

第1日目(9月19日(火)) / Day 1 (Sep. 19 Tue.) 全学教育棟 2階 C201, C202, D201, D202, D203; 全学教育棟 3階 D301, D302, D303 / Room C201, C202, D201, D202, D203, General Education Bldg. 2F; D301, D302, D303, General Education Bldg. 3F

蛋白質：構造 / Protein: Structure

- 1Pos001** X線結晶解析スクリーニングによる BRD4 阻害剤の探索と BRD4-阻害剤複合体の中性子結晶構造解析
Discovery of BRD4 inhibitors by X-ray crystallographic screening and neutron crystallographic analysis of BRD4-inhibitor complex
Takeshi Yokoyama, Kazunori Matsumoto, Yuko Nabeshima, Mineyuki Mizuguchi (*Fac. of Pharm. Sci., Univ. of Toyama*)
- 1Pos002** P-loop を用いた ATP 結合タンパク質のゼロからの設計
Toward design of ATP-binding proteins from scratch using P-loop
Kengo Nakamura^{1,2}, Takahiro Kosugi^{1,2}, Nobuyasu Koga^{1,2,3} (¹SOKENDAI, ²IMS CIMoS, ³JST PRESTO)
- 1Pos003** gREST 法による TrpCage のフォールディングと自由エネルギー地形
Folding simulation and free energy landscape analysis of TrpCage by gREST
Motoshi Kamiya¹, Yuji Sugita^{1,2,3} (¹RIKEN AICS, ²RIKEN TMS, ³RIKEN QBiC)
- 1Pos004** AMED 創薬等ライフサイエンス研究支援基盤事業が提供する最先端クライオ電子顕微鏡システム
State-of-the Art Cryo-EM system provided by AMED Platform Project for Supporting Drug Discovery and Life Science Research
Kenji Iwasaki, Kiyo Tsunozumi, Mika Hirose, Naoyuki Miyazaki (*JPR, Osaka Univ.*)
- 1Pos005** リガンド結合シミュレーションへのタンパク質構造揺らぎの取り込み
Incorporation of protein flexibility into ligand binding simulation
Suyong Re¹, Hiraku Oshima¹, Motoshi Kamiya², Yuji Sugita^{1,2,3} (¹RIKEN QBiC, ²RIKEN AICS, ³RIKEN TMS)
- 1Pos006** Cryo-cooling effect on crystalline DHFR studied by replica-exchange molecular dynamics
Tetsuro Nagai¹, Osamu Miyashita², Florence Tama^{1,2,3} (¹Nagoya Univ., *Grad. School of Science*, ²RIKEN AICS, ³Nagoya Univ., *ITbM*)
- 1Pos007** GPU を用いた加重アンサンブルシミュレーションによるタンパク質の機能性ダイナミクスの探索
Investigation of protein functional dynamics by GPU-accelerated weighted ensemble simulation
Hironori Kokubo, Atsutoshi Okabe, Etsuro Watanabe (*Research, Takeda Pharmaceutical*)
- 1Pos008** The head structure of the Staphylococcus aureus phage S13' at near atomic resolution by cryo-electron microscopy single particle analysis
Naoyuki Miyazaki¹, Jumpei Uchiyama², Shigenobu Matsuzaki³, Kazuyoshi Murata⁴, Kenji Iwasaki¹ (¹Institute for Protein Research, *Osaka University*, ²Azabu University, ³Kochi University, ⁴National Institute for Physiological Sciences)
- 1Pos009** 自由エネルギー変分原理に基づく Pim-1 キナーゼ阻害剤系の相対的結合自由エネルギーの予測. リガンド構造の分類
Relative binding free energy predictions for ligands with Pim-1 kinase based on the free energy variational principle: classify of ligands
Anna Hirai, Takeshi Ashida, Takeshi Kikuchi (*Dept. of Bioinf., Col. Life Sci., Ritsumeikan Univ.*)
- 1Pos010** The amino acid sequences analysis of Titin by methods based on the inter-residue average distance statistics
Panyavut Aumpuchin, Takeshi Kikuchi (*Dept. of Bioinf., Col. Life Sci., Ritsumeikan Univ.*)
- 1Pos011** 分子動力学法を用いた Hras-GTP/GDP 複合体の構造と溶媒水との水素結合との関連性の研究
Molecular dynamics study of relationship between the structures of the Hras-GTP/GDP complexes and hydrogen bonds to the solvent water
Takeshi Miyakawa¹, Ryota Morikawa¹, Masako Takasu¹, Kimikazu Sugimori², Kazutomo Kawaguchi², Hidemi Nagao² (¹Tokyo University of Pharmacy and Life Sciences, ²Kanazawa University)
- 1Pos012** 親水性/疎水性界面におけるアミロイドβフラグメントの凝集の分子動力学シミュレーション
All-atom molecular dynamics simulations of amyloid-β fragment aggregation at hydrophilic/hydrophobic interface
Hisashi Okumura^{1,2}, Satoru G. Itoh^{1,2} (¹IMS, ²SOKENDAI)
- 1Pos013** 単一ミオシン結合状態アクトミオシンの高分解能化
F-actin structural changes induced by a single myosin head
Takahiro Namise, Takuo Yasunaga, Kazuaki Yoshida (*Kyushu Institute of Technology*)
- 1Pos014** XFEL テンプレートマッチング法と粗視化法を用いたクロマチン多重立体配座解析の実現可能性に関する研究
Feasibility study for the multiple conformation analysis of the chromatin structure by using the XFEL template matching and CG simulation
Atsushi Tokuhisa^{1,5}, Ryo Kanada¹, Yuta Isaka^{3,4}, Biao Ma^{3,4}, Shuntaro Chiba¹, Yasushi Okuno^{1,2,4,5} (¹RIKEN, *RC*, ²Kyoto University, *Graduate School of Medicine*, ³FBRI, *Pro-Cluster Kobe*, ⁴FBRI, *IBRI Laboratory*, ⁵RIKEN, *AICS*)
- 1Pos015** タンパク質構造の安定化における糖の役割
Role of sugars on the stabilization of protein structure
Satoshi Ajito, Mitsuhiro Hirai (*Grad. Sch. Sci. and Tec., Univ. Gunma*)
- 1Pos016** ポリエチレングリコールの存在下でのタンパク質構造安定性の研究
Study of protein structure stability in the presence of polyethylene glycol
Yugo Maezawa, Mitsuhiro Hirai (*Grad. Sch. Sci & Tec., Univ. Gunma*)
- 1Pos017** 分子動力学シミュレーションの緩和モード解析
Relaxation mode analysis of molecular dynamics simulations
Ayori Mitsutake, Hiroshi Takano (*Dept. Phys., Keio Univ.*)

- 1Pos018** NMR-based structural analysis of the locally disordered conformation of outer surface protein A
Takuro Wakamoto¹, Ryo Kitahara² (¹Graduate School of Life Sciences, Ritsumeikan University, ²College of Pharmaceutical Sciences, Ritsumeikan University)
- 1Pos019** Free energy analysis of cosolvent-induced denaturation through molecular dynamics simulation and energy-representation method
Yu Yamamori, Nobuyuki Matubayasi (Osaka Univ. Grad. Sch. Eng. Sci.)
- 1Pos020** Structure and Dynamics of α -crystallin under crowding condition
Yusuke Sakamaki¹, Rintaro Inoue², Nobuhiro Sato², Masaaki Sugiyama² (¹Grad. Sch. Sci., Kyoto Univ., ²KURRI)

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

- 1Pos021** Quantum-chemical analysis of pKa and structural change of amino acid residues in catalytic center of Ser286-mutant firefly luciferases
Naohisa Wada¹, Kazuya Kato¹, Hironori Sakai² (¹Food and Nutritional Sciences, Toyo University, ²Institute of Fluid Science, Tohoku University)
- 1Pos022** 結晶中の小さな構造変化からタンパク質のアロステリック機構を読み解く
Deciphering protein allosteric mechanisms from small structural changes in crystals
Naoya Shibayama¹, Ayana Sato¹, Mio Ohki², Sam-Yong Park² (¹Jichi Med. Univ., Div. of Biophys., ²Yokohama City Univ., Drug Design Lab.)
- 1Pos023** 3D-RISM 理論を応用した溶液中におけるアスパラギン、Met-enkephalin の構造揺らぎの解析
Analysis of structural fluctuations of ASN and Met-enkephalin in the solution phase by means of 3D-RISM theory
Masatake Sugita¹, Fumio Hirata² (¹Dept. of Bioinfo., Col. of Life Sci., Ritsumeikan Univ., ²Toyota Phys. & Chem. Res. Inst.)
- 1Pos024** アルカン合成関連酵素の機能発現に重要なアミノ酸残基の変異解析
Mutational analysis of amino acid residues important for the function of an enzyme for alkane biosynthesis
Masashi Nomura, Hisashi Kudo, Yuuki Hayashi, Munehito Arai (Dept. Life Sci., Univ. Tokyo)
- 1Pos025** Regression method for comparison of multiple protein conformations
Takashi Amisaki, Shin-ichi Fujiwara (Fac of Med, Tottori Univ)
- 1Pos026** 親水性タンパク質-タンパク質間会合の駆動力に関する MD 及び 3D-RISM 計算
Driving force of hydrophilic protein-protein associations as studied by MD and 3D-RISM calculations
Honami Sakaizawa, Tadaomi Furuta, Minoru Sakurai (Cent. Biores. Bioinf., Tokyo Tech)
- 1Pos027** 粗視化モデルと全原子モデルを用いた蛋白質複合体シミュレーション
Simulations of Protein Dimers using a Coarse-Grained Model and All-Atom Models
Takao Yoda, Takuya Yamada, Toshiyuki Tsuji, Tsuyoshi Shirai (Computer Bioscience, Nagahama Institute of Bio-Science and Technology)
- 1Pos028** hERG イオンチャンネルと薬剤分子の相互作用予測手法の開発
Prediction of interactions between the hERG potassium ion channel and drug molecules
Tatsuki Negami, Toheru Terada (Grad. Sch. Agri. and Life Sci., The Univ. of Tokyo)
- 1Pos029** ヘモグロビンの酸素親和性制御に関係する大振幅ヘリックス揺らぎの実験的検証：テラヘルツ (THz) 分光による研究
Experimental Investigation of Large Amplitude Fluctuations of Helices Related with Oxygen Affinity of Hemoglobin using THz Spectroscopy
Shigenori Nagatomo¹, Kohji Yamamoto², Masako Nagai³, Teizo Kitagawa⁴ (¹Dept. Chem., Univ. Tsukuba, ²Res. Center Develop. Far-IR Region, Univ. Fukui, ³Res. Center Micro-Nano Tech., Hosei Univ., ⁴Grad. Sch. Life Sci., Univ. Hyogo)
- 1Pos030** Study on the pH-dependent changes in the structure and ligand-binding properties of the perireceptor proteins
Durige Wen¹, Mitsuhiro Hirai², Mamiko Ozaki³, Tatsuo Iwasa⁴ (¹Department of Applied Science and Engineering, Muroran Institute of Technology, ²Graduate School of Science and Technology, Gunma University, ³Department of Biology, Graduate School of Science, Kobe University, ⁴Center of Environmental Science and Disaster Mitigation for Advanced Research, Muroran Institute of Technology)
- 1Pos031** pH 一定の分子動力学シミュレーションによって発生させたアミノ酸の様々なプロトン化状態に基づく結合自由エネルギー計算
Binding free energy calculation using various protonation states of amino acids generated by constant pH molecular dynamics simulations
Shin-ichi Fujiwara, Takashi Amisaki (Fac. Med., Tottori Univ.)
- 1Pos032** MD シミュレーションを用いた CD44 のヒアルロン酸との結合に関する理論的研究
Theoretical Study on Hyaluronan-Binding to CD44 Using Molecular Dynamics Simulation
Yota Horioka¹, Saki Hongo¹, Yuki Inazuka¹, Yoshifumi Fukunishi², Juha M. Lintuluoto³, Masami Lintuluoto¹ (¹Grad. Sch. of Life and Environ. Sci., Kyoto Pref. Univ., ²Nati. Instit. of Adv. Indust. Sci. and Technol., ³Grad. Sch. of Eng., Kyoto Univ.)
- 1Pos033** XOR の結合ポケットの中における基質の運動について一分子動力学による研究
The motion of the substrate in the binding pocket of XOR: molecular dynamics study
Hiroyuki Kikuchi¹, Hiroshi Fujisaki¹, Tadaomi Furuta², Ken Okamoto³, Takeshi Nishino⁴ (¹Dept. of Phys., Nippon Med. Sch., ²Sch. of Life Sci. & Tech., Tokyo Tech., ³Dept. of Biochem., Nippon Med. Sch., ⁴Grad. Sch. of Agri. & Life Sci., Univ. Tokyo)
- 1Pos034** 基質結合蛋白質の天然変性領域の網羅的探索および機構解析
Comprehensive search and mechanism analysis of intrinsically disordered region of ligand binding proteins
Satoshi Omori, Hafumi Nishi, Kengo Kinoshita (Grad. Sch. of Info. Sci., Tohoku Univ.)

蛋白質：物性 / Protein: Property

- 1Pos035** Relating slow-down in diffusion and transient oligomer formation in concentrated villin solutions
Po-Hung Wang¹, Nawrocki Grzegorz², Isseki Yu¹, Takanori Kigawa³, Michael Feig², Yuji Sugita^{1,4,5,6} (¹RIKEN TMSL (Wako), ²MSU, USA, ³RIKEN QBiC (Yokohama), ⁴RIKEN AICS (Kobe), ⁵RIKEN QBiC (Kobe), ⁶RIKEN iTHES (Wako))

- 1Pos036** LEA モデルペプチド及びトレハロースによるリゾチームの熱変性防止
Protective effect of LEA peptides and trehalose on the thermal denaturation of lysozyme
Takao Furuki, Minoru Saukrai (*Tokyo Institute of Technology*)
- 1Pos037** カーボンナノチューブによるシステイン残基の酸化
Oxidation of cysteine residues of proteins on carbon nanotubes
Atsushi Hirano¹, Tomoshi Kameda², Shun Sakuraba³, Momoyo Wada¹, Takeshi Tanaka¹, Hiromichi Kataura¹ (¹NMRI, AIST, ²AIRC, AIST, ³Grad. Sch. Front. Sci., Univ. Tokyo)
- 1Pos038** Structural and thermodynamic analysis for metal-induced three helix-bundle formation
Satomi Inaba¹, Daiki Usui², Hiroshi Sekiguchi¹, Toshiki Tanaka³, Masayuki Oda² (¹JASRI/SPring-8, ²Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ., ³Grad. Sch. Eng., Nagoya Inst. Technol.)
- 1Pos039** 考慮する因子を段階的に増やすモデル解析に基づく蛋白質の折り畳み機構の理論的解明
Unraveling protein folding mechanism by analyzing the hierarchy of models with increasing level of detail
Tomohiko Hayashi¹, Satoshi Yasuda^{1,2,3}, Skrbic Tatjana⁴, Giacometti Achille⁴, Masahiro Kinoshita¹ (¹Inst. Adv. Energ., Kyoto Univ., ²Grad. Sch. Sci., Chiba Univ., ³MCRC, Chiba Univ., ⁴Dept. of Molecular Sciences and Nanosystems, Venezia Univ.)
- 1Pos040** アルコール中のメリチンとマストバランのヘリックス構造熱安定性
Thermal stability of helical conformation of melittin and mastoparan in alcohol
Yoshinori Miura (*Center for Advanced Instrumental Analysis, Kyushu University*)
- 1Pos041** NtrC の構造転移の経路とその遷移状態のカメレオンモデルによる研究
Characterization of the pathways and transition states of conformational transition of NtrC by the chameleon model
Shinya Abe¹, Masaki Sasai², Tomoki P. Terada² (¹Dept. Comput. Sci. Eng., Grad. Sch. Eng., Nagoya Univ., ²Dept. Appl. Phys., Grad. Sch. Eng., Nagoya Univ.)
- 1Pos042** 定温定圧レプリカ置換分子動力学シミュレーションによって明らかになったシニョリンの準安定状態の温度・圧力依存性
Temperature and pressure dependence of metastable state of a chignolin revealed by an isothermal-isobaric replica-permutation method
Masataka Yamauchi^{1,2}, Hisashi Okumura^{1,2} (¹SOKENDAI, ²IMS)
- 1Pos043** Structural stability of halorhodopsin from *Natronomonas pharaonis* under acidic condition
Shinichiro Hayashi, Takanori Sasaki (*Grad. Sch. Adv. Math. Sci., Meiji Univ*)
- 1Pos044** 分子回転拡散係数のビリアル展開によるタンパク質間相互作用の解析
Protein-protein interaction on crystallization revealed by the virial expansion of molecular rotational diffusion coefficient
Akane Kato¹, Yudai Katsuki¹, Etsuko Nishimoto² (¹Grad. Sch. Bioresour. Bioenviron. Sci., Kyushu Univ., ²Fac. Agr., Kyushu Univ.)
- 1Pos045** タンパク質構造変化における経路の多様性：マルコフ状態モデルによる解析
A variety of pathways for a conformational change of a protein analyzed using a Markov state model
Sotaro Fuchigami (*Grad. Sch. of Medical Life Science, Yokohama City Univ.*)
- 1Pos046** 何故 4 つのイントロン位置は、タンパク質立体構造上で、平面を形成するか？
Why four intron positions form a plane in the tertiary structure of protein?
Michiko Nosaka (*National Institute of Technology, Sasebo College*)

膜蛋白質 / Membrane proteins

- 1Pos047** 1 分子イメージングによる GPCR の活性推定
Single-molecule imaging-based estimation of GPCR activity
Masataka Yanagawa¹, Michio Hiroshima^{1,2,3}, Yuichi Togashi⁴, Takahiro Yamashita⁵, Yoshinori Shichida^{5,6}, Masayuki Murata⁷, Masahiro Ueda^{2,8}, Yasushi Sako¹ (¹RIKEN, ²QBiC, RIKEN, ³JST, CREST, ⁴Grad. Sch. Sci., Hiroshima Univ., ⁵Grad. Sch. Sci., Kyoto Univ., ⁶Research Org. Sci. & Tech., Ritsumeikan Univ., ⁷Grad. Arts & Sci., Univ. Tokyo, ⁸Grad. Frontier Biosci., Osaka Univ.)
- 1Pos048** 脂質-タンパク質協同性による上皮成長因子受容体の膜近傍ドメイン二量体形成機構
Lipid-protein cooperativity in the regulation of juxtamembrane domain dimer formation in epidermal growth factor receptor
Ryo Maeda¹, Takeshi Sato², Kenji Okamoto¹, Yasushi Sako¹ (¹Cellular Informatics Lab., RIKEN, ²Kyoto Pharmaceutical Univ.)
- 1Pos049** レプリカ交換 MD シミュレーションによる FGFR3 膜貫通領域の構造サンプリング
Conformation Sampling of FGFR3 TM dimer using replica exchange MD simulation
Daisuke Matsuoka, Motoshi Kamiya, Yuji Sugita (*RIKEN*)
- 1Pos050** 活性型 G タンパク質共役受容体の熱安定化置換の同定
Identification of PtThermostabilizing mMutations for a G-protein coupled receptor in the active state
Simon Hikiri^{1,2}, Ryosuke Nakano¹, Nanao Suzuki¹, Satoshi Yasuda^{1,2,3}, Yuta Kajiwara⁴, Masahiro Kinoshita², Takeshi Murata^{1,3,5} (¹Graduate School of Science, Chiba University, ²Institute of Advanced Energy, Kyoto University, ³Molecular Chirality Research Center, Chiba University, ⁴Graduate School of Energy Science, Kyoto University, ⁵JST, PRESTO)
- 1Pos051** 置換により多くの Class A の G タンパク質共役受容体を安定化するアミノ酸残基の理論的決定
Theoretical Identification of Hot-Spot Residues to be Mutated Common in G Protein-Coupled Receptors of Class A
Satoshi Yasuda^{1,2,3}, Yuta Kajiwara⁴, Yosuke Toyoda⁵, Kazushi Morimoto⁵, Ryoji Suno⁵, So Iwata⁵, Yakuya Kobayashi⁵, Takeshi Murata^{1,2,6}, Masahiro Kinoshita³ (¹Grad. Sch. Sci., Chiba Univ., ²MCRC, Chiba Univ., ³IAE, Kyoto Univ., ⁴Grad. Sch. Ener. Sci., Kyoto Univ., ⁵Grad. Sch. Med., Kyoto Univ., ⁶JST, PRESTO)

- 1Pos052** 活性型アデノシン A2a 受容体の 4 重置換がもたらす安定化の物理起源
Physical origin of stabilization by a quadruple mutation for the adenosine A2a receptor in the active state
Yuta Kajiwara¹, Satoshi Yasuda^{2,3,4}, Mitsunori Ikeguchi⁵, Takeshi Murata^{2,3,6}, Masahiro Kinoshita⁴ (¹Graduate School of Energy Science, Kyoto University, ²Graduate School of Science, Chiba University, ³Molecular Chirality Research Center, Chiba University, ⁴Institute of Advanced Energy, Kyoto University, ⁵Graduate School of Medical Life Science, Yokohama City University, ⁶JST, PRESTO)
- 1Pos053** コレステロールを介した上皮成長因子受容体のクラスター形成は EGF シグナル伝達に不可欠である
Cholesterol Mediated Cluster Formation Is Indispensable for the Downstream Signaling of Epidermal Growth Factor Receptor
Michio Hiroshima^{1,2}, Nario Tomishige², Masahiro Ueda¹, Yasushi Sako² (¹RIKEN QBiC, ²RIKEN)
- 1Pos054** 赤外分光法による GLIC の pH 依存性チャンネル開閉機構の研究
ATR-FTIR / SEIRAS study on the pH induced gating mechanisms of Gloeobacter violaceus pentameric ligand-gated ion channel (GLIC)
Kenichi Ataka¹, Haidai Hu², Marc Delarue², Joachim Heberle¹ (¹Freie Universitaet Berlin, Fachbereich Physik, Experimental Molecular Biophysics, ²Institut Pasteur, Unit of Structural Dynamics of Macromolecules, CNRS URA)
- 1Pos055** バクテリオロドプシンの DC-DFTB-MD シミュレーション：光反応サイクル上でのプロトンダイナミクス
DC-DFTB-MD simulations of bacteriorhodopsin: Proton dynamics along the photocycle
Minori Imai¹, Junichi Ono¹, Yoshifumi Nishimura², Hiromi Nakai^{1,2,3,4} (¹Grad. Sch. of Adv. Sci. & Eng., Waseda Univ., ²RISE, Waseda Univ., ³JST-CREST, ⁴ESICB, Kyoto Univ.)
- 1Pos056** 生細胞での膜タンパク質の拡散運動の網羅的解析
Comprehensive Diffusion Analysis of Membrane Proteins in Living Cells
Kazutoshi Takebayashi^{1,2}, Yukihiro Miyanaga³, Masahiro Ueda^{1,3} (¹QBiC, RIKEN, ²Grad. Sch. Sci., Univ. Osaka, ³Grad. Sch. FBS., Univ. Osaka)
- 1Pos057** 膜貫通タンパク質の細胞内局在要因の同定
Identification of the subcellular localization factors of transmembrane proteins
Tatsuki Kikegawa, Yuri Mukai (Dept. Electronics, Grad. Sch. Sci. Tech., Meiji Univ.)
- 1Pos058** Membrane binding structure of Bombinin H2 and H4 peptides in leishmania mimetic membrane as studied by solid-state NMR and MD simulation
Mijiddorj Batsaikhan^{1,2}, Shiho Kaneda¹, Namsrai Javkhlantugs², Kazuyoshi Ueda¹, Hisako Sato³, Akira Naito¹, Izuru Kawamura¹ (¹Yokohama Natl. Univ., ²National University of Mongolia, ³Ehime University)
- 1Pos059** Novel microsystem for high throughput production of small liposome with size uniformity
Naoki Soga¹, Rikiya Watanabe^{1,2}, Hiroyuki Noji¹ (¹Dept. of App. Chem., The Univ. of Tokyo, ²AMED-PRIME)
- 1Pos060** バクテリオロドプシンの DC-DFTB-MD シミュレーション：プロトン放出基における余剰プロトンの非局在化ダイナミクス
DC-DFTB-MD simulations of bacteriorhodopsin: Delocalization dynamics of an excess proton in proton releasing group
Junichi Ono¹, Minori Imai¹, Yoshifumi Nishimura², Hiromi Nakai^{1,2,3,4} (¹Grad. Sch. of Adv. Sci. & Eng., Waseda Univ., ²RISE, Waseda Univ., ³JST-CREST, ⁴ESICB, Kyoto Univ.)
- 1Pos061** ナノポアと DNA を用いたナノ空間内における Hofmeister 効果の検証
Investigation of Hofmeister effect in nanospace using nanopore and DNA as a probe
Masaki Matsushita, Ryuji Kawano (Grad. Sch. Biotech. and Life Sci., TUAT)

電子状態 / Electronic state

- 1Pos062** ホタルルシフェリン酸化反応経路の pH 依存性
pH dependence of oxidation reaction pathway of firefly luciferin
Miyabi Hiyama¹, Hidefumi Akiyama^{1,2}, Nobuaki Koga³ (¹ISSP, Univ. Tokyo, ²OPERANDO-OIL, ³Grad. Sch. Info. Sci., Nagoya Univ.)
- 1Pos063** 光電子放出を用いたサーモフィリックロドプシン膜の電子構造の観測
Electronic structure of a thermophilic rhodopsin film observed by techniques using photoelectron emission
Daisuke Sano¹, Astushi Matsuzaki¹, Yuki Takeda¹, Takuya Miyauchi¹, Takeshi Murata^{2,3}, Yuki Sudo⁴, Hisao Ishii^{1,3,5} (¹Graduate School Science and Engineering Chiba University, ²Graduate School of Science Chiba University, ³Molecular Chirality Research Center Chiba University, ⁴Graduate School of Medicine Dentistry and Pharmaceutical Science Okayama University, ⁵Center for Frontier Science)
- 1Pos064** アミロイド β 凝集における亜鉛イオンの役割の計算解析
Computational analysis of the role of a zinc ion in the amyloid-β aggregation
Hiroaki Nishizawa¹, Hisashi Okumura^{1,2} (¹IMS, ²SOKENDAI)

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

- 1Pos065** 部分波展開法と 3D-RISM 法の結合による新たな溶媒和自由エネルギー計算式の提案
New solvation free energy expression for the 3D-RISM combined with the distributed partial wave expansion
Shoichi Tanimoto, Norio Yoshida, Haruyuki Nakano (Grad. Sch. Sci., Kyushu Univ.)
- 1Pos066** Size-consistent multipartitioning QM/MM 法により量子化学効果を取り込んだ陽イオンの溶媒和
Cation solvation with quantum chemical effect incorporated by size-consistent multi-partitioning QM/MM method
Hiroshi Watanabe^{1,2}, Maximilian Kubillus³, Tomas Kubar³, Robert Stach⁴, Boris Mizaikoff⁴, Hiroshi Ishikita¹ (¹UTokyo, RCAST, ²UTokyo, AICHEM, ³Karlsruhe Institute of Technology, ⁴University of Ulm)

- 1Pos067** 蛋白質構造の安定性と熱変性に関する相互作用成分解析
Interaction-component analysis of protein stability with regard to heat denaturation
Yoshihiko Tokunaga, Yu Yamamori, Ryosuke Ishizuka, Nobuyuki Matubayasi (*Grad. Eng. Sci., Univ. Osaka*)
- 1Pos068** 機械学習による水和水の研究
Machine-learning approach for behavior of hydration water
Taku Mizukami¹, Viet Cuong Nguyen³, Tien Lam Pham², Heiu Chi Dam² (¹JAIST, Materials Science, ²JAIST, Knowledge Science, ³HPC Systems)
- 1Pos069** 筋原線維懸濁液の ATP 分解素過程中的のプロトン NMR 緩和経過
Spin-spin relaxation of ¹H NMR signals from myofibril suspension during cross-bridge cycling
Tetsuo Ohno (*Dept. Physiol., The Jikei Univ. Sch. Med.*)
- 1Pos070** 水溶液からアルキルアミン含有有機溶媒へのリン酸化合物分配の熱力学的解析
Thermodynamic analysis for partitioning of phosphoric compounds between water and organic solvent containing alkyl amine
Hideyuki Komatsu (*Biosci. & Bioinfo. Kyushu Inst. Tech.*)
- 1Pos071** 蛋白質の二次構造と水とダイナミクスの相関に関する分子動力学的研究
Molecular dynamics study on the relationship between the protein secondary structure and its hydration dynamics
Takafumi Fujiyoshi¹, Kota Kasahara², Takuya Takahashi² (¹Graduate School of Life Science, Ritsumeikan University, ²College of Life Science, Ritsumeikan University)
- 1Pos072** イオン周囲の水分子の運動性を再現する新規 Lennard-Jones パラメータの検討
Reproduction of the water mobility around an ion by introducing a new Lennard-Jones parameter
Yuki Takimoto¹, Kota Kasahara², Takuya Takahashi² (¹Grad. Life. Sci., Ritsumeikan Univ., ²Col. Life. Sci., Ritsumeikan Univ.)
- 1Pos073** 疎水表面による静電相互作用の強化
Enhancement of electrostatic interaction by hydrophobic surface
Takato Sato¹, Tohru Sasaki¹, Jun Ohnuki¹, Koji Umezawa^{2,3}, Mitsunori Takano¹ (¹Dept. of Pure & Appl. Phys., Waseda Univ., ²Grad. Sch. of Sci. & Tech., Shinshu Univ., ³IBS, Shinshu Univ.)
- 1Pos074** 小角散乱、中性子準弾性散乱、及び中性子結晶学による蛋白質水和水の統一的理解
Coordinated analysis of protein hydration water by small-angle scattering, quasielastic neutron scattering, and neutron crystallography
Satoru Fujiwara¹, Tatsuhito Matsuo¹, Fumiaki Kono¹, Shin-ichi Takata², Yasunobu Sugimoto³, Tatsuya Kikuchi², Kenji Nakajima², Toshiyuki Chatake⁴ (¹QuBS, QST, ²J-PARC Center, ³Nagoya Univ., ⁴RII, Kyoto Univ.)
- 1Pos075** リゾチームの動的ストークスシフト測定と分子動力学計算によるその解釈
Measurement of dynamic Stokes shift of lysozyme and its interpretation by molecular dynamics simulation
Asahi Fukuda^{1,2}, Tomotaka Oroguchi^{1,2}, Masayoshi Nakasako^{1,2} (¹Facult. Sci. Tech., Keio Univ., ²RIKEN SPring-8 Center)

分子モーター / Molecular motor

- 1Pos076** 演題取り消し
- 1Pos077** 細胞質ダイニンの歩行運動の異方性に関する理論的研究
Theoretical study on the anisotropy of Cytoplasmic dynein locomotion
Shintaoh Kubo, Shoji Takada (*Grad. Sci., Univ. Kyoto*)
- 1Pos078** 確率的モデリングによるミオシン V の化学-力学ネットワーク
Chemomechanical network modeling of myosin V
Tomonari Sumi (*Res. Inst. Interdisciplinary Sci., Okayama Univ.*)
- 1Pos079** Two antagonistic regulatory domains of DC1N1 modulate the microtubule-binding affinities of both dynein and dynactin
Takuya Kobayashi¹, Kei Saito¹, Takuya Miyashita¹, Takashi Murayama², Yoko Y Toyoshima¹ (¹Department of Life Sciences, Graduate School of Arts and Sciences, The University of Tokyo, ²Department of Pharmacology, Juntendo University School of Medicine)
- 1Pos080** Development of a nano-patterning of kinesins to control the number and arrangement of motors by combining Au nano-pillars and SAM
Taikopaul Kaneko¹, Shotaro Ohba¹, Ken'ya Furuta², Kazuhiro Oiwa², Hirofumi Shintaku¹, Hidetoshi Kotera¹, Ryuji Yokokawa¹ (¹Kyoto Univ. Eng. Micro., ²NICT)
- 1Pos081** 微小管結合タンパク質アルファシヌクレインの微小管および微小管依存細胞内輸送における機能解析
Alpha-synuclein binds unconventional microtubules that have a unique function
Shiori Toba¹, Mingyue Jin¹, Masami Yamada¹, Sakiko Matsumoto¹, Takuo Yasunaga^{2,3,4}, Yuko Fukunaga^{5,6}, Atsuo Miyazawa^{5,6}, Hiroaki Kojima⁷, Yoshiyuki Arai⁸, Takeharu Nagai⁸, Shinji Hirotsune¹ (¹Osaka City Univ. Grad. Sch. of Medicine, ²Faculty of Computer Science and Systems Engineering, Kyushu Inst. of Technology, ³JST-SENTAN, ⁴JST-CREST, ⁵Grad. Sch. of Life Science, Univ. of Hyogo, ⁶RIKEN SPring-8 Center, ⁷Advanced ICT Research Inst., National Inst. of Information and Communications Technology, ⁸Inst. of Scientific and Industrial Research, Osaka Univ.)
- 1Pos082** アーキアべん毛の回転を駆動するモーターは速度一定型である
The Archaeal Motor Produces Variable Torques to Maintain Constant Rotation Speed
Seiji Iwata, Yoshiaki Kinoshita, Daisuke Nakane, Takayuki Nishizaka (*Dept. of Phys., Gakushuin Univ., Japan*)
- 1Pos083** 真核生物鞭毛軸糸の Ca²⁺濃度による構造変化の X 線繊維回折による解析
Structural responses of *Chlamydomonas* flagellar axonemes to Ca²⁺ studied with X-ray fiber diffraction
Kazuhiro Oiwa^{1,2,3}, Junya Kirima², Misaki Shiraga², Hiroyuki Iwamoto⁴ (¹Adv. ICT Res. Inst. NICT, ²Grad. Sch. Life Sci. Univ. Hyogo, ³CREST Biodynamics, ⁴Japan Sync. Rad. Res. Inst. SPring-8)

- 1Pos084 Cell-like locomotion of self-organized motor-filament complex**
Takayuki Torisawa^{1,2}, Masahiro Sawada^{2,3}, Daisuke Taniguchi⁴, Shuji Ishihara^{2,3}, Kazuhiro Oiwa^{1,2} (¹Advanced ICT Inst., NICT, ²CREST, JST, ³Grad. Sch. Arts and Sciences, Univ. Tokyo, ⁴Dept. of Pharm., Grad. Sch. Med, Kyoto Univ.)
- 1Pos085 *de novo* 設計した人工コイルドコイルは回転子として機能する。**
The *de novo* designed artificial coiled-coil functions as a rotor of rotary motor
Jun-ichi Kishikawa, Mihori Baba, Atsuko Nakanishi, Ken Yokoyama (Dept. Mol. Biosci., Kyoto Sangyo Univ.)
- 1Pos086 Structural and mechanistic insights into the ϵ subunit from bacterial ATP synthases**
Alexander Krah^{1,2}, Shoji Takada², Changbong Hyeon¹ (¹School of Computational Sciences, Korea Institute for Advanced Study (KIAS), ²Department of Biophysics, Graduate School of Science, Kyoto University)
- 1Pos087 DNA ベイント法を用いた RNA ポリメラーゼの超解像イメージングと細胞個性の分子メカニズムの解明**
Super-resolution imaging of RNA polymerases with DNA-PAINT for understanding the molecular mechanism of cell individuality
Keisuke Fujita^{1,2}, Toshio Yanagida^{1,2}, Mitsuhiro Iwaki^{1,2} (¹QBiC, RIKEN, ²Grad. Sch. of Front. Bioscience., Osaka Univ.)
- 1Pos088 F₁-ATPase のシリンダー部分の 1 分子立体構造変化観察**
Single-molecule observation of conformational dynamics in the cylinder part of F₁-ATPase
Ryuichi Yokota¹, Mitsuhiro Sugawa², Yuta Nomura¹, Junichiro Yajima², Tomoko Masaike^{1,3} (¹Dept. Appl. Biol., Sch. Sci. and Tech., Tokyo Univ. of Sci., ²Grad. Sch. Arts and Sci., Univ. of Tokyo, ³Imaging Frontier Center, Tokyo Univ. of Sci.)
- 1Pos089 キネシン-微小管の運動性を利用したデフォーカス角度イメージングの単一蛍光色素のテンプレートの獲得**
Acquisition of raw sequential templates of a single fluorophore under defocused orientation imaging using kinesin-MT motility assay
Shoko Fujimura¹, Kazuki Goto², Kengo Adachi³, Takayuki Nishizaka² (¹Sch. of Med, Keio Univ., ²Dept. Phys., Gakushuin Univ., ³Engin., Waseda Univ.)
- 1Pos090 Novel photochromic inhibitor of kinesin composed of dronpa tandem dimer**
Kohei Uchida, Shinsaku Maruta (Grad. Sch. Eng., Univ. Soka)

細胞生物学 / Cell biology

- 1Pos091 細胞内シグナル伝達における膜電位の役割**
Role of membrane potential in intracellular signal transduction
Yusuke V. Morimoto^{1,2,3}, Masahiro Ueda^{2,3} (¹Dept. of Biosci. Bioinfo., Kyushu Inst. Tech., ²RIKEN, QBiC, ³Grad. Sch. Frontier Biosci., Osaka Univ.)
- 1Pos092 原始真核生物の細胞分裂過程を細胞内小器官の 3D 構造モデルから読み解く**
Reading out the cell division process of primitive eukaryotes from 3D structural model of intracellular organelles
Takako M. Ichinose^{1,2}, Rina Nagai^{1,2}, Hikari Mori¹, Atsuko H. Iwane^{1,2} (¹RIKEN, QBiC, Cell Struct., ²Osaka Univ., Grad. Front. Biosci.)
- 1Pos093 角化細胞においてアクトミオシン活性が増殖の接触阻害に必須である**
Actomyosin activity is required for contact inhibition of keratinocyte proliferation
Hiroaki Hirata^{1,2}, Mikhail Samsonov³, Masahiro Sokabe¹ (¹Nagoya Univ Grad Sch Med, ²R-Pharm Japan, ³R-Pharm)
- 1Pos094 エンドセリン B 受容体のシグナル伝達における GRP78 の役割**
Roles of GRP78 in endothelin B receptor signaling
Yuichi Mazaki¹, Tsunehito Higashi¹, Takahiro Horinouchi¹, Jin-Min Nam², Yasuhito Onodera³ (¹Dept. Cell. Pharm., Grad. Sch. Med., Hokkaido Univ., ²GSQ, GI-CoRE, Hokkaido Univ., ³Dept. Mol. Biol., Grad. Sch. Med., Hokkaido Univ.)
- 1Pos095 細胞形状が誘発するアメーバ細胞の集団運動**
Cell shape driving collective migration of amoeba cells
Katsuyoshi Matsushita (Osaka University, School of Science, Department of Biological Science)
- 1Pos096 γ -tubulin は中心子のトリプレット微小管形成に関与する**
Evidence for involvement of γ -tubulin in assembly of centriolar triplet microtubules
Yuki Nakazawa^{1,2}, Mao Horii³, Saki Watanabe¹, Moeko Otsuki¹, Akira Noga³, Ken-ichi Wakabayashi⁴, Masafumi Hirono¹ (¹Dept. Frontier Biosci., Fac. Biosci. Appl. Chem., Hosei Univ., ²JSPS, ³Dept. Biosci., Grad. Sch. Sci., Univ. Tokyo, ⁴Inst. Innov. Res., Tokyo Inst. Tech.)
- 1Pos097 単一心筋細胞に対する赤外レーザー照射の影響**
Influence of focused infrared laser irradiation on beating rate in single cardiomyocytes
Kento Nozawa, Yukino Motohashi, Maki Ishii, Tomoyuki Kaneko (LaRC, FB, Hosei Univ.)
- 1Pos098 Protein with tau-like repeats (PTL-1)と細胞骨格線維の相互作用**
Interaction between cytoskeletal filaments and a protein with tau-like repeats, PTL-1
Kazufumi Matsui¹, Miki Tamura¹, Miyuki Shiga¹, Yurika Hashi², Susumu Kotani³, Kiyotaka Tokuraku¹ (¹Div. Sust. Env. Eng., Muroran Inst. Tech., ²Gen. Dept. of Aesthetics, Yamano Col., ³Fac. Sci., Kanagawa Univ.)
- 1Pos099 ゴウリムシ繊毛メタクロナルウェーブの発振源**
Sources of Metachronal Wave in *Paramecium* Cilia
Naohiko Himata, Chika Okimura, Manabu Hori, Yoshiaki Iwadate (Fac. Sci., Yamaguchi Univ.)
- 1Pos100 魚類表皮ケラトサイトの遊走のための車輪**
A Wheel for Migration in Fish Keratocyte
Chika Okimura¹, Atsushi Taniguchi², Shigenori Nonaka², Yoshiaki Iwadate¹ (¹Fac. Sci., Yamaguchi Univ., ²NIBB)

- 1Pos101** マイコプラズマの滑走速度を示す分子速度計
Molecular speedometer indicating gliding speed in *Mycoplasma pneumoniae*
Kohki Murata¹, Tsuyoshi Kenri², Daisuke Nakane¹, Keigo Shibayama², Takayuki Nishizaka¹ (¹Dept. of Phys., Gakushuin Univ., ²Dept. of Bact II, NIID)
- 1Pos102** 単一細胞内グルココルチコイド受容体のホモ二量体形成と転写活性の関連解析
Quantitative analysis of glucocorticoid receptor dimerization and transcriptional activity in single cell using advanced imaging technique
Sho Oasa, Manisha Tiwari,, Johtaro Yamamoto,, Daisuke Yamashita,, Shintaro Mikuni,, Masataka Kinjo (Adv. Life Sci., Hokkaido U.)
- 1Pos103** Actin-like MamK cytoskeleton tethers bacterial magnetosome organelles in a static chain
Azuma Taoka^{1,2}, Ayako Kiyokawa¹, Yousuke Kikuchi¹, Yoshihiro Fukumori³ (¹Fac. of Nat. Sys., Inst. Sci. and Eng., Kanazawa Univ., ²Bio-AFM FSC., Inst. Sci. and Eng., Kanazawa Univ., ³Vice President, Kanazawa Univ.)
- 1Pos104** ロクロクビムシのプロボースの伸縮機構
Extension and Contraction Mechanism of the Proboscis of a Ciliate, *Lacrymaria olor*
Ryuji Yanase¹, Yukinori Nishigami², Masatoshi Ichikawa², Atsushi Taniguchi³, Shigenori Nonaka³, Tohru Yoshihisa¹, Seiji Sonobe¹ (¹Grad. Sch. Sci., Univ. Hyogo, ²Dept. Phys. Grad. Sch. Sci., Kyoto Univ., ³Spatiotemp. Reg., NIBB)
- 1Pos105** バクテリアべん毛輸送ゲート複合体構成蛋白質間の相互作用
Interactions between flagellar type III export gate proteins
Miki Kinoshita¹, Akihiro Kawamoto¹, Keiichi Namba^{1,2}, Tohru Minamino¹ (¹Graduate School of Frontier Biosciences, Osaka Univ., ²QBiC, RIKEN)
- 1Pos106** べん毛蛋白質輸送装置の基質認識モード切り替えにおける FlhA リンカー領域の役割
The role of a flexible linker of FlhA in substrate specificity switching of the bacterial flagellar type III export apparatus
Yumi Inoue¹, Mamoru Kida², Miki Kinoshita¹, Katsumi Imada², Keiichi Namba^{1,3}, Tohru Minamino¹ (¹Grad. Sch. Frontier Biosci., Osaka Univ., ²Grad. Sch. Sci., Osaka Univ., ³QBiC, RIKEN)
- 1Pos107** 細菌べん毛モーター固定子付随蛋白質 FliL のペリプラズム領域の構造
Structure of a periplasmic fragment of FliL, a bacterial flagellar stator associated protein from *Vibrio alginolyticus*
Norihiro Takekawa¹, Miyu Isumi¹, Mayuko Sakuma^{2,3}, Seiji Kojima², Michio Homma², Katsumi Imada¹ (¹Dept. of Macromol. Sci., Grad. Sch. of Sci., Osaka Univ., ²Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ., ³Radioisotope Res. Cent., Nagoya Univ.)
- 1Pos108** 多電極電位計測システムを用いたライン状心筋細胞の伝導速度測定
Measuring Conduction Velocity of Line-Networked Cardiomyocyte
Tetsuro Yoshida, Yui Okabe, Tomoyuki Kaneko (LaRC, FB, Hosei Uni.)
- 1Pos109** 1細胞レベルで再構成した心筋細胞ネットワークによる外部電気刺激への応答解析
Analysis of response to external electric stimulations by cardiomyocytes-network arranged at single-cell-level
Koki Fujii¹, Fumimasa Nomura², Tomoyuki Kaneko¹ (¹Laboratory for Reconstructive Cell Biology, Frontier Bioscience, Hosei University, ²Department of Biomedical Information, Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University)
- 1Pos110** 新規マイクロ流体システムで解明する赤血球の非線形非平衡変形能
Non-linear and non-equilibrium deformability of a red blood cell unraveled with a novel microfluidic platform
Hiroaki Ito¹, Ryo Murakami¹, C.-H. Dylan Tsai¹, Motomu Tanaka^{2,3}, Makoto Kaneko¹ (¹Grad. Sch. Eng., Osaka Univ., ²iCeMS, Kyoto Univ., ³Phys. Chem. Inst., Univ. Heidelberg)
- 1Pos111** Dynamics of Actin Cytoskeleton Remodeling Induced by Femtosecond Laser Ablation
Kwokhoi Ng¹, Takuya Takeshige¹, Ryuzo Kawamura¹, Seiichiro Nakabayashi¹, Yosuke Yoneyama², Fumihiko Hakuno², Shin-ichiro Takahashi², Hiroshi Yoshikawa¹ (¹Dept. Chem., Saitama Univ., ²GSALS, The Univ. of Tokyo)

生体膜・人口膜：構造・物性 / Biological & Artificial membrane: Structure & Property

- 1Pos112** ベシクル可溶化法によるリン脂質-リン脂質間相互作用熱力学量の測定
Phospholipid-Phospholipid Interactions in Bilayers Determined by Vesicle Solubilization
Keisuke Ikeda, Minoru Nakano (Grad. Sch. Med. Pharm. Sci., Univ. Toyama)
- 1Pos113** コレステロール含有ホスファチジルエタノールアミン膜とシトクロム P450 基質薬剤クロルゾキサゾンの相互作用
Interaction between cholesterol-containing phosphatidylethanolamine bilayers and cytochrome P450 substrate drug chlorzoxazone
Hiroshi Takahashi (Grad. Sch. Sci. & Tech., Gunma Univ.)
- 1Pos114** ガラス基板に固定した細胞膜中の脂質と膜タンパク質の電気泳動
Electrophoresis of lipids and membrane proteins in the cell membrane fixed on a glass substrate
Miki Okazaki¹, Takashi Okuno² (¹Grad. Sch. Eng., Yamagata Univ., ²Fac. Sci., Yamagata Univ.)
- 1Pos115** 分子動力学シミュレーションを用いたメリチンによる膜細孔形成の自由エネルギー解析
Free energy analysis of membrane pore formation by melittin using molecular dynamics simulations
Yusuke Miyazaki, Wataru Shinoda, Susumu Okazaki (Grad. Sch. Eng., Univ. Nagoya)
- 1Pos116** 界面通過法 GUV-膜タンパク質発現バキュロウイルス間膜融合の可視化解析
Analysis of membrane fusion between membrane protein-expressing baculovirus virions and GUVs prepared with a droplet transfer method
Misako Nishigami¹, Masahiro Tomita¹, Kingo Takiguchi², Kanta Tsumoto¹ (¹Grad. Sch. Eng., Mie Univ., ²Grad. Sch. Sci., Nagoya Univ.)

- 1Pos117** Change of binding ability of halorhodopsin for bacterioruberin accompanied by retinal binding / dissociation on archaeal membrane
Shun Yano, Takanori Sasaki (*Graduate School of Advanced Mathematical Sciences, Meiji University*)
- 1Pos118** Role of cholesterol in membrane phase separation observed via coarse-grained simulations of ternary mixtures
George A. Pantelopulos, John E. Straub (*Chem. Dept., Boston U., USA*)
- 1Pos119** Reconstitution amount of membrane proteins was controlled by components of asymmetric lipid vesicles
Koki Kamiya¹, Toshihisa Osaki^{1,2}, Ryuji Kawano¹, Shoji Takeuchi^{1,2} (¹Kanagawa Institute of Industrial Science and Technology, ²IIS, University of Tokyo)
- 1Pos120** リガンド添加による脂質二分子膜相転移温度変化の熱力学的解釈
Thermodynamic interpretation for variation in phase-transition temperatures of lipid bilayer membranes by adding a ligand
Masaki Goto¹, Hirotsugu Okamoto², Toshiki Nakao², Nobutake Tamai¹, Hitoshi Matsuki¹ (¹Grad. Sch. Tech., Indus. & Soc. Sci., Tokushima Univ., ²Grad. Sch. Adv. Tech. & Sci., Tokushima Univ.)
- 1Pos121** ポア形成ペプチドのデザイン
Design of pore-forming β -sheet peptides in lipid bilayer
Keisuke Shimizu¹, Naoki Saigo¹, Yusuke Sekiya¹, Kenji Usui², Ryuji Kawano¹ (¹Kawano Lab. Tokyo University of Agriculture and Technology, ²Usui Lab. Konan University)
- 1Pos122** コレステロールによるジアルキルホスファチジルコリンの指組構造化の抑制
Suppression of bilayer interdigitation of dialkyl-phosphatidylcholine by cholesterol
Nobutake Tamai¹, Takuya Izumikawa², Maiko Uemura², Masaki Goto¹, Hitoshi Matsuki¹ (¹Grad. Sch. Technol. Indus. Soc. Sci., Tokushima Univ., ²Grad. Sch. Adv. Technol. Sci., Tokushima Univ.)
- 1Pos123** Quantitative analysis of water permeation into model lipid membranes for the stratum corneum intercellular lipids by FTIR-ATR
Kohei Oka, Hiromitsu Nakazawa, Satoru Kato (*Grad. Sch. Sci & Tech., Univ. Kwansai Gakuin*)
- 1Pos124** マイクロ流路デバイスを用いた細胞サイズ液滴の充填パターン
Hexagonal packing of cell-sized lipid droplets using microfluidic device
Shougo Fujiwara, Kan Shouji, Ryuji Kawano, Miho Yanagisawa (*Tokyo Univ. Agri. Technol.*)
- 1Pos125** 粗視化モデルによる混合脂質ベシクルの構造安定性に関する理論的研究
Theoretical study on the structural stability of vesicle consisting of mixed lipids by coarse-grained model
Tetsu Matsuura, Shohei Takagi, Kazutomo Kawaguchi, Hidemi Nagao (*Grad. Sch. Nat. Sci. Tech., Kanazawa Univ.*)

生体膜・人口膜：ダイナミクス / Biological & Artificial membrane: Dynamics

- 1Pos126** 親水性アミノ酸残基の位置に依存した膜貫通ペプチドのリン脂質 flip-flop 促進能の評価
Effect of hydrophilic amino acid residues and their relative position in transmembrane peptides on phospholipid flip-flop promotion
Yuta Sugimoto¹, Hiroyuki Nakao², Keisuke Ikeda², Minoru Nakano² (¹Fac. of Pharm. and Pharm. Sci., Univ. of Toyama, ²Grad. Sch. of Med. and Pharm. Sci., Univ. of Toyama)
- 1Pos127** 脂質膜の熱的揺らぎは細胞透過ペプチド・トランスポーター 10 (TP10) の単一ベシクルへの侵入に影響を与える
Thermal Fluctuation of Lipid Bilayers Affect the Entry of Cell-Penetrating Peptide Transportan 10 (TP10) into Single Vesicles
Md. Zahidul Islam¹, Sabrina Sharmin¹, Victor Levadnyy^{1,2}, Sayed Ul Alam Shibly¹, Masahito Yamazaki^{1,3,4} (¹Grad. Sch. Sci. Tech., Shizuoka Univ., ²Rus. Acad. Sci., ³Res. Inst. Ele., Shizuoka Univ., ⁴Grad. Sch. Sci., Shizuoka Univ.)
- 1Pos128** 混合脂質二重膜における孔側壁の線張力係数の孔径依存性：分子動力学シミュレーション
Pore Radius Dependence of Nano-Pore Edge Tension in Mixed Lipid Bilayers: Molecular Dynamics Simulation
Taiki Shigematsu¹, Kenichiro Koshiyama², Shigeo Wada² (¹Global Center for Medical Engineering and Informatics, Osaka University, ²Graduate School of Engineering Science, Osaka University)
- 1Pos129** A New Coarse-Grained Lipid Model for the Study of Lipid-Membrane Protein Systems
Diego Ugarte, Shoji Takada (*Dept. Biophysics, Div. Biology, Grad. Sch. Sci., Kyoto University*)
- 1Pos130** 脂質膜の張力は水の膜透過係数を増加させる
Lateral Tension increases membrane permeability of water in lipid membranes
Rajib Ahmed¹, Sayed Ul Alam Shibly¹, Md. Zahidul Islam¹, Masahito Yamazaki^{1,2,3} (¹Grad. Sch. Sci., Shizuoka Univ., ²Grad. Sch. Sci. Tech., Shizuoka Univ., ³Res. Inst. Ele., Shizuoka Univ.)
- 1Pos131** 細胞透過ペプチド・トランスポーター 10 の脂質膜透過に与える膜電位の効果
Effect of Membrane Potential on the Translocation of Cell-Penetrating Peptide Transportan 10 (TP10) across Lipid Bilayers
Md Mizanur Moghal¹, Md. Zahidul Islam¹, Sharmin Sabrina¹, Masahito Yamazaki^{1,2,3} (¹Grad. Sch. Sci. Tech., Shizuoka Univ., ²Res. Inst. Ele., Shizuoka Univ., ³Grad. Sch. Sci., Shizuoka Univ.)

生体膜・人口膜：興奮・チャネル / Biological & Artificial membrane: Excitation & Channels

- 1Pos132** コリネ型細菌の機械受容チャネル MscCG の C 末端構造による開閉機構の制御
Modulation of gating MscCG, the mechanosensitive channel of *Corynebacterium glutamicum*, by the C-terminal domain
Yoshitaka Nakayama¹, Michael Becker², Haleh Ebrahimi³, Tomoyuki Konishi⁴, Hisashi Kawasaki⁴, Reinhard Kramer², Boris Martinac^{1,5} (¹Victor Chang Cardiac Research Institute, ²University of Cologne, ³Wollongong University, ⁴Tokyo Denki University, ⁵University of New South Wales)

- 1Pos133** N末端変異リアノジン受容体における分子動力学計算法とカルシウムシグナルの相関解析
Correlation of molecular dynamics analysis and Calcium dynamics in mutant type 1 ryanodine receptors
Toshiko Yamazawa¹, Takashi Murayama², Maki Yamaguchi¹, Hideto Oyamada³, Nagomi Kurebayashi², Junji Suzuki⁴, Kazunori Kanemaru⁴, Takashi Sakurai², Masamitsu Iino^{4,5} (¹Dept. Mol. Physiol., Jikei Univ. Sch. Med., ²Dept. Pharmacol., Juntendo Univ. Sch. Med., ³Dept. Pharmacol., Sch. Med., Showa Univ., ⁴Dept. Pharmacol., Grad. Sch. Med., The Univ. Tokyo, ⁵Dept. Cell. Mol. Pharmacol., Nihon Univ. Sch. Med.)
- 1Pos134** 哺乳類 2 ポアドメインカリウムチャネル TWIK-1 の機能特性と機能制御メカニズムの解析
Functional properties and the regulating mechanisms of a mammalian two-pore domain potassium channel TWIK-1
Hisao Tsukamoto¹, Koichi Nakajo^{2,3}, Yoshihiro Kubo³, Yuji Furutani¹ (¹Institute for Molecular Science, ²Osaka Medical College, ³National Institute for Physiological Sciences)
- 1Pos135** イオンチャネル電流測定自動化
Automated system for channel current measurement
Minako Hirano¹, Nobuyuki Kawashima², Masahisa Tomita², Toru Ide³ (¹GPI, ²SYSTEC Corporation, ³Grad. Schl. Sci. Tech. Okayama Univ.)
- 1Pos136** 電位依存性ホスファターゼ VSP の疎水的な膜相互作用部位の重要性
The critical role of the hydrophobic membrane interacting region in voltage-sensing phosphatase (VSP)
Akira Kawanabe¹, Masaki Hashimoto¹, Tomoko Yonezawa¹, Yuka Jinno¹, Souhei Sakata², Yasushi Okamura¹ (¹Grad. Sch. Med., Osaka Univ., ²Fac. Med., Osaka Med. Col.)
- 1Pos137** KcsA チャネルからのイオンの自発的流出
Spontaneous exits of ions from the KcsA channel
Takashi Sumikama, Shigetoshi Oiki (Univ. of Fukui)
- 1Pos138** Single channel recordings of ion channels immobilized on a solid substrate
Toru Ide^{1,2}, Masahiro Yamakami¹, Minako Hirano², Hiroaki Yokota², Junya Ichinose¹ (¹Grad. Schl. Nat. Sci. Tech., Okayama Univ., ²GPI)
- 1Pos139** A simple method for promoting liposome-bilayer fusion
Kohei Miyatani¹, Minako Hirano², Toru Ide¹ (¹Okayama Univ., ²GPI)
- 1Pos140** Characterization of the channel pore formed by Cry46Ab toxin from soil bacterium *Bacillus thuringiensis*
Akira Sakakibara¹, Tohru Hayakawa¹, So Takebe², Toru Ide¹ (¹Univ. Okayama, ²Kindai Univ.)

生体膜・人口膜：輸送 / Biological & Artificial membrane: Transport

- 1Pos141** ミトコンドリア凝集に伴う表面 pH の変化の計算
Calculation of surface pH change of mitochondria due to aggregation
Takuya Takahashi¹, Kota Kasahara¹, Yoshihiro Ohta² (¹Dept. of Biosci. and Bioinformatics, Ritsumeikan Univ., ²Div. of Biotech. and Life Sci., Inst. of Eng., Tokyo Univ. of Agr. and Tech.)
- 1Pos142** 反転膜を用いたべん毛 III 型蛋白質輸送の定量測定
Quantitative analysis of the flagellar type III protein export using the inverted membrane vesicles
Tsuyoshi Tono¹, Hiroyuki Terashima^{1,2}, Kazuhito Tabata³, Hiroshi Ueno³, Hiroyuki Noji³, Katsumi Imada¹ (¹Grad. Sch. of Sci., Osaka Univ., ²Grad. Sch. of Sci., Nagoya Univ., ³Sch. of Eng., Univ. of Tokyo)
- 1Pos143** シグナルペプチド配列のバリエーションと細胞内局在に関する考察
Sequence variation of signal-peptides and protein subcellular localization
Tomonao Iibuchi, Tatsuki Kikegawa, Keiya Inoue, Naoyuki Takachio, Kenji Etchuya, Yuri Mukai (Dept. Electronics, Grad. Sch. Sci. & Tech., Meiji Univ.)
- 1Pos144** 浸透圧がミトコンドリアの活性に及ぼす影響
Effects of osmolality on mitochondrial activities
Sawako Kimura, Yoshihiro Ohta (Tokyo University of Agriculture and Technology)
- 1Pos145** 基質存在下・非存在下での多剤排出輸送体 AcrAB-TolC の細胞内動態解析
Analysis of the in cell dynamics of a multi-drug exporter AcrB in the absence and presence of substrates
Tomoki Matsuda, Seiji Yamasaki, Kunihiko Nishino, Takeharu Nagai, Akihito Yamaguchi (ISIR, Osaka Univ.)
- 1Pos146** ERK 情報処理過程の共焦点局所画像を用いた定量解析
Quantitative measurement for information processing of ERK using localized confocal image analyses
Kazunari Mouri¹, Yasushi Okada^{1,2} (¹RIKEN, QBiC, ²Univ. Tokyo, Grad. Sch. Sci., Dept. Phys)

生体膜・人口膜：情報伝達 / Biological & Artificial membrane: Signal transduction

- 1Pos147** In vitro 1 分子イメージングによる PTEN-PI(4,5)P2 相互作用の解析
In vitro single molecule-imaging analysis of interactions between PTEN and phosphatidylinositol 4, 5-bisphosphate
Daisuke Yoshioka^{1,3}, Seiya Fukushima^{1,3}, Daichi Okuno³, Satomi Matsuoka³, Toru Ide⁴, Masahiro Ueda^{1,2,3} (¹Grad. Sch. of Sci., Osaka Univ., ²Grad. Sch. of Front. Biosci., Osaka Univ., ³RIKEN QBiC, ⁴Grad. Sch. of Nat. Sci. and Tech., Okayama Univ.)
- 1Pos148** MCF7 細胞内における p52shc の細胞膜移行ダイナミクス計測
p52SHC translocation to the plasma membrane of MCF7 cells
Ryo Yoshizawa^{1,2}, Nobuhisa Umeki², Masataka Yanagawa², Masayuki Murata¹, Yasushi Sako² (¹Grad. Sch. Arts and Shi., Univ. Tokyo, ²Wako Inst., RIKEN)

- 1Pos149** A single EGF molecule is sufficient to activate a preformed EGFR dimer
Ei-ichiro Saita, Dingze Mang, Ichiro N. Maruyama (*OIST*)
- 1Pos150** コレラ菌タウリン走性受容体 Mlp37 遺伝子の温度による発現制御
Temperature-regulated expression of the gene encoding the taurine chemoreceptor Mlp37 of *Vibrio cholerae*
Shiori Onogi¹, Noriaki Sagoshi¹, So-ichiro Nishiyama^{1,2}, Yoshiyuki Sowa^{1,2}, Ikuro Kawagishi^{1,2} (¹Dept. Frontier Biosci., Hosei Univ., ²Res. Cen. Micro-Nano. Tech., Hosei Univ.)
- 1Pos151** サルモネラ属細菌クエン酸走性受容体 Tcp のリガンド認識における 2 価金属イオンの役割
Role of divalent metal cations in ligand recognition by the citrate chemoreceptor Tcp of *Salmonella enterica*
Mariko Matsuda¹, Tetsuya Shiroy¹, Katsumi Imada², So-ichiro Nishiyama^{3,4}, Mayuko Sakuma⁵, Michio Homma⁵, Ikuro Kawagishi^{1,3,4} (¹Grad. Sch. Sci. Eng., Hosei Univ., ²Grad. Sch. Sci., Osaka Univ., ³Dept. Frontier Biosci., Hosei Univ., ⁴Res. Cen. Micro-Nano Tech., Hosei Univ., ⁵Grad. Sch. Sci., Nagoya Univ.)

発生・分化 / Development & Differentiation

- 1Pos152** ヒト人工多能性幹細胞由来の内胚葉及び中胚葉細胞により模倣されるヒト原腸形成期の細胞運動
Cell Migration in the Human Gastrulation Stage Mimicked by Endoderm and Mesoderm Derived from Human Induced Pluripotent Stem Cells
Kenshiro Maruyama, Shota Miyazaki, Kiyoshi Ohnuma (*Grad. Sch. Eng., Univ. Nagaoka Tech.*)
- 1Pos153** 形態形成における集団運動を制御する細胞間シグナル伝達の動態の変遷
Transition of the dynamics of cell-cell communication controlling collective cell migration during morphogenesis of *Dictyostelium* cells
Hidenori Hashimura^{1,2}, Masato Yasui¹, Yusuke Morimoto^{1,3}, Masahiro Ueda^{1,2,4} (¹RIKEN QBiC, ²Dep. Biol. Sci., Grad. Sch. of Sci., Osaka Univ., ³Dept. of Biosci. Bioinfo., Kyushu Inst. Tech., ⁴Grad. Sch. of Front. Biosci., Osaka Univ.)
- 1Pos154** Mechanics of the Nucleus and Cell Body during Early Mouse Development with Implications for Reproductive Medicine
Fransisca As Van Esterik¹, Masahiro Ikenaga¹, Hitoshi Niwa², Daisuke Mizuno¹ (¹Dept. of Physics, Kyushu University, ²Dept. of Pluripotent Stem Cell Biology, IMEG, Kumamoto University)
- 1Pos155** 高時間分解・長時間撮影による、線虫 *C.elegans* の原腸貫入運動の解析
Particle tracking analysis of gastrulation in *C. elegans* embryos
Yukinobu Arata¹, Yuki Shindo¹, Hiroaki Takagi², Yashushi Sako¹ (¹Cell. Info., RIKEN, ²Dept. of Phys. Nara Med. Univ.)
- 1Pos156** 高速三次元光シート顕微鏡によるマウス胚ノード流の三次元解析
Three-dimensional analysis of the nodal flow in the mouse embryo by the rapid 3-D light-sheet microscopy
Atsushi Taniguchi, Shigenori Nonaka (*Spatiotemp. Reg., Natl. Inst. Basic Biol.*)
- 1Pos157** 上皮組織変形の連続体モデル
Continuum model of epithelial mechanics
Shuji Ishihara¹, Marcq Philippe², Kaoru Sugimura³ (¹Grad. Sch. Arts. Sci., Univ. Tokyo, ²Inst. Curie, Univesite Paris 6, ³iCeMS, Kyoto Univ.)
- 1Pos158** in vitro でのヒト原腸形成期における細胞運動に対する細胞間相互作用の影響
The effects of cell-cell interaction on the cell dynamics during human gastrulation in vitro
Shota Miyazaki, Kenshiro Maruyama, Gen Kato, Tohru Sasaki, Kiyoshi Ohnuma (*Grad. Sch. Eng., Univ. Nagaoka Tech.*)

神経科学・感覚 / Neuroscience & Sensory systems

- 1Pos159** カエルの神経筋伝達の短期間シナプス可塑性におけるドッキングタンパク質の新たな役割
Novel Distinctive Roles of Docking Proteins in Short-term Synaptic Plasticity of Frog Neuromuscular Transmission
Yasuhiro Imafuku¹, Koh-ichi Enomoto², Hiroko Kataoka², Isao Ito¹, Takashi Maeno³ (¹Dept Biol., Kyushu Univ., ²Shimane Univ., ³Prof. Emeritus, Shimane Med. Univ.)
- 1Pos160** 海馬神経シナプスを制御する神経ステロイドの non-genomic 信号系
Non-genomic signaling of neurosteroids, regulating synapses in the hippocampus
Suguru Kawato^{1,2} (¹Dep. Cognitive Neuroscience, Pharma-Science, Teikyo Univ., ²Dep. Urology, Grad Sch Medicine, Juntendo Univ.)
- 1Pos161** 微小管の物理的特性に与える MAPs の影響
Influence of microtubule-associated proteins on the physical properties of microtubules
Miki Tamura¹, Kazufumi Matsui¹, Miyuki Siga¹, Kabir Arif Md. Rashedul², Akira Kakugo², Susumu Kotani³, Kiyotaka Tokuraku¹ (¹Div. Sust. Env. Eng., Muroran Inst. Tech., ²Fac. Sci., Hokkaido Univ., ³Fac. Sci, Kanagawa Univ.)
- 1Pos162** 神経細胞における細胞骨格アクチンの修復の分子メカニズム
Molecular Mechanism of Cytoskeletal Actin Repairing in Nerve Cells
Tomoya Higo¹, Takuo Yasunaga², Shinji Aramaki³ (¹Kyushu Institute of Technology, ²Kyushu Institute of Technology, ³Tvips GmbH)
- 1Pos163** 演題取り消し
- 1Pos164** チャコウラナメクジの匂い味覚条件付け学習における記憶形成に対するエピカテキンの影響
Epicatechin enhances the long-term memory of odor aversive learning in the land slug
Yoshimasa Komatsuzaki^{1,2}, Taiyou Nakamura¹, Ken Lukowiak², Minoru Saito³ (¹Dept. of Phys., CST, Nihon Univ., ²Hotchkiss Brain Inst, Cumming Sch of Med, Univ of Calgary, Canada, ³Dept. of Biosci., CHS, Nihon Univ.)

- 1Pos165** Structure of the Neuron-to-Neuron Network of Drosophila Connectome
Chi-Tin Shih (*Tunghai University*)
- 1Pos166** 神経細胞ネットワークの1細胞レベル自発発火を解析する拡張型コンパクトオンチップ細胞外電位計測技術の開発
Extracellular electrophysiological measurement of spontaneous firing of single neurons in neuronal circuit using expandable on-chip assay
Shota Aoki¹, Takahito Kikuchi², Kenji Matsuura^{3,4}, Akihiro Hattori^{3,4}, Masao Odaka^{3,4}, Kenji Yasuda^{1,2,3,4} (¹Dept. Pure & Appl. Phys., Sch. Adv. Sci. & Eng., Waseda Univ., ²Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., WASEDA Univ., ³Org. Univ. Res. Initiatives, Waseda Univ., ⁴WASEDA Biosci. Res. Ins. in Singapore (WABIOS))
- 1Pos167** オンチップ1細胞培養系を用いた神経細胞から伸長する神経突起の特性の解析
Neurite elongation characteristics in the width-controlled channels using an in situ on-chip photothermal microfabrication assay
Takahito Kikuchi¹, Shota Aoki², Hideyuki Terazono^{3,4}, Kenji Matsuura^{3,4}, Akihiro Hattori^{3,4}, Masao Odaka^{3,4}, Kenji Yasuda^{1,2,3,4} (¹Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ., ²Dept. Pure & Appl. Phys., Sch. Adv. Sci. & Eng., Waseda Univ., ³Org. Univ. Res. Initiatives, Waseda Univ., ⁴Waseda Biosci. Res. Ins. in Singapore (WABIOS))
- 1Pos168** カエル神経筋接合部シナプスにおける促進2成分間の数学的関係性の解明：加算的なのか積算的なのか和のべき的關係なのか
What mathematical relationship of two components of facilitation at the frog NMJ: Additive, multiplicative, or power of summation?
Naoya Suzuki, Junpei Yamaguchi (*Dept. Phys., Grad. Sch. Sci., Nagoya Univ.*)
- 1Pos169** 線虫の whole-brain イメージングデータに関する因果性解析
Causality analysis on whole-brain imaging data of *C. elegans*
Yuishi Iwasaki^{1,7}, Takayuki Teramoto^{2,7}, Suzu Oe^{2,7}, Terumasa Tokunaga^{3,7}, Osamu Hirose^{4,7}, Stephen Wu^{5,7}, Yu Toyoshima^{6,7}, Moon Sun Jang^{6,7}, Ryo Yoshida^{5,7}, Yuichi Iino^{6,7}, Takeshi Ishihara^{2,7} (¹Fac. Eng., Ibaraki Univ., ²Grad. Sch. Sci., Kyushu Univ., ³Grad. Sch. Comp. Sci. and Sys. Eng., Kyushu Institute Tech., ⁴Institute. Sci. and Eng., Kanazawa Univ., ⁵Institute Stat. Math., ⁶Grad. Sch. Sci., Univ. Tokyo, ⁷JST, CREST)
- 1Pos170** ニワトリ胚由来の神経細胞から伸長する軸索の制御
Control of axon elongation of neuron derived from chicken embryos
Hayato Toriumi, Tomoyuki Kaneko (*LaRC, FB, Hosei Univ.*)
- 1Pos171** 集光フェムト秒レーザーによる単一神経細胞の光刺激メカニズム
Stimulation Mechanisms in Living Neuronal Cells with a Focused Femtosecond Laser
Yuji Fujioka^{1,2}, Suguru N. Kudoh², Takahisa Taguchi³, Chie Hosokawa^{1,2,4} (¹Biomed. Res. Inst., AIST, ²Grad. Sci. & Tech., Kwansai Gakuin Univ., ³CiNet, NICT, ⁴PhotoBIO-OIL, AIST)
- 1Pos172** 脳における発火頻度依存性シナプス可塑性の数理的解析
Numerical simulations and mathematical analysis of synaptic plasticity based on the rates of presynaptic firing
Katsuhiko Hata^{1,2,6}, Osamu Araki³, Osamu Yokoi^{2,4}, Toshiaki Kaminaka^{2,4}, Izumi Kuboyama¹, Susumu Ito⁵ (¹Sch. Emerg. Med. Sys. Kokushikan Univ., ²Res Cent for Math Med, ³Dept of Ap Phys TUS, ⁴DPEMS, Kokushikan Univ, ⁵High-Tech Res. Cent., Kokushikan Univ., ⁶Sakurai Hosp.)
- 1Pos173** 経頭蓋磁気刺激法における細胞外媒質まで考慮したケーブル理論
Cable theory considering extracellular medium in transcranial magnetic stimulation method
Toshiaki Kaminaka^{1,2}, Osamu Yokoi^{1,2}, Katsuhiko Hata^{2,3,4} (¹DPEMS, Kokushikan Univ, ²Res Cent for Math Med, ³Sch. Emerg. Med. Sys. Kokushikan Univ, ⁴Sakurai Hosp)
- 1Pos174** 反復リップルノイズを使った聴性脳幹反応の聴覚レベル判定
Auditory level determination of auditory brainstem response using iterated ripple noise
Osamu Yokoi^{1,2}, Toshiaki Kaminaka^{1,2}, Katsuhiko Hata^{1,2,3} (¹DPEMS Kokushikan Univ, ²Res Cent for Math Med, ³Dept of Emerg. Med. Sys., Kokushikan Univ)
- 1Pos175** 人工ニューラルネットワークによる運動想起脳波信号の多クラス特徴抽出
Artificial neural network for multiclass feature extraction from motor imagery EEG
Ippei Yabe¹, Takuya Inoue¹, Hideo Mukai^{1,2} (¹Dept. Comp. Sci., Grad. Sch. Sci. & Tech., Meiji Univ., ²Dept. Comp. Sci., Sch. Sci. & Tech., Meiji Univ.)

バイオインフォマティクス：構造ゲノミクス / Bioinformatics: Structural genomics

- 1Pos176** Specific Nucleotide Distributions and Nucleosome Positioning around Simple Sequence Repeats in the Human Genome
Takeru Kameda, Atsushi Ikegaya, Naoaki Sakamoto, Akinori Awazu (*Dept. of Mathematical and Life Sciences, Hiroshima University*)
- 1Pos177** MNase, as a probe to study the sequence-dependent site exposure in the +1 nucleosomes of yeast
D. Luo¹, D. Kato², J. Nogami³, Y. Ohkawa³, H. Kurumizaka², H. Kono¹ (¹National Institutes for Quantum and Radiological Science and Technology, ²Waseda University, ³Kyushu University)
- 1Pos178** 相互作用プロファイルによる細菌走化性タンパク質間相互作用ネットワーク解析
Protein interaction surfaces of protein-protein interaction networks in bacterial chemotaxis networks using profile methods
Nobuyuki Uchikoga¹, Yuri Matsuzaki¹, Masahito Ohue², Yutaka Akiyama^{1,2} (¹Tokyo Tech. ACLS, ²Tokyo Tech, Sch. of Computing, Dept. of Computer Sci.)
- 1Pos179** 生体内低分子化合物三次元構造データベースのアップデートと構造精度向上のための取り組み
Recent development of 3DMET database: New release and efforts to improve data accuracy
Miki Maeda, Tomomi Komaba, Tomoki Yonezawa (*NARO AAC*)

- 1Pos180** Revisiting a classical threading method with novel scoring function of sequence-structure compatibility
Kyosuke Tomoda, Yota Masuyama, George Chikenji (*Grad. Sch. Eng., Nagoya Univ.*)
- 1Pos181** ホモダイマー構造変化の網羅的解析
Structural changes of homodimers in PDB
Ryotaro Koike, Takayuki Amemiya, Tatsuya Horii, Motonori Ota (*Grad. Sch. Info., Nagoya U.*)
- 1Pos182** SLC 輸送体の構造および変異特性の統合解析のための情報基盤構築
Platform for integrated computational analyses of structural property and mutation effect on SLC transporters
Akiko Higuchi¹, Kei Yura^{2,3} (¹*Grad. Sch. Fornt. Sci., Univ. Tokyo*, ²*Cent. Info. Bio., Ochanomizu Univ.*, ³*Sch. Adv. Sci. Engr., Waseda Univ.*)
- 1Pos183** Towards predicting functional consequences of genetic variants in humans through supramolecular complex structures
Atsushi Hijikata¹, Toshiyuki Tsuji^{1,2}, Masafumi Shionyu¹, Tsuyoshi Shirai¹ (¹*Nagahama Inst. Bio-Sci. Tech.*, ²*Mita Intl. Sch.*)
- 1Pos184** マルチカノニカル分子動力学法を用いた転写因子天然変性領域による DNA 結合制御メカニズムの検討
Multicanonical molecular dynamics study of transcription factor-DNA binding regulation via the intrinsically disordered region
Kota Kasahara¹, Masaaki Shiina², Junichi Higo³, Kazuhiro Ogata², Takuya Takahashi¹, Haruki Nakamura³ (¹*Col. Life Sci., Ritsumeikan Univ.*, ²*Grad. Sch. Med., Yokohama City Univ.*, ³*IPR, Osaka Univ.*)

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

- 1Pos185** 生物表面に見られる曲面の機能：曲面による進行波の分裂
Functions of living matter surfaces: Curvature-driven splitting of a traveling wave
Kazuya Horibe¹, Ken-ichi Hironaka², Katsuyoshi Matsushita², Koichi Fujimoto² (¹*Grad. Sch. of Info Sci and Tech., Osaka U.*, ²*Grad. Sch. of Sci., Osaka U.*)
- 1Pos186** 細胞外領域への伝導不均一性の導入による致死性不整脈の抑制
Suppression of life-threatening cardiac arrhythmia by introducing inhomogeneity of electric conductivity in extracellular region
Kojiro Inoue (*Future Univ Hakodate*)
- 1Pos187** 多様な環境で生育するシアノバクテリア由来 KaiC ATPase の生化学的解析
Biochemical characterization of KaiC ATPases from cyanobacteria living in various habitats
Atsushi Mukaiyama^{1,2}, Yoshihiko Furuike^{1,2}, Shuji Akiyama^{1,2} (¹*IMS*, ²*SOKENDAI*)
- 1Pos188** 人工自走粒子から見る、集団運動の普遍性
Universality of Collective Motion investigated in Artificial Systems
Junichiro Iwasawa¹, Daiki Nishiguchi^{1,2}, Masaki Sano¹ (¹*Grad. Sch. Sci., Univ. Tokyo*, ²*CEA, Saclay*)
- 1Pos189** 温度補償能を欠損した時計タンパク質 KaiC 変異体の同定
Identification of Clock Protein KaiC Mutants Losing Temperature Compensation Ability
Yoshihiko Furuike^{1,2}, Atsushi Mukaiyama^{1,2}, Eiki Yamashita³, Takao Kondo⁴, Shuji Akiyama^{1,2} (¹*Research Center of Integrative Molecular Systems (CIMoS), Institute for Molecular Science (IMS)*, ²*Department of Functional Molecular Science, SOKENDAI (The Graduate University for Advanced Studies)*, ³*Institute for Protein Research, Osaka University*, ⁴*Graduate School of Science, Nagoya University*)
- 1Pos190** 概日反応における時計蛋白質 KaiA のプロトマーの役割
Functional roles of each protomer of homodimeric clock protein KaiA in circadian rhythm
Risa Imada¹, Shun Terauchi¹, Takahiro Iida², Hiroyuki Noji³, Masahiro Ishiura⁴, Kosuke Maki¹ (¹*Grad. Sch. Sci., Nagoya Univ.*, ²*Faculty Sci., Fukuoka Univ.*, ³*Grad. Sch. Eng., Univ of Tokyo*, ⁴*Nagoya Univ*)
- 1Pos191** C. elegans 集団が形作る動的ネットワーク構造
Dynamical network structure in C. elegans group
Ken Nagai¹, Hiroshi Ito², Takuma Sugi³ (¹*JAIST*, ²*Kyushu Univ.*, ³*Shiga Univ. Med. Sci.*)

バイオイメージング / Bioimaging

- 1Pos192** 走査型イオンコンダクタンス顕微鏡を用いた神経細胞のナノスケールイメージング
Nanoscale Neuron Topography Imaging using Scanning Ion Conductance Microscopy
Yasufumi Takahashi^{1,2}, Takafumi Miyamoto¹, Yuanshu Zhou¹, Takeshi Fukuma¹ (¹*Kanazawa Univ.*, ²*JST PREST*)
- 1Pos193** アルギン酸細胞封入技術を使った細胞塊分取技術の検討
A simple method for encapsulating single cells in alginate microspheres
Masao Odaka^{1,2}, Akihiro Hattori^{1,2}, Kenji Matsuura^{1,2}, Moe Iwamura³, Yuki Yamanaka³, Kento Iida⁴, W.Davis Ronald⁵, D.Crosby Laurel⁵, Kenji Yasuda^{1,2,3,4} (¹*Org. Univ. Res. Initiatives, Waseda Univ.*, ²*WASEDA Biosci. Res. Ins. in Singapore (WABIOS)*, ³*Dept. Pure & Appl. Phys., Grad. Schl. Adv. Sci. & Eng., Waseda Univ.*, ⁴*Dept. Pure & Appl. Phys., Schl. Adv. Sci. & Eng., Waseda Univ.*, ⁵*Stanford Genome Tech. Ctr., Stanford Univ.*)
- 1Pos194** 集束光による局所直接加熱技術を用いたゼラチン微細加工技術の開発
Development of real time microfabrication technology of gelatin with focused photo-thermal etching
Kento Iida¹, Yuki Yamanaka², Moe Iwamura², Masao Odaka^{3,4}, Kenji Matsuura^{3,4}, Akihiro Hattori^{3,4}, Kenji Yasuda^{3,4} (¹*Dept. Pure & Appl. Phys., Sch. Adv. Sci. & Eng., Waseda Univ.*, ²*Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*, ³*Org. Univ. Res. Initiatives, Waseda Univ.*, ⁴*WASEDA Biosci. Res. Ins. in Singapore(WABIOS)*)

- 1Pos195 集束光による局所直接加熱技術を用いたナノ粒子埋包アガロース微細加工技術の開発**
Development of real time microfabrication technology of nano-particle suspended agarose microstructures with focused photo-thermal etching
 Yuki Yamanaka¹, Kento Iida², Moe Iwamura¹, Masao Odaka^{3,4}, Kenji Matuura^{3,4}, Akihiro Hattori^{3,4}, Kenji Yasuda^{1,2,3,4} (¹Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ., ²Dept. Pure & Appl. Phys., Sch. Adv. Sci. & Eng., Waseda Univ., ³Org. Univ. Res. Initiatives, Waseda Univ., ⁴WASEDA Biosci. Res. Ins. in Singapore (WABIOS))
- 1Pos196 軟 X 線ライブセルイメージングによるシアノバクテリアの細胞内元素濃度の可視化**
Visualization of Intracellular Element Concentration in cyanobacteria with soft x-ray live cell imaging
 Takahiro Teramoto¹, Chihiro Azai², Masashi Yoshimura³, Kazuki Terauchi², Toshiaki Ohta³ (¹Col. Sci & Eng, Ritsumeikan Univ., ²Col. Life Sci, Ritsumeikan Univ., ³SR Center, Ritsumeikan Univ.)
- 1Pos197 Visualization of microvilli dynamics on living cell surface using high speed scanning ion-conductance microscopy**
 Hiroki Ida¹, Yasufumi Takahashi^{2,3}, Akichika Kumatani¹, Hitoshi Shiku⁴, Tomokazu Matsue¹ (¹Grad. Sch. Env., Univ. Tohoku, ²Div. Elec. Eng. and Com. Sci., Univ. Kanazawa, ³PRESTO, JST, ⁴Div. Eng., Univ. Tohoku)
- 1Pos198 線虫 *C. elegans* 胚発生における細胞形状の自動抽出**
An automated cell shape extraction in *C. elegans* embryogenesis
 Yusuke Azuma, Shuichi Onami (QBiC, RIKEN)
- 1Pos199 新規誘電率顕微鏡(SE-ADM)による生きた培養細胞と CD44 膜タンパク質結合ビーズのナノスケール観察**
Nanoscale imaging of living cells bound by nanobeads-connected anti-CD44 antibody in medium using newly developed dielectric microscopy
 Tomoko Okada, Toshihiko Ogura (National Institute of Advanced Industrial Science and Technology, Biomedical Research Institute)
- 1Pos200 Two-dimensional crystals of tamavidin 2 for a quick and easy method of immobilization of biotinylated biomolecules**
 Daisuke Noshiro¹, Noriyuki Kodera¹, Toshio Ando^{1,2} (¹Bio-AFM FRC, Inst. of Sci. & Eng., Kanazawa Univ., ²CREST, JST)
- 1Pos201 高速 AFM 及び光ピンセット複合システム開発による一分子操作された分子の直接観察**
Developing a Combined System of High-Speed AFM and Optical Tweezers for Direct Visualization of Single-Molecules under Manipulation
 Motonori Imamura¹, Shin'nosuke Yamanaka², Toshio Ando¹ (¹Bio-AFM FRC, Kanazawa Univ., ²Grad. Sch. Sci., Kanazawa Univ.)
- 1Pos202 ソフトウェア「閻魔」を用いた XFEL-CXDI 実験データの分類**
Classification of XFEL-CXDI Imaging Experimental Data using the Software “EMMA”
 Takashi Yoshidome¹, Yuki Sekiguchi^{2,3}, Yamamoto Takahiro^{2,3}, Oroguchi2 Tomotaka^{2,3}, Nakasako Masayoshi^{2,3}, Ikeguchi Mitsunori⁴ (¹Dep. of Appl. Phys., Tohoku Univ., ²Fac. of Sci. and Tech., Keio Univ., ³RIKEN SPring-8 Center, ⁴Grad. Sch. of Med. Life Sci. Yokohama City Univ.)
- 1Pos203 低温コヒーレント X 線回折イメージング・トモグラフィー実験による分裂期原始紅藻シゾンの三次元構造解析**
Three-dimensional structure of Cyanidioschyzon merolae by using coherent X-ray diffraction imaging tomography at cryogenic temperature
 Amane Kobayashi^{1,2}, Yuki Takayama³, Yuki Sekiguchi^{1,2}, Mao Oide^{1,2}, Asahi Fukuda^{1,2}, Takahiro Yamamoto^{1,2}, Koji Okajima^{1,2}, Tomotaka Oroguchi^{1,2}, Sachihiko Matsunaga⁴, Yoshiki Kohmura², Masaki Yamamoto², Masayoshi Nakasako^{1,2} (¹Facult. Sci. Tech., Keio Univ., ²RIKEN SPring-8 Center, ³Schl. Sci. Univ. Hyogo, ⁴Facult. Sci. Tech. Tokyo Univ. Sci.)

バイオエンジニアリング / Bioengineering

- 1Pos204 サイズ分画機能を備えた画像認識型セルソーターによる血中循環腫瘍細胞の測定**
Monitoring of circulating tumor cell clusters in blood using size classifying imaging cell sorter
 Moe Iwamura¹, Masao Odaka^{3,4}, Yuki Yamanaka¹, Kento Iida², Kenji Matuura^{3,4}, Akihiro Hattori^{3,4}, Kenji Yasuda^{1,2,3,4} (¹Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ., ²Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ., ³Org. Univ. Res. Initiatives, Waseda Univ., ⁴WASEDA Biosci. Res. Ins. in Singapore (WABIOS))
- 1Pos205 Direct observation and analysis of bacteria within giant liposomes**
 Masamune Morita, Naohiro Noda (Biomed. Res. Inst., Natl. Inst. Adv. Ind. Sci. Tech. (AIST))
- 1Pos206 人工細胞での DNA 論理回路を用いた最小限の意識を生み出すオートマトン**
Automata that generates minimum consciousness using DNA logic circuits in artificial cells
 Hiroki Watanabe¹, Ryuji Kawano², Masahiro Takinoue¹ (¹Dept. Comput. Sci., Tokyo Tech, ²Dept. Bio. Life Sci., Tokyo Univ. Agri. Tech.)
- 1Pos207 カップ形状 AFM チップを用いた様々な基板に対する細胞接着強度の評価**
Adhesion strengths of living cells for various substrates measured by using cup-shaped AFM chip
 Hyonchol Kim^{1,2}, Kenta Ishibashi², Kosuke Matsuo³, Atsushi Kira³, Yui Onomura¹, Tomoko Okada¹, Chikashi Nakamura^{1,2} (¹Biomed. Res. Inst., AIST, ²Grad. Sch. Eng., Tokyo Univ. Agric. Technol., ³Japan Aviation Electronics Ind., Ltd.)
- 1Pos208 Photo-regulation of Small GTPase Ras Using Photochromic Peptide**
 Masahiro Kuboyama¹, Nobuyuki Nishibe¹, Kazuo Fujiwara¹, Kazunori Kondo¹, Mitsuo Ikebe², Shinsaku Maruta¹ (¹Grad. Sch. Bioinfo., Soka Univ., ²The University of Texas Health Science Center at Tyler)
- 1Pos209 DNA 分子ロボットのためのマイクロドロプレットの機械的安定性評価**
Evaluation of mechanical stability of microdroplet-based DNA molecular robots
 Misato Tsuchiya¹, Daisuke Ishikawa¹, Yuki Suzuki², Masayuki Endo³, Masahiro Takinoue¹ (¹Dept. Comput. Sci., Tokyo Tech., ²Fronti. Res. Inst. Interdiscip. Sci., Tohoku Univ., ³WPI-iCeMS, Kyoto Univ.)

- 1Pos210** バーコード様 DNA と生体ナノポアによる胆管癌特異的マイクロ RNA 発現パターンの認識
MicroRNA pattern recognition for cholangiocarcinoma using barcode-like DNA and biological nanopore
 Moe Hiratani, Ryuji Kawano (*The Dep. of Biotech. and Life Sci., Tokyo Univ. of Agr. and Tech.*)
- 1Pos211** Construction of steric cardiac tissue by three dimensional printer using gelatin-agarose mixed scaffold
 Naoki Tadokoro, Ami Takasaki, Tomoyuki Kaneko (*Hosei Univ. FB LaRK*)
- 1Pos212** バクテリア走化性応答の解析に基づく水溶液識別法の構築
Construction of aqueous solution discrimination method based on analysis of bacterial chemotactic response
 Hiroto Tanaka¹, Yasuaki Kazuta¹, Ikuro Kawagishi², Yoshiyuki Sowa², Yasushi Naruse³, Yukihiro Tominari¹, Masato Okada⁴, Kazuhiro Oiwa¹, Hiroaki Kojima¹ (¹*Adv ICT Res Inst, NICT*, ²*Housei Univ*, ³*CiNet, NICT*, ⁴*Tokyo Univ*)
- 1Pos213** 固体試料における紫膜の積層ならびにバクテリオロドプシンの機能に対する固体化媒体の影響
Comparative study on purple membrane stacking and bacteriorhodopsin functionality in immobilized samples with various hydrogels
 Shunsuke Yano¹, Hiakru Tanaka¹, Yasunori Yokoyama¹, Hiroshi Takahashi², Masashi Sonoyama², Takashi Kikukawa^{3,4}, Koshi Takenaka¹ (¹*Grad. Sch. Eng., Nagoya Univ.*, ²*Grad. Sch. Sci. & Tech., Gunma Univ.*, ³*Grad. Sch. Life Sci., Hokkaido Univ.*, ⁴*GI-CoRE, Hokkaido Univ.*)
- 1Pos214** 演題取り消し

その他 / Miscellaneous topics

- 1Pos215** シッフ塩基形成反応を利用したゴシポール配糖体の合成とその分子特性
Synthesis and properties of gossypol schiff-bases having two-glycoside appendages
 Masaki Nakamura¹, Yoshitsugu Amano¹, Teruaki Hasegawa² (¹*Grad. Sch. of Life Sci., Toyo Univ.*, ²*Dept. of Life Sci., Toyo Univ.*, ³*Bio-Nano Electronics Research Centre, Toyo Univ.*)
- 1Pos216** Self-assembly of two-dimensional DNA origami lattices with designed geometries on lipid membranes
 Yuki Suzuki^{1,2}, Ibuki Kawamata², Satoshi Murata² (¹*Fronti. Res. Inst. Interdiscip. Sci., Tohoku Univ.*, ²*Grad. Sch. Eng., Tohoku Univ.*)
- 1Pos217** Development of a cell-sized molecular robot controlled by an external molecular signal
 Yusuke Sato¹, Yuki Suzuki², Ibuki Kawamata¹, Satoshi Murata¹, Yuichi Hiratsuka³, Ken Komiyama⁴, Masayuki Endo⁵, Shin-ichiro M. Nomura¹ (¹*Grad. Sch. Eng., Tohoku Univ.*, ²*FRIS, Tohoku Univ.*, ³*Sch. Mat. Sci., JAIST*, ⁴*Sch. Comp., Tokyo Tech.*, ⁵*iCeMS*)
- 1Pos218** フォトクロミック分子の光刺激による二酸化硫黄発生の反応機構
Reaction mechanism on sulfur dioxide generation by photoexcitation of a photochromic molecule
 Satoshi Yokojima¹, Ryuhei Kodama², Kimio Sumaru³, Shinichiro Nakamura⁴, Kingo Uchida² (¹*Tokyo University of Pharmacy and Life Sciences*, ²*Ryukoku University*, ³*AIST*, ⁴*RIKEN*)

第2日目(9月20日(水)) / Day 2 (Sep. 20 Wed.) 全学教育棟 2階 C201, C202, D201, D202, D203; 全学教育棟 3階 D301, D302, D303 / Room C201, C202, D201, D202, D203, General Education Bldg. 2F; D301, D302, D303, General Education Bldg. 3F

蛋白質：構造 / Protein: Structure

- 2Pos001** 自由エネルギー変分原理に基づく check point kinase1 阻害剤系における相対的結合自由エネルギー予測
Prediction of relative binding free energy based on a free energy variational principal for the Check point kinase1-inhibitor system
 Daichi Kondo, Takeshi Ashida, Takeshi Kikuchi (*Dept. of Bioinf., Col. Life Sci., Ritsumeikan Univ.*)
- 2Pos002** Property of sequences analysis of beta-Trefoil proteins with irregular structures on their folding
 Risako Kimura, Takeshi Kikuchi (*Dept. of Bioinf. Col. Life Sci. Ritsumeikan Univ.*)
- 2Pos003** Estimation of relative binding free energy for the CDK2 protein-ligand system
 Takayuki Kawano, Takeshi Ashida, Takeshi Kikuchi (*Dept. of Bioinf., Col. Life Sci., Ritsumeikan Univ.*)
- 2Pos004** P53 タンパク質四量体化ドメインへの残基間平均距離統計に基づくコンタクトマップによる天然変性領域の予測法の応用
Application of the prediction technique of IDRs to tetramerization domain of p53 protein
 Takumi Shimomura, Takeshi Kikuchi (*Dept. of Bioinf., Col. of Life Sci., Ritsumeikan Univ.*)
- 2Pos005** 紅色光合成細菌由来の電子伝達複合体の共結晶化
Co-crystallization of a bacterial photosynthetic electron-transfer complex
 T. Kawakami¹, T. Liang¹, K. Okazaki¹, Y. Kimura², S. Otomo¹ (¹*Ibaraki Univ.*, ²*Grad. Sch. Agri. Sci., Kobe Univ.*)
- 2Pos006** 新規抗体断片 Fv-clasp を用いたラミニン受容体インテグリン $\alpha 6\beta 1$ の結晶化と構造決定
Crystallization and structure determination of laminin-binding integrin $\alpha 6\beta 1$ aided by the use of Fv-clasp technology
 Takao Arimori, Junichi Takagi (*IPR, Osaka Univ.*)
- 2Pos007** MM/3D-RISM法を用いた水・エタノール混合溶液中でのHP- β -シクロデキストリンによるフルアステロン包摂反応の結合自由エネルギー予測
Binding free energy calculation of fluasterone and HP β CD in cosolvent by MM / 3D-RISM method
 Kazuma Kondo¹, Masatake Sugita¹, Takeshi Kikuchi¹, Humio Hirata² (¹*Dept. of Bioinf., Col. Life Sci., Ritsumeikan Univ.*, ²*Toyota Phys. & Chem. Res. Inst.*)

- 2Pos008** Barrier-to-autointegration factor の変異による構造変化解析
Structural change analysis by mutation of Barrier-to-autointegration factor
Chiaki Yamaguchi¹, Masatake Sugita¹, Toshiya Hayano², Takeshi Kikuchi¹ (¹Dept. of Bioinf., Col. Life Sci., Ritsumeikan Univ., ²Dept. of Biomed., Col. Life Sci., Ritsumeikan Univ.)
- 2Pos009** 自由エネルギー変分原理を用いたタンパク - リガンド間相対的結合自由エネルギー計算の DHFR-TMP 系への応用
Calculation of relative binding free energy between DHFR-TMP system on the basis of free energy variational principle
Naoto Nishimura, Takeshi Kikuchi (Dept. of Bioinf. Col. of Life Sci., Ritsumeikan Univ)
- 2Pos010** ビタミンD受容体リガンド結合ドメインのアポ体及びアンタゴニスト複合体の溶液構造解析
Apo- and antagonist-binding structures of vitamin D receptor ligand-binding domain elucidated by SAXS experiments and MD simulations
Yasuaki Anami¹, Nobutaka Shimizu², Toru Ekimoto³, Daichi Egawa¹, Toshimasa Itoh¹, Mitsunori Ikeguchi³, Keiko Yamamoto¹ (¹Showa Pharmaceutical Univ., ²KEK PF, ³Yokohama City Univ.)
- 2Pos011** Crystallization of Hepatitis B virus Core Protein in genotype C
Katsumi Omagari, Yasuhito Tanaka (Dept. of Virology, Medical School, Nagoya City University)
- 2Pos012** MM/3D-RISM 法を用いた HP-b-CD と HP-g-CD によるコレステロールの結合様式と結合自由エネルギーの予測
Estimation of the binding free energy for inclusion processes of cholesterol by HP-b-CD and HP-g-CD using MM/3D-RISM method
Yuji Hayashino¹, Masatake Sugita¹, Tetsumi Irie², Fumio Hirata³, Takeshi Kikuchi¹ (¹Dept. of Bioinf., Col. Life Sci., Ritsumeikan Univ., ²Dept. of Clin. Chem. Inf., Kumamoto Univ, ³Toyota Phys. Chem. Res. Inst.)
- 2Pos013** バクテリオロドプシンの高分解能 X線結晶構造解析
Crystallographic analysis of bacteriorhodopsin at high resolution
Nagayuki Hasegawa, Hideyuki Jonotsuka, Kazuki Takeda, Kunio Miki (Grad. Sch. Sci., Kyoto Univ.)
- 2Pos014** 常磁性効果を用いた溶液 NMR 法による蛋白質の立体構造解析
Protein structural refinement using paramagnetic effects in solution NMR
Mayu Okada¹, Teppei Ikeya¹, Rajesh Sundaresan¹, Eri Nojiri¹, Tsutomu Mikawa², Yutaka Ito¹ (¹Grad. Sch. of Sci. & Eng., Tokyo Met. Univ., ²RIKEN, QBiC)
- 2Pos015** 小さな膜タンパク質 KcsA のクライオ電子顕微鏡法による構造解析の取り組み
An Approach to Structural Analysis of a Small Membrane Protein KcsA by Cryo-electron Microscopy
Hiroko Takazaki^{1,2}, Hirofumi Shimizu³, Naoko Kajimura⁴, Kaoru Mitsuoka^{2,4}, Takuo Yasunaga^{1,2} (¹Grad. Sch. Comp. Sci. Syst. Eng., KIT, ²Abis, ³Fac. Med. Sci., Univ. Fukui, ⁴Research Center for UHVem, Univ. Osaka)
- 2Pos016** X線結晶構造解析を目指した精製二量体 VSOP の特性に関する研究
Studies of characteristics the purified dimeric VSOP for X-ray crystallography
Satoko Mochida¹, Yusuke Goto¹, Akima Yamamoto¹, Satomi Shibumura¹, Yasushi Okamura^{4,5}, Atsushi Nakagawa^{1,5}, Kohei Takeshita^{1,2,3} (¹IPR, Osaka Univ., ²JST, PRESTO, ³IAI, Osaka Univ., ⁴Grad. Sch. of Med., Osaka Univ., ⁵JST, CREST)
- 2Pos017** β-シート中の隣接した strand 上の Cys-Cys ペアは好まれる
Cys-Cys pairs on the strands arranged adjacently are preferred in β-sheets
Hiromi Suzuki (Sch. Agri., Meiji Univ.)
- 2Pos018** クライオ電子顕微鏡によるグルタミン酸脱水素酵素ドメイン運動の研究
Cryo-electron microscopy study toward detecting domain motion of glutamate dehydrogenase
Mao Oide^{1,2}, Takayuki Kato³, Tomotaka Oroguchi^{1,2}, Keiichi Namba^{3,4}, Masayoshi Nakasako^{1,2} (¹Grad. Sci. Tech., Keio Univ., ²RIKEN SPring-8 Center, ³Grad. Sch. of Front. Biosci., Osaka Univ., ⁴RIKEN, QBiC)
- 2Pos019** Implementation of Fragment Molecular Orbital Replica-Exchange method (FMO-REM) in GAMESS-US simulation package
Shingo Ito¹, Stephan Irlé², Yuko Okamoto¹ (¹Grad. Sch. Sci., Univ. Nagoya, ²Oak Ridge National Laboratory)
- 2Pos020** 分子動力学シミュレーションによる抗 HIV 中和抗体 PG16 の CDR-H3 の変異における中和能への影響の解析
Molecular dynamics study of mutation effects on the neutralizing ability in CDR-H3 of an anti-HIV antibody PG16
Ryo Kiribayashi¹, Hiroko X. Kondo¹, Daisuke Kuroda^{2,3}, Toru Saito¹, Jiro Kohda¹, Akimitsu Kugimiya¹, Yasuhisa Nakano¹, Kouhei Tsumoto^{2,3}, Yu Takano¹ (¹Grad. Sch. Info. Sci., Hiroshima City Univ., ²Grad. Sch. Eng., Univ. Tokyo, ³Ins. Med., Univ. Tokyo)
- 2Pos021** The Free Energy Profile for Dissociation of Ligand from Zn²⁺ Ion of CA I Activesite
Arwansyah Muhammad Saleh, Isman Kurniawan, Kazutomo Kawaguchi, Hidemi Nagao (Grad. Sch. of Nat. Sci. and Tech. Kanazawa University)

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

- 2Pos022** タンパク質の基準振動モードのネットワーク解析：中心性指標 betweenness とアロステリック機構
Network analysis of normal modes of proteins: betweenness centrality and allosteric behavior
Hiroshi Wako¹, Shigeru Endo² (¹Sch. of Soc. Sci., Waseda Univ., ²Sch. of Sci., Kitasato Univ.)
- 2Pos023** ガス圧 NMR 法を用いた酸素結合部位の解析：Outer Surface protein A
Analysis of O₂-binding sites in proteins using gas-pressure NMR spectroscopy: outer surface protein A
Takahiro Kawamura², Takuro Wakamoto², Soichiro Kitazawa¹, Shun Sakuraba³, Tomoshi Kameda⁴, Ryo Kitahara¹ (¹Coll. Pharm. Sci., Ritsumeikan Univ., ²Grad. Sch. Life. Sci., ³Grad. Sch. Frontier Sci., Univ. Tokyo, ⁴AIST)
- 2Pos024** Conformational dynamics of Human Protein Kinase CK2α and its effect on function and inhibition
Ashutosh Srivastava¹, Tsuyoshi Hirota^{1,2}, Stephan Irlé¹, Florence Tama^{1,3,4} (¹Inst. of Transformative Bio-Molecules, Nagoya University, ²PRESTO, JST, Nagoya Univ., Nagoya, ³Dept. Phys., Sch. Sci., Nagoya Univ., Nagoya, ⁴Adv. Inst. Comp. Sci, RIKEN)

- 2Pos025** 生体系の結合標準自由エネルギー計算の新しい手続き
A new calculation workflow for the standard free energy of binding in biomolecular system
Yoshiaki Tanida, Azuma Matsuura (*Fujitsu Laboratories Ltd.*)
- 2Pos026** 差分距離行列によるタンパク質構造変化の研究
Difference Distance Matrix enhanced molecular dynamics study on protein
Yasushige Yonezawa (*IAT, Kindai*)
- 2Pos027** B細胞抑制性因子 CD72 の分子表面電荷分布によるリガンド結合制御機構
Charge distribution regulates the ligand-binding affinity of B cell inhibitory receptor CD72
Nobutaka Numoto¹, Chizuru Akatsu², Kenro Shinagawa¹, Takeshi Tsubata², Nobutoshi Ito¹ (¹*Dept. Struct. Biol., Med. Res. Inst., Tokyo Med. & Dent. Univ.*, ²*Dept. Immunol., Med. Res. Inst., Tokyo Med. Dent. Univ.*)
- 2Pos028** EGF 受容体 C-末端天然変性ドメインの 1 分子 FRET 計測
Single-molecule FRET measurement of the intrinsically disordered C-tail domain of the epidermal growth factor receptor
Kenji Okamoto, Yasushi Sako (*RIKEN*)
- 2Pos029** ヘテロ 3 量体 G 蛋白質相互作用因子 Gip1 の網羅的アラニンスキャン変異解析
Comprehensive alanine scanning analysis of heterotrimeric G protein interacting partner Gip1
Hiroyasu Koteishi¹, Takero Miyagawa², Yoichiro Kamimura¹, Yukihiko Miyayama², Masahiro Ueda^{1,2} (¹*RIKEN, QBiC*, ²*Fron. Biosci., Osaka Univ.*)
- 2Pos030** クモ糸タンパク質ナノファイバーの自己集合
Self-assembly of nanofibers from spider silk fibroin
Yugo Hayashi¹, Tomoaki Murakami¹, Mai Arakawa¹, Keito Yoshida¹, Yoichi Yamazaki¹, Takehiro K. Sato², Hironari Kamikubo¹ (¹*Grad. Sch. Mat. Sci. Nara Inst. Sci. Tech.*, ²*Spiber Inc.*)
- 2Pos031** 抗体 G2 は異なる 3 つの配列を強く特異的に認識する
A three-in-one monoclonal antibody G2 recognizes completely different epitope sequences with high affinity
Md. Nuruddin Mahmud¹, Masayuki Oda², Daiki Usui², Yasuo Inoshima^{1,3}, Naotaka Ishiguro^{1,3}, Yuji O. Kamatari⁴ (¹*United Grad. Sch. of Vet. Sci., Gifu Univ.*, ²*Grad. Sch. of Life and Environ. Sci., Kyoto Pref. Univ.*, ³*Fac. of Appl. Bio. Sci., Gifu Univ.*, ⁴*Life Sci. Res. Ctr., Gifu Univ.*)
- 2Pos032** 二次構造に基づいた蛋白・蛋白相互作用面の階層的分類
Hierarchical classification of protein-protein interfaces based on their secondary structures
Takashi Fujii, Kazuo Fujiwara, Masamichi Ikeguchi (*Dept. of Bioinformatics, Soka Univ.*)
- 2Pos033** Gip1 は G γ の脂質修飾部位を疎水性空隙で覆うことで三量体 G 蛋白質を細胞質に隔離する
Gip1 sequesters heterotrimeric G proteins in the cytosol by masking their lipid-modification site with the hydrophobic cavity
Takero Miyagawa¹, Yoichiro Kamimura², Hiroyasu Koteishi², Kohei Takeshita³, Atsushi Nakagawa³, Masahiro Ueda^{1,2} (¹*Grad. Sch. Front. Biosci., Osaka Univ.*, ²*QBiC, RIKEN*, ³*IPR, Osaka Univ.*)
- 2Pos034** Framework for computational protein science written in functional language Scala
Itaru Onishi, Masayuki Irisa (*Comp. Sci. and Sys. Eng., Kyushu Inst. of Tech.*)
- 2Pos035** ファミリー 4 ウラシル DNA グリコシラーゼ-DNA 複合体の結晶構造解析
Crystal structure of family 4 uracil-DNA glycosylase in complex with DNA
Akito Kawai¹, Teruya Nakamura², Kazumi Shimono¹, Yuriko Yamagata³, Shuichi Miyamoto¹ (¹*Fac. of Pharmaceut. Sci., Sojo Univ.*, ²*Priority Organization for Innovation and Excellence, Kumamoto Univ.*, ³*Grad. Sch. of Pharm. Sci., Kumamoto Univ.*)
- 2Pos036** 細胞内アクチンの分子構造に対するミオシン阻害剤の効果
Effect of myosin inhibitor on the atomic structure of actin in cells
Shiori Nishinaka¹, Q.P. Taro Uyeda², Q.P. Taro Noguchi¹ (¹*National Institute of Technology, Miyakonojo College*, ²*Waseda University*)

蛋白質：物性 / Protein: Property

- 2Pos037** ヒトフェリチン L 鎖の解離と変性に関する研究
A study on dissociation and unfolding of recombinant human ferritin L chain
Tomoki Yamamoto¹, Daisuke Sato², Kazuo Fujiwara², Masamichi Ikeguchi^{1,2} (¹*Grad. Sch. Bioinfo., Univ. Soka*, ²*Fac. Sci. and Eng., Univ. Soka*)
- 2Pos038** 新規 NMR 法を用いた ALS 関連タンパク質 SOD1 の線維形成メカニズムの解明
Elucidation of fibrillization mechanism of ALS-related protein SOD1 using novel NMR spectroscopy
Naoto Iwakawa¹, Daichi Morimoto¹, Erik Walinda², Kenji Sugase¹, Masahiro Shirakawa¹ (¹*Grad. Sch. Eng., Kyoto Univ.*, ²*Grad. Sch. Med., Kyoto Univ.*)
- 2Pos039** Measurement of microtubule persistence length with sub-pixel resolution revealed its dependency on the growth rate
Naoto Isozaki¹, Kazuki Ukita¹, Hirofumi Shintaku¹, Hidetoshi Kotera¹, Taviare L. Hawkins², Jennifer L. Ross³, Ryuji Yokokawa¹ (¹*Dept. Micro Eng., Grad. Sch. Eng., Kyoto Univ.*, ²*Dept. Phys., UW-La Crosse*, ³*Dept. Phys., UMass Amherst*)
- 2Pos040** アルカリ条件下におけるカロテノイドと古細菌脂質の結合に伴うハロロドプシンの熱安定化
Thermal stabilization of Halorhodopsin by binding carotenoid and archaeal lipids under alkaline condition
Kenichi Takeda¹, Takashi Kikukawa², Makoto Demura², Takanori Sasaki¹ (¹*Grad. Sch. Adv. Math. Sci., Meiji Univ.*, ²*Fac. Adv. Life Sci., Hokkaido Univ.*)

- 2Pos041** 酵素処理が LDL の物性に与える影響
Effect of enzymes treatment on physical properties of low-density lipoprotein
Seiji Takeda¹, Agus Subagy², Shu-Ping Hui¹, Hirotohi Fuda¹, Kazuhisa Sueoka², Hitoshi Chiba¹ (¹Faculty of Health Sci, Hokkaido Univ., ²Grad Sch of InfSci and Tech, Hokkaido Univ.)
- 2Pos042** 一価陽イオン溶液におけるリゾチームの回転及び並進拡散運動に基づくビリアル係数
The virial coefficients based on the rotational and translational diffusions of lysozyme in the monovalent cation solutions
Yudai Katsuki¹, Akane Kato¹, Etsuko Nishimoto² (¹Grad. Sch. Bioresour. Bioenviron. Sci., Kyushu Univ., ²Fac. Agr., Kyushu Univ.)
- 2Pos043** 時間分割スペクトルによるヒト血清アルブミンの Trp214 残基周辺の水和状態に対する 1 価陽イオンの影響の解析
Effect of monovalent cation on the hydration state near Trp214 of human serum albumin revealed by the time-resolved fluorescence spectrum
Shoutaro Kubo¹, Etsuko Nishimoto² (¹Grad. Sch. Bioresour. Bioenviron. Sci., Kyushu Univ., ²Fac. Agr., Kyushu Univ.)
- 2Pos044** *Archaeoglobus fulgidus* ferritin assembly studied by time-resolved small-angle X-ray scattering
Daisuke Sato¹, Yuta Okada², Boyce Hong Ping Law³, Amrishi Kumar³, Sierin Lim³, Masamichi Ikeguchi^{1,2} (¹Fac. Sci. and Eng., Soka Univ., ²Dept. Bioinfo., Gra. Sch. Eng., Soka Univ., ³Sch. Chem. and Biomed. Eng., Nanyang Tech. Univ., Singapore)
- 2Pos045** キチン結合タンパク質(CBP21)の構造安定性に対する銅イオンの効果
Effects of copper ions on the structural stability of chitin-binding protein 21
Hayuki Sugimoto¹, Erina Katagiri¹, Akiyoshi Tanaka², Takeshi Watanabe¹, Kazushi Suzuki¹ (¹Fac. Agri., Niigata Univ., ²Grad. Sch. Bioresources, Mie Univ.)
- 2Pos046** 競争的凝集形成機構に基づいた蛋白質異常凝集の理解
Understanding of aberrant protein aggregation based on the competitive aggregation mechanism
Masayuki Adachi, Masatomo So, Yuji Goto (*Inst. Protein Res., Osaka Univ.*)
- 2Pos047** 時間分割蛍光測定による生体防御タンパク質 momorcharin のアンフォールディング/リフォールディング中間体に関する研究
The time-resolved fluorescence studies on the unfolding and refolding intermediate state of defense-related protein, momorcharin
Chie Matsunaga¹, Etsuko Nishimoto² (¹Grad. Sch. Bioresour. Bioenviron. Sci., Kyushu Univ., ²Fac. Agr., Kyushu Univ.)
- 2Pos048** ストップフロー過渡回折格子法のタンパク質変性反応への適用
Application of stopped-flow TG method to denaturation dynamics of a photosensory protein
Shunki Takaramoto, Yusuke Nakasone, Masahide Terazima (*Dep. Chem., Sch. Sci., Kyoto Univ.*)

蛋白質：機能 / Protein: Function

- 2Pos049** テトラヒメナ外腕ダイニンにおける変異導入システムの確立と α 重鎖 P ループの機能
Establishment of a mutation system in *Tetrahymena* outer arm dynein and P-loop functions of the alpha heavy chain (Dyh3p)
Masaki Edamatsu (*Dept. Life Sci., Grad. Sch. Arts Sci., Univ. Tokyo*)
- 2Pos050** Identification of residues in SecM that are responsible for stabilizing the translation arrest
Mikihisa Muta, Ryo Iizuka, Takashi Funatu (*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*)
- 2Pos051** TnaC 翻訳アレスト中のリボソームにおける解離因子の作用
Action of release factors on the stalled ribosome during translation of TnaC
Tomoki Shinozawa, Ryo Iizuka, Zhuohao Yang, Takashi Funatsu (*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*)
- 2Pos052** A single-molecule kinetic analysis of ATP hydrolysis and substrate degradation by the 26S proteasome
Akira Sato, Takahiro Saito, Takashi Okuno (*Grad. Sch. Sci., Univ. Yamagata*)
- 2Pos053** 大腸菌で生産される *Pyrovauculum islandicum* 由来グルタミン酸脱水素酵素の活性に対する FK506 結合タンパク質の影響
Effect of FK506 binding protein in the activity of glutamate dehydrogenase from *Pyrovauculum islandicum* produced in *Escherichia coli*
Shuichiro Goda, Junpei Yagi, Hideaki Unno, Tomomitsu Hatakeyama (*Grad. Sch. of Eng., Nagasaki Univ.*)
- 2Pos054** [NiFe] ヒドロゲナーゼの活性準備状態 Ni-SI_r と活性状態 Ni-SI_a 間の酸塩基平衡機構の解明
Elucidation of the acid-base equilibrium mechanism between the ready Ni-SI_r and active Ni-SI_a states of [NiFe] hydrogenase
Hulin Tai^{1,2}, Liyang Xu¹, Koji Nishikawa³, Yoshiki Higuchi^{2,3}, Shun Hirota^{1,2} (¹Grad. Sch. Mater. Sci., NAIST, ²CREST, JST, ³Grad. Sch. Life Sci., Univ. Hyogo)
- 2Pos055** *Zyloseptoria tritici* 真菌チューブリンは異常な特性を有する
Zyloseptoria tritici fungal tubulin has unusual properties
Douglas Drummond¹, Naomi Sheppard², Robert Cross² (¹Kyushu Univ., ²Univ. of Warwick, UK)
- 2Pos056** Spectroscopic studies of hydrogen sensing [FeFe] hydrogenase from *Thermotoga maritima*
Nipa Chongdar¹, Krzysztof Pawlak¹, James A. Birrell¹, Wolfgang Lubitz¹, Hideaki Ogata^{1,2} (¹MPI CEC, ²ILTS Hokkaido Univ.)
- 2Pos057** 線虫 Cytochrome *b*₅₆₁ ホモログ・Cecytb-2 の分子機能解明
Elucidation of the molecular function of *Caenorhabditis elegans* Cecytb-2, a cytochrome *b*₅₆₁ homologue
Mika Fujimura, Masahiro Miura, Tetsunari Kimura, Motonari Tsubaki (*Dept. of Chem., Grad. Sch. Sci., Kobe Univ.*)
- 2Pos058** Theoretical study on light-activation mechanism of LOV photoreceptor protein
Masahiko Taguchi, Cheng Cheng, Chika Higashimura, Shigehiko Hayashi (*Grad. Sch. Sci., Kyoto Univ.*)
- 2Pos059** 複数のアミロイド性ペプチドの混在する複雑な系におけるアミロイド線維形成機構
Amyloid Fibrillation in Promiscuous Systems Containing Various Amyloidgenic Peptides
Hiroya Muta¹, Masatomo So¹, Kazumasa Sakurai², Yuji Goto¹ (¹IPR, Osaka Univ., ²Inst. of Advan. Tech., Kindai Univ.)

蛋白質：計測・解析 / Protein: Measurement & Analysis

- 2Pos060** 機械学習を用いたシミュレーションと実験の統合によるタンパク質ダイナミクス解析
Linking single-molecule experiment and simulation of protein dynamics by machine learning
 Yasuhiro Matsunaga^{1,2}, Yuji Sugita^{1,3,4} (¹RIKEN AICS, ²JST PRESTO, ³RIKEN TMS, ⁴RIKEN QBiC)
- 2Pos061** ヒドロゲナーゼ/シトクローム c_3 間電子移動における静電相互作用の役割
Role of the electrostatic interactions in the electron transfer from [NiFe] hydrogenase to cytochrome c_3
 Yu Sugimoto¹, Yoshitaka Moriwaki¹, Thoru Terada¹, Kenji Kano², Kentaro Shimizu¹ (¹Grad. Sch. of Agri. and Life Sci. Univ. of Tokyo, ²Grad. Sch. of Agri. Kyoto Univ)
- 2Pos062** X線1分子追跡法による TRPV1 チャネルの分子運動解析
3D MOTION MAPS OF TRPV1 CATION CHANNEL DEPICTED BY DIFFRACTED X-RAY TRACKING METHOD
 Kazuhiro Mio¹, Keigo Ikezaki², Masahiro Kuramochi², Hiroshi Sekiguchi³, Tai Kubo¹, Yuji C. Sasaki² (¹OPERANDO-OIL, AIST, ²Frontier Science, Univ. of Tokyo, ³JASRI)
- 2Pos063** 高次構造に特異的な人工タンパク質を用いた抗体医薬品の品質評価モニタリング
Quality control monitoring of therapeutic antibodies based on an artificial protein specific for higher order structures of IgG
 Hideki Watanabe¹, Seiki Yageta^{1,2}, Hiroshi Imamura¹, Shinya Honda^{1,2} (¹BMRI, AIST, ²Grad. Sch. of Frontier Sci., The Univ. of Tokyo)
- 2Pos064** チオフラビン T とアミロイド β 凝集体の結合：蛍光寿命測定による解析
Thioflavin T binding to amyloid-beta peptide aggregates: Analyses with fluorescence lifetime measurements
 Akinori Oda, Hiroshi Satozono, Tomomi Shinke (Hamamatsu Photonics K. K.)
- 2Pos065** タンパク質間相互作用観測を目指した蛍光相関分光装置の開発
Development of Fluorescence Correlation Spectrometer for the Elucidation of Protein Interactions
 Asami Izaki^{1,2}, Hiroyuki Oikawa^{1,2}, Takeshi Tomita³, Satoshi Takahashi^{1,2} (¹IMRAM, Tohoku Univ., ²Grad. Sch. Life Sci., Tohoku Univ., ³Dept. Pharmacol., Tokyo Women's Medical Univ.)
- 2Pos066** Influence of the PYP domain on Photoreaction of the phytochrome domain in Ppr
Jia Siang Sum, Yoichi Yamazaki, Yugo Hayashi, Hironari Kamikubo (Grad. Sch. of Mater. Sci., NAIST)
- 2Pos067** 分子動力学シミュレーションによる β シート凝集の自由エネルギー解析
Free energy analysis of β -sheet aggregation by molecular dynamics simulation
 Keiichi Masutani, Kang Kim, Nobuyuki Matubayasi (Graduate School of Engineering Science, Osaka University)
- 2Pos068** 赤色蛍光タンパク質, Akane families (*Scleronephthya gracillima*) の緑と赤の蛍光は海域によらない共通特性
Common properties of red fluorescent protein Akane families having green and red emissions irrespective of ocean areas
 Yuko Kato^{1,2}, Ikki Fujimoto², Yukimitsu Imahara³, Mitsuru Jimbo⁴, Kei Amada², Toshio Yamaguchi¹, Shu Nakachi³ (¹Univ. Fukuoka, ²Fukuoka Inst. Tech., ³Kuroshio Bio Research, ⁴Univ. Kitasato)
- 2Pos069** PF-AR NW12A における顕微分光装置の開発
The development of spectroscopic system for UV-visible absorption at PF-AR NW12A
 Masahide Hikita¹, Yusuke Yamada¹, Masahiko Hiraki², Naohiro Matsugaki¹, Toshiya Senda¹ (¹PF/SBRC, IMSS, KEK, ²Mechanical Engineering Center, Applied Research Laboratory, KEK)

蛋白質工学 / Protein: Engineering

- 2Pos070** 理想タンパク質の安定性のオリジンを探る
Stability for de novo designed ideal proteins revisited
 Mami Yamamoto^{1,2}, Rie Koga¹, Takahiro Kosugi^{1,2}, Nobuyasu Koga^{1,2,3} (¹IMS, CIMoS, ²SOKENDAI, ³JST, PRESTO)
- 2Pos071** エングレイルドホメオドメインを用いた新たな転写因子の設計
Designing a new artificial transcription factor based on engrailed homeodomain
 Tomoko Sunami, Hidetoshi Kono (QST)
- 2Pos072** タンパク質へのワンポット飽和変異導入におけるヌクレオチドとアミノ酸のバイアス
Bias in nucleotides and amino acids in one-pot saturation mutagenesis of protein
 Akasit Visootsat¹, Fumihiko Kawai², Akihiko Nakamura^{2,3}, **Ryota Iino**^{1,2,3} (¹IMS, NINS, ²OIIB, NINS, ³SOKENDAI)
- 2Pos073** 天然に存在しないフォールドを持つタンパク質の合理的デザイン
Rational design of new fold proteins yet-unexploited in nature
 Shintaro Minami¹, Rie Koga¹, George Chikenji², Nobuyasu Koga^{1,3} (¹CIMoS, IMS, ²Grad. Sch. of Eng., Nagoya Univ., ³PRESTO, JST)
- 2Pos074** 多様な all- α タンパク質のデザイン
Design of diverse all- α proteins
 Koya Sakuma^{1,2}, Rie Koga², Takahiro Kosugi^{1,2}, Nobuyasu Koga^{1,2,3} (¹SOKENDAI, ²CIMoS, IMS, ³JST, PRESTO)
- 2Pos075** 水酸化酵素 PHBH の没食子酸産生変異体の構築とその理論的考察
Modification of *p*-Hydroxybenzoate to produce gallic acid and its theoretical insight
 Yoshitaka Moriwaki¹, Tohru Terada², Kentaro Shimizu¹ (¹Dept. of Biotechnol., Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo, ²Agri. Bioinfo. Res. Unit, Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo)

- 2Pos076** 可逆的光架橋プローブを用いた翻訳の制御
Photo-control of the ribosome movement along mRNA using a reversible photo-crosslinking probe
 Shunsuke Yamashiro¹, Ryo Iizuka², Takashi Funatsu² (¹*Dept. of Pharm., Fac. of Pharm. Sci., The Univ. of Tokyo*, ²*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*)
- 2Pos077** カルモジュリン融合・共発現系を用いた抗菌ペプチド fowlicidin 大量生産法
Mass production of fowlicidin, a cathelicidin antimicrobial peptide by a calmodulin-peptide fusion and coexpression system
 Koki Onuma¹, Hiroaki Ishida², Takasumi Kato¹, Takashi Tsukamoto^{1,3}, Takashi Kikukawa^{1,3}, Makoto Demura^{1,3}, Hans J. Vogel², Tomoyasu Aizawa^{1,3} (¹*Grad. Sci. Life Sci, Hokkaido Univ.*, ²*Biochem. Res. Grp., Dep. of Biol. Sci., Univ. of Calgary*, ³*GI-CoRE, Hokkaido Univ.*)
- 2Pos078** Some factors that make a structure of a beta-sheet protein more designable
 Hayao Imakawa¹, Nobuyasu Koga², George Chikenji¹ (¹*Dept. of App. Phys., Nagoya Univ.*, ²*CIMoS, IMS*)

核酸結合蛋白質 / Nucleic acid binding proteins

- 2Pos079** 転写因子 NF-κB の核内クラスター形成の観察
Analysis of NF-κB clusters formation in the cell nucleus
 Takhiko Inaba¹, Yu Miyamoto², Kazunari Iwamoto², Hisaaki Shinohara³, Mariko Okada², Yasushi Sako¹ (¹*RIKEN, Cellular Informatics Laboratory*, ²*Inst. Protein Research, Osaka U.*, ³*RIKEN, Yokohama*)
- 2Pos080** ヌクレオソーム動態解析を指向した化学合成ヒストンタンパク質
Chemically synthesized histone proteins for analysis of nucleosome dynamics
 Gosuke Hayashi¹, Takuma Sueoka¹, Akimitsu Okamoto^{1,2} (¹*Dept. Chem. and Biotech., Univ. of Tokyo*, ²*RCAST, Univ. of Tokyo*)
- 2Pos081** 大腸菌非六量体型 DNA ヘリカーゼ UvrD 変異体の多量体形成の 1 分子イメージング
Single-molecule imaging of the oligomeric form of the non-hexameric *Escherichia coli* helicase UvrD mutants
 Hiroaki Yokota (*Grad. Sch. Creation Photon Indust.*)
- 2Pos082** Structural change of ALS-liked mutant of TDP-43
 Akira Kitamura, Sachiko Yuno, Ai Shibasaki, Fusako Gan, Makoto Oura, Johtarō Yamamoto, Masataka Kinjo (*Laboratory of Molecular Cell Dynamics, Faculty of Advanced Life Science, Hokkaido University*)
- 2Pos083** Sequence Dependent Spontaneous Nucleosome Slidings Revealed by Molecular Dynamics Simulation
 Toru Niina, Giovanni Brandani, Cheng Tan, Shoji Takada (*Grad. Sch. Sci., Kyoto Univ.*)
- 2Pos084** Real-time observation of flexible domain movements in Cas9
 Saki Osuka, Kazushi Isomura, Shohei Kajimoto, Tomotaka Komori, Hiroshi Nishimasu, Tomohiro Shima, Osamu Nureki, Sotaro Uemura (*Grad. Sch. Sci, Univ. Tokyo*)

核酸：構造・物性 / Nucleic acid: Structure & Property

- 2Pos085** 2つのヌクレオソームの配向多様性は H4 tail により生成しうる。
The diversity in the orientation of two nucleosomes is potentially produced by H4 tails
 Hisashi Ishida, Hidetoshi Kono (*QST, Molecular Modeling and Simulation*)
- 2Pos086** Model building of overlapping dinucleosome from SAXS and SANS data
 Atsushi Matsumoto¹, Hidetoshi Kono¹, Rintaro Inoue², Masaaki Sugiyama², Daiki Kato³, Yasuhiro Arimura³, Hitoshi Kurumizaka³ (¹*QST, Kyoto Univ.*, ³*Waseda Univ.*)
- 2Pos087** マイクロ液滴界面上での相分離による人工細胞核の形成の DNA ユニット依存性の解析
Analyses of DNA unit dependence of artificial cell nuclei formed by phase separation on microdroplet interface
 Yu Kasahara, Risa Watanabe, Masahiro Takinoue (*Tokyo Institute of Technology/School of Computing/Computer Science*)
- 2Pos088** マイクロ液滴界面を利用した RNA 転写可能な人工細胞核の構築
Construction of artificial cell nuclei with RNA transcription capability using a microdroplet interface
 Risa Watanabe¹, Masamune Morita^{1,2}, Miho Yanagisawa³, Masahiro Takinoue¹ (¹*Dept. Comput. Sci., Tokyo Tech.*, ²*Biomedical Res. Inst., AIST*, ³*Dept. Appl. Phys., Tokyo Univ. Agri. Tech.*)
- 2Pos089** TIRF 顕微鏡を用いた良溶媒中の直鎖/環状 DNA の形状揺らぎの長時間観察と相関時間の計測
Long-time observations of linear/circular DNA in a good solvent by TIRF to measure a correlation time of configuration fluctuations
 Takafumi Iwaki, Masato Tanigawa (*Fac. Med., Oita Univ.*)
- 2Pos090** クラスター凝集モデルに基づく球面上の DNA マイクロ構造体形成の数値シミュレーション
Numerical simulations of DNA fractal microstructure formation on spherical surface based on cluster-cluster aggregation
 Tetsuro Sakamoto, Risa Watanabe, Masamune Morita, Takinoue Masahiro (*Department of Computer Science, Tokyo Institute of Technology*)
- 2Pos091** 二次構造予測から三次構造予測へ：検証と分子動力学シミュレーションを用いた応用
From secondary structure prediction to three dimensional structure prediction: the validation and application using MD simulation
 Tomoshi Kameda (*AIRC, AIST*)

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

- 2Pos092 シスプラチンとトランスプラチンによる DNA の高次構造と機能への影響の比較研究**
The effect of cisplatin and transplatin on the higher order structure and function of DNA
 Toshifumi Kishimoto¹, Yuko Yoshikawa², Kenichi Yoshikawa¹ (¹Fac. Life Med. Sci., Univ. Doshisha, ²Nano. Bio., Univ. Doshisha)
- 2Pos093 Structure and function of DNA in the presence of linear-chain polyamines with a valency from 2+ to 5+**
 Hiroko Tanaka¹, Ai Kanemura¹, Yuko Yoshikawa², Naoki Umezawa³, Takahiro Kenmotsu¹, Kenichi Yoshikawa¹ (¹Fac. Life Med. Sci., Univ. Doshisha, ²Nano. Bio., Univ. Doshisha, ³Grad. Sch. Phar Sci., Univ. Nagoya City.)
- 2Pos094 金属イオンがグロビュール状 DNA-ヒストン凝集体の大きさに与える影響**
Effects of metal ions on the size of globular DNA-histone aggregates
 Kyoji Natsume, Yoshifumi Amamoto, Yuichi Masubuchi, Tetsuya Yamamoto (Grad. Sch. Eng., Univ. Nagoya)
- 2Pos095 直鎖・分岐ポリアミン存在下での DNA 高次構造の特異性と温度依存的な変化**
Temperature-dependent structural changes of large DNA in the presence of linear- and branched-chain polyamines
 Takashi Nishio¹, Kenichi Yoshikawa¹, Yuko Yoshikawa¹, Naoki Umezawa² (¹Lab. Biol. Phys., Facul. Life Med. Sci., Doshisha Univ., ²Pharmaceutical. Sci., Nagoya City Univ.)
- 2Pos096 How a small change in ligand functional groups affects the dynamics of an aminoglycoside riboswitch?**
 Marta Kulik^{1,2}, Takaharu Mori¹, Yuji Sugita¹, Joanna Trylska² (¹RIKEN, ²Univ. of Warsaw, Poland)
- 2Pos097 トリヌクレオソーム構造のリンカー DNA の長さ依存性**
Tri-nucleosome folding dependent on the linker DNA length
 Hiroo Kenzaki¹, Shoji Takada² (¹ACCC, RIKEN, ²Grad. Sch. Sci., Univ. Kyoto)
- 2Pos098 Protective effect of PEG against DNA double-strand breaks caused by photo irradiation**
 Moe Usui, Yuko Yoshikawa, Kenichi Yoshikawa (Grad. Sch. Life and Medical Sciences, Doshisha Univ)
- 2Pos099 塩基配列非特異的に誘起された長鎖 DNA の折り畳みにおよぼす共存イオンの効果**
The Effects of Ions on the Folding of Giant ds DNA Chains Induced by Nonspecific Interaction with Poly-cations and Proteins
 Tatsuo Akitaya¹, Toshio Kanbe², Anatoly Zinchenko³, Shizuaki Murata³, Makoto Demura⁴, Kenichi Yoshikawa⁵ (¹Asahikawa Medical Univ., ²Nagoya Univ., ³Nagoya Univ., ⁴Hokkaido Univ., ⁵Doshisha Univ.)
- 2Pos100 Pt(II)化合物の DNA 高次構造に対する影響のその場計測：レーザー・マニピュレーション**
Evaluation of the effect of dinuclear Pt(II) complexes on DNA conformation through laser manipulation
 Yusuke Kashiwagi¹, Masatoshi Ichikawa², Seiji Komeda³, Koichiro Sadakane¹, Yuko Yoshikawa¹, Kenichi Yoshikawa¹ (¹Grad. Sch. Life and Medical Sciences, Doshisha Univ., ²Grad. Sch. Physics, Kyoto Univ., ³Fac. Pharm. Sch. Suzuka Univ Med Sci)
- 2Pos101 Reverse mapping to reconstruct atomistic structures from coarse-grained models for DNA-protein complexes**
 Masahiro Shimizu, Shoji Takada (Grad. Sch. Sci., Kyoto Univ.)
- 2Pos102 Reconstitution system of Siwi- and Vasa-coupled piRNA biogenesis**
 Tomotaka Komori, Ryo Murakami, Tomohiro Shima, Mikiko Siomi, Sotaro Uemura (Univ. of Tokyo)

分子遺伝学・遺伝子発現 / Molecular genetics & Gene expression

- 2Pos103 人工細胞デバイスを用いた T7 プロモーター配列の進化分子工手法の開発**
Directed evolution of T7 promoter sequence with artificial cell reactor device
 Tomoya Nishimura¹, Yi Zhang^{1,2}, Hiroshi Ueno¹, Hiroyuki Noji¹ (¹Grad. Sch. Eng., Univ. Tokyo, ²JAMSTEC)
- 2Pos104 人工細胞デバイス内における無細胞タンパク質発現ノイズの解析**
Gene expression noise of cell-free system in artificial cell reactors
 Shiori Fujimoto¹, Yi Zhang^{1,2}, Hiroshi Ueno¹, Kazuhito Tabata¹, Hiroyuki Noji¹ (¹Grad. Sch. Eng., Univ. Tokyo, ²JAMSTEC)

分子モーター / Molecular motor

- 2Pos105 Protein-peptide dissociation at high pressure studied by parallel cascade selection molecular dynamics simulations**
 Hiroaki Hata¹, Yasutaka Nishihara¹, Masayoshi Nishiyama², Ikuro Kawagishi³, Akio Kitao¹ (¹IMCB, UTokyo, ²The Hakubi Center, Kyoto Univ., ³Dept. of Frontier Biosci., Hosei Univ.)
- 2Pos106 Rng2 がアクチンフィラメントとミオシン間の協同的結合に与える影響の解析**
Analysis of influence of Rng2 on cooperative binding between myosin and F-actin
 Taiga Imai¹, Masak Takaine², Kentaro Nakano², Osamu Numata², Taro Uyeda³, Kiyotaka Tokuraku¹ (¹Muroran Institute of Technology, ²University of Tsukuba, ³Waseda University)
- 2Pos107 Minicell tethered assay that enables simultaneous observation of a flagellar motor rotation and the incorporation of stators to the motor**
 Takao Nakajima, Akihiko Ishijima, Hajime Fukuoka (Grad. Sch. Frontier Biosci., Osaka Univ.)
- 2Pos108 Repetitive buckling of microtubules driven by dynein arms reconstituted on singlet microtubules**
 Misaki Shiraga², Jyunya Kirima², Kazuhiro Ooiwa^{1,2} (¹NICT, ²Grad. Sch. Sci., Univ. Hyogo)
- 2Pos109 係留されたキネシン頭部の微小管への結合解離の直接観察**
Direct observation of the binding and unbinding motions of the tethered kinesin head to microtubule
 Kohei Matsuzaki¹, Michio Tomishige² (¹Dept. Appl. Phys., Grad. Sch. Eng., Univ. Tokyo, ²Dept. Math. Phys., Col. Sci. Eng., Aoyama Univ.)

- 2Pos110 温度適性に着目した、糸状菌由来のキネシンの特性**
Properties of kinesins from filamentous fungi focused on the thermal aptitude
 Youske Shimizu, Toru Togawa, Shigeru Chaen (*Col. Humanities and Sciences, Nihon Univ.*)
- 2Pos111 Conformational change in azimuth and tilting angles of F₁-ATPase revealed with defocused orientation imaging**
 Kazuki Gotoh¹, Shoko Fujimura², Takayuki Nishizaka¹ (¹*Dept. Phys., Gakushuin Univ.*, ²*Sch. of Med, Keio Univ.*)
- 2Pos112 Morelloflavone による有糸分裂キネシン Eg5 の阻害効果の生化学的解析**
Biochemical analysis on the effect of morelloflavone as a novel inhibitor of mitotic kinesin Eg5
 Kenichi Taii¹, Tomisin Happy Ogunwa³, Shuya Yano¹, Kei Sadakane², Shinsaku Maruta^{2,4}, Takayuki Miyanishi³ (¹*Soka University, Faculty of Science and Engineering, Department of Bioinformatics Engineering*, ²*Soka University Graduate School, School of Engineering, Major of Bioinformatics Engineering*, ³*Nagasaki University, School of Fisheries and Environmental Sciences*, ⁴*Soka University, Faculty of Science and Engineering, Department of Symbiotic Creation Science and Engineering*)
- 2Pos113 Modification of V₁ rotary molecular motor of *Thermus thermophilus***
 Aiko Endo¹, Naho Mitani², Jun-ichi Kishikawa², Ken Yokoyama² (¹*Grad. Sch. Biochem., Kyoto Sangyo Univ.*, ²*Dept. Mol. Biosci., Kyoto Sangyo Univ.*)
- 2Pos114 DNA オリガミ-ミオシン II モーター混合システムの高速度原子間力顕微鏡観察**
High-speed AFM imaging of DNA origami-myosin II motor hybrid system
 Masashi Ohmachi¹, Hiroki Fukunaga², Keisuke Fujita¹, Keigo Ikezaki³, Toshio Yanagida^{1,2}, Mitsuhiro Iwaki^{1,2} (¹*QBiC, RIKEN*, ²*Grad. Sch. Front. Biosci., Osaka Univ.*, ³*Grad. Sch. Sci., Univ. Tokyo*)
- 2Pos115 新規フォトクロミック阻害剤であるスピロピラン誘導体を利用した有糸分裂キネシン Eg5 の光制御**
Photoregulation of mitotic kinesin Eg5 using a novel photochromic inhibitor composed of spiropyran
 Kei Sadakane¹, Kenichi Taii², Shinsaku Maruta¹ (¹*Dept. of Bioinfo. Grad. Sch. Engin. Soka Univ.*, ²*Dept. of Sci. & Engin. Soka Univ.*)
- 2Pos116 High speed AFM imaging of structural changes in actin filaments bound tropomyosin-troponin in presence of myosin S1 and ATP**
 Kien Xuan Ngo^{1,2}, Taro QP Uyeda¹, Noriyuki Kodera³ (¹*Department of Physics, Faculty of Science and Engineering, Waseda University, Tokyo, Japan*, ²*Brain Science Institute, RIKEN, Wako, Japan*, ³*Department of Physics and Bio-AFM Frontier Research Center, Kanazawa University, Kanazawa, Japan*)
- 2Pos117 Development of simultaneous observation system for flagellar components and motor rotation with external load by electrorotation**
 Kenta Morishima, Akihiko Ishijima, Hajime Fukuoka (*Grad. Sch. Frontier Biosci., Osaka Univ.*)
- 2Pos118 Can we make KIF5 faster?**
 Taketoshi Kambara¹, Yasushi Okada^{1,2} (¹*RIKEN, QBiC*, ²*Univ. of Tokyo, Grad. Sch. of Sci.*)
- 2Pos119 生体分子モーターと光応答性 DNA を用いた分子輸送技術の構築**
Construction of a nano-transportation system by using a biomolecular motor and photoresponsive DNA
 Kentaro Kayano¹, Ryuhei Suzuki¹, Arif Md. Rashedul Kabir², Kazuki Sada^{1,2}, Akinori Kuzuya³, Hiroyuki Asanuma⁴, Akira Kakugo^{1,2} (¹*Graduate School of Chemical Sciences and Engineering, Hokkaido University*, ²*Faculty of Science, Hokkaido University*, ³*Faculty of Science, Kansai University*, ⁴*Graduate School of Science, Nagoya University*)

細胞生物学 / Cell biology

- 2Pos120 細菌べん毛 III 型分泌装置の精製と再構成**
Purification and reconstitution of the flagellar type III protein export apparatus
 Hiroyuki Terashima^{1,2}, Katsumi Imada² (¹*Grad. Sch. Sci., Nagoya Univ.*, ²*Grad. Sch. Sci., Osaka Univ.*)
- 2Pos121 LAT 小胞はマスト細胞の中で自己完結型信号伝達場として働く：1 分子観察による解明**
The LAT vesicle works as a self-contained signaling platform in mast cells; discovery by single molecule tracking
 Koichiro M. Hirosawa^{1,2}, Nao Hiramoto-Yamaki², Kenta J. Yoshida², Shohei Nozaki³, Taka A. Tsunoyama⁴, Bo Tang⁵, Kenichi G.N. Suzuki¹, Kazuhisa Nakayama³, Takahiro Fujiwara², Akihiro Kusumi⁴ (¹*G-CHAIN, Gifu Univ.*, ²*iCeMS, Kyoto Univ.*, ³*Grad. Sch. Pharma., Kyoto Univ.*, ⁴*OIST*, ⁵*Wuhan Univ.*)
- 2Pos122 Detection of the activity in receptor cluster by single cell FRET and motor rotation in *Escherichia coli* cell**
 Yu Mitoro (*Grad. Sch. Biosci., Univ. Osaka*)
- 2Pos123 β -arrestin independent mechanism is involved in the temporal trapping of diffusing GPCR on cell surface**
 Rinshi Kasai¹, Asuka Inoue², Takahiro Fujiwara³, Akihiro Kusumi⁴ (*Inst. Front. Life Med. Sci., Kyoto Univ.*, ²*Grad. Sch. Pharm. Sci., Tohoku Univ.*, ³*KULAS-iCeMS, Kyoto Univ.*, ⁴*OIST*)
- 2Pos124 Rotation assay of the proton-driven bacterial flagellar motor under near zero load**
 Yuta Hanaizumi¹, Shuichi Nakamura^{1,2}, Yusuke V. Morimoto^{2,3}, Tohru Minamino², Keiichi Namba^{2,4} (¹*Grad. Sch. Eng., Tohoku Univ.*, ²*Grad. Sch. Frontier Biosci., Osaka Univ.*, ³*Kyushu Institute of Technology*, ⁴*QBiC, RIKEN*)
- 2Pos125 原子間力顕微鏡によるマウス顎下腺上皮組織のレオロジー測定**
Rheological properties of epithelium in mouse submandibular gland measured by atomic force microscopy
 Kenta Sugimoto¹, Hiroaki Taketa², Takuya Matsumoto², Takaharu Okajima¹ (¹*Grad. Schl. Inform. Sci. and Technol., Hokkaido Univ.*, ²*Dept. of Biomat Okayama Univ.*)
- 2Pos126 Flagella-associated protein in *Chlamydomonas* flagella, FAP85 is one of the microtubule inner proteins (MIPs)**
 Junya Kirima¹, Hiroaki Kojima², Kazuhiro Oiwa^{1,2} (¹*Grad. Sch. of Life Sci., Univ. of Hyogo*, ²*Adv. ICT Res. Inst., NICT*)

- 2Pos127** 細菌べん毛モーターの固定子組み込みとトルク発生におけるプロトン透過の関わり
Implication of proton translocation for stator assembly and torque generation in the bacterial flagellar motor
 Yuya Suzuki¹, Kodai Oono¹, Fumio Hayashi², Yusuke V. Morimoto³, Seishi Kudo¹, Kenji Oosawa⁴, Shuichi Nakamura¹ (¹Grad. Sch. Eng., ²Center for Inst. Anal., Gunma Univ., ³Grad. Sch. Computer Sci. & System Eng. Kyushu Inst. of Tech., ⁴Div. Mol. Sci., Fac. Sci. and Tech.)
- 2Pos128** アクチン繊維の集団運動により形成される構造は繊維の物理的性質によって決まる
The characterization of size and filament distances of band patterns of moving actin filaments
 Hiroataka Taomori¹, Yuuji Setoguchi¹, Kentaro Ozawa¹, Itsuki Kunita², Shigeru Sakurazawa³, Hajime Honda¹ (¹Dept. Bioeng., Nagaoka Univ. Tech., ²Univ. Ryukyus, ³Future Univ. Hakodate)
- 2Pos129** *Bacillus alcalophilus* 由来べん毛固定子蛋白質の MotS のペリプラズムフラグメントの構造
Structural of a periplasmic fragment of MotS, a flagellar stator protein of *Bacillus alcalophilus*
 Koki Nishiuchi¹, Mami Yamamoto², Masahiro Ito², Katsumi Imada¹ (¹Grad. Sch. of Sci., Osaka Univ., ²Faculty of Life Sciences, Toyo Univ)
- 2Pos130** 細胞内温度への微小管の寄与の検討
Investigating the contribution of microtubules on intracellular temperature variation
 Takashi Yanagi¹, Kohki Okabe^{1,2}, Takashi Funatsu¹ (¹Grad. Sch. Phamac. Sci., Univ. Tokyo, ²JST, PRESTO)
- 2Pos131** Polarized ArfA activation directs PTEN to posterior plasma membrane for eukaryotic cell migration
Takuma Degawa¹, Satomi Matsuoka², Masahiro Ueda^{1,2,3} (¹Dep. Biol. Grad. Sch. of Sci. Osaka Univ., ²RIKEN QBiC, ³Grad. Sch. of Front. Bio Sci. Osaka Univ.)
- 2Pos132** ネスチンと緑茶カテキン(-)エピガロカテキンガレートの細胞弾性への効果
Effect of nestin and (-)-epigallocatechin gallate on cell elasticity
 Moe Susaki², Ayana Yamagishi^{1,2}, Keisuke Iida³, Hyonchol Kim^{1,2}, Chikashi Nakamura^{1,2} (¹AIST, ²TUAT, ³Chiba Univ.)
- 2Pos133** ビブリオ菌極べん毛数と位置へ影響する FlhF の精製とその GTPase 活性検出
Purification of FlhF to detect the GTPase activity effecting on the number and location of the polar flagellum of *Vibrio alginolyticus*
 Shota Kondo, Michio Homma, Seiji Kojima (Grad. Sch. of Sci., Nagoya Univ.)
- 2Pos134** ERK, Akt の多重可視化による細胞周期制御機構の定量的な解析
Quantitative analysis of cell-cycle control mechanisms by multiplexed imaging of ERK and Akt activity
 Gembu Maryu^{1,3}, Michiyuki Matsuda^{1,2}, Kazuhiro Aoki³ (¹Lab. Bioimaging Cell Signal., Grad. Sch. Biostudies, Kyoto Univ., ²Dept. Pathol. Biol. Dis. Grad. Sch. Med., Kyoto Univ., ³Div. Qant. Biol., Nat. Inst. Basic Biol.)
- 2Pos135** 運動性シアノバクテリアの双方向性運動の解析
Analysis of bidirectional motion of motile cyanobacteria
 Takashi Kosaki, Atsuko Takamatsu (Dept. of Elec., Eng. & Biosci., Waseda University)
- 2Pos136** 繊維状インフルエンザウイルスの運動様式
Motility of filamentous influenza virus
 Tatsuya Sakai, Mineki Saito (Department of Microbiology, Kawasaki Medical School)
- 2Pos137** 外腕ダイニン中間鎖の点突然変異によるクラミドモナス鞭毛運動性の低下
A novel *Chlamydomonas* mutant harboring a point mutation in an intermediate chain gene of outer-arm dynein displays lowered motility
 Tomoka Ogawa¹, Emiri Kanno², Yusuke Kondo¹, Masafumi Hirono³, Takako Kato-Minoura², Ritsu Kamiya², Toshiki Yagi¹ (¹Dept. Life Sci., Pref. Univ. Hiroshima, ²Dept. Biol. Sci., Fac. Sci. & Eng., Chuo Univ., ³Dept. of Biosci., Hosei Univ.)
- 2Pos138** システイン変異導入によるべん毛モーター固定子タンパク質 PomA のペリプラズムループ領域の解析
Characterization of periplasmic loop regions of PomA, a stator protein of flagellar motor, using cysteine mutagenesis
 Hiroto Iwatsuki, Hiroyuki Terashima, Seiji Kojima, Michio Homma (Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ.)
- 2Pos139** 分散培養心筋細胞と心臓組織片の拍動同期
Synchronization of beating between dispersed culture of cardiomyocytes and cardiac tissue slice
 Chiho Nihei, Tomoyuki Kaneko (LaRC, Grad. Sch. Sci. & Eng., Hosei Univ.)
- 2Pos140** シュードモナス属細菌の運動性およびべん毛回転測定
Measurements of motility and flagellar rotation in *Pseudomonas* species
 Taro Hariu¹, Takuto Tensaka¹, Naoya Terahara², Seishi Kudo¹, Shuichi Nakamura^{1,2} (¹Grad. Sch. Applied Phys., Tohoku Univ., ²Grad. Sch. of Frontier Biosci., Osaka Univ.)

化学受容 / Chemoreception

- 2Pos141** Guanylate Cyclase mediates chemotaxis by transducing high-frequency signals for pseudopod formation
Yuki Tanabe^{1,3,4}, Masahiro Ueda^{1,2,3} (¹Grad. Sch. Sci., Univ. Osaka, ²Grad. Sch. Frontier Biosci., Univ. Osaka, ³QBiC, RIKEN, ⁴JSPS)
- 2Pos142** 受容体の細胞膜上空間分布解析
Spatial distribution analysis of membrane receptors
 Hiroaki Takagi¹, Yukihiro Miyanaga², Michio Hiroshima³, Yasushi Sako⁴, Masahiro Ueda^{2,3} (¹Sch. Med., Nara Med. Univ., ²Grad. Sch. Front. Biosci., Osaka Univ., ³QBiC, RIKEN, ⁴RIKEN)
- 2Pos143** 大腸菌温度感覚レセプター Tar-Tap キメラ体の温度受容能
Thermosensing abilities of Tar-Tap chimeric receptors of *Escherichia coli*
 So-ichiro Nishiyama^{1,2}, Takashi Sagawa³, Hana Sato⁴, Hiroaki Kojima³, Kazuhiro Oiwa^{3,4}, Ikuro Kawagishi^{1,2} (¹Dept. Frontier Biosci., Hosei Univ., ²Res. Cen. Micro-Nano Tech., Hosei Univ., ³Adv. ICT Res. Inst., NICT, ⁴Grad. Sch. Life Sci., Univ. Hyogo)

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

- 2Pos144 脊椎動物の光受容タンパク質 Opn5 の分子特性の多様化とその変換**
Comparison and conversion of diversified molecular properties in vertebrates Opn5 group
 Yukimi Nishio¹, Takahiro Yamashita¹, Keita Sato², Yasushi Imamoto¹, Hideyo Ohuchi², Yoshinori Shichida¹ (¹*Grad. Sch. of Sci., Kyoto Univ.*, ²*Okayama Univ. Grad. Sch. of Med.*)
- 2Pos145 Rc-PYP の光依存的複合体種の形成機構**
Light dependent multiple complex formation of Rc-PYP
 Yoichi Yamazaki¹, Yohei Shibata¹, Yugo Hayashi¹, Nathumi Endo¹, Kentaro Ishii², Susumu Uchiyama^{2,3}, Takayuki Uchihashi⁴, Hironari Kamikubo¹ (¹*Grad. Sch. Ms, NAIST*, ²*Okazaki Inst. Integrative Bioscience, NINS*, ³*Grad. Sch. Eng., Osaka Univ.*, ⁴*Grad. Sch. Sci., Nagoya Univ.*)
- 2Pos146 Light-Driven Cl⁻ Transport Mechanism of *Nonlabens marinus* Rhodopsin-3 Studied by Static and Time-Resolved Spectroscopy**
Takashi Tsukamoto^{1,2}, Susumu Yoshizawa³, Takashi Kikukawa^{1,2}, Makoto Demura^{1,2} (¹*Fac. Adv. Life Sci., Hokkaido Univ.*, ²*Glob. Sta. for Soft Matt., GI-CoRE, Hokkaido Univ.*, ³*AORI, The Univ. of Tokyo*)
- 2Pos147 The photochemical properties of archaerhodopsin and its mutants found in *Halorubrum* sp. ejinoor**
Xiong Geng¹, Luomeng Chao², Gang Dai³, Takashi Kikukawa⁴, Tatsuo Iwasa⁵ (¹*Adv. Production Syst. Eng., Muroran Ins. Technol., Japan*, ²*Anim. Sci. Technol., Inner Mongolia Nationalities Univ., China*, ³*Coll. Chem. Environ. Sci., Inner Mongolia Normal Univ., China*, ⁴*Grad. Sch. Life. Sci., Hokkaido Univ., Japan*, ⁵*Div. Eng. Composite Funct., Muroran Ins. Technol., Japan*)
- 2Pos148 桿体・錐体外節膜における脂質組成の解析**
Analysis on lipid compositions in outer segment membranes of rod and cone photoreceptor cells
 Kyoko Kadomatsu¹, Keiji Seno², Yuki Ito³, Satoru Kawamura³, Shuji Tachibanaki³ (¹*Faculty of Science, Osaka University*, ²*Department of Biology, Faculty of Medicine, Hamamatsu University School of Medicine*, ³*Grad. Sch. of Frontier Biosci., Osaka University*)
- 2Pos149 脊椎動物の視物質とピノプシンの熱活性化効率の比較解析**
Comparison of thermal activation rates between vertebrate visual pigments and pinopsin
 Takahiro Yamashita¹, Keita Sato², Keiichi Kojima¹, Kazumi Sakai¹, Yuki Matsutani¹, Masataka Yanagawa³, Yumiko Yamano⁴, Akimori Wada⁴, Naoyuki Iwabe¹, Hideyo Ohuchi², Yoshinori Shichida¹ (¹*Grad. Sch. Sci., Kyoto Univ.*, ²*Okayama Univ. Grad. Sch. Med. Dent. & Pharmaceut. Sci.*, ³*RIKEN*, ⁴*Kobe Pharmaceut. Univ.*)
- 2Pos150 光駆動ナトリウムポンプ KR2 の多量体形成に重要なアミノ酸残基**
Aromatic amino acids of a light-driven sodium pump KR2 are important to form an oligomer
 Rei Abe-Yoshizumi¹, Shota Ito¹, Kento Ikeda², Mikihiro Shibata^{3,4}, Keiichi Inoue^{1,5}, Takayuki Uchihashi⁶, Hideki Kandori¹ (¹*Nagoya Inst. Tech.*, ²*Grad. Sch. Phys., Kanazawa Univ.*, ³*InFiniti., Kanazawa Univ.*, ⁴*Bio-AFM FRC*, ⁵*JST PRESTO*, ⁶*Dept. Phys., Nagoya Univ.*)
- 2Pos151 紫外共鳴ラマン分光法によるオレンジカロテノイドタンパク質の光活性化機構**
Evidence for close-to-open photoactivation of orange carotenoid protein from ultraviolet resonance Raman spectroscopy
 Yushi Nakamizo¹, Momoka Nagamine², Tomotsumi Fuzisawa¹, Cheryl Kerfeld³, Masashi Unno⁴ (¹*Advanced Technology Fusion, Saga University*, ²*Faculty of Science and Engineering, Department of Chemistry and Applied Chemistry, Saga University*, ³*Michigan State University*, ⁴*Department of Chemistry and Applied Chemistry, Saga University*)
- 2Pos152 霊長類青感受性視物質の極大吸収波長における内部結合水の役割**
The role of internal water molecules in λ_{max} of primate blue-sensitive visual pigment
 Kota Katayama¹, Yuki Nonaka¹, Kei Tsutsui², Hiroo Imai², Hideki Kandori¹ (¹*Grad. Sch. Eng., Nagoya Inst. Tech.*, ²*Primate Res. Inst., Kyoto Univ.*)
- 2Pos153 Na⁺ポンプ型ロドプシンの Na⁺輸送過程の解析**
Analysis of Na⁺ transfer reactions of Na⁺-pumping rhodopsin
 Keisuke Murabe¹, Takashi Kikukawa^{1,2}, Takashi Tsukamoto^{1,2}, Tomoyasu Aizawa^{1,2}, Naoki Kamo¹, Makoto Demura^{1,2} (¹*Grad. Sch. Life Sci., Hokkaido Univ.*, ²*GSS, GI-CoRE, Hokkaido Univ.*)
- 2Pos154 *Gloeobacter* rhodopsin の多量体構造における機能的役割の解明**
Functional importance of trimer formation of light-driven H⁺pump *Gloeobacter* rhodopsin
 Azusa Iizuka¹, Takashi Kikukawa^{1,2}, Kousuke Kajimoto³, Tomoki Fujisawa³, Takashi Tsukamoto^{1,2}, Tomoyasu Aizawa^{1,2}, Naoki Kamo¹, Masashi Unno³, Makoto Demura^{1,2} (¹*Glad. Sch. Life Sci., Hokkaido Univ.*, ²*GSS, GI-CoRE, Hokkaido Univ.*, ³*Grad. Sch. Sci. Eng., Saga Univ.*)

生態／環境 / Ecology & Environment

- 2Pos155 Challenge for direct observation of bacterial growth and death in long-term starvation**
 Sotaro Takano^{1,2}, Ryo Miyazaki² (¹*Life and Env. Sci., Univ. of Tsukuba*, ²*AIST, Bioprod. Inst.*)
- 2Pos156 運動性シアノバクテリアのコロニー形成による増殖活性の解析**
Analysis of proliferation rate depending on colonial morphologies in motile cyanobacteria, *Pseudanabaena* sp
 Keita Mizoe, Atsuko Takamatsu, Taku Kimura (*Waseda University*)
- 2Pos157 微生物生態系における種の共存と代謝ネットワーク**
Metabolic network enables to live together in microbial ecosystems
 Kenshi Suzuki¹, Masahiro Honjo², Tomoka Nishimura³, Yosuke Tashiro², Hiroyuki Futamata^{1,2,4} (¹*Grad. Sch. Sci. and Technol., Shizuoka Univ.*, ²*Grad. Sch. Integ. Sci. and Technol., Shizuoka Univ.*, ³*Dept. Appl. Chem. and Biochem. Eng., Shizuoka Univ.*, ⁴*Res. Ins. Green Sci. and Technol., Shizuoka Univ.*)

- 2Pos158** フグ種別鑑別システムのためのフグ模様再現モデルの構築
Skin patterns replicate model of puffer fish for the crossbreed puffer fish identification system
 Takeshi Ishida, Daiki Tadokoro (*National Fisheries University*)
- 2Pos159** NMDA 受容体を介した Ca²⁺上昇による情報伝達の小体積効果
Small-Volume Effect of Information Transmission by NMDA receptor-mediated Ca²⁺ increase
 Takehiro Tottori¹, Masashi Fujii², Shinya Kuroda² (¹*Fac. Sci., Univ. Tokyo*, ²*Grad. Sch. Sci., Univ. Tokyo*)
- 2Pos160** A Modified Sequence-Dependent Coarse-Grained Elastic-Network Model for DNA
 Yan Zhao, Akinori Awazu, Hiraku Nishimori (*Grad. Sch. Sci., Univ. Hiroshima*)
- 2Pos161** A stochastic simulation study on the mechanism of correlation between circadian oscillation and ATPase activity of KaiC hexamer
 Sumita Das¹, Shota Hashimoto¹, Tomoki P. Terada^{1,2}, Masaki Sasai^{1,2} (¹*Department of Computational Science and Engineering, Nagoya University*, ²*Department of Applied Physics, Nagoya University*)
- 2Pos162** Extraction of statistical dynamics of a stochastic neuronal model
 Takano Yamanobe (*Sch. Med., Hokkaido Univ.*)
- 2Pos163** DNA 損傷認識タンパク質による核内哨戒効率の理論的考察
Theoretical study of nuclear patrol efficiency by DNA damage recognition protein
 Takamasa Yamamoto, Hiraku Nishimori, Akinori Awazu (*Dept. Math and Life Sci. Hiroshima Univ.*)
- 2Pos164** 核膜変形と核内流体を考慮した分裂酵母減数分裂期染色体のモデル
Model of fission yeast meiotic chromosome considering nuclear envelope deformation and intranuclear hydrodynamics
 Kazutaka Takao, Hiraku Nishimori, Akinori Awazu (*Dept. Math and Life Sci., Hiroshima Univ.*)
- 2Pos165** Understanding the Selection Effect through Lineage-Removal Operations
 Shunpei Yamauchi, Yuichi Wakamoto (*Graduate School of Arts and Sciences, The University of Tokyo*)
- 2Pos166** クレオソーム排他的 DNA 配列のインスレーター機能の解析
Analysis of insulator function of nucleosome exclusive DNA sequence
 Yuki Matsushima, Hiraku Nishimori, Akinori Awazu (*Dept. Math and Life Sciences, Grad. Sch. of Sci., Hiroshima Univ.*)
- 2Pos167** Theoretical study of YAP-dependent actomyosin network contribution to morphogenesis under gravity
 Kazunori Takamiya, Seirin Ri, Hiraku Nishimori, Akinori Awazu (*Hiroshima University Graduate School of Science Department of Mathematical and Life Sciences*)

計測 / Measurements

- 2Pos168** 緑色光が及ぼす水素化アモルファスシリコン薄膜上のアミノ酸含有ゲルの電圧電流特性への効果
Green light effect on voltage current property of amino acid containing hydrogel on hydrogenated amorphous silicon film
 Makoto Horigane¹, Kouki Kagawa¹, Mahoko Sano¹, Honoka Endo¹, Hiroshi Masumoto², Takashi Goto³, Yutaka Tsujiuchi¹ (¹*Material Science and Engineering, Akita University*, ²*Frontier Research Institute for Interdisciplinary*, ³*Institute for Materials Research, Tohoku University*)
- 2Pos169** オンチップ 1 細胞計測系によるマクロファージの貪食試料の最適化
Optimization of antigen of macrophage phagocytosis using on-chip single cell measurement assay
 Yuya Furumoto¹, Yoshiki Nakata², Masao Odaka^{3,4}, Kenji Matsuura^{3,4}, Akihiro Hattori^{3,4}, Kenji Yasuda^{1,2,3,4} (¹*Dept. Pure & Appl. Phys., Sch. Adv. Sci. & Eng., Waseda Univ.*, ²*Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*, ³*Org. Univ. Res. Initiatives, Waseda Univ.*, ⁴*Waseda Biosci. Res. Ins. in Singapore (WABIOS)*)
- 2Pos170** 強制拍動刺激周期の変化にตอบสนองした心筋細胞集団の細胞外電位変化
Adaptation of field potential duration in cardiomyocyte clusters under forced electrical stimulation intervals
 Natsuki Seki¹, Naoki Takahashi², Masao Odaka^{3,4}, Kenji Matsuura^{3,4}, Akihiro Hattori^{3,4}, Kenji Yasuda^{1,2,3,4} (¹*Dept. Pure & Appl. Phys., Sch. Adv. Sci. & Eng., Waseda Univ.*, ²*Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*, ³*Org. Univ. Res. Initiatives, Waseda Univ.*, ⁴*Waseda Biosci. Res. Ins. in Singapore (WABIOS)*)
- 2Pos171** オンチップ 1 細胞計測系によるマクロファージの同一点連続貪食の応答解析
Analysis of sequential single point phagocytosis in macrophages using on-chip single cell measurement assay
 Yoshiki Nakata¹, Yuya Furumoto², Masao Odaka^{3,4}, Kenji Matsuura^{3,4}, Akihiro Hattori^{3,4}, Hideyuki Terazono^{3,4}, Kenji Yasuda^{1,2,3,4} (¹*Dept. Pure & Appl. Phys., Sch. Adv. Sci. & Eng., Waseda Univ.*, ²*Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*, ³*Org. Univ. Res. Initiatives, Waseda Univ.*, ⁴*Waseda Biosci. Res. Ins. in Singapore (WABIOS)*)
- 2Pos172** 心筋細胞クラスターの拍動周期の起源：心筋細胞ネットワークの拍動周期の選択ルールの解明
Origin of cardiomyocyte cluster beating intervals: Elucidation of selection rule of interbeat intervals of cardiomyocyte network
 Naoki Takahashi¹, Natsuki Seki², Masao Odaka^{3,4}, Hideyuki Terazono^{3,4}, Kenji Matsuura^{3,4}, Akihiro Hattori^{3,4}, Kenji Yasuda^{1,2,3,4} (¹*Dept. Pure & Appl. Phys., Grad. Sch. Adv. Sci. & Eng., Waseda Univ.*, ²*Dept. Pure & Appl. Phys., Sch. Adv. Sci. & Eng., Waseda Univ.*, ³*Org. Univ. Res. Initiatives, Waseda Univ.*, ⁴*Waseda Biosci. Res. Ins. in Singapore (WABIOS)*)
- 2Pos173** Study of the Structure change in protein using Polarization-dependent Fluorescence Correlation Spectroscopy (Pol-FCS)
 Fusako Gan¹, Johtarō Yamamoto², Masataka Kinjo² (¹*Grad. Sch. Life Sci., Univ. Hokkaido*, ²*Fac. Adv. Life Sci., Univ. Hokkaido*)

- 2Pos174** 角度ダイナミックレンジ広範化に向けたサンプル傾斜角度走査型 X 線 1 分子追跡法の開発
Development of Sample Angular Scanning Diffracted X-ray Tracking for Enhancing Angular Dynamic Range
Hiroshi Sekiguchi¹, Yuji Sasaki^{1,2} (¹JASRI/SPring-8, ²Dept. of Adv. Mater. Sci., Univ. of Tokyo)
- 2Pos175** SQUID とネオジウム磁石片を用いて、 繊毛運動を測定する
Measurement of ciliary movement using SQUID gradiometer and a small neodymium magnet piece
Ryota Makibatake¹, Daisuke Oyama², Jun Kawai², Hitoshi Tatsumi¹ (¹Department of Applied Bioscience, Kanazawa Inst. of Technol., Ishikawa, Japan, ²Applied Electronics Laboratory, Kanazawa Inst. of Technol., Ishikawa, Japan)
- 2Pos176** 冷却 HPD による広視野 1 分子蛍光寿命測定
Wide-field single-molecule fluorescence lifetime measurement by a cooled hybrid photo-detector (HPD)
Atsuhito Fukasawa¹, Gaku Nakano¹, Takayasu Nagasawa¹, Shigeru Ichikawa¹, Minako Hirano², Toru Ide³, Yasuharu Negi¹, Tomohiro Ishizu¹, Hiroaki Yokota² (¹Hamamatsu Photonics K. K., ²Grad. Sch. Creation Photon. Indust., ³Grad. Sch. Nat. Sci. Technol., Okayama Univ.)

バイオイメージング / Bioimaging

- 2Pos177** PC12 細胞の神経分化における細胞内温度イメージング
Imaging of intracellular temperature in PC12 cell nerve differentiation
Taishu Akiyama^{1,4}, Masaki Kinoshita¹, Kohki Okabe^{2,3}, Hisashi Tadakuma⁴, Yoshie Harada⁴ (¹Grad. Sch. Life Sci., Univ. Kyoto, ²Grad. Sch. Pharm., Univ. Tokyo, ³PRESTO, JST, ⁴Inst. Protein Res., Univ. Osaka)
- 2Pos178** 蛍光イメージング定量解析で明らかになった ATP に依存した INO80 クロマチン再構成複合体の核内動態
ATP dependent dynamics of INO80 chromatin remodeling complex revealed by quantitative fluorescence imaging
Yuma Ito¹, Masahiko Harata², Kumiko Sakata-Sogawa², Makio Tokunaga¹ (¹Sch. Life Sci. Tech., Tokyo Inst. Tech., ²Grad. Sch. Agr. Sci., Tohoku Univ.)
- 2Pos179** Screening of chemical compounds to find new inhibitors against ATP synthesis in mitochondria by MASC assay
Yuki Hayashida¹, Jun-ichi Kishikawa², Makoto Fujikawa³, Hiromi Imamura⁴, Ken Yokoyama² (¹Grad. Sch. Biochem., Kyoto Sangyo Univ., ²Dept. Mol. Biosci., Kyoto Sangyo Univ., ³Dept. Pharmacol Neurobiol, Grad. School of Med., Tokyo Medical and Dental., ⁴Lab. Funct. Biol., Grad. School of Biostudies, Kyoto Univ.)
- 2Pos180** 線形ゼロモード導波路を用いたアクチン重合の 1 分子観察
Single-molecule analysis of actin polymerization mechanism using linear zero-mode waveguides
Soichiro Fujii¹, Ryo Iizuka¹, Masamichi Yamamoto¹, Makoto Tsunoda¹, Takashi Tani², Takashi Funatsu¹ (¹Grad. Sch. Pharm. Sci., Univ. Tokyo, ²Fac. Sci. Eng., Waseda Univ.)
- 2Pos181** ストレス顆粒内内在性 mRNA のナノスケール構成
Nanoscale Organization of Endogenous mRNAs in Stress Granules
Ko Sugawara¹, Kohki Okabe^{1,2}, Takashi Funatsu¹ (¹Grad. Sch. Pharm. Sci., Univ. Tokyo, ²JST, PRESTO)
- 2Pos182** 酸化ストレス応答における Nrf2 動態の生細胞 1 分子イメージング
Dynamics changes of transcriptional factor Nrf2 in living cells upon exposure to oxidative stress using single-molecule imaging
Takahiro Maeda¹, Yuma Ito¹, Shunei Doi¹, Masaaki Shiina², Kumiko Sakata-Sogawa³, Makio Tokunaga¹ (¹Sch. Life Sci. Tech., Tokyo Inst. Tech., ²Grad. Sch. Med. Life Sci., Yokohama City Univ., ³Grad. Sch. Agr. Sci., Tohoku Univ.)
- 2Pos183** 金、銀ナノ粒子を用いたマルチカラー 1 分子イメージング法の開発
Development of multi-color single-molecule imaging method using gold and silver nanoparticles
Jun Ando^{1,2,3}, Akihiko Nakamura^{2,3}, Tatsuya Iida^{1,2,3}, Akasit Visootsat¹, Ryota Iino^{1,2,3} (¹Institute for Molecular Science, ²Okazaki Inst. for Integrative Bioscience, ³The Graduate University for Advanced Studies (SOKENDAI))
- 2Pos184** RNA 顆粒形成過程の細胞内温度測定
Intracellular temperature measurement during RNA granule formation
Beini Shi¹, Kohki Okabe^{1,2}, Takashi Funatsu¹ (¹Grad. Sch. Pharm. Sci., Univ. Tokyo, ²PRESTO, JST)
- 2Pos185** 金ナノ粒子を利用した単一細胞内局所加熱法の開発
Development of a method of local heating a single cell using gold nanoparticles
Takaaki Honda¹, Kohki Okabe^{1,2}, Takashi Funatsu¹ (¹Grad. Sch. Pharma. Sci., Univ. Tokyo, ²JST, PRESTO)
- 2Pos186** 相平衡状態にある核小体内領域における核小体構成タンパク質の 1 分子動態解析
Single-molecule dynamics of nucleolar proteins in different compartments of nucleolus
Daiki Matsumoto¹, Yuma Ito¹, Noriko Saitoh², Kumiko Sakata-Sogawa³, Makio Tokunaga¹ (¹Sch. Life Sci. Tech., Tokyo Inst. Tech., ²Dept. of Cancer Biol., The Cancer Inst. JFCR., ³Grad. Sch. Agr. Sci., Tohoku Univ.)
- 2Pos187** 蛍光イメージングによる転写伸長メディエーター MED26 のダイナミクス解析
Molecular dynamics analysis of Mediator subunit MED26 controlling transcription elongation by fluorescence imaging in the nucleus
Shinnosuke Kunimi¹, Yuma Ito¹, Hidehisa Takahashi², Kumiko Sakata-Sogawa³, Makio Tokunaga¹ (¹Sch. Life Sci. Tech., Tokyo Inst. Tech., ²Fac. of Med., Hokkaido Univ., ³Grad. Sch. Agr. Sci., Tohoku Univ.)
- 2Pos188** X 線自由電子レーザーを用いたコヒーレント X 線回折イメージングによる異なる細胞周期にある酵母細胞核の三次元構造解析
3D structural analyses of yeast nuclei in different cell phases by coherent X-ray diffraction imaging using X-ray free electron laser
Takahiro Yamamoto^{1,2}, Yuki Sekiguchi^{1,2}, Amane Kobayashi^{1,2}, Mao Oide^{1,2}, Asahi Fukuda^{1,2}, Koji Okajima^{1,2}, Tomotaka Oroguchi^{1,2}, Masaki Yamamoto², Masayoshi Nakasako^{1,2} (¹Grad. Sci. Tech., Keio Univ., ²RSC, RIKEN)

バイオエンジニアリング / Bioengineering

- 2Pos189 Photoregulation of Calmodulin using bifunctional Photochromic compound**
Takayuki Ogiwara¹, Hideki Shishido², Shinsaku Maruta¹ (¹Grad. Sch. Bioinfo., Univ. Soka, ²Cystic Fibrosis Foundation Therapeutics, Inc.)
- 2Pos190 Introducing mitochondria to heterologous cells by electrofusion of giant unilamellar vesicles into cells**
Yui Kawagishi^{1,2}, Atsushi Kubo^{2,3}, Ken Matsumoto^{2,3}, Atsushi Tanaka⁴, Toshihiko Ogura^{2,3}, Shin-ichiro M Nomura^{1,2} (¹Grad. Sch. Eng., Tohoku Univ., ²AMED-CREST, ³Inst. of Dev., Aging and Canc, Tohoku Univ., ⁴Inst. for Prom. of Med. Sci. Res., Facul. of Med., Yamagata Univ.)
- 2Pos191 Photocontrol of interaction between small G protein Ras and its regulatory factor SOS using water soluble azobenzene**
Nobuyuki Nishibe¹, Kenichi Taii², Masahiro Kuboyama¹, Toshio Nagashima³, Toshio Yamazaki³, Shinsaku Maruta¹ (¹Grad. Sch. Bioinfo., Univ. Soka, ²Dep. Sci. Eng., Univ. Soka, ³Yokohama Inst., RIKEN)
- 2Pos192 Development of an automated microarray system for rapid microRNA profiling**
Ryo Iizuka^{1,2}, Shoichi Tsuchiya², Taro Ueno³, Takanori Ichiki^{2,4}, Takashi Funatsu¹ (¹Grad. Sch. of Pharm. Sci., The Univ. of Tokyo, ²iCONM, ³Nikon Corp., ⁴Grad. Sch. of Eng., The Univ. of Tokyo)
- 2Pos193 Function control of vitamin D₃ hydroxylase toward efficient bio-sensing and bio-production**
Hikari Sasaki, Yasuhiro Mie, Yoshiaki Yasutake, Tomohiro Tamura (*Bioproduction Res. Inst., AIST*)
- 2Pos194 一分子検出のための生体ナノポアと固体ナノポアの特異比較**
CHARACTERISTICS COMPARISON OF BIOLOGICAL AND SOLID-STATE NANOPORES FOR A SINGLE MOLECULE DETECTION
Natsumi Takai¹, Masaki Matsushita¹, Kan Shoji¹, Tei Maki^{2,3}, Ryuji Kawano¹ (¹Dept. Biotech. Life Sci., TUAT, ²Res. Ctr. for Sci. Tech., TUAT, ³EM Biz. Unit, JEOL. Ltd)
- 2Pos195 人体システムにおける線形性と非線形性**
Linearity and Non-linearity in Human Body System
Susumu Ito¹, Izumi Kuboyama², Katsuhiko Hata² (¹High-Tech Res. Cent., Kokushikan Univ., ²Sch. Emerg. Med. Sys. Kokushikan Univ.)
- 2Pos196 Automated cell manipulation system by using high-speed two fingered micro-hand**
Masaru Kojima¹, Eunhye Kim¹, Yasushi Mae¹, Tatsuo Arai^{2,3} (¹Grad. Sch. Eng. Sci., Osaka Univ., ²Glob. Alliance Lab., The Univ. of Electro-Communications, ³Beijing Inst. of Tech.)
- 2Pos197 ヘリックス相互作用認識を利用したエクソソームの細胞受容体標的**
Receptor clustering and activation using artificial coiled-coil peptide-modified exosomes
Natsumi Ueno^{1,2}, Miku Katayama^{1,2}, Kosuke Noguchi^{1,2}, Tomoka Takatani-Nakase³, Nahoko Bailey Kobayashi^{4,5}, Tetsuhiko Yoshida^{4,5}, Ikuro Fujii², Shiroh Futaki⁶, Ikuhiko Nakase¹ (¹N2RI, Osaka Prefecture Univ., ²Grad. Sch. Sci., Osaka Prefecture Univ., ³Sch. of Pham. Pham. Sci., Mukogawa Women's Univ., ⁴KARC, Keio Univ., ⁵Toagosei Co., Ltd., ⁶ICR, Kyoto Univ.)
- 2Pos198 希釈がもたらす生命システムの非線形濃度応答とその人工細胞技術への応用**
Nonlinear concentration dependence of biosystems on dilution and its application on artificial cell technology
Kei Fujiwara (*Department of Biosciences and Informatics, Keio University*)
- 2Pos199 Interaction of HVR domain of small GTPase Ras with catalytic domain**
Takashi Hashimoto¹, Nobuhisa Umeki², Yasunobu Sugimoto³, Shinsaku Maruta¹ (¹Grad. Sci. Bioinfo., Univ. Soka, ²Wako Inst., RIKEN, ³NUSR)
- 2Pos200 攪拌操作が引き起こすゲノム DNA の二本鎖切断：新規実験手法の提案**
How to keep genome-sized DNA safe against stirring stress: Quantitative analysis through single DNA observation
Hayato Kikuchi, Yuko Yoshikawa, Rinko Kubota, Kenichi Yoshikawa (*Lab. Biol. Phys., Facul. Life Med. Sci., Doshisha Univ.*)

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

- 2Pos201 Protocol to optically measure pH in nanopores of protein crystals**
Kazuo Mori, Bernd Kuhn (*OIST*)

その他 / Miscellaneous topics

- 2Pos202 高周波磁場によるナノ粒子の加熱効果の検証**
Heat production of bio-synthesized nano-particles in altering magnetic field
Daisuke Katayama¹, Naoki Takashima¹, Hideyuki Yoshimura² (¹Biophysics Third Lab., Physics Major, Grad. Sch. Science and Technology, Univ. Grad. Sch. Meiji, ²Univ. Meiji)
- 2Pos203 生命構造の維持・形成に関わる力場についての一考察**
A concept for understanding biological dynamics, which would maintain and reproduce biological structure
Ryutaro Izumi (*Nihon University*)
- 2Pos204 ゼロモード導波路(ZMW)の量産化と生体分子観察への応用**
High-throughput fabrication of Zero-Mode Waveguide (ZMW) and its application to observation of bio-molecules
Kimiko Nakao¹, Hisashi Tadakuma¹, Yong-Woon Han², Kodai Fukumoto¹, Yoshie Harada¹ (¹Inst. for Protein Res. Osaka Univ., ²School of Life Science and Technology, Tokyo Tech.)
- 2Pos205 Combining a docking software with a ligand-based virtual screening method, VS-APPLE**
Daisuke Kobayashi, George Chikenji (*Nagoya University*)

蛋白質：構造 / Protein: Structure

- 3Pos001** L-グルタミン酸酸化酵素の基質特異性変換の構造基盤
Structural basis of the conversion of substrate specificity of L-glutamate oxidase
Nanako Ito¹, Masaki Kitagawa¹, Shinnsaku Matsuo², Michiko Nemoto², Takashi Tamura², Hitoshi Kusakabe³, Kenji Inagaki², Katsumi Imada¹
(¹Dept. MacroMol., Grad. Sch. Sci., Osaka Univ., ²Grad. Sch. Env. & Life Sci., Okayama Univ., ³Enzyme Sensor Co. Ltd)
- 3Pos002** Development of the software with an intelligent strategy for serial data analysis measured by SEC-SAXS/UV-Vis. Spectroscopy
Kento Yonezawa, Masatsuyo Takahashi, Keiko Yatabe, Shinya Saijo, Nobutaka Shimizu (Photon Factory, IMSS, KEK)
- 3Pos003** 二重スピンラベルたんぱくの cwEPR 距離測定に対するウェーブレット変換の応用
An application of wavelet transform to distance measurement by continuous wave EPR of doubly spin labeled protein
Yasunori Ohba¹, Shoji Ueki², Toshiaki Arata³ (¹IMRAM, Tohoku Univ., ²Fac. Pharm. Sci., Tokushima Bunri Univ., ³Grad. School of Sci., Osaka City Univ.)
- 3Pos004** Porphyromonas gingivitis の線毛蛋白質 FimA の構造
Structure of FimA, a major component protein of fimbriae of Porphyromonas gingivitis
Kodai Okada¹, Koji Nakayama², Mikio Shoji², Katsumi Imada¹ (¹Grad. Sch. Sci. Osaka Univ., ²Grad. Sch. Biomedical Sci. Nagasaki Univ.)
- 3Pos005** タンパク質の構造コンプライアンス適合運動の解析
Analysis of SC (Structural Compliance) Consistent Motion in Proteins
Keisuke Arikawa (Fcl. Eng., Kanagawa Inst. of Tech.)
- 3Pos006** GPI アンカー型タンパク質におけるシグナル配列の二次構造解析
Secondary structural analysis of signal sequence in GPI-anchored protein
Kei-ya Inoue, Tomonao Iibuchi, Daiki Takahashi, Tatsuki Kikegawa, Kenji Etchuya, Yuri Mukai (Dept. Electronics, Grad. Sch. Sci. & Tech., Meiji Univ.)
- 3Pos007** 蛍光異方性解消法を用いたタンパク質の構造変性時における回転拡散係数および局所構造動きに関する研究
Rotational diffusion coefficients and the fluctuation of local structure of proteins along denaturation curve
Tomoyuki Yoshitake, Masahide Terazima (Kyoto University)
- 3Pos008** レプリカ交換分子動力学シミュレーションによる酸性条件下でのポリグルタミン酸の最安定構造
The dominant structure of polyglutamic acids under an acidic conditions analyzed by replica-exchange molecular dynamics simulations
Ryosuke Iwai¹, Tetsuro Nagai², Kota Kasahara³, Takuya Takahashi³ (¹Grad. Sci. Life Sci., Ritsumeikan Univ., ²Dept. Of Phys., Nagoya Univ., ³Coll. Life. Sci., Ritsumeikan Univ)
- 3Pos009** Nontargeted parallel cascade selection molecular dynamics using convex hull for structure selection
Kenichiro Takaba^{1,2} (¹Asahi Kasei Pharma Co., Ltd., ²Grad. Sch. Sci., Univ. Tokyo)
- 3Pos010** 位相板を用いたクライオ電子顕微鏡法での腸内連鎖球菌 V-ATPase 単粒子構造解析
Single Particle Analysis of EhV-ATPase by Phase-Plate electron cryo-microscopy
Jun Tsunoda^{1,2}, Chihong Song², Takeshi Murata³, Hiroshi Ueno⁴, Naoyuki Miyazaki⁵, Kenji Iwasaki⁵, Ryota Iino⁶, Kazuyoshi Murata^{1,2}
(¹SOKENDAI, ²NIPS, ³Dept. Chem., Chiba Univ., ⁴Dept. Appl. Chem., Sch. Eng., Univ. Tokyo, ⁵IPR, ⁶OIIB/IMS)
- 3Pos011** HIV-1 プロテアーゼにおける触媒的加水分解反応に関する理論化学的研究
Theoretical study on catalysis of HIV-1 protease
Masahiro Kaneko, Masahiko Taguchi, Shigehiko Hayashi (Grad. Sch. Sci., Kyoto Univ.)
- 3Pos012** Improved method for soluble expression and rapid purification of yeast TFIIA
Naruhiko Adachi^{1,2,3}, Kyohei Aizawa², Shinya Saijo¹, Nobutaka Shimizu^{1,2}, Toshiya Senda^{1,2} (¹SBRC, IMSS, KEK, ²Soken Univ., ³PRESTO, JST)
- 3Pos013** クライオ電顕を用いた好熱菌プロトン回転型 ATPase の単粒子解析
Cryo EM structure of intact rotary H⁺-ATPase/synthase from Thermus thermophilus
Atsuko Nakanishi¹, Jun-ichi Kishikawa¹, Kaoru Mistuoka², Ken Yokoyama¹ (¹Department of Molecular Biosciences, Kyoto Sangyo University, ²Research Center for Ultra-High Voltage Electron Microscopy)
- 3Pos014** 分子動力学法による緑色蛍光タンパク質のフォールディングとアグリゲーション
Folding and Aggregation of Green Fluorescent Protein Studied by Molecular Dynamics Simulation
Mashiho Ito¹, Shoji Takada² (¹Nagoya Univ., ²Kyoto Univ.)
- 3Pos015** Flexible docking and affinity calculation between CDK2 and its inhibitor CS3 using multiconformational MD and thermodynamic integration
Gert-Jan Bekker¹, Narutoshi Kamiya², Mitsugu Araki³, Ikuo Fukuda¹, Yasushi Okuno³, Haruki Nakamura¹ (¹IPR, Osaka Univ., ²Grad. Sch., Univ. Hyogo, ³Grad. Sch. Med., Kyoto Univ.)
- 3Pos016** A structural study of the novel chemokine receptor-binding protein, R1-15
Hiroko Takasaki¹, Sosuke Yoshinaga¹, Soichiro Ezaki¹, Mitsuhiro Takeda¹, Yuya Terashima², Etsuko Toda², Kouji Matsushima², Hiroaki Terasawa¹ (¹Fac. Life Sci., Kumamoto Univ., ²Grad. Sch. Med., Univ. Tokyo)

- 3Pos017 ユニークな Coiled-coil 構造を有する VSOP の電気生理学および構造学的研究**
Electrophysiological and structural studies of a unique coiled-coil region of VSOP
 Akima Yamamoto¹, Takashi Tanibayashi¹, Satomi Shibumura¹, Yuichirou Fujiwara⁴, Yasushi Okamura^{4,5}, Atsushi Nakagawa^{1,5}, Kohei Takeshita^{1,2,3} (¹IPR, Osaka Univ., ²JST, PRESTO, ³IAI, Osaka Univ., ⁴Grad. Sch. of Med., Osaka Univ., ⁵JST, CREST)
- 3Pos018 小角散乱によるヒト α -シヌクレインのアミロイド線維の構造解析**
Structural characterization of amyloid fibrils of human α -synuclein by small-angle scattering
 Fumiaki Kono¹, Tatsuhito Matsuo¹, Shin-ichi Takata², Yasunobu Sugimoto³, Satoru Fujiwara¹ (¹QuBS, QST, ²J-PARC Center, ³SR Center, Nagoya Univ.)
- 3Pos019 A SAXS study of thermal denaturation and coagulation of a major soybean storage protein β -conglycinin**
 Nobuhiro Sato¹, Yuki Higashino², Rintaro Inoue¹, Masaaki Sugiyama¹, Reiko Urade² (¹Res. React. Inst., Kyoto Univ., ²Grad. Sch. Agric., Kyoto Univ.)
- 3Pos020 ガウス関数入力型混合正規分布モデルによる 3次元密度マップの近似表現**
Gaussian-input Gaussian mixture model for approximate representation of 3D density map
 Takeshi Kawabata, Haruki Nakamura (*Inst. Prot. Res., Osaka U.*)
- 3Pos021 バックグラウンドイメージより抽出した CTF を使ったネガティブ染色電子顕微鏡像の CTF 補正**
The CTF correction of negative-staining electron micrographs by using the CTF extracted from the background image
 Hitoshi Sakakibara (*Nat. Inst. Inf. Com. Tech. Bio-Function Sec.*)

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

- 3Pos022 細胞内のアクチン構造は細胞への機械刺激により変化する。**
Atomic structure of actin within cells is changed by external mechanical stimulus
 Urara Tokuishi¹, Q.P. Taro Uyeda², Q.P. Taro Noguchi¹ (¹National Institute of Technology, Miyakonjo College, ²Waseda University)
- 3Pos023 Shootin1 の複数のリン酸化体とその構造**
Multiple phosphorylated species of shootin1 and their solution structure
 Shoki Nakata¹, Kentarou Baba², Yugo Hayashi¹, Yoichi Yamazaki¹, Naoyuki Inagaki², Hironari Kamikubo¹ (¹Grad. Sch. of Mater. Sci., NAIST, ²Grad. Sch. of Biol. Sci., NAIST.)
- 3Pos024 アシル CoA の分子力学力場パラメータの改良**
Refinement of molecular mechanics force field of acyl-CoA
 Kyosuke Sato (*Dept. Mol. Physiol., Fac. Life Sci., Kumamoto Univ.*)
- 3Pos025 ラン藻でのアルカン合成に必要な 2 つの酵素間の相互作用**
Interaction between two enzymes essential for cyanobacterial alkane biosynthesis
 Mari Chang¹, Keigo Shimba², Hisashi Kudo², Hidenobu Kawai², Yoshiki Oka², Manami Wada², Yuuki Hayashi², Munehito Arai^{1,2} (¹Dept. Phys., Univ. Tokyo, ²Dept. Life Sci., Univ. Tokyo)
- 3Pos026 クライオ EM マップ及び多階層構造を対象とした状態構造検索サービス「Omokage 検索」の改良**
Improvement in Omokage search, shape similarity search for cryo-EM maps and multi-scale structure data
 Hirofumi Suzuki^{1,2}, Takeshi Kawabata¹, Genji Kurisu^{1,2}, Haruki Nakamura^{1,2} (¹IPR, Osaka-Univ., ²PDBJ)
- 3Pos027 単分子動態計測によって明らかになる KcsA チャネル開閉構造変化の遷移過程における立体構造安定性**
Structural Stabilities during Gating Transitions in the KcsA Potassium Channel Revealed by Single-Molecule Dynamics Recordings
 Hirofumi Shimizu, Masayuki Iwamoto (*Univ. Fukui. Fac. Med. Sci.*)
- 3Pos028 NMR と MRS による α -シヌクレインの生体内オリゴマー化の解析**
NMR and MRS analyses of α -Synuclein oligomerization *in vivo*
 Keika Saito, Mitsuhiro Takeda, Sosuke Yoshinaga, Hiroaki Terasawa (*Fac. Life Sci., Kumamoto Univ.*)
- 3Pos029 リン酸化タンパク質におけるリン酸基周辺の水和水動態解析**
Analysis of water dynamics around phosphorylated protein
 Hiroya Yamazaki, Shige H. Yoshimura (*Grad. Sch. Biostudies., Univ. Kyoto*)
- 3Pos030 アデニル酸キナーゼの反応機構に関する計算化学的研究**
Computational Study on the Reaction Mechanism of Adenylate Kinase
 Kenshu Kamiya (*Dept. Phys., Sch. Sci., Kitasato Univ.*)
- 3Pos031 T 細胞受容体による特異的および交差反応的な抗原認識機構の解明**
Analyses of the structural mechanisms of specific and crossreactive recognitions of antigen peptide-MHC by TCRs
 Yuko Tsuchiya¹, Yoshiki Namiuchi², Hiroshi Wako³, Hiromichi Tsurui⁴ (¹IPR, Osaka Univ., ²QBiC, RIKEN, ³Sch. of Social Sci., Waseda Univ., ⁴Sch. of Med., Juntendo Univ.)
- 3Pos032 Virtual system coupled canonical molecular dynamics simulation to enhance sampling along a reaction coordinate**
Bhaskar Dasgupta^{1,2}, Kota Kasahara³, Haruki Nakamura¹, Junichi Higo¹ (¹IPR, Osaka University, ²Technology Research Association for Next Generation Natural Products Chemistry, ³College of Life Sciences, Ritsumeikan University)
- 3Pos033 シトクロム P450 還元酵素における荷電状態変化に応じた物理状態変化**
Physical state change in NADPH-cytochrome P450 oxidoreductase in response to the charged state change
 Mikuru Iijima, Takato Sato, Ryota Moritake, Tohru Sasaki, Mitsunori Takano (*Dept. of Pure. & Appl. Phys., Waseda Univ.*)

- 3Pos034** タンパク質の協同的な折れたたみとループのつながり方の関係: 4 α -2 β タンパク質トポロジーに関する網羅的解析
Relation between cooperative protein folding and loop connections: comprehensive analysis over 2 α -4 β protein topologies
 Nobu C. Shirai¹, Shintaro Minami² (¹Center for Information Technologies and Networks, Mie University, ²Graduate School of Information Science, Nagoya University)
- 3Pos035** MD シミュレーションを用いた ATP 作動性イオンチャネル P2X における競合的阻害剤 TNP-ATP の作用機序の解明
MD simulation of ATP-gated P2X receptors reveals the inhibitory mechanism of a competitive antagonist TNP-ATP
 Ryoki Nakamura¹, Go Kasuya¹, Mizuki Takemoto¹, Motoyuki Hattori², Ryuichiro Ishitani¹, Osamu Nureki¹ (¹Grad. Sch. Sci., Univ. Tokyo, ²Grad. Sch. Sci., Fudan Univ.)
- 3Pos036** Real-time imaging of Na⁺-induced structural transitions of MotPS stator complex of flagellar motor by HS-AFM
 Naoya Terahara¹, Noriyuki Kodera², Takayuki Uchihashi³, Toshio Ando², Keiichi Namba¹, Tohru Minamino¹ (¹Grad. Sch. Frontier Bioscience, Osaka Univ., ²Bio-AFM Frontier Research Center, Kanazawa Univ., ³Grad. Sch. Sci, Nagoya Univ.)

蛋白質：物性 / Protein: Property

- 3Pos037** Comparison of amyloid fibrillation between wild type and I2E mutant of VL domains of antibody light chain
 Takafumi Naito¹, Masahiro Noji¹, Masatomo So¹, Kenji Sasahara¹, Johannes Buchner², Goto Yuji¹ (¹IPR, ²Technical University Munich)
- 3Pos038** 味覚受容体細胞外領域ヘテロ二量体の発現・精製および性状解析
Expression, purification, and characterization of the entire heterodimeric extracellular regions of fish taste receptor
 Hiroki Maruhashi¹, Daisuke Noshiro², Norihisa Yasui¹, Toshio Ando², Atsuko Yamashita¹ (¹Grad. Sch. Med. Dent. Pharm. Sci., Okayama Univ., ²Bio-AFM FRC, Inst. of Sci. & Eng., Kanazawa Univ.)
- 3Pos039** ポリリン酸による α -synuclein のアミロイド線維形成誘導のメカニズム
The mechanisms of polyphosphate-induced amyloid fibrillation of α -synuclein
 Tatsuya Fujikawa, Masatomo Sou, Yuji Goto (Osaka Univ. IPR)
- 3Pos040** Structure elements are closely related to intramolecular residue-residue contacts
 Yasumichi Takase, Yugo Hayashi, Yoichi Yamazaki, Hironari Kamikubo (NAIST MS)
- 3Pos041** 弱酸性条件における A β_{1-40} のアミロイド線維化
Amyloid fibrillation of A β_{1-40} under weak acidic conditions
 Kaori Mageshi, Naoki Yamamoto, Takato Hiramatsu, Eri Chatani (Grad. Sch. of Sci., Kobe Univ.)
- 3Pos042** 示差走査熱量測定によるマルチドメイン蛋白質の不可逆熱転移の速度論的解析
Kinetic analysis of the irreversible thermal transition of multi-domain proteins by Differential Scanning Calorimetry
 Shigeyoshi Nakamura^{1,2}, Hiroka Suzuki³, Pitchanan Nimpiboon⁴, Priya Kaewpathomsri⁴, Piamsook Pngsawasdi⁴, Wataru Nunomura⁴, Shun-ichi Kidokoro⁴ (¹NIT, Ube College, ²Nagaoka Univ. of Tech., ³Akita Univ., ⁴Chulalongkorn Univ.)
- 3Pos043** Conformational fluctuation of phosphorylated-ubiquitin studied by high-pressure NMR spectroscopy
 Soichiro Kitazawa, Yu Aoshima, Junki Iga, Takuro Wakamoto, Ryo Kitahara (Ritsumeikan Univ.)
- 3Pos044** Solubilization and structural analysis of heat-aggregated keratin protein
 Atsushi Baba¹, Momoko Furuta¹, Kentaro Shiraki², Len Ito¹ (¹MILBON Co., Ltd., ²Fac. Pure and App. Sci., Univ. Tsukuba)
- 3Pos045** マイクロ波照射環境での酵素反応のエントロピー低下
Entropy reduction of enzymatic reaction in microwave irradiated environment
 Fujiko Aoki, Takeo Yoshimura, Shokichi Ohuchi (Dept Biosci Bioinform, Kyushu Inst Tech)
- 3Pos046** 統計力学モデルによるマルチドメインタンパク質のフォールディング経路の解析
Folding pathways of multi-domain proteins predicted by a statistical mechanical model
 Koji Ooka¹, Munehito Arai^{1,2} (¹Dept. Phys., Univ. Tokyo, ²Dept. Life Sci., Univ. Tokyo)
- 3Pos047** 張力によって誘起されたアクチンの静電的变化：アクチンフィラメントの圧電性
Tension-induced electrostatic change in actin: piezoelectricity of an actin filament
 Jun Ohnuki, Hideyo Okamura, Akira Yodogawa, Takato Sato, Taro Q.P. Uyeda, Mitsunori Takano (Dept. of Pure & Appl. Phys., Waseda Univ.)
- 3Pos048** トリガーファクターが補助するタンパク質フォールディングの高速原子間力顕微鏡を用いたリアルタイム観測
Real time observation of Trigger Factor assisted protein folding using high-speed atomic force microscope
 Taiji Namba¹, Tomohide Saio^{1,2,3}, Koichiro Ishimori^{1,2}, Noriyuki Kodera⁴ (¹Grad. Sch. Sci. Eng., Univ. Hokkaido, ²Grad. Sch. Sci., Univ. Hokkaido, ³PRESTO. JST, ⁴Sci. Tec., Univ. Kanazawa)
- 3Pos049** 対イオンで誘起されるアクチンの静電的变化：リエントラント重合における大域斥力と局所引力のバランス
Counter-ion-induced electrostatic change in actin: the balance between global repulsion and local attraction in reentrant polymerization
 Akira Yodogawa, Jun Ohnuki, Mitsunori Takano (Dept. of Pure & Appl. Phys., Waseda Univ.)

蛋白質：機能 / Protein: Function

- 3Pos050** 単一アクチンフィラメントの両末端におけるモノマー間の変動の差異
Differences of inter-monomer fluctuations of single actin filament at either ends
 Ryota Mashiko¹, Hirota Ito¹, Hajime Honda¹, Kenji Kamimura² (¹Nagaoka University of Technology, Department of Bioengineering, ²National Institute of Technology, Nagaoka College, Department of Electronic Control Engineering)

- 3Pos051** セルロース合成の時分割 X 線小角散乱による計測
Time-resolved SAXS measurement of cellulose synthesized in vitro
Hiroataka Tajima¹, Paavo Penttilä², Tomoya Imai¹, Junji Sugiyama¹, Yoshiaki Yuguchi³ (¹RISH, Kyoto Univ., ²ILL, ³Fac. Engineer., OECU)
- 3Pos052** タンパク質レベルでの発現が確認されていないスプライシングアイソフォームの機能性推定
Estimating functionality of expression-unconfirmed splicing isoforms at the protein level
Teerasetmanakul Pramote, Masafumi Shionyu (*Grad. Sch. of Bio-Sci., Nagahama Inst. Bio-Sci. Tech.*)
- 3Pos053** グラム陽性菌 *Bacillus subtilis* 由来 ferredoxin-NADP⁺酸化還元酵素パラログ YcgT の酵素学的解析
Enzymatic characterization of ferredoxin-NADP⁺ oxidoreductase paralogue YcgT from gram-positive bacterium *Bacillus subtilis*
Daisuke Seo¹, Masaharu Kitashima², Kazuhito Inoue², Hirofumi Komori³ (¹Div. Mat. Sci., Grad. Sch. Nat. Sci. Tec., Kanazawa Univ., ²Dep. Biol. Sci., Kanagawa Univ., ³Fac. Educ., Kagawa Univ.)
- 3Pos054** タウタンパク質に対する Pin1 由来のプロテアーゼの活性の定量的評価
Quantitative evaluation of activity of a protease derived from Pin1 for tau protein
Teikichi Ikura, Nobutoshi Ito (*Med. Res. Inst., Tokyo Med. Dent. Univ.*)
- 3Pos055** 拡張アンサンブル分子動力学シミュレーションを用いたヒストン脱メチル化酵素阻害剤のアイソザイム選択制に関する研究
Study for Isozyme Selectivity of Lysine Demethylase Inhibitor by Using Generalized Ensemble Molecular Dynamics Simulations
Shuichiro Tsukamoto^{1,3}, Yoshitake Sakae², Yukihiko Itoh^{2,3}, Takayoshi Suzuki^{2,3}, Yuko Okamoto^{1,3,4,5,6} (¹Grad. Sch. Sci., Nagoya Univ., ²Grad. Sch. Med. Sci., Kyoto Pref. Univ. Med., ³JST-CREST, ⁴Struc. Bio. Res. Cen., Grad. Sch. Sci., Nagoya Univ., ⁵Cen. Comput. Sci., Grad. Sch. Eng., Nagoya Univ., ⁶Info. Tech. Cen., Nagoya Univ.)
- 3Pos056** プラストシアニンとシトクロム *f* との反応過程に対する分子間静電相互作用の寄与に関する理論的研究
Theoretical study on contribution of electrostatic intermolecular interaction to reaction process of Plastocyanin with Cytochrome *f*
Satoshi Nakagawa, Kazutomo Kawaguchi, Hidemi Nagao (*Grad. Sch. Nat. Sci. Tech., Kanazawa Univ.*)
- 3Pos057** ADP/ATP 交換輸送体のミトコンドリアにおける活性調節の計測
Measurements of activity regulation of adenine nucleotide translocator in mitochondria
Mayu Yoneda, Saki Yamashita, Yoshihiro Ohta (*Ohta. Lab., Univ. Noko*)
- 3Pos058** Single α -helix alone in a shaft of F₁-ATPase cannot fully transmit the torque but closely cooperate with the stator
Shou Furuike, Yasushi Maki, Hideji Yoshida (*Phys., Osaka Med. Col.*)
- 3Pos059** OPA1 プロテオリポソームによるミトコンドリア内膜形態制御機構の解明
Elucidating the regulation of mitochondrial inner membrane morphology using OPA1 proteoliposome
Tadato Ban, Naotada Ishihara (*Dept. of Protein Biochem., Inst. of Life Science, Kurume Univ.*)
- 3Pos060** 抗菌性ペプチドも進化するのか？：チャンネル電流計測を用いたヒトとサルにおける抗菌ペプチドの膜障害活性評価からの推察
Do pore-forming activities of antimicrobial peptides change with evolution between Human and Gibbon?
Naoki Saigo, Yusuke Sekiya, Ryuji Kawano (*Dept. Biotech and Biosci*)

蛋白質工学 / Protein: Engineering

- 3Pos061** 結晶性多糖を分解する双方向性リニア分子モーターの計算機合理設計と構造解析
Computational design and structural analysis of bi-directional linear molecular motor hydrolyzing crystalline polysaccharide
Fumihiko Kawai¹, Akihiko Nakamura^{1,2}, Mayuko Yamamoto¹, Yasuko Okuni¹, Ryota Iino^{1,2,3} (¹Okazaki Institute for Integrative Bioscience, ²The Graduate University for Advanced Studies (SOKENDAI), ³Institute for Molecular Science)
- 3Pos062** モモ由来システインリッチアレルゲン peamaelein の大量発現
Over expression of recombinant peamaelein, a cysteine-rich plant allergenic peptide derived from peach pulp
Hiromu Suzuki¹, Takasumi Kato¹, Mihoko Yasumoto¹, Kento Iwama¹, Akiho Okamura¹, Tomoya Kato¹, Naoya Kitada¹, Md. Ruhul Kuddus¹, Farhana Rumi¹, Takashi Tsukamoto^{1,2}, Takashi Kikukawa^{1,2}, Makoto Demura^{1,2}, Tomoyasu Aizawa^{1,2} (¹Grad. Sch. Life Sci., Hokkaido Univ., ²GI-CoRE, Hokkaido Univ.)
- 3Pos063** V₁-ATPase 非活性界面を再設計することで分子モーターを理解する試み
An Attempt to Understand Molecular Motor by Redesigning Non-Catalytic Interface of V₁-ATPase
Takahiro Kosugi^{1,2}, Tatsuya Iida^{2,3}, Fumihiko Kawai³, Minako Kondo¹, Mikio Tanabe⁵, Ryota Iino^{1,2,3}, Nobuyasu Koga^{1,2,5} (¹CIMoS, IMS, ²SOKENDAI, ³Okazaki. Inst. Integ. Biosci., ⁴KEK, ⁵JST, PRESTO)
- 3Pos064** Generation of a ruthenium-binding peptide motif containing genetically encoded bipyridylalanine as ligand
Marziyeh Karimiavargani¹, Noriko Minagawa², Seiichi Tada², Takuji Hirose¹, Yoshihiro Ito², Takanori Uzawa² (¹Graduate School of Science and Engineering, Saitama University, ²Nano Medical Engineering Laboratory, RIKEN)
- 3Pos065** 人工設計タンパク質間結合面の移植による新規タンパク質間相互作用の創出
Development of a novel protein complex by grafting an artificial protein-protein binding interface
Sota Yagi¹, Satoshi Akanuma², Tatsuya Uchida¹, Akihiko Yamagishi¹ (¹Dep. Appl. Life Sci., Tokyo Univ. Pharm. Life Sci., ²Facul. Hum. Sci., Waseda Univ.)
- 3Pos066** リポソームディスプレイ法を用いた多剤排出トランスポーター EmrE の in vitro 機能進化
In vitro evolution of E. coli multidrug efflux transporter EmrE by using liposome display
Sae Uchida, Atsuko Uyeda, Hajime Watanabe, Tomoaki Matsuura (*Dep. Biotechnol. Grad. Sch. Eng., Osaka Univ*)

- 3Pos067** アルカリフォスファターゼの変異導入率と酵素活性分布の関係
The relationship between mutation rate and enzymatic activity distribution of alkaline phosphatase
Makoto Kato¹, Yi Zhang^{1,2}, Hiroshi Ueno¹, Kazuhito Tabata¹, Hiroyuki Noji¹ (¹Grad. Sch. Eng., Univ. Tokyo, ²JAMSTEC)
- 3Pos068** 細胞内における脂肪酸アルデヒド生成量のリアルタイム検出とその応用
In vivo real-time measurement of fatty aldehyde and its application
Yuuki Hayashi, Munchito Arai (Dept. Life Sci., Univ. Tokyo)

ヘム蛋白質 / Heme proteins

- 3Pos069** ATP 結合型外向きヘム輸送体の計算的モデリング
Computational Modeling of the ATP-Bound Outward-Facing Form of a Heme Importer
Koichi Tamura¹, Hiroshi Sugimoto^{2,3}, Yoshitsugu Shiro², Yuji Sugita^{1,4,5,6} (¹RIKEN AICS, ²Grad. Sch. Life Sci., Univ. Hyogo, ³RIKEN SPring-8, ⁴RIKEN TMS, ⁵RIKEN iTHES, ⁶RIKEN QBiC)
- 3Pos070** 呼吸鎖ヘム・銅酸素還元酵素 A タイプのプロトン移動経路の pKa 解析
pKa analysis of the proton transfer pathway in respiratory A-type heme-copper oxygen reductase
Kazumasa Muramoto (Dept. Life Sci., Univ. of Hyogo)
- 3Pos071** ヘムタンパク質中のヘムの歪みの統計および量子化学計算による解析
Statistical and quantum-chemical analysis of heme distortion in hemoprotein
Yasuhiro Imada¹, Yusuke Kanematsu², Hiroko Kondo², Yu Takano^{1,2} (¹IPR, Osaka Univ., ²Grad. Sci. Info. Sci., Hiroshima City Univ.)
- 3Pos072** 金属還元酵素ヒト Steap3 の分子機能解明
Analyses on the molecular function of metalloprotein human Steap3
Akito Nakata¹, Mika Fujimura¹, Fusako Takeuchi², Motonari Tsubaki¹ (¹Dept. of Chem., Grad. Sch. Sci., Kobe Univ., ²IPHE., Kobe Univ.)
- 3Pos073** Computational design of heme-binding protein by remodeling NTF2-like structure
Minako Kondo¹, Yoshitaka Moriwaki², Takahiro Kosugi¹, Norifumi Muraki^{1,3}, Shigetoshi Aono^{1,3}, Rie Koga¹, Nobuyasu Koga^{1,4} (¹CIMoS, IMS, ²Dept. of Biotechnol., Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo, ³Okazaki. Inst. Integ. Biosci., ⁴JST, PRESTO)
- 3Pos074** コスモトロープ溶質による多量体アロステリック蛋白質の解体とその機能への影響
Disassembly and Impact on Function of a Multimeric Allosteric Protein by Kosmotropes
Antonio Tsuneshige, Satoru Unzai (Frontier Bioscience, Hosei University)
- 3Pos075** 膜内在性一酸化窒素還元酵素 cNOR の保存されたバリン残基の役割
Functional roles of a conserved valine residue in membrane-integrated nitric oxide reductase, cNOR
Raika Yamagiwa^{1,2}, Hitomi Sawai¹, Takehiko Tosha², Hiro Nakamura³, Hiroyuki Arai⁴, Yoshitsugu Shiro¹ (¹Grad. Sch. of Life Sci., Univ. of Hyogo, ²RIKEN, SPring-8, ³RIKEN, Yokohama, ⁴GSALS, Univ. of Tokyo)
- 3Pos076** 時間分解可視・赤外吸収分光法を用いた一酸化窒素還元酵素の NO 還元反応機構の解明
Elucidation of the NO Reduction Mechanism of Nitric Oxide Reductase Using Time-resolved Vis / IR Spectroscopy
Hanae Takeda^{1,2}, Tetsunari Kimura⁴, Takashi Nomura³, Akiko Matsubayashi¹, Shoko Ishii¹, Takehiko Tosha³, Yoshitsugu Shiro¹, Minoru Kubo^{3,5} (¹Grad. Sch. Sci., Univ. Hyogo, ²JRA, RIKEN, ³SPring8-Center, RIKEN, ⁴Grad. Sch. Sci., Kobe Univ., ⁵JST PREST)

筋肉 / Muscle

- 3Pos077** ミオシンによるポリリン酸の加水分解とアクトミオシン運動への影響
Triphosphate hydrolysis by myosin and its effect on the motility of actomyosin
Kuniyuki Hatori, Mitsuru Seino, Koji Ito (Dept. Bio-Systems Eng., Yamagata Univ.)
- 3Pos078** 溶液中のアクチンフィラメントは平面で運動するアクトミオシンに引き付けられる
A motility induced concentration effects detected by QCM-microscopy
Shohta Takamori¹, Hirota Taomori¹, Kaho Yokomuro¹, Kazuya Soda¹, Takasi Ishiguro², Hajime Honda¹ (¹Dept. Of Bioeng., Nagaoka Univ. Tech., ²Taiyo Yuden CO., Ltd.)
- 3Pos079** Effects of E244D mutation of cardiac troponin T on the structure of thin filaments by small-angle x-ray scattering
Tatsuhito Matsuo, Fumiaki Kono, Satoru Fujiwara (QuBS, QST)
- 3Pos080** ヒト β-アクチン発現系の構築と変異体の解析
System for Expressing and Purification of Human β-Actin and Analysis of Mutants
Mizuki Matsuzaki¹, Sae Kashima¹, Kayo Maeda¹, Tomoharu Matsumoto¹, Mahito Kikumoto¹, Motonori Ota², Akihiro Narita¹ (¹Grad. Sch. Sci., Nagoya Univ., ²Grad. Sch. Info. Sci., Nagoya Univ.)
- 3Pos081** Structural analysis of human cardiac muscle thin filament by electron cryomicroscopy
Yurika Yamada¹, Keiichi Namba^{1,2}, Takashi Fujii² (¹Grad. Sch. of Frontier Biosci., Osaka Univ., ²RIKEN QBiC)
- 3Pos082** 心筋リン酸化調節に関与するトロポニン I と T の動的構造：双極子 ESR を用いた距離測定法による研究
Structural dynamics of cardiac troponin I and T regulated by phosphorylation, as studied by distance measurement using dipolar ESR
Toshiaki Arata^{1,2,5}, Kouichi Sakai¹, Chenchao Zhao¹, Hiroaki Yamashita¹, Takayasu Somiya¹, Shinji Takai¹, Masao Miki³, Shoji Ueki⁴ (¹Dept. Biol. Sci., Grad. Sch. Sci., Osaka Univ., ²Ctr. Adv. High Mag. Field Sci., ³Univ. Fukui, ⁴Tokushima Bunri Univ., ⁵Dept. Biol., Grad. Sch. Sci., Osaka City Univ. (Present Address))

分子モーター / Molecular motor

- 3Pos083** **Rotation of the engineered F_1 -ATPase with α -type P-loop on catalytic β subunit**
Hiroshi Ueno¹, Rie Koga², Tomoko Masaie³, Nobuyasu Koga², Hiroyuki Noji^{1,4} (¹*Grad. Sch. Eng., Univ. Tokyo*, ²*CIMoS, IMS*, ³*Dept. Appl. Biol. Sci., Tokyo Univ. of Sci.*, ⁴*ImPACT, JST*)
- 3Pos084** **光ピンセットで停止させたバクテリアべん毛モーターのトルク**
Stall torque of the bacterial flagellar motor measured by optical tweezers
Taishi Kasai¹, Yoshiyuki Sowa^{1,2} (¹*Reserch Center for Micro-Nano Tech., Hosei Univ.*, ²*Dept. Frontier Biosci., Hosei Univ.*)
- 3Pos085** **人工筋肉の創成に向けたサルコメアユニットの設計**
Designing of sarcomere unit from microtubules and kinesins for construction of artificial muscles
Ai Saito¹, Kabir Arif Md. Rashedul², Yuichi Hiratsuka³, Akinori Kuzuya⁴, Akihiko Konagaya⁵, Kazuki Sada^{1,2}, Akira Kakugo^{1,2} (¹*Grad. Sch. of Chem. Sci. and Eng., Hokkaido Univ.*, ²*Fac. of Sci., Hokkaido Univ.*, ³*Sch. Mat. Sci., JAIST*, ⁴*Fac. Chem. Mater. Bioeng., Kansai Univ.*, ⁵*DIS, TITECH.*)
- 3Pos086** **Na^+ と K^+ で駆動するバクテリアべん毛モーターの発生トルク**
Torque-IMF relationship of Na^+ - and K^+ -driven bacterial flagellar motor
Kenta Arai¹, Taishi Kasai², Yuka Takahashi³, Masahiro Ito³, **Yoshiyuki Sowa**^{1,2} (¹*Dept. Frontier Biosci, Hosei Univ.*, ²*Reserch Center for Micro-Nano Tech., Hosei Univ.*, ³*Fac. Life Sci., Toyo Univ.*)
- 3Pos087** **ハイブリッド F_1 -ATPase の 1 分子回転観察**
Rotation of hybrid F_1 -ATPase from bacterial rotor and mammalian stator ring
Ryo Watanabe, Hiroshi Ueno, Toshiharu Suzuki, Ryohei Kobayashi, Hiroyuki Noji (*Appl. Chem., Grad. Sch. Eng., Univ. Tokyo*)
- 3Pos088** **駆動力と集積力に依存するアクチン線維流の配向**
Alignment of actin-streams driven by myosin motors: Dependence on driving force and packing force
Takahiro Iwase¹, Yosiya Miyasaka², Kuniyuki Hatori¹ (¹*Dept. Bio-Systems Eng., Yamagata Univ.*, ²*Dept. Bio-Systems Eng., Yamagata Univ.*)
- 3Pos089** **Novel photochromic inhibitor of mitotic kinesin Eg5 composed of spiropyran and azobenzene**
Md Alrazi Islam¹, Ryouta Shimoyama², Shinsaku Maruta¹ (¹*Soka University, Department of Bioinformatics, Graduate School of Engineering, Dept. of Sci. and Eng. Faculty of Bioinfo.*)
- 3Pos090** **Structural basis of the mechanical properties of the flagellar distal rod and the hook**
Yumiko Saijo-Hamano¹, Hideyuki Matsunami², Keiichi Namba^{1,3}, Katsumi Imada⁴ (¹*FBS. Osaka Univ.*, ²*OIST*, ³*QBiC, RIKEN*, ⁴*Dept. MacroMol. Sci., Grad. Sch. Sci., Osaka Univ.*)
- 3Pos091** **Structural analysis of the NATIVE state flagella hook by electron cryomicroscopy**
Takayuki Kato¹, Tomoko Miyata¹, Peter Horvath¹, Keiich Namba^{1,2} (¹*Grad. Front. Biosci, Osaka Univ*, ²*QBiC, RIKEN*)
- 3Pos092** **細菌べん毛モーターの回転方向変換制御機構の解明**
Elucidation of the directional switching mechanism of the bacterial flagellar motor by electron cryomicroscopy
Tomoko Miyata¹, Takayuki Kato¹, Akihiro Kawamoto¹, Keiichi Namba^{1,2} (¹*Grad. Sch. Frontier Biosci., Osaka Univ.*, ²*QBiC, RIKEN*)
- 3Pos093** **High resolution structural analysis of the flagellar hook of Salmonella Typhimurium**
Peter Horvath¹, Takayuki Kato¹, Tomoko Miyata^{1,2}, Keiichi Namba¹ (¹*FBS Osaka Uni.*, ²*QBiC, RIKEN*)
- 3Pos094** **pH-indicator を用いた好熱菌 *Bacillus* PS3 由来 F_0F_1 -ATP 合成酵素の ATP 加水分解と H^+ 輸送の共役機構**
Analyses of coupling mechanism between ATP-hydrolysis and H^+ -translocation of *Bacillus* PS3 F_0F_1 -ATP synthase using pH-indicator
Naoya Iida¹, Yuzo Kasuya¹, Naoki Soga², Taro Uyeda¹, Masasuke Yoshida³, Kazuhiko Kinoshita¹, Toshiharu Suzuki^{1,2} (¹*Dept. Physics, Waseda Univ.*, ²*Dept. Eng. Univ. of Tokyo*, ³*Dept. Mol Biochem, Kyoto Sangyo Univ*)
- 3Pos095** **Regulation of dynein motility by NDEL1**
Toshiaki Saito¹, Takuya Kobayashi¹, Takayuki Torisawa², Takashi Murayama³, Yoko Y Toyoshima¹ (¹*Grad. Sch. of Arts & Sci., Univ. Tokyo*, ²*Bio ICT Lab, NICT*, ³*Dept. Pharmacol., Juntendo Univ. Sch. of Med.*)
- 3Pos096** **F_0 モーターの回転ブラウン運動の数値解析**
Computational Analysis of the Brownian rotation of F_0 motor
Daiki Yamakoshi, Dan Parkin, Kota Tezuka, Mitsunori Takano (*Dept. of Pure & Appl. Phys., Waseda Univ.*)
- 3Pos097** **微小管のグライディング運動における蛍光 ATP の Linear zero-mode waveguides を利用した 1 分子観察**
Single molecule observation of fluorescent ATP in microtubule gliding motility enabled by linear zero-mode waveguides
Kazuya Fujimoto¹, Ryota Iino², Michio Tomishige³, Hirofumi Shintaku¹, Hidetoshi Kotera¹, Ryuji Yokokawa¹ (¹*Kyoto Univ.*, ²*Institute for Molecular Science*, ³*Aoyama Gakuin Univ.*)

細胞生物学 / Cell biology

- 3Pos098** **Probing cell-wall synthetic dynamic using bacterial membrane protein-complex**
Yi-Ren Sun, Chien-Jung Lo (*Department of Physics and Graduate Institute of Biophysics, National Central University*)
- 3Pos099** **足場の形状によるアクチン波と細胞極性の制御**
Actin waves and cell polarity regulated by substrate geometry
Gen Honda¹, Akihiko Nakajima², Satoshi Sawai^{1,2} (¹*Department of Basic Science, Graduate School of Arts and Sciences, University of Tokyo*, ²*Research Center for Complex Systems Biology, Graduate School of Arts and Sciences, University of Tokyo*)

- 3Pos100 Manipulation and Detection of Ca²⁺ Concentration Change of Single Immotile Cilium in Mammalian Node**
Takanobu A Katoh¹, Katsutoshi Mizuno², Hiroshi Hamada², Takayuki Nishizaka¹ (¹*Dept. Phys., Gakushuin Univ.*, ²*CDB, RIKEN*)
- 3Pos101 リニアモータータンパク質によるミトコンドリアの形態変化**
Mitochondrial Shape Changing by Linear Motor Proteins
Keitaro Shibata^{1,2}, Luca Scorrano^{1,2} (¹*Dept. of Biol., Univ. of Padua*, ²*VIMM*)
- 3Pos102 生体ゲル内ナノ粒子の移動量に基づく細胞浸潤時の力場計測**
Force map of collective cells invading into biological matrix gels
Yuto Sano, Seohyun Lee, Hideo Higuchi (*University of Tokyo, School of Science, Department Physics*)
- 3Pos103 Universal glass-forming behavior of living cytoplasm**
Masahiro Ikenaga, Kenji Nishizawa, Daisuke Mizuno (*Dept. of Phys., Univ. Kyushu*)
- 3Pos104 超解像顕微鏡で観察された、ラメリポーディア領域のファシンとアクチンメッシュワークの相互作用**
Interaction between fascin and actin meshwork in lamellipodial region revealed with superresolution microscopy
Minami Tanaka^{1,2}, Ryoki Ishikawa³, Kaoru Katoh² (¹*Grad. Sch. Life & Env. Sci., Univ. Tsukuba*, ²*Bio Mes Res. Inst., AIST*, ³*Gunma Pref. Coll. Health Sci*)
- 3Pos105 Live-cell analysis of actin network by high-speed atomic force microscopy**
Yoshitsuna Itagaki, Yanshu Zhang, Aiko Yoshida, Masahiro Kumeta, Shige H. Yoshimura (*Grad. Sch. Biostudies, Kyoto Univ.*)
- 3Pos106 原子間力顕微鏡による正常および肺高血圧症の肺動脈平滑筋細胞の弾性率測定**
Elastic modulus of pulmonary arterial smooth muscle cells in normal and pulmonary arterial hypertension patient by atomic force microscopy
Nao Tatsumi¹, Shinichi Katsuragi², Ryosuke Tanaka¹, Hidekazu Ishida², Shigetoyo Kogaki², Takaharu Okajima¹ (¹*Grad. Schl. Inform. Sci. and Technol., Hokkaido Univ.*, ²*Dept. Ped., Grad. Schl. Med., Osaka Univ.*)
- 3Pos107 細胞競合現象における細胞内部環境のダイナミクス**
The dynamics of intracellular environments under cell competition
Katsuhiko Umeda¹, Wataru Nagao¹, Kenji Nishizawa¹, Shunsuke Kon², Yasuyuki Fujita², Daisuke Mizuno¹ (¹*Grad. Sch. Sci., Univ. Kyushu*, ²*Grad. Sch. Sci., Univ. Hokkaido*)
- 3Pos108 光ゆらぎ法による酸化ストレスを受けた動物細胞の損傷度の計測**
Evaluation of oxidative stress in mammalian cell by intensity fluctuation method
Morito Sakuma, Yuichi Kondo, Hideo Higuchi (*Department of Physics, Graduate School of Science, The University of Tokyo*)
- 3Pos109 On bending rigidity of microtubules measured from in vitro motility assay with external force**
Takahiro Nitta (*Applied Physics Course, Gifu Univ.*)
- 3Pos110 GPI アンカー型受容体プリオンタンパク質と Thy1 の動的メゾスケール拡散停止：1 分子追跡による検出**
Dynamic mesoscale anchorage of GPI-anchored receptors prion protein and Thy1 in the cell membrane as revealed by single molecule tracking
Yuri L. Nemoto^{1,2,4}, Roger J. Morris³, Hiroko Hijikata¹, Taka A. Tsunoyama⁴, Akihiro C. E. Shibata^{1,2}, Rinshi S. Kasai², Akihiro Kusumi^{1,2,4}, Takahiro K. Fujiwara¹ (¹*Center for Meso-Bio Single-Molecule Imaging (CeMI), Institute for Integrated Cell-Material Sciences (WPI-iCeMS), Kyoto Univ.*, ²*Institute for Frontier Life and Medical Sciences, Kyoto Univ.*, ³*Department of Chemistry, King's College London*, ⁴*OIST*)
- 3Pos111 Stiffness measurement of bacterial cell using high-resolution imaging tracking**
Chih-Chao Liao, Chien-Jung Lo (*National Central University*)
- 3Pos112 べん毛 III 型分泌装置のある構成因子は膜内部で Rhomboid プロテアーゼ GlpG による切断を受ける**
A component of the flagellar type III secretion system receives proteolytic cleavage by rhomboid protease GlpG inside the membrane
Yohei Hizukuri, Kosuke Terushima, Yoshinori Akiyama (*Inst. Front. Life Med. Sci., Kyoto Univ.*)
- 3Pos113 単一細胞におけるミトコンドリアのダメージと活性酸素発生の同時観察**
Simultaneous measurements of mitochondrial damages and ROS generation in single cells
Emika Shida, Yoshihiro Ohta (*Ohta. Lab., Univ. Noko*)
- 3Pos114 Molecular mechanism of T cell signaling termination**
Hiroaki Machiyama, Tadashi Yokosuka (*Dept. Immunol, Tokyo Med. Univ.*)
- 3Pos115 Small GTPase, F-actin and cell morphology dynamics in migrating cells under well-defined noisy chemoattractant gradients**
Yoichi Irie¹, Taihei Fujimori¹, Akihiko Nakajima², Satoshi Sawai^{1,2} (¹*Grad. Sch. Arts Sci., Univ. Tokyo*, ²*Res. Ctr. Complex Sys. Biol., Univ. Tokyo*)
- 3Pos116 Investigating contribution of transcription to temperature in nucleus**
Shunsuke Takeda¹, Kohki Okabe^{1,2}, Takashi Funatsu¹ (¹*Grad. Sch. Pharm. Sci., The Univ. of Tokyo*, ²*PRESTO, JST*)
- 3Pos117 細胞性粘菌のアメーバ運動のブレブモードへの移行は、細胞外からの Ca²⁺流入に依存しない**
Motility of *Dictyostelium* amoebae switches to the bleb mode without Ca²⁺ influx
Naoto Yoshinaga, Taro Uyeda (*Dept. Phys., Waseda Univ.*)
- 3Pos118 前後運動する神経幹細胞における力測定**
Traction Force working on Reversible Motion of Neural Stem Cells
Masahito Uwamichi, Masaki Sano (*Dept. of Phys, Univ. of Tokyo*)

行動 / Behavior

- 3Pos119** 微速度撮影によるユーカリ苗の根生長速度における電界応答測定
Electric response measurement of *E. camaldulensis* in seedling root growth by time lapse photography
 Kazuki Sugawara¹, Yutaro Mukai¹, Hideki Suganuma², Shigeru Kato¹, Takuya Ito¹, Toshinori Kojima¹, **Seiichi Suzuki¹** (¹*Faculty of Science and Technology, Seikei University*, ²*Kawasaki Environment Research Center*)
- 3Pos120** 繊毛虫テトラヒメナの空間の広がりに対する適応能
Adaptive capacity in response to spatial expansion in the ciliate protozoan *Tetrahymena*
Itsuki Kunita¹, Tatsuya Yamaguchi², Atsushi Tero², Masakazu Akiyama³, Shigeru Kuroda³, Toshiyuki Nakagaki³ (¹*University of The Ryukyus*, ²*Kyushu University*, ³*Hokkaido University*)
- 3Pos121** モジホコリ変形体における行動決定の揺らぎ
Fluctuation in decision-making of *Physarum plasmodium*
 Yuya Mitsutake, Atsuko Takamatsu (*Dept. of Elec., Eng. & Biosci., Waseda University*)
- 3Pos122** モジホコリ変形体における周期刺激に対する輸送管ネットワークの適応
Adaptation of transportation network against periodic stimuli in *Physarum plasmodium*
 Akira Ishizaki, Satoshi Toyoda, Atsuko Takamatsu (*Dept. of Elec., Eng. & Biosci., Waseda University*)

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

- 3Pos123** Cloning of cryptochrome 2 gene from honey bee
 Yuhei Hosokawa, Shigenori Iwai, Junpei Yamamoto (*Grad. Sch. Eng. Sci., Univ. Osaka*)
- 3Pos124** ナトリウムイオンポンプ型ロドプシンの細胞外側表面に位置する酸性残基の機能解析
Functional analyses of Na⁺-pumping rhodopsin focusing on acidic residues on the extracellular surface
 Akiko Okamura¹, Takashi Kikukawa^{1,2}, Takashi Tsukamoto^{1,2}, Tomoyasu Aizawa^{1,2}, Naoki Kamo¹, Makoto Demura^{1,2} (¹*Grad. Sch. Life Sci., Hokkaido Univ.*, ²*GSS, GI-CoRE, Hokkaido Univ.*)
- 3Pos125** *Natronomonas pharaonis* halorhodopsin T126E 変異体の機能解析
Functional analysis of T126E mutant of *Natronomonas pharaonis* halorhodopsin
 Shuhei Abe¹, Takashi Kikukawa^{1,2}, Takashi Tsukamoto^{1,2}, Tomoyasu Aizawa^{1,2}, Naoki Kamo¹, Makoto Demura^{1,2} (¹*Grad. Sch. Life Sci., Hokkaido Univ.*, ²*GSS, GI-CoRE, Hokkaido Univ.*)
- 3Pos126** NTQ 型アニオンポンプの輸送機能と構造解析
Functional and Structural Analysis of NTQ type Anion Pump Rhodopsins
 Miwako Teranishi¹, Shota Ito¹, Manish Singh¹, Keiichi Inoue^{1,2}, Hideki Kamitori¹ (¹*Grad. Sch. Eng., Nagoya Inst. Tech.*, ²*PRESTO, JST*)
- 3Pos127** 二量体化がロドプシンの光構造変化に与える影響
Effect of dimerization on the light-induced helical rearrangement of visual rhodopsin
 Yasushi Imamoto¹, Keiichi Kojima², Toshihiko Oka³, Ryo Maeda⁴, Yoshinori Shichida⁵ (¹*Kyoto Univ.*, ²*Okayama Univ.*, ³*Shizuoka Univ.*, ⁴*RIKEN*, ⁵*Ritsumeikan Univ.*)
- 3Pos128** ¹³C NMR 化学シフト値計算によるセンサーロドプシンの光中間体におけるレチナル構造の解析
Quantum chemical calculation of ¹³C NMR chemical shifts for retinal at photo-intermediates in the photocycle of sensory rhodopsin
 Yoshiteru Makino¹, Izuru Kawamura¹, Takashi Okitsu², Akimori Wada², Yuki Sudo³, Naoki Kamo⁴, Akira Naito¹, Kazuyoshi Ueda¹ (¹*Grad. Sch. Eng., Yokohama Natl. Univ.*, ²*Kobe Pharm. Univ.*, ³*Grad. Sch. Med. Dent. Pharm., Okayama Univ.*, ⁴*Grad. Sch. Life Sci., Hokkaido Univ.*)
- 3Pos129** ショウジョウバエ Rh7 の特徴的な幅広い吸収スペクトルの解析
***Drosophila melanogaster* Rh7 is a UV-to-visible light sensor having extraordinarily broad absorption spectrum**
 Kazumi Sakai¹, Kei Tsutsui¹, Takahiro Yamashita¹, Naoyuki Iwabe¹, Keisuke Takahashi¹, Akimori Wada², Yoshinori Shichida¹ (¹*Grad. Sch. Sci., Kyoto Univ.*, ²*Organic Chemistry for Life Science, Kobe Pharm. Univ.*)
- 3Pos130** 青色光センサー PixD の光反応とその多様性
Study on diversity of photoreactions among various homologous PixD proteins
 Shunrou Tokonami, Yusuke Nakasone, Masahide Terazima (*Grad. Sch. Sci., Univ. Kyoto*)
- 3Pos131** 緑藻の光駆動プロトンポンプであるアセタブラリアロドプシン II のフォトサイクルにおける 2 つの O 中間体の存在
Existence of two O intermediates in the photocycle of *Acetabularia* rhodopsin II, a light-driven algal proton pump
 Jun Tamogami¹, Takashi Kikukawa^{2,3}, Toshifumi Nara¹, Makoto Demura^{2,3}, Tomomi Kimura-Someya^{4,5}, Mikako Shirouzu^{4,5}, Shigeyuki Yokoyama^{4,6}, Seiji Miyachi⁷, Kazumi Shimono^{7,8}, Naoki Kamo² (¹*College Pharm. Sci., Matsuyama Univ.*, ²*Fac. Adv. Life Sci., Hokkaido Univ.*, ³*Glob. Sta. for Soft Mat., Glob. Ins. for Col. Res., Edu., Hokkaido Univ.*, ⁴*RIKEN SSBC*, ⁵*RIKEN CLST*, ⁶*RIKEN Structural Biology Laboratory*, ⁷*Grad. Sch. Pharm. Sci., Toho Univ.*, ⁸*Fac. Pharm. Sci., Sojo Univ.*)
- 3Pos132** Quantitative evaluation of UV-induced cell death and its resistance by drug in human epidermal keratinocytes
 Noritaka Masaki, Shigetoshi Okazaki (*Dept. Med. Spec., Hamamatsu Univ. Sch. Med.*)
- 3Pos133** Comparison of chromophore environments between rhodopsin and cone visual pigment using Fourier transform infrared spectroscopy
 Naoto Noguchi¹, Takahiro Yamashita¹, Yoshinori Shichida², Yasushi Imamoto¹ (¹*Kyoto University*, ²*Ritsumeikan University*)

光生物：光合成 / Photobiology: Photosynthesis

- 3Pos134** FTIR 分光電気化学法による光化学系 II 第一キノン Q_A の酸化還元電位計測：Mn 除去の影響
Influence of Mn depletion on the redox potential of the primary quinone Q_A in photosystem II as revealed by FTIR spectroelectrochemistry
Ayaka Ohira, Ryo Nagao, Takumi Noguchi, Yuki Kato (*Grad. Sch. Sci., Nagoya Univ.*)
- 3Pos135** ATR-FTIR 解析による光化学系 II における非ヘム鉄のヒスチジン配位子のプロトン化状態
ATR-FTIR study on the protonation state of a histidine ligand to the non-heme iron in photosystem II
Masakazu Kimura, Shin Nakamura, Yuki Kato, Takumi Noguchi (*Grad. Sch. Sci., Nagoya Univ.*)
- 3Pos136** 光化学系 II 結晶における水分解 S 状態遷移の ATR-FTIR 解析
ATR-FTIR analysis of the S-state transitions during water oxidation in photosystem II crystals
Yuki Kato¹, Fusamichi Akita^{2,3}, Yoshiaki Nakajima², Michihiro Suga², Yasufumi Umena², Jian-Ren Shen², Takumi Noguchi¹ (¹*Grad. Sch. Sci., Nagoya Univ.*, ²*Res. Inst. Interdiscip. Sci., Okayama Univ.*, ³*JST-PRESTO*)
- 3Pos137** ヘリオバクテリア光合成反応中心のドナー側とアクセプター側における電子伝達反応の解析
Analyses of electron transfer reactions on donor and acceptor sides in heliobacterial photosynthetic reaction center
Risa Kojima¹, Chihiro Azai², Shigeru Itoh³, Hirozo Oh-oka¹ (¹*Grad. Sch. Sci., Osaka Univ.*, ²*Coll. Life Sci., Ritsumeikan Univ.*, ³*Grad. Sch. Sci., Nagoya Univ.*)
- 3Pos138** 光化学系 II における Mn クラスターの光活性化過程の FTIR および量子化学計算による解析
FTIR and quantum chemical calculation study of the photoactivation process of the Mn cluster in photosystem II
Shin Nakamura, Akihiko Sato, Takumi Noguchi (*Grad. Sch. Sci., Nagoya Univ.*)
- 3Pos139** 北海道の河川から採取した紅色非硫黄細菌による水素生成に対する pH と基質濃度の影響
Effect of pH and substrate concentration on hydrogen production by purple non-sulfur bacteria from rivers in Hokkaido
Mayoka Kanoh¹, Haruna Minakami², Seigo Kumakura², Yusuke Kato², Masahiro Hibino^{1,2} (¹*Div. Sustain. Environ. Eng., Muroran Inst. Tech.*, ²*Dept. Appl. Sci., Muroran Inst. Tech.*)
- 3Pos140** 構造解明されている 2 種類の紅色光合成細菌の LH2 タンパク質からの B800 バクテリオクロロフィル a の脱離挙動解析
Analysis of removal of B800 bacteriochlorophyll a from structure-determined LH2 proteins derived from two purple photosynthetic bacteria
Yoshitaka Saga^{1,2}, Keiya Hirota¹, Kokomi Doi¹ (¹*Kindai Univ.*, ²*PRESTO, JST*)
- 3Pos141** 新奇クロロフィルを持つシアノバクテリアにおけるクロロフィル f 蓄積過程のエネルギー移動の解析
Spectral characterization of new chlorophyll containing cyanobacterium in the accumulation process of chlorophyll f
Toshiyuki Shinoda¹, Keishi Arai², Hiroki Tabushi², Seiji Akimoto³, Tatsuya Tomo^{1,2} (¹*Grad. Sch. Sci., Tokyo Univ. Sci.*, ²*Fac. Sci., Tokyo Univ. Sci.*, ³*Fac. Sci., Kobe Univ.*)
- 3Pos142** Spectral characterization of Photosystem II reaction center in a chlorophyll d-dominated cyanobacterium
Reona Toyofuku¹, Kaichiro Endo², Toshiyuki Shinoda¹, Seiji Akimoto³, Tatsuya Tomo¹ (¹*Grad. Sch. Sci., Tokyo Univ. Sci.*, ²*Grad. Sch. Sci., Tokyo Univ.*, ³*Grad. Sch. Sci., Kobe Univ.*)
- 3Pos143** ヘリオバクテリア反応中心の初期電荷分離スピン相関解析ラジカル対の捕捉
Initial charge separated spin-polarized radical pair in reaction center of *Heliobacterium modesticaldum*
Hiroyuki Mino¹, Hiroyuki Tsukuno¹, Risa Mutoh^{2,3}, Hiroki Nagashima^{1,4}, Yasuhiro Kobori⁴, Genji Kurisu², Hirozo Oh-oka⁵ (¹*Grad. Sch. Sci., Univ. Nagoya*, ²*Inst. Protein. Res., Osaka Univ.*, ³*Fac. Sci., Univ. Fukuoka*, ⁴*Mol. Photosci. Res., Kobe Univ.*, ⁵*Grad. Sch. Sci., Univ. Osaka*)
- 3Pos144** 光合成における電子伝達体のダイナミクスに関する理論的研究
Theoretical studies on dynamics of electron carriers in photosynthesis
Hidemi Nagao, Satoshi Nakagawa, Isman Kurniawan, Koichi Kodama, Muhammad Arwansyah, Kazutomo Kawaguchi (*Kanazawa University*)
- 3Pos145** 光化学系複合体と炭素ナノ材料間の電子移動反応
Linear electron transfer between photosystems and carbon nanomaterials
Shota Tanaka¹, Mariko Miyachi², Yoshinori Yamano², Akihide Iwase¹, Akihiko Kudo¹, Hiroshi Nishihara², Tatsuya Tomo¹ (¹*Grad. Sch. Sci., Tokyo Univ. of Sci.*, ²*Grad. Sch. Sci., Tokyo Univ.*)
- 3Pos146** 高等植物の光化学系 II における効率的な電荷分離反応のメカニズム
The mechanism of efficient charge separation reaction in photosystem II of higher plants
Hiroki Nagashima^{1,2}, Masashi Hasegawa³, Reina Minobe³, Hiroyuki Mino², Yasuhiro Kobori^{1,3} (¹*Molecular Photoscience Research Center, Kobe Univ.*, ²*Grad. Sch. Sci., Nagoya Univ.*, ³*Grad. Sch. Sci. Kobe Univ.*)
- 3Pos147** The dynamics of photosystem 2 and light-harvesting complex 2 in spinach grana membrane revealed by high-speed AFM
Risa Mutoh, Takahiro Iida, Daisuke Yamamoto (*Faculty of Science, Fukuoka Univ.*)
- 3Pos148** ステート遷移における光捕集系の膜内移動の検証
Verification of Shuttling of Light-Harvesting Complexes upon State Transition
Yuki Fujita, Yutaka Shibata (*Tohoku University*)

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

- 3Pos149** 水晶振動子微量天秤による光制御型 bZip モジュール photozipper 及び N131 変異体の DNA 結合の解析
DNA-binding of a light-regulated bZIP module, photozipper and Asn131 mutants analyzed by quartz crystal microbalance
Samu Tateyama, Osamu Hisatomi (*Grad. Sch. Sci., Univ. Osaka*)

- 3Pos150** フォトジッパーにおける Q317 の機能解明
Function of Q317 in Photozipper
Itsuki Kobayashi, Yuki Yabe, Yoichi Nakatani, Osamu Hisatomi (*Grad. Sci., Univ. Osaka*)
- 3Pos151** アニオンチャネルロドプシン 2(ACR2)の線虫における超高感度光神経抑制活性
Ultrasensitive neural silencing activity of Anion channelrhodopsin-2 (ACR2) in *Caenorhabditis elegans*
Misayo Maki¹, Satoko Doi¹, Keiichi Kojima¹, Srikanta Chowdhury², Takashi Tsukamoto¹, Akihiro Yamanaka², Shin Takagi³, Yuki Sudo¹ (¹*Grad. Sch. of Med. Dent. & Pharm. Sci., Univ. Okayama*, ²*RIEM, Univ. Nagoya*, ³*Grad. Sch. of Sci., Univ. Nagoya*)
- 3Pos152** 光駆動ナトリウムポンプロドプシンの活性中心の水素結合構造
Hydrogen-bonding network in the active site of light-driven sodium pumping rhodopsins
Shota Ito, Sahoko Tomida, Hideki Kandori (*Nagoya Inst. Tech.*)
- 3Pos153** 光捕集カロテノイドアンテナと相互作用する光駆動プロトンポンプ TR の創出
Production of a light-driven proton pump TR interacted with light-harvesting carotenoid antennae
Keigo Nishikawa¹, Keiichi Kojima¹, Shigeko Kawai-Noma², Sayaka Nemoto³, Takeshi Murata³, Daisuke Umeno^{1,2}, Yuki Sudo¹ (¹*Grad. Med. Den. Pha., Univ. Okayama*, ²*Dep. Applied Chemistry and Biotechnology, Univ. Chiba*, ³*Grad. Sci., Univ. Chiba*)
- 3Pos154** 光誘起チャネルロドプシンに関する理論研究
Theoretical study on molecular mechanism of photo-induced gate opening of channelrhodopsin
Cheng Cheng¹, Motoshi Kamiya¹, Norio Yoshida², Shigehiko Hayashi¹ (¹*Grad. of Science, Kyoto Univ.*, ²*Grad. of Science, Kyushu Univ.*)
- 3Pos155** 光制御型 bHLH-ZIP 転写因子の開発
Development of a light-regulated bHLH-ZIP transcription factor
Yoichi Nakatani, Osamu Hisatomi (*Grad. Sch. of Sci., Osaka Univ.*)
- 3Pos156** 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
Ryo Oyama, Taisuke Hasegawa, Shigehiko Hayashi (*Grad. Sch. Sci., Univ. Kyoto*)

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

- 3Pos157** Effect of interaction between IP6 and NOX2 on monocytic differentiation
Asuka Kato¹, Yuki Hirakawa², Wakako Hiraoka² (¹*Department of Obstetrics and Gynecology, Fujita Health University School of Medicine*, ²*Department of Physics, Graduate School of Science and Technology, Meiji University*)
- 3Pos158** 放射線照射がミトコンドリア電子伝達系酸化還元関連分子に与える影響の電子スピン共鳴法を用いた評価。
Estimating physiological transition of electron transport chain with ESR in whole cell culture
Yukihaya Watanabe, Naoya Matsunaga, Wakako Hiraoka (*Dept. Phys., Grad. Sch. of Sci. & Tech., Meiji Univ.*)
- 3Pos159** Cross talk between mitochondria and NOX2 in vitamin D₃-induced monocytic differentiation
Naoya Matsunaga, Yukihaya Watanabe, Wakako Hiraoka (*Dept. Phys., Grad. Sch. Sci. & Tech., Meiji Univ.*)

生命の起源・進化 / Origin of life & Evolution

- 3Pos160** Phenotypic Constraints Shaped by Evolution: Numerical and Experimental Approaches
Chikara Furusawa^{1,2}, Kunihiko Kaneko^{2,3} (¹*QBiC, RIKEN*, ²*UBI, Univ. Tokyo*, ³*Grad. Sch. Art Sci., Univ. Tokyo*)
- 3Pos161** Polymerization and information selection in template-directed ligation of information polymers
Yasuhiro Magi, Shoichi Toyabe (*Appl. Phys., Tohoku Univ.*)
- 3Pos162** 鋳型ライゲーションにおける拡散混合に対する情報保持の実験的証明
Experimental demonstration of information retention against diffusional mixing in templated ligation
Kazuki Hata, Yasuhiro Magi, Syoichi Toyabe (*Tohoku University, Applied Physics*)
- 3Pos163** アルカリ性熱水噴出孔における硫化鉄を触媒にした還元的炭素化合物生成過程の第一原理分子動力学シミュレーション
Ab initio molecular dynamics study of reducible carbon compounds production catalyzed by iron sulfides at an alkaline hydrothermal vent
Kohei Shimamura¹, Fuyuki Shimojo², Aiichiro Nakano³, Shigenori Tanaka¹ (¹*Kobe Univ.*, ²*Kumamoto Univ.*, ³*Univ. of Southern California*)
- 3Pos164** 凍結融解によるリポソーム融合を介した人工細胞への栄養供給法の確立
Sustainable biochemical reactions in liposoms by liposome fusion via the freeze-thaw
Gakushi Tsuji^{1,2}, Takeshi Sunami^{1,2}, Satoshi Fujii¹, Norikazu Ichihashi^{1,3} (¹*Grad. Sch. of IST, Osaka University*, ²*IAI, Osaka University*, ³*Grad. Sch. of FBS, Osaka University*)

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

- 3Pos165** 出芽酵母の tRNA 遺伝子の転写量と核内における空間配置との相関解析
Analysis of Correlation Between tRNA Levels and Spatial Arrangement of tRNA Genes in the Budding Yeast Nucleus
Naoko Tokuda, Masaki Sasai (*Grad. Sch. Eng., Nagoya Univ.*)
- 3Pos166** A quasi-harmonic approach to investigating chromatin domains
S.S Ashwin¹, Tadasu Nozaki², Kazuhiro Maeshima², Masaki Sasai¹ (¹*Department of Applied Physics, Nagoya University*, ²*Structural Biology Center, National Institute of Genetics*)

- 3Pos167** The phase-separation principle of human genome architecture
Shin Fujishiro, Masaki Sasai (*Dept. Comp. Sci. & Eng., Nagoya Univ.*)
- 3Pos168** Transient local contacts and meta-stable global organization of human interphase chromosomes
Lei Liu, Changbong Hyeon (*Sch. Comp. Sci., KIAS*)

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

- 3Pos169** 遺伝子発現におけるポリアミンの促進と阻害の二面性
Dual effect of polyamines on gene expression: Acceleration and inhibition
Ai Kanemura¹, Yuko Yoshikawa¹, Takahiro Kenmotsu¹, Wakao Fukuda², Kenichi Yoshikawa¹ (¹*Doshisha University*, ²*Ritsumeikan University*)
- 3Pos170** Microdroplet-based screening method for microbes producing polymer-degrading enzymes
Kai Saito¹, Ryo Iizuka¹, Eiji Shigihara¹, Wataru Kawakubo², Dong Hyun Yoon², Tetsuji Sekiguchi³, Shuichi Shoji², Yuji Hatada⁴, Takashi Funatsu¹ (¹*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*, ²*Dept. of Nanosci. and Nanoeng., Waseda Univ.*, ³*Res. Org. for Nano & Life Innov., Waseda Univ.*, ⁴*Dept. of Life Sci. and Green Chem., Saitama Inst. of Technol.*)

バイオインフォマティクス：構造ゲノミクス / Bioinformatics: Structural genomics

- 3Pos171** 機械学習を用いたタンパク質と薬のドッキング予測
A new prediction method for complex structures of protein and small molecule with machine learning
Fumiaki Sato, Kota Kasahara, Takuya Takahashi (*Col. Life Sci., Ritsumeikan Univ*)
- 3Pos172** 拡張アンサンブル分子動力学法のサンプリング効率向上のための最適条件の探索
Investigation of appropriate conditions for enhancing sampling efficiency of multi-canonical molecular dynamics
Takuya Shimato¹, Kota Kasahara¹, Junichi Higo², Takuya Takahashi¹ (¹*Col. Life Sci., Ritsumeikan Univ.*, ²*IPR, Osaka Univ.*)
- 3Pos173** Statistical analysis of correlation between amino acid sequence and protein function based on using Protein Data Bank
Ryohei Kondo, Kota Kasahara, Takuya Takahashi (*Col. Life Sci., Ritsumeikan Univ.*)
- 3Pos174** MEGADOCK-WEB: タンパク質間相互作用予測の統合データベース
MEGADOCK-WEB: an integrated database of structure-based protein-protein interaction predictions
Masahito Ohue^{1,2}, Takanori Hayashi^{1,3}, Yuri Matsuzaki³, Keisuke Yanagisawa^{1,3}, Yutaka Akiyama^{1,2,3} (¹*Dept CS, Sch Comput, Tokyo Tech*, ²*ACDD, IIR, Tokyo Tech*, ³*ACLS, Tokyo Tech*)
- 3Pos175** 生体膜系におけるヘリックス間の相互作用パターン解析
Analysis of helix interaction pattern in each biological membrane environment
Masato Sakai¹, Masami Ikeda², Makiko Suwa^{1,2} (¹*Biol. Sci., Grad. Sci. Eng., Aoyama Gakuin Univ.*, ²*Chem. Biol. Sci., Sci. Eng., Aoyama Gakuin Univ.*)
- 3Pos176** ポリグルタミン酸のヘリックスコイル転移における末端の安定性に関する分子動力学法による検討
Study on helix-coil transition stability of the termini of poly-glutamic acid using molecular dynamics method
Naoki Ogasawara¹, Ryosuke Iwai¹, Kota Kasahara², Takuya Takahashi² (¹*Grad. Life. Sci., Ritsumeikan Univ.*, ²*Col. Life. Sci., Ritsumeikan Univ.*)
- 3Pos177** What are the structural features of superfolds? a case study of beta-sheet proteins
George Chikenji¹, Hayao Imakawa¹, Shintaro Minami² (¹*Dep. App. Phys., Nagoya Univ.*, ²*CIMoS, IMS*)
- 3Pos178** Annotation of missense genomic variations based on various protein 3D structures
Matsuyuki Shirota^{1,2,3} (¹*Grad. Sch. Med., Tohoku Univ.*, ²*ToMMo, Tohoku Univ.*, ³*Grad. Sch. Inform. Sci. Tohoku Univ.*)

バイオインフォマティクス：分子進化 / Bioinformatics: Molecular evolution

- 3Pos179** 機能に関する選択圧による P-loop 蛋白質のフォールド多様性についてのシミュレーション
Simulated diversification of the P-loop protein fold through functional selection
Kohei Inukai, Masaki Sasai, George Chikenji (*Department of Applied Physics, Nagoya University*)

数理生物学 / Mathematical biology

- 3Pos180** Neo-logistic model precisely predicting a bacteria growth curve
Tohru Tashiro¹, Fujiko Yoshimura² (¹*Dept. Sci., Ochanomizu Univ.*, ²*Sch. Comput., Tokyo Tech.*)
- 3Pos181** 細胞間および基質との接着を考慮した細胞集団の粒子モデル
Individual cell-based model for cell population considering cell-cell and cell-matrix adhesion
Seiya Nishikawa, Atsuko Takamatsu (*Dept. of Elec., Eng. & Biosci., Waseda University*)
- 3Pos182** ストレスを受けた概日時計における位相変動の数理モデル
A mathematical model for stress induced phase shift in mammalian circadian systems
Yosuke Someya, Atsuko Takamatsu (*Dept. of Elec., Eng. & Biosci., Waseda University*)
- 3Pos183** Mathematical model for motor-filament aster locomotion on motor-coated substrate
Masahiro Sawada^{1,2}, Takayuki Torisawa^{2,3}, Kazuhiro Oiwa^{2,3}, Shuji Ishihara^{1,2} (¹*Grad. Sch. Arts and Sciences, Univ. Tokyo*, ²*CREST, JST*, ³*Advanced ICT Inst., NICT*)
- 3Pos184** Probability eddy currents in a coupled genetic and epigenetic network
Bhaswati Bhattacharyya, Masaki Sasai (*Nagoya University*)

- 3Pos185** ヒト血糖値調節におけるホルモン・代謝物の血中動態の数値モデルを用いた解析
Mathematical model analysis for blood glucose homeostasis regulated by blood hormones and metabolites in humans
Kaoru Ohashi¹, Masashi Fujii¹, Shinsuke Uda², Hiroyuki Kubota², Hisako Komada³, Kazuhiko Sakaguchi³, Wataru Ogawa³, Shinya Kuroda¹
 (¹Grad. Sch. Sci., Univ. Tokyo, ²Med. Ins. of Bioreg., Kyushu Univ., ³Grad. Sch. Med., Kobe Univ.)
- 3Pos186** ErbB シグナル転写ネットワークの新規統合数値モデルの構築と制御反応の同定
A new integrated mathematical model of the ErbB signaling and transcriptional network reveals key reactions determining the ErbB response
Hiroaki Imoto, Mariko Okada, Kazunari Iwamoto (*IPR, Osaka Univ.*)
- 3Pos187** 真性粘菌変形体の細胞運動が有する Lévy-walk 的性質
Levy-walk nature in the cell migration of Physarum plasmodium
Tomohiro Shirakawa¹, Takayuki Niiato², Hiroshi Sato¹, Ryota Ohno¹ (¹Department of Computer Science, School of Electrical and Computer Engineering, National Defense Academy of Japan, ²Department of Intelligent Interaction Technologies, Graduate School of Systems and Information Engineering, University of Tsukuba)
- 3Pos188** 細胞知覚の位相推定モデル
Phase Detection Model of Cellular Sensing
Ryo Yokota, Tetsuya, J. Kobayashi (*Institute of Industrial Science, The University of Tokyo*)
- 3Pos189** 3次元フェイズフィールドモデルによるアメーバ細胞動態の解析
Cellar 3D phase-field model for amoeboid movement
Nen Saito¹, Satoshi Sawai² (¹Graduate School of Science, University of Tokyo, ²Department of Basic Science, Graduate School of Arts and Sciences, University of Tokyo)

計測 / Measurements

- 3Pos190** Imaging of cysteic acid produced in ultraviolet-irradiated hair using synchrotron radiation
Kosuke Watanabe¹, Chinami Arijii², Daisuke Yoshida², Sho Kobayashi¹, Takaaki Maeda¹, Kazuyuki Suzuta¹, Len Ito¹ (¹MILBON CO., LTD., ²COSMOS TECHNICAL CENTER CO., LTD.)
- 3Pos191** 光第二高調波顕微鏡によるタンパク質構造解析
Optical second-harmonic generation microscope as a tool for protein structure analysis
Junichi Kaneshiro¹, Yasushi Okada^{1,2}, Tomohiro Shima², Mika Tsujii³, Katsumi Imada³, Taro Ichimura¹, Tomonobu M. Watanabe¹ (¹RIKEN QBiC, ²Grad. Sch. Sci. Univ. Tokyo, ³Grad. Sch. Sci. Osaka Univ.)
- 3Pos192** Continuous fluorescence observation without oxygen scavengers using a LED-based fluorescence microscope
Shin Yamaguchi¹, Kazuki Nakajima¹, Junichiro Yajima², Yuichi Inoue¹ (¹SIGMAKOKI Co., LTD, ²Dept. of Life Sciences, Graduate School of Arts and Sciences, The Univ. of Tokyo)
- 3Pos193** 初期胚発生過程における細胞弾性率と細胞骨格構造の時空間変動
Spatiotemporal change in elastic modulus and cytoskeletal structure of cells in early embryonic development
Yuki Fujii¹, Taichi Imai², Wataru Koizumi², Kohji Hotta², Kotaro Oka², Takaharu Okajima¹ (¹Grad. Schl. Inform. Sci and Tech. Hokkaido Univ., ²Grad. Schl. Biosci. and Bioinfo. Keio Univ.)
- 3Pos194** Analysis of the number density distribution of colloidal particles on a substrate before solidification: A study of biomineralization
Amano Ken-ichi, Taira Ishihara, Nishi Naoya, Tetsuo Sakka (*Grad. Sch. Eng., Kyoto Univ.*)
- 3Pos195** 改良型蛍光 ATP センサーを用いた細胞内代謝変化の可視化
Visualization of intracellular metabolic changes using an improved fluorescent ATP indicator in mammalian cells
Hideyuki Yaginuma, Yasushi Okada (*QBiC, RIKEN*)
- 3Pos196** 蛍光相互相関分析に及ぼすヘモグロビン光吸収の影響
Effects of hemoglobin absorption on fluorescence cross correlation analysis
Atsushi Matsuo, Yasutomo Nomura (*Maebashi Institute of Technology*)
- 3Pos197** 単一細胞中でのミトコンドリア電子伝達の計測
Measurements of mitochondrial electron transfer in a single cell
Hiroko Kashiwagi, Yoshihiro Ohta (*Ohta. Lab., Univ. Noko*)
- 3Pos198** 蛍光分子薄膜の紫外可視光変換システム解析
Ultra violet visible light conversion system analysis of fluorescent molecular thin film
Shotaro Minato¹, Taiyo Tsurugai¹, Miku Kaneta¹, Honoka Endo¹, Hiroshi Masumoto², Takashi Goto³, **Yutaka Tsujiuchi¹** (¹Material Science and Engineering, Akita University, ²Frontier Research Institute for Interdisciplinary, ³Institute for Materials Research, Tohoku University)

バイオイメージング / Bioimaging

- 3Pos199** Quantitative imaging analysis of microtubule-organizing center repositioning mediated by CLIP-170 phosphorylation during T cell activation
Wei Ming Lim¹, Yuma Ito¹, Kumiko Sakata-Sogawa², Makio Tokunaga¹ (¹Sch. Lif. Sci. Tech., Tokyo Ins. Tech., ²Grad. Sch. Agr. Sci., Tohoku Univ.)

- 3Pos200 Comparison of the analgesic effects of different types of therapeutic agents on allodynia-specific pain using fMRI**
Yuri Kitamoto¹, Sosuke Yoshinaga¹, Naoya Yuzuriha¹, Hiroshi Sato², Mitsuhiro Takeda¹, Hiroaki Terasawa¹ (¹*Fac. Life Sci., Univ. Kumamoto, ²Bruker Biospin*)
- 3Pos201 1分子イメージングによる機能性 RNA TERRA の動態・局在解析**
Dynamics and localization of a non-coding RNA TERRA in living cells revealed by single molecule imaging
Hideaki Yoshimura, Toshimichi Yamada, Rintaro Shimada, Takeaki Ozawa (*Sch. Sci., Univ. Tokyo*)
- 3Pos202 生物発光イメージング法を用いたグルカゴン分泌の可視化解析系の構築**
Video rate bioluminescence imaging of glucagon secretion from pancreatic alpha cells
Satoru Yokawa¹, Takahiro Suzuki², Satoshi Inouye³, Yoshikazu Inoh¹, Ryo Suzuki⁴, Naohide Hirashima⁴, Tadahide Furuno¹ (¹*Sch. Pharm., Aichi Gakuin Univ.*, ²*Sch. Dent., Aichi Gakuin Univ.*, ³*JNC Co., Yokohama*, ⁴*Grad. Sch. Pharm. Sci., Nagoya City Univ.*)
- 3Pos203 遊走細胞からの分泌を実時間で可視化する**
Real-time secretion tracking system for migrating single cells
Yoshitaka Shirasaki¹, Yosuke Yasuzawa¹, Yumiko Tanaka¹, Nobutake Suzuki¹, Sotaro Uemura¹, Kazuyo Moro² (¹*Dep. Biol. Sci., Grad. Sch. of Sci., The Univ. of Tokyo*, ²*IMS, RIKEN*)
- 3Pos204 細胞・組織内生体分子の動態を可視化する逆ラマン顕微測定システムの開発**
Development of inverse Raman micro spectroscopic system toward visualizing the dynamics of biomolecule *in vivo* and *in cellulo*
Yuka Kawahara-Nakagawa, Satoru Nakashima, Takashi Ogura (*Grad. Sch. Sci., Univ. Hyogo*)
- 3Pos205 細胞内温度変化による細胞機能制御の分子機構の解明**
Investigating molecular mechanism of intracellular temperature dependent cell functions
Yu Bi¹, Kohki Okabe^{1,2}, Takashi Funatsu¹ (¹*Grad. Sch. Pha. Sci., Univ. Tokyo*, ²*JST-PRESTO*)
- 3Pos206 振動和周波検出赤外超解像顕微鏡法による爪・毛髪中のケラチンタンパク質の分布・配向観察**
Molecular distribution and orientation of keratins in human nails and human hairs observed by VSFG-detected IR super-resolution microscopy
Yuichiro Iwasaki, Maho Hata, Mitsuki Fujiwara, Ryo Morimoto, **Hirona Takahashi**, Makoto Sakai (*Okayama University of Science*)
- 3Pos207 振動和周波検出赤外超解像顕微鏡法による羽毛β-ケラチンの分子配向イメージング**
Orientation-sensitive molecular imaging of feather β-keratins by a VSFG-detected IR super-resolution microscopy
Kota Yamamoto, Kosuke Tatekabe, Tomoya Miyake, Yuya Kimura, Hirona Takahashi, **Makoto Sakai** (*Okayama University of Science*)
- 3Pos208 Evaluation of anesthesia conditions for detecting odor responses in the mouse whole brain**
Fuyu Hayashi, Hirotsugu Funatsu, Sosuke Yoshinaga, Naoya Yuzuriha, Shunsuke Kusanagi, Mitsuhiro Takeda, Hiroaki Terasawa (*Fac. Life Sci., Kumamoto Univ.*)
- 3Pos209 1分子軌跡追跡により時空間動態と結合解離を定量する解析法**
An analysis method for quantification of spatiotemporal dynamics and kinetics using single-molecule tracking
Yuma Ito¹, Kumiko Sakata-Sogawa^{1,2}, **Makio Tokunaga**¹ (¹*Sch. Life Sci. Tech., Tokyo Inst. Tech.*, ²*Grad. Sch. Agr. Sci., Tohoku Univ.*)
- 3Pos210 マウスノロウイルス MNV-S7 のクライオ電顕単粒子構造解析**
Capsid Structure of Murine Norovirus S7 revealed by cryo-electron microscopy
Chihong Song¹, Naoyuki Miyazaki², Kenji Iwasaki², Motohiro Miki³, Reiko Todaka⁴, Kei Haga⁴, Akira Fujimoto⁴, Kazuhiko Katayama⁴, Kazuyoshi Murata¹ (¹*NIPS*, ²*IPR*, ³*Denka Co., Ltd.*, ⁴*Kitasato Univ.*)