keio Univ.*)
- [2Pos195*](#) 抗菌ペプチドによる膜細孔形成の分子シミュレーション研究
Molecular dynamics simulation study of membrane pore formation by antimicrobial peptides
Issei Kawabata¹, Yusuke Miyazaki², Wataru Shinoda² (¹*Grad. Sch. Eng., Univ. Nagoya*, ²*RIIS, Univ. Okayama*)
- [2Pos196](#) 光重合性脂質を用いた単分子/二分子のハイブリッド膜
Patterned monolayer/bilayer hybrid membrane composed of polymerized and natural lipids
Yasushi Tanimoto¹, Fumio Hayashi², Kenichi Morigaki^{3,4} (¹*Grad. Sch. Sci., OMU / Japanese*, ²*Grad. Sch. Sci., Univ. Kobe / Japanese*, ³*Grad. Sch. Agr., Univ. Kobe / Japanese*, ⁴*Bios. R. C., Univ. Kobe*)
- [2Pos197*](#) 分子動力学シミュレーションによるエンドソーム脱出分子機構の解明
Exploring Molecular Mechanism of Endosomal Escape: A Molecular Dynamics Study
Kana Shibata¹, Akhil Pratap Singh¹, Wataru Shinoda² (¹*Grad. Sch. Eng., Univ. Nagoya*, ²*RIIS, Univ. Okayama*)

- [2Pos198*](#) (1SFP-3) Mechanism study of antimicrobial peptide synergistic effects at the molecular level by combining spectroscopy and electrochemical methods
Yuge Hou, Kaori Sugihara (*Institute of Industrial Science, The University of Tokyo*,)
[2Pos199](#) 電位依存性プロトンチャネルは細胞内 ATP による活性制御を受ける
 Intracellular ATP controls the voltage-gated proton channel
Akira Kawanabe, Maki Takata, Yuichiro Fujiwara (*Fac. Med., Kagawa Univ.*)
[2Pos200](#) Smooth 型 LPS を用いたグラム陰性細菌外膜模倣膜への抗菌ペプチドの作用評価
 Reconstitution of smooth-type LPS as an outer membrane of Gram-negative bacteria
Wakana Hashimoto, Mitsuki Miyagi, Ryuji Kawano (*Dep. of Biotech. and Life Sci., Tokyo Univ. of Agri. and Tech.*)

生体膜・人工膜：輸送・情報伝達／Biological & Artificial membrane: Transport & Signal transduction

- [2Pos201*](#) 脂質膜水透過現象の解析: アクアポリン水透過モデルとの比較
 Water Permeation through the Lipid Membrane: from the Comparison with Aquaporin Study
Natsuki Fukuda¹, Nozomi Watanabe¹, Mizuki Teraoka², Yukihiro Okamoto¹, Hiroshi Umakoshi¹
 (¹Graduate School of Engineering Science, Osaka University., ²Doshisha Girl's Senior High School.)
[2Pos202](#) リポソーム型分子ロボットへの標的分子取込み
 Transport of the target molecules into liposome-type molecular robots
Harune Suzuki, Kohei Hayashi, Ryuji Kawano (*Grad. Sch. Biotech & Life Sci., TUAT*)
[2Pos203](#) レセプター機能を有する膜中 DNA システムの開発
 Construction of a membrane-spanning receptor-like DNA system
Sotaro Takiguchi, Ryuji Kawano (*Dept. Biotech. Life Sci., Grad. Sch. Eng., Tokyo Univ. Agri. Tech.*)

化学受容／Chemoreception

- [2Pos204](#) 細胞性粘菌の cAMP シグナルにおけるレチナールの効果
 Effect of retinal on cAMP signaling in *Dictyostelium discoideum*
Kazuki Akiyama, Yusuke Morimoto (*Kyusyu Institute of Technology (Grad. Sch. Comp. Sci. and Sys. Eng., Kyushu Inst. Tech.)*)
[2Pos205*](#) ヒトアセチルコリン受容体のアロステリック機構の振動分光研究
 Vibrational spectroscopic study of Allosteric Mechanism on human muscarinic acetylcholine receptor
Yuya Sugiura¹, Kota Katayama¹, Ryoji Suno², Hideki Kandori¹ (¹Grad. Sch. Eng., Nagoya Inst. Tech., ²Kansai Medical University. Medical.)
[2Pos206](#) センサーキナーゼ BaeS のインドール感知部位の同定
 Identification of the indole-sensing region of the sensor kinase BaeS
Hiroataka Tajima^{1,2}, Kenichiro Kashiwara³, Kentaro Yamamoto⁴, Yoshiyuki Sowa^{1,2,3}, Ikuro Kawagishi^{1,2,3} (¹Fac. of Biosci. and Appl. Chem., Hosei Univ., ²Res. Cent. for Micro-Nano Tech., Hosei Univ., ³Grad. Sch. Sci. and Engin., Hosei Univ., ⁴Leprosy Res. Center, Nat. Ins. of Infectious Diseases)

- [2Pos207](#) サルモネラクエン酸走性受容体 Tcp のリガンド認識における二価金属イオンの役割
Role of divalent metal cations in ligand recognition by the *Salmonella* citrate chemoreceptor Tcp
Fuga Omori¹, Mariko Matsuda¹, Katsumi Imada⁴, Hiroataka Tajima^{2,3}, Yoshiyuki Sowa^{1,2,3},
Ikuro Kawagishi^{1,2,3} (¹*Grad. Sch. Sci. and Engin., Hosei Univ.*, ²*Fac. of Biosci. and Appl. Chem., Hosei Univ.*, ³*Res. Cent. for Micro-Nano Tech., Hosei Univ.*, ⁴*Grad. Sch. Sci., Osaka Univ.*)

神経・感覚（細胞・膜蛋白質・分子）／Neuroscience & Sensory systems

- [2Pos208*](#) シナプス後肥厚におけるグルタミン酸受容体と PSD-95 のメソスコピックシミュレーション
Mesoscopic simulation of glutamate receptor and PSD-95 in postsynaptic density
Risa Yamada, Shoji Takada (*Grad. Sch. Sci., Kyoto Univ.*)
- [2Pos209](#) 海馬興奮性ニューロンにおける NMDA 型イオンチャネル受容体に依存した双方向シナプス可塑性の大規模数値モデルによる研究
Mechanism underlying hippocampal long-term potentiation and depression based on competition between endocytosis and exocytosis of AMPAR
Tomonari Sumi¹, Kouji Harada² (¹*Research Inst. for Interdisciplinary Sci., Okayama Univ.*, ²*Center for IT-Based Edu., Toyohashi Univ. of Tech.*)
- [2Pos210](#) 高頻度で持続的なシナプス伝達をささえるシナプス小胞ナノスケール動態
Actin filaments restrict synaptic vesicle movement for high-frequency neurotransmission
Takafumi Miki (*Grad. Sch. Brain Sci., Doshisha Univ.*)
- [2Pos211*](#) 細胞内輸送関連分子の新規解析手法の開発と病態モデルへの応用
A new approach to analysis of intracellular trafficking-related molecules using Cellprofiler and ImageJ in combination
Akito Hattori¹, Etsuro Ohta^{2,3,4,5}, Makiko Nagai⁶, Kazuya Iwabuchi¹, Hideyuki Okano⁵ (¹*Program in Cellular Immunol, Gradu Sch Med Sci Kitasato Univ.*, ²*R&D center for Cell Design, Institute for Regenerative Medicine and Cell Design, Kitasato Univ.*, ³*Dept ImmunolIII, Kitasato Univ of Allied Health Sci.*, ⁴*Div Clinical Immunol, Gradu Sch Med Sci Kitasato Univ.*, ⁵*Dept Physiol Keio Univ Sch Med.*, ⁶*Dept Neurol, Kitasato Univ Sch of Med*)

神経回路・脳の情報処理／Neuronal circuit & Information processing

- [2Pos212](#) ダブル Y 字型アガロース微細構造における神経突起同士の相互作用
Interactions of two elongating neurites in double Y-shaped agarose microstructure
Nanami Abe¹, Yuhei Tanaka², Ryohei Yamazaki², Yuri Kamiya¹, Haruki Watanabe², Kenji Yasuda^{1,2}
(¹*Dept. Pure & Appl. Phys., Sch. Adv. Sci. & Eng., Univ. Waseda.*, ²*Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Univ. Waseda*)
- [2Pos213](#) カルシウムイメージングによるアガロースマクロチャンバー内の神経回路活動の可視化
Visualization of neural circuit activity in agarose micro chamber by calcium imaging
Rika Fuchikami, Masahito Hayashi, Tomoyuki Kaneko (*FB, Grad. Sch. Sci. & Eng., Hosei Univ.*)
- [2Pos214](#) 海馬が合成する男性・女性ホルモンやストレスホルモンは記憶シナプスを蛋白キナーゼ信号系で制御する
Kinase-dependent modulation of neuronal synapses by hippocampus-synthesized androgen, estrogen and stress hormone
Suguru Kawato^{1,2}, Mika Soma^{1,2}, Mari Ogiue-Ikeda^{1,2}, Saria Mabashi², Ayako Takasu³, Minoru Saito²
(¹*Grad. Sch. Medicine, Juntendo Univ.*, ²*Coll. Hum. Sci., Nihon Univ.*, ³*Grad. Sch. Integ. Bas. Sci., Nihon Univ.*)

- [2Pos215](#) ミトコンドリア β 酸化に関与する HADH が線虫の介在ニューロンにおいて低温馴化を制御する
HADH involved in mitochondrial β -oxidation regulates temperature acclimation in interneurons of *C.elegans*
Akihisa Fukumoto¹, Misaki Okahata¹, Yohei Minakuchi², Atsushi Toyoda², Akane Ohta¹,
Atsushi Kuhara^{1,3} (¹*Grad. Sch. Sci., Konan Univ.*, ²*Natl. Inst. of Genetics, Japan*, ³*PRIME, AMED*)
- [2Pos216](#) 全身を周回する神経回路が腸の脂質含量を調節する
Whole-body neural circuit regulates intestinal fat storage
Haruka Motomura^{1,2}, Makoto Ioroi^{1,2}, Kazutoshi Murakami^{1,2}, Atsushi Kuhara^{1,2,3}, Akane Ohta^{1,2}
(¹*Grad. Sch of Nat. Sci., Konan Univ.*, ²*Ins. integrative Neurobio., Konan Univ., Japan*, ³*PRIME, AMED*)
- [2Pos217](#) 環境の酸素情報が温度応答性に影響を与えることで低温馴化多様性が決定される
Cold acclimation diversity is determined by oxygen information, which affect neural activity of thermo sensory neuron in *C. elegans*
Misaki Okahata¹, Sawako Yoshina², Yohei Minakuchi³, Atsushi Toyoda³, Shohei Mitani², Toru Miura¹,
Akane Ohta¹, Atsushi Kuhara^{1,4} (¹*Inst. for Integrative Neurobio., Konan Univ.*, ²*Tokyo Women's Med. Univ.*, ³*National Inst. of Genetics*, ⁴*PRIME, AMED*)
- [2Pos218](#) ミミズ非連合学習におけるセロトニンシグナル
Serotonin signaling in non-associative learning in earthworm
Yoshiichiro Kitamura, Toshifumi Yakuwa, Daichi Morikawa (*Dept Math Sci Phys, Col Sci Eng, Kanto Gakuin Univ*)
- [2Pos219](#) 異種混合培養神経回路網における神経情報伝達
Functional connections in a heterologous cultured chimera neuronal network
Ayumi Nishikawa, **Suguru N. Kudoh** (*Dep. of Engineering, Kwansei Gakuin University*)
- [2Pos220](#) 網羅的定量的光計測によるマウス前頭葉前帯状皮質の興奮伝播の解析:膜電位感受性色素 VSD による
Analysis of neural activity propagation in the mouse prefrontal cortex using comprehensive quantitative optical recording: VSD study
Takashi Tominaga^{1,2}, Pooja Gusain³, Makiko Taketoshi¹, Yoko Tominaga¹ (¹*Inst. Neurosci., Tokushima Bunri Univ.*, ²*Kagawa Sch Pharm., Tokushima Bunri Univ.*, ³*Dept. Ophth, Sch Med, Keio Univ*)

行動／Behavior

- [2Pos221](#) 咽頭筋のアミノ酸トランスポーター SLC46 は *C. elegans* の低温耐性を制御する
Amino acid transporter SLC46 in pharyngeal muscle regulates cold tolerance of *C. elegans*
Serina Yamashiro¹, Satomi Mizuno¹, Haruka Motomura¹, Akane Ohta¹, Atsushi Kuhara^{1,2} (¹*Laboratory of Molecular and Cellular Regulation Graduate school of Natural Science Konan University*, ²*PRIME, AMED*)
- [2Pos222](#) 蟻の探索行動における 3 次元的空間知覚
Three dimensional perception on ant foraging
Tomoko Sakiyama (*Faculty of Science and Engineering, Soka University*)
- [2Pos223](#) タイリクバラタナゴの赤色に対する特異な行動
Unusual behavior of rosy bitterlings in response to red coloration
Ririka Yamamoto¹, Rio Yoshizawa¹, Rikiya Ogawa² (¹*Osaka Prefecture Tondabayashi High School*, ²*Rikijuku Science School*)
- [2Pos224](#) ミクロ社会とマクロ社会におけるカラス属の社会行動が示すカラスの社会性
Crows (*corvus*) society based on crows' behavior in micro-society and macro-society
Haruki Kon, Kosei Ando, Aoba Sasaki, Hina Nakamura (*Sapporo Kaisei secondary school*)

- [2Pos225](#) シアノバクテリオクロム RcaE におけるユニークな C15-*E,syn* 型ビリン発色団のラマン分光法による研究
Raman Spectroscopy of an Atypical C15-*E,syn* Bilin Chromophore in Cyanobacteriochrome RcaE
Yuji Okuda¹, Risako Miyoshi¹, Takanari Kamo², Tomotsumi Fujisawa¹, Takayuki Nagae³, Masaki Mishima³, Toshihiko Eki², Yuu Hirose², Masashi Unno¹ (¹*Fac.Sci.Eng.,Saga Univ.*, ²*Toyohashi Univ. of Tech. Appl. Chem. & Life Sci.*, ³*Tokyo Univ. of Pharmacy and Life Sciences Dep. Mol. Biophys.*)
- [2Pos226*](#) 青色光センサータンパク質 SyPixD の C 末端領域による 10 量体構造の安定化
Stabilization of decamer structure by the C-terminal region of the blue light sensor protein SyPixD
Shunrou Tokonami, Yusuke Nakasone, Masahide Terazima (*Grad. Sch. Sci., Univ. Kyoto*)
- [2Pos227*](#) 新奇塩化物イオンポンプロドプシンの輸送メカニズム研究
Study on the transport mechanism of the novel chloride-ion pump rhodopsin
Tomohiro Ishizuka¹, Kano Suzuki², Yuma Kawasaki¹, Masae Konno^{1,3}, Takeshi Murata^{2,4}, Keiichi Inoue¹ (¹*ISSP, Univ. of Tokyo*, ²*Grad. Sch. Sci., Chiba Univ.*, ³*JST, PRESTO*, ⁴*MPRC, Chiba Univ.*)
- [2Pos228*](#) クリプトクロムが触媒する DNA 光修復反応の時間分解分光解析
Time-resolved spectroscopic analysis of DNA photorepair reaction catalyzed by cryptochrome
Tatsumi Maeno¹, Daichi Yamada¹, Ai Kadono¹, Junpei Yamamoto², Minoru Kubo¹ (¹*Grad. Sch. Sci., Univ. Hyogo, Japan*, ²*Grad. Sch. Eng. Sci., Osaka Univ., Japan*)
- [2Pos229](#) 光と苦味のセンサーとしてはたらくキイロショウジョウバエ Rh7 の赤外分光研究
FTIR study of Drosophila Rh7, a light and bitter taste sensor
Kouhei Watanabe, Kota Katayama, Hideki Kandori (*Grad. Sch. Eng., Nagoya Inst. Tech.*)
- [2Pos230*](#) 霊長類青感受性視物質の 200 K 以上での赤外分光解析
FTIR study of primate blue-sensitive cone pigment at >200 K
Yosuke Mizuno¹, Kota Katayama¹, Hiro Imai², Hideki Kandori¹ (¹*Grad. Sch. Eng., Nagoya Inst. Tech.*, ²*Center for the Evolutionary Origins of Human Behavior, Kyoto University*)
- [2Pos231](#) 全トランス型から 11 シス型の光反応を示す新規微生物ロドプシンの分光解析
Spectroscopic analysis of novel microbial rhodopsin showing photoreaction from all-*trans*- to 11-*cis*-retinal
Mako Aoyama¹, Kota Katayama¹, Rei Abe-Yoshizumi¹, Masahiro Sugiura¹, Andrey Rozenberg², Igor Kaczmarczyk³, Donna Matzov³, Takashi Nagata⁴, Moran Shalev-Benami³, Oded Béja², Keiichi Inoue⁴, Yuji Furutani¹, Hideki Kandori¹ (¹*Grad. Sch. Eng., Nagoya Inst. Tech.*, ²*Technion – Israel Inst. Tech.*, ³*Weizmann Inst. Sci.*, ⁴*ISSP, Univ. Tokyo*)
- [2Pos232](#) 異なる位置にカウンターイオンを持つクラゲオプシンの光異性化機構解析
Spectroscopic study of photoisomerization mechanism of Jellyfish Opsin having counterion at different position
Shino Inukai¹, Kota Katayama¹, Mitsumasa Koyanagi², Akihisa Tereakita², Hideki Kandori¹ (¹*Grad. Sch. Eng., Nagoya Inst. Tech.*, ²*Grad. Sch. Sci., Osaka Metro. Univ.*)
- [2Pos233*](#) 固体 NMR を用いた Zn²⁺結合型 TaHeR の脂質二重膜中の構造解析
Solid-state NMR study of membrane embedded TaHeR in the presence of Zn²⁺
Sari Kumagai¹, Shibuki Suzuki¹, Kota Katayama², Hideki Kandori², Izuru Kawamura¹ (¹*Grad. Sch. Eng. Sci., Yokohama Natl. Univ.*, ²*Dep. Life Sci. Appl. Chem., Nagoya Inst. Technol.*)
- [2Pos234](#) 霊長類の緑色感受性タンパク質の原子構造決定に向けて
Toward determining the atomic structure of primate green cone pigment
Sayaka Ohashi¹, Kota Katayama¹, Ryoji Suno², Nipawan Nuemket^{3,4}, So Iwata^{3,4}, Eriko Nango^{4,5}, Takuya Kobayashi², Hideki Kandori¹ (¹*Grad. Sch. Eng., Nagoya Inst. Tech.*, ²*Kansai Medical University*, ³*Kyoto University*, ⁴*Japan Synchrotron Radiation Research Institute*, ⁵*Tohoku University*)

- [2Pos235](#) RcPYP と PBP 相互作用における表面電荷の効果
Effects of surface charge on RcPYP and PBP interactions
Yoichi Yamazaki¹, Yoko Narahara¹, Hironari Kamikubo^{1,2} (¹*NAIST, MS*, ²*NAIST, CDG*)
- [2Pos236](#) 固体 NMR による膜中 TAT ロドプシンの構造解析
Solid-state NMR study of membrane-embedded TAT rhodopsin
Sui Arikawa¹, Teppei Sugimoto², Kota Katayama², Hideki Kandori², Izuru Kawamura¹ (¹*Grad. Sch. Eng. Sci., Univ. Yokohama Natl.*, ²*Dep. Life Sci. Appl. Chem., Nagoya Inst. Technol.*)
- [2Pos237](#) 低温ラマン分光法による photoactive yellow protein の L 中間体の構造解析
Structural analysis of the L intermediate in the photoactive yellow protein by low-temperature Raman spectroscopy
Shota Kawasaki¹, Tomotsumi Fujisawa¹, D. Hoff Wotuer², Masashi Unno¹ (¹*Fac. Sci. Eng., Saga Univ.*, ²*Oklahoma state Univ.*)

光生物：光合成／Photobiology: Photosynthesis

- [2Pos238](#) PELDOR 法により決定した光化学系Ⅱの2つのMn²⁺親和サイト
Location of the two high-affinity Mn²⁺ site in photosystem II detected by PELDOR
Hiroyuki Mino¹, Mizue Asada^{1,2} (¹*Grad. Sch. Sci., Nagoya Univ.*, ²*Inst. Molecular Sci.*)
- [2Pos239](#) 光化学系Ⅱにおけるストロマおよびルーメン側における摂動が第一キノン電子受容体 Q_A の酸化還元電位に及ぼす影響
Effects of stromal and luminal side perturbations on the redox potential of the primary quinone Q_A in photosystem II
Yuki Kato, Takumi Noguchi (*Grad. Sch. Sci., Nagoya Univ.*)
- [2Pos240*](#) 一分子過度吸収測定による光合成光捕集アンテナ複合体のダイナミクスとエネルギー移動の相関解析
Single-molecule transient absorption spectroscopy of energy transfer in photosynthetic antenna complex
Shun Arai¹, Tomomi Inagaki², Chihiro Azai², Toru Kondo¹ (¹*Dept. of Life Sci. and Tech., Tokyo Tech.*, ²*Grad. Sch. Life Sci., Ritsumeikan Univ.*)
- [2Pos241](#) 光合成カロテノイドシフォナキサンチンにおける非共役官能基の共役系への影響
Effect of the non-conjugated functional group on the optical properties of a photosynthetic carotenoid, siphonaxanthin
Soichiro Seki¹, Kazuhiro Yoshida¹, Yumiko Yamano², Naohiro Oka³, Mitsuru Sugisaki¹, Ritsuko Fujii^{1,4} (¹*Grad. Sch. Sci., Osaka Metropolitan Univ.*, ²*Comp. Edu. Res. Cntr, Kobe Pharmaceutical Univ.*, ³*Bio-Innovation Res. Cntr, Tokushima Univ.*, ⁴*Res. Cntr. Artif. Photosynth., Osaka Metropolitan Univ.*)
- [2Pos242](#) 光化学系Ⅱにおける水分解マンガクスターの光構築機構の時間分解赤外分光解析
Time-resolved infrared study on the mechanism of photoassembly of the water-oxidizing Mn₄CaO₅ cluster in photosystem II
Shunya Watanabe, Yuichiro Shimada, Takumi Noguchi (*Grad. Sch. Sci., Nagoya Univ.*)
- [2Pos243](#) 光化学系Ⅱの酸素発生中心における S₂ 状態の中間体構造の DFT と CC 法による解析
DFT and DLPNO-CC calculation of relative stability and electronic states in the S₂ state of the CaMn₄O₅ cluster of the OEC of the PSII
Koichi Miyagawa¹, Takashi Kawakami^{2,3}, Mitsuo Shoji¹, Hiroshi Isobe⁴, Kizashi Yamaguchi^{3,5}, Yasuteru Shigeta¹ (¹*Center for Computational Sciences, University of Tsukuba*, ²*Graduate School of Science, Osaka University*, ³*RIKEN Center for Computational Science*, ⁴*Research Institute for Interdisciplinary Science, Okayama University*, ⁵*Center for Quantum Information and Quantum Biology, Osaka University*)

- [2Pos244](#) 分子動力学シミュレーションによる紅色細菌の光捕集アンテナ LH2 の吸収スペクトルの解析
The analysis of absorption spectra of light-harvesting antenna LH2 in purple bacteria by molecular dynamics simulation
Shunsuke Yabu¹, Hirofumi Sato^{1,2}, Masahiro Higashi¹ (¹*Graduate School of Engineering, Kyoto Univ.*, ²*FIFC, Kyoto Univ.*)
- [2Pos245](#) X線自由電子レーザーを用いた解析による光化学系IIの基質水分子の取り込みと水分子の酸化に関する構造的知見
Structural insights into the substrate water delivery and water oxidation in photosystem II by analysis with an X-ray free-electron laser
Michi Suga, Yoshiki Nakajima, Hongjie Li, Jian-Ren Shen (*Okayama Univ*)

光生物：光遺伝学・光制御／Photobiology: Optogenetics & Optical Control

- [2Pos246*](#) 内向きおよび外向きプロトンポンプロドプシンの駆動力の解明
Driving force of inward and outward proton pump rhodopsins
Akari Okuyama, Shoko Hososhima, Satoshi Tsunoda, Hideki Kandori (*Grad. Sch. Eng., Nagoya Inst. Tech.*)
- [2Pos247*](#) Ca²⁺結合型 TAT ロドプシンの分光研究
Spectroscopic study of TAT rhodopsin bound with Calcium ion
Tepei Sugimoto, Kota Katayama, Hideki Kandori (*Graduate school of Engineering, Nagoya institute of technology*)
- [2Pos248*](#) LED光源を用いた微生物型ロドプシンAR3による膜電位の長時間イメージング
Long-term membrane voltage imaging by microbial rhodopsin AR3 with LED light source
Shiho Kawanishi¹, Keiichi Kojima², Atsushi Shibukawa¹, Masayuki Sakamoto³, Yuki Sudo² (¹*Grad. Sch., Med. Dent. & Pharm. Sci., Okayama Univ.*, ²*Grad. Sch., Med. Dent. & Pharm. Sci., Okayama Univ.*, ³*Grad. Sch., Biostudies, Kyoto Univ.*)
- [2Pos249*](#) ポンプ型チャネルロドプシンChRmineのクライオ電子顕微鏡構造解析と次世代光遺伝学ツール開発
Cryo-EM structural analysis of pump-like channelrhodopsin ChRmine and structure guided engineering
Koichiro Kishi¹, Yoon Kim², Masahiro Fukuda¹, Masatoshi Inoue², Tsukasa Kusakizako³, Peter Wang², Charu Ramakrishnan², Eamon Byrne², Elina Thadhani⁴, Joseph Paggi⁴, Toshiki Matsui¹, Keitaro Yamashita⁵, Takashi Nagata⁶, Masae Konno⁶, Sean Quirin², Maisie Lo², Tyler Benster², Tomoko Uemura⁷, Kehong Liu⁷, Mikihiro Shibata⁸, Norimichi Nomura⁷, So Iwata⁷, Osamu Nureki³, Ron Dror⁴, Keiichi Inoue⁶, Karl Deisseroth², Hideaki Kato¹ (¹*Komaba Inst. Sci., Univ. Tokyo*, ²*Dept. Bioeng., Stanford Univ.*, ³*Dept. Bio. Sci., Univ. Tokyo*, ⁴*Dept. Comp. Sci., Stanford Univ.*, ⁵*MRC Lab. Mol. Biol.*, ⁶*ISSP Univ. Tokyo*, ⁷*Dept. Cell Biol., Kyoto Univ.*, ⁸*Inst. Front. Sci. Init., Kanazawa Univ.*)
- [2Pos250](#) 光活性化アデニル酸シクラーゼの活性化に伴う構造変化の解明
Structural changes of adenylate cyclase from *Oscillatoria acuminata* in response to blue light stimulation
Yuki Kitamura, Toru Ide, Minako Hirano (*Grad. Sch. Health Sys., Okayama Univ.*)
- [2Pos251](#) 藻類シオミドロが持つ4種のAureochromeの類似性と多様性
Similarity and Diversity of aureochromes, EsAu1-EsAu4, in a brown alga, *E. siliculosus*.
Yuta Nagano, Yumiko Adachi, Osamu Hisatomi (*Grad. Sch. Sci., Univ. Osaka*)
- [2Pos252](#) 近赤外光で駆動可能なバイオアクチュエータの創製
Creation of Bioactuators Drivable by Near-Infrared Light
Daisuke Maemura, Son Le The, Mari Takahashi, Kazuaki Matsumura, Shinya Maenosono (*Sch. Mater. Sci., JAIST*)
- [2Pos253](#) In vivo optogenetic system to control deep tissue insulin signaling
Qi Dong, Mizuki Endo, Takeaki Ozawa (*Grad. Sch. Sci., Univ. Tokyo*)

- [2Pos254](#) プロトセルの適応度地形
Fitness Landscape of Protocell
Akiko Baba¹, Keidai Sato¹, Kazuki Yokoyama¹, Ulf Olsson², Masayuki Imai¹ (¹*Grad. Sch. Sci., Univ. Tohoku*, ²*Grad. Sch. Sci., Univ. Lund*)
- [2Pos255*](#) Host-Parasite 分子複製体が織りなす複製反応ネットワークの複雑化過程とその性質
Complexification Process and Property of Replication Network by Host-Parasite Molecular Replicator
Rikuto Kamiura¹, Ryo Mizuuchi^{2,3}, Norikazu Ichihashi^{1,2} (¹*Grad. Sch. Arts and Sci., Univ. Tokyo*, ²*Komaba inst., Univ. Tokyo*, ³*JST, PRESTO*)
- [2Pos256](#) 無細胞翻訳系を用いた DNA 自己複製により成長する相分離液滴の開発
Phase-separated Dex droplets grow coupled with internal DNA self-replication
Moe Yabuta, Yoshihiro Minagawa, Hiroyuki Noji (*Dept. App. Chem., Grad. Sch. Eng., Univ. Tokyo*)
- [2Pos257](#) 試験管内の DNA 複製、転写、翻訳反応は最適条件が異なる
Different conditions are optimal for in vitro DNA replication, transcription, and translation
Kaito Seo¹, Norikazu Ichihashi^{1,2,3} (¹*Grad. Sch. Arts. Sci., Univ. Tokyo*, ²*Komaba Inst. Sci., Univ. Tokyo*, ³*Res. Cen. Complex Syst. Bio., Univ. Bio. Inst., Univ. Tokyo*)
- [2Pos258*](#) RNA 自己複製系を用いた RNA ゲノム再編成を伴う RNA 集団の進化の観察
Observation of RNA population evolution with RNA genome reorganization using RNA self-replication system
Kensuke Ueda¹, Ryo Mizuuchi², Norikazu Ichihashi^{1,2,3} (¹*Graduate School of Arts and Science, The University of Tokyo*, ²*Komaba Institute for Science, The University of Tokyo*, ³*Universal Biology Institute, The University of Tokyo*)
- [2Pos259](#) Trp を含まない酵素群によって構成される解糖系に依存して生育する大腸菌の作成に向けた活性測定
Activity measurement for the creation of Escherichia coli dependent on glycolysis composed of a group of Trp-free enzymes
Naosato Takagi¹, Mana Hashimoto¹, Akifumi Nishida¹, Kenji Tsuge², Daisuke Kiga¹ (¹*Faculty of Science and Engineering, Waseda University*, ²*Graduate School of Science, Technology and Innovation, Kobe University*)

ゲノム生物学：ゲノム解析／Genome biology: Genome analysis

- [2Pos260*](#) (2SHP-4) 新規遺伝子の誕生と機能獲得の進化メカニズムに迫るゲノム計算科学：バイオインフォマティクスのその先に遺伝子の本質を探索する
(2SHP-4) How do *de novo* genes evolve and acquire function?: Computational genomics to revisit the nature of genes beyond bioinformatics
Shun Yamanouchi¹, Wataru Iwasaki^{1,2} (¹*Grad. Sch. Sci., Univ. Tokyo*, ²*Grad. Sch. Front. Sci., Univ. Tokyo*)
- [2Pos261](#) PLA2 産生に関与する遺伝子と経路の同定
Identification of the genes and pathways responsible for PLA2 production
Hiroki Oura¹, Eri Hayashi¹, Yuto Kimura¹, Yusuke Nomura¹, Satoko Nakamura³, Norimasa Kashiwagi³, Chiaki Ogino³, Shuichi Hirose², Wataru Nemoto¹ (¹*Dept. Sch. & Tech., Tokyo Denki Univ.*, ²*NAGASE R & D Center NAGASE & CO*, ³*Org. of Adv Sci & Tec., Kobe Univ*)

- [2Pos262*](#) Sequel II を用いた単一インフルエンザウイルス集団中のゲノム配列分布測定
Heterogeneity of Genetic Sequence within Population in Single Plaque of Influenza Virus Revealed by Sequel II analysis
Kenji Tamao¹, Masayuki Suetsugu², Hiroyuki Noji¹, Kazuhito Tabata¹ (¹*Appl. Chem., Grad. Sch. Eng., Univ. Tokyo*, ²*Dept. Life Sci., Col. Sci., Univ. Rikkyo*)

ゲノム生物学：ゲノム構造／Genome biology: Genome structure

- [2Pos263*](#) マウス胚性幹細胞の初期分化過程における X 染色体のエピゲノム構造変化は Xic 対合を促進する
Epigenetic-structural changes in X chromosomes promote Xic pairing during early differentiation process from embryonic stem cell of mouse
Tetsushi Komoto, Masashi Fujii, Akinori Awazu (*Grad. Sch. Integrated Sciences for Life, Univ. Hiroshima*)
- [2Pos264](#) Bayesian inference of chromatin folding from Hi-C data and application to enhancer-promoter communication in the Nanog locus
Giovanni Bruno Brandani, Chenyang Gu, Soundhara Rajan Gopi, Shoji Takada (*Grad. Sch. Sci., Univ. Kyoto*)
- [2Pos265*](#) Polymer physics model of chromatin dynamics during early embryogenesis in *Caenorhabditis elegans*
Yesbolatova Aiya¹, Akatsuki Kimura¹, Takahiro Sakaue² (¹*Grad. Univ. for Adv. Stud., SOKENDAI, National Institute of Genetics*, ²*Aoyama Gakuin University, Department of Physics and Mathematics*)
- [2Pos266](#) Building a Coarse-grained Model of Chromatin
Justin Chan, Hidetoshi Kono (*Molecular Modelling and Simulation (MMS) Team, National Institutes for Quantum Science and Technology (QST)*)

生命情報科学：構造ゲノミクス／Bioinformatics: Structural genomics

- [2Pos267](#) PDB における ATP アーゼ複合体の構造変化
Structural changes of ATPase complexes in the PDB
Ryotaro Koike (*Grad. Sch. Info., Nagoya Univ.*)
- [2Pos268](#) Accurate modeling and mechanistic investigation of the complexes of the SRK/SP11 proteins of *Brassicaceae*
Hanting Jiang¹, Kentaro Shimizu¹, Tohru Terada¹, Yoshitaka Moriwaki¹, Kohji Murase², Seiji Takayama² (¹*Dept. of Biotechnol., Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo*, ²*Dept. of Appl. Biol. Chem., Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo*)
- [2Pos269](#) AlphaFoldDB の予測立体構造と既知の実験立体構造との構造比較
Structure comparison of predicted 3D models in AlphaFoldDB with known experimentally determined 3D structures
Takeshi Kawabata, Kengo Kinoshita (*Grad.Sch.Info.Sci.,Tohoku Univ.*)

生態／環境／Ecology & Environment

- [2Pos270](#) 大和川水系石川におけるオオシマドジョウの生活史
Life History of *Cobitis* sp. BIWAE Type A in the Ishi River in the Yamato River System
Tepei Sakurai¹, Rikiya Ogawa² (¹*Osaka Prefecture Tondabayashi High School*, ²*Rikijuku Science School*)

- [2Pos271](#) 石川の魚類相の変遷とその要因についての一考察
Transition of fish fauna in Ishi River and a consideration about that factors
Shohei Umegawa¹, Kyoka Matsuo¹, Rikiya Ogawa² (¹*Osaka Prefecture Tondabayashi High School*,
²*Rikijuku Science School*)
- [2Pos272](#) 自然浄化に必要なものは
What is needed for natural purification?
Kyoka Matsuo¹, Cocona Okada¹, Rikiya Ogawa² (¹*Osaka Prefecture Tondabayashi High School*,
²*Rikijuku Science School*)

数理生物学／Mathematical biology

- [2Pos273*](#) 皮膚疾患の環状紅斑を対象とした数理解析による炎症調節機構の解明
Mathematical analysis of erythema annulare to elucidate the pattern formation mechanism of skin inflammation
Maki Sudo, Koichi Fujimoto (*Grad. Sch. Sci., Osaka University*)
- [2Pos274](#) 嗅覚系における匂い物質・受容体の多対多の相互作用による類似匂い混合物の識別に関する理論的解析
Mathematical analysis of the discrimination of odorant mixtures via collective interactions of multiple odorants and olfactory receptors
Karin Suwazono¹, Tetsuya J. Kobayashi² (¹*Dept. Biophys. and Biochem., Fuc. Sci., Univ. Tokyo*, ²*Inst. Ind. Sci., Univ. Tokyo*)
- [2Pos275*](#) 免疫系における予測符号化に基づく適応的な抗原の有害/無害識別
Adaptive discrimination between harmful and harmless antigens based on predictive coding in immune system
Kana Yoshida¹, Naoki Honda^{1,2,3} (¹*Grad. Sch. of Biostudies, Kyoto Univ.*, ²*Grad. Sch. of Integrated Sciences for Life, Hiroshima Univ.*, ³*ExCELLS, NINS*)
- [2Pos276*](#) 化学反応ネットワークの改変がダイナミクスに与える影響の解析
Analyzing the effect of modifications to the chemical reaction network on dynamics
Atsuki Hishida¹, Atsushi Mochizuki² (¹*Grad. Sch. Sci., Univ. Kyoto*, ²*Inst. Life Med. Sci, Kyoto Univ.*)
- [2Pos277](#) 新しいパターン伝播機構: 曲率により駆動されるパターン伝播
New mechanism of pattern propagation: Pattern propagation driven by surface curvature
Ryosuke Nishide, Shuji Ishihara (*Grad. Sch. Arts and Sci., Univ. Tokyo*)
- [2Pos278*](#) ゲノム縮小は内部共生の進化を加速するのだろうか?
Does Genome Reduction Accelerate Evolution of Endosymbiosis?
Yuki Kanai¹, Chikara Furusawa^{1,2} (¹*Grad. Sch. Sci., Univ. Tokyo*, ²*BDR, Riken*)
- [2Pos279](#) A mathematical model for emergence of polar order induced by contact following locomotion in a multicellular system
Biplab Bhattacharjee, Masayuki Hayakawa, Tatsuo Shibata (*Laboratory for Physical Biology, BDR, RIKEN*)

非平衡・生体リズム／Nonequilibrium state & Biological rhythm

- [2Pos280](#) ミクロ経済学としての代謝制御の理解：ワールブルク効果とギッフェン財を例として
Microeconomics of Metabolism: The Warburg effect as Giffen behavior
Junpei Yamagishi, Tetsuhiro Hatakeyama (*Grad. Sch. of Arts and Sci., Univ. Tokyo*)

- [2Pos281](#) Growing and competing cell colonies in a hybrid mechanochemical model
Jintao Li¹, **Simon Kaspar Schnyder**^{1,2}, Matthew S. Turner³, Ryoichi Yamamoto¹ (¹*Department of Chemical Engineering, Kyoto University, Kyoto 615-8510, Japan*, ²*Institute of Industrial Science, The University of Tokyo, 4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, Japan*, ³*Department of Physics, University of Warwick, Coventry CV4 7AL, United Kingdom*)
- [2Pos282](#) 人工細胞内で再構成された細胞分裂面を決定する反応拡散波の動態と周期の制御
Tuning dynamics and period of a reaction-diffusion wave for cell division in artificial cells
Sakura Takada¹, Natsuhiko Yoshinaga^{2,3}, Nobuhide Doi¹, Kei Fujiwara¹ (¹*Dept. Biosci. Info., Keio Univ.*, ²*AIMR, Tohoku Univ.*, ³*MathAM-OIL, AIST*)
- [2Pos283](#) 無細胞発現系における液滴形成のダイナミクス
Dynamics of droplet formation in cell-free expression systems
Shuzo Kato¹, David Garenne², Vincent Noireaux², Yusuke Maeda¹ (¹*Dept. Phys., Kyushu Univ.*, ²*Sch. Phys. Astro., Univ. of Minnesota*)
- [2Pos284](#) 接着力を取り入れたアクティブブラウン粒子モデルによる細胞集団運動のモデル化
Adhesive Active Brownian Particle Model for Collective Cell Motion
Sota Shimamura¹, Nen Saito², Shuji Ishihara¹ (¹*Grad. Sch. Arts and Sci., U. Tokyo.*, ²*Grad. Sch. of Integrated Sci. for Life, Hiroshima Univ.*)

計測 / Measurements

- [2Pos285*](#) ダイヤモンド量子センサによる単一細胞測定へ向けたピコリットル溶液 NMR 装置の開発
Development of pico-litter liquid NMR for single cell measurement by using diamond quantum sensor
Kohki Morita¹, Izuru Ohki^{1,2}, Masanori Fujiwara¹, Yuta Nakano³, Norio Tokuda³, Norikazu Mizuochi^{1,4} (¹*ICR, Kyoto Univ.*, ²*QST*, ³*NanoMaRi, Kanazawa Univ.*, ⁴*CSRN, Kyoto Univ.*)
- [2Pos286*](#) In vitro およびヒト生細胞中における超硫黄分子と S₈ のラマン解析
Raman analyses of supersulfides and S₈ in vitro and in human living cells
Lisa Kageyama¹, Shinji Kajimoto^{1,2}, Shinya Tahara¹, Takakazu Nakabayashi¹ (¹*Graduate School of Pharmaceutical Sciences, University of Tohoku.*, ²*JST PRESTO*)
- [2Pos287*](#) Single Exosome 内包 miRNA 検出に向けた半導体ナノポアを用いた 1 粒子内包物検出法の開発
Development of a single-particle inclusions detection method by solid-state nanopore for miRNA in single exosome detection
Takumi Uchida, Hirohito Yamazaki, Ryo Iizuka, Sotaro Uemura (*Grad. Sch. Sci., The Univ. of Tokyo*)
- [2Pos288*](#) Nanopore sensing of femtomolar DNAs using the excess complementary probes
Nanami Takeuchi, Ryuji Kawano (*Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology*)
- [2Pos289*](#) ガラスピペットナノポアによるエクソソームの電気的検出
Electrical detection of exosomes by a glass capillary nanopore
Kohei Hayashi, Ryuji Kawano (*Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology*)
- [2Pos290*](#) (2SDA-4) Nanopore direct determination of DNA methylation and demethylation intermediates
Ping Liu¹, Masayuki Honda¹, Ryuji Kawano² (¹*Department of Food and Energy Systems Science, Tokyo University of Agriculture and Technology*, ²*Institute of Engineering, Tokyo University of Agriculture and Technology*)
- [2Pos291*](#) 原子間力顕微鏡による神経管閉鎖中のホヤ胚の 1 細胞力学特性の測定
Mechanical properties of single cells in ascidian embryo during neural tube closure measured by atomic force microscopy
Yosuke Tsuboyama, Yuki Miyata, Takaharu Okajima (*Graduate School / Faculty of Information Science and Technology, Hokkaido University*)

- [2Pos292](#) Optimization of protocols for metabolomics studies of human breast milk samples using benchtop NMR
Jiayi Jiang¹, Zhiyan Hu¹, Li Gan¹, Zihao Song¹, Yuki Ohnishi¹, Seiji Osada², Hiroyuki Kumeta¹, Yasuhiro Kumaki¹, Kazuo Yamauchi³, Tomoyasu Aizawa¹ (¹*Grad. Sch. Life Sci., Hokkaido Univ.*, ²*Nakayama Co., Ltd.*, ³*IAS, OIST*)
- [2Pos293](#) α-グルコシダーゼ阻害物質を含むクワ葉の投与によるマウス腸内環境への影響のNMRメタボロミクス解析
 NMR metabolomics of administration of mulberry leaves containing α-glucosidase inhibitors on the intestinal environment of mice
Li Gan, Yuga Inamura, Zihao Song, Yuki Ohnishi, Yasuhiro Kumaki, Tomoyasu Aizawa (*Grad. Sch. Life Sci., Univ. Hokkaido*)

バイオイメーjing / Bioimaging

- [2Pos294*](#) Spatiotemporal Dynamics of Small Extracellular Vesicle Nanotopology in Response to Physicochemical Stresses Revealed by HS-AFM
Elma Sakinatus Sajidah¹, Lim Keesiang², Tomoyoshi Yamano³, Takeshi Yoshida^{2,3}, Akiko Kobayashi⁴, Masaharu Hazawa^{2,4}, Rikinari Hanayama^{2,3}, Toshio Ando², Richard W. Wong^{1,2,4} (¹*Division of Nano Life Science in the Graduate School of Frontier Science Initiative, Kanazawa University*, ²*WPI-Nano Life Science Institute, Kanazawa University*, ³*Department of Immunology, Kanazawa University Graduate School of Medical Sciences*, ⁴*Cell-Bionomics Research Unit, Institute for Frontier Science Initiative, Kanazawa University*)
- [2Pos295*](#) 高周波集束超音波スペクトロスコープによる培養単一細胞への非侵襲局所力学刺激付与システムの開発とヒトiPS細胞の核の共振による超音波吸収帯
 Development of ultrasound spectroscopic imaging system for applying highly controlled local mechanical stimulation on cells
Natsumi Fujiwara, Takaki Matsumotio, Akira Nagakubo, Masahiro Kino-oka, Hirotsugu Ogi (*Graduate School of Engineering, University of Osaka*)
- [2Pos296](#) 神経分化における細胞内温度の貢献
 Contribution of Intracellular Thermogenesis to Neural Differentiation
Shunsuke Chuma^{1,2}, Hirotaka Okita², Shingo Sotoma², Kohki Okabe^{3,4}, Yoshie Harada^{2,5} (¹*Dept. Biol. Sci., Grad. Sch. Sci., Osaka Univ.*, ²*IPR, Osaka Univ.*, ³*Grad. Sch. Pharm. Sci., The Univ. Tokyo*, ⁴*JST PRESTO*, ⁵*QIQB Osaka Univ.*)
- [2Pos297*](#) 高速AFMの更なる高速化に向けたZ-スキャナの共振制御装置
 Resonance-controller of the Z-scanner for faster high-speed AFM
Kazuma Tatsumi¹, Kenichi Umeda², Toshio Ando², Noriyuki Kodera² (¹*Grad. Sch. Math. & Phys., Kanazawa Univ.*, ²*WPI-NanoLSI, Kanazawa Univ.*)
- [2Pos298](#) 細胞内高速マッピングが細胞内の非伝導性の熱散逸の存在を明らかにする
 High-speed Intracellular Temperature Mapping Reveals the Existence of Non-Conductive Heat Dissipation within Cells
Masaharu Takarada¹, Kohki Okabe^{1,2}, Takashi Funatsu¹ (¹*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*, ²*JST, PRESTO*)
- [2Pos299*](#) がん免疫において細胞傷害性指標となる液性因子分泌のライブセルイメージング
 Live Cell Imaging of Liquid Factor Secretion as an Indicator of Cytotoxicity in Cancer Immunity
Yuto Kurisu¹, Zhuohao Yang¹, Koji Nagaoka², Sotaro Kamimura³, Kazuhiro Kakimi², Takashi Funatsu¹, Yoshitaka Shirasaki¹ (¹*Grad. Sch. Pharmaceutical Sciences., Univ. Tokyo*, ²*The Department of Immunotherapeutics., Univ. Tokyo. Hospital*, ³*Grad. Sch. Sciences., Univ. Tokyo*)

- [2Pos300*](#) 高速原子間力顕微鏡のさらなる高速化を目指した超微小カンチレバーの開発
Development of ultra-small cantilever for faster high-speed atomic force microscopy
Noriki Katayama¹, Kenichi Umeda², Toshio Ando², Noriyuki Kodera² (¹*Grad. Sch. Math. & Phys., Kanazawa Univ.*, ²*WPI-NanoLSI, Kanazawa Univ.*)
- [2Pos301](#) ゴルジ体と小胞体の超解像顕微鏡による可視化解析
Observation and analysis of Golgi body and ER with super resolution microscopy
Kaoru Katoh^{1,2}, Totai Mitsuyama² (¹*Biomed Res Inst, AIST*, ²*AIRC, AIST*)
- [2Pos302*](#) 高分解能ライトフィールド顕微鏡の開発によるシングルショット 3D イメージング
Development of high-resolution light-field microscopy for single-shot 3D volumetric imaging
Ryuki Imamura¹, Shin Usuki², Takuma Sugi¹ (¹*Program of Biomedical Science, Graduate School of Integrated Sciences for Life, Hiroshima University*, ²*Research Institute of Electronics, Shizuoka University*)
- [2Pos303*](#) (2SBA-2) ヒト生細胞の局所クロマチン動態は細胞周期を通して一定である
(2SBA-2) Single-nucleosome imaging reveals steady-state motion of interphase chromatin in living human cells
Shiori Iida^{1,2}, Soya Shinkai³, Yuji Itoh¹, Sachiko Tamura¹, Masato Kanemaki^{2,4}, Shuichi Onami³, Kazuhiro Maeshima^{1,2} (¹*Genome Dynamics Lab., Natl. Inst. of Genet.*, ²*Dept. of Genet., Sch. of Life Sci., SOKENDAI*, ³*RIKEN BDR*, ⁴*Mol. Cell Eng. Lab., Natl. Inst. of Genet.*)
- [2Pos304](#) High-speed atomic force microscopy mapping of *Bacillus subtilis*' mechanical properties
Christian Ganser¹, Shigetaka Nishiguchi¹, Takayuki Uchihashi^{1,2} (¹*ExCELLS, NINS*, ²*Grad. Sch. Sci., Nagoya Univ.*)
- [2Pos305*](#) 高速 AFM 観察を用いた E6AP/E6/p53 複合体の構造ダイナミクスの解明
Structural dynamics of E6AP/E6/p53 complex revealed by high-speed AFM (HS-AFM)
Kazusa Takeda¹, Ikumi Muro¹, Hiroki Konno² (¹*Grad. Sch. of Nat. Sci. & Technol., Kanazawa University*, ²*WPI Nano Life Sci. Inst. (WPI-NanoLSI), Kanazawa Univ.*)
- [2Pos306](#) 透過型電子顕微鏡の最大感度をもたらす新規ヒルベルト位相板
Novel Hilbert Phase Plates for Maximum Sensitivity in Transmission Electron Microscopy
Kuniaki Nagayama (*N-EM Laboratories Inc.*)
- [2Pos307*](#) Dynamic unfolding of the laminin coiled-coil domain revealed by high-speed AFM
Lucky Akter¹, Holger Flechsig¹, Arin Marchesi^{1,2}, Clemens Martin Franz¹ (¹*WPI Nano Life Science Institute, Graduate School of Frontier Science Initiative, Kanazawa University, Japan*, ²*Faculty of Medicine and Surgery, Università Politecnica delle Marche, Italy*)
- [2Pos308](#) 脂肪細胞内脂質分布の TOF-SIMS 解析
Subcellular lipid analysis in a 3T3-L1 adipocyte by TOF-SIMS
Noritaka Masaki (*National Institute of Genetics*)
- [2Pos309](#) Development of genetically encodable tool for live-imaging and manipulation of endogenous RNAs in living cells
Akira Takai^{1,2}, Yasushi Okada^{1,2,3} (¹*Dept. Cell Biol., Grad. Sch. Med., Univ. Tokyo*, ²*BDR, RIKEN*, ³*Dept. Phys., Grad. Sch. Sci., Univ. Tokyo*)
- [2Pos310*](#) 表面形状計測システムに向けた生体ナノポアプローブの特性
Characteristics of Biological Nanopore Probes as a Topological Imaging System
Shuta Nomi, Kan Shoji (*Nagaoka University of Technology*)
- [2Pos311](#) Raman spectral analysis of induced pluripotent stem cell during spontaneous differentiation
Hideaki Fujita^{1,2}, Kensuke Sasaki², Kazuhiro Sudo³, Yukio Nakamura³, Kuniya Abe³, Yasuhiko Yoshida⁴, Takayuki Haruki⁴, Keiichi Koizumi⁵ (¹*Dept. Stem Cell Biol., RIRBM, Hiroshima Univ.*, ²*Lab. Comp. Biol., BDR, Riken*, ³*BRC, Riken*, ⁴*Faculty Sust. Design, Academic Assembly, Univ. Toyama*, ⁵*RCPDS, Toyama Univ.*)
- [2Pos312*](#) 真核細胞における翻訳活性変化の温度シグナリング機構の解明
Thermal Signaling Mechanisms of Translational Control in Eukaryotic Cells
Naoko Kamiya¹, Kohki Okabe^{1,2}, Takashi Funatsu¹ (¹*Grad. Pharm. Sci., The Univ. of Tokyo*, ²*PRESTO, JST*)

- [2Pos313](#) Structure mechanism for color tuning of red-colored chromoprotein, R-Velour
Le Zhai^{1,2}, Ryosuke Nakashima², Tomoki Matsuda^{1,2}, Takeharu Nagai^{1,2} (¹*Graduate School of Frontier Bioscience, Osaka University, Japan*, ²*SANKEN (The Institute of Scientific and Industrial Research), Osaka University, Japan*)
- [2Pos314](#) 統合情報理論に基づいたスイッチング DNA 論理回路の構築
 Construction of Switching DNA Logic Circuit based on Integrated Information Theory
Fumika Kambara¹, Sotaro Takiguchi¹, Hiroki Watanabe², Masahiro Takinoue², Ryuji Kawano¹
 (¹*Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology / Japanese*, ²*Department of Life Science and Technology, Tokyo Institute of Technology / Japanese*)
- [2Pos315](#) (2SDA-5) ATP を検出可能な DNA ナノボアセンサの開発
 (2SDA-5) ATP-detectable DNA nanopore sensor
Hiromu Akai, Kan Shoji (*Nagaoka University of Technology*)
- [2Pos316*](#) カスケード反応における酵素複合体形成の寄与
 Contribution of three-enzyme complex via 3-way junction DNA to activity of the cascade reaction
Aoi Mameuda, Koki Kamiya (*Grad. Sch. Sci. Tech., Gunma Univ.*)
- [2Pos317](#) 様々な形状の DNA 検出のための β ストランド数変化した改変型 β バレルナノボアタンパク質の構築
 Modified β -barrel nanopore-forming protein with changed the number of β -strands for detection of various-shaped of DNA
Toshiyuki Tosaka, Koki Kamiya (*Grad. Sch. Sci. Tech. Gunma Univ.*)
- [2Pos318](#) 塩基配列の設計による DNA 液滴の安定化
 Stabilization of DNA droplets by designing base sequences
Kazuki Kobayashi¹, Satoshi Takahashi², Masahiro Takinoue^{1,2} (¹*Dept. Life Sci. Tech., Tokyo Tech*, ²*Dept. Computer Sci., Tokyo Tech*)
- [2Pos319*](#) 液-液相分離に基づく分子検出のための DNA 液滴コンピュータ
 Computational DNA droplets based on liquid-liquid phase separation for molecular detection
Jing Gong¹, Nozomi Tsumura², Yusuke Sato³, Masahiro Takinoue⁴ (¹*School of Life Science and Technology, Univ. Tokyo Tech / Japanese*, ²*School of Engineering, Univ. Tokyo Tech / Japanese*, ³*Department of Intelligent and Control Systems, Univ. Kyushu Tech / Japanese*, ⁴*Department of Computer Science, Univ. Tokyo Tech / Japanese*)
- [2Pos320*](#) 油中水滴を活用した新規蛍光 RNA アプタマー創出法の開発
 Feasibility study of the method for obtaining fluorogenic RNA aptamers using water-in-oil microdroplets
Keisuke Ito, Ryo Iizuka, Sotaro Uemura (*Dept. Biol. Sci., Grad. Sch. Sci., The Univ. Tokyo*)

その他／Miscellaneous topics

- [2Pos321](#) 有殻アメーバの頑健な卵型被殻構築過程の 4D イメージングおよび模型作成
 4D Imaging and 3D modeling of the robust egg-shaped shell construction process of testate amoeba
Mami Nomura¹, Yukinori Nishigami², Josephine Galipon³, Masatoshi Ichikawa⁴, Takuro Nakayama⁵, Keisuke Ohta⁶, Kei-ichiro Nakamura⁶ (¹*Fac. Sci., Yamagata Univ.*, ²*RIES, Hokkaido Univ.*, ³*IAB, Keio Univ.*, ⁴*Dept. Phys., Kyoto Univ.*, ⁵*CCS, Univ. Tsukuba*, ⁶*Sch. of Med., Kurume Univ.*)

- [2Pos322*](#) ナノダイヤモンドを用いたアミロイドβ蛋白への新規標的治療法の検証
Verification of a new targeted therapy against amyloid-β using nanodiamonds
Miwa Shintani^{1,2}, Shin-ichiro Yanagiya², Hiroki Takanari² (¹*Grad. Sch. opt., Uni. Tokushima / Japanese*,
²*Post-LED Photonics Inst., Uni Tokushima / Japanese*)
- [2Pos323](#) 関西におけるアカハライモリの警戒色の斑紋パターンの多様性
Diversity of warning coloration pattern in Kansai red-bellied newts
Sora Kazumi¹, Rikiya Ogawa² (¹*Osaka Prefecture Tondabayashi High School*, ²*Rikijuku Science School*)
- [2Pos324](#) クサカゲロウの翅の反射防止性能
Anti-reflectivity in green lacewing wings
Yuro Katsurashima¹, Leona Takahashi², Kazunari Yoshida¹ (¹*Grad. Sch. Sci. Eng., Univ. Yamagata*,
²*Grad. Sch. Sci. Eng., Univ. Aoyama Gakuin*)
- [2Pos325](#) Enzymatically controlled micro-patterning of self-assembled nanoparticles by surface-bound ATP
Ekta Shandilya, Subhabrata Maiti (*Indian Institute of Science Education and Research (IISER) Mohali, Punjab, India - 140306*)

3 日目 (9 月 30 日 (金)) / Day 3 (Sep. 30 Fri.)

蛋白質：構造 / Protein: Structure

- [3Pos001](#) 全原子シミュレーションを用いた βαβ モチーフのレジスタシフトルールの解明
Explaining empirical rules of register shift of βαβ-motif by physical interactions
Senji Mishima, Hiroto Murata, George Chikenji (*Dept. of App. Phys., Grad. Sch of Eng., Nagoya Univ.*)
- [3Pos002](#) Structural Validation Properly Regulates Boost Potentials in the Biased Sampling of Proteins
Takunori Yasuda¹, Rikuri Morita², Yasuteru Shigeta², Ryuhei Harada² (¹*University of Tsukuba, Doctrinal Program in Biology*, ²*University of Tsukuba, Center for Computational Sciences*)
- [3Pos003](#) 補酵素結合と二量体化による細菌の 3α - ヒドロキシステロイド脱水素酵素 (3αHSDs) の構造揺らぎ変化に対する MD シミュレーション
MD simulation study of fluctuation changes of bacterial 3α-Hydroxysteroid Dehydrogenases (3αHSDs) by coenzyme binding and dimerization
Kahoru Amakawa¹, Hiroki Suzuki², Ayako Shiota², Masayuki Oda², Juha Lintuluoto³, Masami Lintuluoto² (¹*Fac. Life and Env., Univ. Kyoto Prefectural*, ²*Grad. Sch. Life and Env. Sci., Univ. Kyoto Prefectural*, ³*Grad. Sch. Eng., Univ. Kyoto*)
- [3Pos004](#) Structural determinants for distinguishing frequently and rarely occurring psi-loop motifs
Tomoki C. Terada, Takumi Nishina, George Chikenji (*Dept of Appl. Phys., Grad. Sch. of Eng., Nagoya Univ.*)
- [3Pos005](#) 蛋白質の荷電性残基が液-液相分離に及ぼす影響に関する粗視化分子動力学法による検討
A Coarse-Grained Molecular Dynamics Study to elucidate the effect of charged residues of proteins on liquid-liquid phase separation
Yuji Kuriki¹, Kota Kasahara², Junichi Higo³, Takuya Takahashi² (¹*Grad. Sch. Life Sci., Univ. Ritsumeikan*, ²*Coll. Life. Sci., Univ. Ritsumeikan*, ³*Grad. Sch. Simulation Studies. Univ. Hyogo*)
- [3Pos006](#) 3D Convolutional Neural Network を用いたタンパク質-ペプチドドッキングモデルの評価
Structure evaluation for protein-peptide docking models using 3D convolutional neural networks
Hyeri Lim¹, Shigeyuki Matsumoto¹, Shuntaro Chiba², Yuta Isaka², Mayumi Kamada¹, Yasushi Okuno^{1,2} (¹*Grad. Sch. Med., Univ. Kyoto*, ²*R-CCS, RIKEN*)
- [3Pos007](#) 深層学習を用いたタンパク質ドメインの予測研究
A deep-learning model for the prediction of protein domains
Renta Sato¹, Toru Ekimoto², Takashi Yoshidome¹ (¹*Dep. of Appl. Phys., Tohoku Univ.*, ²*Grad. Sch. of Med. Life Sci., Yokohama City Univ.*)

- [3Pos008](#) Structure of the IscB–wRNA ribonucleoprotein complex, the likely ancestor of CRISPR-Cas9
Kazuki Kato¹, **Sae Okazaki¹**, Soumya Kannan², Han Altae-Tran², Yukari Isayama¹, Junichiro Ishikawa¹, Rhiannon K Macrae², Tomohiro Nishizawa³, Kira S Makarova⁴, Eugene V Koonin⁴, Feng Zhang², Hiroshi Nishimasu¹ (¹*RCAST, Univ. Tokyo*, ²*MIT*, ³*Grad. Sch. Medical Life Science, Univ. Yokohama City*, ⁴*NCBI*)
- [3Pos009](#) Benchmark of force fields to characterize the short intrinsically disordered region of FUS-LC domain
Maud Chan-Yao-Chong, Justin Chan, Hidetoshi Kono (*Molecular Modelling and Simulation (MMS) Team, National Institutes for Quantum Science and Technology (QST)*)
- [3Pos010](#) Photon Factory における BioSAXS 測定システムの高度化
Upgrade of BioSAXS measurement system at the Photon Factory
Nobutaka Shimizu, Hideaki Takagi, Yasuko Nagatani, Takeharu Mori, Keiko Yatabe, Masatsuyo Takahashi, Noriyuki Igarashi (*PF, IMSS, KEK*)
- [3Pos011](#) Structure determination of Ferritin at room temperature in microfluidic chips
Yusuke Kono, Leonard Chavas (*Dept of Appl. Phys., Grad. Sch. of Eng., Nagoya Univ.*)
- [3Pos012](#) 分子動力学計算による FtsZ の構造変化機構の解析
Molecular dynamics simulations on the conformational stability of FtsZ with the different bound nucleotides
Taichi Takasawa¹, Go Watanabe^{2,3}, Yoshio Kodera^{2,4}, Takashi Matsui^{2,4} (¹*Grad. Sch. Sci., Kitasato Univ.*, ²*Sch. Sci., Kitasato Univ.*, ³*KISTEC*, ⁴*Cent. Disease Proteomics*)
- [3Pos013](#) (2SEA-7) Optineurin の E50K 緑内障変異はオリゴマー粒径を増大させる
(2SEA-7) The E50K mutation of optineurin increases the oligomer size
Rintaro Kawamura¹, Soya Uetsuki¹, Takehito Tanzawa², Takayuki Kato², Masataka Kinjo³, Akira Kitamura³ (¹*Grad. Sci. Life Sci., Hokkaido Univ.*, ²*Inst., for Proteins Res., Osaka Univ.*, ³*Fac. Adv. Life sci., Hokkaido Univ.*)
- [3Pos014](#) 鶏卵白リゾチームの D/H コントラスト法を利用した中性子結晶解析
Neutron crystallography of hen-egg white lysozyme using D/H contrast technique
Toshiyuki Chatake¹, Ichiro Tanaka², Katsuhiro Kusaka³, Satoru Fujiwara⁴ (¹*Inst. Integ. Rad. Nucl. Sci., Kyoto Univ.*, ²*Grad. Sci. Eng., Ibaraki Univ.*, ³*Front. Res. Cent. App. Atom. Sci., Ibaraki Univ.*, ⁴*Inst. Quantum Life Science, QST*)
- [3Pos015](#) 多分散溶液中の生体高分子の構造解析のための超遠心分析と小角散乱による統合アプローチ
Integrated approach to biomacromolecular structure in polydisperse solution with analytical ultracentrifugation and small-angle scattering
Ken Morishima, Rintaro Inoue, Aya Okuda, Nobuhiro Sato, Masahiro Shimizu, Yasuhiro Yunoki, Reiko Urade, Masaaki Sugiyama (*Institute for Integrated Radiation and Nuclear Science, Kyoto University*)
- [3Pos016](#) クライオ電子顕微鏡による高精度構造解析
High-precision structural analysis by cryo-electron microscopy
Tasuku Hamaguchi¹, Keisuke Kawakami², Saori Maki-Yonekura², Koji Yonekura^{1,2} (¹*IMRAM, Tohoku Univ.*, ²*RIKEN SPring-8 Center*)
- [3Pos017](#) Preparation of phosphorylated FROUNT protein, a regulator of chemokine receptors, for structural and functional analyses
Keisuke Uchida¹, Sosuke Yoshinaga¹, Takafumi Sato¹, Mitsuhiro Takeda¹, Yuya Terashima^{2,3}, Etsuko Toda^{2,3,4}, Kouji Matsushima^{2,3}, Hiroaki Terasawa¹ (¹*Fac. Life Sci., Kumamoto Univ.*, ²*Grad. Sch. Med., Univ. Tokyo*, ³*RIBS, Tokyo Univ. Sci.*, ⁴*Nippon Med. Sch.*)
- [3Pos018](#) Computational analysis on the effects of active-site reduction on structures and dynamics of plant-type ferredoxin
Tomoki Nakayoshi¹, Yusuke Ohnishi², Hideaki Tanaka², Genji Kurisu², Yu Takano¹ (¹*Grad. Sch. Inf. Sci., Hiroshima City Univ.*, ²*Inst. Protein Res., Osaka Univ.*)

- [3Pos019](#) Efficient Conformational Sampling with an Adaptive Coarse-Grained Elastic Network Model using Dynamic Cross-Correlation Coefficient
Ryo Kanada¹, Kei Terayama², Atsushi Tokuhisa¹, Shigeyuki Matsumoto³, Yasushi Okuno^{1,3} (¹RCCS, RIKEN, ²Grad. Sch. Medical Life Sci., Yokohama City Univ., ³Grad. Sch. Medicine, Kyoto Univ.)
- [3Pos020](#) Structural basis of actin-microtubule crosstalk mediated by GAS2
Jiancheng An, Tsukasa Makino, Masahide Kikkawa (*The University of Tokyo*)
- [3Pos021](#) Cryo-EM structure of an osmotically sensitive Ca²⁺ ion channel
Honoka Hosoki, Tatsuya Hagino, Kanae Demura, Wataru Shihoya, Tsukasa Kusakizako, Osamu Nureki (*Grad.Sch.Sci., Univ.Tokyo*)
- [3Pos022](#) 結晶構造から明らかになったシゾロドプシンの内向きプロトン輸送機構
 Crystal structure of schizorhodopsin reveals mechanism of inward proton pumping
Wataru Shihoya¹, Akimitsu Higuchi¹, Masae Konno², Tatsuya Ikuta¹, Hideki Kandori³, Keiichi Inoue², Osamu Nureki¹ (¹Grad. Sch. Sci., The Univ of Tokyo, ²ISSP, The Univ of Tokyo, ³Life Sci. Appl. Chem., Nagoya Inst. Tech.)
- [3Pos023](#) タンパク質中性子回折実験における水素高感度検出のための技術開発
 Technological development for high-sensitivity detection of hydrogen in protein neutron diffraction experiments
Ichiro Tanaka^{1,2}, Hideki Yamauchi¹, Yohei Noda^{1,2}, Tomoki Maeda², Satoshi Koizumi^{1,2} (¹Grad. Sch. Sci. Eng., Ibaraki Univ., ²Frontier Res. Center Appl. Atomic Sci., Ibaraki Univ.)

蛋白質：構造機能相関／Protein: Structure & Function

- [3Pos024](#) FAP47, HYDIN, and CPC1 in the central pair apparatus of *Chlamydomonas*
Yuma Tani¹, Haruaki Yanagisawa¹, Toshiki Yagi², Masahide Kikkawa¹ (¹Grad. Sch. Med., Univ. Tokyo, ²Life Sci., Pref. Univ. Hiroshima)
- [3Pos025](#) 昆虫由来不凍タンパク質は哺乳動物細胞を−5℃でも生存可能にする
 Insect-derived antifreeze protein allows mammalian cells to survive at −5°C
Akari Yamauchi¹, Hidemasa Kondo^{2,3}, Tatsuya Arai⁴, Sakae Tsuda^{2,4,5} (¹Inst. Low Temp. Sci., Univ. Hokkaido, ²Grad. Sch. Life Sci., Univ. Hokkaido, ³Hokkaido Inst., AIST, ⁴Grad. Sch. Frontier Sci., Univ. Tokyo, ⁵Tokyo Inst., AIST)
- [3Pos026](#) Integration of *In Silico* Strategies for Drug Repositioning towards P38α Mitogen-Activated Protein Kinase (MAPK) at the Allosteric Site
Utidi Suriya¹, Panupong Mahalapbut², Thanyada Rungrotmongkol^{3,4} (¹Program in Biotechnology, Faculty of Science, Chulalongkorn University, Bangkok, Thailand, ²Department of Biochemistry, and Center for Translational Medicine, Faculty of Medicine, Khon Kaen University, Khan Kaen 40002, Thailand, ³Structural and Computational Biology Research Unit, Department of Biochemistry, Chulalongkorn University, Bangkok, Thailand, ⁴Ph.D. Program in Bioinformatics and Computational Biology, Graduate School, Chulalongkorn University, Bangkok 10330, Thailand)
- [3Pos027](#) Designed darunavir derivatives against HIV-1 protease: A computational study
Hathaichanok Chuntakaruk¹, Tanatorn Khotavivattana², Chanat Aonbangkhen², Phornphimon Maitarad³, Thanyada Rungrotmongkol^{1,4}, Supot Hannongbua^{1,5} (¹Program in Bioinformatics and Computational Biology, Grad. Sch., Chulalongkorn Univ., Bangkok 10330, Thailand, ²Center of Excellence in Natural Products Chemistry, Department of Chemistry, Faculty of Science, Chulalongkorn Univ., Bangkok 10330, Thailand, ³Research Center of Nano Science and Technology, Shanghai Univ., NO 99, Shangda Road, PO Box 111, Baoshan district, Shanghai, 200444 People's Republic of China, ⁴Biocatalyst and Environmental Biotechnology Research Unit, Department of Biochemistry, Faculty of Science, Chulalongkorn Univ., Bangkok 10330, Thailand, ⁵Center of Excellence in Computational Chemistry (CECC), Department of Chemistry, Faculty of Science, Chulalongkorn Univ., Bangkok 10330, Thailand)

- [3Pos028](#) Structural effects of spike variants that reshaped the pandemic
Hisham Dokainish^{1,2}, Yuji Sugita^{1,3,4} (¹*Theoretical Molecular Science Laboratory, RIKEN Cluster for Pioneering Research, Wako, Japan*, ²*Faculty of Pharmaceutical Sciences, Hokkaido University*, ³*Computational Biophysics Research Team, RIKEN Center for Computational Science, Kobe, Japan*, ⁴*Laboratory for Biomolecular Function Simulation, RIKEN Center for Biosystems Dynamics Research, Kobe, Japan*)
- [3Pos029](#) コレラ菌走化性受容体 Mlp3 のリガンド認識機構
 Ligand recognition mechanism of Mlp3, a chemoreceptor of *Vibrio cholerae*
Yuka Ueda¹, Yuzuki Yabunaka¹, Norihiro Takekawa¹, So-ichiro Nishiyama², Hirotaka Tajima³, Ikuro Kawagishi³, Katsumi Imada¹ (¹*Dept. Macromol. Sci., Grad. Sch. Sci., Osaka Univ.*, ²*Dept. Appl Life Sci, Niigata Univ of Pharm and Appl Life Sci.*, ³*Dept. Front Biosci., Hosei Univ.*)
- [3Pos030](#) HIV 逆転写酵素の薬剤耐性変異に対する動的残基間相互作用ネットワーク解析
 Dynamic Residue Interaction Network Analysis of HIV-1 Reverse Transcriptase for Drug Resistance Mutations
Ryuki Hashimoto, Norihumi Yamamoto (*Chiba Tech*)
- [3Pos031](#) HIV-1 の Nelfinavir 耐性プロテアーゼ D30N/L90M 変異体に対する動的残基間相互作用ネットワーク解析
 Dynamic Residue Interaction Network Analysis of the Protease D30N/L90M Mutant Conferring Nelfinavir Resistance in HIV-1
Ryoga Miyawaki, Norihumi Yamamoto (*Chiba Tech*)
- [3Pos032](#) イオタ毒素 Ia-GFP キメラのタンパク質膜透過の確認と構造解析
 Confirmation of protein membrane translocation and structural analysis of Iota toxin Ia-GFP chimera
Shun Tomoda, Tomohito Yamada, Hideaki Tsuge (*Graduate School of Life Science, Kyoto Sangyo University*)
- [3Pos033](#) 酸化還元感受性の鉄硫黄クラスターを利用する tRNA 硫黄修飾酵素の反応機構
 The reaction mechanism of tRNA sulfur modification enzymes using redox-sensitive iron-sulfur clusters
Masato Ishizaka¹, Minghao Chen^{1,2}, Shun Narai¹, Yoshikazu Tanaka^{2,3}, Masaki Horitani^{4,5}, Min Yao² (¹*Grad. Sch. Life Sci., Hokkaido Univ.*, ²*Fac. Adv. Life Sci., Hokkaido Univ.*, ³*Grad. Sch. Life Sci., Tohoku Univ.*, ⁴*Fac. Agri., Saga Univ.*, ⁵*United Grad. Sch. Agri. Sci., Kagoshima Univ.*)
- [3Pos034](#) A new enzyme from tardigrades which consists of ferritin-like and IgG-like domains
Subaru Kato, Yota Fukuda, Tsuyoshi Inoue (*Graduate School of Pharmaceutical Sciences, Osaka University*)
- [3Pos035](#) 生物発光タンパク質イクオリンのアロステリックな発光反応制御機構についての理論的研究
 Theoretical study on allosteric control mechanism of a luminescent reaction of bioluminescent protein aequorin
Tomohiro Ando, Shigehiko Hayashi (*Grad. Sch. Sci., Kyoto Univ.*)
- [3Pos036](#) Structural dynamics and kinase inhibitory activity of tyrosine kinase inhibitors against wild-type and mutant forms of EGFR
Rungrotmongkol Thanyada^{1,5}, Todsaporn Duangjai¹, Mahalapbutr Panupong², P. Poo-arporn Rungtiva³, Choowongkomon Kiattawee⁴ (¹*Center of Excellence in Biocatalyst and Sustainable Biotechnology, Department of Biochemistry, Faculty of Science, Chulalongkorn University, Bangkok 10330, Thailand*, ²*Department of Biochemistry, and Center for Translational Medicine, Faculty of Medicine, Khon Kaen University, Khon Kaen 40002, Thailand*, ³*Biological Engineering Program, Faculty of Engineering, King Mongkut's University of Technology Thonburi, Bangkok, Thailand*, ⁴*Department of Biochemistry, Faculty of Science, Kasetsart University, Bangkok 10900, Thailand*, ⁵*Program in Bioinformatics and Computational Biology, Graduate School, Chulalongkorn University, Bangkok 10330, Thailand*)

[3Pos037](#) RNA-seq 解析によるセロイヨウウイルスの新規アレルゲン候補の探索
Searching for new allergen candidates in European cypress by RNA-seq analysis
Tomona Iizuka¹, Hélène Sénéchal², Pascal Poncet³, Tomoyasu Aizawa¹ (¹*Grad. Sch. Life Sci., Hokkaido Univ.*, ²*Allergy & Environment, Armand Trousseau Children Hospital, Paris, France*, ³*Immunology Department, Institute Pasteur, Paris, France*)

[3Pos038](#) 分子動力学法による自己集合性ペプチドの配列最適化
Sequence optimization of self-assembly peptides by using MD simulations
Koya Sato¹, Kota Kasahara², Hiroshi Imamura², Takuya Takahashi² (¹*Grad. Sch. Life Sci., Univ. Ritsumeikan*, ²*Coll. Life. Sci., Univ. Ritsumeikan*)

[3Pos039](#) 緑色蛍光タンパク質のループ領域の静電ポテンシャルに影響を及ぼす部位特異的のアミノ酸置換と分子構造および発光特性の相関
Correlation of amino acid substitutions affecting the electrostatic potential of loop region with structure and luminescence properties
Kaori Chiba, Kokomi Takanashi (*Indust. Eng. Natl. Inst. Tech, Ibaraki Coll. Japan*)

[3Pos040](#) 分子動力学計算によるダイナミンの誘電アロステリー解析
Dielectric allostery of dynamin studied by molecular dynamics simulation
Masataka Yaguchi¹, Jun Ohnuki², Mitsunori Takano¹ (¹*Dept. of Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*, ²*Inst. for Mol. Sci.*)

[3Pos041](#) HIV-1 Vif タンパク質によるヒト抗ウイルス因子 APOBEC3 タンパク質のマルチファセットな無力化: ユビキチン化と脱アミノ化阻害
HIV-1 Vif driven multifaceted neutralization against human APOBEC family proteins: ubiquitination/degradation and deamination inhibition
Keisuke Kamba¹, Li Wan^{1,2}, Kentaro Tozawa^{1,2}, Ryo Iwaoka^{1,2}, Satoru Unzai³, Ryo Morishita⁴, Akifumi Takaori-Kondo⁵, Takashi Nagata^{1,2}, Masato Katahira^{1,2} (¹*Inst. of Adv. Energy, Kyoto Univ.*, ²*Grad. Sch. Energy Sci., Kyoto Univ.*, ³*Frontier Bioscience, Hosei Univ.*, ⁴*CellFree Sciences Co., Ltd.*, ⁵*Grad. Sch. Med., Kyoto Univ.*)

[3Pos042](#) タンパク質構造の熱揺らぎと進化しやすさは相関している
Dynamics-Evolution Correspondence in Protein Structures
Qianyan Tang^{1,2}, Kunihiro Kaneko¹ (¹*Center for Complex Systems Biology, Universal Biology Institute, University of Tokyo*, ²*Lab for Neural Computation and Adaptation, RIKEN Center for Brain Science*)

[3Pos043](#) シアン化物結合シクロム酸化酵素の結晶構造から示唆される、金属中心の酸化状態変化による活性制御機構
Crystallographic cyanide-probing of cytochrome oxidase provides insights into its activity regulation by the redox change of metal sites
Atsuhiro Shimada¹, Kazumasa Muramoto², Kyoko Shinzawa-Itoh², Tomitake Tsukihara³, Shinya Yoshikawa² (¹*Dept. Appl. Life Sci., Fac. Appl. Biol. Sci., Gifu Univ.*, ²*Grad. Sch. Sci., Univ. Hyogo*, ³*Inst. Protein Res., Osaka Univ.*)

[3Pos044](#) アクチンフィラメントの張力依存的な構造変化の解析
Analysis of the tension dependent structural changes of actin filament
Fumito Matsuzaki, Tao Q.P. Noguchi (*National Institute of Technology, Miyakonjo College*)

[3Pos045](#) Kai 時計システムにおける分子の統合運動
Orchestration of proteins in a Kai clock system
Masaaki Sugiyama¹, Ken Morishima¹, Yasuhiro Yunoki¹, Rinatrou Inoue¹, Nobuhiro Sato¹, Hirokazu Yagi², Koichi Kato³ (¹*KURNS*, ²*Grad. Sch. Phar., Nagoya City Univ.*, ³*ExCELLS*)

- [3Pos046](#) 高分子クラウディング環境下での蛋白質溶解度の進化
Evolution of protein solubility in macromolecular crowding
Yasuhiro Isogai¹, Hiroshi Imamura², Tomonari Sumi³, Tsuyoshi Shirai⁴ (¹*Dept. Pharmaceutical Engineering, Toyama Prefectural Univ.*, ²*Dept. Bio-Science, Nagahama Inst. Bio-Science and Technology*, ³*Research Inst. Interdisciplinary Science, Okayama University*, ⁴*Dept. Computer Bioscience, Nagahama Inst. Bio-Science and Technology*)
- [3Pos047](#) Dispersion Effect of Molecular Crowding on Ligand-Protein Surface Binding Sites of *Escherichia coli* RNase HI
Chikashi Ota², Hikari Suzuki¹, Shun-ichi Tanaka¹, **Kazufumi Takano**¹ (¹*Kyoto Prefectural University*, ²*Ritsumeikan University*)
- [3Pos048](#) 線維形成前駆状態 β_2 ミクログロブリンの残余構造がアミロイド線維のモルフォロジーに与える影響
The residual structure of acid-denatured β_2 -microglobulin is relevant to an ordered fibril morphology
Ryosuke Tomiyama¹, Masatomo So², Yohei Miyanoiri³, **Kazumasa Sakurai**^{1,4} (¹*Graduate School of Biology-Oriented Science and Technology, Kindai University*, ²*Astbury Centre for Structural Molecular Biology, University of Leeds*, ³*Institute for Protein Research, Osaka University*, ⁴*Institute of Advanced Technology, Kindai University*)
- [3Pos049](#) 透析アミロイドーシスの発症機構における分子夾雑環境の役割
Role of macromolecular crowding in the onset mechanism of dialysis-related amyloidosis
Kichitaro Nakajima¹, Keiichi Yamaguchi¹, Suguru Yamamoto², Yuji Goto¹ (¹*Global Center for Med. Eng. Info., Osaka Univ.*, ²*Grad. Sch. Med. Dent. Sci., Niigata Univ.*)
- [3Pos050](#) 異種フィブロイン混合系におけるナノファイバー/前駆体形成評価
Evaluation of nanofiber/precursor formation in heterogeneous fibroin mixtures
Haruya Kajimoto¹, Kento Yonezawa², Kok Sim Chan¹, Takehiro Sato³, Yoichi Yamazaki¹, Sachiko Toma-Fukai¹, Hironari Kamikubo^{1,2} (¹*NAIST, MS*, ²*NAIST, CDG*, ³*Spiber Inc.*)
- [3Pos051](#) アラニンスキャン変異解析による c-Myb-KIX 間相互作用に重要なアミノ酸残基の同定
Identifying key residues of c-Myb-KIX interaction by alanine scanning mutagenesis
Shunji Suetaka¹, Yuuki Hayashi^{1,2}, Munchito Arai^{1,3} (¹*Dept. Life Sci., Univ. Tokyo*, ²*Environmental Science Center, Univ. Tokyo*, ³*Dept. Phys., Univ. Tokyo*)
- [3Pos052](#) 高温条件下における耐熱化デンプンブランチングエンザイムの MD シミュレーションによる構造解析
Molecular Dynamics Simulation of Heat-Resistant Starch Branching Enzyme under High Temperature Conditions
Kosuke Nariyama¹, Yoh Noguchi^{1,3}, Motokuni Nakajima¹, Hironao Yamada^{2,3}, Ryota Morikawa¹, Masako Takasu¹, Shoko Fujiwara¹ (¹*Sch. of Life Sci., Tokyo Univ. of Pharm. and Life Sci.*, ²*Sch. of Pharm., Tokyo Univ. of Pharm. and Life Sci.*, ³*The Institute of Statistical Mathematics*)
- [3Pos053](#) 分子シミュレーションにおける高次項を用いた補間による自由エネルギー地形の推定
Estimation of Free-Energy Landscape for Molecular Simulations by Interpolation with Higher-Order Terms
Shohei Toyama^{1,2}, Yuji Higuchi³, Hiroshi Noguchi¹ (¹*ISSP, Univ. Tokyo*, ²*Dept. Phys., Univ. Tokyo*, ³*RIT, Univ. Kyushu*)
- [3Pos054](#) アミロイド β タンパク質の分子構造動態に D-アスパラギン酸が与える影響
Effect of D-Aspartic Acid on the Conformational Dynamics of Amyloid- β_{1-42} Protein
Yu Fukuda¹, Takeru Kameda¹, Shin-ichi Tate³, Yuichi Togashi^{1,2} (¹*Coll. Life Sci., Ritsumeikan Univ.*, ²*Riken BDR*, ³*Grad. Sch. Integ. Sci. Life, Hiroshima Univ.*)

- [3Pos055](#) タンパク質複合体における複数残基間相互作用の解析
Analysis of multiple residue interactions in protein complexes
Masaki Koyama, George Chikenji (*Dept. of Appl. Phys., Grad. Sch. of Eng., Nagoya Univ.*)
- [3Pos056](#) 蛍光タンパク質イクオリンとカルシウムの結合に関する熱力学的解析
Thermodynamic analysis of the calcium binding with photoluminescence protein; aequorin
Urara Kuroki¹, Toshiya Funahashi², Yusuke Onishi³, Toru Nakatsu³, Tetsunari Kimura¹ (¹*Grad. Sch. of Sci., Kobe Univ.*, ²*Grad. Sch. of Pharm. Sci., Kyoto Univ.*, ³*Sch. of Pharm. Sci., Univ. Wakayama Med.*)
- [3Pos057](#) CHARMM C36m カ場のタンパク質-水相互作用の強化によるタンパク質の水溶液環境及び混雑環境における拡散性及び熱力学的特性の改善
Improved diffusive and thermodynamic properties of proteins with modified interactions between water and protein in CHARMM c36m
Daiki Matsubara¹, Kento Kasahara², Hisham Dokainish³, Hiraku Oshima¹, Yuji Sugita^{1,3,4} (¹*Kobe Inst., RIKEN*, ²*Grad. Sch. Eng., Univ. Osaka*, ³*Wako Inst., RIKEN*, ⁴*Kobe Inst., RIKEN*)
- [3Pos058](#) Structural Characteristics Investigation of Hero Peptides Using All-atom Molecular Dynamics Simulations
Haeri Im¹, Ai Niitsu¹, Cheng Tan², Yuji Sugita^{1,2,3} (¹*Theoretical Molecular Science Laboratory, RIKEN Cluster for Pioneering Research, Wako, Japan*, ²*Computational Biophysics Research Team, RIKEN Center for Computational Science, Kobe, Japan*, ³*Laboratory for Biomolecular Function Simulation, RIKEN Center for Biosystems Dynamics Research, Kobe, Japan*)
- [3Pos059](#) 乾燥耐性生物クマムシのミトコンドリア局在性熱可溶性タンパク質 MAHS・LEAM における乾燥誘導性 LLPS
Dehydration inducible LLPS of the mitochondria localized heat-soluble protein MAHS & LEAM of an anhydrobiotic tardigrade
Sae Tanaka^{1,2}, Kazuharu Arakawa^{1,2} (¹*National Institutes of Natural Sciences, Exploratory Research Center on Life and Living Systems, Section for Exploration of Life in Extreme Environments*, ²*Institute for Advanced Biosciences, Keio University*)
- [3Pos060](#) ベイズ学習による格子タンパク質模型のデザイン
Lattice protein design using Bayesian learning
Tomoei Takahashi¹, George Chikenji², Kei Tokita¹ (¹*Grad. Sch. Inf. Nagoya Univ.*, ²*Grad. Sch. Eng. Nagoya Univ.*)
- [3Pos061](#) がん抑制タンパク質 p53 のアモルファス凝集体・アミロイド凝集体への新たな知見
New insights into morphous & amyloid aggregates of the tumor suppressor p53
Emi Hibino¹, Reiji Hijikata², Takeshi Tenno^{1,3}, Hidekazu Hiroaki^{1,3} (¹*Grad. Sch. Pharm. Sci., Nagoya Univ.*, ²*Sch. Sci., Nagoya Univ.*, ³*BeCellBar*)
- [3Pos062](#) 細胞質中のヌクレオチド三リン酸によって改変される生体高分子の相互作用と安定性
Stability and interaction of macromolecules altered by nucleoside triphosphates in cytoplasm
Iseki Yu¹, Ryuto Yamazaki¹, Michael Feig², Yuji Sugita³ (¹*Maebashi Institute of Technology Information Systems Program*, ²*Michigan State University Department of Biochemistry and Molecular Biology*, ³*Riken Theoretical Molecular Science Laboratory*)

蛋白質：機能（反応機構 生物活性など）／Protein: Function

- [3Pos063](#) 自由エネルギー解析によるトリプトファン合成酵素におけるアロステリックなトリプトファン合成機構の解明
Allosteric regulation mechanism of tryptophan synthesis in tryptophan synthase by free energy analysis
Shingo Ito, Kiyoshi Yagi, Yuji Sugita (*Theor. Mol. Sci. Lab., CPR, RIKEN*)
- [3Pos064](#) Cryptdin-4, a mouse α-defensin, with multiple antibacterial mechanisms regulated by its redox structure and environmental conditions
Yi Wang, Yuchi Song, Rina Hiramane, Tomoyasu Aizawa (*Grad. Sch. Life Sci., Hokkaido Univ.*)

- [3Pos065](#) Insights into the allosteric modulation of catalysis via a single surface mutation on a flexible loop in dihydrofolate reductase
Sandhya Premnath Tiwari, Shinichi Tate (*Grad. Sch. of Integrated Sciences for Life, Hiroshima University*)
- [3Pos066](#) 大腸菌フェリチンの鉄酸化とミネラル化に与えるリン酸の効果
Effect of phosphate on the iron oxidation and mineralization in *Escherichia coli* ferritin
Takumi Kuwata, Kazuo Fujiwara, Masamichi Ikeguchi (*Dept. of Biosci., Grad. Sch. of Sci and Eng., Soka Univ*)
- [3Pos067](#) テロメアブーケ形成における Mps3、Rpf2-Rrs1、Ebp2-Brx1 間の結合関係
Binding relationships among Mps3, Rpf2-Rrs1 and Ebp2-Brx1 in telomere bouquet formation
Hao Li¹, Takuma Eguchi¹, Isao Tanaka^{1,2}, Toyoyuki Ose^{1,2}, Min Yao^{1,2} (¹*Graduate School of Life Science, Hokkaido University*, ²*Faculty of Advanced Life Science, Hokkaido University*)
- [3Pos068](#) IL-6 刺激下における非リン酸化型 STAT3 動態の解析
Analyses of the unphosphorylated STAT3 dynamics in the IL-6 activated pathway
Rin Tanaka^{1,2}, Michio Hiroshima², Masahiro Ueda^{1,2} (¹*Grad. Sch. Sci., Univ. Osaka*, ²*Osaka Inst., Riken*)
- [3Pos069](#) A simple coarse-grained model for ADP binding to HSP90
Kazutomo Kawaguchi, Hidemi Nagao (*Inst. Sci. Eng., Kanazawa University*)
- [3Pos070](#) 分子動力学に基づく混雑環境がタンパク質-リガンド結合に与える影響の速度論的解析
Kinetic analysis of the crowder effects on protein-ligand processes based on the molecular dynamics
Kento Kasahara (*Grad. Sch. Engr. Sci., Osaka Univ.*)
- [3Pos071](#) ジアゾ化酵素 Fur5 のジアゾ化反応機構の計算化学的解析
Computational analysis of the diazotization reaction mechanism of diazo-forming enzyme Fur5
Shota Kaneko, Yoshitaka Moriwaki, Tomohiro Noguchi, Tomohisa Kuzuyama, Tohru Terada, Kentaro Shimizu (*Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo*)
- [3Pos072](#) 二重スピンラベル-ESR 分光法による ABC トランスポーターの膜貫通ドメインのコンフォメーション変化
Conformational changes in transmembrane domain of ABC transporter revealed by double spin label-ESR spectroscopy
Ayaka Naka¹, Yasuhiro Kobori^{1,2}, Motonari Tsubaki¹, Yoshitsugu Shiro³, Hiroshi Sugimoto^{3,4}, Tetsunari Kimura¹ (¹*Grad. Sch. Sci., Kobe Univ.*, ²*Mol. Photo. Res. Cent., Kobe Univ.*, ³*Grad. Sch. Sci., Univ. Hyogo*, ⁴*SPRING-8, RIKEN*)
- [3Pos073](#) 時間分解分光測定を用いた ABC トランスポーター BhuUV-T におけるヘム輸送機構の解析
Time-resolved spectroscopic analysis of allocrite transport mechanism in heme ABC transporter; BhuUV-T
Akiho Hara¹, Yoshitsugu Shiro², Hiroshi Sugimoto^{2,3}, Tetsunari Kimura¹ (¹*Grad. Sch. of Sci., Kobe Univ.*, ²*Grad. Sch. Sci., Univ. of Hyogo*, ³*SPRING-8, RIKEN*)

蛋白質：計測・解析の方法論／Protein: Measurement & Analysis

- [3Pos074](#) Refinement of MD-derived conformational ensemble by referring to experimental SANXS data in framework of Bayesian statistics
Tomotaka Oroguchi^{1,2} (¹*Facult. Sci. Tech., Keio Univ.*, ²*RIKEN SPRING-8 Center*)

- 3Pos075** 蛍光相関分光法を用いたリボソーム-新生鎖複合体と相互作用する大腸菌 **Trigger Factor** シャペロンの動態観察
Application of fluorescence correlation spectroscopy to investigate dynamics of a ribosome-associated trigger factor chaperone in *E. coli*.
Tatsuya Niwa^{1,2}, Koki Nakazawa¹, Kensuke Hoshi¹, Hisashi Tadakuma³, Koichi Ito⁴, Hideki Taguchi^{1,2}
(¹*Dept. of Life Science and Technology, Tokyo Tech.*, ²*Cell Biology Center, IIR, Tokyo Tech.*, ³*Sch. of Life Science and Technology & Gene Editing Center, ShanghaiTech University*, ⁴*Dept. of Computational Biology & Medical Sciences, Grad. Sch. of Frontier Sciences, Tokyo University*)
- 3Pos076** BLI 法を用いた変性 LDL と LDL 関連受容体との結合特性
Binding properties of LDL to recombinant receptors were investigated by biolayer interfere layer method
Seiji Takeda¹, Nozomu Sato¹, Ao Hamamuki¹, Kanako Usirogata², Taichi Takasuka² (¹*Dept. Pharm., Hokkaido Univ. of Sci.*, ²*Grad. Sch. GFR., Hokkaido University*)
- 3Pos077** 一定力下での非平衡分子動力学シミュレーションの再検討
Non-equilibrium molecular dynamics simulation under constant force revisited
Shinji Iida, Tomoshi Kameda (*National Institute of Advanced Industrial Science and Technology*)
- 3Pos078** 量子ビームを利用した膜タンパク質分子内ダイナミクスの直接検出
Direct detection of intramolecular dynamics of membrane proteins using X-ray based analysis techniques
Kazuhiro Mio^{1,2}, Tatsunari Ohkubo^{1,2}, Shoko Fujimura^{1,3}, Tatsuya Arai³, Hiroshi Sekiguchi⁴, Yuji C. Sasaki^{1,3,4} (¹*Operand OIL, AIST*, ²*Grad. Sch. Med. Sci., Yokohama CU*, ³*Grad. Sch. of Front. Sci., The Univ of Tokyo*, ⁴*JASRI*)
- 3Pos079** ノイズのある原子間力顕微鏡像からの探針形状推定法の開発
Development of blind tip reconstruction method for noisy atomic force microscopy images
Ryuhei Oshima (*Grad. Sch. Sci. Eng., Saitama Univ.*)
- 3Pos080** 木探索分子動力学法による Interleukin-2-inducible T-cell kinase 活性化経路の探索
Activation Pathway of Interleukin-2-inducible T-cell kinase Explored by Tree-Search Molecular Dynamics
Yukina Nakai¹, Toru Ekimoto¹, Tsutomu Yamane², Naoki Ogawa¹, Masao Inoue¹, Kei Terayama¹, Mitsunori Ikeguchi^{1,2} (¹*Dept. of Med. Life Sci., Yokohama City Univ.*, ²*R-CCS, Riken*)
- 3Pos081** 微分可能な多状態ベネット受容比法を用いたシミュレーションモデルパラメータの効率的なチューニング
Efficient parameter tuning of simulation models by differentiable multistate Bennett's acceptance ratio method
Haruto Uchino, Yasuhiro Matsunaga (*Grad. Sch. Sci. Eng., Saitama Univ.*)
- 3Pos082** 深層学習によるグリッドベースの水和自由エネルギー計算
A deep-learning model for Grid-based Solvation Free Energy
Yusaku Fukushima, Takashi Yoshidome (*Dep. of Appl. Phys., Tohoku Univ.*)
- 3Pos083** 生体分子による液-液相分離とその環境要因を予測する機械学習モデルの開発
Development of machine learning models to predict liquid-liquid phase separation of biomolecules and its environmental factors
Kayin Chin, Shoichi Ishida, Kei Terayama (*Grad. Sch. Med. Life Sci., Yokohama City Univ.*)
- 3Pos084** 自由エネルギー摂動法を用いた VHH 抗体の等電点の制御
In silico control of isoelectric point of VHH using free energy perturbation method
Soichiro Oda, Yasuhiro Matsunaga (*Grad. Sch. Sci. Eng., Saitama Univ.*)
- 3Pos085** X線構造解析とラマン分光によるテトラペプチド結晶中の水素結合ネットワークの解析
Hydrogen network in a tetrapeptide crystal characterized by X-ray diffraction and Raman spectroscopy
Kazunori Motai¹, Masaki Kawano², Yuji Mochizuki^{3,4}, Takehiko Mori¹, Yuhei Hayamizu¹ (¹*Department of Materials Science and Engineering, Tokyo Tech.*, ²*Department of Chemistry, School of Science, Tokyo Tech.*, ³*Department of Chemistry and Research Center for Smart Molecules, Faculty of Science, Rikkyo University*, ⁴*Institute of Industrial Science, The University of Tokyo*)

- [3Pos086](#) 気軽に試せる計算機タンパク質デザインに向けて
Towards easy-to-try computational protein design
Naoya Kobayashi, Shun Hirota (*NAIST, Mat. Sci.*)
- [3Pos087](#) phi29 ファージ DNA 複製を用いた人工 DNA ゲノム進化系の構築
Development of an artificial DNA genome evolution platform using the phi29 DNA replication
Taro Furubayashi^{1,2}, Yoshihiro Minagawa¹, Hiroyuki Noji¹ (¹*Grad. Sch. Eng., Univ. Tokyo*, ²*JSPS*)
- [3Pos088](#) RNA メチル基転移酵素の配列特異性および補酵素選択性を改変する進化分子工学的手法の開発
Development of a directed evolution method for changing sequence specificity and cofactor selectivity of RNA methyltransferases
Yoshiki Ochiai, Paola Laurino (*Protein Engineering and Evolution Unit, OIST*)
- [3Pos089](#) ヘリックス-ループ-ヘリックスペプチドを分子基盤とする細胞内タンパク質間相互作用阻害剤の分子設計
A Cyclized Helix-Loop-Helix Peptide as a Molecular Scaffold to Design Inhibitors against Intracellular Protein-Protein Interactions
Daisuke Fujiwara, Masataka Michigami, Ikuhiko Nakase, Ikuo Fujii (*Grad. Sch. Sci., Osaka Metropolitan Univ.*)
- [3Pos090](#) cDNA display 法により取得されたペプチドアプタマーの迅速かつ最適なダイマー化への新しいコンビナトリアル手法の開発
High-throughput identification of bivalent peptide aptamers selected by cDNA display with a newly combinatorial approach
Taro Noguchi¹, Kanako Nakao¹, Shigefumi Kumachi¹, Masayuki Tsuchiya¹, **Naoto Nemoto**^{1,2} (¹*Epsilon Molecular Engineering, Inc.*, ²*Grad. Sch. Sci. & Eng., Saitama Univ.*)
- [3Pos091](#) Model screening of a peptide by individual evaluation and separation using a combination of FACS and peptide ligase display (PL display)
Shingo Ueno, Fumi Toshioka, Takanori Ichiki (*iCONM, Kawasaki Inst. Industry. Promo.*)
- [3Pos092](#) CRISPR-Cas ファミリータンパク質のデザインと標的探索の解明
Engineering and elucidation of target search by CRISPR-Cas family proteins
Trishit Banerjee^{1,2}, Hiroto Takahashi², Kiyoto Kamagata^{1,2} (¹*Grad.Sch.Sci., Tohoku Uni.*, ²*IMRAM, Tohoku Uni.*)
- [3Pos093](#) (1SEP-5) Control of small G-protein Ras using calmodulin-based ionochromic molecular device
Yassine Sabek, Nobuyuki Nishibe, Kazunori Kondo, Shinsaku Maruta (*Graduate school of science and engineering, department of biosciences, soka university, Hachioji TOKYO*)
- [3Pos094](#) ヒト・ノイラミニダーゼの構造解析に向けたハイブリッドモデル作成
The investigation of hybrid models for the structure determination of human Neuraminidases
Takeru Nakajima (*Dept. Appl. Phys., Nagoya Univ. / Japanese*)

膜蛋白質／Membrane proteins

- [3Pos095](#) Deciphering the signal transmission of activation mechanism for chemokine CXCL12-bound receptor CXCR4 in complex with G_i-protein
Ting-Yu Hu¹, Hao-Jen Hsu^{1,2}, Chun-Chun Chang^{3,4} (¹*Department of Life Sciences, College of Medicine, Tzu chi University*, ²*Department of Biochemistry, School of Medicine, Tzu Chi University*, ³*Department of Laboratory Medicine, Hualien Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation*, ⁴*Department of Laboratory Medicine and Biotechnology, College of Medicine, Tzu Chi University*)

- [3Pos096](#) GPCR の相互作用ネットワーク解析
Interaction Network Analysis of GPCRs
Yusuke Higaki¹, Wataru Nemoto², Yoshihiro Yamanishi³, Hiroyuki Toh¹ (¹*Dept. of Bio. Med. Sci., Grad. Sch. of Sci., Univ. of Kangaku*, ²*Dept. of Life. Sci. Eng., Grad. Sch. of Sci., Univ. of Touden*, ³*Dept. of Biosci. Bioinfo., Grad. Sch. of Com. Sci., Univ. of Kyukou*)
- [3Pos097](#) 全反射赤外分光法による GPCR のリガンド認識機構研究
ATR-FTIR study of ligand recognition on GPCRs
Seiya Iwata¹, Kota Katayama¹, Kohei Suzuki¹, Ryoji Suno², Chiyo Suno², Takuya Kobayashi², Hiroyasu Tsujimoto³, So Iwata³, Hideki Kandori¹ (¹*Grad. Sch. Eng., Nagoya Inst. Tech.*, ²*Grad. Sch. Med., Kansai Med. Univ.*, ³*Grad. Sch. Med., Kyoto Univ.*)
- [3Pos098](#) ソラベグロンおよびイソプレテレンールに結合した $\beta 3$ アドレナリン受容体のクライオ電顕構造
Cryo-EM structures of the $\beta 3$ adrenergic receptor bound to solabegron and isoproterenol
Ikko Nureki¹, Tatsuki Tanaka¹, Kazuhiro Kobayashi¹, Asuka Inoue², Wataru Shihoya¹, Osamu Nureki¹ (¹*Grad. Sch. Sci., Univ. Tokyo*, ²*Grad. Sch. Pharm. Sci. Univ. Tohoku*)
- [3Pos099](#) The Off-Axis Rotor of *Enterococcus hirae* V-type ATPase by Volta Phase Contrast and Conventional Phase Cryo-EM
Raymond N. Burton-Smith¹, Jun Tsunoda^{1,2}, Chihong Song^{1,2}, Hiroshi Ueno³, Takeshi Murata⁴, Ryota Iino⁵, Kazuyoshi Murata^{1,2} (¹*ExCELLS, Okazaki, Japan*, ²*SOKENAI, Okazaki, Japan*, ³*Univ. Tokyo, Tokyo, Japan*, ⁴*Chiba Univ. Chiba, Japan*, ⁵*IMS, Okazaki, Japan*)
- [3Pos100](#) PANX1 の K346E 変異型の発現系の確立と構造的基盤の検討
Establishment of the expression system and structural basis of the K346E mutation of PANX1
Kana Taniguchi, Taiichi Tsuyama, Ken Yokoyama (*Department of Molecular Biosciences, Kyoto Sangyo*)
- [3Pos101](#) Structural insights into the HBV receptor and bile acid transporter NTCF
Jae-Hyun Park¹, Masashi Iwamoto², Ji-Hye Yun³, Tomomi Uchikubo-Kamo⁴, Donghwan Son³, Zeyu Jin^{1,3}, Hisashi Yoshida¹, Mio Ohki¹, Naito Ishimoto¹, Kenji Mizutani¹, Mizuki Oshima^{2,5}, Masamichi Muramatsu², Takaji Wakita², Mikako Shirouzu⁴, Kehong Liu⁶, Tomoko Uemura⁶, Norimichi Nomura⁶, So Iwata^{6,7}, Koichi Watashi^{2,5,8}, Jeremy R. H. Tame¹, Tomohiro Nishizawa¹, Weontae Lee³, Sam-Yong Park¹ (¹*Grad. Sch. MLS, Yokohama City University*, ²*Department of Virology II, National Institute of Infectious Diseases*, ³*Department of Biochemistry, College of Life Science and Biotechnology, Yonsei University*, ⁴*Laboratory for Protein Functional and Structural Biology, RIKEN Center for Biosystems Dynamics Research*, ⁵*Department of Biological Sciences, Tokyo University of Science*, ⁶*Department of Cell Biology, Graduate School of Medicine, Kyoto University*, ⁷*RIKEN SPring-8 Center*, ⁸*Research Center for Drug and Vaccine Development*)
- [3Pos102](#) インフルエンザ菌アドヘシンの膜貫通ドメインのナノディスクへの挿入における BamA の役割
Role of BamA on the insertion of the transmembrane domain of *Haemophilus Influenzae* adhesin into nanodiscs
Eriko Aoki¹, Kazuo Fujiwara², Masamichi Ikeguchi² (¹*GalSIC, Soka Univ.*, ²*Dept. Biosci., Soka Univ.*)

核酸結合蛋白質 / Nucleic acid binding proteins

- [3Pos103](#) 大腸菌 UvrD C 末端アミノ酸欠損変異体の DNA 結合・巻き戻しダイナミクス
Dynamics of DNA binding and unwinding by *Escherichia coli* UvrD lacking C-terminal amino acids
Hiroaki Yokota (*Grad. Sch. Creation New Photon. Indust.*)
- [3Pos104](#) 転写因子 Nanog についての粗視化および全原子分子動力学シミュレーション
Coarse-grained and all-atom molecular simulations for transcription factor Nanog
Azuki Mizutani¹, Cheng Tan², Yuji Sugita², Shoji Takada¹ (¹*Grad. Sch. Sci., Univ. Kyoto*, ²*RIKEN, Comput. Sci.*)

- [3Pos105](#) スピンラベル ESR による HP1 天然変性ヒンジ領域と DNA 相互作用の動的構造解析
Dynamics of HP1 intrinsic disorderd hinge region with DNA measured by site-directed spin labeling-ESR spectroscopy
Isao Suetake^{2,4}, Kazunobu Sato³, Tohru Kawakami⁴, Tomoaki Sugishita⁴, Risa Mutoh⁵, Yuichi Mishima⁴, Takeji Takui³, Toshimichi Fujiwara⁴, Hironobu Hojo⁴, Makoto Miyata¹, **Toshiaki Arata**^{1,4} (¹*Dept. Biol. Grad. Sch. Sci. Osaka Met. Univ.*, ²*Nakamura Gakuen Univ.*, ³*Dept. Chem. Grad. Sch. Sci. Osaka Met. Univ.*, ⁴*IPR. Osaka Univ.*, ⁵*Fac. Sci. Toho Univ.*)
- [3Pos106](#) Through the Looking-Glass: Functional 'Ambidexterity' in an Ancient Nucleic Acid Binding Protein
Liam M Longo¹, Orit Ktorza², Yael Fridmann Sirkis³, Dragana Despotović³, Norman Metanis² (¹*Earth-Life Science Institute, Tokyo Institute of Technology, Japan*, ²*The Hebrew University of Jerusalem, Israel*, ³*The Weizmann Institute of Science, Israel*)

水・水和／電解質／Water & Hydration & Electrolyte

- [3Pos107](#) 分子動力学法を用いたシニョリン及び変異体周囲の水和ダイナミクスの解明
Elucidation of hydration dynamics around chignolin and mutants using molecular dynamics
Yui Nakamura¹, Ryutaro Inou¹, Shingo Nobunaga¹, Takuya Takahashi² (¹*Grad. Sch. Life Sci., Ritsumeikan Univ.*, ²*Affiliation 1 所属 1: Coll. Life Sci., Ritsumeikan Univ.*)
- [3Pos108](#) 溶質周囲の水分子の配置・立体構造の歪みを解析するツール開発
Development of a program to analyze water's structure around solutes and the applications
Ryutaro Inou¹, Yui Nakamura¹, Takuya Takahashi² (¹*Grad. Sch. Life Sci., Univ. Ritsumeikan*, ²*Coll. Life Sci., Univ. Ritsumeikan*)
- [3Pos109](#) データ駆動的に構築した記述子を用いた液相水分子の静的・動的構造の研究
Static and dynamic structure of liquid water investigated by means of data-driven atomic descriptor
Taku Mizukami¹, Viet Cuong Nguyen², Hieu Chi Dam³ (¹*JAIST Materials Science*, ²*HPC systems, JAIST Knowledge Science*)
- [3Pos110](#) サブテラヘルツ波照射によるタンパク質水和の非熱的促進：誘電緩和測定による解析
Nonthermal acceleration of protein hydration by sub-terahertz irradiation: Analysis of dielectric relaxation measurements
Masahiko Imashimizu, Jun-ichi Sugiyama, Masahito Tanaka (*National Institute of Advanced Industrial Science and Technology*)
- [3Pos111](#) 濃厚な糖溶液の構造：単糖類と二糖類の特性の比較とトレハロースの特異性
Structures of concentrated sugar solutions: Comparison of characteristics of mono- and disaccharides and specificity of trehalose
Mitsuhiro Hirai (*Gunma Univ.*)
- [3Pos112](#) MD と 3D-RISM 理論による SARS-CoV-2 スパイクタンパク質と ACE2 タンパク質間相互作用の研究
MD and 3D-RISM study of the interaction between SARS-CoV-2 spike and ACE2 proteins
Yutaka Maruyama¹, Ayori Mitsutake¹, Norio Yoshida² (¹*Dep. Phys., Meiji Univ.*, ²*Grad. Sch. Info., Nagoya Univ.*)
- [3Pos113](#) ガン関連タンパク質 MDM2 のリガンド結合能に対する共溶媒効果の定量的評価
Quantitative evaluation of cosolvent effects on ligand binding abilities of cancer-associated protein MDM2
Naoki Komiya, Kento Kasahara, Nobuyuki Matubayasi (*Division of Chemical Engineering, Graduate School of Engineering Science, Osaka University*)

- [3Pos114](#) タンパク質およびその多量体の共溶媒添加に伴う安定性変化のエネルギー解析
Free-energy Analysis of Stability Change of Proteins and Their Oligomers upon Addition of Cosolvent
Yuka Hamada, Kento Kasahara, Nobuyuki Matubayasi (*Division of Chemical Engineering, Graduate School of Engineering Science, Osaka University*)
- [3Pos115](#) 統計熱力学に基づくペプチド薬デザイン法の開発
Computational study for designing peptide drugs based on statistical thermodynamics
Shunsuke Miyamoto, Tomohiko Hayashi (*Grad. Sch. Sci. and Tech., Niigata Univ.*)

分子遺伝・遺伝情報制御／Molecular genetics & Gene expression

- [3Pos116](#) *C. elegans* のスプライシング因子 AQR の温度耐性への関与
A homolog of splicing factor AQR, *emb-4*, is involved in high and low temperature tolerance in *C. elegans*
Yuki Sato^{1,2}, Kazuho Isono⁴, Teruaki Taji⁴, Akane Ohta^{1,2}, Atsushi Kuhara^{1,2,3} (¹*Graduate school of Natural Science Konan University, Kobe, Japan*, ²*Institute for Integrative Neurobiology, Konan University, Kobe, Japan*, ³*PRIME, AMED, Tokyo University of agriculture, Japan*)
- [3Pos117](#) Photocontrol of small GTPase Ras using its regulatory factor GEF modified with photochromic azobenzene derivative
Yuichi Imamura, Nobuyuki Nishibe, Kazunori Kondo, Shinsaku Maruta (*Grad.Sch.Sci., Univ.Soka/Japanese*)

発生・分化／Development & Differentiation

- [3Pos118](#) (2SAP-4) グラフニューラルネットワークによる細胞間の時空間相互作用の推定
(2SAP-4) Graph-based machine learning reveals rules of spatiotemporal cell interactions in tissues
Takaki Yamamoto¹, Katie Cockburn², Valentina Greco^{2,3}, Kyogo Kawaguchi^{1,4,5} (¹*Nonequilibrium Physics of Living Matter RIKEN Hakubi Research Team, RIKEN BDR*, ²*Department of Genetics, Yale School of Medicine*, ³*Departments of Cell Biology and Dermatology, Yale Stem Cell Center; Yale Cancer Center, Yale School of Medicine*, ⁴*RIKEN CPR*, ⁵*Universal Biology Institute, The University of Tokyo*)
- [3Pos119](#) ニフトリ胚心臓の発生にエタノールが与える影響の SS-OCT 観測
Heart development of chick embryo under ethanol exposure imaged by Swept Source OCT
Taichi Furuta, Takashi Yamaoka, Keisuke Matsubara, Yuuta Moriyama, Toshiyuki Mitsui (*Dept. Phys. Sch. Sci. Aogaku Univ.*)
- [3Pos120](#) Observation of calcium and mitochondrial activity in mouse sperm state changes
Yuichi Hiramatsu, **Takashi Ijiri** (*Dept. of Lif. Sci., Fac. of Sci. and Eng., Setsunan Univ.*)
- [3Pos121](#) Analysis of the gene expression fluctuation and post-differentiation state in the differentiating human pluripotent stem cells
Kensuke Sasaki, Sayaka Yamamoto, Yasuhiro Maeda, Tomonobu Watanabe (*RIKEN Center for Biosystems Dynamics Research*)

- [3Pos122](#) 深層学習を利用した電子線トモグラフィー法による心筋サルコメア構造のタンパク質分類の検討
Classification of muscle tissue components elucidated by electron tomography and deep learning
Mayu Yasuda¹, Wataru Kedouin¹, Ryu Takeya², Takuo Yasunaga¹ (¹Grad. Sch. Comp. Sci. Syst. Eng., KIT, ²Dept. of Pharma., Univ. of Miyazaki)
- [3Pos123](#) 滑り運動中のアクチン繊維内に沿って生じる局所的な内部コンフォメーション変化とその伝播
Local conformational changes and the propagation along an actin filament during in vitro motility assay
Kuruto Toda¹, Hirotaka Itou¹, Ichiro Nishikata², Kenji Kamimura³, Ikuko Fujiwara⁴, Hajime Honda⁴ (¹Dept. of Bioeng., Nagaoka Univ. of Tech., ²Electron. and Mech. Syst. Eng. Adv. Crs., NIT, Nagaoka Coll., ³Dept. of Electron. Control Eng., NIT, Nagaoka Coll., ⁴Dept. of Matl. Sci. and Bioeng., Nagaoka Univ. of Tech.)
- [3Pos124](#) 温められた心筋は安定性と不安定性を併せ持った収縮リズムを刻む
The warmed myocardium creates a contractile rhythm that combines stability and instability
Seine A. Shintani^{1,2} (¹Department of Biomedical Sciences, College of Life and Health Sciences, Chubu University, ²Center for Mathematical Science and Artificial Intelligence, Chubu University)
- [3Pos125](#) コフィリン結合によるアクチン繊維のアロステリック応答解明に向けた分子動力学計算
Molecular dynamics simulation to study the long-range allostery of an actin filament due to cofilin binding
Kyoko Shimanuki¹, Jun Ohnuki², Mitsunori Takano¹ (¹Dept. of Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ., ²Inst. for Mol. Sci.)
- [3Pos126](#) マウス心筋細胞で認める高静水圧誘発性緩徐収縮
High hydrostatic pressure induces slow contraction in mouse cardiomyocytes
Yohei Yamaguchi¹, Masayoshi Nishiyama², Hiroaki Kai³, Toshiyuki Kaneko¹, Keiko Kaihara³, Gentaro Iribe¹, Akira Takai¹, Keiji Naruse³, Masatoshi Morimatsu³ (¹Dept. Physio., Asahikawa Med. Univ., ²Dept. Physics, Kindai Univ., ³Dept. Cardio. Physio., Grad. Sch. Med. Dent. Pharm., Okayama Univ.)

分子モーター／Molecular motor

- [3Pos127](#) クライオ電子顕微鏡による ATP 合成酵素 FoF1 の化学力学共役機構の解明
Molecular Basis of the Chemo-Mechanical Coupling Mechanism in the ATP-Driven Rotation of ATP Synthase FoF1
Atsuki Nakano¹, Jun-ichi Kishikawa², Atsuko Nakanishi³, Ken Yokoyama¹ (¹Fac. of Life Sci., Kyoto Sangyo Univ., ²Institute for Protein Research, Osaka University, ³Research Center for Ultra-High Voltage Electron Microscopy, Osaka University)
- [3Pos128](#) (2SCA-4) 1 分子回転操作実験によって解明されたミトコンドリア由来 ATP 合成酵素における阻害因子 IF₁ の一方向制御機構
(2SCA-4) Unidirectional regulation of ATPase factor 1 in mitochondrial ATP synthase studied by single-molecule manipulation experiments
Ryohei Kobayashi^{1,2}, Hiroshi Ueno¹, Kei-ichi Okazaki², Hiroyuki Noji¹ (¹Appl. Chem., Grad. Sch. Eng., Univ. Tokyo, ²Inst. for Mol. Sci.)
- [3Pos129](#) Drug binding to the mycobacterial ATP synthase – mechanistic implications
Alexander Krah¹, Gerhard Grüber², Peter J. Bond^{1,3} (¹Bioinformatics Institute, ²Nanyang Technological University, ³National University of Singapore)

- [3Pos130](#) Single-molecule analysis and engineering of rotary V-ATPase
Akihiro Otomo^{1,2}, Tatsuya Iida^{1,2}, Hiroshi Ueno³, Takeshi Murata⁴, Ryota Iino^{1,2} (¹*Institute for Molecular Science*, ²*SOKENDAI*, ³*Grad. Sch. Eng., The Univ. of Tokyo*, ⁴*Grad. Sch. Sci., Chiba Univ.*)
- [3Pos131](#) Acrive structures of V/A-type rotary ATPase reveal the rotary catalytic mechanism
Jun-ichi Kishikawa¹, Atsuko Nakanishi², Atsuki Nakano³, Ken Yokoyama³ (¹*Inst. Prot. Res., Osaka Univ.*, ²*Res. Ctr. UHVEM, Osaka Univ.*, ³*Dept. Adv. Life. Sci., Kyoto Sangyo Univ.*)
- [3Pos132](#) 全原子分子動力学計算による KIF1A の微小管への結合過程の解析
 All-atom molecular dynamics simulation analysis of KIF1A binding to microtubule
Koki Adachi, Mitsunori Takano (*Dept. of Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*)
- [3Pos133](#) 微小管とキネシンによる三次元のモテリティアッセイの実現
 Realization of three-dimensional motility assay with microtubules and kinesin
Hisanori Saito¹, Ibuki Kawamata¹, Gikyo Usuki², Kohei Nishiyama², Shinichiro Nomura¹, Nathanael Aubert-Kato³, Akira Kakugo², Satoshi Murata¹ (¹*Grad. Sch. Eng., Univ. Hyogo*, ²*Grad. Sch. Sci., Univ. Hokkaido*, ³*Grad. Sch. Sci., Univ. Ochanomizu*)
- [3Pos134](#) KIF5A の ALS 関連遺伝子変異は KIF5A のオリゴマー化と凝集を促進し神経毒性を引き起こす
 An ALS-associated KIF5A mutant forms oligomers and aggregates and induces neuronal toxicity
Kyoko Chiba¹, Juri Nakano², Shinsuke Niwa¹ (¹*FRIS, Tohoku Univ.*, ²*Grad. Sch. of Life Sci., Tohoku Univ.*)
- [3Pos135](#) ADP 解離の遅い変異体を用いたキネシン 1 の連続的歩行能を決める要因の研究
 High-speed single molecule study of the determinant of kinesin-1's processivity using mutants with slow ADP-release
Yuta Miyazono, Hiroki Hayano, Tukas Enomoto, Michio Tomishige (*Grad. Sch. Sci. Eng., Aoyama Gakuin Univ.*)
- [3Pos136](#) KIF1A/ダイニンが制御する軸索内小胞プールサイズ
 Vesicle pool sizes controlled by axonal transport of KIF1A/dynein
Yuki Kagawa¹, Ryo Sasaki¹, Yuzu Anazawa², Shinsuke Niwa³, Kumiko Hayashi¹ (¹*Grad. Sch. Eng., Tohoku Univ.*, ²*Grad. Sch. Life Sci., Tohoku Univ.*, ³*FRIS, Tohoku Univ.*)
- [3Pos137](#) Dpcd ノックアウトマウスの側脳室における内腕ダイニンの遺伝子発現と脳室内の流れの解析
 Analysis of inner arm dynein gene expression and intraventricular flow in the lateral ventricle of Dpcd knockout mice
Hironori Ueno¹, Daiki Yamamoto², Kazuhito Takeuchi², Yuichi Nagata², Fumiharu Ohka², Atsushi Natsume², Ryuta Saitou² (¹*Aichi Univ. of Edu.*, ²*Grad. Sch. of Med., Nagoya Univ.*)
- [3Pos138](#) ミュータントの S1 による F アクチンの協同的構造変化の伝播距離の推定
 Estimation of propagation distance of cooperative conformational changes in F-actin induced by a mutant S1
Masahiro Miura, Taro QP Uyeda (*Department of Pure and Applied Physics, Graduate School of Advanced Science and Engineering, Waseda University*)
- [3Pos139](#) ダイニンによる細胞内輸送が細胞質動態から受ける影響について
 Effect of cytoplasmic dynamics on dynein-dependent transports
Takayuki Torisawa^{1,2}, Akatsuki Kimura^{1,2} (¹*Cell Arch. Lab., Natl. Inst. Genet.*, ²*Dept. Genet., SOKENDAI*)
- [3Pos140](#) 減圧顕微鏡法によって測定されたバクテリア運動能
 Bacterial motility measured by depressurization microscopy
Masayoshi Nishiyama (*Kindai Univ.*)
- [3Pos141](#) The relative motion of MotA around MotB in bacterial flagellar stator
Phuoc Duy Tran, Akio Kitao (*Sch. Life Sci. Tech., TokyoTech*)
- [3Pos142](#) Single particle cryo-EM of *Paenibacillus* stator complex reveals the flexibility of the pentameric MotA1 ring
Sakura Onoe¹, Tatsuro Nishikino², Nobuhiro Takekawa³, Jun-ichi Kishikawa², Takayuki Kato² (¹*FBS, Osaka Univ.*, ²*IPR, Osaka Univ.*, ³*Dep. Macromol. Sci., Osaka Univ.*)

- [3Pos143](#) (2SFA-6) SLC26 陰イオントランスポーターによる電気→運動エネルギー変換
(2SFA-6) SLC26 ion transporters act as electricity-driven motor proteins
Tomohiro Shima (*Grad. Sch. Sci., Univ. Tokyo*)
- [3Pos144](#) 速く動く DNA ナノ粒子モーターはつくれるか？シミュレーションによる検討
How to engineer fast-moving DNA-nanoparticle motor? A simulation study
Takanori Harashima, Akihiro Otomo, Ryota Iino (*Institute for Molecular Science*)

細胞生物学的課題（接着，運動，骨格，伝達，膜）／Cell biology

- [3Pos145](#) Fimbrinの協同的相互作用による F-actin の長さの変化
Changes in actin filament length induced by the cooperative interaction of fimbrin
Ryosuke Tsunabuchi¹, Naoki Hosokawa¹, Rika Hirakawa¹, Masahiro Kuragano¹, Taro Q.P Uyeda², Kiyotaka Tokuraku¹ (¹*Graduate School of Engineering, Muroran Institute of Technology*, ²*Department of Physics, Faculty of Science and Engineering, Waseda University*)
- [3Pos146](#) 魚類ケラトサイトのストレスファイバ直動回転変換メカニズム
Linear contraction of stress fibers kicks the substratum for their rotation
Chika Okimura¹, Shu Akiyama¹, Tatsunari Sakurai², Yoshiaki Iwadata¹ (¹*Dept. Biol., Yamaguchi Univ.*, ²*Dept. Math. Eng., Musashino Univ.*)
- [3Pos147](#) G146V とそのサブレッサー変異は酵母のアクチンダイナミクスに影響する
G146V and its suppressor mutations in yeast actin suggested to affect actin dynamics in vivo
Tenji Yumoto¹, Taro QP Uyeda¹, Takehiko Yoko-o² (¹*Department of Pure and Applied Physics, Graduate School of Advanced Science and Engineering, Waseda University*, ²*Cellular and Molecular Biotechnology Research Institute, AIST*)
- [3Pos148](#) 気管形成におけるアクチン骨格のミクロ相分離と自己組織化構造の転移ダイナミクス
Microphase separation and transition dynamics of self-organized structures of actin cytoskeleton during tubulogenesis
Mitsusuke Tarama¹, Sayaka Sekine², Tatsuo Shibata¹, Shigeo Hayashi¹ (¹*RIKEN BDR*, ²*Grad. Sch. Life Sci., Tohoku Univ.*)
- [3Pos149](#) アクトミオシンの収縮による膜変形の再構成
Morphological transitions of lipid vesicles driven by the contraction of actomyosin networks
Makito Miyazaki^{1,2,3,4}, Fahmida Sultana Laboni⁵, Masatoshi Ichikawa², Taeyoon Kim⁵ (¹*Hakubi, Kyoto Univ.*, ²*Dept. Phys., Kyoto Univ.*, ³*Inst. Curie*, ⁴*PRESTO, JST*, ⁵*Biomed. Eng., Purdue Univ.*)
- [3Pos150](#) 人工細胞内アクチン光操作が可能にする細胞運動の再構成
Synthesizing motility in artificial cells by asymmetrically reconstituted actin polymerization
Hideaki Matsubayashi^{1,2}, Shiva Razavi^{2,3}, Hideki Nakamura^{2,4,5}, Daniel A. Kramer⁶, Tomoaki Matsuura⁷, Baoyu Chen⁶, Takanari Inoue² (¹*Frontier Research Institute for Interdisciplinary Sciences, Tohoku University*, ²*Department of Cell Biology, School of Medicine, Johns Hopkins University*, ³*Department of Biological Engineering, School of Engineering, Massachusetts Institute of Technology*, ⁴*Hakubi Center for Advanced Research, Kyoto University*, ⁵*Department of Synthetic Chemistry and Biological Chemistry, School of Engineering, Kyoto University*, ⁶*Roy J. Carver Department of Biochemistry, Biophysics and Molecular Biology, Iowa State University*, ⁷*Earth-Life Science Institute, Tokyo Institute of Technology*)
- [3Pos151](#) Probing the influence of geometrical constraints on collective cell dynamics in diameter-varying 3D gelatin tube structures
Mitsuru Sentoku, Kenji Yasuda (*Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*)
- [3Pos152](#) プリント化したフィブロネクチン勾配に対する好中球の走触性の解析
Analysis of neutrophil haptotaxis on printed fibronectin gradients
Yoshino Tanaka¹, Gen Honda², Masahito Uwamichi³, Satoshi Sawai³ (¹*Grad. Sch. Sci., Univ. Tokyo*, ²*Komaba institute for science, Grad. Sch. Arts & Sci., Univ. Tokyo*, ³*Grad. Sch. Arts & Sci., Univ. Tokyo*)

- [3Pos153](#) 細胞性粘菌の運動において bleb モードへの転換は Ca^{2+} 流入に依存しない
The transition to bleb mode is independent on extracellular Ca^{2+} influx in *Dictyostelium discoideum* motility
Hitomi Takeuchi, Taro QP Uyeda (*Department of Pure and Applied Physics, Graduate School of Advanced Science and Engineering, Waseda University*)
- [3Pos154](#) Velocity field dynamics under blurring in fluorescent images of dictyostelium discoideum colonies
Md Mohiuddin^{7,8}, Md Motaleb Hossain^{1,2}, Sulimon Sattari¹, Uday S. Basak^{1,3}, Mikito Toda⁴, Kazuki Horikawa⁵, Tamiki Komatsuzaki^{1,6,7} (¹Research Institute for Electronic Science, Hokkaido University, Japan, ²University of Dhaka, Bangladesh, ³Pabna University of Science and Technology, Bangladesh, ⁴Nara Women's University, Japan, ⁵Tokushima University Graduate School, Japan, ⁶Institute for Chemical Reaction Design and Discovery (ICReDD), Hokkaido University, Japan, ⁷Graduate School of Chemical Sciences and Engineering, Hokkaido University, Japan, ⁸Mathematics Discipline, Comilla University, Bangladesh)
- [3Pos155](#) The dominant factor of shapeshifts of collective cell migration between sheet form and clusters in flexible 3D tunnel structures
Wataru Hanamoto¹, Miki Takei¹, Masaharu Endo², Kaito Asahi², Mitsuru Sentoku², Kenji Yasuda^{1,2} (¹Dept. Pure & Appl. Phys., Sch. Adv. Sci. & Eng., Waseda Univ, ²Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.)
- [3Pos156](#) 二次元制限空間内を進行する細胞集団の流体的振る舞いの計測
Measuring the fluid-like behavior of collective cell migration in two-dimensional restricted structures
Miki Takei¹, Masaharu Endo², Mitsuru Sentoku², Kaito Asahi², Wataru Hanamoto¹, Kenji Yasuda^{1,2} (¹Dept. Phys., Sch. Adv. Sci. & Eng., Waseda Univ., ²Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.)
- [3Pos157](#) CheZ 局在の大腸菌走化性に及ぼす影響のキャピラリーアッセイによる解析
Analysis for the effect of CheZ localization on chemotaxis of *Escherichia coli* by capillary assay
Sawako Matsuda¹, Yong-Suk Che¹, Akihiko Ishijima¹, Masaru Kojima², Hajime Fukuoka¹ (¹Grad. Sch. Frontier Biosci. Osaka Univ, ²Grad. Sch. Engineering Sci. Osaka Univ)
- [3Pos158](#) CheB の極性局在を利用した異種走化性受容体の忌避刺激に対する応答性の比較
Comparison of responses to repellent stimulus at heterogeneous MCPs through polar localization of CheB
Shinnosuke Kawahara, Yumiko Uchida, Yong-Suk Che, Akihiko Ishijima, **Hajime Fukuoka** (*Grad. Sch. Frontier Biosci. Osaka Univ.*)
- [3Pos159](#) バクテリアの群れ運動における局所的な細胞間相互作用と運動制御
Local cell interaction and motility regulation for swarm motility of bacteria
Kodai Suzuki, Ikuro Kawagishi, Masatoshi Nishikawa (*Grad. Sch. Fun., Univ. Hosei*)
- [3Pos160](#) クラミドモナス纖毛交互打ち変異株の解析
Analysis of a *Chlamydomonas* mutant showing alternate ciliary beatings
Kazuma Sakamoto^{1,2}, Atsuko Isu¹, Toru Hisabori^{1,2}, **Ken-ichi Wakabayashi**^{1,2} (¹Lab. Chem. Life Sci., Tokyo Tech., ²Sch. Life Sci. Tech., Tokyo Tech)
- [3Pos161](#) 海洋性ビブリオ菌におけるべん毛本数制御因子 FlhF と MS リング構成因子 FlfI の相互作用解析
Interactions between the flagellar number regulator FlhF and the MS ring protein FlfI in *Vibrio alginolyticus*
Yuria Fukushima, Seiji Kojima, Michio Homma (*Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ.*)
- [3Pos162](#) Functional and structural analyses of FlaK, a master regulator of the genes involved in polar flagellar formation in marine *Vibrio*
Seiji Kojima¹, Tomoya Kobayakawa¹, Yuxi Hao¹, Tatsuro Nishikino², Michio Homma¹ (¹Div. of Biol. Sci., Grad. Sch. Sci., Nagoya Univ., ²Inst. for Prot. Res., Osaka Univ.)

- 3Pos163** カルシウム感受性があるクラミドモナス鞭毛内部構造のラセン配置
The Calcium Sensitive Helical Arrangement of Axonemal Structures in Chlamydomonas Flagella
Hitoshi Sakakibara¹, Kenta Ishibashi¹, Hiroyuki Iwamoto², Hiroaki Kojima¹, Kazuhiro Oiwa^{1,3} (¹Bio-ICT, Nat. Inst. Inf. Com. Tech., ²SPRING-8, JASRI, ³Life Sci. Univ. Hyogo)
- 3Pos164** 大腸菌べん毛モーター間の回転方向転換同調を阻害する走化性受容体クラスター内における野生型/変異体比率の見積もり
Estimation of mutant/WT receptors ratios in receptor array that disrupts the switching coordination between flagellar motors of *E. coli*
Yumiko Uchida, Hajime Fukuoka, Akihiko Ishijima, Yong-Suk Che (*Grad. Sch. Frontier Biosci. Osaka Univ.*)
- 3Pos165** 回転する大腸菌べん毛モーター中の GFP-FliL 局在の定量解析
Quantitative analysis of GFP-FliL localization at rotating flagellar motor of *E. coli*.
Miyuto Miyazaki, Yumiko Uchida, Hajime Fukuoka, Akihiko Ishijima, Yong-Suk Che (*Grad. Sch. Frontier Biosci. Osaka Univ.*)
- 3Pos166** キイロショウジョウバエの精子鞭毛の波形と鞭毛打頻度
The waveform and beat frequency of a sperm flagellum of *Drosophila melanogaster*
Sho Tamai^{1,2}, Kosei Sato^{1,3}, Hitoshi Sakakibara¹, Kazuhiro Oiwa^{1,3} (¹Adv. ICT Res. Inst., NICT, ²Sch. Sci., Univ. Hyogo, ³Grad. Sch. Sci., Univ. Hyogo)
- 3Pos167** ピエゾ駆動対物レンズを用いたホヤ精子遊泳の 3 次元解析
3D analysis of ascidian sperm swimming using a piezoelectric Z-scanner attached to a microscope objective
Kogiku Shiba, Kazuo Inaba (*Shimoda Marine Research Center, Univ. Tsukuba*)
- 3Pos168** 蛍光共鳴エネルギー移動(FRET)によるtau-微小管相互作用の熱力学的解析
Thermodynamic analysis of tau-MT interaction by Forster resonance energy transfer (FRET)
Riku Kiyonaka, Hideyuki Komatsu (*Dept. of Bioscience and Bioinformatics, Kyushu Inst. Tech.*)
- 3Pos169** FRET 計測系を用いた低濃度セリンに対する単一大腸菌受容体の協同作用による 2 種類の適応
Two behaviors of adaptation by cooperative action of a single *E. coli* receptor to low concentrations of serine using FRET measurement
Yuki Takada, Akihiko Ishijima, Hajime Fukuoka, Yong-Suk Che (*Graduate School of Frontier Biosciences Osaka University*)
- 3Pos170** BAR ドメインタンパク質による細胞間接着の維持
Maintenance of cell-cell adhesions by BAR domain proteins
Yosuke Senju (*RIIS, Univ. Okayama*)
- 3Pos171** スパイロプラズマの細胞分裂タンパク質の機能解析
Functional analysis of Spiroplasma cell division proteins
Taishi Kasai¹, Yuhei Tahara², Makoto Miyata², Daisuke Shiomi¹ (¹Rikkyo University, College of Science, ²Osaka Metropolitan University, Graduate School of Science)
- 3Pos172** 細胞外小胞の受容細胞への内在化と膜融合効率の検討
Investigation of the efficiency of internalization of extracellular vesicles and their membrane fusion with recipient cells
Hisaaki Hirose, Yusuke Hirai, Shiroh Futaki (*ICR, Kyoto Univ.*)
- 3Pos173** レプトスピラの運動性や物性、病原性に与える外膜分子の影響
Effect of the outer membrane (OM) molecules on the motility, physical property, and pathogenicity of *Leptospira*
Keigo Abe¹, Nobuo Koizumi², Shuichi Nakamura¹ (¹Grad. Sch. Eng., Univ. Tohoku, ²Dept. of Bacteriology I, National Inst. of Infectious Disease)
- 3Pos174** 自律拍動心筋細胞ネットワークにおける強制発火周期の記憶化
Memorization of forced firing intervals in spontaneous beating cardiomyocyte networks
Akira Nishizaki¹, Yoshitsune Hondo², Suguru Matsumoto², Kazuhumi Sakamoto², Kenji Yasuda^{1,2} (¹Dept. Pure & Appl. Phys., Sch. Adv. Sci. & Eng., Waseda Univ., ²Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.)

- [3Pos175](#) Plasticity of synchronized beating during connecting and separating of cardiomyocyte networks
Suguru Matsumoto¹, Kazufumi Sakamoto¹, Akira Nishizaki², Kenji Yasuda^{1,2} (¹*Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*, ²*Dept. Pure & Appl. Phys., Sch. Adv. Sci. & Eng., Waseda Univ.*)
- [3Pos176](#) 緩やかな温度上昇による心筋細胞の拍動揺らぎの抑制
Depression of beating fluctuation in cardiomyocytes by gradual temperature rising
Kohei Oyama, Masahito Hayashi, **Tomoyuki Kaneko** (*LaRC., Dept. Frontier Biosci., Hosei Univ.*)
- [3Pos177](#) 哺乳動物細胞におけるコレステロール依存的な熱吸収機構
Cholesterol-dependent mechanism underlying heat absorption in mammalian cells
Akira Murakami^{1,2}, Tasuku Sato¹, Kohki Okabe¹, Takashi Funatsu¹ (¹*Grad. Sch. Pharm. Sci., Univ Tokyo*, ²*Grad. Sch. Pharm. Sci., Univ Shizuoka*)
- [3Pos178](#) 自己融解酵素によるグラム陽性細菌の溶菌過程の高速 AFM 観察
High-speed AFM observation of the lysis process of Gram-positive bacterial cell by autolysin
Yumu Ota¹, Hayato Yamashita¹, Kotaro Higashi², Masaya Yamaguchi², Shigetada Kawabata², Masayuki Abe¹ (¹*Grad. Sch. of Eng. Sci., Osaka Univ.*, ²*Grad. Sch. of Den., Osaka Univ.*)
- [3Pos179](#) Application of three-dimensional holotomography in label-free living cells
Seongsoo Lee, **Jae-Hyuk Lee** (*Korea Basic Science Institute Gwangju Center, Gwangju 61751, South Korea*)
- [3Pos180](#) 細胞応答評価のためのマルチモーダル刺激可能なマイクロハンドの開発
Development of microhand with multimodal stimulus system for evaluation of cellular response
Masaru Kojima¹, Kazuma Koshida¹, Yasushi Mae², Tatsuo Arai³ (¹*Grad. Sch. Eng.Sci., Osaka Univ.*, ²*Fac. of Eng. Sci., Kansai Univ.*, ³*UEC*)

生体膜・人工膜：構造・物性／Biological & Artificial membrane: Structure & Property

- [3Pos181](#) 皮膚線維芽細胞の長期培養による粘弾性への影響
Effect of long-term culture of skin fibroblasts on viscoelasticity
Kosuke Matsumura¹, Akira Kabasawa¹, Sayaka Miyoshi³, Michiya Matsusaki⁴, Arif Md. Rashedul Kabir^{1,2}, Teruki Yanagi⁵, Kazuki Sada^{1,2}, Akira Kakugo^{1,2}, Kaori Shigetomi (Kuribayashi) ³ (¹*Grad. Sch. of Chem. Sci. and Eng., Hokkaido Univ.*, ²*Fac. of Sci., Hokkaido Univ.*, ³*Institute for the Advancement of Higher Education, Hokkaido Univ.*, ⁴*Grad. Sch. of Eng., Osaka Univ.*, ⁵*Department of Dermatology, Faculty of Medicine and Graduate School of Medicine, Hokkaido Univ.*)
- [3Pos182](#) 細胞性粘菌の生細胞での膜タンパク質分子の多状態側方拡散運動の細胞膜フィールドモデルの構築
Field model for lateral diffusion of transmembrane proteins in *Dictyostelium* cells
Kazutoshi Takebayashi¹, Yoichiro Kamimura², Masahiro Ueda^{1,3} (¹*BDR., RIKEN*, ²*Nara Med. Univ.*, ³*Grad. Sch. Front. Biosci., Osaka Univ.*)
- [3Pos183](#) Unraveling the host-selective toxic interaction of cassiicolin with lipid membranes and its cytotoxicity
Kien Xuan Ngo¹, Phuong Doan N. Nguyen¹, Hirotoshi Furusho¹, Makoto Miyata², Tomomi Shimonaka², Nguyen Ngoc Bao Chau³, Nguyen Phuong Vinh⁴, Nguyen Anh Nghia⁴, Tareg Omer Mohammed¹, Takehiko Ichikawa¹, Noriyuki Koderai¹, Hiroki Konno¹, Takeshi Fukuma¹, Nguyen Bao Quoc⁵ (¹*WPI-NanoLSI, Kanazawa University*, ²*Grad. Sch. Sci., Osaka City University, Osaka*, ³*Facult. Biotech., Ho Chi Minh City Open University, Ho Chi Minh City, Vietnam*, ⁴*Rubber Res. Inst. Vietnam, Ho Chi Minh City, Vietnam*, ⁵*Res. Inst. Biotech. Environ., Nong Lam University, Ho Chi Minh City, Vietnam*)

- [3Pos184](#) 分子動力学シミュレーションを用いた脂質膜におけるメリチンの抗菌作用の研究
Investigation for antimicrobial action of melittin on a lipid membrane using molecular dynamics simulation
Yusuke Miyazaki, Wataru Shinoda (*Research Institute for Interdisciplinary Science, Okayama University*)
- [3Pos185](#) 細胞膜糖鎖構造によるウイルス感染のメカニカルな制御
Mechanical modulation of virus infection by cell membrane glycoalyx
Yoshihisa Kaizuka, Rika Machida (*National Institute for Materials Science*)
- [3Pos186](#) (2SBP-3) エンベロープ型ウイルス粒子の粗視化シミュレーション：B型肝炎ウイルス
(2SBP-3) Coarse-grained Molecular Dynamics Study of Enveloped Virus Particle: Hepatitis B Virus
Ryo Urano, Wataru Shinoda (*Res. Inst. Interdiscip. Sci., Okayama Univ.*)
- [3Pos187](#) 曲率誘導タンパク質の膜曲率応答の平均場理論
Mean field theories of curvature sensing and generation of isotropic and anisotropic curvature-inducing proteins
Hiroshi Noguchi (*ISSP, Univ. Tokyo*)

生体膜・人工膜：ダイナミクス／Biological & Artificial membrane: Dynamics

- [3Pos188](#) 高分子をグラフトした脂質三成分ベシクルの膜粘度
Viscosity of polymer grafted ternary lipid vesicle
Yuka Sakuma (*Grad. Sch. Sci., Tohoku Univ.*)
- [3Pos189](#) 脂質三成分ベシクルにおける膜粘度の温度依存性
Viscosity Landscape of Ternary Vesicles in Composition-Temperature Space
Juria Tanaka, Kenya Haga, Masayuki Imai, Yuka Sakuma (*Grad. Sch. Sci., Tohoku Univ.*)
- [3Pos190](#) 細胞内反応拡散波の再構成に向けた膜流動性の制御手法
Improvement of the membrane fluidity to reconstitute the intracellular reaction-diffusion waves
Gen Honda¹, Nao Shimada², Satoshi Sawai^{2,3}, Miho Yanagisawa^{1,2,3} (¹*Komaba Institute for Science, Graduate School of Arts and Sciences, University of Tokyo*, ²*Department of Basic Science, Graduate School of Arts and Sciences, University of Tokyo*, ³*Research Center for Complex Systems Biology, Graduate School of Arts and Sciences, University of Tokyo*)
- [3Pos191](#) 抗菌ペプチドの抗菌および殺菌活性の単一細胞解析
Single cell analysis for antimicrobial and bactericidal activities of antimicrobial peptides (AMPs)
Farzana Hossain¹, Masahito Yamazaki^{1,2,3} (¹*Res. Inst. Ele., Shizuoka Univ.*, ²*Grad. Sch. Sci. Tech., Shizuoka Univ.*, ³*Grad. Sch. Sci., Shizuoka Univ.*)
- [3Pos192](#) 浸透圧ストレス下における脂質二重膜の挙動に対し、F-actin が及ぼす影響
Effect of F-actin on the behavior of lipid bilayers under osmotic stress
Ken Bessho, Moka Ito, Kingo Takiguchi (*Dept. Biol. Sci., Grad. Sch. Sci., Nagoya Univ.*)
- [3Pos193](#) クロモグリク酸ナトリウム液晶封入リポソーム上の3本縞様膜相分離
Three-stripe pattern of lipid domains on spindle-shaped liposome containing liquid crystal of disodium cromoglycate
Kaori Udagawa, Masahito Hayashi, Tomoyuki Kaneko (*LaRC., Dept. Frontier Biosci., Hosei Univ.*)
- [3Pos194](#) クラミドモナス含有リポソームの鞭毛運動と膜運動の高速イメージング
High-speed imaging of the flagellar beating and membrane motion of *Chlamydomonas* containing liposome
Shunsuke Shiomi, Masahito Hayashi, Tomoyuki Kaneko (*Graduate School of Science and Engineering, Hosei University.*)

- 3Pos195** コリネ型細菌の機械受容チャネル MscCG の人工脂質膜リポソームへの再構成と電気生理学的特性
Liposome reconstitution and electrophysiological characterization of *Corynebacterium glutamicum* mechanosensitive channel MscCG.
Yoshitaka Nakayama^{1,2}, Paul Rohde¹, Tomoyuki Konishi³, Hisashi Kawasaki^{3,4}, Boris Martinac^{1,2}
(¹Molecular Cardiology and Biophysics Division, Victor Chang Cardiac Research Institute, ²St Vincent's Clinical School, Faculty of Medicine, The University of New South Wales, ³Agro-Biotechnology Research Center, Graduate School of Agricultural and Life Sciences, The University of Tokyo, ⁴Collaborative Research Institute for Innovative Microbiology, The University of Tokyo)
- 3Pos196** KcsA カリウムイオンチャネルにおける膜張力感知部位の探索
Exploring the membrane tension sensing sites in the KcsA potassium channel
Misuzu Ueki¹, Masami Miyagoshi¹, Shigetoshi Oiki², **Masayuki Iwamoto**¹ (¹Dept. Mol. Neurosci., Facul. Med. Sci., Univ. Fukui., ²Biomed. Imaging Res. Center, Univ. Fukui)
- 3Pos197** KcsA カリウムチャネルゲーティングに対する膜厚と膜張力の作用
Concurrent effect of the membrane thickness and tension on the gating of the KcsA potassium channel
Yuka Matsuki¹, Masayuki Iwamoto², Masako Takashima², Shigetoshi Oiki³ (¹Dept. Anesth. Reanimatol., Univ. Fukui Fac. Med. Sci., ²Dept. Anesth. Reanimatol., Univ. Fukui Fac. Med. Sci., ³Biomed. Imag. Res. Cent., Univ. Fukui)

神経・感覚（細胞・膜蛋白質・分子）／Neuroscience & Sensory systems

- 3Pos198** *C.elegans* の低温耐性を制御する転写伸長因子 TCEB-3 のトランスクリプトーム解析
Transcriptome analysis of a transcription elongation factor TCEB-3 that is positive regulator of cold tolerance in *C.elegans*
Hiroaki Teranishi¹, Toshihiro Iseki¹, Natsune Takagaki¹, Yohei Minakuchi², Atsushi Toyoda², Akane Ohta¹, Atsushi Kuhara^{1,3} (¹Grad. school of Nat. Sci., Konan Univ, Japan, ²National Institute of Genetics, Japan, ³PRIME, AMED)
- 3Pos199** GPCR SRX は線虫の低温耐性に関わる温度受容体候補である
GPCR SRX is a thermoreceptor candidate in cold tolerance of *C. elegans*
Chinatsu Morimoto¹, Chie Miyazaki¹, Kohei Ohnishi¹, Tohru Miura¹, Akane Ohta¹, Atsushi Kuhara^{1,2} (¹Inst. for Integrative Neurobio., Konan Univ., ²PRIME, AMED)
- 3Pos200** 脳-腸連関によって制御された脂質代謝が線虫の温度順化を引き起こす
Lipid metabolism regulated by brain-gut interaction causes temperature acclimation in *C. elegans*
Kazutoshi Murakami^{1,2}, Haruka Motomura^{1,2}, Akane Ohta^{1,2}, Atsushi Kuhara^{1,2,3} (¹rad. sch. Nat. Sci., Univ. Konan, ²Inst. Integrative Neurobio., Univ Konan, ³PRIME, AMED)
- 3Pos201** 拡散追跡による脂質膜上の初期の Aβ 凝集過程に対する開放系の効果
Effect of Open System on Early Aggregation Process of Amyloid β on Lipid Membrane by Diffusion Tracking
Akane Iida¹, Hideki Nabika² (¹Graduate School of Science and Engineering, Yamagata Univ., ²Faculty of Science, Yamagata Univ.)
- 3Pos202** インスリン刺激時のモノアラガイ単離脳に対するリン酸化プロテオミクス解析
Phosphoproteomic analysis of the pond snail's CNS stimulated by insulin
Junko Nakai, Etsuro Ito (Dept. Biol., Waseda Univ.)

- [3Pos203](#) fMRI データに対する行列分解による脳情報コーディング
Brain information coding in fMRI data via matrix factorization
Yusuke Endo, Koujin Takeda (*Grad. Sch. Eng., Univ. Ibaraki*)
- [3Pos204](#) 機能的神経クラスタ推定のためのベイズ生成モデルの一般化
Generalization of Bayesian generative model for functional neuronal ensembles inference
Shun Kimura, Koujin Takeda (*Grad. Sch. Sci. and Eng., Ibaraki Univ.*)
- [3Pos205](#) アガロースマイクロチャネル構造における単一神経突起の分化に必要な定量的条件
Quantitative requirement for single neurite differentiation of neurons in agarose microchannel structures
Ryohei Yamazaki¹, Nanami Abe², Yuri Kamiya², Kenji Yasuda^{1,2} (¹*Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*, ²*Dept. Phys., Sch. Adv. Sci. & Eng., Waseda Univ.*)
- [3Pos206](#) Evaluation of agarose microfabrication technology using Joule heat of micrometer-sized ionic current for cell network formation
Yuri Kamiya¹, Kenji Shimoda², Yoshitune Hondo², Haruki Watanabe², Nanami Abe¹, Ryohei Yamazaki², Kenji Yasuda^{1,2} (¹*Dept. Phys., Sch. Adv. Sci. & Eng., Waseda Univ.*, ²*Dept. Pure and Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*)
- [3Pos207](#) 線虫の神経活動解析における擬似相関の除去
Eliminating spurious correlation in neural activity analysis of *C. elegans*
Harutaka Takeshita, Yuishi Iwasaki (*Grad. Sch. Sci. Eng., Ibaraki Univ.*)
- [3Pos208](#) 遺伝子発現に基づく神経回路形成のデータ駆動型解析
Data-driven analysis of the formation of neural circuit based on gene expression
Jigen Koike¹, Kana Yoshido¹, Naoki Honda^{1,2,3} (¹*Graduate School of Biostudies, Kyoto University*, ²*Graduate School of Integrated Science for Life, Hiroshima University*, ³*Explatory Research Center on Life and Living Systems, ExCells*)
- [3Pos209](#) ヨーロッパモノアラガイの摂食中枢ニューロン CGC 近傍における電気生理学的性質に対する緑茶由来カテキンの影響
The effect of green tea-derived catechin on electrophysiological properties around the CGC in the pond snail *Lymnaea stagnails*
Hideki Matsuoka¹, Ayaka Itoh², Terumasa Amano², Ken Lukowiak³, Minoru Saito², Yoshimasa Komatsuzaki⁴ (¹*Dept. Phys., Grad. Sch. Sci. and Tech., Nihon Univ.*, ²*Dept. Corr. Study in Phys. and Chem., Grad. Sch. Integ. Basic Sci., Nihon Univ.*, ³*Hotchkiss Inst., Cumm. Sch. Med., Univ. of Calgary, Canada*, ⁴*Dept. Phys., CST, Nihon Univ.*)
- [3Pos210](#) エピカテキンはナメクジ嗅覚中枢シナプスの長期抑圧現象を惹起する
Effects of epicatechin on synaptic plasticity of the olfactory center in the land slug *Limax valentianus*
Aya Nagata, **Yoshimasa Komatsuzaki** (*Dept. Phys., CST, Nihon Univ.*)
- [3Pos211](#) 神経細胞内シナプス小胞群の光捕捉下における神経活動測定
Neuronal activity measurement under optical trapping of synaptic vesicles in neurons
Taketo Yasuda, Wataru Minoshima, Kyoko Masui, Chie Hosokawa (*Grad. Sch. Sci., Osaka Metro. Univ. / Osaka City Univ.*)
- [3Pos212](#) 集光フェムト秒レーザーの短時間照射により誘発された神経活動
Neuronal activities induced by short-time irradiation of a focused femtosecond laser
Kan Otani, Yumi Segawa, Wataru Minoshima, Kyoko Masui, Chie Hosokawa (*Grad. Sch. Sci., Osaka Metro. Univ. / Osaka City Univ.*)

- [3Pos213](#) Dynamical systems model of the development of action differentiation and memory in early infancy
Ryo Fujihira, Gentaro Taga (*Grad. Sch. Edu., Univ. Tokyo*)
- [3Pos214](#) ゾウリムシの走化性はレヴィウォークを通じて現れる
 Chemokinetic responses of *Paramecium tetraurelia* through Lévy walks
Azusa Kage¹, Takeru Wakano¹, Masato S. Abe², Takayuki Nishizaka¹ (¹*Dept. Physics, Gakushuin Univ.*,
²*Fac. Culture and Information Science, Doshisha Univ.*)
- [3Pos215](#) Near wall rheotaxis of ciliates, *Tetrahymena pyriformis*.
Yukinori Nishigami¹, Takuya Ohmura², Masatoshi Ichikawa³ (¹*RIES, Hokkaido Univ.*, ²*Biozentrum, Univ. Basel*, ³*Dept Phys., Kyoto Univ.*)

光生物：視覚・光受容／Photobiology: Vision & Photoreception

- [3Pos216](#) **Photoactive Yellow Protein** における酸性アミノ酸に置換した 52 番目の残基のプロトン化状態
 Protonation state of 52nd residue replaced by an acidic amino acid in Photoactive Yellow Protein
Kento Yonezawa^{1,2}, Yoichi Yamazaki², Mikio Kataoka², Hironari Kamikubo^{1,2} (¹*NAIST, CDG*, ²*NAIST, MS*)
- [3Pos217](#) RcPYP と PBP の複合体形成に及ぼす PBP C 末端部位の役割
 Role of PBP C-terminal region on the complex formation between RcPYP and PBP
Daiki Takenaka¹, Yoichi Yamazaki¹, Kento Yonezawa^{1,2}, Sachiko Toma-Fukai¹, Hironari Kamikubo^{1,2}
 (¹*NAIST, MS*, ²*NAIST, CDG*)
- [3Pos218](#) 青色光センサー TePixD の光可逆的な分子集合反応
 Light-dependent reversible molecular assembly of a blue light sensor protein TePixD
Yusuke Nakasone, Yusuke Masuda, Shunrou Tokonami, Masahide Terazima (*Grad. Sch. Sci., Kyoto Univ.*)
- [3Pos219](#) 深海エビ *Rimicaris hybisae* が持つオプシン類の分子特性
 Molecular properties of opsins from the deep-sea hydrothermal vent shrimp *Rimicaris hybisae*
Keiichi Kojima¹, Yuya Nagata², Norio Miyamoto³, Keita Sato¹, Yuji Yamanaka⁴, Yosuke Nishimura⁵,
 Susumu Yoshizawa⁵, Ken Takai³, Hideyo Ohuchi¹, Takahiro Yamashita⁶, Yuki Sudo¹ (¹*Med, Dent & Pharm Sci, Inst of Acad. & Res., Okayama Univ.*, ²*Grad. Sch. of Med. Dent. & Pharm. Sci., Okayama Univ.*, ³*X-STAR, JAMSTEC*, ⁴*Fac. of Pharm. Sci., Okayama Univ.*, ⁵*AORI, Univ. Tokyo*, ⁶*Grad. Sch. Sci., Kyoto Univ.*)
- [3Pos220](#) Investigation of spectral properties and spectral tuning mechanisms of anthozoan-specific opsins from a reef-building coral
Yusuke Sakai, Mitsumasa Koyanagi, Akihisa Terakita (*Department of Biology, Graduate School of Science, Osaka Metropolitan University*)
- [3Pos221](#) 光駆動型 Cl⁻ ポンプ・ハロロドプシンの細胞質型ハーフチャンネルにおける高速 Cl⁻ 輸送のメカニズム解明
 Probing the mechanism of fast Cl⁻ transport in the cytoplasmic half channel of light-driven Cl⁻ pump halorhodopsin
Yubo Zhai¹, Anna Shimosaka¹, Takashi Tsukamoto^{1,2}, Makoto Demura^{1,2}, Takashi Kikukawa^{1,2} (¹*Grad. Sch. Life Sci., Hokkaido Univ.*, ²*Fac. Adv. Life Sci., Hokkaido Univ.*)
- [3Pos222](#) 光駆動 Cl⁻ ポンプ halorhodopsin の基質放出・取込み中間体の同定
 Identification of substrate release and uptake intermediates of light-driven Cl⁻ pump halorhodopsin
Chihaya Hamada¹, Keisuke Murabe¹, Takashi Tsukamoto^{1,2}, Makoto Demura^{1,2}, Takashi Kikukawa^{1,2}
 (¹*Grad. Sch. Life Sci., Hokkaido Univ.*, ²*Fac. Adv. Life Sci., Hokkaido Univ.*)

- [3Pos223](#) 光駆動イオントランスポーターハロロドプシンの理論的研究
Theoretical study on molecular mechanism of a light-driven ion transport of Halorhodopsin
Tomo Ejiri, Ryo Oyama, Shigehiko Hayashi (*Grad. Sch. Sci., Univ. Kyoto*)
- [3Pos224](#) 低温ラマン分光法による光駆動 Cl⁻ポンプ NMR3 の発色団構造変化の研究
Low-temperature Raman study of chromophore structural changes in a light-driven Cl⁻ pump NMR3
Natsuki Ejima¹, Tomotsumi Fujisawa¹, Takashi Kikukawa², Masashi Unno¹ (¹*Fac. Sci. Eng., Saga Univ.*, ²*Fac. Adv. Life Sci., Hokkaido Univ.*)
- [3Pos225](#) 異なるプロトン化状態のアニオンチャネルロドプシン GtACR1 とその変異体の吸収波長に関する理論的研究
Theoretical study on absorption wavelengths of anion channelrhodopsin GtACR1 in different protonation states and their mutants
Takafumi Shikakura, Cheng Cheng, Shigehiko Hayashi (*Grad. Sch. Sci., Kyoto Univ.*)
- [3Pos226](#) 新奇酵素ロドプシン(NeoR)の特異な光化学特性
Unique photochemical properties of novel enzyme rhodopsin (NeoR)
Masahiro Sugiura¹, Kota Katayama¹, Leonid S. Brown², Satoshi Tsunoda¹, Hideki Kandori¹ (¹*Grad. Sch. Eng., Nagoya Inst. of Tech.*, ²*Dept. of Phys., Univ. of Guelph*)
- [3Pos227](#) 近赤外光吸収型ロドプシンの波長制御機構
Color tuning mechanism of near-infrared light absorbing rhodopsins
Kazuki Ishikawa¹, Shoko Hososhima¹, Masahiro Sugiura¹, Leonid S. Brown², Satoshi Tsunoda¹, Hideki Kandori¹ (¹*Grad. Sch. Eng., Nagoya Inst. Tech.*, ²*Dept. Phys., Univ. Guelph*)
- [3Pos228](#) 表面増強赤外分光法を用いた Heliorhodopsin の O 中間体構造変化解析
Structural change upon O intermediate formation of Heliorhodopsin analyzed by using SEIRA spectroscopy
Soichiro Kato¹, Jingyi Tang¹, Insyeeerah Binti Muhammad Jauhari², Hideki Kandori^{1,3}, Yuji Furutani^{1,3} (¹*Graduate School of Engineering, Nagoya Institute of Technology*, ²*Nagoya Institute of Technology*, ³*OptoBio, Nagoya Institute of Technology*)

光生物：光合成／Photobiology: Photosynthesis

- [3Pos229](#) ヘリオバクテリア反応中心における Chl-a₆ から BChl-g への励起エネルギー移動速度の理論的解析
Theoretical analysis of rate of excitation energy transfer from Chl-a₆ to BChl-g in heliobacterial reaction center
Wataru Shimooka¹, Akihiro Kimura¹, Hirotaka Kitoh², Shigeru Itoh¹ (¹*Grad. Sch., Nagoya Univ.*, ²*Fac. Sci. and Engi., Kindai Univ.*)
- [3Pos230](#) ヘリオバクテリアにおける cyt bc 複合体から光合成反応中心への電子伝達反応の分子機構
Molecular mechanism of the electron transfer reaction from cyt bc complex to the photosynthetic reaction center in heliobacteria
Hirozo Oh-oka^{1,2}, Hiraku Kishimoto², Yuki Makino², Risa Kojim¹, Akihiro Kawamoto³, Hideaki Tanaka³, Genji Kurisu³ (¹*CELAS, Osaka Univ.*, ²*Grad. Sch. Sci., Osaka Univ.*, ³*Inst. Protein Res., Osaka Univ.*)
- [3Pos231](#) 緑色光合成硫黄細菌における Rieske/cytb 複合体と c 型シクロムとの構造機能相関
Structure-function relationships between the Rieske/cytb complex and c-type cytochromes in photosynthetic green sulfur bacteria
Hiraku Kishimoto¹, Ryoga Kawanami¹, Chihiro Azai², Risa Mutoh³, Hideaki Tanaka⁴, Yohei Miyanoiri⁴, Genji Kurisu⁴, Hirozo Oh-oka¹ (¹*Grad. Sch. Sci., Osaka Univ.*, ²*Col. Life Sci., Ritsumeikan Univ.*, ³*Fac. Sci., Toho Univ.*, ⁴*Inst. Protein Res., Osaka Univ.*)

- [3Pos232](#) 低温顕微鏡による藻類細胞内光捕集調節機構の空間・波長・時間分解解析
Study on light-harvesting regulation mechanism in algal cells by space-wavelength-time-resolved analysis by cryogenic microscope
Yuki Fujita, XianJun Zhang, Shen Ye, **Yutaka Shibata** (*Grad. Sch. Sci., Tohoku Univ.*)
- [3Pos233](#) 紅色光合成細菌の辺縁アンテナタンパク質の B800 バクテリオクロロフィル a の改変：色素酸化と色素置換
Conversion of B800 bacteriochlorophyll a in peripheral antenna proteins of purple photosynthetic bacteria by oxidation and reconstitution
Yoshitaka Saga, Kohei Hamanishi, Yuji Otsuka, Madoka Yamashita (*Fac. Sci. Eng., Kindai Univ.*)
- [3Pos234](#) タンパク質間相互作用による光合成集光システムの調節
Regulation of light-harvesting systems by protein-protein interactions in plants
Eunchul Kim, Jun Minagawa (*National Institute for Basic Biology*)
- [3Pos235](#) 紅藻 *Porphyridium purpureum* のフィコビリソームロッドにおける最低第 1 励起状態をもつ発色団の特定
Identification of chromophores with the lowest first excited state in the phycobilisomal rod of the red alga *Porphyridium purpureum*
Hiroto Kikuchi (*Dept. of Phys. Nippon Med. Sch.*)
- [3Pos236](#) 太古岩石試料中の光合成色素の顕微分光分析
Tomospectroscopic analysis of photosynthetic pigments in ancient rock samples
Tomohiro Ishikawa¹, Ryosuke Saito², Toru Kondo¹ (¹*Dept. of Life Sci. and Tech. Tokyo Tech.*, ²*Dept. of Earth Sci., Yamaguchi Univ.*)
- [3Pos237](#) 反復回分培養による紅色非硫黄細菌の光合成を利用した水素生成能について
Photosynthetic hydrogen production performance of purple non-sulfur bacteria in repeated batch culture
Masahiro Hibino, Sota Suzuki (*Div. Sust. Enviro. Eng., Muroran Inst. Tech.*)

光生物：光遺伝学・光制御／Photobiology: Optogenetics & Optical Control

- [3Pos238](#) Photo-control Small GTPase Ras Using Photochromic Peptide inhibitor
Nobuyuki Nishihe, Yuichi Imamura, Kazunori Kondo, Shinsaku Maruta (*Department of Bioinformatics, Soka University Graduate School of Engineering, Hachioji, Japan*)
- [3Pos239](#) 陸生アクチノバクテリア由来の新規微生物ロドプシン群
A novel clade of microbial rhodopsins in terrestrial *Actinobacteria*
Mako Ueno¹, Fumio Hayashi², Takashi Kikukawa³, Masashi Sonoyama^{1,4,5} (¹*Grad. Sch. Sci. Tech., Gunma Univ.*, ²*Ctr. Inst. Anal., Gunma Univ.*, ³*Fac. Adv. Life Sci., Hokkaido Univ.*, ⁴*GIAR, Gunma Univ.*, ⁵*GUCFW, Gunma Univ.*)
- [3Pos240](#) Gs 共役型オプシンを用いた二状態安定型光操作ツールの作製
Development of bistable optical control tools based on a Gs-coupled opsin
Akinari Sakayori¹, Yusuke Sakai², Mitsumasa Koyanagi², Akihisa Terakita², Hisao Tsukamoto¹ (¹*Department of Biology, Kobe University*, ²*Department of Biology, Osaka Metropolitan University*)
- [3Pos241](#) 光活性化転写因子「光ジッパー」の分子機構
Molecular mechanism of a light-activatable transcription factor, Photozipper
Osamu Hisatomi, Yuta Nagano, Yumiko Adachi (*Grad. Sch. of Sci., Osaka Univ.*)
- [3Pos242](#) 高速原子間力顕微鏡による光制御型転写因子 Photozipper の二量体形成過程の観察
Dimerization processes of a light-regulated transcription factor, Photozipper, observed by high-speed atomic force microscopy
Akihiro Tsuji¹, Hayato Yamashita¹, Osamu Hisatomi², Masayuki Abe¹ (¹*Grad. Sch. Eng. Sci., Osaka Univ.*, ²*Grad.Sch. Sci., Osaka Univ.*)

- [3Pos243](#) 光受容タンパク質を用いた液液相分離の光制御システムの作製
Creation of a light-control system for liquid-liquid phase separation using a photoreceptor protein
Mizuki Takasugi¹, Yoichi Yamazaki¹, Kento Yonezawa^{1,2}, Sachiko Toma-Fukai¹, Hironari Kamikubo^{1,2}
(¹NAIST, MS, ²NAIST, CDG)

放射線生物／活性酸素／Radiobiology & Active oxygen

- [3Pos244](#) 集束超音波による生体分子への影響
Focused ultrasound induced denaturation of biomolecules
Takumi Akiu¹, Kotarou Takeda², Wakako Hiraoka¹ (¹Grad. Sch. Sci. & Tech., Meiji Univ., ²Sch. Sci. & Tech., Meiji Univ.)
- [3Pos245](#) Elucidation of intracellular temperature changes induced by external stress using fluorescent nano diamonds
Kiichi Kaminaga, Chihiro Suzuki, Yanagi Tamami, Hiroshi Abe, Takeshi Ohshima, Ryuji Igarashi
(Institute for Quantum Life Science, Quantum Life and Medical Science Directorate, QST)
- [3Pos246](#) ヒトプリオンタンパク質オクタリピート領域におけるレドックス調節
Redox regulation in octarepeat region of human prion protein
Wakako Hiraoka¹, Osamu Inanami², Satoru Tsuru³ (¹Grad. Sch. Sci. & Tech., Meiji Univ., ²Grad. Sch. Vet. Med., Hokkaido Univ., ³Sch. Sci. & Tech., Meiji Univ.)

生命の起源・進化／Origin of life & Evolution

- [3Pos247](#) Coexistence of crystals and membraneless polyester microdroplets in a primitive complex system
Chen Chen¹, Ruiqin Yi¹, Motoko Igisu², Afrin Rehana¹, Takazo Shibuya², Yuichiro Ueno^{2,3}, Anna Wang⁴, Andre Antunes⁵, Kuhan Chandru⁶, Tony Z. Jia^{1,7} (¹Earth-Life Science Institute, Tokyo Institute of Technology, Japan, ²Institute for Extra-cutting-edge Science and Technology Avant-garde Research (X-star), Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Japan, ³Department of Earth Science and Planetary Sciences, Tokyo Institute of Technology, Japan, ⁴School of Chemistry, UNSW Sydney, Australia, ⁵State Key Laboratory of Lunar and Planetary Sciences, Macau University of Science and Technology, China, ⁶Space Science Center (ANGKASA), Institute of Climate Change, Level3, Research Complex, National University of Malaysia (UKM), Malaysia, ⁷Blue Marble Space Institute of Science, USA)
- [3Pos248](#) Exploring ancient origins of the circadian clock system through molecular evolution
Atsushi Mukaiyama^{1,2}, Yoshihiko Furuike^{1,2}, Shuji Akiyama^{1,2} (¹Inst. for Mol. Sci. CIMoS, ²SOKENDAI)
- [3Pos249](#) Development of a translational field in the artificial cell by the shell of multiphase droplets
Kanji Tomohara, Yoshihiro Minagawa, Hiroyuki Noji (Dept. Appl. Chem., Grad. Sch. Eng., Univ. Tokyo)
- [3Pos250](#) アミノ酸熱重合物を用いた代謝様反応
Metabolism-like reactions using proteinoid
Shunsuke Ito¹, Shigeru Sakurazawa² (¹Future University Hakodate, ²Department of Complex and Intelligent Systems, Future University Hakodate)
- [3Pos251](#) 触媒反応ネットワークにおけるコンパートメントの進化的獲得
Catalytic reaction networks evolve compartmentalization and compartment-specific reactions
Shunsuke Ichii¹, Yusuke Himeoka¹, Chikara Furusawa^{1,2} (¹Grad. Sch. Sci., Univ. of Tokyo, ²BDR, RIKEN)

- [3Pos252](#) 緩慢凍結融解サイクルによるベシクル融合実験：原始細胞生成過程への示唆
Vesicle fusion via slow freeze-thaw cycles and its implications for the emergence of a protocell
Natsumi Noda¹, Tatsuya Shinoda¹, Kazumu Kaneko¹, Yoshikazu Tanaka², Yasuhito Sekine¹, Tomoaki Matsuura¹ (¹*ELSI, Tokyo Tech.*, ²*Grad. Sch. Life Sci., Tohoku Univ.*)

ゲノム生物学：ゲノム構造／Genome biology: Genome structure

- [3Pos253](#) 核スペckルの構造形成・動態のシミュレーション
Simulations of structural dynamics of nuclear speckle
Shingo Wakao, Masashi Fuji, Akinori Awazu (*Graduate School of Integrated Sciences for Life, Univ. Hiroshima*)
- [3Pos254](#) Hi-C データからの直感的なヘテロクロマチンとユークロマチンの識別法
An intuitive discrimination method of heterochromatin and euchromatin from Hi-C data
Takashi Sumikama^{1,2}, Takeshi Fukuma² (¹*JST, PRESTO*, ²*WPI-NanoLSI, Kanazawa Univ.*)
- [3Pos255](#) Modeling heterogeneous chromatin structure ensembles using metainference from Hi-C data
Chenyang Gu, Giovanni Brandani (*Grad. Sch. Sci., Univ. Kyoto*)

生命情報科学：構造ゲノミクス／Bioinformatics: Structural genomics

- [3Pos256](#) 改良 MSA を用いたアブラナ科植物の SRK/SP11 複合体構造のハプロタイプ網羅的な予測
Haplotype exhaustive prediction of SRK/SP11 complex structure in Brassicaceae using a modified MSA
Tomoki Sawa¹, Yoshitaka Moriawaki¹, Tohru Terada¹, Kohji Murase², Seiji Takayama², Kentaro Shimizu¹ (¹*Dept. of Biotechnol., Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo*, ²*Dept. of Appl. Biol. Chem., Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo*)
- [3Pos257](#) 深層学習を用いた、電子顕微鏡画像からの骨格筋小胞形態判別
Skeletal muscle vesicle morphology discrimination from electron microscope images using deep learning method
Natsuki Kezuka¹, Shiho Kasaya¹, Kenji Etchuya¹, Jun Nakamura³, Chikara Sato², **Makiko Suwa**^{1,2} (¹*Aoyamagakuin Univ. Sci. and Eng.*, ²*Grad. Sch., Sci. and Eng., Aoyamagakuin Univ.*, ³*Health and Medical Res. Inst., AIST*)
- [3Pos258](#) 新しいタンパク質立体構造がミスセンスバリエーションの評価に与える影響の評価
Evaluating the impact of new three-dimensional structures for interpretation of missense variants in human genome
Matsuyuki Shirota^{1,2}, Kengo Kinoshita^{2,3} (¹*Grad. Sch. Med., Tohoku Univ.*, ²*ToMMo, Tohoku Univ.*, ³*Grad. Sch. Inform. Sci., Tohoku Univ.*)
- [3Pos259](#) Structural characteristics of coregulated phosphorylation sites
Hafumi Nishi^{1,2,3} (¹*Grad. Sch. Info. Sci., Tohoku Univ.*, ²*Fac. Core Res., Ochanomizu Univ.*, ³*ToMMo, Tohoku Univ.*)

- [3Pos260](#) 微生物群集は普遍的に極めて安定な形質組成を持つ
Microbial communities are universally characterized by extremely stable trait compositions
Takao K Suzuki¹, Motomu Matsui¹, Susumu Morigasaki², Iwao Ohtsu², Yuki Doi², Hisayoshi Hayashi³, Naoki Takaya⁴, Wataru Iwasaki¹ (¹*Graduate School of Frontier Sciences, the University of Tokyo*, ²*School of Life and Environmental Science, University of Tsukuba*, ³*Tsukuba-Plant Innovation Research Center, University of Tsukuba*, ⁴*Microbiology Research Center for Sustainability, University of Tsukuba*)
- [3Pos261](#) 乳腺組織のがん化により染色体内相互作用を維持する遺伝子の遺伝子オントロジーの特定
Identification of gene ontologies of genes with intra-chromosomal interactions in the breast cancer tissue
Yuta Shintani (*Fac. Adv. Math. Sci., Meiji Univ*)
- [3Pos262](#) 出芽酵母プロテオームからの新規 PLP 結合タンパク質の予測
Prediction of novel PLP-binding proteins from budding yeast proteome
Masafumi Shionyu¹, Momoka Nakamoto¹, Atsushi Hijikata², Yukio Mukai¹ (¹*Grad. Sch. Biosci., Nagahama Inst. Bio-Sci. Tech.*, ²*Sch. Life Sci., Tokyo Univ. Pharm. Life Sci.*)

数理生物学／Mathematical biology

- [3Pos263](#) 膜タンパク質クラスター形成とそのシグナル伝達系における機能的意義に関する数理的研究
A Mathematical study for membrane protein cluster formations and its functional significance in signal transduction systems
Hiroaki Takagi (*Sch. Med., Nara Med. Univ.*)
- [3Pos264](#) 主成分分析を用いた希少遺伝性疾患に対する human phenotype ontology からの特徴抽出
Feature extraction from human phenotype ontology for rare/hereditary disease using principal component analysis
Yoshino Jibiki¹, Toyofumi Fujiwara², Takanori Sasaki¹ (¹*Fac. Adv. Math. Sci., Meiji Univ.*, ²*DBCLS*)
- [3Pos265](#) クロマチンポリマーモデルにおける結合分子によるクラスターの寿命
Lifetime of Bridging Induced Cluster in Chromatin Polymer Model
Ryo Nakanishi¹, Koji Hukushima^{1,2} (¹*Graduate School of Arts and Sciences, The University of Tokyo*, ²*Komaba Institute for Science*)
- [3Pos266](#) 遺伝子発現制御ネットワークモデルの応答ダイナミクス次元圧縮
Dimensional compression of response dynamics on a gene regulatory network model
Masayo Inoue¹, Kunihiko Kaneko² (¹*Grad. Sch. Eng., Kyushu Inst. Tech.*, ²*Niels Bohr Inst.*)
- [3Pos267](#) 細胞配置替え過程におけるアクトミオシンケーブルの剥離と接着の数理モデル
Mathematical model for detachment and attachment of cortical actin cable in cell rearrangement
Shuji Ishihara^{1,2}, Keisuke Ikawa³, Kaoru Sugimura^{2,4} (¹*Grad. Sch. Arts. Sci., Univ. Tokyo*, ²*UBI, Univ. Tokyo*, ³*Grad. Sch. Sci., Nagoya Univ.*, ⁴*Grad. Sch. Sci., Univ. Tokyo*)
- [3Pos268](#) Which asymmetry leads to genitalia rotation: Direction-dependent interfacial tension vs effective cellular torque
Sonja Tarama^{1,2}, Sayaka Sekine³, Erina Kuranaga³, Tatsuo Shibata² (¹*Col Life Sci, Ritsumeikan Univ.*, ²*Riken BDR*, ³*Grad Sch Life Sci, Tohoku Univ*)
- [3Pos269](#) 生態・進化ダイナミクスにおける一般的な速度制限
General constraint on speeds in ecological and evolutionary dynamics
Kyosuke Adachi^{1,2}, Ryosuke Iritani^{2,4}, Ryusuke Hamazaki^{2,3} (¹*RIKEN BDR*, ²*RIKEN iTHEMS*, ³*RIKEN CPR*, ⁴*Grad. Sch. Sci., Univ. Tokyo*)

- [3Pos270](#) ヒト血中インスリンによるアミノ酸および脂質代謝制御機構のモデルベース同定
Model-based identification of the regulation of amino acid and lipid metabolism by insulin in human blood
Suguru Fujita¹, Yasuaki Karasawa², Ken-ichi Hironaka¹, Akiyoshi Hirayama³, Tomoyoshi Soga³, Shinya Kuroda¹ (¹*Dept. of Biol. Sci., Grad. Sch. of Sci., Univ. of Tokyo.*, ²*Dept. of Neur., Grad. Sch. of Med., Univ. of Tokyo.*, ³*Inst. for Adv. Biosci., Keio Univ.*)
- [3Pos271](#) ネットワーク解析に基づく乳がんのバイオマーカー予測
Biomarker prediction of breast cancer based on network analysis
Saito Torii (*Fac. Adv. Math. Sci., Meiji Univ.*)

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- [3Pos272](#) A general approach to chemical thermodynamics and constraints for growing systems
Yuki Sughiyama, **Atsushi Kamimura**, Dimitri Loutchko, Tetsuya J. Kobayashi (*IIS, The University of Tokyo*)
- [3Pos273](#) 動物の老化に伴う活動速度の指数減衰とトランスポゾン駆動老化仮説の検証
Exponential decline of *C. elegans* behavioral activity along with aging and experimental test of the transposon-driven aging hypothesis
Yukinobu Arata, Jurica Peter, Sako Yasushi (*RIKEN, CPR, Cell Info*)
- [3Pos274](#) Overpotential Estimation in Enzymatic Reactions of Mitochondrial Respiratory Chains
Nuning Anugrah Putri Namari¹, Kotaro Takeyasu^{2,3}, Junji Nakamura^{3,4} (¹*Graduate School of Science and Technology, University of Tsukuba*, ²*Department of Materials Science, Faculty of Pure and Applied Sciences, University of Tsukuba*, ³*Tsukuba Research Center for Energy Materials Science, University of Tsukuba*, ⁴*Mitsui Chemicals, Inc.-Carbon Neutral Research Center, International Institute for Carbon-Neutral Energy Research, Kyushu University*)
- [3Pos275](#) 細胞内微小管の物理的性質
Probing physical properties of intracellular microtubules
Ryota Ori, Hirokazu Tanimoto (*Grad. Sch. Nanobioscience., Univ. Yokohama City*)

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- [3Pos276](#) 磁気刺激による細胞活動制御のための磁気レシーバー・磁気刺激システムの開発
Development of novel technique for magnetic activation of living-cell functions
Shunki Takaramoto¹, Hiromu Yawo¹, Yujiro Nagasaka¹, Hikaru Yoshioka², Masaki Sekino², Keiichi Inoue¹ (¹*ISSP Univ. Tokyo*, ²*Sch. Eng., Univ. Tokyo*)
- [3Pos277](#) (2SGA-3) Decoding single-cell transcriptomic phenotypes from cell images enabled by robotic data acquisition and deep learning
Jianshi Jin¹, Taisaku Ogawa¹, Nozomi Hojo¹, Kirill Kryukov², Kenji Shimizu³, Tomokatsu Ikawa⁴, Tadashi Imanishi², Taku Okazaki³, Shiroguchi Katsuyuki¹ (¹*BDR, RIKEN*, ²*Dept. of Mol. Life Sci., Tokai Univ. Sch. of Med.*, ³*Inst. for Quant. Biosci., Univ. of Tokyo*, ⁴*Res. Inst. for Biomed. Sci., Tokyo Univ. of Sci.*)
- [3Pos278](#) Plunus Lanessiana から抽出した蛍光色素の解析と水素化アモルファスシリコン薄膜上での特性
Characterization of fluorescent pigment extracted from Plunus Lanessiana and the properties on hydrogenated amorphous silicon film
Kazunori Takada¹, Mao Izumi¹, Satomi Kimura¹, Koyu Akiyama¹, Hiroshi Masumoto², Yutaka Tsujiuchi^{1,2} (¹*Material Science and Engineering, Akita University*, ²*Frontier Research Institute for Interdisciplinary Sciences, Tohoku University*)

- [3Pos279](#) センサシステム研究のための水素化アモルファスシリコンで増強された脂肪酸とクマリンの複合分子薄膜
Composite molecular film of fatty acid and coumarin for sensor system enhanced by hydrogenated amorphous silicon
Koyu Akiyama¹, Kazunori Takada¹, Hiroshi Masumoto², Yutaka Tsujiuchi^{1,2} (¹*Material Science and Engineering, Akita University*, ²*Frontier Research Institute for Interdisciplinary Sciences, Tohoku University*)
- [3Pos280](#) 光退色後蛍光寿命回復法の開発と応用
Fluorescence Lifetime Recovery After Photobleaching (FLRAP): Concept and application
Ikumi Mori, Miyuki Sakaguchi, Shoichi Yamaguchi, Takuhiro Otsu (*Grad. Sch. Sci. Eng. Saitama Univ.*)
- [3Pos281](#) 光ファイバ型蛍光相関分光装置の開発と性能評価
Development of a fiber-optic based fluorescence correlation spectroscopy and its performance evaluation
Johtaro Yamamoto¹, Akira Sasaki² (¹*Health & Med. Res. Inst., AIST*, ²*Biomed. Res. Inst., AIST*)
- [3Pos282](#) Measuring the heat flux of intracellular reactions using differential scanning calorimetry
Tasuku Sato¹, Akira Murakami¹, Kohki Okabe^{1,2}, Takashi Funatsu¹ (¹*Graduate School of Pharmaceutical Sciences, The University of Tokyo*, ²*PRESTO, JST*)
- [3Pos283](#) Measurement of the physical properties in a cell with optical method
Yasuhiro Maeda¹, Sonja Tarama², Mitsusuke Tarama², Junichi Kaneshiro¹, Tatsuo Shibata², Tomonobu Watanabe¹ (¹*Laboratory for Comprehensive Bioimaging, RIKEN BDR*, ²*Laboratory for Physical Biology, RIKEN BDR*)
- [3Pos284](#) ゼブラフィッシュ心臓における細胞外マトリックスの弾性率のAFM測定と細胞運命制御機構
AFM analysis of the stiffness of extracellular matrix of zebrafish heart and its contribution to cell fate determination
Sho Matsuki, Ryuta Watanabe, Yuuta Moriyama, Toshiyuki Mitsui (*Grad. Sch. Sci., Univ. Aogaku*)
- [3Pos285](#) High-Speed AFM revealed dynamic behavior of antibody
Norito Kotani, Takashi Morii, Takao Okada (*Research Institute of Biomolecule Metrology Co., Ltd.*)
- [3Pos286](#) シロザケ椎骨の骨質解析
Assessment of Bone Quality in Chum Salmon Vertebrae
Shota Hironaka, Chihiro Kawamoto, Humiya Nakamura, Hiromi Kimura-Suda (*Graduate School of Science and Engineering, Chitose Institute of Science and Technology*)
- [3Pos287](#) Application of a bench-top NMR instrument for omics studies of gut microbiota metabolites
Zihao Song¹, Yuki Ohnishi¹, Seiji Osada², Li Gan¹, Jiaxi Jiang¹, Zhiyan Hu¹, Hiroyuki Kumeta¹, Yasuhiro Kumaki¹, Kiminori Nakamura¹, Tokiyoshi Ayabe¹, Kazuo Yamauchi³, Tomoyasu Aizawa¹ (¹*Grad. Sch. Life Sci., Hokkaido Univ.*, ²*Nakayama Co., Ltd.*, ³*IAS, OIST*)
- [3Pos288](#) Research on metabolomics of human breast milk samples by benchtop NMR and high field NMR
Zhiyan Hu¹, Jiaxi Jiang¹, Li Gan¹, Zihao Song¹, Yuki Ohnishi¹, Seiji Osada², Hiroyuki Kumeta¹, Yasuhiro Kumaki¹, Kazuo Yamauchi³, Tomoyasu Aizawa¹ (¹*Grad. Sch. Life Sci., Hokkaido Univ.*, ²*Nakayama Co., Ltd.*, ³*IAS, OIST*)
- [3Pos289](#) 大腸菌一遺伝子欠損株におけるラマンスペクトルとオミクスデータの対応
Correspondence between Raman spectra and omics data in *E. coli* single gene deletion strains
Genta Chiba¹, Ken-ichiro Kamei², Arisa Oda^{2,3}, Kunihiro Ohta^{2,3}, Yuichi Wakamoto^{2,3} (¹*Dept. Integ. Sci., Univ. Tokyo*, ²*Grad. Sch. Art Sci., Univ. Tokyo*, ³*UBI, Univ. Tokyo*)
- [3Pos290](#) アクチン繊維のQCM測定における独特の周波数シフト
Unique frequency-shifts in QCM measurement on binding biomolecules having filamentous shape
Naoki Matsumoto¹, Honoka Kobayashi², Taiki Nishimura¹, Yuki Sakurai¹, Kaito Kobayashi¹, Kaho Yokomuro¹, Kazuya Soda¹, Ikuko Fujiwara², Hajime Honda² (¹*Dept. of Bioeng. Nagaoka Univ. of Tech.*, ²*Dept. of Matl. Sci. and Bioeng., Nagaoka Univ. of Tech.*)

- [3Pos291](#) 交流電場による細胞の回転運動を利用した、非標識に細胞の誘電特性を計測する電極デバイスの開発
Development of Simultaneous Electrorotation Device with Microwells for Non-Labeled Characterization of Cellular Dielectric Properties
Masato Suzuki¹, Mio Tsuruta¹, Shee Chean Fei², Seiichi Uchida², Tomoyuki Yasukawa¹ (¹*Grad. Sch. Sci., Univ. Hyogo*, ²*Grad. Sch. Info. Sci. Elect. Eng., Kyushu Univ.*)

バイオイメーシング／Bioimaging

- [3Pos292](#) RNA ポリメラーゼによる転写開始素過程の一分子解析
Probing processes in transcription initiation by *Escherichia coli* RNA polymerase using single-molecule methods
Shingo Fukuda, Toshio Ando (*WPI Nano Life Science Institute (WPI-NanoLSI), Kanazawa University*)
- [3Pos293](#) 水中測定におけるサブミクロン分解能赤外分析法 (O-PTIR) の汎用性拡大に向けた検討
Expanding the versatility of sub-micron resolution infrared analysis method (O-PTIR) in underwater measurement
Naoki Baden (*Nihon Thermal Consulting, Co., Ltd.*)
- [3Pos294](#) Importance of annexin V N-terminal for 2D crystal formation revealed by HS-AFM
Trang Ngoc Tran¹, Ryusei Yamada², Holger Flechsig³, Toshiki Takeda⁴, Noriyuki Kodera³, Hiroki Konno³ (¹*Graduate School of Frontier Science Initiative, Kanazawa University, Kakuma-machi, Kanazawa 920-1192, Japan*, ²*Graduate School of Natural Science & Technology, Kanazawa University, Kanazawa 920-1192, Japan*, ³*WPI Nano Life Science Institute (WPI-NanoLSI), Kanazawa University, Kakuma-machi, Kanazawa 920-1192, Japan*, ⁴*College of Science and Engineering, School of Natural system, Kanazawa University, Kakuma-machi, Kanazawa 920-1192, Japan*)
- [3Pos295](#) 蛍光タンパク質型高感度温度センサーを用いた小胞体での微小な熱発生計測
Extremely sensitive measurement of thermogenesis in the endoplasmic reticulum using a FRET-based thermosensor with huge dynamic range
Shun-ichi Fukushima, Takeharu Nagai (*SANKEN, Univ. Osaka*)
- [3Pos296](#) 超広視野顕微鏡の安価版(SeMATERAS)の開発
Inexpensive development of ultra-wide-field microscope SeMATERAS
Masashi Ohmachi, Hiromichi Wakebe, Yuichi Inoue (*SIGMA KOKI Co., LTD.*)
- [3Pos297](#) Protein Unfolding Dynamics during Translocation through a Solid-state Nanopore
Hirohito Yamazaki, Sotaro Uemura (*The University of Tokyo, Department of Biological Science*)
- [3Pos298](#) チラコイド膜中に存在する光化学系Ⅱ超複合体の高速 AFM による可視化
Visualization of photosystem II super complex in thylakoid membrane by HS-AFM
Daisuke Yamamoto (*Fac. Sci., Fukuoka Univ.*)
- [3Pos299](#) Nanoscale visualization of cell membrane exposed to non-thermal atmospheric pressure plasma
Han Gia Nguyen¹, Linhao Sun², Tatsuya Kitazaki³, Shinya Kumagai³, Shinji Watanabe² (¹*Grad. Sch. Nano Life Sci., Univ. Kanazawa*, ²*WPI NanoLSI, Univ. Kanazawa*, ³*Univ. Meijo*)
- [3Pos300](#) ナノレベルの精度を持つ光電子相関顕微鏡の要素開発：無冷媒クライオスタットを用いたサンプルホルダーのサブミクロン安定化
Sub-millikelvin stabilization of sample holders with closed-cycle cryostat for correlative light and electron microscopy with nm accuracy
Takuma Yorita, Michio Matsushita, Satoru Fujiyoshi (*Department of Physics, Tokyo Institute of Technology*)

- [3Pos301](#) (2SBA-6) 細胞内の一分子を三次元でナノレベルの分解能で観察できる「クライオ三次元ナノスコピー」の開発
(2SBA-6) Cryo-3D Nanoscopy to localize three-dimensional position of individual fluorophore with nanometer precision in the cell
Kanta Naruse¹, Tsuyoshi Matsuda¹, Yuta Mizouchi¹, Takeshi Shimi², Hiroshi Kimura², Eiji Nakata³, Takashi Morii³, Michio Matsushita¹, Satoru Fujiyoshi¹ (¹*Department of physics, Tokyo institute of technology*, ²*Cell Biology Center, Institute of Innovative Research, Tokyo institute of technology*, ³*Institute of Advanced Energy, Kyoto University*)
- [3Pos302](#) SARS-CoV-2 スパイク (S) タンパク質の時空間追跡と ACE2 受容体および小さな細胞外小胞との相互作用
Spatiotemporal tracking of SARS-CoV-2 spike (S) protein and its interaction with ACE2 receptor and small extracellular vesicles
KeeSiang Lim¹, Goro Nishide², Takeshi Yoshida⁴, Takahiro Watanabe-Nakayama¹, Akiko Kobayashi³, Masaharu Hazawa^{1,3}, Rikinari Hanayama^{1,4}, Toshio Ando¹, Richard W. Wong^{1,3} (¹*Kanazawa University*, ²*WPI-Nano Life Science Institute, Kanazawa University*, ³*Division of Nano Life Science in the Graduate School of Frontier Science Initiative, WISE Program for Nano-Precision Medicine, Science and Technology*, ⁴*Kanazawa University*, ⁵*Cell-Bionomics Research Unit, Institute for Frontier Science Initiative (INFINITI)*, ⁶*Kanazawa University*, ⁷*Department of Immunology, Graduate School of Medical Sciences*.)
- [3Pos303](#) 細胞内一分子ナノスコピーのための近赤外蛍光標識技術の開発
Near-infrared fluorescent labeling technique for cryogenic single molecule nanoscopy in cell
Kazuki Kuramoto¹, Kei Muto², Ryuya Miyazaki², Junichiro Yamaguchi², Kanta Naruse¹, Naoki Kamiya¹, Hidekazu Aramaki¹, Michio Matsushita¹, Haruka Oda^{3,4}, Takeshi Shimi^{3,4}, Hiroshi Kimura^{3,4}, Satoru Fujiyoshi¹ (¹*Department of Physics, Tokyo Institute of Technology*, ²*Department of Applied Chemistry, Waseda University*, ³*Bioscience and Biotechnology, Tokyo Institute of Technology*, ⁴*Cell Biology Center, Institute of Innovative Research, Tokyo Institute of Technology*.)
- [3Pos304](#) 局在化する高分散化表面修飾ナノダイヤモンドの開発とその細胞移行に関する研究
Research on the development of localized highly dispersed surface modified nanodiamond and their cellular uptake
Hiroataka Okita¹, Shingo Sotoma¹, Shunsuke Chuma^{1,2}, Madoka Suzuki¹, Yoshie Harada^{1,3} (¹*IPR*, ²*Osaka Univ*, ³*Grad. Sch. Sci., Osaka Univ*, ⁴*QIQB*, ⁵*Osaka Univ*.)
- [3Pos305](#) (2SBA-5) High-resolution mapping of chromatin compaction and dynamics in live cells by label-free interference microscopy
Yi-Teng Hsiao, Chia-Ni Tsai, Fasih Bintang Ilhami, Chia-Lung Hsieh (*Institute of Atomic and Molecular Sciences (IAMS), Academia Sinica / Taiwan*)
- [3Pos306](#) A new technique for detecting single biomolecule fluctuations using surface distance-dependent spectral changes in the QD emission
Kaoru Okura, Hitoshi Tatsumi (*Department of Applied Bioscience, Kanazawa Inst. of Technol., Ishikawa, Japan*)
- [3Pos307](#) Gaussian Weighted Background Correction For Raman images with application to hydrogel samples
Jean-Emmanuel Clement (*Institute for Chemical Reaction Design and Discovery (ICReDD), Hokkaido University*)
- [3Pos308](#) 一分子イメージングを用いた生細胞内 RNA ポリメラーゼ II の様々な転写サイクル段階におけるダイナミクス解析
RNA Polymerase II dynamics analysis at different stages of the transcription cycle in living cells using single-molecule imaging
Ryo Akita, Yuma Ito, Makio Tokunaga (*Sch. Life Sci. Tech., Tokyo Inst. Tech.*)

- [3Pos309](#) A green color fluorescence lifetime-based biosensor for quantitative imaging of intracellular ATP in multicellular system
Cong Quang Vu¹, Taketoshi Kiya², Toshinori Fujie³, Tetsuya Kitaguchi⁴, Satoshi Arai¹ (¹*Grad. Sch. NanoLS., Kanazawa Univ.*, ²*Grad. Sch. of Nat. Sci. Tech., Kanazawa Univ.*, ³*Sch. of Life Sci. and Tech., Tokyo Tech.*, ⁴*Inst. of Inno. Res., Tokyo Tech.*)
- [3Pos310](#) 膜受容体と脂質ドメインの共クラスター化を評価するための3色SMLM解析ワークフロー
 Workflows of triple-color single-molecule localization microscopy analysis to assess co-clustering of membrane receptors and lipid domains
Masataka Yanagawa^{1,2}, Mitsuhiro Abe¹, Yasushi Sako¹ (¹*Riken CPR*, ²*JST PRESTO*)
- [3Pos311](#) NIR-triggered vesicles to manipulate spatial and temporal dynamics of a neurotransmitter in skeletal muscle and Drosophila brain
Takeru Yamazaki¹, Satya Sarker¹, Taketoshi Kiya², Satoshi Arai¹ (¹*Grad. Sch. NanoLS., Kanazawa Univ.*, ²*Grad. Sch. of Nat. Sci. Tech., Kanazawa Univ.*)
- [3Pos312](#) (1SEP-3) Triple-color photothermal dye-based nanoheaters to generate multiple heat spots within a single cell
Md Monir Hossain, Takeru Yamazaki, Kayoko Nomura, Satoshi Arai (*Grad. Sch. NanoLS., Kanazawa Univ.*)
- [3Pos313](#) 可逆的ターンオン型蛍光標識技術の開発とライブセル蛍光イメージングへの応用
 Development of reversible turn-on fluorescent labeling technology and its application to live cell fluorescence imaging
Shigeyuki Namiki, Daisuke Asanuma, Hiroki Ishikawa, Shinkuro Kobayashi, Kenzo Hirose (*Department of Pharmacology, Graduate school of Medicine, The University of Tokyo*)

バイオエンジニアリング／Bioengineering

- [3Pos314](#) DNAで作るナノミウラ折り
 Nano Miura fold fabricated with DNA
Daisuke Ishikawa, Masahiko Hara (*Sch. Mater. Chem. Tech., Tokyo Tech.*)
- [3Pos315](#) 相分離液滴をテンプレートとしたDNAオリガミカプセルの構築
 Construction of DNA origami capsules using phase-separated droplets as templates
Nagi Yamashita¹, Marcos Masukawa², Mayumi Chano³, Yusuke Sato⁴, Masahiro Takinoue^{1,3}
 (¹*Department of Life Science and Technology, School of Life Science and Technology, Tokyo Institute of Technology.*, ²*Department of Chemistry, Johannes Gutenberg University Mainz.*, ³*Department of Computer Science, School of Computing, Tokyo Institute of Technology.*, ⁴*Department of Systems Design and Informatics, School of Computer Science and Systems Engineering, Kyushu Institute of Technology.*)
- [3Pos316](#) DNAハイドロゲルの形成と変形の光制御
 Photocontrol of DNA hydrogel formation and deformation
Yoshiaki Sano¹, Masahiro Takinoue^{1,2} (¹*Department of Life science and Technology, Tokyo Institute of Technology, Japan*, ²*Department of Computer Science, Tokyo Institute of Technology, Japan*)
- [3Pos317](#) 電子線照射が微生物細胞に及ぼす影響
 Effects of an electron beam irradiation on living bacterial cells
Junya Katai¹, Yuta Nagano¹, Kenshi Suzuki², Kazuki Yasuike¹, Ryoya Hayashi¹, Asahi Tanaka³, Tetsuo Narumi¹, Masaki Shintani¹, Yosuke Tashiro¹, Wataru Inami⁴, Yoshimasa Kawata⁴, Fumihiro Sassa⁵, Hiroyuki Futamata⁶ (¹*Dept. Appl. Chem. Biological Eng., Univ. Shizuoka*, ²*Grad. Sch. Scie. Tech., Univ. Shizuoka*, ³*Coop. Major. Med. Photo., Univ. Shizuoka*, ⁴*Res. Inst. Elect., Univ. Shizuoka*, ⁵*Grad. Sch. Fac. Inf. Sci. Elect. Eng., Univ. Kyushu*, ⁶*Res. Inst. Green. Sci. Tech., Univ. Shizuoka*)

- [3Pos318](#) サブテラヘルツ照射によるタンパク質および核酸の構造変化の溶液 NMR 解析
Structural changes of proteins and nucleic acids induced by sub-terahertz radiation investigated by using solution NMR spectroscopy
Yuji Tokunaga¹, Masahiko Imashimizu², Koh Takeuchi¹ (¹*Grad. Sch. Pharm. Sci., UTokyo*, ²*CMB, AIST*)
- [3Pos319](#) Medusavirus の局所構造解析によるウイルス粒子形成に伴う構造変化の可視化
Visualization of structural changes associated with virus particle formation by local structural analysis of Medusavirus
Ryoto Watanabe^{1,2}, Chihong Song^{1,2,3}, Kazuyoshi Murata^{1,2,3}, Masaharu Takemura⁴ (¹*National Institute for Physiological Sciences (NIPS)*, ²*The Graduate University for Advanced Studies (SOKENDAI)*, ³*The Exploratory Research Center on Life and Living Systems (ExCELLS)*, ⁴*Tokyo University of Science*)
- [3Pos320](#) 人工多細胞の自動生産に関する研究
Toward automated production of lipid-based multi-compartment assemblies
Ryo Shimizu¹, Richard James Archer¹, Gen Hayase², Satoshi Murata¹, Shin-Ichiro Nomura¹ (¹*Grad. Sch. Eng., Univ. Tohoku/Japanese*, ²*WPI-MANA*)
- [3Pos321](#) 表面微細構造上における付着珪藻の増殖挙動
The growth of marine benthic diatoms on micro patterned surfaces
Takayuki Murosaki¹, Taiki Kishigami², Yuji Hirai³, Yasuyuki Nogata⁴ (¹*Department of Chemistry, Asahikawa Medical University*, ²*Graduate School of Science and Engineering, Chitose Institute of Science and Technology*, ³*Department of Applied Chemistry and Bioscience, Faculty of Science and Engineering, Chitose Institute of Science and Technology*, ⁴*Sustainable System Research Laboratory, Central Research Institute of Electric Power Industry*)
- [3Pos322](#) Magnetic induced assembly of anisotropic structures for reversible lipid compartment deformations
Richard Archer, Shinichiro M. Nomura (*Tohoku University, Department of Robotics*)
- [3Pos323](#) 超撥水表面上の水滴の跳ね返り挙動に関する理論的考察
Theoretical Consideration on Bouncing Behavior of Water Droplet on Superhydrophobic Surface
Hiroyuki Mayama (*Department of Chemistry, Asahikawa Medical University*)
- [3Pos324](#) Self-assembly of DNA origami blocks into two-dimensional crystalline structures with designed geometries
Yuki Suzuki¹, Ibuki Kawamata² (¹*Grad. Sch. Eng., Mie Univ.*, ²*Grad. Sch. Eng., Tohoku Univ.*)