ポスター　Poster

第 1 日目（10 月 28 日（月））／Day 1（Oct. 28 Mon.）アネックスホール / Annex hall

01A. 蛋白質：構造 / 01A. Protein: Structure

1P001　高エネ機構フォトンファクトリーにおける創薬等支援基盤プラットフォーム事業による構造生物学研究の支援と高度化
Promotion of the Platform for Drug discovery, Informatics, and Structural life science (PDIS) project at Photon Factory in KEK
Ryuichi Kato[1], Naohiro Matsugaki[1], Yusuke Yamada[1], Leonard Chavas[1], Fumiaki Yumoto[1], Masato Kawasaki[1], Masahiko Hiraki[2], Toshiya Senda[1] ([1]*Photon Factory, IMSS, KEK*, [2]*Mechanical Engineering Center, ARL, KEK*)

1P002　海産無脊椎動物由来溶血性レクチン CEL-III の結晶化
Crystallization of the pore forming toxin CEL-III from marine invertebrate, Cucumaria echinata
Tomonao Nagao, Shuichiro Goda, Hideaki Unno, Tomomitu Hatakeyama (*Grad. Sch of Eng., Univ. Nagasaki*)

1P003　イェロープロテインの 150 ピコ秒時間分解能ラウエ構造解析
Time-resolved Laue crystallography of photoactive yellow protein with 150psec time resolution
Mikio Kataoka[1], Hironari Kamikubo[1], Friedrich Schotte[2], Hyun Sun Cho[2], Philip Anfinrud[2] ([1]*Grad. Sch. Mat. Sci., NAIST*, [2]*NIH*)

1P004　トマトモザイクウイルス複製タンパク質と阻害因子 Tm-1 の複合体形成機構の解明
Interaction mechanism of Tomato mosaic virus replication protein and the resistance factor Tm-1
Etsuko Katoh[1], Kazuhito Ishibashi[1], Chihoko Kobayashi[1], Hiroyoshi Matsumura[2], Masayuki Ishikawa[1] ([1]*National Institute of Agrobiological Sciences*, [2]*Osaka Univ.*)

1P005　真菌由来 TRP チャネル制御領域への Ca^{2+}イオン結合の結晶学的解析
Crystallographic analysis of the Ca^{2+}-binding sites in the regulatory-bundling region of the fungus TRP channel
Makoto Ihara[1,2], **Atsuko Yamashita**[1] ([1]*Grad. Sch. Med. Den. & Pharm. Sci., Okayama U.*, [2]*Facul. Agr., Kinki U.*)

1P006　分裂酵母由来の MAP キナーゼによりリン酸化される RNA 結合タンパク質 Nrd1 の構造解析
Structural studies of RNA-binding protein Nrd1, a fission yeast MAPK target RNA binding protein
Ayaho Kobayashi[1], Ryosuke Satoh[2], Toshinobu Fujiwara[3], Reiko Sugiura[4], Yutaka Ito[1], Masaki Mishima[1] ([1]*Grad. Sch. of Sci. & Eng., Tokyo Met. Univ.*, [2]*Lab. of Bacic Biol., Inst. of Micro. Chem.*, [3]*Grad. Sch. of Pharm. Sci., Nagoya City Univ.*, [4]*Grad. Sch. of Pharm. Sci., Kinki Univ.*)

1P007　Structural analysis of *C. elegans* innexin-6 gap junction channels by electron microscopy
Tomohiro Matsuzawa[1], Kazuyoshi Murata[2], Kouki Nishikawa[3], Yoshinori Fujiyoshi[3], Atsunori Oshima[3] ([1]*Grad. Sch. Sci., Univ. Kyoto*, [2]*NIPS*, [3]*CeSPI, Univ. Nagoya*)

1P008　自然免疫非感受性のサルモネラ菌 FljB が形成するべん毛繊維の立体構造と FliC べん毛繊維との違い
CryoEM structure of the flagellar filament of *Salmonella* FljB and implication of its difference from the FliC filament
Shoko Toma[1], Takayuki Kato[1], Keiichi Namba[1,2] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*QBiC, Riken*)

1P009　らせん対称性に基づく構造解析のための 15 プロトフィラメント微小管の調製
Preparation of seamless 15-protofilament microtubules for helical reconstruction of microtubules
Hiroko Takazaki[1], Takashi Fujii[2], Seiichi Uchimura[1], Rie Ayukawa[1], Keiichi Namba[3], Etsuko Muto[1] ([1]*BSI., Riken*, [2]*QBiC., Riken*, [3]*Grad. Sch. Frontier Biosci., Univ. Osaka*)

1P010　CD72 の構造解析に向けて
Towards the structure analysis of CD72
Kenro Shinagawa[1], Nobutaka Numoto[2], Takeshi Tsubata[2], Nobutoshi Ito[2] ([1]*Grad. Bio. Sci., Tokyo Med. and Dent. Univ.*, [2]*Med. Res. Inst., Tokyo Med. and Dent. Univ.*)

1P011　多周波電子スピン共鳴によるスピンラベル変性タンパクのダイナミックス
Dynamics of Spin-labeled Denatured Protein Studied by Multi-frequency electron paramagnetic resonance
Yasunori Ohba[1], Tetsuya Itabashi[1], Munehito Arai[2], Jun Abe[3], Satoshi Takahashi[1], Seigo Yamauchi[1] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. Art and Sci, Univ. Tokyo*, [3]*IMS*)

1P012　一分子力学計測による Sup35NM の不均一構造の解明
Single Molecule Studies on the Conformational Heterogeneity of Sup35NM Structure
Yusuke Komi[1], Maillard Rodrigo[2], Carlos Bustamante[2], Motomasa Tanaka[1] ([1]*BS Inst., RIKEN*, [2]*HHMI/UC Berkeley*)

1P013　Small-angle X-ray scattering constraints and secondary-structural information can construct a coarse-grained residue-based protein model
Yasumasa Morimoto, Masaki Kojima (*Sch. Life Sci., Tokyo Univ. Pharm. & Life Sci*)

1P014　Effect of methanol on the structure of α-chymotrypsinogen A
Koichi Murayama (*Grad. Sch. Med., Gifu Univ.*)

1P015　二次構造形成に関わる分子内および分子間相互作用に関する量子化学研究
Quantum chemical study of intra- and inter-molecular interactions in secondary structures
Yu Takano, Haruki Nakamura (*Research Center for State-of-the-Art Functional Protein Analysis Institute for Protein Research, Osaka University*)

1P016　高分子複合体の密度マップ・原子モデルの混合正規分布モデルを用いた重ね合わせ計算
Superimposing density maps and atomic models of macromolecular complexes using Gaussian mixture model
Takeshi Kawabata, Hirofumi Suzuki, Akira Kinjo, Haruki Nakamura (*Institute of Protein Research, Osaka University*)

1P017 **Edge strand と central strand は異なったペアパートナー選択傾向を示す**
Edge and central strands show a different propensity for pairing partners
Hiromi Suzuki (*Sch Agri., Meiji Univ.*)

1P018 **PDB の成熟度を利用したホモロジーモデリング手法**
A new homology modeling technique that utilizes the knowledge of completeness of the PDB
Takahiro Kanemitsu[1], Shintaro Minami[2], George Chikenji[1] ([1]*Grad. Sch. of Engineering, Univ. Nagoya*, [2]*Res.Sch.of info sci, Univ. Nagoya*)

1P019 **タンパク質の構造コンプライアンス特性の計算**
Computation of the Structural Compliance Characteristics of Proteins
Keisuke Arikawa (*Fcl. Eng. , Kanagawa Inst. of Tech.*)

1P020 **NRSF/REST の競合誘起天然変性に起因する動的特性**
Dynamical Property due to Frustration Induced Intrinsic Disorder of NRSF/REST
Katsuyoshi Matsushita[1,3], Hidetoshi Sugihara[1,3], Macoto Kikuchi[1,3,4], Tomoaki Nogawa[5], Munetaka Sasaki[6] ([1]*Cybermedia Centery, Osaka University*, [2]*Institute for Protein Research, Osaka University*, [3]*Graduate School of Science, Osaka University*, [4]*Graduate School of Frontier Biosciences, Osaka University*, [5]*Faculty of Medicine, Toho University*, [6]*Department of Applied Physics, Tohoku University*)

1P021 **Adaptive lambda square dynamics シミュレーション：生体分子の効率的な構造探索法**
Adaptive lambda square dynamics simulation: an efficient conformational sampling method for biomolecules
Jinzen Ikebe, Shun Sakuraba, Hidetoshi Kono (*MMS., JAEA*)

1P022 **アラニンペプチドモデルにおける溶媒和自由エネルギーの加算性**
Analysis of additivity in the alanine peptide model of protein solvation by molecular simulations
Hironori Kokubo, B. M. Pettitt (*UTMB*)

1P023 **MD シミュレーションによる設計したタンパク質間相互作用面の評価**
Evaluation of the designed protein binding interfaces as studied by MD simulation
Masaki Fukuda, Hironao Yamada, Takeshi Miyakawa, Ryota Morikawa, Masako Takasu, Satoshi Akanuma, Akihiko Yamagishi (*Sch. of Life Sci., Tokyo Univ. of Pharm. and Life Sci.*)

01B. 蛋白質：構造機能相関 / 01B. Protein: Structure & Function

1P024 **赤外分光法によるカルシウム結合タンパク質並びにカルシウム結合ペプチドアナログの配位構造解析**
Coordination to divalent cations by calcium-binding proteins and calcium-binding peptide analogues studied by FTIR spectroscopy
Masayuki Nara[1], Hisayuki Morii[2], Masaru Tanokura[3] ([1]*College of Liberal Arts and Sciences, Tokyo Medical and Dental University*, [2]*National Institute of Advanced Industrial Science and Technology (AIST)*, [3]*Graduate School of Agricultural and Life Sciences, University of Tokyo*)

1P025 **蛋白質複合体の高圧放射光 X 線小角散乱データに対するグローバルフィット解析**
Global fit analysis on high pressure synchrotron small-angle x-ray scattering data of protein complexes
Tetsuro Fujisawa[1,2], Keiichi Kameyama[1], Ryo Ishiguro[1,2] ([1]*Department of Chemistry and Biomolecular Science, Faculty of Engineering, Gifu University*, [2]*RIKEN SPring-8 Center*)

1P026 **放射光広角散乱法によるタンパク質熱転移に対する crowding 効果の研究**
Crowding effect on thermal transition of proteins clarified by SR-WAXS
Kazuki Takeuchi, Mitsuhiro Hirai (*Graduate School of Engineering, Gunma University*)

1P027 **硬骨魚類の乳酸脱水素酵素活性の温度依存性**
Thermal stability of lactate dehydrogenase of marine teleostei: molecular adaptation of ectothermic animal to low temperature
Mizuki Nakagawa[1], Mika Yonezawa[1], Shigeyoshi Nakamura[2], Shun-Ichi Kidokoro[2], Hideki Wakui[1], **Wataru Nunomura**[1] ([1]*Life Sci., Grad. Sch. Eng. & Resource Sci., Akita Univ.*, [2]*Dept. Bioeng., Nagaoka Univ. Tech.*)

1P028 **疎水性溶媒が蛍光タンパク質の蛍光特性に及ぼす影響**
Effects of organic solvents on the properties of fluorescent proteins
Hideaki Konishi, Suguru Asai, Kunio Takeyasu, Shigehiro Yoshimura (*Kyoto university*)

1P029 **神経小胞融合過程におけるシナプトタグミンと SNARE の分子機構**
molecular mechanism of synaptotagmin and SNARE in the synaptic vesicle fusion process
Yasuhito Nagai, Tadashi Takemori (*Grad. Sch. Pure and appl sci., Univ. Tsukuba*)

1P030 **PLC-δ1 PH ドメインの分子内アロステリー**
Intramolecular allostery in the PLC-δ1 PH domain
Michikazu Tanio, Katsuyuki Nishimura (*Institute for Molecular Science*)

1P031 **分子動力学を用いた細菌機械受容チャネル MscL の脂質膜の厚みに影響される開口挙動に関する研究**
Molecular Dynamics Study on the Opening Behavior of Bacterial Mechanosensitive Channel MscL Effected by Membrane Thickness
Hiroki Katsuta[1], Yasuyuki Sawada[2], Masahiro Sokabe[2] ([1]*Sch. of Med., Nagoya Univ.*, [2]*Dept. Physiol. Nagoya Univ. Grad. Sch. Med.*)

1P032 **分子動力学シミュレーションを用いた大腸菌機械受容チャネル MscL のゲーティングに関するゆらぎ解析**
Fluctuation Analysis Study on Mechano-Gating in the E-coli Mechanosensitive Channel MscL Using Molecular Dynamics Simulations
Yuya Nakagawa, Yasuyuki Sawada, Masahiro Sokabe (*Dept. Physiol. Nagoya Univ. Grad. Sch. Med*)

1P033 **大腸菌機械受容チャネル MscL の開口過程においてメカノセンサーとゲートは密接に連動する**
Mechanosensor and gate is tightly coupled in the opening process of the bacterial mechanosensitive channel MscL
Yasuyuki Sawada[1], Takeshi Nomura[2], Masahiro Sokabe[1] ([1]*Dept. Physiol. Nagoya Univ. Grad. Sch. Med.*, [2]*Dept. Physiol. Kyoto Pref. Univ. Med.*)

1P034 **H^+/Ca^{2+}交換輸送体における対向輸送の分子基盤**

Structural Basis for the Counter-Transport Mechanism of a H^+/Ca^{2+} Exchanger

Tomohiro Nishizawa[1], Satomi Kita[2], Andres Maturana[3], Noritaka Furuya[1], Kunio Hirata[4], Go Kasuya[1], Satoshi Ogawsawara[6], Naoshi Dohmae[5], Takahiro Iwamoto[2], Ryuichiro Ishitani[1], Osamu Nureki[1] ([1]*Dept. Biophys. and Biochem., Grad. Sch. Sci., Univ. of Tokyo*, [2]*Dept. Pharmacol., Fac. Med., Fukuoka Univ.*, [3]*Dept. Bioengineering Sci., Grad. Sch. of Bioagricul. Sci.*, [4]*RIKEN SPring-8*, [5]*RIKEN Advanced Sci. Inst.*, [6]*Grad. Sch. of Med. and Faculty of Med., Kyoto Univ.*)

1P035 **RND 型薬剤排出トランスポーターの阻害活性の構造的基礎**

Structural basis for the inhibition of bacterial multidrug exporters

Keisuke Sakurai[1], Ryosuke Nakashima[1], Seiji Yamasaki[1,2], Katsuhiko Hayashi[1,2], Kunihiko Nishino[1], Akihito Yamaguchi[1] ([1]*Institute of Scientific and Industrial Research, Osaka University*, [2]*Graduate School of Pharmaceutical Sciences, Osaka University*)

1P036 **極低温電子顕微鏡を用いた電圧感受性 Na チャネルの立体構造と機能**

Two alternative conformations of a voltage-gated sodium channel

Kazutoshi Tani[1], Ching-Ju Tsai[2], Katsumasa Irie[1], Yoko Hiroaki[1], Takushi Shimomura[1], Duncan G. McMillan[3], Gregory M. Cook[3], Gebhard Schertler[2], Yoshinori Fujiyoshi[1], Xiao-Dan Li[2] ([1]*CeSPI, Nagoya Univ.*, [2]*Biomol. Res. Lab., Paul Scherrer Inst.*, [3]*Dept. Micro. Immun., Univ. Otago*)

1P037 **Roles of two coupling helices between transmembrane and cytosolic domains in ABC transporter**

Tomohiro Yamaguchi, Ryohei Jinushi, Sho Masuko, Toru Nakatsu, Hiroaki Kato (*Grad. Sch. Pharm. Sci., Kyoto Univ.*)

1P038 **分子動力学シミュレーションで探る CFTR における変異の影響**

The effects of mutations in CFTR as studied by molecular dynamics simulations

Mitsuhiko Odera[1], Tomoka Furukawa-Hagiya[1], Tadaomi Furuta[1], Yoshiro Sohma[2], Minoru Sakurai[1] ([1]*Center for Biol. Res. Info., Tokyo Tech*, [2]*Dept of Pharmacol., Sch. Med., Keio Univ.*)

1P039 **分子動力学シミュレーションで探るセルラーゼ *Tr*Cel7A の基質取り込みのメカニズム**

Mechanism of substrate uptake in cellulase *Tr*Cel7A as studied by molecular dynamics simulations

Takashi Kanazawa, Minoru Sakurai, Tadaomi Furuta (*Center for Biol. Res. Info., Tokyo Tech*)

1P040 **μs スケールの分子動力学シミュレーションによる光受容タンパク質 LOV-HTH の光応答機構の研究**

Study of the photoresponsive mechanism of LOV-HTH protein using μs scale molecular dynamics simulations

Tetsuo Kokubu, Tadaomi Furuta, Minoru Sakurai (*Center for Biol. Res. & Inform., Tokyo Tech*)

1P041 **ABC トランスポーターのヌクレオチド結合ドメイン二量体化の理論的解析—ATP と水の役割**

Theoretical analyses of the nucleotide-binding domain dimerization of ABC transporters: roles of ATP and water

Tomohiko Hayashi[1], Tomoka Furukawa-Hagiya[2], Chiba Shuntaro[2], **Tadaomi Furuta**[2], Norio Yoshida[3], Minoru Sakurai[2] ([1]*Inst. Adv. Energy, Kyoto Univ.*, [2]*Center for Biol. Res. Info., Tokyo Tech*, [3]*Dept. Chem,. Fac. Sci., Kyushu Univ.*)

1P042 **ADP/ATP 透過担体の大規模構造変化に関する理論的研究**

A theoretical study on the large conformational change of ADP/ATP carrier

Koichi Tamura, Shigehiko Hayashi (*Grad. Sch. Sci., Univ. Kyoto*)

1P043 **Computational design of short peptide inhibitors of protein-protein interactions in intracellular signaling mediated by CRK-SH2**

Junya Yamagishi[1,2], Noriaki Okimoto[2], Takuma Kasai[2], Atsushi Suenaga[3], Mariko Okada[2], Akira Imamoto[4], Makoto Taiji[1,2] ([1]*University of Tokyo*, [2]*RIKEN*, [3]*AIST*, [4]*University of Chicago*)

1P044 **Electrostatic similarities between protein and small molecules facilitate the rational design of protein-protein interaction inhibitors**

Arnout Voet, Francois Berenger, **Kam Zhang** (*Zhang Initiative Research Unit, Institute Laboratories, RIKEN*)

1P045 **レプリカ置換法による生体分子に対する効率的な構造サンプリン**

Efficient sampling for biomolecules by the replica-permutation method

Satoru Itoh[1,2], Hisashi Okumura[1,2] ([1]*IMS*, [2]*Sokendai*)

1P046 **Metadynamics: Implementation in GENESIS Software Package and Demonstration of the Efficient Computational Simulations of Biomolecules**

Raimondas Galvelis[1], Yuji Sugita[1,2,3] ([1]*RIKEN AICS*, [2]*RIKEN ASI*, [3]*RIKEN QBiC*)

1P047 **Motion Tree を利用した capping protein の動的構造解析**

Dynamical study of capping protein by Motion Tree

Motonori Ota[1], Shuichi Takeda[2], Yuichiro Maeda[2], Ryotaro Koike[1] ([1]*Info. Sci., Nagoya U.*, [2]*SBRC, Nagoya U.*)

1P048 **MSES により明らかになった蛋白質遭遇複合体構造アンサンブル**

Structural ensemble of protein encounter complex revealed by Multiscale Essential Sampling

Satoshi Omori, Kei Moritsugu, Akinori Kidera (*Grad. Sch. Med. Life Sci., Yokohama City Univ.*)

1P049 **独立成分分析 tICA を用いたタンパク質主鎖の遅い運動の解析**

Slow dynamics of protein backbone in molecular dynamics simulation revealed by time-structure based independent component analysis

Sotaro Fuchigami (*Grad. Sch. of Medical Life Science, Yokohama City Univ.*)

01C. 蛋白質：物性 / 01C. Protein: Property

1P050 **トリプリオンタンパク質に対する抗体 G2 の複数の抗原を特異的に認識する性質の特徴付け**

Characterization of multispecific monoclonal antibody G2 directed against chicken prion protein

Yuji Kamatari[1], Masayuki Oda[2], Takahiro Maruno[3], Yuji Kobayashi[3], Naotaka Ishiguro[4] ([1]*Life Sci. Res. Center, Gifu Univ.*, [2]*Grad. Sch. Life Env. Sci., Kyoto Pref. Univ.*, [3]*Graduate School of Engineering, Osaka University*, [4]*Fac. Applied Biol. Sci., Gifu Univ.*)

1P051　リソスタシンのカルサイト結合部位の同定

Identification of calcite-binding site of lithostathine

Seiya Togashi[1,2], Yuichi Hanada[1,2], Maho Nara[2,3], Sakae Tsuda[1,2] ([1]*Grad. Sch. Sci., Hokkaido Univ.*, [2]*BPRI, AIST*, [3]*Hokkaido High-Tech. Bio.*)

1P052　オクタリピート領域をもつプリオンペプチドにおける金属イオンとの競合結合性

Competitive binding of metal ions to octarepeat region of prion protein

Masahiro Yagi, Kazuya Iwama, Haruto Onda, Wakako Hiraoka (*Graduate School of Science and Technology, Meiji University*)

1P053　QCM によるグルカゴンと酸性膜との相互作用解析

Analysis of interaction between glucagon and acidic lipid membrane by QCM

Takamichi Horie, Ayano Momose, Izumi Yamane, Hideki Fujita, Eri Yoshimoto, Izuru Kawamura, Akira Naito (*Grad. Sch. Eng., Yokohama Natl Univ.*)

1P054　ジンジパインプロテアーゼがもつ Ig-like domain の役割

Function of the Ig-like domain of gingipain proteinase

Keiko Sato[1], Hideharu Yukitake[1], Daisuke Nakane[2], Satoshi Shibata[1], Yuka Narita[1], Koji Nakayama[1] ([1]*Nagasaki Univ.*, [2]*Gakushuin Univ.*)

1P055　タンパク質の構造・安定性に及ぼす環状オリゴ糖およびポリオールの添加効果

Effects of polyol and cyclic oligosaccharide on structure and stability of protein

Takayuki Iokibe, Dai Katou, Takuya Hamada, Takayoshi Kimura (*Fac. Science, Kinki Univ.*)

1P056　タンパク質の熱安定性に及ぼすシクロデキストリンの包接効果

Inclusion effects of cyclodextrin on thermal stability of proteins

Toshiki Miki, Takayuki Iokibe, Takayoshi Kimura, Tadashi Kamiyama (*Fac. Science Kinki Univ.*)

1P057　粗視化シミュレーションを用いた STMV の自己組織化についての理論的研究

Theoretical study on the self-assembly of satellite tobacco mosaic virus using coarse grained simulation

Masato Teranishi, Micke Rusmerryani, Kazutomo Kawaguchi, Hiroaki Saito, Hidemi Nagao (*Grad. Sch. Nat. Sci., Univ. Kanazawa*)

1P058　バクテリア細胞質の全原子分子動力学シミュレーション

All-Atom Molecular Dynamics Simulation of Bacterial Cytoplasm

Isseki Yu[1,2], Takaharu Mori[1], Jaewoon Jung[2], Ryuhei Harada[2], Yuji Sugita[1,2], Michael Feig[3] ([1]*RIKEN Advanced Science Institute*, [2]*RIKEN Advanced Institute for Computational Science*, [3]*Michigan State University*)

1P059　分子動力学シミュレーションによる構造エントロピー計算法の比較

Comparison of calculation methods of configurational entropy from molecular dynamics simulation trajectories

Simon Hikiri[1], Takashi Yoshidome[2], Mitsunori Ikeguchi[1,2] ([1]*Grad. Sch. of Nanobioscience, Yokohama City Univ.*, [2]*Grad. Sch. of Med. Life Sci., Yokohama City Univ.*)

1P060　分子モデリング法を用いた酸変性アポミオグロビンの構造解析

A Conformational Analysis of Acid Unfolded Apomyoglobin using a Novel Molecular Modeling Method

Yasutaka Seki[1], Takamasa Nonaka[1], Kunitsugu Soda[2] ([1]*Sch. of Pharm., Iwate Med. Univ.*, [2]*High Perform. Molec. Simula. Team, ASI, RIKEN*)

1P061　溶液中におけるタンパク質分子の配置の秩序性：小角 X 線散乱による解析

Protein's arrangement in aqueous solution before the self-assemblies: A small angle X-ray scattering study

Hiroshi Imamura[1], Takeshi Morita[1], Tomonari Sumi[2], Yasuhiro Isogai[3], Minoru Kato[4], Keiko Nishikawa[1] ([1]*Chiba Univ. Grad. Sch. Adv. Int. Sci.*, [2]*Okayama Univ. Dept. Chem*, [3]*Toyama Pref. Univ. Fac. Eng.*, [4]*Ritsumeikan Univ. Dept. Pharm.*)

1P062　チロシン/チロシネート蛍光法における圧力軸の有用性: 700 MPa を用いたニワトリオボムコイドの圧力変性研究

Utility of pressure axis on tyrosine/tyrosinate fluorescence spectroscopy: A pressure-unfolding study of chicken ovomucoid at 700 MPa

Akihiro Maeno[1,2], Hiroshi Matsuo[3], Kazuyuki Akasaka[1] ([1]*HPPRC, Kinki Univ.*, [2]*Dep. of med., Wakayama med. Univ.*, [3]*NICO*)

1P063　Staphylococcal nuclease におけるマイクロ秒スケールの主鎖の運動

Main-chain dynamics of staphylococcal nuclease in microsecond timescale

Takahiro Matsumoto, Mariko Yamaguchi, Rumi Shiba, Hironari Kamikubo, Yoichi Yamazaki, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

1P064　Staphylococcal nuclease の変性状態における局所構造の柔軟性と非局所的相互作用の関係

Local flexibility of denatured structure and its relationship to non-local interaction in staphylococcal nuclease

Toshiyuki Minemura, Mariko Yamagichi, Yoichi Yamazaki, Hironari Kamikubo, Mikio Kataoka (*Nara Institute of Science and Technology*)

1P065　FUS/TLS タンパク質の凝集が関与する筋萎縮性側索硬化症の新たな分子病理メカニズム

A new pathomechanism of amyotrophic lateral sclerosis regulated by aggregation of FUS/TLS protein

Takao Nomura[1], Shoji Watanabe[2], Kumi Kaneko[3], Koji Yamanaka[4], Nobuyuki Nukina[5], **Yoshiaki Furukawa**[1] ([1]*Dept. of Chem., Keio Univ.*, [2]*Doshisya Univ.*, [3]*RIKEN, BSI*, [4]*Nagoya Univ.*, [5]*Juntendo Univ.*)

1P066　1 分子蛍光イメージングによる脱凝集シャペロン Hsp104 の作用機構の解明

Mechanism of Hsp104 disaggregase by single-molecule imaging

Momoko Okuda, Dai Nakasaka, Tatsuya Niwa, Hideki Taguchi (*Grad. Sch. of Biosci. Biotech., Tokyo Tech*)

1P067　酵母プリオン Sup35 の細胞内 1 粒子解析

Single Particle Tracking of Yeast Prion Sup35 in Living Cells

Keita Yasaka[1], Shigeko Kawai-Noma[2], Hayashi Yamamoto[3], Hideki Taguchi[1] ([1]*Grad. Sch. of Biosci. Biotech., Tokyo Tech*, [2]*Grad. Sch. of Appl. Chem. & Biotech., Chiba Univ.*, [3]*Front. Res. Cent., Tokyo Tech*)

1P068　高圧 Native PAGE 法によるリゾチーム変異体が形成するアミロイド原繊維のかい離過程の定量的解析

Quantitative Analysis of High Pressure Native PAGE on Dissociation of Lysozyme Variant Amyloid Protofibril

Ryo Ishiguro[1,2], Hiroshi Matsuo[3], Keiichi Kameyama[1], Hideki Tachibana[4], Tetsuro Fujisawa[1,2] ([1]*Fac. Eng., Gifu Univ.*, [2]*SPring-8, RIKEN*, [3]*NICO*, [4]*Grad. Sch. Biol. Oriented Sci. Tech., Kinki Univ.*)

1P069 リゾチームジスルフィド欠損変異体の線維化反応の温度依存性

Temperature-Dependence of Fibrillation of Lysozyme Disulfide-Deficient Variant

Hideki Tachibana[1,3], Ryohei Kono[2,3] ([1]*Fac Biol-Ortd Sci Tech, Kinki Univ*, [2]*Wakayama Med Univ*, [3]*High-Pres Prot Res Center, Kinki Univ*)

1P070 SEP タグを用いたタンパク質凝集の時系列的解析

Analysis of protein aggregation kinetics using short amino acid peptide tags

Yutaka Kuroda[1], Alam Khan[1], Monirul Islam[1,2] ([1]*Dept of Biotech and Life Sci, Tokyo Univ Agr & Tech*, [2]*Dept Bioch and Mol Biol, Chittagong Univ*)

1P071 短いテトラペプチドの全原子シミュレーションによるアミノ酸の無定形な凝集性の洞察

All atom molecular dynamics simulation of short tetra-peptides shed insights into amino acid's amorphous aggregation propensities

Yuji Sato[1], Atsushi Suenaga[2], Satoshi Kosuda[1], Makoto Taiji[3], Yutaka Kuroda[1] ([1]*Department of Biotechnology and Life Sciences, Graduate School of Engineering, Tokyo University of Agriculture and Technology*, [2]*Molecular Profiling Research Center for Drug Discovery, AIST*, [3]*Quantitative Biology Center, RIKEN*)

01D. 蛋白質：機能 / 01D. Protein: Function

1P072 リポアミド脱水素酵素のフィードバック制御機構

The feedback regulation mechanism of dihydrolipoamide dehydrogenase

Tomoe Fukamichi[1], Hiromichi Nakashima[1], Etsuko Nishimoto[2] ([1]*Institute of Biophysics, Faculty of Agriculture, Graduate School of Kyushu University*, [2]*Molecular Bioscience, Bioscience and Biotechnology, Kyushu University*)

1P073 様々なアルカン産生シアノバクテリアに由来するアシル ACP 還元酵素の活性比較

Comparison of the activities of acyl-ACP reductases from various alkane producing cyanobacteria

Ryota Nawa[1], Fumitaka Yasugi[2], Yuuki Hayashi[2], Munehito Arai[1,2,3] ([1]*Dept. Basic Sci., Univ. Tokyo*, [2]*Dept. Life Sci., Univ. Tokyo*, [3]*PRESTO, JST*)

1P074 ニトリルヒドラターゼの触媒機構に関する理論的研究

Theoretical Study on Catalytic Mechanism of Nitrile Hydratase

Megumi Kayanuma[1], Kyohei Hanaoka[2], Mitsuo Shoji[2] ([1]*Grad. Sch. of Sys. and Inf. Eng., Univ. of Tsukuba*, [2]*Grad. Schl. of Pure & App. Sci., Univ. of Tsukuba*)

1P075 アデニル酸キナーゼ反応機構に関する ONIOM 法による研究

Study on the reaction mechanism of adenylate kinase with ONIOM method

Kenshu Kamiya (*Department of physics, School of science, Kitasato university*)

1P076 トレオニン合成酵素における反応制御機構の理論的解明

Theoretical elucidation on the reaction control mechanism in Threonine Synthase

Mitsuo Shoji[1,2], Kyohei Hanaoka[1], Yuzuru Ujiie[1], Wataru Tanaka[1], Megumi Kayanuma[3], Hiroaki Umeda[2], Yasuhiro Machida[4], Takeshi Murakawa[5], Hideyuki Hayashi[4] ([1]*Grad. Sch. of Pure & App. Sci., Univ. Tsukuba*, [2]*Center for Comp. Sci., Univ. Tsukuba*, [3]*Grad. Sch. of Sys. & Inf. Eng. Univ. Tsukuba*, [4]*Dep. Chem., Osaka Med. College*, [5]*Dep. of Biochem., Osaka Med. College*)

01E. 蛋白質：計測・解析の方法論 / 01E. Protein: Measurement & Analysis

1P077 生体分子の分子動力学に対する時系列解析ー運動変化と構造変化の関係を探るー

Time-series analysis of molecular dynamics: Conformational change and dynamics of collective behavior

Kana Fuji[1], Masakazu Sekijima[2], Hiroshi Fujisaki[3], Mikito Toda[4] ([1]*Graduate of school Humanities and Sciences, Nara Women's Univ.*, [2]*GSIC, Tokyo Tech*, [3]*Phys., Nippon Medical School*, [4]*Sci. , Nara Women's Univ.*)

1P078 それぞれが複数の立体構造からなる複数の蛋白質構造の比較解析

Superposition of protein structures each of which is a set of multiple conformations

Takashi Amisaki, Shin-ichi Fujiwara (*Department of Biological Regulation, Faculty of Medicine, Tottori University*)

1P079 DFT によるテラヘルツ領域におけるアミノ酸とペプチドの低振動モードの帰属

DFT approach for the assignment of low-frequency vibrational modes of amino acids and peptides in the terahertz frequency region

Ohki Kambara (*RIE, Shizuoka Univ.*)

1P080 吸引式反応システムを用いたウェスタンブロッティング法によるペプチドの高感度検出

A new approach to detect small peptides clearly and sensitively by Western blotting using a vacuum-assisted detection method

Satoshi Tomisawa, Chiharu Abe, Masakatsu Kamiya, Takashi Kikukawa, Makoto Demura, Keiichi Kawano, Tomoyasu Aizawa (*Grad. Sch. Life Sci., Hokkaido Univ.*)

1P081 Grb2 結合にともなう EGFR のキネティクスとダイナミクスの１分子計測

Single-molecule measurements of kinetics and dynamics of an epidermal growth factor receptor upon Grb2-binding

Kenji Okamoto, Yasushi Sako (*RIKEN*)

1P082 ー分子力学測定によるポリプロリンヘリックスの高弾性の研究

Single molecule force spectroscopy by AFM indicates highly resilient structure of polyproline helix

Masaru Kawakami (*School of Materials Science, Japan Advanced Institute of Science and Technology*)

1P083 赤痢菌ニードル複合体の極低温電子顕微鏡による構造解析

Structural analysis of needle complex from *shigella flexineri* by cryo electron microscopy

Naoko Kajimura[1,2], Martin P. Cheung[3], Takayuki Kato[1], Ariel J. Blocker[3], Keiichi Namba[1,4] ([1]*Grad. Sch. of Frontier Biosci., Osaka Univ.*, [2]*JEOL Co., Ltd.*, [3]*Sch. of Cell. & Mol. Med., Univ. of Bristol*, [4]*QBiC., RIKEN*)

1P084 **高分解能構造解析に向けた電子顕微鏡用カメラの評価**

Evaluation of cameras for high resolution structural analysis by cryoEM

Takayuki Kato[1], Tomoko Miyata[1], Keiichi Namba[1,2] ([1]*Grad. Sch. Frontier Biosci., Osaka univ.*, [2]*QBic, Riken*)

01F. 蛋白質：蛋白質工学／進化工学 / 01F. Protein: Engineering

1P085 **Attempt of expression of the glycoprotein from *Richadella dulcifica***

Maria Namba, Naoya Hashikawa, Satoru Yamaguchi (*Okayama Univ. Sci.*)

1P086 **アルカンを合成するラン藻由来アルデヒド脱カルボニル化酵素のアラニンスキャン変異解析**

Alanine scanning mutagenesis of cyanobacterial aldehyde decarbonylase that synthesizes alkanes

Fumitaka Yasugi[1], Yuuki Hayashi[1], Munehito Arai[1,2] ([1]*Dept. Life Sci., Univ. Tokyo*, [2]*PRESTO, JST*)

1P087 **An Information Theoretical Approach to Local Equilibrium State Analysis for Single-Molecule Time-Series**

J. Nick Taylor[1], C. B. Li[1], S. Kawai[1], Henning D. Mootz[2], Haw Yang[3], Tamiki Komatsuzaki[1] ([1]*Hokkaido University*, [2]*Westfalische Wilhelms-Universitat Muenster*, [3]*Princeton University*)

1P088 **理想タンパク質構造のデザイン原理**

Principles for designing ideal protein structures

Nobuyasu Koga[1], Rie Koga(Tatsumi)[1], Gaohua Liu[2], Rong Xiao[2], Gaetano T. Montelione[2], David Baker[1] ([1]*Univ. Washington, Dept. of Biochemistry*, [2]*Rutgers Univ., Dept. Mol. Biol. and Biochem.*)

1P089 **理想的な構造を持つ機能タンパク質の理論設計**

Theoretical design of functionalized proteins with ideal scaffold

Takahiro Kosugi, Nobuyasu Koga, Rie Tatsumi-Koga, David Baker (*Dept. of Biochem., Univ. Washington*)

1P090 **リポソーム内遺伝子発現を利用した進化工学による β-グルクロニダーゼの機能改変**

Directed Evolution of β-glucuronidase Using Liposome-based IVC

Takehiro Nishikawa[1], Takeshi Sunami[1,2], Tomoaki Matsuura[1,3], Tetsuya Yomo[1,2,4] ([1]*JST*, [2]*Grad. Sch. of Info. Sci. & Tech., Osaka Univ.*, [3]*Grad. Sch. of Eng., Osaka Univ.*, [4]*Grad. Sch. of Frontier Biosci., Osaka Univ.*)

1P091 **膜たんぱく質の進化工学手法「リポソームディスプレイ法」の構築と実践：リポソームと無細胞翻訳系による α-ヘモリシンの in vitro 分子進化**

Liposome Display: Directed evolution of membrane protein, alpha hemolysin, by using liposome and cell-free translation system

Satoshi Fujii[1], Tomoaki Matsuura[1,2], Takeshi Sunami[1,3], Yasuaki Kazuta[1], Tetsuya Yomo[1,3,4] ([1]*JST*, [2]*Grad. Sch. Eng., Univ. Osaka*, [3]*Grad. Sch. Bioinfo.Eng., Univ. Osaka*, [4]*Grad. Sch. Fron. BioSci., Univ. Osaka*)

02. ヘム蛋白質 / 02. Heme proteins

1P092 **ニワトリクリプトクロム 1 のヘム結合モチーフ(HRM)の解析**

Characterization of HRM in Chicken Cryptochrome1

Yusuke Otsuka, Junya Kuzukawa, Keiko Okano, Toshiyuki Okano (*Dept. Eng. and Biosci., Grad. Sch. Adv. Sci. and Eng., Waseda Univ.*)

1P093 **線虫 cytochrome b561 ファミリーの生理機能解析**

Analyses on the physiological functions of the cytochrome b_{561} protein family in *C.elegans*

Yurie Hirano, Masahiro Miura, Motonari Tsubaki (*Dept. of Chem., Grad. Sch. of Sci., Kobe Univ.*)

1P094 **線虫 cytochrome b561 ホモログ Cecytb-1 の機能解析**

Analyses on the novel function of Cecytb-1, a cytochrome b561 homolog in Caenorhabditis elegans

Akie Tejima, Yurie Hirano, Masahiro Miura, Motonari Tsubaki (*Dept. of Chem., Grad. Sch. Sci., Univ. Kobe*)

1P095 **Substrate access to slow substrate binding P450cam with mutation at the proposed gate for water egress/ingress from/to the active site**

Ayaka Kishimoto[1], Kenji Takagi[1], Tsunehiro Mizushima[1], Keisuke Sakurai[2], Katsuyoshi Harada[3], Takashi Hayashi[3], Hideo Shimada[1] ([1]*Grad. Sch. Sci., Univ. Hyogo*, [2]*Inst. Sci. Ind. Res., Osaka Univ.*, [3]*Grad. Sch. Eng., Osaka Univ.*)

1P096 **Heme serves as scaffold for substrate-driven active site structuring in cytochrome P450cam**

Kenji Takagi[1], Ayaka Kishimoto[1], Aya Amano[1], Keisuke Sakurai[2], Kazumasa Muramoto[1], Tsunehiro Mizushima[1], **Hideo Shimada**[1] ([1]*Grad. Sch. Sci., Univ. Hyogo*, [2]*Inst. Sci. Ind. Res., Osaka Univ.*)

1P097 **酵素反応の時間分解分光解析を実現するマイクロ流路フローフラッシュ法の開発**

Development of micro-channel flow-flash method for time-resolved spectroscopic study of enzymatic reactions

Tetsunari Kimura[1], Takehiko Tosha[1], Yoshitsugu Shiro[1], Minoru Kubo[1,2] ([1]*RIKEN*, [2]*PRESTO, JST*)

1P098 **C タイプヘム・銅酸素還元酵素の酸素消費活性の pH 依存性**

pH dependence of the oxygen consumption activity of the C-type heme-copper oxygen reductase

Yui Iwamoto[1], Yuriko Ando[1], Yoshitsugu Shiro[1,2], Kazumasa Muramoto[1] ([1]*Grad. Sch. Life Sci., Univ. Hyogo*, [2]*Harima Inst., RIKEN*)

03. 膜蛋白質 / 03. Membrane proteins

1P099 **1 分子イメージングによる代謝型グルタミン酸受容体の細胞内動態解析**

Lateral diffusion of metabotropic glutamate receptor observed in single-molecules on the living cell surface

Masataka Yanagawa[1], Michio Hiroshima[1,2], Takahiro Yamashita[3], Yoshinori Shichida[3], Yasushi Sako[1] ([1]*Cellular Informatics Laboratory, RIKEN*, [2]*Quantitative Biology Center (QBiC), RIKEN*, [3]*Department of Biophysics, Graduate School of Science, Kyoto University*)

1P100 **低分子量 G タンパク質 K-Ras のフォトクロミック分子を用いた光制御**
Photo-regulation of small G protein K-Ras using photochromic molecules
Seigo Iwata[1], Shinsaku Maruta[1,2] ([1]*Dept. Bioinfo., Grad. Sch. Eng., Univ. Soka*, [2]*Dept. BioInfo., Fac. Eng., Univ. Soka*)

1P101 **Highly stable tubes of bovine mitochondrial F-ATP synthase suitable for electron cryo tomography**
Christoph Gerle[1], Chimari Jiko[2], Shintaro Maeda[1], Karen Davies[3], Werner Kuhlbrandt[3], Yoshinori Fujiyoshi[4], Kyoko Shinzawa-Ito[1], Shinya Yoshikawa[1] ([1]*Grad. Sch. Life Sci., Univ. Hyogo*, [2]*Inst. Prot. Res., Osaka Univ.*, [3]*Max Planck Biophys.*, [4]*CeSPI, Nagoya Univ.*)

1P102 **大腸菌多剤排出トランスポーター複合体 AcrAB の結合比決定**
AcrB-AcrA fusion protein indicates that multi-drug efflux transporter complex AcrAB coupling ratio is 1:1
Katsuhiko Hayashi[1,2], Ryosuke Nakashima[3], Keisuke Sakurai[3], Seiji Yamasaki[1,2], Kunihiko Nishino[4], Akihito Yamaguchi[3] ([1]*Dep. Cell Biol., Grad. Sch. Phrm. Sci., Osaka univ.*, [2]*Dep. Cell Memb. Biol., ISIR, Osaka univ.*, [3]*Lab. Cell Memb. Strac. Biol., ISIR, Osaka univ.*, [4]*Lab. Microbiol. Infec. Diseases, ISIR, Osaka univ.*)

1P103 **EGFR 細胞内領域の変異による EGF 受容体活性化**
Spontaneous activation of EGFR by mutations in its intracellular region in the absence of bound ligand
Hiraku Miyagi, Ichiro Maruyama (*OIST*)

1P104 **再構成膜におけるバクテリオロドプシンと部分フッ素化ホスファチジルコリンの低親和性**
Low affinity of bacteriorhodopsin to partially fluorinated phosphatidylcholine in reconstituted membrane
Masaru Yoshino[1], Kenji Kanayama[1], Takashi Kikukawa[2], Toshiyuki Takagi[3], Hiroshi Takahashi[1], Yasunori Yokoyama[4], Hideki Amii[1], Toshiyuki Kanamori[3], Masashi Somoyama[1] ([1]*Fac. Sch. Tech., Gunma Univ.*, [2]*Fac. Adv. Sci., Hokkaido Univ.*, [3]*R.C. Stem Cell Eng.*, [4]*Dept. Appl. Phys., Nagoya Univ.*)

1P105 **バクテリオロドプシンの色変異体に関する理論的研究**
A theoretical study on color variants of bacteriohrodopsin
Seiya Sugo[1], Motoshi Kamiya[1], Yuki Sudo[2], Shigehiko Hayashi[1] ([1]*Graduate School of Science, Kyoto Univ.*, [2]*Graduate School of Science, Nagoya Univ.*)

1P106 **計算機シミュレーションによる Hv1 プロトンチャネルの荷電性残基の影響の検討**
Evaluating the impact of charged residues in proton channel Hv1 by computer simulations
Matsuyuki Shirota[1,2], Susumu Chiba[1], Kota Kasahara[3], Hiroko Kondo[1], Kengo Kinoshita[1,2,4] ([1]*GSIS., Tohoku Univ.*, [2]*ToMMo, Tohoku Univ.*, [3]*IPR, Osaka Univ.*, [4]*IDAC, Tohoku Univ.*)

1P107 **Behavior of potassium ions around the potassium channel in relation to permeation events**
Toshiyuki Saito[1], Kota Kasahara[2], Matsuyuki Shirota[1,3], Hiroko Kondo[1], Kengo Kinoshita[1,3,4] ([1]*Grad. Sch. Information Sci, Tohoku Univ.*, [2]*IPR, Osaka Univ.*, [3]*ToMMo, Tohoku Univ.*, [4]*IDAC, Tohoku Univ.*)

1P108 **光駆動アニオンポンプハロロドプシンと発光タンパク質からなる融合タンパク質の特性**
Characteristic of fusion protein between light-driven anion pump halorhodopsin and luminescence protein
Kentaro Saito, Noritaka Kato, Yuri Mukai, Takanori Sasaki (*School of Science and Technology, Meiji University*)

1P109 **ファラオニスハロロドプシンの高次構造及び機能に与えるカロテノイド結合の影響**
Effect of carotenoid binding to structure and function of Natronomonas pharaonis halorhodopsin
Kaede Suzuki, Noritaka Kato, Yuri Mukai, Takanori Sasaki (*Grad. Sch. Sci. and Tech., Univ. Meiji*)

1P110 **アニオン結合に伴う膜タンパク質ハロロドプシンの三次構造変化の検出**
Detection of tertiary structural change of membrane protein halorhodopsin by anion binding
Takahiko Yokota, Noritake Katou, Yuri Mukai, Takanori Sasaki (*School of Science and Technology, Meiji University*)

1P111 **ハロロドプシン三量体が持つカロテノイド結合の特異性**
Specificity of carotenoid biding of trimer halorhodopsin
Yasuyuki Miyazaki, Noritaka Kato, Yuri Mukai, Takanori Sasaki (*Sch. Sci. and Tech., Univ. Meiji*)

1P112 **異なるアミノ酸タグを持つ膜タンパクハロロドプシン同士での多量体形成**
Oligomer formation between membrane protein halorhodopsins with different amino acid tags
Tomokazu Wakatsuki, Noritaka Kato, Yuri Mukai, Takanori Sasaki (*Sch. Sci. and Tech., Univ. Meiji*)

04. 核酸結合蛋白質 / 04. Nucleic acid binding proteins

1P113 **PBSA 法による RecA リコンビナーゼの ssDNA 及び dsDNA との結合能の比較**
Comparison of ssDNA- and dsDNA-binding affinity of RecA recombinase using the PBSA method
Yuichi Kokabu, Mitsunori Ikeguchi (*Grad. Sch. Med. Life Sci., Yokohama city univ.*)

1P114 **DNA-binding-induced conformational changes in proteins**
Munazah Andrabi[3], Kenji Mizuguchi[1,2], **Shandar Ahmad**[1,2] ([1]*National Institute of Biomedical Innovation*, [2]*Graduate School of Frontier Bioscience, Osaka University*, [3]*Center for Developmental Biology, RIKEN*)

1P115 **Single-Molecule Studies on How Pif1 Helicases Regulate Telomerase Activity**
Hung-Wen Li[1], Jing-Ru Li[1], Jing-Jer Lin[2] ([1]*Dept. of Chemistry, National Taiwan Univ., Taiwan*, [2]*Institute of Biochemistry and Molecular Biology, National Taiwan Univ.*)

1P116 **(6–4)光回復酵素の二光子 DNA 修復反応機構**
A two photon DNA repair mechanism of the (6-4) photolyase
Junpei Yamamoto[1], Ryan Martin[2], Shigenori Iwai[1], Pascal Plaza[2], Klaus Brettel[3] ([1]*Grad.Sch.Eng.Sci., Osaka Univ.*, [2]*ENS Paris, France*, [3]*CEA Saclay, France*)

1P117 **Single Nucleosome under Tension and Torsion**

Jen-Chien Chang[1], Michel de Messieres[2], Arthur La Porta[1] ([1]*Dept. Phys., University of Maryland, USA*, [2]*National Institute of Health, Bethesda, MD, USA*)

05A. 核酸：構造・物性 / 05A. Nucleic acid: Structure & Property

1P118 **How does alcohol cause the transition of higher-order structure of DNA?**

Yuki Oda[1], Yuko Yoshikawa[3], Tadayuki Imanaka[3], Toshio Kanbe[2], Takahiro Kenmotsu[1], Kenichi Yoshikawa[1] ([1]*Faculty of Medical and Life Sciences, Doshisha University*, [2]*Nagoya University, School of Health Sciences*, [3]*Lab.Environ.Biotech, Ritsumeikann University*)

1P119 **Ultrasound-induced double-strand breaks in relation to the higher-order structure of DNA**

Rinko Kubota[1], Naoki Ogawa[1], Yukihiro Kagawa[1], Yuko Yoshikawa[2], Yoshiaki Watanabe[1], Takahiro Kenmotsu[1], Kenichi Yoshikawa[1] ([1]*Faculty of Life and Medical Sciences, Doshisha University*, [2]*Lab. Environ. Biotech., Ritsumeikan University*)

1P120 **新規抗がん性二核白金(Ⅱ)錯体による DNA の立体構造変化**

Conformational change of DNA induced by novel antitumor dinuclear Pt(II) complexes

Akira Muramatsu[1], Yuko Yoshikawa[2], Seiji Komeda[3], Wakao Fukuda[2], Tadayuki Imanaka[2], Toshio Kanbe[4], Kenichi Yoshikawa[1] ([1]*Faculty of Life and Medical Sciences, Doshisha University*, [2]*College of Life Sciences, Ritsumeikan University*, [3]*Faculty of Pharmaceutical Sciences, Suzuka University of Medical Science*, [4]*School of Medicine, Nagoya University*)

1P121 **Mg(2+) causes shrinking on DNA but prevents spermidine(3+)-induced compaction**

Chika Tongu[1], Yuko Yoshikawa[2], Anatoly A Zinchenko[3], Ning Chen[3], Takahiro Kenmotsu[1], Kenichi Yoshikawa[1] ([1]*Faculty of Bio and Medical Sciences,Doshisha University*, [2]*Ritsumeikan University*, [3]*Nagoya University*)

1P122 **一本鎖 DNA 結合蛋白質の DNA-SWNT 複合体への選択的な吸着**

Selective adhesion of single-stranded DNA binding protein to DNA-SWNT hybrids

Daisuke Nii, Takuya Hayashida, Kazuo Umemura (*Graduate School of Science, Tokyo University of science*)

1P123 **全反射蛍光顕微鏡によるショウジョウバエ RNAi 酵素複合体形成の基本過程の解明**

Defining fundamental steps in the assembly of Drosophila RNAi enzyme complex by TIRF microscopy

Hiroshi M. Sasaki[1], Shintaro Iwasaki[1], Yuriko Sakaguchi[2], Tsutomu Suzuki[2], Hisashi Tadakuma[3], Yukihide Tomari[1,3] ([1]*IMCB, Univ. of Tokyo*, [2]*Dept. Chem. Biotech., Grad. Sch. Eng.*, [3]*Dept. Med. Genom., Grad. Sch. Front. Sci.*)

1P124 **光刺激により自律的に自己組織化する RNA 分子ロボットの構築**

Construction of an RNA molecular robot autonomously self-assembled by light stimulation

Hao Li[1,2], Hirohide Saito[3], Masahiro Talinoue[2,4] ([1]*Dep. Cont. and Sys., Engineering, Tokyo Tech.*, [2]*Interdisciplinary Grad. Sch. of Sci. and Eng., Tokyo Tech.*, [3]*The Hakubi Center, Kyoto Univ.*, [4]*PRESTO, JST*)

1P125 **蛋白質-RNA の複合体立体構造予測**

Tertiary structure prediction of Protein-RNA complexes

Tomoshi Kameda[1], Junichi Iwakiri[2], Michiaki Hamada[2], Kiyoshi Asai[1,2] ([1]*CBRC, AIST*, [2]*Grad. Sch. Frontier Sci., the Univ. of Tokyo*)

06. 電子状態 / 06. Electronic state

1P126 **緑色蛍光タンパク質の蛍光スペクトルに関する理論的研究**

A theoretical study on the fluorescent spectrum of enhanced green fluorescent protein

Yoshihiro Uchida[1], Masahiro Higashi[2], Shigehiko Hayashi[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Inst. Mol. Sci.*)

1P127 **Zero-dipole summation method for evaluating electrostatic interaction in molecular simulation of biomolecular system**

Ikuo Fukuda, Narutoshi Kamiya, Haruki Nakamura (*Institute for Protein Research, Osaka University*)

1P128 **DFTB および REUS を用いたマロンアルデヒドのプロトン移動計算**

Calculation of proton transfer in malonaldehyde using DFTB and REUS

Shingo Ito[1], Stephan Ire[2,3], Yuko Okamoto[1] ([1]*Department of Physics, Graduate School of Science, Nagoya University*, [2]*WPI-Institute of Transformative Bio-Molecules*, [3]*Department of Chemistry, Graduate School of Science, Nagoya University, Nagoya*)

1P129 **ESP 多重極子演算子を用いた QM/MM 計算法の開発**

Development of multipole electrostatic potential operator for QM/MM method

Yusuke Inoue[1], Takahiro Kosugi[2], Hiroshi Nakano[3], Takeshi Yamamoto[1], Shigehiko Hayashi[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Univ. of Washington*, [3]*Grad. Sch. Eng., Kyoto Univ.*)

1P130 **FMO 法を用いた基準振動解析によるタンパク質の赤外吸収予測**

Prediction of IR spectra by normal mode analysis based on the Fragment Molecular Orbital(FMO) method

Hiroya Nakata[1,2], Dmitri Fedorov[3], Satoshi Yokojima[4], Kazuo Kitaura[5], Shinichiro Nakamura[2] ([1]*Tokyo Institute of Technology*, [2]*RIKEN*, [3]*National Institute of Advanced Industrial Science and Technology*, [4]*Tokyo University of Pharmacy and Life Sciences*, [5]*Graduate School of System Informatics, Kobe University*)

07. 水・水和／電解質 / 07. Water & Hydration & Electrolyte

1P131 **水は蛋白質を折り畳むのか？**

Does water drive a protein to fold?

Yutaka Maruyama, Yuichi Harano (*Inst. Protein Res., Osaka Univ.*)

1P132 **逆ミセル中ナノ拘束水のテラヘルツダイナミクスの温度依存性**
Temperature dependence of terahertz dynamics of nano-confined water in a reverse micelle
Hiroshi Murakami (*JAEA*)

1P133 **Terahertz dynamics of hydrated protein studied by X-ray scattering**
Koji Yoshida, Toshio Yamaguchi (*Fukuoka Univerisity*)

1P134 **テラヘルツ時間領域分光によるリゾチーム低振動ダイナミクスの温度・水和依存性の観測**
Temperature and hydration dependence of low-frequency dynamics of lysozyme studied by terahertz time-domain spectroscopy
Naoki Yamamoto[1], Atsuo Tamura[2], Keisuke Tominaga[1,2] ([1]*Molecular Photoscience Research Center, Kobe University*, [2]*Graduate School of Science, Kobe University*)

1P135 **誘電緩和分光測定によるオリゴリン酸 Na、アルキルカルボン酸 Na、アルキルスルホン酸 Na の水和特性**
Hydration properties of sodium-oligophosphates, -alkyl carboxylates and -alkyl sulfonates by dielectric relaxation spectroscopy
Kazuki Ishimori, Yangtian Wang, Norihiko Tanno, George Mogami, Tetsuichi Wazawa, Nobuyuki Morimoto, Makoto Suzuki (*Dept. Materials Processing, Tohoku Univ.*)

09. 発生・分化 / 09. Development & Differentation

1P136 **Spatiotemporal measurement of cellular and tissue elasticity in the developing brain**
Misato Iwashita[1,2], Kazunori Toida[1,2], Yoichi Kosodo[1,2] ([1]*Kawasaki Medical School*, [2]*Department of Anatomy*)

1P137 **幹細胞ミニマルモデルの *in vivo* 実装**
In vivo* realization of the minimal stem cell model in *Escherichia coli
Sumire Ono[1], Reiko Okura[1], Yuichi Wakamoto[1,2] ([1]*Grad. Sch. Arts and Sci., Univ. Tokyo*, [2]*Research Center for Complex Systems Biology, Univ. Tokyo*)

1P138 **既知遺伝子調節関係に基づいた細胞分化の力学系モデル**
Realistic dynamical system model of cell differentiation based on known gene-regulatory interactions
Tadashi Miyamoto[1], Chikara Furusawa[2], Kunihiko Kaneko[1] ([1]*Grad. Sch. Art. Sci., Univ. Tokyo*, [2]*QBiC, Riken*)

10. 筋肉 / 10. Muscle

1P139 **アクチンフィラメントの伸長メカニズムを解明するための分子シミュレーション**
A Molecular Simulation Study to Investigate Actin Filament Elongation Mechanism
Nobuhiko Wakai[1], Kazuhiro Takemura[2], Takashi Fujii[3,4], Keiichi Namba[3,4], Akio Kitao[2,5] ([1]*Grad. Sch. Frontier Sci., Univ. Tokyo*, [2]*IMCB, Univ. Tokyo*, [3]*QBiC, RIKEN*, [4]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [5]*JST, CREST*)

1P140 **F-アクチンの水和状態に及ぼすハライドイオンの効果**
Halide ion effect on hydration state of F-actin
Noriyoshi Ishida, Takahiro Watanabe, **George Mogami**, Tetsuichi Wazawa, Makoto Suzuki (*Grad. Sch. Eng., Tohoku Univ.*)

1P141 **アクチン重合、ミオシン ATP 加水分解活性化に対する Tyr143 変異の効果**
Changes of polymerization and activation of myosin ATPase of Dictyostelium actin induced by mutation of Tyrosin-143
Yuki Gomibuchi[1], Taro Uyeda[2], Takeyuki Wakabayashi[1,3] ([1]*Teikyo Univ. Grad. Sciences and Engineering*, [2]*AIST*, [3]*Teikyo Univ. Dept. Judo Therapy*)

1P142 **中性子散乱による筋肉の細いフィラメントのダイナミクス変化の検出**
Changes in the dynamics of the muscle thin filaments observed by neutron scattering
Satoru Fujiwara[1], Tatsuhito Matsuo[1], Takeshi Yamada[2], Nobuaki Takahashi[3], Kazuya Kamazawa[2], Yukinobu Kawakita[3], Kaoru Shibata[3] ([1]*QuBS, JAEA*, [2]*CROSS Tokai*, [3]*J-PARC Center, JAEA*)

1P143 **SDSL-ESR による心筋トロポニン-I の N 末伸長部位の動的構造**
Structural Dynamics of N-terminal Extension of Cardiac Troponin I by Site Directed Spin Labeling-EPR
Chenchao Zhao[1], Hiroaki Yamashita[1], **Keisuke Ueda**[1,3], Shoji Ueki[2], Toshiaki Arata[1] ([1]*Dept. Biol. Sci., Grad. Sch. Sci., Osaka Univ.*, [2]*Tokushima-Bunri Univ.*, [3]*Inst. Prot. Res., Osaka Univ.*)

1P144 **ESR による筋肉細いフィラメントにおけるアクチンと Ca 調節タンパク質の動的構造**
Structural dynamics of actin and Ca-regulatory proteins in muscle thin filament by using ESR
Yoshiki Tsujimoto[1], Akie Yamamoto[1], Keisuke Ueda[2], Toshiaki Arata[1] ([1]*Dept. Biol. Sci., Grad. Sch. Sci., Osaka Univ.*, [2]*Inst. Prot. Res., Osaka Univ.*)

11. 分子モーター / 11. Molecular motor

1P145 **Effects of the KIF2C neck peptide on microtubules: lateral disintegration of microtubules and β-structure formation**
Youske Shimizu[1,2], Takashi Shimizu[2], Masayuki Nara[3], Mahito Kikumoto[1], Hiroaki Kojima[1], Hisayuki Morii[2] ([1]*NICT*, [2]*AIST*, [3]*Tokyo Medical and Dental Univ.*)

1P146 **ガラス基板上に固定した F-アクチンへのコフィリンと HMM と協同的結合**
Cooperative binding of cofilin and HMM to immobilized F-Actin on a glass surface
Yusuke Nishikawa[1], Hiroaki Ueno[1], Akira Ainai[1], Taro Ueda[2], Kiyotaka Tokuraku[1] ([1]*Grad. Sch. Appl. Sci, Muroran Inst.*, [2]*Adv. Ind. Sci. Tech, National Inst.*)

1P147 **細菌べん毛モーター固定子複合体 MotA/B チャネルのプロトン透過メカニズム**

Proton permeation mechanism through the channel of flagellar motor stator complex MotA/B

Yasutaka Nishihara, Akio Kitao (*IMCB, Univ of Tokyo*)

1P148 **高速 AFM による *Ascaris* 精子由来の MSP 線維の観察**

Observation of MSP filaments in cell-free extract from *Ascaris* sperm by high-speed atomic force microscopy

Katsuya Shimabukuro[1], Takamitsu Haruyama[2], Ryoko Chijimatsu[1], Hiroki Konnno[2] ([1]*Ube Nat. Col. Tech.*, [2]*Bio-AFM, Kanazawa Univ.*)

1P149 **The Mg^{2+} binding site of the ATP synthase ε subunit from *Bacillus subtilis* derived by Molecular Dynamics simulations**

Alexander Krah, Shoji Takada (*Theoretical Biophysics Lab, Dept. Biophysics, Kyoto University*)

1P150 **鞭毛軸糸ダイニンを駆動源として振動的屈曲運動を発生させる微小管バンドル**

A microtubule bundle that produces oscillatory bending movement with axonemal dynein

Susumu Aoyama, Yuichi Hiratsuka (*Sch. Matl. Sci., JAIST*)

1P151 **Athermal Fluctuations of Probe Particles in Active Cytoskeletal Networks**

Irwin Zaid[2], **Heev Ayade**[1], Julia Yeomans[2], Daisuke Mizuno[1] ([1]*Kyushu University*, [2]*Oxford University*)

1P152 **ポリエチレングリコールがアクチン繊維と調節繊維の運動に及ぼす影響**

Effect of polyethylene glycol on the motility of actin and regulated thin filaments on myosin molecules

Kuniyuki Hatori, Shinsuke Munakata (*Grad. Sch. Sci. Eng., Yamagata Univ.*)

1P153 **ダイニン-微小管インターフェイスの構造解析: 微小管から AAA+ ATPase ドメインにどのように情報が伝えられるか？**

Structural analysis of dynein-microtubule interface: How is a signal transmitted from microtubule to AAA+ ATPase domain?

Seiichi Uchimura[1], Takashi Fujii[2], Hiroko Takazaki[1], Rie Ayukawa[1], Itsushi Minoura[1], Yosuke Nishikawa[3], You Hachikubo[1], Takahide Kon[4], Genji Kurisu[3], Kazuo Sutoh[5], Keiichi Namba[6], Etsuko Muto[1] ([1]*BSI, RIKEN*, [2]*QBiC, RIKEN*, [3]*IPR, Osaka Univ.*, [4]*Fac. Biosci. Appl. Chem., Hosei Univ.*, [5]*Fac. Sci. Eng., Waseda Univ.*, [6]*Grad. Sch. Front. Biosci. Osaka Univ.*)

1P154 **キネシンの弱結合から強結合への状態変化における蝶番構造**

A mechanistic pivot-point in the weak-to-strong state transition during kinesin-microtubule interactions

Itsushi Minoura, You Hachikubo, Yoshihiko Yamakita, Hiroko Takazaki, Rie Ayukawa, Chihiro Yoshida, Seiichi Uchimura, Etsuko Muto (*RIKEN BSI*)

1P155 **高速 AFM によって明らかとなったミオシン X の歩行メカニズム**

Walking mechanism of myosin X revealed by high-speed AFM

Yusuke Sakiyama[1], Noriyuki Kodera[2], Osamu Sato[3], Mitsuo Ikebe[3], Toshio Ando[1,2] ([1]*Grad. Sch. Sci., Kanazawa Univ.*, [2]*Bio-AFM FRC, Kanazawa Univ.*, [3]*Dept. Physiol, Univ. Massachusetts Med. Sch.*)

1P156 **高速 AFM によって明らかとなったミオシン V の化学-力学変換メカニズム**

Chemomechanical coupling mechanism of myosin V revealed by high-speed AFM

Noriyuki Kodera[1], Takayuki Uchihashi[1,2], Kenta Yagi[2], Toshio Ando[1,2] ([1]*Bio-AFM FRC, Inst. Sci. & Eng., Kanazawa Univ.*, [2]*Sch. Math. & Phys., Col. Sci. & Eng., Kanazawa Univ.*)

1P157 **高速 AFM によるダイニンの機能動態の観察**

High-Speed-AFM Observation of Processive Movement of Cytoplasmic Dynein

Shuji Fujita[1], Keitaro Shibata[2], Takayuki Uchihashi[1,3], Yoko Toyoshima[2], Toshio Ando[1,3] ([1]*College of Science and Engineering, Kanazawa University*, [2]*The University of Tokyo*, [3]*Bio-AFM Frontier Research Center, College of Science and Engineering, Kanazawa University*)

1P158 **マイコプラズマモービレのあしとシアル酸の結合はヌクレオチドに依存する**

Nucleotide-dependent interaction between legs of *Mycoplasma mobile* and sialyllactose

Yoshiaki Kinosita[1], Daisuke Nakane[1], Makoto Miyata[2], Takayuki Nishizaka[1] ([1]*Faculty of Science, Gakushuin Univ.*, [2]*Graduate School of Science, Osaka City University.*)

1P159 **滑走するバクテリアの戦車のような運動装置を三次元で追跡する**

Three-dimensional tracking of tank-like motility apparatus of the gliding bacterium

Showko Odaka, Daisuke Nakane, Takayuki Nishizaka (*Department of Physics, Gakushin University*)

1P160 **戦車のような仕組みで動くバクテリア**

Bacterium moves like a tank

Daisuke Nakane[1], Keiko Sato[2], Hirofumi Wada[3], Mark McBride[4], Koji Nakayama[2], Takayuki Nishizaka[1] ([1]*Dept. Phys., Gakushuin Univ.*, [2]*Dept. Mol. Microbiol. Immunol., Nagasaki Univ.*, [3]*Dept. Phys., Ritsumeikan Univ.*, [4]*Dept. Biol. Sci., Univ. Wisconsin Milwaukee*)

1P161 **方位と倒れの構造変化を１分子レベルで検出する偏光スイッチングを用いた新しい TIRFM**

Advanced TIRF microscopy to detect single-molecule conformational changes in both azimuth and axial axis using polarization switching

Nagisa Mikami[1], Tomoko Masaike[1,2], Mitsuhiro Sugawa[1], Takayuki Nishizaka[1] ([1]*Dept. phys., Gakushuin Univ.*, [2]*Dept. Appl. Biol. Sci., Tokyo Univ. of Science*)

1P162 **1 分子 FRET 計測による F_1-ATPase の ATP 結合待ち構造の解析**

Analysis of the ATP-waiting form of F_1-ATPase by single-pair FRET measurement

Mitsuhiro Sugawa[1], Masaru Kobayashi[1], Takashi Matsui[1], Tomoko Masaike[2,3] ([1]*Dept. Phys., Gakushuin Univ.*, [2]*Dept. Appl. Biol. Sci., Tokyo Univ. Sci.*, [3]*JST*)

1P163 **F_1-ATPase の軸とシリンダーの結合寿命の測定**

Measurement of lifetime of the bond between the shaft and the cylinder in single F_1-ATPase

Tatsuya Naito[1], Kaoru Okada[1], Tomoko Masaike[1,2], Takayuki Nishizaka[1] ([1]*Dept. phys., Gakushuin Univ*, [2]*Dept. Appl. Biol. Sci., Tokyo Univ. of Science*)

1P164 **N 末端領域変異単頭キネシンによる微小管の 3 次元コークスクリュー運動**

Three-dimensional corkscrewing motion of a microtubule driven by single-headed kinesins with mutations in the N-terminal region

Shoko Fujimura[1], Shinsuke Owada[1], Takayuki Nishizaka[1], Junichiro Yajima[2] ([1]*Dept. phys., Gakushuin Univ.*, [2]*Graduate School of Arts and Sciences, The University of Tokyo*)

1P165 **G-、F-アクチンの水和測定と偏比容測定**

Hydration and partial specific volume measurements of G- and F-actin

Asato Imao, Takahiro Watanabe, Tetsuichi Wazawa, George Mogami, Nobuyuki Morimoto, Makoto Suzuki (*Dept. Materials Processing, Tohoku Univ.*)

1P166 **アクチンに係留された色素の回転相関時間の周波数領域蛍光偏光解消法による測定**

Rotational correlation time of a fluorophore tethered to actin as studied by frequency-domain fluorescence anisotropy measurements

Tetsuichi Wazawa, Nobuyuki Morimoto, Makoto Suzuki (*Grad Sch of Engin, Tohoku Univ*)

1P167 **1,3-ジエチル尿素による骨格筋ミオシンの滑り運動の阻害と Mg-ATPase の活性化**

1,3-Diethylurea-enhanced Mg-ATPase of skeletal muscle myosin with a converse effect on the sliding motility

Tetsuichi Wazawa, Shin-ichiro Yasui, **Nobuyuki Morimoto**, Makoto Suzuki (*Grad. Sch. Engin., Tohoku Univ*)

1P168 **バクテリアべん毛モーターの高時間分解能回転ステップ計測系の開発**

Development of dark-field imaging system with high temporal resolution for angular steps by bacterial flagellar motor

Hiromichi Wakebe[1], Yuichi Inoue[2], Akihiko Ishijima[2] ([1]*Grad. Sch. Life Sci.*, [2]*IMRAM, Tohoku Univ.*)

1P169 **Analysis of angular steps of bacterial flagellar motors using an elliptic probe**

Yuichi Inoue[1], Hiromichi Wakebe[2], Takashi Sagawa[2], Hajime Fukuoka[1], Akihiko Ishijima[1] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad.Sch. Life Sci., Tohoku Univ.*)

1P170 **F_1-ATPase が発生するトルクの微細構造**

Microstructure of the torque generated by F_1-ATPase

Eiichiro Saita[1], Kazuhiko Kinosita[2], Masasuke Yoshida[1] ([1]*Dept. Mol. Bio., Kyoto Sangyo Univ.*, [2]*Dept. Phys., Waseda Univ.*)

1P171 **ヒト F1-ATPase の一分子解析が明らかにした、バクテリアとは異なったミトコンドリア F1 の回転スキーム**

Single molecule analyses of human F1-ATPase revealed distinct rotation scheme of mitochondrial F1 motor

Toshiharu Suzuki[1,2], Kazumi Tanaka[1], Chiaki Wakabayashi[1], Shou Furuike[3], Eiichiro Saita[1], Kazuhiko Kinosita[4], Masasuke Yoshida[1] ([1]*Dept of Mol Bioscience, Kyoto Sangyo Univ*, [2]*CRL, Tokyo Inst of Tech*, [3]*Dept of Physics, Osaka Med College*, [4]*Faculty of Science and Eng, Waseda Univ*)

1P172 **腸内連鎖球菌 V-ATPase の大腸菌発現系**

Expression of *Enterococcus hirae* V-ATPase in *E. coli* BL21 (DE3)

Shohei Matsudo[1], Suhaila Rahman[1], Shinya Saijo[1], Misaki Yamamoto[1], Yoshimi Kakinuma[2], Kenji Mizutani[1,3], Takeshi Murata[3], Ichiro Yamato[1] ([1]*Dept. Biol. Sci Tech, Tokyo Univ. Sci*, [2]*Faclty Agri, Ehime Univ*, [3]*Faculty Sci, Chiba Univ*)

1P173 **腸内連鎖球菌 V 型 ATPase の A サブユニットの精製と結晶化**

Purification and Crystallization of A subunit from *Enterococcus hirae* V-ATPase

Aki Saito[1], Yasuko Saito[1], Shinya Saijo[1], Misaki Yamamoto[1], Yoshimi Kakinuma[2], Kenji Mizutani[1,3], Takeshi Murata[3], Ichiro Yamato[1] ([1]*Dept Biol Sci Tech, Tokyo Univ Science*, [2]*Faculty Agri, Ehime Univ*, [3]*Faculty Sci, Chiba Univ*)

1P174 **Direct observation of the rotation of V_1-ATPase from *Enterococcus hirae* and its torque**

Hiroshi Ueno[1], Yoshihiro Minagawa[2], Ichiro Yamato[3], Takeshi Murata[4], Ryota Iino[2], Eiro Muneyki[1] ([1]*Fac. Sci. & Eng., Univ. Chuo*, [2]*Sch. Eng., The Univ. Tokyo*, [3]*Dept. Biol. Sci. & Tech., Tokyo Uni. Sci.*, [4]*Grad. Sch. Sci., Univ. Chiba*)

1P175 **F_1-ATPase の P-loop 変異体とリン酸解離の関係**

The relationship between F_1-ATPase P-loop mutants and Pi release

Hikaru Yoshida[1], Ayumi Ito[1], Jotaro Ito[2], Tomoko Masaike[3], Takayuki Nishizaka[4], Shoichi Toyabe[5], Hiroshi Ueno[1], Eiro Muneyuki[1] ([1]*Dept, of Physics. Chuo Univ.*, [2]*School of Engineering, The university of Tokyo*, [3]*Faculty of Science and Technology, Tokyo Univercity of Science*, [4]*Dept. of Phys. Univ. Gakushuin*, [5]*Faculty of Physics, LMU Munich*)

1P176 **回転電場を用いた外力存在下での F1-ATPase の回転観察**

Observation of the rotation of F1-ATPase

Yohsuke Kikuchi[1], Takahiro Nakayama[1], Shoichi Toyabe[2], Eiroh Muneyuki[1] ([1]*Dept. Phys., Univ. Chuo*, [2]*Fac. Phys., Univ. Munchen*)

1P177 **Sopped-Flow 法を用いた β サブユニット単体と F1-ATPase へのヌクレオチド結合の比較**

Comparison of the nucleotide binding to the isolated βsubunit and the F1-ATPase using the Sopped-Flow method

Riku Nagano[1], Kiyoshi Obara[1], Tomoko Masaike[2], Hiroshi Ueno[1], Eiro Muneyuki[1] ([1]*Dept. of Physics. Chuo Univ.*, [2]*Tokyo University of science*)

12. 細胞生物的課題 / 12. Cell biology

1P178 **走化性と重力により誘起されるサルモネラ菌の生物対流**

Bioconvection of *Salmonella* induced by chemotaxis and gravity

Takahiro Abe, Shuichi Nakamura, Seishi Kudo (*Grad. Sch. Eng., Univ. Tohoku*)

1P179 **MotB ペリプラスム領域の in-flame 欠損がサルモネラ菌べん毛モーターの出力特性に及ぼす影響**

Effect of in-frame deletion in the periplasmic region of MotB on the torque-speed relationship of *Salmonella* flagellar motor

Shuichi Nakamura[1], Yusuke V. Morimoto[2], David J. Castillo[3], Yong-Suk Che[4], Nobunori Kami-ike[3], Seishi Kudo[1], Tohru Minamino[3], Keiichi Namba[2,3] ([1]*Grad. Sch. Eng., Tohoku Univ.*, [2]*RIKEN QBiC*, [3]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [4]*Dept. Frontier Biosci., Hosei Univ.*)

1P180 **Motility analysis of Leptospira in highly viscous environments**

Kyosuke Takabe, Md. Shafiqul Islam, Seishi Kudo, Shuichi Nakamura (*Grad.sch.engineering.,univ.tohoku*)

1P181 **Microscopic observation of chemotactic behaviors of Leptospira**

Md. Shafiqul Islam, Kyosuke Takabe, Seishi Kudo, Shuichi Nakamura (*Department of Applied Physics, Tohoku University*)

1P182 **細菌べん毛モーター蛋白質 FliG-FliM 相互作用の解析**

Interaction between FliG and FliM in the bacterial flagellar motor

Miki Kinoshita[1], Yukio Furukawa[1], Katsumi Imada[2], Keiichi Namba[1,3], Tohru Minamino[1] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*Grad. Sch. Sci., Osaka Univ.*, [3]*QBiC, RIKEN*)

1P183 **クライオ電子顕微鏡によるべん毛蛋白質輸送装置の構造と分子機構**

Molecular mechanism of the type III protein export by electron cryotomography of the flagellar basal body

Akihiro Kawamoto[1], Tomoko Miyata[1], Yusuke V. Morimoto[1,2], Tohru Minamino[1], Takayuki Kato[1], Keiichi Namba[1,2] ([1]*Grad. Sch. of frontier Biosci., Osaka Univ*, [2]*QBiC., RIKEN*)

1P184 **Mycoplasma mobile から単離した滑走装置の電子顕微鏡観察**

Electron microscopic observation of isolated gliding machinery of Mycoplasma mobile

Miyuki Nishikawa[1], Daisuke Nakane[2], Akihiro Kawamoto[3], Takayuki Katou[3], Keiichi Namba[3,4], Makoto Miyata[1] ([1]*Graduate School of Science, Osaka City University*, [2]*Department of Physics, Gakushuin University*, [3]*Graduate School of Frontier Biosciences, Osaka University*, [4]*QBiC, RIKEN*)

1P185 **FRET センサーを用いて生細胞内分子混雑を可視化する**

Visualization of the molecular-crowding effects in living cell on cellular functions using a FRET-based biosensor

Hiroaki Machiyama[1,2], Takamitsu Morikawa[3], Tomoyuki Yamaguchi[1,2], Toshio Yanagida[1,2,3], Tomonobu Watanabe[1,2,3], Hideaki Fujita[1,2] ([1]*WPI, iFReC, Osaka Univ.*, [2]*QBiC, RIKEN*, [3]*Grad. Sch. Frontier Biosci., Osaka Univ.*)

1P186 **Positive feedback mechanism for PIP3 polarity establishment mediated by PIP3 phosphatase, PTEN**

Satomi Matsuoka[1,2], Masahiro Ueda[1,2] ([1]*QBiC, RIKEN*, [2]*Osaka University*)

1P187 **細胞内 pH 変化に伴った細胞運動**

Changes in intracellular pH mediate the cell migration

Yusuke V. Morimoto[1], Masahiro Ueda[1,2] ([1]*QBiC, RIKEN*, [2]*Grad. Sch. Sci., Osaka Univ.*)

1P188 **nonlinear stress propagation, anisotropic stiffening, and nonaffine relaxations in cytoskeletal networks**

Daisuke Mizuno[1], Lara Villaruz[1], Akiko Nakamasu[1], Emi Ikebe[1], David Head[2] ([1]*Kyushu University*, [2]*University of Leeds*)

1P189 **Roles of actin polymerization in the collective cAMP oscillations**

Fumihito Fukujin[1], Satoshi Sawai[1,2,3] ([1]*Graduate School of Arts and Science, University of Tokyo*, [2]*Research Center for Complex Systems Biology, University of Tokyo*, [3]*PRESTO, Japan Science and Technology Agency*)

1P190 **血管平滑筋細胞内の核に対する核上下のアクチンストレスファイバの力学的役割**

Actin cap fibers and basal stress fibers have different roles in mechanical regulation of nucleus in vascular smooth muscle cells

Kazuaki Nagayama, Yuki Yahiro, Mitsuhiro Ukiki, Takeo Matsumoto (*Department of Mechanical Engineering, Nagoya Institute of Technology*)

1P191 **人工設計したマイクロ構造化基質における細胞のアクチン動態**

Actin dynamics in cells cultured on engineered micro-topographical substrate

Hiromi Miyoshi[1], Takuma Kishimoto[2], Takehiko Inaba[2], Miki Nishimura[3], Michiko Sugawara[3], Jong Soo Ko[4], Taiji Adachi[1,5], Toshihide Kobayashi[2], Yutaka Yamagata[1] ([1]*RIKEN Center for Advanced Photonics*, [2]*Lipid Biology Laboratory, RIKEN*, [3]*Grad. Sch. Eng, Chiba Univ.*, [4]*Sch. Mech. Eng, Pusan National Univ.*, [5]*Inst. Front. Med. Sci. Kyoto Univ.*)

1P192 **CRP2 タンパク質によるアクチン線維のダイナミクス制御**

Smooth muscle differentiation related transcription factor CRP2 directly regulates of actin filaments dynamics

Takanori Kihara[1], Sho Shinohara[2], Satoko Shinohara[2], Yasunobu Sugimoto[3], Jun Miyake[2] ([1]*Faculty of Environmental Engineering, The University of Kitakyushu*, [2]*Graduate School of Engineering Science, Osaka University*, [3]*Nagoya University Synchrotron Radiation Research Center*)

1P193 **細胞性粘菌アクチンの疎水性ヘリックスの変異が細胞運動に与える影響**

Actin mutation introduced into the hydrophobic helix impairs cytokinesis of Dictyostelium cell

Takahiro Ohnuki[1], Yuki Gomibuchi[2], Taro Uyeda[3], Takeyuki Wakabayashi[1,2] ([1]*Teikyo Univ. Grad. Sch Medical Technology*, [2]*Teikyo Univ. Grad. Science and Engineering*, [3]*AIST*)

1P194 **クライオ電子線トモグラフィー法を用いた細胞内におけるアクチンフィラメントバンドリングメカニズム解明**

The interaction between actin filaments and fascin are observed at high resolution with cryo-ET

Shinji Aramaki[1], Kota Mayanagi[2], Kazuhiro Aoyama[3,4], Takuo Yasunaga[1] ([1]*Dept. of Bioscience and Bioinformatics, Kyushu Inst. of Tech.*, [2]*Medical Inst. of Bioregulation, Kyushu Univ.*, [3]*FEI Company Japan Ltd., Application Lab.*, [4]*Grad. School of Frontier Biosciences, Osaka Univ.*)

1P195 **非筋細胞から単離したアクチンストレスファイバーの成分について**

Molecular components of actin stress fibers isolated from nonmuscle cells

Tsubasa S. Matsui[1], Shinji Deguchi[2] ([1]*Tohoku Univ.*, [2]*Nagoya Inst. Tech.*)

1P196 **細胞性粘菌ミオシン変異株 G680V が示す骨格筋アクトミオシンの高速滑り運動**

Myosin mutant G680V accelerated sliding velocities of skeletal muscle acto-myosin

Kouhei Iwase[1], Masateru Tanaka[1], Tarou Uyeda[2], Hajime Honda[1] ([1]*Dept. Bioeng., Nagaoka Univ. Tech.*, [2]*AIST, Tsukuba*)

1P197 **鞭毛中心構造による軸糸直径調節を通じたダイニンの活性制御機構**

Flagellar central structures regulate the dynein motor activity through the change of axonemal diameter

Toshiki Yagi[1], Yosuke Fujita[2], Shinji Kamimura[2], Hiroyuki Iwamoto[3] ([1]*Grad. Sch. of Med., Univ. Tokyo*, [2]*Fac. of Sci. & Eng., Chuo Univ.*, [3]*JASRI*)

1P198 **分裂酵母の細胞質分裂における単量体型 II 型ミオシンの局在と機能**
Localization and function of a monomeric myosin-II during cytokinesis in fission yeast
Masak Takaine, Osamu Numata, Kentaro Nakano (*Grad. Sch. Life & Env. Sci., Univ. of Tsukuba*)

1P199 **超解像光学顕微鏡による、成長円錐のアクチンの可視化解析**
Acitn meshwork in the growth cone revealed with superresolution
Kaoru Katoh[1,2], Saori Mimatsu[1,2] ([1]*Biomed.Res. Inst., AIST*, [2]*Grad.Sch. of Life & Enviro.Sci., Univ Tsukuba*)

1P200 **棘皮動物コラーゲン性のキャッチ結合組織を軟化させる新規タンパク質因子**
A novel protein factor softening echinoderm collagenous catch connective tissues
Akira Yamada[1], Yasuhiro Takehana[2], Masaki Tamori[2], Tatsuo Motokawa[2] ([1]*Adv ICT Res Inst, NICT*, [2]*Grad Sch Biosci Biotech, Tokyo Inst Tech*)

1P201 **真正粘菌の間欠的な細胞運動時にみられる細胞骨格構造の形成と破壊のダイナミクス**
Formation and destruction of cytoskeletal structure during intermittent locomotion of the true slime mold, Physarum polycephalum
Seiji Takagi (*RIES, Hokkaido Univ.*)

1P202 **アクチン-コフィリン相互作用の一分子解析**
Analysis of Cooperative Cofilin-Actin Filament Interactions examined at the single molecule level
Kimihide Hayakawa[1], Hitoshi Tatsumi[2], Shyotaro Sakakibara[2], Masahiro Sokabe[1] ([1]*Mechanobiology Lab., Nagoya University*, [2]*Dept. of Physiology, Nagoya University Graduate School of Medicine*)

1P203 **アクトミオシン収縮運動の制御機構;α-カテニンの阻害作用を中心に**
Inhibition of actomyosin contractility by α-catenin, a component of adherens junction
Shuya Ishii[1], Takashi Ohki[1], Hiroaki Kubota[1], Shin'ichi Ishiwata[1,2] ([1]*Department of Physics, Faculty of Science and Engineering, Waseda University*, [2]*Waseda Bioscience Research Institute in Singapore (WABIOS),*)

1P204 **アクチンフィラメントがつくる二次元ネットワーク構造とその動態**
Two-dimensional network pattern of actin filaments: Structure and dynamics
Hiroki Eguchi[1], Makito Miyazaki[1], Masataka Chiba[1], Takashi Ohki[1], Shin'ichi Ishiwata[1,2] ([1]*Dept. of Physics, Waseda Univ.*, [2]*WABIOS, Waseda Univ.*)

1P205 **有糸分裂中期に観察される染色体振動の解析**
Analysis of chromosome oscillation during metaphase
Keita Nakayama, Jun Takagi, Takeshi Itabashi, Shin'ichi Ishiwata (*Grad. Sch. Sci., Univ. Waseda*)

1P206 **引っ張り刺激による細胞シート中のアクチンフィラメント再編成**
Actin filament remodeling in cell-sheet by mechanical stretch
Madoka Suzuki[1,2], Keiko Kawauchi[3], Ee Chu Chai[1], Shota Yamauchi[3], Shin'ichi Ishiwata[1,2,4], Hideaki Fujita[5,6] ([1]*WABIOS, Waseda Univ*, [2]*Org Univ Res Initiatives, Waseda Univ*, [3]*MBI, Natl Univ Singapore*, [4]*Dept Phys, Waseda Univ*, [5]*Riken Qbic*, [6]*iFReC, Osaka Univ*)

13A. 生体膜・人工膜：構造・物性 / 13A. Biological & Artifical membrane: Structure & Property

1P207 **パターン化モデル生体膜へのロドプシンの再構成**
Reconstitution of rhodopsin into a micropatterned model biological membrane
Yasushi Tanimoto[1], Kenichi Morigaki[1], Fumio Hayashi[2] ([1]*Grad. Sch. Agr., Univ. Hyogo*, [2]*Grad. Sch. Sci., Univ. Hyogo*)

1P208 **浸透圧を変化させた時の架橋脂質膜の振る舞い**
Behavior of a suspended lipid membrane under varying osmotic pressure
Koji Sumitomo[1], Paul Kocher[2], Nahoko Kasai[1], Aya Tanaka[1], Yoshiaki Kashimura[1], Keiichi Torimitsu[3], John Ryan[2] ([1]*NTT Basic Research Labs.*, [2]*Oxford Univ.*, [3]*Tohoku Univ.*)

1P209 **pH 転換による GUV への効率的・選択的タンパク質封入**
Efficient and selective entrapment of protein into GUV by converting pH over the pI
Kanta Tsumoto (*Grad. Sch. Eng., Mie Univ.*)

1P210 **中性子非鏡面散乱法による糖脂質膜の力学特性の解明**
Mechanics of Glycolipid Membranes Probed by Off-Specular Neutron Scattering
Akihisa Yamamoto[1], Wasim Abuillan[2], Alexandra Burk[2], Alexander Körner[2], Daniel Werz[3], Bruno Demé[4], Motomu Tanaka[1,2] ([1]*iCeMS, Kyoto Univ.*, [2]*Phys. Chem., Univ. of Heidelberg*, [3]*Dept. Chem., Univ. Göttingen*, [4]*Inst. Laue-Langevin*)

1P211 **タンパク質内包リポソームの浸透圧下における構造**
Structures of liposome encapsulating proteins under the osmotic pressure
Ryota Kimura, Mitsuhiro Hirai (*Graduate School of Engineering, Gunma University*)

1P212 **界面通過法で作製したジャイアントリポソームのラメラリティーの定量的解析**
Measuring the lamellarity of giant liposomes prepared by inverted emulsion method
Masataka Chiba[1], Makito Miyazaki[1], Shin'ichi Ishiwata[1,2] ([1]*Dept. of Physics, Waseda Univ.*, [2]*WABIOS, Waseda Univ.*)

1P213 **細胞毒性を有する酸化コレステロールのホスファチジルコリン二分子層膜内存在位置**
Locations of cytotoxic oxysterols in phosphatidylcholine bilayer membranes
Tatsuya Hoshino[1], Takaaki Hikima[2], Masaki Takata[2], Toshihide Kobayashi[3], **Hiroshi Takahashi**[1] ([1]*Grad. Sch. Sci & Tech., Gunma Univ.*, [2]*Harima Inst., Riken*, [3]*Wako Inst., Riken*)

1P214 **合成セラミド 2 の相挙動及びコレステロールとの相互作用**
Phase Behavior of Synthetic Ceramide2((2S,3R)-2-Octadecanoylaminooctadecane-1,3-diol) and Its Interaction with Cholesterol
Kenta Takada[1], Yasuko Obata[2], Nobutaka Shimizu[3], Hiroshi Takahashi[1] ([1]*Grad.Sch.Eng.,Gunma Univ.*, [2]*Hoshi Univ.*, [3]*KEK-PF*)

13B. 生体膜・人工膜：ダイナミクス / 13B. Biological & Artifical membrane: Dynamics

1P215 **低い pH が誘起する DOPS/MO 膜の液晶相からキュービック相への相転移の初期過程**
Initial Step of Low pH-Induced Lamellar to Bicontinuous Cubic Phase Transition in Dioleoylphosphatidylserine/Monoolein
Toshihiko Oka[1,2], Taka-aki Tsuboi[1], Masahito Yamazaki[1,2] ([1]*Grad. Sch. Sci, Shizuoka Univ.*, [2]*Res. Inst. of Electronics, Shizuoka Univ.*)

1P216 **抗菌ペプチド・マガイニン２が誘起するポア形成に対する脂質膜の力学特性の効果**
Effects of Mechanical Properties of Lipid Membranes on Antimicrobial Peptide Magainin 2-Induced Pore Formation
M. A. Sayem Karal[1], Taka-aki Tsuboi[2], Md. Jahangir Alam[3], Md. Zahidul Islam[1], Masahito Yamazaki[1,2,3] ([1]*Grad. Sch. Sci. & Tech., Shizuoka Univ.*, [2]*Grad. Sch. Sci., Shizuoka Univ.*, [3]*Res. Inst. Electronics, Shizuoka Univ.*)

1P217 **張力による脂質膜のポア形成の速度定数に対する静電相互作用の効果**
Effects of Electrostatic Interactions on Rate Constants of Tension-Induced Pore Formation in Single GUVs
Taka-aki Tsuboi[1], M. A. Sayem Karal[2], Victor Levadny[2,3], Masahito Yamazaki[1,2,4] ([1]*Grad. Sch. Sci., Shizuoka Univ.*, [2]*Grad. Sch. Sci. & Tech., Shizuoka Univ.*, [3]*Rus. Acad. Sci.*, [4]*Res. Inst. Electronics, Shizuoka Univ.*)

1P218 **細胞侵入ペプチドであるトランスポータン 10 の脂質膜透過はポア形成の前に起こる**
Permeation of Cell-Penetrating Peptide Transportan 10 through Lipid Membranes before Pore Formation
Md. Zahidul Islam[1], Hirotaka Ariyama[1], Md. Jahangir Alam[2], Masahito Yamazaki[1,2] ([1]*Grad. Sch. Sci. & Tech., Shizuoka Univ.*, [2]*Res. Inst. Electronics, Shizuoka Univ.*)

1P219 **Interaction Of Warm-Sensing Chemical Capsaicin with the Biomimetic Membranes**
Neha Sharma, Pooja Gusain, Tsuyoshi Yoda, Masahiro Takagi (*Japan Advanced Institute of Science and Technology*)

1P220 **Dynamic Response of Menthol on Thermo-Induced Cell Membrane: More than Receptors**
Pooja Gusain, Neha Sharma, Tsuyoshi Yoda, Masahiro Takagi (*Japan Advanced Institute of Science and Technology*)

13C. 生体膜・人工膜：興奮・チャンネル / 13C. Biological & Artifical membrane: Excitation & Channels

1P221 **急速緩衝液交換法による時間分解全反射赤外分光法の開発**
Development of a Rapid Buffer-Exchange System for Time-Resolved ATR-FTIR Spectroscopy with the Step-Scan Mode
Yuji Furutani[1,2], Tetsunari Kimura[1,2], Kido Okamoto[3] ([1]*Inst. Mol. Sci.*, [2]*SOKENDAI*, [3]*UNISOKU*)

1P222 **哺乳類 two-pore 型カリウムチャネル TWIK-1 の全反射赤外分光解析**
ATR-FTIR spectroscopic analyses on a mammalian two-pore domain potassium channel, TWIK-1
Hisao Tsukamoto[1], Koichi Nakajo[2], Yoshihiro Kubo[2], Yuji Furutani[1] ([1]*Institute for Molecular Science*, [2]*National Institute for Physiological Sciences*)

1P223 **有効電場中におけるグラミシジン A を含んだ脂質二重層膜の静電ポテンシャルと圧力特性**
Electrostatic potential and lateral pressure profile of lipid bilayer containing gramicidin A in effective electrostatic field
Hiroaki Saito, Kazutomo Kawaguchi, Hidemi Nagao (*Kanazawa University*)

1P224 **細菌機械受容チャネル MscS のリポソーム膜上での配向**
The orientation of MscS in liposomal membranes
Takeshi Nomura[1], Masahiro Sokabe[2], Boris Martinac[3] ([1]*Dept Mol Cell Physiol and Bio-Ionomics, Kyoto Pref Univ Med Grad Sch of Med Sci, Kyoto, Japan*, [2]*Dept Physiol, Nagoya Univ Grad Sch of Med, Nagoya, Japan*, [3]*Victor Chang Cardiac Research Institute, Mol Cardiol and Biophys Div, Sydney, Australia*)

13E. 生体膜・人工膜：情報伝達 / 13E. Biological & Artifical membrane: Signal transduction

1P225 **シグナル分子クラスターの再構成とイメージング**
Reconstitution and imaging of signaling molecule clusters
Yoshihisa Kaizuka (*National Institute for Materials Science*)

1P226 **１分子観察によるシグナル伝達分子Ａｋｔの作動機構解明**
Single-molecule imaging study of signal transduction mechanism on Akt
Hideaki Yoshimura, Takeaki Ozawa (*Dep. Chem. Sch. Sci. the Univ of Tokyo*)

14. 化学受容 / 14. Chemoreception

1P227 **海洋細菌 *Vibrio alginolyticus* 新規アミノ酸走性トランスデューサーの同定**
Identification of a novel transducer for amino acid taxis in the marine bacterium *Vibrio alginolyticus*
Yukako Tsuji[1,3], Manabu Konishi[3], Kimiko Yamamoto[1,2], So-ichiro Nishiyama[3,4], Yoshiyuki Sowa[3], Ikuro Kawagishi[1,3,4] ([1]*Dept. Frontier Biosci., Grad. Sci Eng., Hosei Univ.*, [2]*Natl. Inst. Agro-Environ. Sci.*, [3]*Dept. Frontier Biosci., Fac. Biosci. Appl. Chem., Hosei Univ.*, [4]*Res. Cen. Micro-Nano Tech., Hosei Univ.*)

1P228 **走化性レセプター発現で大腸菌の内膜に生じる形態変化の急速凍結レプリカによる観察**
A quick-freezing replica study on morphological changes in the bacterial inner membrane induced by chemoreceptor expression.
Kazunori Kawasaki[1], Takehiko Inaba[2], Emiko Kobayashi[1], So-ichiro Nishiyama[3], Ikuro Kawagishi[3] ([1]*AIST*, [2]*RIKEN*, [3]*Dept. Frontier Biosci., Hosei Univ.*)

1P229 **シグナル伝達分子間のクロストークを使った鞭毛の回転方向制御**

Control of bacterial flagellar rotation via crosstalk from a non-cognate histidine kinase to the response regulator CheY

Tohru Umemura[1], Mayumi Kobayashi[1], Chiho Hara[1], Yoshiyuki Sowa[1,2], Ikuro Kawagishi[1,2] ([1]*Department of Frontier Bioscience, Hosei University*, [2]*Research Center for Micro-Nano Technology, Hosei University*)

15. 神経・感覚 / 15. Neuroscience & Sensory systems

1P230 **覚醒状態の維持を担う視床下部オレキシンニューロンの同期的活動**

Synchronous activity of orexin neurons in the lateral hypothalamus

Takeshi Kanda[1], Takahiro Miyazaki[1], Ryo Ishii[1], Mari Hondo[1], Elijah Takahashi[1], Masashi Yanagisawa[1,2] ([1]*IIIS, Univ. Tsukuba*, [2]*UTSW/HHMI*)

1P231 **フェムト秒レーザー神経突起切断による神経回路網の自発活動の時空間ダイナミクス**

Spatio-temporal dynamics of spontaneous activity in living neuronal network by femtosecond laser-induced cutting of neurites

Hayato Kubo[1,2], Suguru N. Kudoh[2], Takahisa Taguchi[1,3], Chie Hosokawa[1,2] ([1]*Health Res. Inst., AIST*, [2]*Grad. Sci. Eng., Kwansei Gakuin Univ.*, [3]*Cinet, NICT*)

16. 神経回路・脳の情報処理 / 16. Neuronal Circuit & Information processing

1P232 **アルツハイマー病 *in vitro* モデルを用いたアミロイド β(1-42) 伝搬毒性の評価**

Evalution of Amyloid β(1-42) toxicity propagation using Alzheimer's disease *in vitro* model

Takuma Maruyama[1], Lui Yoshida[2], Kiyoshi Kotani[2], Seiichi Suzuki[1], Yasuhiko Jimbo[2] ([1]*SEIKEI University*, [2]*The University of Tokyo*)

1P233 **前脳基底部の刺激によるラット前頭葉での応答**

Response of rat frontal neuronal activity evoked by stimulation of the basal forebrain

Kazuaki Nagasaka[1,2], Yumiko Watanabe[2], Nobuo Kunori[1,2], Riichi Kajiwara[3], Ichiro Takashima[2] ([1]*Comp. Human Sci, Univ. Tsukuba*, [2]*Human Tech Res Inst, AIST*, [3]*Biomed. Res Inst, AIST*)

1P234 **緩徐不活性化カリウムコンダクタンスが嗅周囲野 35 野の情報伝達を制御する**

Slowly inactivating potassium conductance controls transmission at area 35 of perichinal cortex: VSD imaging study

Takashi Tominaga[1], Yoko Tominaga[1], Riichi Kajiwara[2] ([1]*Inst Neurosci, Tokushima Bunri Univ.*, [2]*Biomed Res Inst, AIST*)

1P235 **Analysis of related molecules to synchronous activity of rat cultured neuronal networks**

Daisuke Ito[1], Keiko Yokoyama[2], Kazutoshi Gohara[2] ([1]*Fac. Advanced Life Sci., Hokkaido Univ.*, [2]*Fac. Engin., Hokkaido Univ.*)

18A. 光生物：視覚・光受容 / 18A. Photobiology: Vision & Photoreception

1P236 **内モンゴルエジノル塩湖から単離された halorubrum 属菌の持つロドプシン類タンパク質遺伝子の同定**

Identification of microbial rhodopsin genes from a halorubrum species isolated from Ejinoor salt lake in Inner Mongolia of China

Luomeng Chao[1], Gang Dai[2], Tatsuo Iwasa[1] ([1]*Div. Eng.Composite Funct., Muroran Ins. Technol., Japan*, [2]*Coll. Chem. Environ. Sci., Inner Mongolia Normal Univ., China*)

1P237 **ニワトリクリプトクロム 4 の光反応特性の解析**

Spectroscopic characterization of Chicken Cryptochrome4

Hiromasa Mitsui, Toshinori Maeda, Chiaki Yamaguchi, Yusuke Tsuji, Yoko Kubo, Keiko Okano, Toshiyuki Okano (*Dept. Eng. and Biosci., Grad. Sch. Adv. Sci. and Eng., Waseda Univ.*)

1P238 **ゼブラフィッシュクリプトクロム 1a の発現・精製**

Expression and purification of zebrafish cryptochrome 1a.

Arisa Takeno, Hiromasa Mitsui, Keiko Okano, Toshiyuki Okano (*Dept. Eng. and Biosci., Grad. Sch. Adv. Sci. and Eng., Waseda Univ.*)

1P239 **近赤外ラマン円偏光二色性分光による光受容タンパク質の活性部位構造解析**

Active Site Structure of Photoactive Yellow Protein with a Locked Chromophore Analog Revealed by Near Infrared Raman Optical Activity

Takahito Shingae[1], Kensuke Kubota[1], Nicole D. Foster[2], Masato Kumauchi[2], Wouter D. Hoff[2], Masashi Unno[1] ([1]*Department of Chemistry and Applied Chemistry, Graduate School of Science and Engineering, Saga University*, [2]*Department of Microbiology and Molecular Genetics, Oklahoma State University*)

1P240 **共鳴ラマン分光法によるシアノバクテリオクローム RcaE がもつ開環テトラピロール発色団のプロトン化状態の解析**

Protonation state of the linear tetrapyrrole chromophore in cyanobacteriochrome RcaE revealed by resonance Raman spectroscopy

Shinsuke Osoegawa[1], Yuu Hirose[2], Masahiko Ikeuchi[3], Masashi Unno[1] ([1]*Grad. Sch. Sci., Univ. Saga*, [2]*EIIRIS., Univ. Toyohashi*, [3]*Sci(Bio)., Univ. Tokyo*)

1P241 **赤外分光法によるチャネルロドプシンとキメラチャネルロドプシンの比較解析**

Comparative analysis of Channelrhodopsin and its chimeras based on FTIR spectroscopy

Asumi Inaguma[1,2], Hisao Tsukamoto[1], Tetsunari Kimura[1,3], Toru Ishizuka[3,4], Hiromu Yawo[3,4], Yuji Furutani[1,2] ([1]*IMS*, [2]*PRESTO*, [3]*CREST*, [4]*Tohoku Univ.*)

1P242 **(6-4)光回復酵素における光活性化及び光修復のメカニズム**

Molecular mechanism of photoactivation and photorepair of Xenopus (6-4) photolyase

Daichi Yamada[1], Junpei Yamamoto[2], Yu Zhang[1], Tatsuya Iwata[1], Kenichi Hitomi[3], Elizabeth Getzoff[3], Shigenori Iwai[2], Hideki Kandori[1] ([1]*Nagoya Inst. Tech.*, [2]*Grad. Sch. Eng. Sci., Osaka Univ.*, [3]*The Scripps Res. Inst. USA*)

1P243 **大腸菌におけるチャネルロドプシン 1 の発現**

Expression of channelrhodopsin-1 in *Esherichia coli*

Arisa Mori[1], Takashi Tsukamoto[1], Zin Yagasaki[1], Michio Homma[1], Kunio Ihara[2], Yuki Sudo[1,3] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*Center Gene Res., Nagoya Univ.*, [3]*JST-CREST*)

1P244 **好熱性ロドプシン：高度好熱菌から初めて発見された光駆動イオンポンプ**

Thermophilic rhodopsin: The first light-driven proton pump from an extreme thermophile

Takashi Tsukamoto[1], Yuki Sudo[1,2] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*JST, CREST*)

1P245 **レーザーフラッシュフォトリシス法によるロドプシンミミックの光化学研究**

Laser flash photolysis study on Photochemistry of Rhodopsin Mimics

Keiichi Inoue[1,2], Yuuya Ozaki[1], James H. Geiger[3], Babak Borhan[3], Hideki Kandori[1] ([1]*Grad. Sch. Eng., Nagoya Inst. Tech.*, [2]*JST PRESTO*, [3]*Dep. Chem., Michigan State Univ.*)

1P246 **酸性条件で機能する蛍光タンパク質のランダム変異によるスクリーニング**

Screening of randomly mutated fluorescent proteins that can work in acidic conditions

Tatsuya Iwata, Yukiko Ono, Masayo Iwaki, Hideki Kandori (*Grad. Sch. Eng., NITech*)

1P247 **青色光吸収型アーキロドプシン 3 変異体による内向きプロトン輸送**

Light-induced inward proton transport in a blue-shifted archaerhodopsin-3 mutant

Keiichi Inoue[1,2], Takashi Tsukamoto[3], Jin Yagasaki[3], Kazumi Shimono[4], Seiji Miyauchi[4], Shigehiko Hayashi[5], Hideki Kandori[1], **Yuki Sudo**[3,6,7] ([1]*Nagoya Institute of Technology*, [2]*JST-PRESTO*, [3]*Nagoya University*, [4]*Toho University*, [5]*Kyoto University*, [6]*Institute for Molecular Science*, [7]*JST-CREST*)

1P248 **シアノバクテリアのクリプトクロム DASH の変異体は二本鎖 CPD を修復する**

Functional conversion of cryptochrome into photolyase

Tomohiro Suzuki[1], Tatsuya Iwata[1], I Made Mahaputra Wijaya[1], Junpei Yamamoto[2], Tomoko Ishikawa[3], Daichi Yamada[1], Elizabeth D. Getzoff[4], Shigenori Iwai[2], Takeshi Todo[3], Hideki Kandori[1] ([1]*Nagoya Inst. Tech.*, [2]*Grad. Sch. Eng. Sci., Osaka Univ.*, [3]*Grad. Sch. Med., Osaka Univ.*, [4]*The Scripps Res. Inst. USA*)

1P249 **FTIR study of isotope-labeled CPD-Photolyase**

I M. M. Wijaya[1], Tatsuya Iwata[1], Tilo Mathes[2], Junpei Yamamoto[4], Kenichi Hitomi[3], Elizabeth D. Getzoff[3], Shigenori Iwai[4], John T. Kennis[2], Hideki Kandori[1] ([1]*Department of Frontier Materials, Nagoya Institute of Technology, Japan*, [2]*Department of Physics and Astronomy, VU University, The Netherlands*, [3]*Department of Integrative Structural and Computational Biology and The Skaggs Institute for Chemical Biology, The Scripps Research Institute, USA*, [4]*Graduate School of Engineering Science, Osaka University, Japan*)

1P250 **光駆動ナトリウムポンプの低温赤外分光**

Low-temperature FTIR spectroscopy of a light-driven sodium ion pump

Hikaru Ono[1], Keiichi Inoue[1,2], Rei Abe-Yoshizumi[1], Kwang-Hwan Jung[3], Hideki Kandori[1] ([1]*Nagoya Ins. Of Technol.*, [2]*JST PREST*, [3]*Sogang Univ. Korea*)

1P251 **霊長類色覚視物質の変異体に対する赤外分光研究**

FTIR study of mutants of primate color pigments

Kota Katayama[1], Daiki Kawata[1], Hiroo Imai[2], Akimori Wada[3], Hideki Kandori[1] ([1]*Department of Frontier Materials, Nagoya Institute of Technology*, [2]*Primate Research Institute, Kyoto University*, [3]*Organic Chemistry for Life Science, Kobe Pharmaceutical University*)

18B. 光生物：光合成 / 18B. Photobiology: Photosynthesis

1P252 **ＯＥＣのＳ３状態の反応活性部位の分子構造と酸化状態に関する理論的研究**

Theoretical study on molecular structures and oxidation states of active site at the S3 state of OEC

Tomoya Ichino, Masaki Mitani, Yasunori Yoshioka (*Grad. Sch. Eng., Univ. Mie*)

1P253 **光化学系 II-電極による可視光照射下での水の酸化**

Visible light-driven water oxidation by Photosystem II-immobilized electrodes

Masaru Kato, Miwa Sugiura (*Proteo-Science Center, Ehime Univ.*)

1P254 **Mn 除去は光化学系 II 非ヘム鉄の酸化還元電位に影響を及ぼすか？ ーFTIR-分光電気化学計測による解析**

FTIR-Spectroelectrochemical Investigation into Whether Mn-Depletion Influences the Redox Potential of the Non-Heme Iron in Photosystem II

Yuki Kato, Takumi Noguchi (*Grad. Sch. Sci., Nagoya Univ.*)

1P255 **FTIR study on the functions of the extrinsic proteins in cyanobacterial photosystem II: Evolutionary aspect of extrinsic proteins**

Ryo Nagao[1], Hanayo Ueoka-Nakanishi[1], Chihiro Uno[1], Tatsuya Tomo[2,3], Takumi Noguchi[1] ([1]*Grad. Sch. Sci., Univ. Nagoya*, [2]*Faculty of Sci., Tokyo Univ. of Sci.*, [3]*JST PREST*)

1P256 **光化学系 II における Y_Z ラジカルとヒスチジン間の高いプロトン分極を持つ水素結合：FTIR 法による検出**

FTIR evidence for the presence of a strong H-bond with high proton polarizability between the Y_Z radical and a His in photosystem II

Shin Nakamura, Ryo Nagao, Hanayo Nakanishi, Ryouta Takahashi, Takumi Noguchi (*Grad. Sch. Sci., Nagoya Univ.*)

19. 放射線生物／活性酸素 / 19. Radiobiology & Active oxygen

1P257 **Role of NADPH oxidase in vitamin D_3 and PMA-induced cell differentiation**

Hiroyuki Kato[1], Asuka Kato[1], Omi Nawa[1], Masato Mutoh[2], Wakako Hiraoka[1] ([1]*Graduate School of Science and Technology, Meiji University*, [2]*Department of Materials and Human Environmental Sciences, Shonan Institute of Technology*)

1P258 **メガヘルツ超音波の抗腫瘍効果**

Antineoplastic effect of MHz ultrasound to leukemia cells

Risa Fuji, Wakako Hiraoka (*Graduate School of Science and Technology, Meiji University*)

1P259 **酸化ストレス下でのＲＯＳ検出**

ROS detection in oxidative stress

Omi Nawa, Hiroyuki Kato, Asuka Kato, Wakako Hiraoka (*Graduate School of Science and Technology, Meiji University*)

1P260 **DNA 脱塩基部位の局在性評価法の開発と放射線照射 DNA への適用**

A de novo methodology for estimating localization of apurinic (AP) sites in DNA and its application to DNA exposed to ionizing radiations

Ken Akamatsu, Naoya Shikazono (*Irradiated Cell Analysis Group, Japan Atomic Energy Agency*)

1P261 **シンクロトロン軟Ｘ線によって誘発されるバイスタンダー応答の機構**

Mechanisms of synchrotron soft X-ray-induced bystander response

Masanori Tomita[1], Munetoshi Maeda[1,2], Noriko Usami[3], Katsumi Kobayashi[3] ([1]*Radiat. Safety Res. Cent., CRIEPI*, [2]*R&D, WERC*, [3]*PF, IMSS, KEK*)

20. 生命の起源・進化 / 20. Origin of life & Evolution

1P262 **海底熱水噴出孔を模擬した新型フローリアクターの製作と化学進化**

A construction of a new flow reactor simulating hydrothermal vents for chemical evolution

Eiichi Imai, Hajime Honda (*Dept. Bioengineering, Nagaoka Univ. Tech.*)

1P263 ***In vitro* selection of the preferable 3'-terminal sequences of the template for norovirus RNA replicase**

Hidenao Arai[1], Miho Suzuki[1], Naoto Nemoto[1], Koichi Nishigaki[1], Yuzuru Husimi[2] ([1]*Grad. Sch. Sci. Eng., Saitama Univ.*, [2]*Innovation Research Organization, Saitama Univ.*)

1P264 **苔に擬態した蝶の翅模様にみるノイズを利用したデザイン原理**

Noisy design of a butterfly wing pattern mimicking a lichen-covered tree bark

Takao K. Suzuki (*NIAS*)

21A. ゲノム生物学：ゲノム解析 / 21A. Genome biology: Genome analysis

1P265 **ダブルバレルカーボンプローブを用いた組織モデルからのｍＲＮＡ回収と定量評価**

Collection and quantification of messenger RNA from tissue models by double barrel carbon probe

Yuji Nashimoto[1], Yasufumi Takahashi[2], Ryosuke Takano[1], Kosuke Miyashita[1], Shukuyo Yamada[1], Kosuke Ino[1], Hitoshi Shiku[1], Tomokazu Matsue[1,2] ([1]*Enviromental studies, Tohoku Univ.*, [2]*WPI-AIMR, Tohoku Univ.*)

22A. 生命情報科学：構造ゲノミクス / 22A. Bioinformatics: Structural genomics

1P266 **Development of Ligand Based Virtual Screening considering protein-ligand interaction**

Koya Kato, George Chikenji (*Grad. Sch. Eng., Nagoya Univ.*)

1P267 **H-DROP:サポートベクターマシンを用いたヘリカルリンカーの予測**

H-DROP: an SVM based helical domain linker predictor trained with optimal selected features

Suzuki Ryosuke[1], Ebina Teppei[2], Yutaka Kuroda[1] ([1]*Dept of Biotech. & Life Sci., Tokyo University of Agriculture & Technology*, [2]*Brain Science Inst., RIKEN*)

1P268 **スプライシングアイソフォームの機能的有意性の評価**

Evaluation of functional significance of splicing isoforms

Masafumi Shionyu[1], Shiori Ikeda[2], Ken-ichi Takahashi[2] ([1]*Fac. Bio-Sci., Nagahama Inst. Bio-Sci. Tech.*, [2]*Grad. Sch. Bio-Sci., Nagahama Inst. Bio-Sci. Tech.*)

1P269 **タンパク質における分子トンネルの高速簡易探索法の開発ートリプトファン合成酵素への適用**

A Simple Method to Detect Molecular Tunnels in Proteins - Application to Tryptophan Synthase

Midori Yano, Kei Yura (*Grad. Sch. Hum. Sci., Univ. Ocha*)

1P270 **ｍＲＮＡ切断ポリアデニル化特異因子複合体構成サブユニットの四次構造推定**

Predicting a Quaternary Structure of mRNA Cleavage-Polyadenylation Specificity Factor Complex

Saki Aoto, Kei Yura (*Ochanomizu Univ*)

22B. 生命情報科学：機能ゲノミクス / 22B. Bioinformatics: Functional genomics

1P271 **ヒトリン酸化部位のデータベース解析で明らかになるシグナル伝達経路間のクロストーク**
Crosstalk between signaling pathways revealed by database analysis of human phosphorylation sites
Hafumi Nishi[1], Emek Demir[2], Anna R. Panchenko[3] ([1]*Grad. Sch. Medical Life Sci., Yokohama City Univ.*, [2]*Computational Biology Center, MSKCC*, [3]*NIH/NLM/NCBI*)

24. 数理生物学 / 24. Mathematical biology

1P272 **大自由度遺伝子発現制御モデルにおける適応応答の協同的進化**
Cooperative Adaptive Responses in Gene Regulatory Networks with Many Degrees of Freedom
Masayo Inoue[1], Kunihiko Kaneko[2] ([1]*molprof, AIST*, [2]*Univ. of Tokyo*)

1P273 **細胞の集団的意思決定の設計原理**
A Design Principle of Group-level Decision Making in Cell Populations
Koichi Fujimoto[1], Satoshi Sawai[2,3,4] ([1]*Faculty of Science, Osaka University*, [2]*Graduate School of Arts and Sciences, University of Tokyo*, [3]*Research Center for Complex Systems Biology, University of Tokyo*, [4]*PRESTO, JST*)

1P274 **Large deviation properties of population averages: An indicator of gene expression dynamics in a single cell**
Bhaswati Bhattacharyya, Ziya Kalay (*iCeMS, Kyoto University*)

1P275 **細胞システムの内因的・外因的ゆらぎに対するロバスト性に関する理論的基礎**
Theoretical basis for robustness of intracellular systems against intrinsic and extrinsic fluctuation
Tetsuya Kobayashi (*IIS, Univ. Tokyo*)

1P276 **イノシトールリン脂質代謝系が細胞の自発運動への効果の理論と実験による検証**
Theoretical and Experimental Analysis for the Effect of Phosphatidyl Inositol System on Spontaneous Cell Movement
Masato Yasui, Satomi Matsuoka, Masahiro Ueda (*Osaka University*)

1P277 **間葉ーアメーバ型遊走に関する理論モデル**
A Theoretical Model for Mesenchymal-Amoeboid Modes for Migration
Shin I. Nishimura (*Kyushu University*)

1P278 **確率的シグナル伝達経路における外因性ノイズを含む入力信号に対する応答性**
Responses of a stochastic signaling cascade to input signals with extrinsic noise
Akio Chiba[1,2], Akihiro Fukagawa[1], Kumiko Sakata-Sogawa[1,2], Makio Tokunaga[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS-RCAI, RIKEN*)

1P279 **なぜ細胞は様々なステップ数を持つシグナルカスケードを使いわけるのか？**
Why do cells use signaling cascades with a variety of the number of steps?
Akihiro Fukagawa[1], Masashi Kajita[1], Kumiko Sakata-Sogawa[1,2], Makio Tokunaga[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS-RCAI, RIKEN*)

1P280 **一分子シミュレーションによる上皮成長因子シグナル伝達経路の応答不均一性の解明**
Understanding heterogeneity in EGF pathway using simulation at the molecular resolution
Kazunari Iwamoto, Yuki Shindo, Atsushi Miyauchi, Kazunari Kaizu, Koichi Takahashi (*Laboratory for biochemical simulation, QBiC, RIKEN*)

1P281 **Diffusion-controlled reaction rate-laws in intracellular environment with molecular crowding: A single-particle-level simulation study**
Kazunari Kaizu, Koichi Takahashi (*RIKEN*)

25. 非均衡・生体リズム / 25. Equality Nonequilibrium state & Biological rhythm

1P282 **Power-law distribution derived from misunderstanding of search patterns**
Hisashi Murakami, Yukio Gunji (*Kobe University*)

1P283 **From cell-autonomous circadian clocks to tissue-level timekeeping**
Craig Jolley, Maki Ukai-Tadenuma, Dimitri Perrin, Hiroki Ueda (*RIKEN Center for Developmental Biology*)

1P284 **熱泳動現象を用いた鎖状高分子の凝集における分子構造転移の影響**
Effects of polymer chain folding for polymer aggregation in thermophoresis
Kenta Odagiri (*MIMS, Meiji Univ.*)

26. 計測 / 26. Measurements

1P285 **ベイズ統計を用いた超解像 CT アルゴリズム**
Super resolution computed tomography based on Bayesian statistics
Jun Kozuka[1], Takaki Makino[2], Haruo Mizutani[2] ([1]*QBiC, RIKEN*, [2]*Grad. Sch. Fro. Sci., Univ. Tokyo*)

1P286 **フリーズフラクチャー原子間力顕微鏡によるバクテリオロドプシンの 3 次元結晶の観察**
Observation of the crystal structure of bacteriorhodopsin by freeze fracture atomic force microscopy
Naoto Kuga, toshiaki Gotou, Tutomu Kouyama (*Nagoya Univ.*)

1P287 **楕円率変化検出ＣＤ測定法の発展とその生物系への応用**
Development of elliptically-polalization-detected CD apparatus and its application to the biological systems
Yasuyuki Araki, Yoshiyuki Hamada, Makoto Murakami, Seiji Sakamoto, Takehiko Wada (*IMRAM, Tohoku Univ.*)

1P288 **物質の非平衡加熱状態観測のための In-situ マイクロ波照射 NMR 分光法の開発**

Development of in-situ microwave irradiation NMR spectroscopy for observating non-equilibrium heating state of substances

Yugo Tasei[1], Teruaki Fujito[2], Izuru Kawamura[1], Akira Naito[1] ([1]*Graduate of Engineering, Yokohama National University*, [2]*Probe Laboratory Inc.*)

1P289 **光と磁場を用いた一分子 DNA 操作装置の開発**

A novel method for manipulation of a single DNA molecule using optical and magnetic field

Masahiro Makuta[1,2], Taishi Matsushima[1], Yoshihiro Murayama[1] ([1]*Dept. of Appl. Phys., Tokyo Univ. of Agri. and Tech.*, [2]*WPI-iCeMS, Kyoto Univ.*)

1P290 **フロー型乳酸バイオセンサを用いたマウスの脳内乳酸測定**

Measurement of lactate level in the mouse brain using a flow-type lactate biosensor

Kaoru Yamazaki, Mai Ichikawa, Ryo Shimazaki, Minoru Saito (*Graduate School of Integrated Basic Sciences, Nihon University*)

27. バイオイメージング / 27. Bioimaging

1P291 **Humidity-controlled preparation of frozen-hydrated biological samples for cryogenic coherent X-ray diffraction imaging using XFEL**

Yuki Takayama[1], Masayoshi Nakasako[1,2], Tomotaka Oroguchi[1,2], Yuki Sekiguchi[1,2], Amane Kobayashi[1,2], Masaki Yamamoto[1], Koji Yonekura[1], Takaaki Hikima[1], Saori Maki-Yonekura[1], Yukio Takahashi[1,3], Akihiro Suzuki[1,3], Sachihiro Matsunaga[4], Yayoi Inui-Tsujimoto[4], Shoichi Kato[4], Takahiko Hoshi[5] ([1]*RIKEN SPring-8 Center*, [2]*Grad. Sci. Tech., Keio Univ.*, [3]*Grad. Eng., Osaka Univ.*, [4]*Grad. Sci. Tech., Tokyo Univ. Sci.*, [5]*KOHZU PRECISION Co., Ltd*)

1P292 **ティップスキャン型高速原子間力顕微鏡による生細胞イメージング**

Live cell imaging using a tip-scan type of high-speed atomic force microscopy

Kiyohiko Tateyama[1], Akira Yagi[1], Nobuaki Sakai[1], Yoshitsugu Uekusa[1], Yuka imaoka[1], Shuichi Ito[1] ([1]*Olympus corporation*, [2]*Microtechnology R&D Division*)

1P293 **アップコンバージョンナノ蛍光体を用いた CL・蛍光イメージング**

Upconversion Nanophosphors for Correlative CL and Fluorescent Imaging

Hirohiko Niioka[1], Taichi Furukawa[1], Syoichiro Fukushima[1], Masayoshi Ichimiya[1,2], Tomohiro Nagata[3], Jun Miyake[1], Masaaki Ashida[1], Tsutomu Araki[1], Mamoru Hashimoto[1] ([1]*Grad. Sch. Eng. Sci., Osaka Univ.*, [2]*Osaka Dental Univ.*, [3]*ULVAC, inc.*)

1P294 **ファイバー共焦点レーザー蛍光顕微鏡による自由行動下マウスの神経活動の光学計測**

Fiber-optic fluorescent imaging of neural activity in freely-moving mice during sleep and wakefulness

Yasuhiro Kasagi[1], Takeshi Kanda[1], Kentaroh Honda[1], Masashi Yanagisawa[1,2] ([1]*IIIS, Univ. Tsukuba*, [2]*UTSW/HHMI*)

1P295 **生きた細胞内における内在性テロメア RNA の一分子動態解析**

Single molecule imaging of endogenous telomeric RNA in living cells

Toshimichi Yamada, Hideaki Yoshimura, Mitsuru Hattori, Takeaki Ozawa (*Grad. Sch. Sci., Univ. Tokyo*)

1P296 **Shannon エントロピーの変化でみた質量顕微鏡データ**

Analysis of the difference in Imaging Mass Spectrometry Data characterized by Shannon entropy

Noritaka Masaki, Mitsutoshi Setou (*Dept. Cell Biol. & Anatomy, Hamamatsu Univ. Sch. Med.*)

1P297 **生細胞における膜タンパク質標識法と会合状態解析法の開発**

Development of methods for labeling and oligomerization analysis of membrane proteins in live cells

Yoshiaki Yano, Kenichi Kawano, Kaoru Omae, Sayaka Mtsuzaki, Katsumi Matsuzaki (*Grad. Sch. Pharm. Sci., Kyoto Univ.*)

1P298 **走査型電気化学-イオンコンダクタンス顕微鏡を用いた神経伝達物質の放出サイトのマッピング**

Mapping of neurotransmitter releasing sites using scanning electrochemical ion conductance microscopy

Yasufumi Takahashi[1], Xiongwe Wang[2], Kosuke Ino[2], Hitoshi Shiku[2], Tomoakazu Matsue[1,2] ([1]*WPI-AIMR, Tohoku Univ.*, [2]*Enviromental studies, Tohoku Univ.*)

1P299 **光干渉法を用いた細胞-ハイドロゲル間接着の定量評価**

Quantitative evaluation of cell adhesion to hydrogels by advanced interferometric optical microscopy

Takahisa Matsuzaki[1], Gen Sazaki[2], Masami Suganuma[3], Tatsuro Watanabe[3], Takashi Yamazaki[1], Yuko Shimokawa[1], Motomu Tanaka[4], Seiichiro Nakabayashi[1], Hiroshi Yoshikawa[1] ([1]*Grad. Sch. Sci & Eng., Univ. Saitama*, [2]*Inst. Low Temp. Sci., Univ. Hokkaido*, [3]*Res. Inst. Clin. Onc., Saitama Cancer Center*, [4]*Inst. Phys. Chem., Univ. Heidelberg*)

1P300 **X-ray excited optical luminescence via bio-molecule directed metal clusters**

Yasuko Osakada[1,2], Yoshie Harada[1] ([1]*Kyoto university, iCeMS*, [2]*JST PRESTO*)

1P301 **成長円錐における単一分子レベルでのアクチン関連 mRNA の局在**

The localization of actin-related mRNAs in growth cone at a single molecule level

Hidenori Koizumi[2], Yasuko Osakada[1], Yoshie Harada[1] ([1]*iCeMS.,Univ. Kyoto*, [2]*Grad.Sch.Bio., Univ. Kyoto*)

1P302 **超音波高速 AFM の開発に向けた基礎研究 2**

Pilot study 2 for the development of high-speed ultrasonic AFM

Tomofumi Saito[1], Noriyuki Kodera[2], Toshio Ando[1,2] ([1]*Sch. Math. & Phys., Inst. Sci.*, [2]*Bio-AFM Frontier Research Center, Inst. Sci. & Eng., Kanazawa Univ.*)

1P303 **Real-time observation of amyloid fibril formation of yeast prion Sup35 by high-speed atomic force microscopy**

Liwen Zhu[1], Hiroki Konno[1], Momoko Okuda[2], Noriyuki Kodera[1], Toshio Ando[1], Hideki Taguchi[2] ([1]*Bio-AFM Frontier research center, Kanazawa University*, [2]*Department of Biomolecular Engineering, Graduate School of Biosciences and Biotechnology, Tokyo Institute of Technology*)

1P304 高速 AFM によるバクテリアの高分解能観察

Nanoscale investigation on bacterial cell surface using high-speed AFM

Hiroki Watanabe[1], Carriou David[1], Takayuki Uchihashi[1,2], Toshio Ando[1,2] ([1]*Dep. Phys., Col. of Sci. and Engr., Kanazawa Univ.*, [2]*Bio-AFM Frontier Res. Center*)

1P305 高速 AFM / 光学顕微鏡複合機

Combined system of High-speed-AFM and optical microscopy

Shingo Fukuda[1], Takayuki Uchihashi[1,2], Ryota Iino[3], Toshio Ando[1,2] ([1]*Department of Mathematics and Physics, Grad School of Natural Science and Technology, Kanazawa University*, [2]*Bio-AFM Frontier Reserch Center, College of Science and Engineering, Kanazawa University*, [3]*Department of Applied Chemistry Grad School of Engineering The University of Tokyo*)

1P306 高速 AFM による ClpB の構造ダイナミクスの観察

Conformations and dynamics of ClpB hexameric ring observed by high-speed AFM

Takayuki Uchihashi[1,2], Yo-hei Watanabe[3], Ryota Iino[4], Hiroki Watanabe[1], Takashi Yamasaki[3], Toshio Ando[1,2] ([1]*Dept.Phys., Kanazawa Univ.*, [2]*Bio-AFM Frontier Research Center, Kanazawa Univ.*, [3]*Dept. Biol., Konan Univ.*, [4]*Dept. Appl. Chem., Univ. of Tokyo*)

28. バイオエンジニアリング / 28. Bioengineering

1P307 動的な DNA コンピューティングを実現するための AND ゲートモジュールの開発

Development of AND gate module for dynamic DNA computing

Takakshi Nukada, Koh-ichiroh Shohda, Akira Suyama (*Grad. Sch. Arts and Sciences, Univ. Tokyo*)

1P308 オンチップマルチイメージングセルソーターを用いたクラスター化細胞のリアルタイム認識と回収のための画像解析技術の研究

Real time image analysis technology for identification and collection of clustered cells using on-chip multi-imaging cell sorter

Masao Odaka[1], Mathias Girault[1], Hyonchol Kim[1], Hideyuki Terazono[1,2], Akihiro Hattori[2], Kenji Yasuda[1,2] ([1]*KAST*, [2]*Tokyo Med. Dent. Univ.*)

1P309 オブジェクト指向によるロボットとの認識共有

Object-Oriented Cognition Sharing as a Method of Brain-Machine-Interface

Jun Miyake[1], Kazuyuki Hatta[1], Amalia Adiba[1], Ryuuzou Baba[2], Tadahiro Kaneda[2] ([1]*Graduate School of Engineering Science, University of Osaka*, [2]*Osaka Prefecture University College of Technology*)

1P310 **DNA Computer-Controlled Gene Expression in a Cell Model Vesicle**

Takamasa Hasegawa[1], Koh-ichiroh Shohda[2], Akira Suyama[1,2] ([1]*Univ Tokyo, Dept Phys, Grad Sch Sci*, [2]*Univ Tokyo, Dept Life Sci, Grad Sch Arts & Sci*)

1P311 **Simple and Efficient Approach for Proteomic Analysis of Subcellular Structures using Droplet-Based Microfluidics**

Haruka Okada[1], Ryo Iizuka[1], Rui Sekine[2], Dong H. Yoon[2], Tetsushi Sekiguchi[3], Shuichi Shoji[2], Takashi Funatsu[1] ([1]*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*, [2]*Major in Nanosci. and Nanoeng., Waseda Univ.*, [3]*Nanotech. Research Center, Waseda Univ.*)

1P312 **Yeast-based fluorescence assay system for detecting human G protein-coupled receptor activation in water-in-oil droplets**

Takashi Sakurai[1], Ryo Iizuka[1], Rui Sekine[2], Yoon Dong H.[2], Tetsushi Sekiguchi[3], Jun Ishii[4], Akihiko Kondo[5], Shuichi Shoji[2], Takashi Funatsu[1] ([1]*Grad. Sch. of Pharm. Sci., Univ. of Tokyo*, [2]*Major in Nanosci. and Nanoeng., Waseda Univ.*, [3]*Nanotech. Research Center, Waseda Univ.*, [4]*Org. of Advanced Sci. and Tech., Kobe Univ.*, [5]*Grad. Sch. of Sci. and Tech., Kobe Univ.*)

1P313 **Optical microdevice operated through self-organization of microtubule and kinesin: An experimental study**

Ayumu Miyata[1], Yuichi Hiratsuka[2], Takahiro Nitta[1] ([1]*Gifu University*, [2]*JAIST*)

1P314 **Optical microdevice operated through self-organization of microtubule and kinesin: A simulation study**

Takahiro Nitta[1], Yuichi Hiratsuka[2] ([1]*Gifu Univ.*, [2]*JAIST*)

1P315 **Theree-Dimensional Movements of Microtubule Diriven by Kinesin on Microfabricated Tracks Revealed with a Computer Simulation**

Yuki Ishigure, Takahiro Nitta (*Gifu University*)

1P316 明視野/蛍光画像の同時リアルタイム解析技術を用いたオンチップ・マルチイメージング・フローサイトメーターの開発

Development of On-chip Multi-imaging Flow Cytometer System using Real-time Bright Field/Fluorescent Dual Image Analysis High-speed Camera

Akihiro Hattori[1], Hyonchol Kim[2], Hideyuki Terazono[1], Masao Odaka[2], Mathias Girault[1], Kenji Yasuda[1,2] ([1]*Department of Biomedical Information, Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University*, [2]*Kanagawa Academy of Science and Technology*)

第 2 日目（10 月 29 日（火））／Day 2（Oct. 29 Tue.）アネックスホール / Annex hall

01A. 蛋白質：構造 / 01A. Protein: Structure

2P001 フラビン酵素 RebC 変異体の結晶構造解析とインドロカルバゾール骨格の構造多様性の創出原理の解明

Crystal structure of a mutant flavoenzyme RebC and construction mechanism of indolocarbazole aglycone structure

Hayate Itatani[1], Eiyu Izumo[1], Saki Kageyama[2], Sayaka Kurozumi[1], Hiroyasu Onaka[3], Shumpei Asamizu[3], Tomoya Hino[1], Shingo Nagano[1] ([1]*Grad. School of Eng., Tottori Univ.*, [2]*Faculty of Eng., Tottori Univ.*, [3]*Faculty of Eng., Toyama Pref. Univ.*)

2P002 **Crystal structure of cruxrhodopsin-3 from Haloarcula vallismortis**

Siu Kit Chan[1], Tomomi Kitajima[1], Midori Murakami[1], Kunio Ihara[2], Tsutomu Kouyama[1] ([1]*Dept. Phys., Grad. Sch. Sci., Nagoya Univ.*, [2]*Center for Gene Research, Nagoya Univ.*)

2P003 **べん毛 III 型輸送装置蛋白質 FlhA の細胞質領域の構造変化**

Conformational change of a cytoplasmic fragment of FlhA, a flagellar type III protein export apparatus protein

Yuya Ogawa[1], Noritaka Hara[2], Yumiko Uchida[1], Miki Kinoshita[1,2], Tohru Minamino[2], Katsumi Imada[1] ([1]*Grad. Sch. Sci., Univ. Osaka*, [2]*Grad. Sch. Frontier BioSci., Univ. Osaka*)

2P004 **コレラ菌の走化性受容体蛋白質 Mlp24 とそのリガンド複合体の構造**

Structure of a chemoreceptor protein of *Vibrio cholerae*, Mlp24, and its ligand complex

Yohei Takahashi[1], Kazuma Sumita[1], Yumiko Uchida[1], So-ichiro Nishiyama[2], Ikuro Kawagishi[2], Katsumi Imada[1] ([1]*Grad. Sch. Sci., Univ. Osaka*, [2]*Dept. Front. Biosci. Sci., Univ. Hosei*)

2P005 **4-*O*-β-D-mannosyl-D-glucose phosphorylase (MGP) のＸ線結晶構造解析**

Structure of novel enzyme 4-*O*-β-D-mannosyl-D-glucose phosphorylase MGP

Setsu Nakae[1], Shigeaki Ito[2], Mariko Higa[3], Takeshi Senoura[4], Jun Wasaki[5], Atsushi Hijikata[1], Masafumi Shionyu[1], Susumu Ito[3], Tsuyoshi Shirai[1] ([1]*Dept. BioSci., Nagahama Inst. Bio-Sci. Tech.*, [2]*Central Tobacco Research Center, Japan Tobacco Inc.*, [3]*Fac. Agri.,Univ. Ryukyus*, [4]*Research Institute for Bioresources and Biotechnology, Ishikawa Pref. Univ.*, [5]*Grad. Sch. Biosphere Sci., Hiroshima Univ.*)

2P006 **組み替え human poly(ADP-ribose) polymerase 1 の精製と予備的構造解析**

Purification and preliminary structure analysis of recombinant human poly(ADP-ribose) polymerase 1

Kenichi Koyama[1], Kouta Mayanagi[2], Takayuki Eguchi[1], Hiroyuki Morita[1], Kazuo Kamemura[1], Yoshisuke Nishi[1], Masanao Miwa[1], Tuyosi Shirai[1] ([1]*Dept. BioSci., Nagahama Inst. Bio-Sci. Tech.*, [2]*Med. Inst. Bioreg. Kyusyu University.*)

2P007 **ＰＥＬＤＯＲによる時計タンパク質ＫａｉＢの構造変化の検出**

PELDOR detection of structural changes of clock protein KaiB

Ryosuke Tajika[1], Risa Mutoh[2,3], Masahiro Ishiura[1,3], Hiroyuki Mino[1] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*Inst. Prot. Res., Osaka Univ.*, [3]*Center for Gene Res., Nagoya Univ.*)

2P008 **2.5 kbar におけるユビキチン高エネルギー状態の立体構造解析**

Solution structure of the "pure" high-energy state of ubiquitin: Q41N at 2.5 kbar

Ayumi Kumo[1], Soichiro Kitazawa[1], Tomoshi Kameda[2], Nicola J. Baxter[3], Michael P. Williamson[3], Ryo Kitahara[1] ([1]*College of Pharmaceutical Sciences, Ritsumeikan University*, [2]*Computational Biology Research Center, Advanced Industrial Science and Technology*, [3]*Computational Biology Research Center, Advanced Industrial Science and Technology*)

2P009 **X 線小角散乱と電子顕微鏡像を用いたハイブリッド構造解析**

Hybrid structure analysis with small-angle x-ray scattering and cryo-electron microscopic image

Shota Kaimi[1], Ryo Ishiguro[2,3], Tetsuro Fujisawa[2,3] ([1]*Grad. Sch. Eng., Gifu Univ.*, [2]*SPring-8, Riken*, [3]*Fac. Eng., Gifu Univ.*)

2P010 **Structural analysis of the 26S proteasome by cryo-electron microscopy and Single-Particle Analysis**

Zhuo Wang[1], Yasuo Okuma[1], Daiske Kasuya[2], Kaoru Mitsuoka[3], Yasushi Saeki[4], Takuo Yasunaga[1] ([1]*Department of Bioscience and Bioinformatics, Faculty of Computer Science and Systems Engineering, Kyushu Institute of Technology*, [2]*Biomedicinal Information Research Center, Japan Biological Information Consortium (JBIC)*, [3]*Biomedicinal Information Research Center, National Institute of Advanced Industrial Science and Technology*, [4]*Laboratory of Protein Metabolism, Tokyo Metropolitan Institute of Medical Science*)

2P011 **Comparative survey of image processing packages for electron computed tomography**

Nan Shen[1], Mingyue Jin[2], Takuo Yasunaga[1] ([1]*Kyushu Institute of Technology*, [2]*Osaka City University*)

2P012 **Possibility of metallothionein Labelling for CLEM method**

Ryutaro Yamanaka[1], Yuka Hirasaka[1], Mingyue Jin[1], Haruaki Yanagisawa[2], Takuo Yasunaga[1] ([1]*Kyushu Institute of Technology*, [2]*Univ. of Tokyo*)

2P013 **A new approach to build 3D atomic model from single electron microsope image**

Atsushi Matsumoto[1], Junichi Takagi[2], Kenji Iwasaki[2] ([1]*Japan Atomic Energy Agency*, [2]*Osaka University*)

2P014 **プロリンリッチなペプチドのコンホメーション特性に関する考察**

An investigation on the conformation character of proline-rich peptides

Masahito Oka (*Osaka prefecture university*)

2P015 **生体電子の流れが加速する電流生成菌の細胞外電子移動機構の発見**

Respiratory Electron Flow Enhances the Rate of Extracellular Electron Transport Processes in Current-Producing Bacteria

Akihiro Okamoto[1], Ryuhei Nakamura[2], Kenneth H. Nealson[3], Kazuhito Hashimoto[1] ([1]*Grad. Sch. Eng., Univ. Tokyo*, [2]*Wako Inst., Riken*, [3]*Univ. South California*)

2P016 **再重法を用いたタンパク質力場パラメータの最適化**

Optimization of force-field parameters for protein systems by an energy-based reweighting approach

Yoshitake Sakae[1,2], Yuko Okamoto[1,3,4,5] ([1]*Dept. Phys., Nagoya Univ.*, [2]*IMS*, [3]*Structural Biology Research Center, Nagoya Univ.*, [4]*Center for Computational Science, Nagoya Univ.*, [5]*Information Technology Center, Nagoya Univ.*)

2P017 **ヘモグロビンの酸素結合に伴うアロステリック転移のカメレオンモデルによる研究**

A simulation study with the chameleon model: The allosteric transition of hemoglobin associated with oxygen binding

Yui Sobue, Toru Kimura, Masaki Sasai, Tomoki P. Terada (*Grad. Sch. Eng., Univ. Nagoya*)

2P018 **天然変性タンパク質の結合と共役した折りたたみ部位の相互作用解析**

Contact analysis of Protean Segments (ProSs) in intrinsically disordered proteins (IDPs)

Divya Shaji[1], Takayuki Amemiya[1], Satoshi Fukuchi[2], Motonori Ota[1] ([1]*Grad. Schl. of Info. Sci., Nagoya Univ.*, [2]*Fac. Eng. Maebashi Inst., Tech.*)

2P019 **Hras-GTP 複合体と Hras-GDP 複合体の分子動力学シミュレーションにおける水分子ネットワークの解析**
Analysis of network of water molecules in molecular dynamics simulations of Hras-GTP and GDP complexes
Takeshi Miyakawa[1], Ryota Morikawa[1], Masako Takasu[1], Kimikazu Sugimori[2], Kazutomo Kawaguchi[2], Hiroaki Saito[2], Hidemi Nagao[2] ([1]*Tokyo University of Pharmacy and Life Sciences*, [2]*Kanazawa University*)

2P020 **分子動力学シミュレーションによる GLP-1 の最適構造探索**
Optimized structure study of GLP-1 by Molecular Dynamics Simulation
Sakiko Mori, Hironao Yamada, Masaki Fukuda, Takeshi Miyakawa, Ryota Morikawa, Masako Takasu, Takuya Watanabe (*School of Life Sciences, Tokyo University of Pharmacy and Life Sciences*)

2P021 **エネルギー表示溶液理論を用いた 分子動力学シミュレーションによる蛋白質複合体モデルの評価**
Evaluation of protein complex model using molecular dynamics simulation with the solution theory in the energy representation
Kazuhiro Takemura[1], Nobuyuki Matubayasi[2], Akio Kitao[1] ([1]*IMCB, Univ. Tokyo*, [2]*Inst. Chem. Res., Kyoto Univ.*)

2P022 **チオエステル周辺の AMBER 力場の開発および評価**
Determination and evaluation of AMBER force field parameters for thioester
Akifumi Oda[1,2], Shuichi Fukuyoshi[1], Ryoichi Nakagaki[1], Ohgi Takahashi[3] ([1]*Faculty of Pharmacy, Inst. Med. Pharm. Health Sci., Kanazawa Univ.*, [2]*Inst. Protein Res., Osaka Univ.*, [3]*Faculty of Pharm. Sci., Tohoku Pharm. Univ.*)

2P023 **アミロイドβの構造探索**
Conformational Search of Amyloid β Peptide
Satoshi Yokojima (*Sch. Pharmacy, Tokyo Univ. Pharmacy and Life Sci.*)

01B. 蛋白質：構造機能相関 / 01B. Protein: Structure & Function

2P024 **Photo synthesis of protein-based drug delivery nanoparticles for active tumor targeting**
Meng Qin (*Department of Physics, Nanjing University*)

2P025 **Single molecule force spectroscopy reveals force-enhanced binding of calcium ions by gelsolin**
Yi Cao[1], Chunmei Lv[1], Wenfei Li[1], Xiang Gao[1], Robert Robinson[2], Meng Qin[1], Leslie Burtnick[3], Wei Wang[1] ([1]*Nanjing University*, [2]*A*STAR*, [3]*University of British Columbia*)

2P026 **Direct observation of the multiple sliding modes of a tumor suppressor p53**
Agato Murata[1,2], Risa Kashima[3], Yuji Itoh[1,2], Takashi Tokino[4], Satoshi Takahashi[2], Kiyoto Kamagata[2] ([1]*IMRAM, Univ. Tohoku*, [2]*Grad. Sch. Sci., Univ. Tohoku*, [3]*CVRI, UCSF*, [4]*Research Institute for Frontier Medicine, Univ. Sapporo Medical*)

2P027 **Study of a peptidase-associated domain of an aminopeptidase from thermophilic *Aneurinibacillus* sp. AM-1**
Ryuji Tagawa[1], Hiroaki Nakano[2], Kunihiko Watanabe[1] ([1]*Grad. Sch. of Life and Environ. Sci., Kyoto Pref. Univ.*, [2]*Dept. of Pharm., Hyogo Univ. of Health Sci.*)

2P028 **ケモカインシグナル細胞内制御因子 FROUNT とその受容体認識に関する構造生物学的研究**
Structural analyses of FROUNT, the cytosolic regulator of chemokine signaling, and its chemokine receptor recognition
Sosuke Yoshinaga[1], Tatsuichiro Tsuji[1], Akihiro Sonoda[1], Norihito Ishida[1], Yusuke Tsuchiya[1], Kaori Esaki[1], Yuya Terashima[2], Etsuko Toda[2], Takashi Saitoh[3], Daisuke Kohda[3], Ichio Shimada[4], Kouji Matsushima[2], Hiroaki Terasawa[1] ([1]*Fac. Life Sci., Kumamoto Univ.*, [2]*Grad. Sch. Med., Univ. Tokyo*, [3]*Med. Inst. Bioreg., Kyushu Univ.*, [4]*Grad. Sch. Pharm. Sci., Univ. Tokyo*)

2P029 **トウガレイ由来 I 型不凍蛋白質の構造機能解析**
Analysis of structure and function of a new type I antifreeze protein from a Japanese fish, Barfin Plaice
Kazunari Ishihara[1], Yuichi Hanada[1], Hidemasa Kondo[1,2], Ai Miura[2], Sakae Tsuda[1,2] ([1]*Graduate School of Life Science, Hokkaido University*, [2]*National Institute of Advanced Industrial Science and Technology (AIST)*)

2P030 **ジスルフィド結合が制御するバクテリア SOD1 の構造形成メカニズム**
Folding mechanism of bacterial SOD1 regulated by disulfide formation
Yasuyuki Sakurai, Yoshiaki Furukawa (*Dept. of Chem., Keio Univ.*)

2P031 **線虫モデルを利用した神経変性疾患における病態伝播のメカニズム解明**
A worm model describing propagation of protein aggregates in neurodegenerative diseases
Mariko Ogawa[1], Hisashi Shidara[2], Kotaro Oka[2], Yoshiaki Furukawa[1] ([1]*Dept. of Chem., Keio Univ.*, [2]*Dept. of Biosci. Informatics, Keio Univ.*)

2P032 **筋萎縮性側索硬化症に関わる SOD1 タンパク質の四次構造変化を検出できるペプチドの開発**
Aberrant monomer-dimer equilibrium of mutant SOD1 in ALS: Development of peptides probing protein quaternary structures
Takao Nomura, Yoshiaki Furukawa (*Dept. of Chem., Keio Univ.*)

2P033 **SOD1 への細胞内銅イオン輸送を制御するタンパク質ネットワーク**
A protein network regulating an intracellular copper transfer to superoxide dismutase
Kenta Nakagome, Yasushi Mitomi, Yoshiaki Furukawa (*Dept. of Chem., Keio Univ.*)

2P034 **亜鉛イオンが制御する銅シャペロンシステムの分子認識メカニズム**
Zinc ion regulates molecular recognition in copper chaperone system
Yuma Wakahara, Kazuki Honda, Yoshiaki Furukawa (*Dept. of Chem., Keio Univ.*)

2P035 **筋萎縮性側索硬化症に関わる変異型 SOD1 タンパク質のオリゴマー化メカニズム**
Oligomerization mechanism of mutant SOD1 proteins in a familial form of amyotrophic lateral sclerosis
Itsuki Anzai, Keisuke Toichi, Yoshiaki Furukawa (*Dept. of Chem., Keio Univ*)

2P036 **神経変性疾患における老化の役割を検証する酵母モデルの構築**
A yeast model for testing roles of aging process in neurodegenerative diseases
Yuko Nishiura, Yoshiaki Furukawa (*Dept. of Chem., Keio Univ.*)

2P037 **蛋白質のミスフォールド状態から生じる蛋白質の異常凝集**
Misfolding triggers a pathogenic conversion of protein conformations
Soichiro Kitazawa[1], Ryo Kitahara[1], Makoto Urushitani[2] ([1]*Pharmaceutical science, Ritsumeikan Univ.*, [2]*Moleclar Neuroscience Research Center, Shiga University of Medical Science.*)

2P038 **べん毛輸送装置構成蛋白質 FliP ペリプラズミックループの結晶化と遺伝学的解析**
Crystallization and genetic analyses of a periplasmic loop of FliP, a component of the flagellar protein export apparatus
Takuma Fukumura[1], Yumiko Saijo-Hamano[1], Yukio Furukawa[1], Tatsuya Kawaguchi[2], Katsumi Imada[2], Keiichi Namba[1], Tohru Minamino[1] ([1]*Grad. Sch, Frontier Biosci., Osaka Univ*, [2]*Grad. Sch. Sci. Osaka Univ*)

2P039 **Structural defects in fibrillin associated with Marfan syndrome**
Yaxin Lu[1], Richmond Jeremy[2], Murat Kekic[1], Jianlin Yin[2], Brett Hambly[1] ([1]*Pathology Discipline and Bosch Institute, Sydney Medical School, University of Sydney*, [2]*Central Clinical School, Sydney Medical School, University of Sydney*)

2P040 **Microtubule-associated protein 4-mediated bundle formation of microtubules and actin filaments**
Shoma Saito[1], Ayumu Kuramoto[1], Hikari Makihara[1], Tsuyoshi Yamazaki[2], Taro Q.P. Noguchi[2], Susumu Kotani[3], Kiyotaka Tokuraku[1] ([1]*Grad. Sch. Appl. sci., Muroran Inst.*, [2]*Miyakonojo Nation. Col. Tech*, [3]*Kanagawa University*)

2P041 **タンパク質の圧電効果とアロステリック制御**
Piezoelectric effect in a protein and its involvement in allosteric regulation
Jun Ohnuki[1], Takato Sato[1], Koji Umezawa[1], Taro Q.P. Uyeda[2], Mitsunori Takano[1] ([1]*Grad. Scl. of Adv. Sci. & Eng., Waseda Univ.*, [2]*Biomedical Res. Inst., AIST*)

2P042 **MD で観測された G アクチンのヌクレオチド依存構造状態と F アクチン安定性との関連**
Nucleotide-dependent structural states of G-actin observed by MD simulation and its implication for F-actin stability
Jun Ohnuki, **Mitsunori Takano** (*Dept of Phys & Appl Phys, Waseda Univ*)

2P043 **アロステリック機構の分子論的理解に向けたシグナルタンパク質 CheY の研究**
Toward a molecular level understanding of allostery in the signaling protein CheY
Toshifumi Mori, Qiang Cui (*Univ. of Wisconsin, Madison*)

2P044 **MARTINI 粗視化力場を用いたタンパク質-リガンド結合過程の比較シミュレーション**
Comparative simulations of protein-ligand binding processes using the MARTINI coarse-grained force field
Tatsuki Negami, Tohru Terada, Kentaro Shimizu (*Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo*)

2P045 **粗視化モデルによる PPARγ の基質依存的な活性変化の考察**
Coarse-grained model study of ligand-dependent reaction activity of PPARγ
Tomo Matsubara, Hiraku Nishimori, Akinori Awazu (*Dept. of math and Life Sci, Hiroshima Univ*)

2P046 **構造変化を介した分子内情報伝達パターンの探索: 粗視化分子動力学計算による試み**
Screening for Mechanical Communication in Proteins by Coarse-Grained Molecular Dynamics
Yuichi Togashi (*Grad. Sch. Sys. Informat., Kobe Univ.*)

2P047 **粗視化シミュレーションによるリン酸化酵素複合体(MEK1-ERK2)のドッキングダイナミクス**
Docking dynamics of MAP kinase: MEK1-ERK2 complex system studied by coarse-grained simulation
Ryo Kanada, Shoji Takada (*Grad. Sch. Sci., Univ. Kyoto*)

2P048 **酵母 MAPK 経路における伝達制御機構の分子シミュレーション研究**
Molecular simulation study on signaling control in yeast MAPK pathway
Naoto Hori, Shoji Takada (*Grad. Sch. Sci., Kyoto Univ.*)

2P049 **Folding coupled with binding and allosteric motions in calmodulin domains**
Wenfei LI[1], Wei WANG[1], Shoji Takada[2] ([1]*Department of Physics, Nanjing University*, [2]*Graduate School of Science, Kyoto University*)

01C. 蛋白質：物性 / 01C. Protein: Property

2P050 **FTIR 分光法を用いたユビキチンの温度-圧力変性状態の研究**
Pressure and temperature denaturation of ubiquitin by FTIR spectroscopy
Tsubasa Yamamoto[1], Minoru Kato[1,2] ([1]*Grad. Sch. of Lifescience, Ritsumeikan Univ.*, [2]*Dept. Pharma. Ritsumeikan Univ.*)

2P051 **FTIR を用いた圧力・温度可変実験による GB1(41-56)の変異体の β-hairpin 構造安定性**
Pressure and Temperature variable FTIR study on the structural stability of β-hairpin model peptides of mutants of GB1(41-56)
Keita Tsuchiya[1], Yudai Yamaoki[2], Minoru Kato[1,3] ([1]*Grad. Sch. life science, Univ. Ritsumeikan*, [2]*Institute of Advanced Energy, Univ. Kyoto*, [3]*Pharm. Univ. Ritsumeikan*)

2P052 **ペプチドにおける二次構造の圧力依存性：焼き戻し分子動力学法による研究**
Pressure dependence of the secondary structure of a peptide: A simulated tempering molecular dynamics study
Yoshiharu Mori[1], Hisashi Okumura[1,2] ([1]*Inst. Mol. Sci.*, [2]*SOKENDAI*)

2P053 **アミノ酸の物性に注目した疾患感受性遺伝子変異の判別**
Discrimination of disease-susceptibility mutations by physical properties of amino acid fragments around the mutation
Ryouta Masai[1], Shigeki Mitaku[1,2] ([1]*Dept. Applied Physics, Grad. Sch. Engineering, Nagoya Univ*, [2]*Toyoda Physical and Chemical Res. Inst.*)

2P054 シトクロム *c* 多量体の細胞膜結合

Binding of Oligomeric Cytochrome *c* to Cell Membrane

Sendy Junedi, Kazuma Yasuhara, Satoshi Nagao, Jun-ichi Kikuchi, Shun Hirota (*Grad. Sch. Mat. Sci., Nara Inst. Sci. Tech.*)

2P055 シトクロム c のドメインスワップ多量化とモルテングロビュル状態

Domain-Swapped Oligomerization and Molten Globule State of Cytochrome c

Megha Deshpande[1], Partha Parui[2], Masaru Yamanaka[1], Satoshi Nagao[1], Hironari Kamikubo[1], Mikio Kataoka[1], Hirofumi Komori[3], Yoshiki Higuchi[4], Shun Hirota[1] ([1]*Graduate School of Materials Science, Nara Institute of Science and Technology*, [2]*Department of Chemistry, Jadavpur University, Kolkata 700032, India*, [3]*Faculty of Education, Kagawa University*, [4]*Department of Life Science, Graduate School of Life Science, University of Hyogo*)

2P056 粗視化分子動力学シミュレーションによるミオグロビンのドメインスワッピング機構の研究

Domain swapping of myoglobin dimer studied by coarse-grained molecular dynamics simulations

Koji Ono, Shoji Takada (*Dept. Biophys., Grad. Sch. Sci., Kyoto Univ.*)

2P057 Wang-Landau マルチカノニカル法による Go モデル分子動力学シミュレーション

Wang-Landau Multicanonical Method for Go-model Molecular Dynamics Simulation

Mashiho Ito, Shoji Takada (*Dept. Biol., Sch. Sci., Kyoto Univ.*)

2P058 粗視化 MD を用いた SUFI のコ・トランスレーショナルフォールディングの解析

Analysis of co-translational folding of SUFI by coarse grained MD simulation

Tomohiro Tanaka, Naoto Hori, Shoji Takada (*Dept. of Biophys. Kyoto Univ.*)

2P059 粗視化 Go モデルを用いた多状態タンパクにおける遷移の回数とフォールディングコアとの関係の解析

An analysis of the relationship between the number of transitions and folding cores in multi-transition proteins by means of Go model

Masatake Sugita, Takeshi Kikuchi (*Dept. of Bioinfo., Col. of Life Sci., Ritsumeikan Univ*)

2P060 タンパク質フォールディングにおける自由エネルギーバリアと天然トポロジー間の関係

Relationships between the free energy barrier in protein folding and native topology

Koki Yamashita, Masatake Sugita, Takeshi Kikuchi (*Dept. Bioinf., Col. Life Sci., Ritsumeican Univ.*)

2P061 一分子蛍光分光法によるユビキチンの折り畳みダイナミクスの測定

Dynamics of ubiquitin folding detected by single molecule fluorescence spectroscopy

Masataka Saito[1,2], Hsin-Liang Chen[3], Rita Chen[3], Kiyoto Kamagata[1,2], Hiroyuki Oikawa[1], Satoshi Takahashi[1,2] ([1]*Tohoku University Institute of Multidisciplinary Research for Advanced Materials*, [2]*Tohoku University Department of Chemistry, Graduate School of Science*, [3]*Academia Sinica Institute of Biological Chemistry*)

2P062 プロテイン A - B ドメインの高速折り畳みダイナミクスの追跡を目指したライン共焦点顕微鏡の改良

Improvements of the line confocal system for the single molecule tracking of fast folding dynamics of the B domain of protein A

Hiroyuki Oikawa[1], Kiyoto Kamagata[1], Munehito Arai[2], Satoshi Takahashi[1] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. Arts. Sci., Univ. Tokyo*)

2P063 イソロイシンタグを付加した BPTI 変異体の熱転移における可逆的なオ リゴマー形成過程の熱力学的解析

Thermodynamic characterization of a reversible oligomerization process in the thermal transition of a BPTI variant tagged with isoleucines

Shigeyoshi Nakamura[1], Tomoka Wachi[2], Ryo Shimizu[2], Mohammad M Islam[2], Yutaka Kuroda[2], Shun-ichi Kidokoro[1] ([1]*Dept of Bioeng, Nagaoka Univ of Tech*, [2]*Dept of Biotech and Life Sci, Tokyo Univ of Agr & Tech*)

2P064 アミロイドと可溶性蛋白質の間の相互作用の幾つかの一般的側面

Some general aspects of interaction between amyloid and soluble proteins

Takashi Konno (*University of Fukui, Faculty of Medical Sciences, Molecular Physiology*)

2P065 ビーズ表面に結合した細胞外マトリクス成分は、気液界面非存在下でアルツハイマー病 β アミロイド線維の核形成を促進させる

Surface-bound basement membrane components on Sepharose beads accelerate amyloid β-peptide nucleation in air-free wells

Kazuhiro Hasegawa, Daisaku Ozawa, Tadakazu Ookoshi, Hironobu Naiki (*Div. Mol. Pathol., Dept. Pathol. Sci., Univ. Fukui*)

2P066 脂質ベシクルの疎水領域が与えるアミロイド β 線維形成への影響について

The effects of the hydrophobic area of vesicles on the fibrillation of Aβ

Mayu Suzuki, Hisashi Yagi, Yuji Goto (*Inst. Protein. Res., Osaka Univ.*)

2P067 β_2-ミクログロブリンのアミロイド形成における様々な脂肪酸の効果

Effects of various fatty acids on the amyloid fibrillation of β_2-microglobulin

Akira Ishii[1], Masatomo So[1], Hisashi Yagi[1], Hironobu Naiki[2], Yuji Goto[1] ([1]*Inst. Protein Res., Osaka Univ.*, [2]*Fac. Med. Sci., Univ. Fukui*)

2P068 β ２ミクログロブリンのアミロイド前駆状態の残余構造の特性化

The properties of the residual structure of amyloid precursor state of β2-microglobulin

Kazumasa Sakurai[1,2], Akihiro Maeno[1], Hironobu Naiki[3], Yuji Goto[2], Kazuyuki Akasaka[1] ([1]*HPPRC, Kinki Univ.*, [2]*Inst. Protein Res., Osaka Univ.*, [3]*Fac. Med. Sci., Univ. Fukui*)

2P069 超音波によるアミロイド線維形成促進のメカニズム

The mechanism of ultrasonication-induced amyloid fibril formation

Masatomo So[1], Yuichi Yoshimura[1], Hisashi Yagi[1], Hirotsugu Ogi[2], Kentaro Uesugi[2], Hironobu Naiki[3], Yuji Goto[1] ([1]*Institute for Protein Research, Osaka University*, [2]*Graduate School of Engineering Science, Osaka University*, [3]*Faculty of Medical Sciences, University of Fukui*)

2P070 **Solubility and Supersaturation-Dependent Protein Misfolding Revealed by Ultrasonication**

Yuxi Lin, Young-Ho Lee, Yuichi Yoshimura, Hisashi Yagi, Yuji Goto (*Institute for Protein research, Osaka University*)

2P071 熱測定によるアミロイド線維形成バーストに関する研究

Direct observation of burst of amyloid fibril formation by calorimetry

Tatsuya Ikenoue[1], Young-Ho Lee[1], Jozsef Kardos[2], Yuji Goto[1] ([1]*Inst. Pro. Res., Osaka Univ.*, [2]*Inst. Bio., Eotvos Lorand Univ.*)

01D. 蛋白質：機能 / 01D. Protein: Function

2P072 **Efficient Lookup Table using a Linear Function of Inverse Distance Squared**
Jaewoon Jung[1], Takaharu Mori[2,3], Yuji Sugita[1,2,3] ([1]*AICS, Riken*, [2]*Riken*, [3]*QBiC, Riken*)

2P073 **MuSTAR MD : Multi-Scale Temperature Accelerated Replica exchange Molecular Dynamics**
Yu Yamamori, Akio Kita (*Institute of Molecular and Cellular Bioscience, the University of Tokyo*)

2P074 **α-シヌクレイン繊維形成に対する分子混雑の影響**
Macromolecular crowding effect on fibril formation of α-synuclein
Nobu C. Shirai[1,2], Macoto Kikuchi[1,2,3] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*Cybermed. Cent., Osaka Univ.*, [3]*Fron. Biosci., Osaka Univ.*)

2P075 **サルモネラべん毛繊維の多型変換におけるフラジェリン Arg ４３１の役割**
The role of Arg431 of flagellin in the polymorphic transformation of Salmonella flagellar filament
Fumio Hayashi, Kenji Oosawa (*Div. Mol. Sci., Fac.Sci. and Tech, Gunma Univ.*)

2P076 **表面力測定によるシグナル伝達タンパク質間相互作用の研究**
Interactions between signal transduction proteins studied by surface forces measurement
Asuka Sakai[1], Hitomi Fujiwara[1], Masaya Fujita[3], Kazue Kurihara[1,2] ([1]*IMRAM, Tohoku Univ.*, [2]*WPI-AIMR*, [3]*Univ.Houston*)

01E. 蛋白質：計測・解析の方法論 / 01E. Protein: Measurement & Analysis

2P077 **Ｘ線自由電子レーザーにより得られる低分解能データセットに対する単粒子構造解析法**
Methodology of a single biomolecular structure determination for low-resolution data set obtained by X-ray Free Electron Laser
Atsushi Tokuhisa, Osamu Miyashita, Florence Tama (*Computational Structural Biology Research Unit, AICS, RIKEN*)

2P078 **圧縮センシングを用いた NMR スペクトルの復元法**
Reconstruction of NMR spectra using compressed sensing
Kazuya Sumikoshi[1], Teppei Ikeya[2], Yutaka Ito[2], Kentaro Shimizu[1] ([1]*Grad. Sch. Agric. Life Sci., Univ. Tokyo*, [2]*Grad. Sch. Sci., Tokyo Metropolitan Univ.*)

2P079 **Intermolecular interactions and conformation of antibody dimers present in IgG1 biopharmaceuticals**
Takafumi Iura[1,2], Jun Fukuda[2], Katsuyoshi Yamazaki[2], Shuji Kanamaru[1], Fumio Arisaka[1] ([1]*Grad Sch of Biosci & Biotech, TIT*, [2]*Kyowa Hakko Kirin Co. Ltd.*)

2P080 **細胞膜上のガレクチン３もその細胞膜分子との複合体も、細胞膜上で極めて動的に振る舞う：超高速 1 分子追跡による研究**
Galectin-3 and its glyco-molecule conjugates are extremely dynamic on the cell surface: detection by ultrafast single-molecule tracking
Aiko S. Kondo[1,2], Ludger Johannes[3], Ziya Kalay[2], Ivan R. Navi[4], Manami S. H. Miyahara[1,2], Hisae Tsuboi[2], Koichiro M. Hirosawa[2], Kenta J. Yoshida[1,2], Akihiro Kusumi[1,2], Takahiro K. Fujiwara[2] ([1]*Inst. Frontier Med. Sci., Kyoto Univ.*, [2]*WPI-iCeMS, Kyoto Univ.*, [3]*Inst. Curie and CNRS*, [4]*Life Sci. Inst., Univ. of British Columbia*)

2P081 **分子動力学シミュレーションによる 1 分子 FRET のデータ同化**
Sequential data assimilation to single-molecule FRET photon-counting data by using molecular dynamics simulations
Yasuhiro Matsunaga[1], Yuji Sugita[1,2,3] ([1]*RIKEN AICS*, [2]*RIKEN ASI*, [3]*RIKEN QBiC*)

2P082 **一分子時系列から抽出されたマルコフ連鎖 定常ネットワーク における遷移確率が“最小”となる分子の“状態”の同定**
Identifying chemical states in Markov chain steady state network extracted from time series by finding “minimum” transition probability
Yutaka Nagahata[1], Hiroshi Teramoto[1,2], Chun-Biu Li[2], Tamiki Komatsuzaki[1,2] ([1]*Graduate School of Life Science, Hokkaido University*, [2]*Research Institute for Electronic Science, Hokkaido University*)

2P083 **X 線１分子追跡法による II 型シャペロニン協同的運動評価**
Cooperative Motion Analysis of group II chaperonin by X-ray Single Molecule Tracking
Hiroshi Sekiguchi[1], Yohei Yamamoto[2], Mayuno Arita[2], Naoki Ishiguro[2], Kouhei Ichiyanagi[3], Masafumi Yohda[2], Naoto Yagi[1], Yuji Sasaki[3] ([1]*Research Utilization Div., JASRI*, [2]*Dept. Biotech. Life Sci., Tokyo Univ. Agricult. Tech.*, [3]*Grad. School Frontier Sci., Univ. Tokyo*)

2P084 **X 線 1 分子計測によるタウタンパク質分子の構造揺らぎ**
Structural Fluctuations of Tau Proteins from X-ray Single　Molecule Observations
Masahiro Shimura[1], Yufuku Matsushita[1], Kouhei Ishiyanagi[1], Tomohiro Miyasaka[3], Hiroshi Sekiguchi[2], Yasuo Ihara[3], Yuji C. Sasaki[1,2] ([1]*Grad. School Frontier Sci., Univ. Tokyo*, [2]*Research & Utilization Div., SPring-8/JASRI*, [3]*Faculty of life & Medical Sci., Doshisha Univ.*)

01F. 蛋白質：蛋白質工学／進化工学 / 01F. Protein: Engineering

2P085 **Rapid monitoring of affinity maturation process for in vitro selection by fluorescence correlation spectroscopy (FCS)**
Shigefumi Kumachi, Miho Suzuki, Koichi Nishigaki, Naoto Nemoto (*Grad. Sch. Sci. & Eng., Saitama Univ.*)

2P086 **DNA 配列相補性を用いた DNA 修飾アクチン繊維の束化制御**
Control of bundle formation of DNA-conjugated actin filaments using the complementarity of the DNA
Masahito Hayashi, Kingo Takiguchi (*Grad. Sch. Sci., Nagoya Univ.*)

2P087 **Regulation of proteasomal degradation through an unstructured initiation site of a substrate**
Kazunobu Takahashi, Tomonao Inobe (*Front. Res. Core for Life Sci., Univ. Toyama*)

2P088 **cDNA ディスプレイ法を用いた Minimum プロテアーゼの試験管内進化**
***In vitro* selection of Minimum-Protease by cDNA display**
Yuka Mashio[1,3], Shingo Ueno[2,3], Naoto Nemoto[1,3] ([1]*Grad. Sch. Sci. and Eng., Saitama Univ.*, [2]*Grad. Sch. Eng., Univ. Tokyo*, [3]*CREST, JST*)

2P089 **ナノ粒子表層セルラーゼモジュールシャッフリングによる効率的人工セルロームデザイン**
Evolutional cellulosome design from module library
Hikaru Nakazawa, Yuri Ishigaki, Eiko Kobayashi, Do-Myoung Kim, Mitsuo Umetsu (*Grad. Sch. Eng., Tohoku Univ.*)

2P090 **Green Fluorescent Protein からの機能エレメントの抽出**
Extraction of Function Elements from Green Fluorescent Protein
Toshio Morimoto, Hironari Kamikubo, Yoichi Yamazaki, Mariko Yamaguchi, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

2P091 **人工酵素に移植した機能エレメントの役割**
Roles of functional elements transplanted into the artificial enzyme
Mai Arakawa, Hironari Kamikubo, Yoichi Yamazaki, Mariko Yamaguchi, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

2P092 **新規ヘム蛋白質フォールドのデノボデザイン**
De novo design of new heme protein folds
Yasuhiro Isogai (*Dept. Biotech., Toyama Pref. Univ.*)

02. ヘム蛋白質 / 02. Heme proteins

2P093 **天然変性タンパクとしての Bach2 ヘム結合領域**
Heme binding region of Bach2 as intrinsically disordered protein
Kazutaka Murayama[1], Miki Matsui[2], Kazuhiko Igarashi[2] ([1]*Grad. Sch. Biomed. Eng., Tohoku Univ.*, [2]*Grad. Sch. Med., Tohoku Univ.*)

2P094 **Oxygen-affinity of hemoglobin is regulated by protein-structural dynamics**
Takashi Yonetani[1], Kenji Kanaori[2] ([1]*Biochem & Biophys., Univ. Pennsylvania*, [2]*Bioengineering, Kyoto Inst. Tech.*)

2P095 **単一結晶形中でのヘモグロビンのアロステリック転移**
Hemoglobin allosteric transition in a single crystal form
Naoya Shibayama (*Div. of Biophysics, Jichi Medical Univ.*)

2P096 **酸化型コバルトミオグロビンへの速度論的配位子結合解析**
Kinetic Analysis of Ligand Binding to Co(III) Myoglobin
Saburo Neya, Masaaki Suzuki, Tyuji Hoshino (*Chiba University, Graduate School of Pharmaceutical Sciences*)

2P097 **異なる生物種によるヘムオキシゲナーゼ反応の微調節戦略：逐次反応過程の個別制御**
Fine-tuning of heme oxygenase successive reactions: Regulation at the peculiar stages in different biological species
Norio Miyake, Atsuko Akiyama, Kouki Kimiya, **Taiko Migita** (*Fac. Agr., Dep. Biol. Chem., Yamaguchi Univ.*)

2P098 **ヘム結晶化を促進するサシガメ由来 α - グルコシダーゼのヘム結合部位の検討**
Heme binding site in *Rhodnius prolixus* α-glucosidase promoting the heme crystallization
Shotaro Kaku, Keisuke Nakatani, Haruto Ishikawa, Yasuhisa Mizutani (*Grad. Sch. Sci., Univ. Osaka*)

2P099 **時間分解共鳴ラマン分光法を用いた CO 解離に伴う CooA のタンパク質ダイナミクスの研究**
Protein dynamics of CooA upon CO dissociation studied by time-resolved resonance Raman spectroscopy
Akihiro Otomo[1], Haruto Ishikawa[1], Misao Mizuno[1], Shigetoshi Aono[2], Yasuhisa Mizutani[1] ([1]*Grad. Sch. Sci., Univ. Osaka*, [2]*Okazai Inst.*)

03. 膜蛋白質 / 03. Membrane proteins

2P100 **BK チャネルの細胞質側の操作**
Manipulation of the cytoplasmic domain of BK channel
Yoshihiro Satoh, Morten Bertz, Kazuhiko Kinosita (*Waseda University*)

2P101 **アセチルコリン受容体の高速高精度３次元Ｘ線１分子内部運動計測**
3D X-ray Single Molecule Dynamics of nicotinic Acetylcholine Receptor (nAChR) with microsecond and picometre accuracy
Maki Tokue[1], Hiroshi Sekiguchi[2], Kentaro Hoshisashi[1], Kohei Ichiyanagi[1], Yuri Nishino[3], Naoto Yagi[2], Atsuo Miyazawa[3], Tai Kubo[4], Yuji Sasaki[1] ([1]*Grad. Sch. FS., Univ. Tokyo*, [2]*JASRI/SP8*, [3]*Grad. Sch. Sci., Univ. Hyogo*, [4]*ALST*)

2P102 **Computational analysis on the influence of membrane lipid composition on the structural invariance of G-protein coupled receptor**
Md. Iqbal Mahmood[1,2], Xinli Liu[1], Saburo Neya[1], Tyuji Hoshino[1] ([1]*Graduate school of pharmaceutical sciences, Chiba University*, [2]*Laboratory for system biology and medicine, RCAST, The University of Tokyo*)

2P103 **Direct monitoring of membrane protein folding process during in-vitro expression by Surface Enhanced IR spectroscopy**
Kenichi Ataka[1], Joachim Heberle[1], Axel Baumann[2], Silke Kerruth[1], Ramona Schlesinger[3], Joerg Fitter[2], Georg Bueldt[2] ([1]*Freie Universitaet Berlin, Fachbereich Physik, Experimental Molecular Biophysics*, [2]*Forschungszentrum Juelich, ICS-5*, [3]*Freie Universitaet Berlin, Fachbereich Physik, Genetic Biophysics*)

2P104 **等温滴定型熱量計による多剤輸送担体 EmrE の基質結合様式の解析**
Thermodynamics analysis of substrate binding mode of multidrug resistance transporter, EmrE by Isothermal Titration Calorimetry (ITC)
Kazumi Shimono[1,2,3,4], Yoshiro Mori[2], Toshifumi Nara[2], Tomomi Someya[3,4], Mikako Shirouzu[3,4], Shigeyuki Yokoyama[3,5], Seiji Miyauchi[1,2] ([1]*Fac. Pharm. Sci., Toho Univ.*, [2]*Coll. Pharm. Sci., Matsuyama Univ.*, [3]*SSBC, RIKEN*, [4]*CLST, RIKEN*, [5]*Struct. Biol. Lab., RIKEN*)

2P105 **多剤排出トランスポーター AcrB の Motion Tree 法による解析**
Motion Tree analysis of the multidrug transporter AcrB
Tsutomu Yamane[1], Ryotaro Koike[2], Motonori Oota[2], Satoshi Murakami[3], Akinori Kidera[1], Mitsunori Ikeguchi[1] ([1]*Graduate School of Medical Life Science, Yokohama City University*, [2]*Graduate School of Information Science, Nagoya University*, [3]*Graduate School of Bioscience & Biotechnology, Tokyo Institute of Technology*)

2P106 **ABC トランスポーターにおける薬剤結合の影響：分子シミュレーションによる研究**

The effects of substrate binding in ABC transporter: A simulation study

Kouki Yamada[1], Hiroaki Kato[2], Akinori Kidera[1,3] ([1]*Grad. Sch. Nanobio., Yokohama City Univ.*, [2]*Grad. Sch. Pharm Sci., Kyoto Univ.*, [3]*Grad. Sch. Med Life Sci., Yokohama City Univ.*)

2P107 **紫膜表面において観測される隆起構造体の曲率に対する溶媒 pH やイオン強度の影響**

Curvature of Bump Structures on Purple Membrane Depending on pH and Ionic Strength Analyzed by Atomic Force Microscopy

Yasunori Yokoyama[1], Kosuke Yamada[1], Yosuke Higashi[1], Satoshi Ozaki[1], Haorang Wang[1], Naoki Koito[1], Masashi Sonoyama[1,2], Shigeki Mitaku[1,3] ([1]*Department of Applied Physics, Graduate School of Engineering, Nagoya University*, [2]*Division of Molecular Science, Faculty of Science and Technology, Gunma University*, [3]*Toyota Physical and Chemical Research Institute*)

2P108 **ナノディスクを用いたセンサリーロドプシン I**

Photoreaction dynamics of sensory rhodopsin I in nanodiscs

Kenichi Kawamoto[1], Keiichi Inoue[1,2], Jun Sasaki[1], jin Yagasaki[3], Yuki Sudo[3], Michio Homma[3], Hideki Kandori[1] ([1]*Nagoya Inst. Tech,*, [2]*JST PREST*, [3]*Nagoya Univ.*)

2P109 **チャネルロドプシンの活性中心における水素結合ネットワーク**

Hydrogen-bonding network in the active center of a light-gated ion channel, channelrhodopsin

Shota Ito[1], Hideaki Kato[2], Reiya Taniguchi[2], Tatsuya Iwata[1], Osamu Nureki[2], Hideki Kandori[1] ([1]*Nagoya Inst. Tech*, [2]*Grad. Sch. of Sci., Univ. of Tokyo*)

2P110 **光駆動ナトリウムポンプにおける N 末端と C 末端の役割**

Role of N- and C-terminus in a light-driven sodium ion pump

Shinya Sugita[1], Yoshitaka Kato[1], Rei Abe-Yoshizumi[1], Jun Sasaki[1], Keiichi Inoue[1,2], Kwang-Hwan Jung[3], Hideki Kandori[1] ([1]*Nagoya Inst. Tech*, [2]*JST PRESTO*, [3]*Sogang Univ. Korea*)

2P111 **プロテオロドプシンの色を決めるアミノ酸**

A Color Determining Amino Acid of Proteorhodopsin

Yuya Ozaki, Takayoshi Kawashima, Rei Abe-Yoshizumi, Hideki Kandori (*Nagoya Inst. Tech*)

2P112 **G_s および G_q の光制御に向けた新規キメラタンパク質のデザイン**

Designs of new chimeric proteins for optical activation of G_s- and G_q- proteins

Kazuho Yoshida[1], Keiichi Inoue[1,2], Takahiro Yamashita[3], Rei Abe-Yoshizumi[1], Kengo Sasaki[1], Yoshinori Shichida[3], Hideki Kandori[1] ([1]*Nagoya Inst. Tech*, [2]*JST PRESTO*, [3]*Grad. Sch. Sci., Univ. Kyoto*)

2P113 **全反射赤外分光法を用いたヒト苦味受容体の構造解析**

ATR-FTIR study of human bitter taste receptor

Tomoaki Ohashi[1], Kota Katayama[1], Masaya Iwaki[1], Kei Tsutsui[2], Hiroo Imai[2], Hideki Kandori[1] ([1]*Department of Frontier Materials, Nagoya Institute of Technology*, [2]*Primate Research Institute, Kyoto University*)

04. 核酸結合蛋白質 / 04. Nucleic acid binding proteins

2P114 **Direct observation of DNA positive supercoiling by reverse gyrase**

Taisaku Ogawa[1], Katsunori Yogo[2], Shou Furuike[3], Kazuo Sutoh[1], Akihiko Kikuchi[4], Kazuhiko Kinosita[1] ([1]*Dept. Phys., Waseda Univ.*, [2]*Grad. Sch. Med. Sci., Kitazato Univ.*, [3]*Dept. Phys., Osaka Med. Coll.*, [4]*Grad. Sch. Med., Nagoya Univ.*)

2P115 **TDP-43 タンパク質における複数の RNA 認識モチーフとその機能的役割**

Distinct roles of individual RNA recognition motifs in an RNA-binding protein, TDP-43

Yo Suzuki[1], Hideaki Shimizu[2], Yutaka Muto[2,3], Shigeyuki Yokoyama[2], Yoshiaki Furukawa[1] ([1]*Dept. of Chem., Keio Univ.*, [2]*RIKEN*, [3]*Dept, of Pharm. Sci., Musashino Univ.*)

2P116 **部位特異的 RNA 切断酵素 Ire1p によって認識される HAC1 mRNA の NMR 解析**

NMR analysis of HAC1 mRNA recognized by the site-specific endonuclease Ire1p

Ikumi Kawahara[1,2], Yuta Ashihara[1], Kaichiro Haruta[1], Yoshiyuki Tanaka[1], Chojiro Kojima[2] ([1]*Grad. Sch. Pharm. Sci., Tohoku Univ.*, [2]*Inst. Prot. Res., Osaka Univ.*)

2P117 **哺乳類ヌクレオチド除去修復タンパク質 XPC の 1 分子イメージング**

Single-molecule direct visualization of the mammalian nucleotide excision repair protein XPC

Hiroaki Yokota[1,2], Daisuke Tone[1], Yong-Woon Han[2], Yoshie Harada[2], Kaoru Sugasawa[1] ([1]*Biosignal Res. Center, Kobe Univ.*, [2]*iCeMS, Kyoto Univ.*)

2P118 **ナノ開口基板を用いたヘミメチル CpG 認識に関与する SRA-DNA 複合体の機能解析**

Characterization of SRA-DNA complex using Zero mode waveguides

Yong-Woon Han[1], Hiroaki Yokota[1], Mariko Ariyoshi[1,2], Yasuo Tsunaka[1,2], Takuma Iwasa[1,3], Ryuji Yokokawa[4], Ryo Hiramatsu[5], Daichi Chiba[5], Teruo Ono[5], Yoshie Harada[1] ([1]*iCeMS, Kyoto University*, [2]*PREST*, [3]*Graduate School of Biostudies, Kyoto University*, [4]*Department of Technology, Kyoto University*, [5]*Institute for Chemical Research, Kyoto University*)

2P119 **ナノ開口を用いた 1 分子イメージングによる RuvB 多量体形成機構の解明**

Single-molecule visualization of RuvB oligomer for characterizing a AAA^+ class hexameric ATPase with zero-mode waveguides

Takuma Iwasa[1], Yong-Woon Han[2], Hiroaki Yokota[2], Ryuji Yokokawa[3], Ryo Hiramatsu[4], Teruo Ono[4], Yoshie Harada[1,2] ([1]*Grad Sch. Biostudies, Kyoto Univ.*, [2]*WPI-iCeMS, Kyoto Univ.*, [3]*Grad Sch. Engineering, Kyoto Univ.*, [4]*Inst. Chem. Research, Kyoto Univ.*)

05A. 核酸：構造・物性 / 05A. Nucleic acid: Structure & Property

2P120 **Conformational Sampling of Nucleic Acids in Cellular Environments**
Asli Yildirim[1], Brad Varner[1], Monika Sharma[2], Liang Fang[2], Michael Feig[1,2] ([1]*Department of Chemistry, Michigan State University*, [2]*Department of Biochemistry and Molecular Biology, Michigan State University*)

2P121 **Local structural similarity between interphase chromatin and mitotic chromosomes in living mammalian cells**
Tadasu Nozaki[1,2], Tomomi Tani[3], Sachiko Tamura[1], Takeharu Nagai[4], Kazuhiro Maeshima[1] ([1]*Natl. Inst. Genet.*, [2]*Inst. Adv. Biosci., Keio Univ.*, [3]*Marine Biological Laboratory*, [4]*ISIR, Osaka Univ.*)

2P122 **レドックス DNA の電子移動反応に及ぼす二本鎖内架橋の影響**
Effect of intrestrand cross-linking of redox-labeled DNA duplex on its electron transfer reaction
Yasuhiro Mie, Keiko Kowata, Yasuo Komatsu (*Bioproduction Res. Inst., AIST*)

2P123 **Bacterial ribosomal RNA as a target for sequence-specific inhibition**
Joanna Trylska[1], Sapna G. Thoduka[1], Zofia Dabrowska[1], Anna Gorska[1], Maciej Jasinski[1,2], Tomasz Witula[1] ([1]*University of Warsaw, Centre of New Technologies*, [2]*University of Warsaw, MISMAP College*)

2P124 **DNA の粗視化モデルによる Ars インスレーターの運動性と機能性の解析**
Analysis of the fluctuation and functionality of Ars-insulator by coarse -grained model of DNA
Keisuke Yamamoto, Sayuri Tatemoto, Naoaki Sakamoto, Akinori Awazu (*Department of Mathematical and Life Sciences,Hiroshima University*)

2P125 **四重鎖形成可能な相補鎖 DNA を導入することによる四重鎖リボザイムのカリウムイオン濃度依存的な活性スイッチングの高効率化**
Enhancement of a Quadruplex-ribozyme activity in response to K^+: a quadruplex-forming complementary DNA enables accurate switching
Yudai Yamaoki[1,2,3], Tsukasa Mashima[1], Takashi Nagata[1,2], Masato Katahira[1,2] ([1]*Institute of Advanced Energy, Kyoto University*, [2]*Graduate School of Energy Science, Kyoto University*, [3]*JSPS Research Fellow*)

2P126 **抗プリオンアプタマーの構造学的基盤とのその活性**
Structural basis of anti-prion aptamer and its activity
Tsukasa Mashima[1], Fumiko Nishikawa[2], Yuji O. Kamatari[3], Masayuki Saimura[1], Takashi Nagata[1,4], Satoshi Nishikawa[2], Kazuo Kuwata[5], Masato Katahira[1,4] ([1]*Inst. of Adv. Energy, Kyoto Univ.*, [2]*AIST*, [3]*Life Sci. Res. Center, Gifu Univ.*, [4]*Grad. Sch. of Energy Sci., Kyoto Univ.*, [5]*Unit. Grad. Sch. of Drug Disc. and Med. Info. Sci., Gifu Univ.*)

07. 水・水和／電解質 / 07. Water & Hydration & Electrolyte

2P127 **非水溶媒中での ATP 加水分解の熱力学的解析**
Thermodynamic analysis of ATP hydrolysis in non aqueous solvent
Hideyuki Komatsu (*Dept. Bioscience & Bioinformatics, Kyushu Inst. Tech.*)

2P128 **シミュレーション・データマイニングアプローチによる蛋白質ドッキング過程における水和水ダイナミクス**
Hydration water behavior in the protein docking process by simulating data mining approach
Taku Mizukami[1], Ayumu Sugiyama[2], Dam Hieu Chi[2], Ho Tu Bao[2] ([1]*Sch. Materials Sci., JAIST*, [2]*Sch. Knowledge Sci., JAIST*)

2P129 **蛋白質水和水の並進拡散運動と蛋白質ダイナミクスとの動的カップリング**
Translation diffusion dynamics of protein hydration water and its dynamical coupling with protein dynamics
Hiroshi Nakagawa[1], Mikio Kataoka[1,2] ([1]*Japan Atomic Energy Agency, Quantum Beam Science Directorate*, [2]*Nara Institute of Science and Technology, Graduate School of Materials Science*)

2P130 **Water behavior in buried hydration sites of human cellular prion protein and pathogenic mutation T188R**
Katsufumi Tomobe[1], Eiji Yamamoto[1], Takuma Akimoto[1], Masato Yasui[2], Kenji Yasuoka[3] ([1]*Graduate school of science and technology, Keio university*, [2]*Department of Pharmacology, School of Medicine, Keio University*, [3]*Department of mechanical engineering, Keio University*)

2P131 **Aging of water molecules on cell membrane surfaces**
Eiji Yamamoto[1], Takuma Akimoto[1], Masato Yasui[2], Kenji Yasuoka[3] ([1]*Graduate School of Science and Technology, Keio University*, [2]*Department of Pharmacology, School of Medicine, Keio University*, [3]*Department of Mechanical Engineering, Keio University*)

08. 分子遺伝・遺伝情報制御 / 08. Molecular genetics & Gene expression

2P132 **Dynamics of transcriptional apparatus in eukaryotic gene expression**
Ashwin S. S, Masaki Sasai (*Department of Computational Science and Engineering, Nagoya University*)

09. 発生・分化 / 09. Development & Differentation

2P133 **細胞性粘菌突然変異株にみられるソリトン様細胞運動**
Biological Soliton in eukaryotic multicellular movement
Hidekazu Kuwayama (*Faculty of Life and Environmental Sciences, University of Tsukuba*)

2P134 **ラミニン固定化弾性率可変ゼラチンゲルを用いた iPS 細胞のフィーダーフリー分散培養**
Feeder-free dissociated culture of iPS cells on the laminin-fixed elasticity-tunable gelatinous gels
Ayaka Utsumi[1], Tatsuya Okuda[2], Hiroshi Endo[3], Tomo Koike[3], Koji Eto[3], Satoru Kidoaki[2] ([1]*Grad. Sch. Eng., Univ. Kyushu*, [2]*IMCE, Univ. Kyushu*, [3]*CiRA, Univ. Kyoto*)

2P135 **マウス胚盤胞と桑実胚間での異なるメカニカルストレス応答**

Different responses to mechanical stimuli between mouse blastocyst and morula

Yuka Asano, Koji Matsuura, Keiji Naruse (*Grad. Sch. Med. Dent. Pharm. Sci., Okayama Univ.*)

10. 筋肉 / 10. Muscle

2P136 **SESTD1 に結合する横紋筋タンパク質の探索**

Screening of SESTD1-binding proteins in striated muscle

Akira Hanashima[1], Sumiko Kimura[2], Takashi Murayama[1] ([1]*Dept. Pharmacol., Sch. Med., Juntendo Univ.*, [2]*Dept. Biol., Grad. Sci, Chiba Univ.*)

2P137 **ギボシムシのコネクチン様タンパク質の探索**

Searching for connectin-like protein in acorn worm

Satoshi Nakayama[1], Akira Hanashima[1], Kunihumi Tagawa[2], Sumiko Kimura[1] ([1]*Department of Biology, Graduate School of Science, Chiba University*, [2]*Marine Biological Laboratory, Graduate School of Science, Hiroshima University*)

2P138 **ヤツメウナギのコネクチン様タンパク質**

Connectin-like protein of Lamprey

Mai Kanno, Yoshiharu Itoh, Akira Nishikawa, Akira Hanashima, Sumiko Kimura (*Department of Biology, Guraduate School of Science, Chiba University*)

2P139 **ウニのコネクチン様タンパク質**

Connectin-like protein of sea urchins

Tomoko Sasaki, Tetsu Matsuura, Akira Hanashima, Sumiko Kimura (*Grad. Sch. Sci., Chiba Univ.*)

2P140 **分子動力学シミュレーションを用いたトロポミオシンの柔軟性および屈曲性の解析**

Analysis of flexibility and curvature of tropomyosin by molecular dynamics simulation

Hideo Ozawa[1], Yoshihiro Ochiai[2], Koji Umezawa[1], Shin'ichi Ishiwata[1], Mitsunori Takano[1] ([1]*Dep. of Phys., Waseda Univ.*, [2]*Sch. Mar. Sci. Tec., Tokai Univ.*)

2P141 **横紋筋筋原線維 SPOC の動的特性に関するモデルシミュレーション**

Model simulation on the dynamic properties of SPOC in a striated myofibril

Koutaro Nakagome[1], Katsuhiko Sato[2], Shin'ichi Ishiwata[1,3] ([1]*Department of Physics, Faculty of Science and Engineering, Waseda University*, [2]*RIKEN Center for Developmental Biology*, [3]*Waseda Bioscience Research Institute in Singapore (WABIOS)*)

2P142 **高精度計測によるラット幼若心筋細胞内サルコメア自励振動特性の解明**

High-resolution analysis of sarcomeric auto-oscillations in rat neonatal cardiomyocytes

Seine A. Shintani[1], Kotaro Oyama[1], Shin'ichi Ishiwata[1,2], Norio Fukuda[3] ([1]*Waseda Univ., Physics, Ishiwata Lab.*, [2]*WABIOS*, [3]*Jikei Univ., Cell Phys.*)

11. 分子モーター / 11. Molecular motor

2P143 **回転電場を用いた F_1-ATPase の一分子計測による拡散の Giant acceleration の観察**

Giant Acceleration of diffusion in F_1-ATPase

Ryunosuke Hayashi[1], Shuichi Nakamura[1], Seishi Kudo[1], Kazuo Sasaki[1], Hiroyuki Noji[2], Kumiko Hayashi[1] ([1]*Dept. Appl. Phys., Sch. Eng., Tohoku Univ.*, [2]*Dept. Appl. Chem., Sch. Eng., Univ. Tokyo*)

2P144 **高粘性中でのキネシンによるビーズ輸送**

Transport of beads by kinesin in highly viscous environment

Naoto Sawairi[1], Takayuki Ariga[2], Michio Tomishige[2], Kumiko Hayashi[1] ([1]*Dept. Appl. Phys., Sch. Eng., Tohoku Univ.*, [2]*Dept. Appl. Phys., Sch. Eng., Univ. Tokyo*)

2P145 **神経細胞の軸索輸送におけるキネシンとダイニンの数の測定：揺らぎの定理の応用**

Measuring the numbers of kinesin and dynein on neuronal cargo transport by using the fluctuation theorem

Kumiko Hayashi[1], Yasushi Okada[2] ([1]*Sch. Eng., Tohoku Univ.*, [2]*QBiC, RIKEN*)

2P146 **Observing RecBCD Translocation along Individual Chi-Containing Gapped DNA**

Cinya Chung, Hung-Wen Li (*Department of Chemistry, National Taiwan University*)

2P147 **Dynamical energy landscape theory for the force-generation process in actomyosin motor**

Qing Miao Nie[1,2,3], Masaki Sasai[1], Tomoki P. Terada[1] ([1]*Dept. of Comp. Sci. Eng., Nagoya Univ.*, [2]*Institute for Molecular Science*, [3]*Dept.of Applied Physics, Zhejiang Univ. of Tech.*)

2P148 **マイコプラズマ Gli349 タンパク質の構造ダイナミクス解析**

Structure and dynamics of the gliding protein Gli349 from *Mycoplasma mobile*

Junichi Inatomi[1], Yuuki Hayashi[1], Munehito Arai[1,2] ([1]*Dept. Life Sci., Univ. Tokyo*, [2]*PRESTO, JST*)

2P149 **Gene manipulation of gliding bacterium, *Mycoplasma mobile***

Isil Tulum, Atsuko Uenoyama, Makoto Miyata (*Osaka City University*)

2P150 **単一糖鎖上でのマイコプラズマの滑走と結合**

Gliding and binding of mycoplasma on uniform oligosaccharide

Taioshi Kasai, Tasuku Hamaguchi, Makoto Miyata (*Grad. Sch. Sci., Univ. Osaka City*)

2P151 マイコプラズマ滑走タンパク質分子の可視化による構造解析

Structure of Proteins Involved in *Mycoplasma mobile* Gliding Revealed by Visualization

Yuhei Tahara[1], Noriyuki Kodera[2], Toshio Ando[2], Makoto Miyata[1] ([1]*Grad. Sch. Sci., Univ. Osaka City.*, [2]*Bio-AFM Frontier Research Center, Univ. Kanazawa.*)

2P152 ヒト肺炎 *Mycoplasma pneumonia* の滑走運動装置と構成タンパク質の結晶化

Crystallization of gliding machinery and component proteins of *Mycoplasma pneumoniae*

Yoshito Kawakita[1], Lisa Matsuo[1], Tsuyoshi Kenri[3], Miki Kinoshita[1], Katsumi Imada[2], Makoto Miyata[1] ([1]*Grad. Sch. Sci., Univ. Osaka City*, [2]*Grad. Sch. Sci., Univ. Osaka*, [3]*National Institute of Infectious Diseases*)

2P153 マイコプラズマ・モービレの滑走にかかわるチューブリンホモログの構造解析

Structural analysis of tubulin homolog involved in *Mycoplasma mobile* gliding

Masaru Yabe, Miki Kinoshita, Makoto Miyata (*Graduate school of science, Osaka city university*)

2P154 **Investigating stators assembly of flagellar motors in Escherichia coli**

Lin Tsai-Shun, Lo Chien-Jung (*National Central University Taiwan*)

2P155 **Tracking of bacterial flagellar motor rotation by fluorescent microscopy**

Yoshiyuki Sowa[1,2], Yong-Suk Che[1] ([1]*Dept. Frontier Bioscience, Hosei Univ.*, [2]*Reserch center for Micro-Nano Tech., Hosei Univ.*)

2P156 タンデム PomA 変異体を固定子とする Na^+駆動型キメラべん毛モーターの回転計測

Rotation Measurement of Na^+-driven Chimeric Flagellar Motor with Tandem PomA Mutants

Yong-Suk Che[1], Yoshiyuki Sowa[1,2] ([1]*Dept. Frontier Bioscience, Hosei Univ.*, [2]*Reserch center for Micro-Nano Tech., Hosei Univ.*)

2P157 **Structural study of the sheath in the magnetotactic bacterium MO-1 by electron cryomicroscopy**

Juanfang Ruan[1], Takayuki Kato[1], Claire-Lise Santini[2], Long-Fei Wu[2], Keiichi Namba[1,3] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*Lab. Chimie Bacterienne, Universite de la Mediterranee Aix-Marseille II, CNRS, France*, [3]*QBiC, RIKEN*)

2P158 細菌べん毛基部体中のスイッチ蛋白質 FliG の位置ならびに配向の同定

Identification of the location of the switch protein FliG in the flagella basal body

Tomoko Miyata[1], Takayuki Kato[1], Yusuke V Morimoto[1,2], Akihiro Kawamoto[1], Hideyuki Matsunami[3], Keiichi Namba[1,2] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*QBiC, RIKEN*, [3]*Trans-Membrane Trafficking Unit, OIST*)

2P159 **Torque-speed relationship of the flagellar motor consisting of two distinct stators**

Naoya Terahara[1], Yukina Noguchi[2], Shuichi Nakamura[1], Nobunori Kami-ike[1], Tohru Minamino[1], Masahiro Ito[2], Keiichi Namba[1] ([1]*Graduate School of Frontier Biosciences, Osaka University*, [2]*Graduate School of Lifescience, Toyo University*)

2P160 人工分子ベアリングの分子内回転の 1 分子計測

Single-Molecular Measurement of a Synthetic Molecular Bearing

Tomohio Ikeda[1], Takahiro Tsukahara[1], Masayuki Takeuchi[2], Ryota Iino[1,3], Hiroyuki Noji[1,3] ([1]*Department of Applied Chemistry, the University of Tokyo*, [2]*National Institute for Materials Science*, [3]*JST-CREST*)

2P161 F_1-ATPase の触媒活性機構の理論的解析及び新規触媒活性変異体の設計

Theoretical studies on ATP hydrolysis in F_1-ATPase and a rationally designed enzymatic reaction in its variants

Shiho Noguchi, Shigehiko Hayashi (*Grad. Sch. Sci., Univ. Kyoto*)

2P162 ATP 合成酵素の結晶化

Crystallization of ATPsynthase

Yasuo Shirakihara[1], Hiromi Tanikawa[1], Satoshi Murakami[2] ([1]*National Institute of Genetics*, [2]*Tokyo Institute of Technology*)

2P163 人工基質 RTP を用いた F_1-ATPase の回転触媒機構の解明

Base moiety of ATP is dispensable for driving the rotation of F_1-ATPase

Ayako Yukawa[1], Ryu Iwatate[2], Rikiya Watanabe[1], Mako Kamiya[2], Yasuteru Urano[2], Hiroyuki Noji[1] ([1]*Grad. Sch. Eng., Univ. Tokyo.*, [2]*Grad. Sch. Med., Univ. Tokyo.*)

2P164 DNA を回転子に持つ新規回転分子モーターの創製

Creation of a hybrid F_1 motor with DNA as the rotor

Kosuke Iwamoto[1], Ryota Iino[1], Risa Yamauchi[1], Takayuki Uchihashi[2], Hiroyuki Noji[1] ([1]*Grad. Sch. Eng., Univ. Tokyo*, [2]*Col. Sci. and Eng., Univ. Kanazawa*)

2P165 F_1-ATPase 内の DELSEED-loop のトルク伝達機構の解明

Elucidation of torque-transmission mechanism of DELSEED-loop in F_1-ATPase

Kazuma Koyasu[1], Mizue Tanigawara[2], Rikiya Watanabe[1], Hiroyuki Noji[1] ([1]*Dept. Applied Chem., Grad. Sch. Eng., Univ. Tokyo*, [2]*Grad. Sch. Frontier Biosci., Osaka Univ.*)

2P166 高速配向イメージングによる F1-ATPase の触媒サブユニットの構造変化計測

Direct observation of domain motion of the catalytic β subunit of F1-ATPase using high-speed orientational imaging

Sawako Enoki, Ryota Iino, Hiroyuki Noji (*Grad. Eng., Univ. Tokyo*)

2P167 サポーテッド膜を用いた F_oF_1 の一分子回転計測

Single molecule observation of F_oF_1-ATP synthase in the supported lipid membrane

Yoshiki Moriizumi, Rikiya Watanabe, Kazuhito V. Tabata, Hiroyuki Noji (*Dep. Appl. Chem., Grad. Sch. Eng., Univ. Tokyo.*)

2P168 **Basic properties of rotary dynamics of Enterococcus hirae V1-ATPAse motor protein**

Yoshihiro Minagawa[1], Hiroshi Ueno[2], Yoshiko Ishizuka-Katsura[4], Noboru Ohsawa[4], Takaho Terada[4], Mikako Shirouzu[4], Shigeyuki Yokoyama[4], Hiroyuki Noji[1], Takeshi Murata[3], Ryota Iino[1] ([1]*Dept. of App. Chem., Grad. Sch. of Eng., Univ. Tokyo*, [2]*Dept. of Phys., Fac. of Sci. and Eng., Univ. Cyuo*, [3]*Dept. of Chem., Grad. Sch. of Sci., Univ. Chiba*, [4]*RIKEN, SSBC*)

2P169 **１分子蛍光観察によるセロビオヒドロラーゼの結晶性セルロース加水分解反応素過程の解明**
Single-molecule imaging analysis of cellobiohydrolase hydrolyzing crystalline cellulose
Yusuke Shibafuji[1], Akihiko Nakamura[2], Naohisa Sugimoto[2], Kiyohiko Igarashi[2], Shingo Fukuda[3], Hiroki Watanabe[3], Takayuki Uchihashi[3], Hiroyuki Noji[1], Ryota Iino[1] ([1]*Dept. Appl. Chem. Univ. Tokyo*, [2]*Dept. Bio. Sci. Univ. Tokyo*, [3]*Dept. Phys. Kanazawa Univ*)

2P170 **負荷存在下でのキネシン頭部の運動の高時間分解能観察**
High temporal resolution observation of the stepping motion of kinesin-1 under load
Issui Akishika[1], Ryota Iino[2], Hiroyuki Noji[2], Michio Tomishige[1] ([1]*Dept. Appl. Phys., Grad. Sch. Eng., Univ. Tokyo*, [2]*Dept. Appl. Chem., Grad. Sch. Eng., Univ. Tokyo*)

2P171 **ジスルフィドクロスリンクを用いたキネシン 1 の二足歩行制御機構の研究**
Strain-dependent regulation of the kinesin-1's catalytic activity as studied by disulfide-crosslinking of the neck linker
Yamato Niitani[1], Erik Jonsson[2], Ronald D.Vale[2], Michio Tomishige[1] ([1]*Dept. Appl. Phys., Grad. Sch. Eng., Univ. Tokyo*, [2]*Dept. CMP, Univ. California*)

2P172 **SDSL-ESR により検出したキネシン α-1 ヘリックスのヌクレオチド依存的な動的構造とその変位**
Nucleotide-dependent Displacement and Dynamics of α-1 Helix in Motor Protein Kinesin As Revealed by Site Directed Spin Labeling ESR
Satoshi Yasuda[1], Takanori Yanagi[1], Masafumi Yamada[2], Shinsaku Maruta[2], **Toshiaki Arata**[1] ([1]*Dept. Biol. Sci., Grad. Sch. Sci., Osaka Univ.*, [2]*Soka Univ.*)

2P173 **微小管上での KIF1A の選択的結合における負に荷電した C 末の役割**
The role of negatively-charged C-terminus of tubulin in selective binding of KIF1A on microtubule
Yukinobu Mizuhara, Jun Ohnuki, Koji Umezawa, Mitsunori Takano (*Dept. of Phys. & Appl. Phys, Grad. Sch. of Adv. Sci. & Eng. Waseda Univ.*)

2P174 **フォトクロミック分子を用いた有糸分裂キネシン Eg5 の光制御型阻害剤**
Photo regulted inhibitor composed of photochromic molecules for mitotic kinesin Eg5
Kanako Tohyama[1], Kumiko Ishikawa[2], Shinsaku Maruta[1,2] ([1]*Div. Bioinfo., Grad. sch. Eng., Univ. Soka*, [2]*Dep. Bioinfo., Fac. Eng., Univ. Soka*)

2P175 **有糸分裂キネシン Eg5 の機能性ループ L５へのフォトクロミック分子導入と光制御**
Incorporation of photochromic molecule into the functional loop L5 of mitotic kinesin Eg5 and its photo regulation
Kumiko Ishikawa[1], Yuki Tamura[2], Shinsaku Maruta[1] ([1]*Div. of Bioinfo., Grad. Sch. of Eng., Soka Univ.*, [2]*Dep. of Bioinfo., Fac. of Eng., Soka Univ.*)

12. 細胞生物的課題 / 12. Cell biology

2P176 **原子間力顕微鏡によるコンフルエント細胞の力学測定**
Mechanical measurements of confluent cells with an atomic force microscope
Yuki Ochi, Masahiro Tsuchiya, Yuki Saito, Takaharu Okajima (*Grad. Sch. Info. Sci. & Tech., Hokkaido Univ.*)

2P177 **ゾウリムシのメタクロナールウェーブは外液の粘性だけでなく細胞表層の弾性も使って伝播できる**
Metachronal wave travels not only in outer viscous fluid but also on elastic cell surface of *Paramecium* cells
Naoki Narematsu, **Yoshiaki Iwadate** (*Fac. Sci., Yamaguchi Univ.*)

2P178 **細胞間力学変化量の空間不均一性：原子間力顕微鏡測定**
Spatial heterogeneity of cell-to-cell mechanical variability measured by atomic force microscopy
Ryosuke Takahashi, Kaori Kuribayashi-Shigetomi, Takaharu Okajima (*Grad. Sch. Info. Sci. & Tech., Hokkaido. Univ.*)

2P179 **AFM を用いた強制剥離による細胞接着力の評価**
Evaluation of cell adhesion force by mechanical detachment using AFM
Mari Mishima[1], Ryuzo Kawamura[2], Tomoko Okada[2], Chikashi Nakamura[1,2] ([1]*Dept. Biotechnol. Life Sci., TUAT*, [2]*Biomedical Research Institute, AIST*)

2P180 **細胞内の力学環境に対する分子混み合い効果**
Molecular crowding effects on intracellular mechanical environments
Kenji Nishizawa[1], Kei Fujiwara[2], Miho Yanagisawa[1], Daisuke Mizuno[1] ([1]*Department of physics, Kyushu University*, [2]*Department of Bioengineering and Robotics, Tohoku University*)

2P181 **Molecular configurations of purified radial spoke of Chlamydomonas flagella**
Hitoshi Sakakibara, Yosuke Shimizu, Hiroaki Kojima (*Bio ICT, KARC, Nat. Inst. Info. Commn. Tech*)

2P182 **波型弾性パターニングゲル上での流れ誘導メカノタクシスに見られるがん細胞の接着スイッチング挙動**
Adhesion switching of tumor cells in shear-flow-induced mechanotaxis on wave-like elastically-patterned gels
Yuki Kubota[1], Tatsuya Okuda[2], Satoru Kidoaki[2] ([1]*Grad. Sch. Eng., Univ. Kyushu*, [2]*IMCE, Univ. Kyushu*)

2P183 **粘性流体中におけるバクテリアの Twitching 運動のシミュレーション**
Simulation study of the twitching motility of bacterium in viscous fluid
Ryota Morikawa, Masatada Tamakoshi, Takeshi Miyakawa, Masako Takasu (*School of Life Sciences, Tokyo University of Pharmacy and Life Sciences*)

2P184 **大面積弾性マイクロパターニングゲルを用いた間葉系幹細胞の分化フラストレーションの誘導と評価**
Characterization of frustrated differentiation of mesenchymal stem cells cultured on large-scale microelastically-patterned gels
Kosuke Hamano[1], Tatsuya Okuda[2], Satoru Kidoaki[2] ([1]*Grad. Sci. Eng., Univ. Kyushu*, [2]*IMCE, Univ. Kyushu*)

2P185　１分子追跡法により明らかにされた伸展中の細胞における Dystroglycan の形成中の接着斑へのリクルート

Dystroglycan recruitment to forming focal adhesions during cell spreading as observed by single-molecule tracking

Akihiro Shibata[1], Masahiro Makuta[2], Limin Chen[2], Yuuri Nemoto[2], Yuki Shirai[2], Hisae Tsuboi[2], Nao Hiramoto[2], Takaaki Tsunoyama[2], Takahiro Fujiwara[2], Akihiro Kusumi[1,2] ([1]*Institute for Frontier Medical Sciences, Kyoto University*, [2]*Institute for Integrated Cell-Material Sciences (WPI-iCeMS), Kyoto University*)

2P186　付着型珪藻の二次元運動への培地温度の影響

Effects of variation in medium temperature on two-dimensional motion of attached diatom

Yu Imamura[1], Shunichiro Hori[1], Tomohiro Ohno[1], Shigeki Mayama[2], Kazuo Umemura[1] ([1]*Dept.Sci.univ of science.Tokyo*, [2]*Faculty of Education,Tokyo Gakugei University*)

2P187　シクロフィリン D がミトコンドリアに及ぼす影響

Effects of cyclophilin D on mitochondria

Daisuke Shinohe, Asuka Kobayashi, Hitomi Nakazato, Akiko Nagai, Yoshihiro Ohta (*Tokyo Univ. of Agric. and Tech*)

2P188　細胞分裂時におけるエネルギー状態のモニタリング

Monitoring of energy state of cells during cell division

Kotoe Hirusaki, Yoshihiro Ohta (*Tokyo University of Agriculture and Technology*)

2P189　細胞性粘菌（*Dictyostelium discoideum* Ax-2）の増殖におけるエネルギーをめぐる細胞内葛藤

Intracellular conflict on energy in the growing cellular slime mold, *Dictyostelium discoideum* Ax-2

Yatsuhisa Nagano (*Res. Ctr. Structural Thernodyn., Grad. Sch. Sci., Osaka Univ.*)

2P190　ES 細胞の分化初期段階における状態遷移

Transitions among cell states in the early stage of differentiation from embryonic stem cells

Koh Makishi, Tomoki P. Terada, Masaki Sasai (*Dept. of Comp. Sci. Eng., Univ. of Nagoya*)

2P191　巨大化大腸菌の細胞形態変化、細胞分裂の観察

Morphological change and cell division of Giant E.coli

Takao Sogo[1], Kazuhito Tabata[1,2], Hiroyuki Noji[1] ([1]*Dept. Applied Chem., Sch. Eng., Univ. Tokyo*, [2]*PREST, JST*)

2P192　細菌べん毛タンパク質輸送装置の in vitro 再構成系の構築

Construction of an in vitro assay system for the bacterial flagellar protein export

Hiroyuki Terashima[1], Tohru Minamino[2], Katsumi Imada[1] ([1]*Dep. Macromol. Sci., Grad. Sch. Sci., Osaka Univ.*, [2]*Grad. Sch. Fron. Biosci., Osaka Univ.*)

2P193　ケージドセリン光分解とべん毛モーター回転計測を用いた大腸菌走化性応答の高時間分解能計測

Response of flagellar motor rotation to photoreleased serine from caged-compound in an *E. coli* cell

Takashi Sagawa[1], Hajime Fukuoka[1,2], Yuichi Inoue[1,2], Hiroto Takahashi[2], Akihiko Ishijima[1,2] ([1]*Grad. Sch. Life Sci., Tohoku Univ.*, [2]*IMRAM, Tohoku Univ.*)

2P194　MS リングに変異の入ったサルモネラ菌べん毛モーターとそのシュードリバータントの構造安定性と回転特性

Structural stability and rotational characteristics of the flagellar motor of Salmonella MS-ring mutant and its psuedo-revertants

Shun Taga[1], Akira Asaumi[1], Shuichi Nakamura[1], Fumio Hayashi[2], Kenji Oosawa[2], Seishi Kudo[1] ([1]*Grad. Sch. Eng., Univ. Tohoku*, [2]*Grad. Sch. Eng, Univ. Gunma*)

2P195　電子顕微鏡によるヒト毛乳頭細胞の不動毛の構造解析

Structural analysis of primary cilia in human follicle dermal papilla cells by electron microscopy

Misaki Tanaka[1], Kazuyuki Matsushima[2], Kuniyoshi Kaseda[2], Takuo Yasunaga[1] ([1]*Kyushu Institute of Technology*, [2]*Saravio Cosmetics Ltd.*)

2P196　簡単で低コストなコレラティブ顕微鏡法

Simple and cost-effective method for correlative microscopy

Teruyo Minamiyashiki, Miharu Nagaishi, **Hiryouki Nakagawa** (*Department of Earth System Science, Faculty of Science, Fukuoka University*)

2P197　顕微鏡ステージ上での微量エレクトロポレーション法

Electroporation of adherent cells with low sample volumes on a microscope stage

Harunobu Tsugiyama[1], Chika Okimura[1], Takafumi Mizuno[2], Yoshiaki Iwadate[1] ([1]*Department of Functional Molecular Biology, Graduate School of Medicine, Yamaguchi University*, [2]*Biomedical Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)*)

2P198　神経ー膵島 α 細胞相互作用におけるサブスタンスＰの寄与

A neuropeptide substance P is involved in nerve-pancreatic islet α cell interaction

Tadahide Furuno, Mami Nakamura, Yoshikazu Inoh, Mamoru Nakanishi (*Sch. Pharm., Aichi Gakuin Univ.*)

2P199　RhoGAP proteins RGA-3/4 mediate spatial negative feedback of the actomyosin in C. elegans embryos

Masashi Fujita, Shuichi Onami (*RIKEN Quantitative Biology Center*)

2P200　フェムト秒レーザー誘起衝撃力による分裂酵母細胞のカルシウムイオン応答の個別解析

Individual Analysis of Changes in Calcium Concentration Induced by Femtosecond Laser Impulse in Single Fission Yeast Cells

Akinori Shigemasa[1], Yoshitaka Nakayama[2], Takanori Iino[1], Hidetoshi Iida[2], Yoichiroh Hosokawa[1] ([1]*Nara Institute of Science and Technology., Materials Science*, [2]*Univ. Tokyo gakugei., Natural Science*)

2P201　悪性高熱症関連変異をもたらしている 1 型リアノジン受容体の機能解析

Functional analysis of type 1 ryanodine receptor carrying malignant hyperthermia associated mutations

Toshiko Yamazawa[1], Takashi Murayama[2], Hedeto Oyamada[3], Junji Suzuki[4], Kazunori Kanemaru[4], Nagomi Kurebayashi[2], Masamitsu Iino[4], Shigeru Takemori[1] ([1]*Dept Mol. Physiol., Jikei Univ. Sch. Med.*, [2]*Dept. Pharmacol., Juntendo Univ. Sch. Med.*, [3]*Dept. Pharmacol., Sch. Med., Showa Univ.*, [4]*Dept. Pharmacol., Grad. Sch. Med., The Univ.Tokyo*)

2P202 **Number and Brightness 法によるグルココルチコイド受容体二量体の生細胞内空間分布解析**
In vivo spatio-temporal distribution analysis of dimeric glucocorticoid receptor using Number and Brightness
Hideto Ishikawa[1], Johtaro Yamamoto[2], Masataka Kinjo[2] ([1]*Grad. Life Sci., Hokkaido Univ.*, [2]*Fuc. Adv. Life Sci., Hokkaido Univ.*)

2P203 **GPI アンカー型タンパク質は神経細胞膜の拡散障壁内でも高速でホップ拡散する：超高速１蛍光分子追跡による検出**
GPI-anchored proteins undergo rapid hop diffusion within the diffusion barrier in the neuronal plasma membrane
Manami Miyahara[1], Chieko Nakada[3], Takahiro Fujiwara[1], Toshiki Matsui[2], Hiroko Hijikata[1], Hiroo Iwata[2], Ziya Kalay[1], Akihiro Kusumi[1,2] ([1]*Institute for Integrated Cell-Material Sciences (WPI-iCeMS), Kyoto University*, [2]*Institute for Frontier Medical Sciences, Kyoto University*, [3]*Instruments Company, Nikon Corporation*)

2P204 **免疫細胞のシグナルアダプター分子 LAT の時空間制御機構：1 分子追跡による解明**
Adaptor transmembrane protein LAT in immune signaling works in vesicles recruited to the plasma membrane: a single-molecule tracking study
Koichiro M. Hirosawa[1], Kenta J. Yoshida[1], Ankita Chadda[1], Kenichi G. N. Suzuki[1,3], Akihiro Kusumi[1,2] ([1]*Institute for Integrated Cell-Material Sciences (WPI-iCeMS)*, [2]*Inst. Frontier Medical Sciences, Kyoto Univ.*, [3]*National Centre for Biological Science (NCBS)/Institute for Stem Cell Biology and Regenerative Medicine (inStem)*)

13A. 生体膜・人工膜：構造・物性 / 13A. Biological & Artifical membrane: Structure & Property

2P205 **Main phase transition of asymmetric lipid bilayers**
Antti Lamberg, Takashi Taniguchi (*Department of Chemical Engineering, Kyoto University*)

2P206 **リン脂質/コレステロール系における Lo 相形成の炭化水素鎖長依存性**
Effect of the phospholipid chain length on the cholesterol-induced liquid ordered phase formation
Tsubasa Miyoshi, Hiroshi Kitajima, Daichi Yokoi, Satoru Kato (*Grad. Sch. Sci & Tech.,Univ. Kwansei Gakuin*)

2P208 **マイクロパターン化モデル生体膜における脂質ドメインの空間的制御**
Geometrical separation of lipid domains in a micro-patterned model membrane
Fumiko Okada[1], Kenichi Morigaki[1,2] ([1]*Grad. Sch. Agri., Univ. Kobe*, [2]*Res. Cen. Env Gen., Kobe*)

2P209 **中性膜に結合したラクトフェランピンの膜結合構造と膜親和性の NMR と QCM による解析**
Structure and affinity analysis of bovine lactoferrampin bound to a neutral model membrane as studied by solid state NMR and QCM
Masayoshi Imachi[1], Javkhlantugs Namsrai[1], Atsushi Kira[2], Atsushi Tutsumi[1], Izuru Kawamura[1], Akira Naito[1] ([1]*Graduate School of Engineering, Yokohama National University*, [2]*Reasearch and Development Division, ULVAC Inc*)

2P210 **高圧蛍光法により明らかにされるサブゲル相中のホスファチジルコリン分子のスタッガード構造**
Staggered structure of phosphatidylcholine molecules in subgel phase revealed by high-pressure fluorometry
Masaki Goto, Nobutake Tamai, Hitoshi Matsuki (*Tokushima Univ.*)

2P211 **ジパルミトイルホスファチジルコリン二分子膜の熱的相挙動に及ぼすステロール効果**
Effects of sterols on thermotropic phase behavior of dipalmitoylphosphatidylcholine bilayer
Nobutake Tamai, Sanae Inazawa, Daiki Fujiwara, Masaki Goto, Hitoshi Matsuki (*Department of Life System, Institute of Technology and Science, The University of Tokushima*)

2P212 **グループ３ LEA タンパク質のモデルペプチドによるリポソームの乾燥誘導凝集抑制**
Anti-aggregation Effects on Liposomes during Desiccation by Model Peptides of Group-3 LEA Proteins
Takao Furuki, Takahiro Watanabe, Minoru Sakurai (*Center for biological resources and informatics, Tokyo Institute of Technology*)

13B. 生体膜・人工膜：ダイナミクス / 13B. Biological & Artifical membrane: Dynamics

2P213 **単一細胞膜揺らぎ計測のためのイオンコンダクタンス顕微鏡技術の開発**
Scanning ion conductance microscopy for measuring single cell membrane fluctuations
Zen Ishikura[1], Yusuke Mizutani[2], Kaori Kuribayashi-Shigetomi[1], Yuuki Fujii[1], Choi Myung-Hoon[2], Cho Sang-Joon[3], Takaharu Okajima[1] ([1]*Graduate School of Information Science and Technology, Hokkaido University*, [2]*Park Systems Inc.*, [3]*Seoul National University*)

2P214 **界面活性物質を用いた巨大細胞膜ベシクル作製方法の開発**
Development of a new method for preparation of giant plasma membrane vesicles using surfactants
Hiroaki Inuma[1], Yuta Minami[1], Toshihiko Sakurai[2], Takashi Okuno[3] ([1]*Graduate School of Science and Engineering, Yamagata University*, [2]*Depertment of Chemistry and Biotechnology, Graduate School of Engineering, Tottori University*, [3]*Depertment of Science, Yamagata University*)

2P215 **肺サーファクタントタンパク質 SP-B によるリン脂質膜の構造変化**
Morphology Changes in Phospholipid Monolayers Induced by Lung Surfactant Protein SP-B
Masahiro Hibino[1], Hayato Suzuki[2], Takahiro Suzuki[2] ([1]*Div. Appl. Sci., Muroran Inst. Tech.*, [2]*Dept. Appl. Sci., Muroran Inst. Tech.*)

2P216 **希薄状及び飽和状なリソチーム及びナノシリカ/ダイヤが pH=7-13 のもとで起こす吸着反応の動力学**
Loose and Saturated Adsorption Reaction Dynamics of Lysozyme and Nanosilica/-diamond at pH=7-13
Victor Wei-Keh Chao[1,2] ([1]*Department of Chemical and Materials Engineering, National Kaohsiung University of Applied Sciences*, [2]*Victor Basic Research Laboratory e. V.*)

2P217 **人工物の細胞内導入：生細胞と GUV の電気融合法**
How to send artifacts into the living cell inside? -Investigating GUV-Cell electro fusion method
Akira C. Saito[1], Toshihiko Ogura[2], Shinichiro M. Nomura[1] ([1]*Department of Bioengi. and Robo. Tohoku Univ.*, [2]*Depart. of Develo. of Neurobiolo. (IDAC). Tohoku. Univ.*)

2P218 **生細胞に極限まで近い内包物を持つ人工細胞の構築と解析**

Generation of artificial cells that mimic living cells

Kei Fujiwara[1], Kenji Nishizawa[2], Miho Yanagisawa[2], Shin-ichiro M. Nomura[1], Daisuke Mizuno[2] ([1]*Tohoku university, Department of Bioengineering and Robotics*, [2]*Kyushu university, Department of Physics*)

13C. 生体膜・人工膜：興奮・チャンネル / 13C. Biological & Artifical membrane: Excitation & Channels

2P219 **不飽和脂肪酸による電位依存性プロトンチャネルへの活性増強効果**

Effects of the unsaturated fatty acids on the voltage-gated proton channel

Akira Kawanabe, Yasushi Okamura (*Grad. Sch. Med., Osaka Univ.*)

2P220 **Conformational Transitions in Voltage Sensor Domains**

Morten Bertz, Kazuhiko Kinosita (*Waseda University, Dpt. of Science & Engineering*)

2P221 **負に帯電した膜内葉表面でのアミノ末端両親媒性ヘリックスの回転が KcsA カリウムチャネルの開状態を安定化する**

Rolling of N-terminal amphipathic helix on the anionic inner membrane leaflet stabilizes the open state of the KcsA potassium channel

Masayuki Iwamoto, Shigetoshi Oiki (*Dept. Mol. Physiol. Biophys., Univ. Fukui Fac. Med. Sci.*)

2P222 **K^+チャネルの中心空洞内の水の配向は静電的相互作用を増強する**

The oriented water in the central cavity of the K^+ channel enhances the electrostatic attraction

Takashi Sumikama[1], Shinji Saito[2], Shigetoshi Oiki[1] ([1]*University of Fukui*, [2]*Institute for Molecular Science*)

13E. 生体膜・人工膜：情報伝達 / 13E. Biological & Artifical membrane: Signal transduction

2P223 **Development of a reconstituted system for localized phosphatidylinositols signaling on lipid membrane**

Kei Takahashi[1], Nao Shimada[1], Akihiko Nakajima[1], Satoshi Sawai[1,2,3], Taro Toyota[1,2] ([1]*Grad. Sch. Arts Sci.,Univ. Tokyo*, [2]*Res. Center as Complex Sys. Bio., Univ. Tokyo*, [3]*PRESTO, Japan Science and Technology Agency*)

2P224 **A Multiscale Kinetic Scheme Extracted from EGFR-Grb2 Single Molecule Reaction**

Tahmina Sultana[1], Hiroaki Takagi[2], Miki Morimatsu[3], Hiroshi Teramoto[1], Chun-Biu Li[1], Yasushi Sako[4], Tamiki Komatsuzaki[1] ([1]*Molecule and Life Nonlinear Sciences Laboratory, Research Institute for Electronic Science, Hokkaido University*, [2]*Department of Physics, Nara Medical University*, [3]*WPI-IFReC, Osaka University*, [4]*Cellular Informatics Laboratory, RIKEN, Wako*)

14. 化学受容 / 14. Chemoreception

2P225 **新世界ザルの苦味受容体 TAS2R1 および TAS2R4 の機能的多様性**

Functional diversity of bitter taste receptors TAS2R1 and TAS2R4 in New World monkeys

Kei Tsutsui[1], Masahiro Otoh[2], Kodama Sakurai[2], Nami Suzuki-Hashido[1], Takashi Hayakawa[1], Filippo Aureli[3], Colleen M. FedSchaffner[4], Linda M. Fedigan[5], Shoji Kawamura[2], Hiroo Imai[1] ([1]*Pri. Res. Inst., Kyoto Univ.*, [2]*Grad. Sch. Front. Sci., Univ. Tokyo*, [3]*Res. Cent. Evol. Anthropol. Palaeoecol., Liverpool John Moores Univ.*, [4]*Inst. Neuroetologia, Univ. Veracruzana*, [5]*Dept. Anthropol., Univ. Calgary*)

2P226 **コレラ菌の尿素走性と培養温度依存性**

Urea taxis of *Vibrio cholerae* and its temperature dependence

So-ichiro Nishiyama[1], Kouta Suzuki[1], Daisuke Suzuki[2], **Ikuro Kawagishi**[1] ([1]*Dept. Frontier Biosci., Hosei Univ.*, [2]*Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ.*)

2P227 **温度によるコレラ菌走化性受容体ホモログの発現制御機構の解析**

Temperature control of chemoreceptor expression in *Vibrio cholerae*

Shiori Onogi[1], Noriaki Sagoshi[1], Daisuke Suzuki[2], So-ichiro Nishiyama[3], Ikuro Kawagishi[1,3] ([1]*Frontier Biosci., Grad. Sci Eng., Hosei Univ.*, [2]*Grad. B. Engr., Nagoya Univ.*, [3]*Dept. Frontier Biosci., Fac. Biosci. Appl. Chem., Hosei Univ.*)

15. 神経・感覚 / 15. Neuroscience & Sensory systems

2P228 **チャコウラナメクジの脳嗅覚中枢における自発振動活動の長時間相関解析**

Long-range temporal correlations of oscillatory activities in the olfactory center in the land slug

Yuichi Tanaka[1], Tamon Eto[1], Shouhei Haga[1], Minoru Saito[2], **Yoshimasa Komatsuzaki**[1] ([1]*Nihon University, CST*, [2]*Nihon University, CHS*)

2P229 **チャコウラナメクジ嗅覚中枢における時空間神経活動パターンの膜電位イメージング**

Fluorescent Voltage Imaging of Spatiotemporal Activity Patterns in the Olfactory Center of the Land Slug

Tomoya Shimokawa[1], Kouhei Ishida[1], Yuuta Hamasaki[1], Yoshimasa Komatsuzaki[2], Minoru Saito[1] ([1]*Graduate School of Integrated Basic Sciences, Nihon University*, [2]*College of Science and Technology, Nihon University*)

2P230 **ヨーロッパモノアラガイの中枢神経系における神経活動の膜電位イメージング (II)**

Fluorescent Voltage Imaging of the Neural Activity in the Central Nervous System of the Pond Snail (II)

Yuuki Aikawa[1], Shogo Nakada[1], Makoto Hosoi[1], Yoshimasa Komatsuzaki[2], Minoru Saito[1] ([1]*Graduate School of Integrated Basic Sciences, Nihon University*, [2]*College of Science and Technology, Nihon University*)

16. 神経回路・脳の情報処理 / 16. Neuronal Circuit & Information processing

2P231 **マウス海馬スライスに見られる時空間活動パターンに対する解析法の提案**
An analysis method for spatiotemporal activity patterns in mouse hippocampal slices
Shodai Izumi[1], Yuuta Hamasaki[2], Hiromi Osanai[1], **Minoru Saito**[1,2] ([1]*College of Humanities and Sciences, Nihon University*, [2]*Graduate School of Integrated Basic Sciences, Nihon University*)

2P232 **マウス海馬スライスの CA1 領域における様々な時空間活動パターンのレーザー共焦点イメージング (II)**
Laser confocal imaging of various spatiotemporal activity patterns in the CA1 region of mouse hippocampal slices (II)
Mai Ichikawa[2], **Hiromi Osanai**[1], Yuuta Hamasaki[2], Minoru Saito[1,2] ([1]*College of Humanities and Sciences, Nihon University*, [2]*Graduate School of Integrated Basic Sciences, Nihon University*)

2P233 **視索前野の GABA 作動性神経とオレキシン神経の機能的結合について**
Functional connection between GABAergic neurons in the preoptic area and orexinergic neurons in the hypothalamus
Natsuko Kanda (Tsujino)[1], Yuki Saito[2], Manabu Abe[3], Kenji Sakimura[3], Masashi Yanagisawa[1,4], Takeshi Sakurai[1,2] ([1]*IIIS, Univ. Tsukuba*, [2]*Mol. Neurosci. Physiol., Kanazawa Univ.*, [3]*Cellular Neurobiol., Niigata Univ.*, [4]*UTSW/HHMI*)

2P234 **青斑核ノルアドレナリンニューロンへのオレキシン 2 型受容体を介した GABA 作動性の抑制性入力**
GABAergic inhibition of noradrenergic neurons through orexin type 2 receptors
Junya Fukuoka[1], Takeshi Kanda[1], Daiki Nakatsuka[1], Masashi Yanagisawa[1,2] ([1]*IIIS, Univ. Tsukuba*, [2]*UTSW/HHMI*)

17. 行動 / 17. Behavior

2P235 **アリの探索における記号創発**
Emergence of symbol in ant navigatioin
Yukio Gunji[1,2], Tomoko Sakiyama[1] ([1]*Kobe University*, [2]*University of West England*)

2P236 **群れの相互作用の多義性から自己組織化を再考する**
Rethinking about the concept of self-organization from the perspective of the interaction multiplicity in collective behavior
Takayuki Niizato (*Tsukuba University*)

2P237 **滑走細菌 *Flavobacterium johnsoniae* の菌表面構造**
Cell surface structure of the gliding bacterium *Flavobacterium johnsoniae*
Satoshi Shibata[1], Keiko Sato[1], Yuka Narita[1], Daisuke Nakane[2], Koji Nakayama[1] ([1]*Div.Microbiol./Oral infec., Grad. Sch. Bio/Med Sci., Nagasaki Univ.*, [2]*Dept. Phys.,Fac. Sci., Gakushuin Univ.*)

2P238 ***Flavobacterium johnsoniae* におけるコロニースプレッティングファクター**
Factors influencing colony spreading in *Flavobacterium johnsoniae*
Yuka Narita[1], Keiko Sato[1], Satoshi Shibata[1], Daisuke Nakane[2], Koji Nakayama[1] ([1]*Dept. Mol. Microbiol. Immunol., Grad. Sch. Biomedical Sci., Nagasaki Univ.*, [2]*Dept.Physics., Gakushuin Univ.*)

18A. 光生物：視覚・光受容 / 18A. Photobiology: Vision & Photoreception

2P239 **自由エネルギー計算によるハロロドプシンの光駆動イオン輸送メカニズムの解析**
Study of the mechanism of the light-driven ion transport in halorhodopsin based on the free energy calculations
Hiroyuki Tamura[1], Shuntaro Chiba[1], Tadaomi Furuta[1], Shun Sakuraba[2], Nobuyuki Matsubayashi[2], **Minoru Sakurai**[1] ([1]*Tokyo Tech.*, [2]*Kyoto Univ.*)

2P240 **Aureochrome-1 の各ドメインの機能解析**
Functional analyses of each domain in Aureochrome-1
Yoichi Nakatani[1], Ken Takeuchi[1], Yosuke Izawa[1], Fumio Takahashi[2,3], Hironao Kataoka[4], Osamu Hisatomi[1] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*Grad. Sch. Life Sci., Ritsumeikan Univ.*, [3]*PRESTO, JST.*, [4]*Botanical Gardens, Tohoku Univ.*)

2P241 **Ab initio 電子状態計算における青色光受容体蛋白質の DNA 修復反応の理論的研究**
Theoretical Study of DNA Repair Mechanism of Blue Light Photoreceptors by Ab initio Electronic Structure Calculation
Ryuma Sato[1], Tsutomu Kawatsu[2,3], Takahisa Yamato[1] ([1]*Dept. of Phys., Grad. Sch. Sci., Univ. Nagoya*, [2]*CMSI*, [3]*Coll. Sci. Engn., Univ. Kanazawa*)

2P242 **In-situ 光照射固体ＮＭＲによるバクテリオロドプシン D96N 変異体の光中間体の捕捉とタンパク質構造変化の解明**
Trap of photo-intermediate and structural change of bacteriorhodopsin D96N mutant as revealed by in situ photoirradiation solid-state NMR
Akira Naito[1], Ryouta Miyasa[1], Arisu Shigeta[1], Izuru Kawamura[1], Satoru Tuzi[2], Kyosuke Oshima[1] ([1]*Yokohama National University Graduate School of Engineering*, [2]*University of Hyogo, Graduate School of Science*)

2P243 **In situ 光照射固体 NMR による 13-cis, 15-syn バクテリオロドプシンの光励起過程における局所構造変化の解析**
Structural changes in the photo excited process in 13-cis, 15-syn retinal of Bacteriorhodopsin studied by in situ photoirradiation SS-NMR
Arisu Shigeta[1], Ryota Miyasa[1], Miyako Horigome[1], Izuru Kawamura[1], Takashi Okitsu[2], Akimori Wada[2], Satoru Tuzi[3], Akira Naito[1] ([1]*Grad. Sch. Eng., Yokohama Natl. Univ.*, [2]*Kobe Pharm. Univ.*, [3]*Univ. Hyogo*)

2P244 **光駆動型 Cl^-ポンプ ファラオニスハロロドプシンの Cl^-放出・取込み過程の解析**
Analysis of Cl^- release and uptake steps of light-driven Cl^- pump *Natronomonas pharaonis* halorhodopsin
Takashi Kikukawa[1], Chikara Kusakabe[1], Asami Kokubo[1], Takashi Tsukamoto[1,2], Masakatsu Kamiya[1], Tomoyasu Aizawa[1], Kunio Ihara[3], Naoki Kamo[1], Makoto Demura[1] ([1]*Grad. Sch. Life. Sci., Hokkaido Univ.*, [2]*Grad. Sch. Sci., Nagoya Univ.*, [3]*CGR, Nagoya Univ.*)

2P245 **光駆動型 Cl^-ポンプ ファラオニスハロロドプシンにおける Thr218 の役割**

Role of Thr218 in light-driven Cl^- pump mechanism of *Natronomonas pharaonis* halorhodopsin

Kousuke Shibasaki, Hiroaki Shigemura, Takashi Kikukawa, Masakatsu Kamiya, Tomoyasu Aizawa, Naoki Kamo, Makoto Demura (*Grad. Sch. Life. Sci., Hokkaido Univ.*)

2P246 **アセタブラリアロドプシン I の光化学反応**

Photochemical reaction in *Acetabularia* rhodopsin I

Jun Tamogami[1], Takashi Kikukawa[2], Kazumi Shimono[1,3,4,5], Tomomi Kimura-Someya[4,5], Mikako Shirouzu[4,5], Shigeyuki Yokoyama[4,6], Naoki Kamo[1,2] ([1]*College Pharm. Sci., Matsuyama Univ.*, [2]*Fac. Adv. Life Sci., Hokkaido Univ.*, [3]*Fac. Pharm. Sci., Toho Univ.*, [4]*RIKEN SSBC*, [5]*RIKEN Center for Life Science Technologies*, [6]*RIKEN Structural Biology Laboratory*)

2P247 ***in situ* 光照射固体 NMR による光受容膜タンパク質 *p*pR/*p*HtrII の光励起過程における transducer タンパク質膜貫通領域の構造変化の観測**

Photoactivated conformational changes of photoreceptor membrane protein *p*pR/*p*HtrII observed by *in situ* photo irradiation solid-state NMR

Yoshiteru Makino[1], Yuya Tomonaga[1], Yusuke Shibafuji[1], Tetsurou Hidaka[1], Izuru Kawamura[1], Takashi Okitsu[2], Akimori Wada[2], Yuki Sudo[3], Naoki Kamo[4], Akira Naito[1] ([1]*Grad. Sch. Eng, Yokohama Natl Univ.*, [2]*Kobe Pharm. Univ.*, [3]*Grad. Sch. Sci, Nagoya Univ.*, [4]*Grad. Sch. Life Sci, Hokkaido Univ.*)

2P248 **Rhodobacter capsulatus 由来 Photoactive Yellow Protein の相互作用部位の解明**

Analysis of interaction sites on the Photoactive Yellow Protein of Rhodobacter capsulatus

Yoichi Yamazaki, Mayu Shimada, Hironari Kamikubo, Mikio Kataoka (*Graduate School of Materials science, Nara Institute of Science and Technology*)

2P249 ***Rhodobacter capsulatus* 由来 Photoactive Yellow Protein の X 線結晶構造解析**

X-ray crystal structure analysis of the Photoactive Yellow Protein of *Rhodobacter capsulatus*

Hiroshi Matsumoto, Yoichi Yamazaki, Hironari Kamikubo, Mariko Yamaguchi, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

2P250 **二種類のＰＹＰを用いたキメラタンパク質の中間体の平衡状態の解析**

Analysis of Equilibrium of intermediate states of PYP by use of chimera proteins

Yoshiaki Matsumoto, Youichi Yamazaki, Hironari Kamikubo, Mariko Yamaguchi, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

2P251 **PYP-Phytochrome Related Protein の X 線溶液散乱による研究**

X-ray Solution Scattering Studies of PYP-Phytochrome Related Protein

Keito Yoshida, Hironari Kamikubo, Kento Yonezawa, Yoichi Yamazaki, Mariko Yamaguchi, Mikio Kataoka (*Graduate school of Materials Science, Nara Institute of Science Technology*)

2P252 **PYP_M 中間体におけるアルギニン 52 のプロトン化状態**

Protonation state of R52 at the PYP_M intermediate state

Masayoshi Noji, Hironari Kamikubo, Yoichi Yamazaki, Mariko Yamaguchi, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

2P253 **Excited State Proton Transfer of Fluorescent Photoactive Yellow Protein Reconstituted with Hydroxycoumarin**

Dian Novitasari, Hironari Kamikubo, Yoichi Yamazaki, Mariko Yamaguchi, Mikio Kataoka (*Graduate School of Materials Science, Nara Institute of Science and Technology*)

2P254 **Photoactive Yellow Protein におけるアルギニン 52 のプロトン化状態**

Protonation State of Arginine 52 in Photoactive Yellow Protein

Kento Yonezawa, Hironari Kamikubo, Keito Yoshida, Yoichi Yamazaki, Mariko Yamaguchi, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

18B. 光生物：光合成 / 18B. Photobiology: Photosynthesis

2P255 **開口数 0.9 の極低温光学顕微鏡の開発とその植物細胞内色素イメージングへの応用**

Development of a cryogenic optical microscope with NA of 0.9 and its application to studies of pigment distributions in plant cells

Yutaka Shibata[1], Keisuke Namie[1], Tomofumi Chiba[1], Mizu Kajihara[1], Wataru Kato[2], Hiroshi Fukumura[1] ([1]*Grad. Sch. Sci., Tohoku Univ.*, [2]*Grad. Sch. Sci., Nagoya Univ.*)

2P256 **ガリウム置換フェレドキシンの結晶構造と PS 1 および FNR との相互作用部位**

Crystal Structure of Ga-substituted Ferredoxin and its interaction sites for Photosystem I and Ferredoxin-$NADP^+$ reductase

Risa Mutoh, Norifumi Muraki, Hisako Kubota-Kawai, Toshiharu Hase, Takahisa Ikegami, Genji Kurisu (*Institute for Protein Research*)

2P257 **光化学系 II の Mn4 クラスター S0 状態における Mn(II)存在可能性の理論的研究**

S0-State Model of the Mn4-cluster in Photosystem II: Possibility of Mn(II)

Makoto Hatakeyama, Koji Ogata, Shinichiro Nakamura (*RIKEN*)

2P258 **フィコエリスリンを有するラン藻における励起エネルギー移動**

Excitation energy transfer in cyanobacteria containing phycoerythrin

Yuki Koge[1], Akio Murakami[1,2], Seiji Akimoto[1,3] ([1]*Graduate School of Science, Kobe University*, [2]*Kobe University Research Center for Inland Seas*, [3]*Molecular Photoscience Research Center, Kobe University*)

2P259 **ホタルルシフェラーゼとの相互作用を考慮したオキシルシフェリンの吸収スペクトルの量子化学計算**

Quantum chemical calculation of the absorption spectra of oxyluciferin interacting with firefly luciferase

Hironori Sakai[1], **Naohisa Wada**[2] ([1]*IFS. Tohoku Univ.*, [2]*Facul. of Food Sciences, Toyo Univ.*)

20. 生命の起源・進化 / 20. Origin of life & Evolution

2P260 **次世代シーケンサーを用いた人工細胞モデルにおけるゲノムＲＮＡの進化プロセスの解析**
Analysis of the evolutionary process of the RNA genome in an artificial cell-like system using next generation sequencing technology
Norikazu Ichihashi[1,3], Shota Nakamura[2], Tetsuya Yomo[1,3,4] ([1]*Osaka Univ. Inf. Sci. and Tech.*, [2]*Osaka Univ. Dep. Infect. Metagenomics*, [3]*JST ERATO*, [4]*Osaka univ. Frontier Biosci.*)

2P261 **Qβ レプリケースによる RNA 複製反応中の二本鎖 RNA 形成の理解**
Double-stranded RNA formation during Qβ long RNA replication
Kimihito Usui[1], Norikazu Ichihashi[1,2], Yasuaki Kazuta[1], Tetsuya Yomo[1,2,3] ([1]*JST, ERATO, Yomo Project*, [2]*Grad. Sch. of Info. and Tech., Osaka Univ.*, [3]*Grad. Sch. of Front. Biosci., Osaka Univ.*)

2P262 **人工自己複製モデルと寄生体が生み出す振動ダイナミクス**
Oscillation dynamics of Host-Parasite population in an artificial cell-like system
Yohsuke Bansho[1,2], Norikazu Ichihashi[3], Tetsuya Yomo[1,3,4] ([1]*Frontier Biosciences, Osaka University*, [2]*JSPS*, [3]*ERATO, JST*, [4]*Information Science and Technology, Osaka University*)

2P263 **Directed evolution of a self-encoding system**
Takeshi Sunami[1,2], Norikazu Ichihashi[1,2], Takehiro Nishikawa[2], Yasuaki Kazuta[2], Tomoaki Matsuura[2,3], Hiroaki Suzuki[2,4], Tetsuya Yomo[1,2,5] ([1]*Grad. Sch. Info. Sci., Osaka Univ.*, [2]*JST, ERATO*, [3]*Grad. Sch. Eng., Osaka Univ.*, [4]*Grad. Sch. Sci. Eng., Chuo Univ.*, [5]*Grad. Sch. Fro. Bio., Osaka Univ.*)

21B. ゲノム生物学：ゲノム構造 / 21B. Genome biology: Genome structure

2P264 **出芽酵母における染色体の構造変化と転写制御との関連について**
Relationship between conformational change of chromosomes and transcriptional control in budding yeast
Naoko Tokuda, Masaki Sasai (*Grad. Sch. Eng., Nagoya Univ.*)

22A. 生命情報科学：構造ゲノミクス / 22A. Bioinformatics: Structural genomics

2P265 **天然変性タンパク質データベース IDEAL の機能拡張 —PPI ネットワーク**
New IDEAL: availability of PPI networks involving intrinsically disordered proteins
Takayuki Amemiya[1], Shigetaka Sakamoto[2], Yukiko Nobe[1], Kazuo Hosoda[3], Yumiko Kado[1], Ryotaro Koike[1], Hidekazu Hiroaki[4], Motonori Ota[1], satoshi Fukuchi[3] ([1]*Grad. Schl of Info. Sci., Nagoya Univ.*, [2]*HOLONICS Co., Ltd.*, [3]*Fac. Engr., Maebashi Ins. Tech.*, [4]*Grad. Schl of Pharm. Sci., Nagoya Univ.*)

2P266 **Tertiary structure prediction of RNA-RNA complex structures using secondary structure information**
Satoshi Yamasaki, Kazuhiko Fukui (*molprof, AIST*)

2P267 **相互作用プロファイルを用いた Re-docking 法によるタンパク質間相互作用予測**
Re-docking scheme for prediction of protein-protein interactions using interaction fingerprints
Nobuyuki Uchikoga[1], Yuri Matsuzaki[2], Masahito Ohue[2,3], Takatsugu Hirokawa[4], Yutaka Akiyama[2,3] ([1]*Dept. Phys., Chuo Univ.*, [2]*Grad. info. sci. eng., Dept. comput. sci., Titech*, [3]*Edu. Acad. comput. life sci., Titech*, [4]*AIST, molprof*)

2P268 **Protein binding pocket and ligand shape comparison**
Chie Motono, Takatsugu Hirokawa (*Molprof, AIST*)

2P269 **膜タンパク質の顕微鏡画像と立体構造データとの照合用データベースの構築**
Construction of database for comparing structural data with microscopic image of transmembrane protein
Go Inoue, Masami Ikeda, Makiko Suwa (*Grad. Sch. Sci and Eng. AGU*)

2P270 **β2 アドレナリン受容体 - Gαs 間の結合要素の解析**
Structural analysis of coupling element between β2 adrenergic receptor and G-protein
Hidenori Sakaki, Masami Ikeda, Makiko Suwa (*Grad. Sch. Sci and Eng. AGU*)

23. 生態／環境 / 23. Ecology & Environment

2P271 **Flow cytometry identification of nanocyanobacteria and their limiting factors in the North Pacific Subtropical Gyre**
Mathias Girault[1,2], Hisayuki Arakawa[2], Gerald Gregori[3], Fuminori Hashihama[2], Hyonchol Kim[1], Masao Odaka[1], Kenji Yasuda[1] ([1]*KAST*, [2]*TUMSAT*, [3]*Universite de la Mediterranee*)

2P272 **実験生態系の進化、個体群、反応ダイナミクス**
Evolutionary, population, and reaction dynamics of experimental ecosystems
Kazufumi Hosoda[1], Makoto Sueyoshi[2], Itsuka Kumano[2], Masumi Habuchi[3], Kayo Yamamoto[2], Risa Takami[2], Yuhki Azuma[4], Isao Kubo[2], Shingo Suzuki[2], Tetsuya Yomo[2] ([1]*Acad Init, Osaka-u*, [2]*Info Sci, Osaka-u*, [3]*Front Bio, Osaka-u*, [4]*Eng, Osaka-u*)

24. 数理生物学 / 24. Mathematical biology

2P273 **Gain Noise Relation in Adaptation Networks**
Prabhat Shankar[1,2], Masatoshi Nishikawa[3], Tatsuo Shibata[1] ([1]*RIKEN CDB, Kobe*, [2]*Hiroshima University, HIroshima*, [3]*Max Planck Inst, Germany*)

2P274 **Adaptive random Boolean network model based on local information transfer**
Taichi Haruna, Sayaka Tanaka (*Graduate School of Science, Kobe University*)

2P275 **光合成生物との共生による利益とはーミドリゾウリムシの増殖解析**
Benefits of Acquiring Phototrophy by Hosting Algal Endosymbionts
Sosuke Iwai (*Faculty of Education, Hirosaki Univ.*)

2P276 **Diffusion in the plasma membrane with immobile molecules: significance of fluid dynamical interactions**
Ziya Kalay, Takahiro K. Fujiwara, Akihiro Kusumi (*Institute for Integrated Cell-Material Sciences, Kyoto University*)

2P277 **Competitive reaction between enzymes with normal and anomalous diffusivity**
Kenta Yashima[1], Jun Nakabayashi[2], Akira Sasaki[1] ([1]*The Graduate University for Advanced Studies*, [2]*Yokohama City University*)

2P278 **Allometries of the *Physarum* plasmodium based on the dynamics of cytoplasmic streaming**
Tomohiro Shirakawa, Hiroshi Sato (*Dept. Comp. Sci., NDA*)

2P279 **Analysis for the exploratory behavior of *Physarum* plasmodium in an unlimitedly extendable space**
Miharu Nishida, Hiroshi Satou, Tomohiro Shirakawa (*Dept. Comp. Sci., NDA*)

2P280 **Cell motility of the *Physarum* plasmodium on a non-uniform substrate**
Shinji Ishiguro, Hiroshi Sato, Tomohiro Shirakawa (*National Defense Academy of Japan*)

2P281 **過去の神経活動がどのように現在のスパイク頻度に影響を与えるのか**
How past neuronal activity affects the current firing rate
Takanobu Yamanobe (*Med. Sch., Hokkaido Univ.*)

25. 非均衡・生体リズム / 25. Equality Nonequilibrium state & Biological rhythm

2P282 **Negative feedback regulation of KaiC ATPase gives origin to the circadian periodicity of cyanobacteria**
Atsushi Mukaiyama[1,2,3], Masato Osako[4], Takaaki Hikima[3], Takao Kondo[4], Shuji Akiyama[1,2,3] ([1]*Inst. Mol. Sci.*, [2]*Grad. Univ. for Adv. Studies (SOKENDAI)*, [3]*SPring-8, RIKEN*, [4]*Nagoya Univ.*)

2P283 **マイクロドロップレットで構築された非平衡人工細胞の実験的・数理的解析**
Experimental and numerical analyses of microdroplet-based nonequilibrium artificial cells
Masahiro Takinoue[1,2], Haruka Sugiura[1], Hiroyuki Kitahata[3], Yoshihito Mori[4] ([1]*Interdisciplinary Grad. Sch. Sci. & Eng., Tokyo Tech.*, [2]*PRESTO, JST*, [3]*Dept. Phys., Chiba Univ.*, [4]*Dept. Chem., Ochanomizu Univ.*)

2P284 **膜の分子透過性へのフィードバック制御のある非平衡系人工細胞の数理解析**
Numerical analysis of non-equilibrium open artificial cell with a feedback control over molecular permeability of the cell membrane
Motosugi Murata[1], Haruka Sugiura[1], Masahiro Takinoue[1,2] ([1]*Interdisciplinary Grad. Sch. Sci. & Eng., Tokyo Tech.*, [2]*PRESTO, JST*)

2P285 **Oscillations of a genomic DNA in a cell-sized chemically open system**
Haruka Sugiura[1], Masahiro Takinoue[1,2] ([1]*Interdisciplinary Grad. Sch. Sci. and Eng., Tokyo Inst. Tech.*, [2]*PRESTO, JST*)

26. 計測 / 26. Measurements

2P286 **広帯域 X 線を用いた広角度域 X 線 1 分子追跡法の開発**
Development of wide angle Diffracted X-ray Tracking (DXT) measurement using a focusing broad band X-ray
Ichiyanagi Kouhei[1], Hiroshi Sekiguchi[2], Masato Hoshino[2], Kentaro Kajiwara[2], Kentaro Hoshisashi[1], Jae-won Chang[1], Maki Tokue[1], Yufuku Matsushita[1], Naoto Yagi[1], Yuji Sasaki[1] ([1]*Graduate School of Frontier Sciences, The University of Tokyo*, [2]*Japan Synchrotron Radiation Research Institute*)

2P287 **オンチップ画像解析システムによる形状を制御した単一心筋細胞の収縮方向の計測**
Measurement of contractile direction on single-shape-controlled cardiomyocytes by on-chip optical image analysis system
Tomoyuki Kaneko[1], Fumimasa Nomura[2], Tomoyo Hamada[2], Akihiro Hattori[2], Kenji Yasuda[2] ([1]*Dept. Frontier Bioscience, Hosei Univ.*, [2]*Dept. Biomed. Info, IBB, TMDU*)

2P288 **ビデオ解析による大腸菌回転特性の大量測定**
Large-scale measurement of rotary motion properties of tethered Escherichia coli (*E. coli*) by video analysis
Hiroto Tanaka[1], Tadashi Matsukawa[1], Yukihiro Tominari[2], Shuhei Ogawa[3], Yoshiyuki Sowa[4], Ikuro Kawagishi[4], Shukichi Tanaka[2], Kazuhiro Oiwa[1], Hiroaki Kojima[1] ([1]*Bio ICT lab., NICT*, [2]*Nano ICT lab., NICT*, [3]*Dept. Bioeng., Nagaoka Univ. Tech.*, [4]*Dept. Front. Biosci., Hosei Univ.*)

2P289 **流体力学的絞込みを用いた一分子ソーターセルの開発**
Development of hydrodynamic focusing system for single molecule sorting device
Toshihiko Kubota[1,2], Hiroyuki Oikawa[1], Kiyoto Kamagata[1,2], Satoshi Takahashi[1,2] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. Life Sci., Tohoku Univ.*)

2P290 **創薬スクリーニングのための心筋細胞ネットーワークにおける空間パターンと集団サイズの重要性**
Importance of spatial arrangement and community size on cardiomyocyte network for precise and stable in vitro drug screening measurement
Fumimasa Nomura, Tomoyo Hamada, Hideyuki Terazono, Kenji Yasuda (*IBB, Tokyo Medical and Dental Univ.*)

2P291 **マニフォールドを用いた投影イメージの分類プロトコル：コヒーレント X 線イメージングによる粒子ダイナミックスの解析へ向けて**
Classification protocol of projection images by manifold: Toward analysis of dynamics of particles with coherent x-ray diffraction imaging
Takashi Yoshidome[1], Tomotaka Oroguchi[2,3], Masayoshi Nakasako[2,3], Mitunori Ikeguchi[1] ([1]*Grad. Sch. Med. Life Sci., Yokohama City Univ.*, [2]*Dep. Phys., Keio Univ.*, [3]*Harima Inst., Riken*)

2P292 **振動和周波検出赤外超解像顕微鏡による毛髪 α-ケラチンの分子配向観察**
Observation of molecular orientation of human hair α-keratins by VSFG detected IR super-resolution microscopy
Makoto Sakai[1], Kohei Ushio[1,2], Shinobu Nagase[3], Yuuji Hirano[3], Takashi Itou[3], Haruki Ishikawa[2], Masaaki Fujii[1] ([1]*Tokyo Institute of Technology*, [2]*Kitasato University*, [3]*Kao Corporation*)

2P293 **Determination of dissociation constants of NFκB p50/p65 heterodimer using fluorescence cross-correlation spectroscopy in the living cell**
Manisha Tiwari[1], Shintaro Mikuni[2], Masataka Kinjo[2] ([1]*Graduate School of Life Science, Hokkaido University, Japan*, [2]*Faculty of Advanced Life Science, Hokkaido University, Japan*)

2P294 **蛍光・発光イメージングによる OPN5 発現細胞の Ca^{2+}応答測定**
Bioluminescent Imaging Revealed a Rapid Ca^{2+} Response in OPN5-expressing Cells
Takashi Sugiyama (*Cell-based Analysis Group, Advanced Analysis Technology R&D Dept., Olympus Corporation*)

2P295 **ライブセル超解像イメージングに向けた多重分子用アルゴリズム“Wedged Template Matching”**
Localization Algorithm of High-Density Fluorophores, “Wedged Template Matching” for Live Cell Super Resolution Imaging
Shigeo Watanabe[1], Yasushi Okada[2], Teruo Takahashi[1], Keith Bennett[3], Tomochika Takeshima[1] ([1]*Hamamatsu Photonics K.K.*, [2]*RIKEN QBiC*, [3]*Hamamatsu Corporation*)

2P296 **2 種類のシグナルノイズが PTEN の細胞内不均一性を決める**
Two types of signaling noises underlie spatiotemporal PTEN heterogeneity
Naotoshi Nakamura, Tatsuo Shibata (*Laboratory for Physical Biology, RIKEN Center for Developmental Biology*)

2P297 **2 波長同時イメージングによる PTEN の膜局在と 1 分子の同時解析**
Simultaneous Imaging of Single-molecule and Bulk Localization of PTEN
Seiya Fukushima[1], Satomi Matsuok[2], Masahiro Ueda[1,2] ([1]*Grad. Sch. Sci. Bio., Univ. Osaka*, [2]*QBiC, RIKEN*)

2P298 **Fluorescent Single Molecule Orinetation Imaging in Living Cells**
Tomomi Tani[1], Shalin Mehta[1], Rudolf Oldenbourg[1], Amy Gladfelter[2] ([1]*Marine Biologcal Laboratory*, [2]*Dartmouth College*)

2P299 **Fast positively photoswitchable fluorescent protein for superresolution nanoscopy**
Dhermendra K Tiwari, Yoshiyuki Arai, Takeharu Nagai (*Osaka University*)

2P300 **Monitoring cytosolic Mg2+ with a novel genetically encoded fluorescent indicator using a non-FRET-based ratiometric imaging approach**
Vadim Perez Koldenkova, Tomoki Matsuda, Dharmendra Tiwari, Shoji Kawakami, Takeharu Nagai (*The Institute of Scientific and Industrial Research, Osaka University*)

2P301 **GEM-GECO を用いた細胞内カルシウムのイメージング定量解析**
Quantification of calcium concentration in cells by imaging analysis using GEM-GECO
Morio Ohki[1,2], Yuma Ito[1,2], Kumiko Sakata-Sogawa[1,2], Makio Tokunaga[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS-RCAI, RIKEN*)

2P302 **FRET による elongin B と elongin C の相互作用解析**
FRET - based analysis of interactions between elongin B and elongin C
Hirofumi Oyama[1,2], Yuma Ito[1,2], Makio Tokunaga[1,2], Kumiko Sakata-Sogawa[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS-RCAI, RIKEN*)

2P303 **FRAP と 1 分子蛍光イメージングを用いた転写活性化時 Arp4β 動態の定量解析**
Quantitative analysis of molecular dynamics of Arp4β upon transcriptional activation by single-molecule fluorescence imaging and FRAP
Naomichi Inaba[1,2], Yuma Ito[1,2], Masahiko Harata[3], Makio Tokunaga[1,2], Kumiko Sakata-Sogawa[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS-RCAI, RIKEN*, [3]*Grad. Sch. Agr. Sci., Tohoku Univ.*)

2P304 **炎症反応抑制タンパク質 PDLIM2 の局在制御機構の解明**
The elucidation of the mechanism of PDLIM2 localization regulation
Satoshi Toriyama[1,2], Yuma Ito[1,2], Makio Tokunaga[1,2], Kumiko Sakata-Sogawa[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS-RCAI, RIKEN*)

2P305 **3 色同時 1 分子イメージングによる T 細胞マイクロクラスターとシグナル膜タンパク質の相互作用解析**
Single molecule analysis of signaling membrane proteins in T cell microcluster by multicolor live cell imaging
Yuma Ito[1,2], Kumiko Sakata-Sogawa[1,2], Makio Tokunaga[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS-RCAI, RIKEN*)

2P306 **カルシウムイオン刺激による微小管伸長の動態解析**
Imaging analysis of effect of Ca^{2+} ion on micritubule polymerization
Zhihai Zheng[1], Akihiro Fukagawa[1], Yuma Ito[1,2], Kumiko Sakata-Sogawa[1,2], Makio Tokunaga[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech*, [2]*IMS-RACI, RIKEN*)

2P307 **T 細胞活性化における微小管形成中心の動態**
Microtubules Organizing Center (MTOC) Dynamics and Migration upon T Cell Activation
Wei Ming Lim[1,2], Yuma Ito[1,2], Kumiko Sakata-Sogawa[1,2], Makio Tokunaga[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS-RCAI, RIKEN*)

28. バイオエンジニアリング / 28. Bioengineering

2P308 **セミインタクト細胞リシール技術による細胞内への分子導入と病態モデル細胞構築への応用**
Cell resealing technique for introducing molecules into cells and its application for establishment of disease model cells
Yoshiyuki Noguchi[1], Yuta Horiuchi[1], Daiki Nakatsu[1], Fumi Kano[1,2], Masayuki Murata[1] ([1]*Grad. Sch. of Arts and Sci., The Univ. of Tokyo*, [2]*PRESTO, JST*)

2P309 **アポフェリチン空洞内に合成した Y 化合物を母体とした Eu および Tb ナノ粒子の発光特性**
Photoluminescence Property of Eu and Tb Doped Y Based Nano-Phosphor synthesized in an apoferritin cavity
Tomoaki Harada, Hideyuki Yoshimura (*Meiji Univ.*)

2P310 **オズモシス流による FET ナノポア付近の DNA の動き制御**
Controlling the fluidic motion of DNA molecules near FET nanopores by electro-osmotic flows
Manabu Sugimoto, Yuta Kato, Kentaro Ishida, Toshiyuki Mitsui (*Grad. Sch. Sci., Aoyama. Univ.*)

2P311 **ナノ・マイクロファイバーゲルマトリックスの弾性設計による三次元細胞運動制御**
Mechanical control of 3-D cell movement in elasticity-tunable matrix of nano/micro-fiber gels
Aya Ogata[1], Satoru Kidoaki[2] ([1]*Grad. Sch. Eng., Univ. Kyushu*, [2]*IMCE, Univ. Kyushu*)

2P312 ***In vitro* selection of peptide aptamer binding to reduced ferredoxin**
Yasodha Manandhar[1,2], Takanori Uzawa[1], Toshiro Aigaki[2], Yoshihiro Ito[1,2] ([1]*RIKEN*, [2]*Tokyo Metropolitan University*)

2P313 **Selection of RNA aptamer binding to a photoredox catalyst**
Thi Thanh Thoa Tran[1,2], Toshiro Aigaki[2], Takanori Uzawa[1], Yoshihiro Ito[1,2] ([1]*RIKEN*, [2]*Tokyo Metropolitan University*)

2P314 **デザインされた DNA 高次構造体の環境安定性評価**
Stability of designed high-order DNA structures under unconventional conditions
Masahiro Endo[1], Kei Fujiwara[2], Satoshi Murata[1], Shin-ichiro Nomura[1] ([1]*Grad. Sch. Eng., Tohoku Univ.*, [2]*JSPS. Research Fellow. Tohoku Univ.*)

2P315 **Self-assembly and reconfiguration of multiple-sized closed structures made of DNA origami units**
Keitel Cervantes[1], Shogo Hamada[2], Shin-ichiro Nomura[1], Satoshi Murata[1] ([1]*Tohoku university*, [2]*Cornell university*)

2P316 **回転磁場による磁性粒子接着リポソームのクロール運動の観察**
Crawl movement observation of a liposome attached micro-superparamagnetic particles under a rotational magnetic field
Daiki Komatsu, Kei Fujiwara, Shin-ichiro M. Nomura (*Tohoku University*)

第 3 日目（10 月 30 日（水））／Day 3（Oct. 30 Wed.）アネックスホール / Annex hall

01A. 蛋白質：構造 / 01A. Protein: Structure

3P001 **Investigation for co-translational folding using X-ray crystallography**
Yuya Hanazono, Kazuki Takeda, Kunio Miki (*Grad. Sch. Sci., Kyoto Univ.*)

3P002 **二核フェロキシダーゼ中心をもつピロリ菌好中球活性化タンパク質の構造**
Structure of *Helicobacter pylori* neutrophil-activating protein with a di-nuclear ferroxidase center
Hideshi Yokoyama, Osamu Tsuruta, Naoya Akao, Satoshi Fujii (*Sch. of Pharm. Sci., Univ. of Shizuoka*)

3P003 **T4 ファージ gp34C 末端側半分の結晶構造から得られたファージ尾繊維に共通の構造**
The crystal structure of C-terminal half of gp34 from phage T4 reveals common architecture of phage tail fibers
Shuji Kanamaru, Mikiyoshi Namura, Fumio Arisaka (*Grad. Sch. of Biosci. & Biotech., Tokyo Institute of Technology*)

3P004 **病原性大腸菌 O-157 のタイプ 6 分泌系の VgrG1 蛋白質の C 末端断片の X 線結晶構造**
Crystal structure of the C-terminal domain of VgrG1 protein of *E.coli* O-157 Type 6 secretion system
Kazuya Uchida[1], Shuji Kanamaru[1], Petr Leiman[2], Fumio Arisaka[1] ([1]*Grad. Sch. of Biosci. & Bioeng., Tokyo Tech.*, [2]*EPFL*)

3P005 **仮性結核菌由来ヘム獲得蛋白質 HasA の結晶構造解析による新規ヘム結合様式の解明**
Crystal structure of a hemophore hasA secreted by Yersinia pseudotuberclosis shows a novel heme binding mode
Masahiro Kanadani[1], Toshiki Muroki[2], Yukie Ishimaru[2], Saki Wada[1], Takehiro Sato[3], Shin-ichi Ozaki[3], Tomoya Hino[1], Shingo Nagano[1] ([1]*Grad. Sch. Eng., Univ. Tottori*, [2]*Fac. Eng., Univ. Tottori*, [3]*Fac. Agric., Univ. Yamaguchi*)

3P006 **HLA-G2/G6 アイソフォームの単粒子構造解析**
Three dimensional reconstruction of HLA-G2/G6 isoform
Kazuhiro Mio[1], Kimiko Kuroki[2], Haruki Matsubara[2], Yoshiyuki Kasai[2], Chikara Sato[1], Katsumi Maenaka[2] ([1]*National Institute of Advanced Industrial Science and Technology, Biomedical Research Institute*, [2]*Laboratory of Biomolecular Science, Hokkaido University*)

3P007 **大気圧電子顕微鏡（ASEM）によるタンパク質微結晶と細胞内複合体の液中観察**
Direct electron microscopy of protein crystals and Mycoplasma cells in solution using the Atmospheric SEM
Tatsuhiko Ebihara[1], Masaaki Kawata[1], Hidetoshi Nishiyama[2], Miki Senda[3], Mari Sato[1], Mitsuo Suga[2], Toshiya Senda[3], **Chikara Sato**[1] ([1]*AIST*, [2]*JEOL*, [3]*KEK*)

3P008 **EM Navigator と Yorodumi による 3 次元電子顕微鏡構造データの利用**
Using 3D electron microscopy data by EM Navigator and Yorodumi
Hirofumi Suzuki[1,2], Haruki Nakamura[1,2] ([1]*IPR, Osaka univ.*, [2]*PDBj*)

3P009 **電子顕微鏡の傾斜ペアを利用した構造の異なるタンパク質単粒子画像の分類**
Separating single particle images of protein in the different conformations using tilt pair transmission electron microscopy
Yutaka Ueno, Kazunori Kawasaki, Shouhei Mine (*AIST Health Research Institute*)

3P010 **NMR タンパク質立体構造決定のための新規構造最適化法の開発**
Development of a new refinement method for NMR protein structure determination
Manato Shimazaki[1], Teppei Ikeya[1], Masaki Mishima[1], Yutaka Ito[1], Peter Guentert[1,2] ([1]*Grad. Sch. Scii., Tokyo Metropolitan Univ*, [2]*Inst. Biophys. Chem., Goethe Univ Frankfurt*)

3P011 **Structural analysis of antimicrobial peptide CP1 with LPS by NMR**
Mihwa Baek[1], Masakatsu Kamiya[1,2], Taichi Nakazumi[1], Satoshi Tomisawa[1], Yasuhiro Kumaki[3], Takashi Kikukawa[1,2], Makoto Demura[1,2], Keiichi Kawano[2], Tomoyasu Aizawa[1,2] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*Fac. Adv. Life Sci., Hokkaido Univ.*, [3]*Grad. Sch. Sci., Hokkaido Univ.*)

3P012 **高圧力下で見られるべん毛繊維の動的多型性**
Dynamic polymorphism of bacterial flagellar filaments at high pressure
Masayoshi Nishiyama[1], Yoshiyuki Sowa[2] ([1]*Kyoto University*, [2]*Hosei University*)

3P013 **金属結合に伴う 3 ヘリックスバンドル形成の動的構造解析**
Dynamic structural analysis of three-helix bundle formation induced by metal-ion binding
Nobutaka Komichi[1], Hiroshi Sekiguchi[2], Yuji C. Sasaki[3], Toshiki Tanaka[4], Masayuki Oda[1] ([1]*Grad. Sch. Life and Environ. Sci., Kyoto Pref. Univ.*, [2]*Jpn. Syn. Rad. Res. Inst.*, [3]*Grad. Sch. Fron. and Sci., Univ. Tokyo*, [4]*Grad. Sch. Eng., Nagoya Inst. Tech.*)

3P014 **Membrane-Induced Conformations of Proteins Characterized by Vacuum-Ultraviolet Circular-Dichroism and Flow Linear-Dichroism**
Koichi Matsuo[1], Hirofumi Namatame[1], Masaki Taniguchi[1], Kunihiko Gekko[2] ([1]*HiSOR, Hiroshima Univ.*, [2]*Inst. Sust. Sci. Devel. Hiroshima Univ.*)

3P015 **創薬等支援技術基盤プラットフォーム事業におけるタンパク質 X 線溶液散乱**
Bio-SAXS in the Platform for Drug Discovery, Informatics, and Structural Life Science (PDIS)
Nobutaka Shimizu[1], Shinya Saijyo[1], Hiromasa Ota[2], Yasuko Nagatani[1], Ai Kamijyo[1], Takeharu Mori[1], Takashi Kosuge[1], Noriyuki Igarashi[1] ([1]*Photon Factory, KEK*, [2]*Mitsubishi Electric SC*)

3P016 **分子動力学法によるラミニン由来ペプチドの研究**
Study of peptides derived from laminin by molecular dynamics simulations
Hironao Yamada, Masaki Fukuda, Yuka Fukasawa, Takeshi Miyakawa, Ryota Morikawa, Masako Takasu (*Tokyo University of Pharmacy and Life Sciences*)

3P017 **分子動力学法を用いたラミニン α2 由来ペプチド A2G80 の構造決定因子の同定**
Identification of structure determinant amino acid residues in the A2G80 peptide derived from laminin α2 by molecular dynamics simulation
Yuka Fukasawa[1], Jun Kumai[1], Fumihiko Katagiri[1], Yamato Kikkawa[1], Kentaro Hozumi[1], Motoyoshi Nomizu[1], Hironao Yamada[2], Masaki Fukuda[2], Takeshi Miyakawa[2], Ryota Morikawa[2], Masako Takasu[2] ([1]*School of Phamrmacy, Tokyo University of Pharmacy and Life Sciences*, [2]*School of Life Sciences, Tokyo University of Pharmacy and Life Sciences*)

3P018 **分子動力学計算による 4 量体型サルコシン酸化酵素の酵素—基質アナログ複合体の動的挙動解析**
Behavior of enzyme-substrate analogue complex of heterotetrameric sarcosine oxidase studied by molecular dynamics simulation
Go Watanabe, Akinori Hiroshima, Haruo Suzuki, Shigetaka Yoneda (*School of Science, Kitasato University*)

3P019 **The role of the flexible loop in Staphylococcal nuclease on its catalytic activity**
Rumi Shiba[1], Hironari Kamikubo[1], Yutaka Maruyama[2], Junko Yunoki[1], Keiichi Fukuyama[3], Yoichi Yamazaki[1], Mariko Yamaguchi[1], Mikio Kataoka[1] ([1]*Graduate School of Materials Science, Nara Institute of Science and Technology*, [2]*Insitute for Protein Reserch, Osaka University*, [3]*Department of Biological Science, Graduate school of Science, Osaka University*)

3P020 **触媒アスパラギン酸の電荷改変による HIV-1 プロテアーゼの分子動力学シミュレーションへの影響**
Molecular dynamics simulations of HIV-1 protease-inhibitor complex with modified charges for catalytic aspartate
Hirotaka Ode[1], Wataru Sugiura[1,2], Yoshiyuki Yokomaku[1] ([1]*Clinical Research Center, National Hospital Organization Nagoya Medical Center*, [2]*Nagoya University Graduate School of Medicine*)

3P021 **超音波によるアミロイドβオリゴマー破壊の非平衡分子動力学シミュレーション**
Non-equilibrium molecular dynamics simulation for disruption of an amyloid-β oligomer by hypersonic wave
Hisashi Okumura[1,2], Satoru Itoh[1,2] ([1]*Inst Mol Sci*, [2]*SOKENDAI*)

3P022 **Structure and Interactions in Fibrillation of Human Calcitonin Hormone**
Javkhlantugs Namsrai, Ganchimeg Lkhamsuren, Kazuyoshi Ueda, Akira Naito (*Yokohama National University*)

3P023 **結晶環境における弾性ネットワークモデルを用いた高分解能 X 線構造における温度因子の再現**
Thermal fluctuation in high-resolution crystal structures reproduced by normal modes based on an elastic-network model in the crystal
Shigeru Endo[1], Hiroshi Wako[2] ([1]*Dept. Phys., Sch. Science, Kitasato Univ.*, [2]*Sch. Social Sciences, Waseda Univ.*)

01B. 蛋白質：構造機能相関 / 01B. Protein: Structure & Function

3P024 **カブトガニ由来抗菌ペプチド Tachyplesin I とキチン結合能に関する研究**
Analysis of chitin binding ability of an antimicrobial peptide tachyplesin I derived from horseshoe crab
Takahiro Kushibiki[1], Masakatsu Kamiya[1], Tomoyasu Aizawa[1], Yasuhiro Kumiki[2], Takashi Kikukawa[1], Makoto Demura[1], Shun-ichiro Kawabata[3], Keiichi Kawano[1] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*Grad. Sch. of Sci., Hokkaido Univ.*, [3]*Dept. Biol., Kyusyu Univ.*)

3P025 **リジン 2,3-アミノミューターゼにおける高反応性ラジカル反応機構の解明**

Taming the Reactive 5'-Deoxyadenosyl Radical by Enforcing van der Waals Contact with Substrate in Lysine 2,3-Aminomutase

Masaki Horitani[1], Krista Shisler[2], Amanda Byer[2], Joan B. Broderick[2], Brian M. Hoffman[1] ([1]*Dept. Chem., Northwestern Univ.*, [2]*Dept. Chem. & Biochem., Montana State Univ.*)

3P026 **糖結合モジュール Trp 導入変異体の基質結合能**

Substrate binding ability of the Trp introduced mutant of carbohydrate-binding module

Tomonari Tamashiro[1], Hiromi Asada[1], Takahiro Maruno[2], Kenji Kanaori[3], Yuji Kobayashi[2], Masayuki Oda[1] ([1]*Grad. Sch. Life and Environ. Sci., Kyoto Pref. Univ.*, [2]*Grad. Sch. Eng., Osaka Univ.*, [3]*Grad. Sch. Sci. and Technol., Kyoto Inst. Technol.*)

3P027 **炭酸脱水酵素のある変異体の His64 の２つの配向の間の化学交換は NMR 時間軸上十分遅い**

Chemical Exchange between Two Conformations within His64 in a Mutant of Carbonic Anhydrase Is Sufficiently Slow on the NMR Timescale

Hideto Shimahara (*JAIST CNMT*)

3P028 ***Rhodococcus rhodochrous* J1 由来ニトリラーゼの温度による構造変化の ^{1}H NMR による追跡。**

Structural changes of the J1 nitrilase from *Rhodococcus rhodochrous* upon temperatuer increase tracked by ^{1}H NMR

Kyouhei Oyama[1], Ryo Ishiguro[1,2], Teturo Fujisawa[1,2] ([1]*Department of Chemistry and Biomolecular Science,Faculty of Engineering,Gifu University*, [2]*RIKEN SPring-8 Center*)

3P029 **Analysis of unfolded structure of Staphylococcal nuclease mutants by using FRET**

Emi Ohta[1], Takuya Muto[1], Yusuke Kishi[1], Mariko Yamaguchi[1], takayoshi Watanabe[2], Yoichi Yamazaki[1], Hironari Kamikubo[1], Takahiro Hohsaka[2], mikio Kataoka[1] ([1]*Nara Institute of Science and Technology*, [2]*Japan Advanced Institute of Science and Technology*)

3P030 **高時間分解能で蛋白質の分子揺らぎと構造変化を計測するためのＸ線１分子動態計測法の開発**

The Refinement of the Diffracted X-ray Tracking Method for Recording the Single-Molecule Motions of Proteins with Higher Time Resolution

Hirofumi Shimizu, Masayuki Iwamoto, Shigetoshi Oiki (*Univ.Fukui.Fac.Med.Sci.*)

3P031 **X 線 1 分子追跡法による蛋白質安定性の解析**

Protein Stability Analysis of MHC/peptide Complex from X-ray Single Molecule Tracking

Yufuku Matsushita[1], Haruo Kozono[2], Naoki Ogawa[4,5], Kohei Ichiyanagi[1,5], Hiroshi Sekiguchi[3,5], Yuji Sasaki[1,3,5] ([1]*Grad. Sch. Sci., Univ. Tokyo*, [2]*Grad. Sch. Sci., Tokyo Univ. Sci.*, [3]*Spring-8*, [4]*Dept. Int. sci., Nippon Univ.*, [5]*CREST Sasaki team/JST*)

3P032 **表層ストレス応答を制御する膜内切断プロテアーゼ RseP のタンデム PDZ ドメインによる基質選別機構**

Substrate discrimination mechanism by a PDZ tandem in the intramembrane protease RseP that regulates extracytoplasmic stress response

Yohei Hizukuri[1], Takashi Oda[2], Sanae Tabata[3], Tamura-Kawakami Keiko[3], Mamoru Sato[2], Junichi Takagi[3], Terukazu Nogi[2], Yoshinori Akiyama[1] ([1]*Inst. Virus Res., Kyoto Univ.*, [2]*Grad. Sch. Med. Life Sci., Yokohama City Univ.*, [3]*Inst. Prot. Res., Osaka Univ.*)

3P033 **Design of Photo-controllable Cyclic Peptides**

Shinji Kawabata, Yasuhiro Ebisu, Yuta Saeki, Masahiko Hayashi, Atsuo Tamura (*Grad. Sch. Sci., Univ. Kobe*)

3P034 **脂質ータンパク質相互作用の解明を目指した重原子標識脂肪酸の利用**

Toward an understanding of lipid-protein interactions, the use of the heavy atom labeled fatty acid analogues

Shigeru Sugiyama[1,2], Mika Hirose[1,2], Hanako Ishida[1,2], Sebastien Lethu[1,2], Hikaru Ano[1,2], Daisuke Matsuoka[1,2], Toshiaki Hara[1,2], Eiichi Mizohata[3], Tsuyoshi Inoue[3], Shigeru Matsuoka[1,2], Michio Murata[1,2] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*JST, ERATO, Lipid Active Structure Project*, [3]*Grad. Sch. Engi., Osaka Univ.*)

3P035 **嗅覚受容体モデルとしてのオプシン立体構造**

Opsin, Structural Model for Olfactory Receptors

Takefumi Morizumi[1], Jung Hee Park[2], Emil F. Pai[1], Klaus P. Hofmann[3], Hui-Woog Choe[2], Oliver P. Ernst[1] ([1]*Univ. Toronto, Dept. Biochemistry, Canada*, [2]*Chonbuk National Univ., Korea*, [3]*Charite, Univ. Med. Berlin, Germany*)

3P036 **13-cis 型が優勢となる ASR 変異体の研究**

Study of *Anabaena* Sensory Rhodopsin mutant P206D that contains the 13-cis form dominantly

Yoshitaka Kato[1], Akira Kawanabe[2], Keiichi Inoue[1], Kwang-Hwan Jung[3], Hideki Kandori[1] ([1]*Grad. Sch. Eng., Nagoya Inst. Tech.*, [2]*Grad. Sch. Med., Osaka Univ.*, [3]*Sogang Univ., Korea*)

3P037 **真菌由来エラスターゼインヒビター AFUEI と植物由来 potato I family インヒビターとの構造類似性**

Structural similarity of AFUEI, an elastase inhibitor from *Aspergillus fumigatus*, and the potato I family inhibitors from plants

Mayuko Sakuma[1], Katsumi Imada[2], Yoshiyuki Okumura[3], Kei-ichi Uchiya[3], Atsushi Hijikata[4], Tsuyoshi Shirai[4], Toshiaki Nikai[3], Michio Homma[1] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*Grad. Sch. Sci., Osaka Univ.*, [3]*Fac. Pharm., Meijo Univ.*, [4]*Fac. Biosci., Nagahama Inst. BioSci. Tech.*)

3P038 **酵母２６Ｓおよび２０Ｓプロテアソームの構造研究**

Structural investigation of the yeast 26S and 20S proteasome

Yuya Morita[1,2], Takuto Murakami[3], Hiroshi Yamaguchi[3], Yukio Morimoto[1,2] ([1]*Graduate School of Science, Kyoto University*, [2]*Research Reactor Institute, Kyoto University*, [3]*Graduate School of Science-Technology, Kwansei Gakuin University*)

3P039 ***Mycoplasma mobile* の滑走時に“あし”として働くシアル酸レセプターの構造解析**

Structural study of neuraminic acid receptor working as foot in *Mycoplasma mobile* gliding

Tasuku Hamaguchi, Yuhei Tahara, Makoto Miyata (*Grad. Sch. of Sci., Osaka City Univ.*)

3P040 **藍色細菌時計タンパク質 KaiA-KaiC 相互作用の ESR 解析**

Interactions between cyanobacterial clock proteins KaiA and KaiC revealed by ESR analysis

Kentaro Ishii[1], Toshiaki Arata[2], Masahiro Ishiura[1] ([1]*Center for gene research, Nagoya univ.*, [2]*Grad. Sch. Sci., Osaka Univ.*)

3P041 **黄色ブドウ球菌の Isd-NEAT ドメイン間におけるヘム輸送についての考察**
Insights into the mechanism of heme-transfer between Isd NEAT domains of Staphylococcus aureus
Yoshitaka Moriwaki[1], Tohru Terada[2], Jose M. M. Caaveiro[3], Yousuke Takaoka[4], Itaru Hamachi[4], Kouhei Tsumoto[5], Kentaro Shimizu[1] ([1]*Dept. of Biotech., Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo*, [2]*Agri. Bioinfo. Res. Unit, Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo*, [3]*Ins. of Med. Sci., Univ. of Tokyo*, [4]*Dept. of Synth. Chem. and Biol. Chem., Kyoto Univ.*, [5]*Dept. of Bioeng., Grad. Sch. of Eng., Univ. of Tokyo*)

3P042 **Hsp90 と ADP の解離過程における自由エネルギープロフィールと解離経路**
Free energy profile and dissociation pathway in the dissociation process of ADP from Hsp90
Kazutomo Kawaguchi, Hiroaki Saito, Hidemi Nagao (*Intsitute of Science and Engineering, Kanazawa University*)

3P043 **Mechanism of glycan receptor recognition for influenza virus Hemagglutinins: Comparative molecular dynamis studies**
Katsumi Omagari (*Department of Virology, Medical School, Nagoya City University*)

3P044 **Free energy landscape of substrate passing inside proteasome - activator complex**
Hisashi Ishida (*Japan Atomic Energy Agency*)

3P045 **MD シミュレーションを用いた CD44 のヒアルロン酸結合による構造変化に関する研究**
Molecular dynamics simulation study on hyaluronan induced structural change of CD44
Saki Hongo[1], Yoshifumi Fukunishi[2], Masami Lintuluoto[1] ([1]*Grad. Sch. of Life and Environ. Sci., Kyoto Pref. Univ.*, [2]*Natl. Instit. of Adv. Indust. Sci. and Technol.*)

3P046 **代謝型グルタミン酸受容体の活性化過程の動的モデルの構築**
Dynamical modeling of the activation process of metabotropic glutamate receptor
Kaita Fujihara, Tatsuki Negami, Tohru Terada, Kentaro Shimizu (*Dept. of Biotech., Grad Sch. of Agri. Life Sci., Univ. of Tokyo*)

3P047 **Mutation studies on the mammalian and the baterial XORs with inhibitors**
Hiroto Kikuchi[1], Hiroshi Fujisaki[1], Tadaomi Furuta[2], Ken Okamoto[3], Takeshi Nishino[4] ([1]*Dept. of Phys., Nippon Med. Sch.*, [2]*Center for Biol. Resources and Info., Tokyo Inst. Tech.*, [3]*Dept. of Biochem. and Mol. Biol., Nippon Med. Sch.*, [4]*Grad. Sch. Agri. and Life Sci.*)

3P048 **Computational studies of mutational effects on nylon degrading enzyme**
Takeshi Baba[1], Katsumasa Kamiya[2], Toru Matsui[3], Masayoshi Nakano[1], Seiji Negoro[4], Boero Mauro[5], Yasuteru Shigeta[1,6] ([1]*Grad. Sch. of Eng. Sci., Osaka Univ.*, [2]*Grad. Sch. of Pure and Applied Sci., Univ. of Tsukuba*, [3]*Adv. Ins. for Comp. Sci., RIKEN*, [4]*Grad. Sch. of Eng., Univ. Hyogo*, [5]*Univ. Strasbourg*, [6]*CREST*)

3P049 **糖鎖の構造多形予測に向けた CHARMM 力場の改良**
Revised CHARMM carbohydrate force field for improved description of conformational diversity of N-glycans
Suyong Re[1], Shigehisa Watabe[2], Wataru Nishima[1], Yuji Sugita[1] ([1]*Wako Inst., Riken*, [2]*Grad. Sch. Sci. Eng., Chuo Univ.*)

3P050 **Structural insights into enzyme-bound flavin adenine dinucleotides (FAD)**
Gopi Kuppuraj[1], Fumiko Suzuki[1], Masahiko Ikeuchi[2], Kei Yura[1] ([1]*Centre for Informational Biology, Ochanomizu University, Bunkyo, Tokyo*, [2]*Department of Life Sciences (Biology), University of Tokyo, Komaba, Meguro, Tokyo*)

01C. 蛋白質：物性 / 01C. Protein: Property

3P051 **金属結合によるヒトプリオンペプチドの配位モード**
Coordination mode in human prion peptide caused by metal binding
Kazuya Iwama, Masahiro Yagi, Haruto Onda, Wakako Hiraoka (*Graduate School and Technology, Meiji University*)

3P052 **二次元蛍光寿命相関分光法による BdpA 変性状態における構造ダイナミクスの解析**
Two-dimensional fluorescence lifetime correlation spectroscopy on the conformational dynamics of the unfolded state of BdpA
Takuhiro Otosu[1], Kunihiko Ishii[1], Hiroyuki Oikawa[2], Munehito Arai[3], Satoshi Takahashi[2], Tahei Tahara[1] ([1]*Mol. Spectrosc. lab., RIKEN*, [2]*IMRAM, Tohoku Univ.*, [3]*Grad. Sch. Arts. Sci., Univ. Tokyo*)

3P053 **タンパク質中のトリプトファン残基の近紫外円二色性と紫外共鳴ラマンスペクトルの特性**
Some basic properties of near-UV circular dichroism and UV resonance Raman spectra of tryptophan residues in proteins
Shigenori Nagatomo[1], Masako Nagai[2], Takashi Ogura[3], Teizo Kitagawa[3] ([1]*Dept. Chem., Univ. Tsukuba*, [2]*Res. Center Micro-Nano Tech., Hosei Univ.*, [3]*Grad. Sch. Life. Sci., Univ. Hyogo*)

3P054 **テラヘルツ時間領域分光法によるトレハロースにコートされたタンパク質の低振動ダイナミクス**
Low-frequency dynamics of Trehalose-coated Lysozyme studied by terahertz time-domain spectroscopy
Risa Okada[1], Naoki Yamamoto[2], Atsuo Tamura[1], Keisuke Tominaga[1,2] ([1]*Grad. Sch. Sci., Univ. Kobe*, [2]*Molecular Photoscience Research Center, Univ. Kobe*)

3P055 **シクロデキストリン+タンパク質+メチルオレンジ・ヨウ素系における包接機構**
Inclusion mechanism of cyclodextrin for protein in methyl orange and iodine aqueous solution
Tomokadu Marutani, Takayoshi Kimura, Tadashi Kamiyama (*Fac.Science,Kinki Univ.*)

3P056 **タンパク質の熱変性における部分比容、断熱圧縮率、熱膨張率**
Partial specific volume, adiabatic compressibility, and thermal expansion coefficient of protein for thermal denaturation
Tetsurou Takaoka, Takuya Hamada, Takayoshi Kimura, Tadashi Kamiyama (*Fac. Science, Kinki Univ.*)

3P057 **アミノ酸置換による蛋白質の熱安定性変化の理論的予測**
Theoretical Prediction of Thermal-Stability Changes upon Mutations of a Protein
Shota Murakami[1], Hiraku Oshima[2], Tomohiko Hayashi[2], Masahiro Kinoshita[2] ([1]*Grad. Sch. Energ. Sci., Kyoto Univ.*, [2]*Inst. Adv. Energ., Kyoto Univ.*)

3P058 蛋白質構造安定性における溶媒エントロピー効果―蛋白質-溶媒間多体相関の重要性―

Solvent-Entropy Effect in Structural Stability of a Protein: Crucial Importance of Protein-Solvent Many-Body Correlation

Hiraku Oshima[1], Shota Murakami[2], Masahiro Kinoshita[1] ([1]*Inst. Adv. Energ., Kyoto Univ.*, [2]*Grad. Sch. Energ. Sci., Kyoto Univ.*)

3P059 天然タンパク質の鎖長と分子サイズのスケーリング関係についての包括的解析

Comprehensive analysis of the scaling relationship between the chain length and the molecular size of native proteins

Daisuke Takahashi[1], Munehito Arai[1,2] ([1]*Dept. Life Sci., Univ. Tokyo*, [2]*PRESTO, JST*)

3P060 複雑なトポロジーを持つタンパク質のフォールディング経路ネットワーク

Network of folding pathways of topologically complex proteins

Takashi Inanami, Masaki Sasai (*Dept. of Comp. Sci. Eng., Univ. of Nagoya*)

3P061 天然変性蛋白質の立体構造特性に関わるリン酸化の静電的な制御

Phosphorylation as an electrostatic regulation of the conformational state of intrinsically disordered proteins

Koji Umezawa[1], Jun Ohnuki[1], Yukinobu Mizuhara[1], Junichi Higo[2], Mitsunori Takano[1] ([1]*Grad. Scl. of Adv. Sci. & Eng., Waseda Univ.*, [2]*IPR, Osaka Univ.*)

3P062 ウマ β ラクトグロブリン初期中間体における非天然ヘリックスのフォールディングキネティクスへの影響

Effect of non-native α-helix in the early intermediate on folding kinetics of equine β-lactoglobulin

Takahiro Okabe, Toshiaki Miyajima, Hideaki Ohtomo, Mio Ohtomo, Kanako Nakagawa, Seiichi Tsukamoto, Kazuo Fujiwara, Masamichi Ikeguchi (*Dept. of Bioinformatics, Soka Univ.*)

3P063 天然条件下における PCP 各残基アンフォールディング速度の観測ー尿素によるアンフォールディングの促進機構

Observation of unfolding rates of each residue of PCP under the native condition - Mechanism for urea to accelerate the unfolding rate

Shinya Fujii[1], Yasuo Noda[1], Katsuhide Yutani[2], Shin-ichi Segawa[1] ([1]*Sch. of Sci. and Tech., Kwansei Gakuin Univ.*, [2]*Riken SPring-8 Center, Riken Harima Institute.*)

3P064 高速溶液混合法を用いたアポミオグロビンの salt-induced 中間体のフォールディングに関する研究

Folding of salt-induced intermediate of apomyoglobin using ultrarapid mixing methods

Yukiko Abe, Takuya Mizukami, Kosuke Maki (*Grad. Sch. Sci., Nagoya Univ.*)

3P065 変異体解析を用いた緑色蛍光蛋白質のフォールディング機構におけるヒスチジン残基の役割に関する研究

The role of histidine residues in folding mechanism of green fluorescent protein studied by mutagenesis approach

Taichi Andou, Kosuke Maki (*Grad. Sch. Sci., Nagoya Univ.*)

3P066 スタフィロコッカル・ヌクレアーゼの安定性とフォールディング/アンフォールディングの研究

The Stability and Folding/Unfolding of Staphylococcal Nuclease at the Residue Level

Shun Terauchi[1], Keisuke Kamba[1], Yoshiharu Mori[2], Yoshitake Sakae[1,2], Takashi Nakamura[2,3], Yuko Okamoto[1,4,5], Kunihiro Kuwajima[2,3,6], Kosuke Maki[1] ([1]*Sch. of Sci., Nagoya Univ.*, [2]*Inst. Mol. Sci.*, [3]*Okazaki Inst. Integr. Biosci.*, [4]*Struct. Biol. Res. Center, Sch. of Sci., Nagoya Univ.*, [5]*Center for Comput. Sci., Sch. of Eng., Nagoya Univ.*, [6]*Sch. of Phys. Sci., Grad. Univ. Adv. Studies*)

3P067 ヒトカルシトニンのアミロイド様線維形成機構とその阻害効果の解析

Analyses of amyloid fibrillation mechanism and its inhibition effect of hCT as studied by ^{13}C solid-state NMR and TEM

Hikari Itoh-Watanabe[1], Miya Kamihira-Ishijima[2], Izuru Kawamura[1], Masashi Kondoh[3], Michio Sato[3], Masamichi Nakakoshi[3], Akira Naito[1] ([1]*Graduate School of Engineering, Yokohama National University, Yokohama,*, [2]*Institute of Multidisciplinary Research, Tohoku University, Sendai, Japan.*, [3]*Instrumental Analysis Center, Yokohama National University, Yokohama, Japan.*)

3P068 β_2 ミクログロブリンのアミロイド幹形成領域のスキャン探索

Scanning survey for amyloid-stem-forming region of β_2-microglobulin

Hisayuki Morii[1], Takashi Shimizu[1], Masayuki Nara[2] ([1]*National Institute of Advanced Industrial Science and Technology (AIST)*, [2]*College of Liberal Arts and Sciences, Tokyo Medical and Dental University*)

3P069 ヒトカルシトニンの酸性膜存在下でのアミロイド線維形成機構の解明

Amyloid-like fibrillization and the structure of human calcitonin in the presence of acidic lipids

Akira Asano[1], Yuki Abe[1], Ken Takeuchi[1], Miya Kamihira-Ishijima[2], Hikari Itoh-Watanabe[1], Izuru Kawamura[1], Ayyalusamy Ramamoorthy[3], Akira Naito[1] ([1]*Graduate School of Engineering, Yokohama National University*, [2]*Graduate School of Life Science, University of Hyogo*, [3]*Biophysics and Department of Chemistry, University of Michigan*)

3P070 インスリン B 鎖に見られる多様なアミロイド線維前駆中間体の観察

Observation of various types of amyloid prefibrillar intermediates of insulin B chain

Shoko Tsuhara, Eri Chatani (*Grad.Sch.of Sci.,Kobe.Univ*)

3P071 金属イオン配位によるインスリンアミロイド線維の多形誘導効果

Polymorphism of insulin amyloid fibrils induced by the coordination of metal ions

Misaki Yokoyama, Yoshito Huruie, Motonari Tubaki, Hiroshi Hori, Eri Tyatani (*Grad.Sch.of Sci.,Kobe Univ*)

3P072 **Exploring roles of water molecules on amyloid fibrillation by salt effects and Near Infrared spectroscopy**

Yuuki Masuda[1], Yutaro Tsuchisaka[2], Roumiana Tsenkova[2], Eri Chatani[1] ([1]*Graduate school of science, Kobe University*, [2]*Graduate school of Agricultural Science, Kobe University*)

01D. 蛋白質：機能 / 01D. Protein: Function

3P073 **タンパク質翻訳と共役した分子シャペロン動態の１分子蛍光イメージング**
Single-molecule fluorescence imaging of translationally-coupled chaperone action
Tatsuya Niwa[1], Hisashi Tadakuma[2], Koichi Ito[2], Takuya Ueda[2], Hideki Taguchi[1] ([1]*Grad. Sch. of Biosci&Biotech, Tokyo Institute of Technology*, [2]*Grad. Sch. of Frontier Sciences, University of Tokyo*)

3P074 **一分子蛍光法によるリポアミド脱水素酵素の作用特性の解析**
Enzymatic reaction of Dihydrolipoamide dehydrogenase revealed by single molecular fluorescence detection method
Hiromichi Nakashima[1], Tsukasa Oyakawa[1], Etsuko Nishimoto[2] ([1]*Institute of Biophysics, Faculty of Agriculture, Graduate School of Kyushu University*, [2]*Molecular Biosciences, Bioscience and Biotechnology, Kyushu University*)

3P075 **ウマ L フェリチンサブユニットへの鉄酸化活性部位の導入**
Insertion of ferroxidase center in horse L ferritin subunit
Mai Nemiti, Tomoaki Harada, Hideyuki Yoshimura (*Sch of Sci. & Tech., Meiji Univ.*)

3P076 **デザインペプチドによる脂肪滴とアミロイド線維の加水分解**
Hydrolysis of lipid droplets and amyloid fibrils by the designed peptide
Yoshihiro Iida, Atsuo Tamura (*Kobe University*)

01E. 蛋白質：計測・解析の方法論 / 01E. Protein: Measurement & Analysis

3P077 **タンパク質分解酵素の速度論的安定性の熱測定による評価方法**
Calorimetric method to evaluate the kinetic stability of proteases
Shun-ichi Kidokoro, Akihiro Nagata, Keita Ochi (*Dept. Bioengineer., Nagaoka Univ. Tech.*)

3P078 **タウタンパク質に対する Pin1 のプロリン異性化活性を測定するための新しい方法**
A novel method to measure Pin1's peptidyl-prolyl isomerase activity for tau protein
Teikichi Ikura, Nobutoshi Ito (*Med. Res. Inst., Tokyo Med. Dent. Univ.*)

3P079 **New highly accurate pickup methods, MRA-StoPICK and MRMA-StoPICK methods, for single particle analysis using electron microscope**
Masaaki Kawata, Chikara Sato (*National Institute of Advanced Industrial Science and Technology*)

3P080 **積分方程式理論に基づく X 線小角散乱データを用いた蛋白質間相互作用の解析**
An integral equation approach for protein interactions using small-angle X-ray scattering data
Tomonari Sumi[1], Hiroshi Imamura[2], Keiko Nishikawa[2] ([1]*Dept. Chem., Fac. Sci., Okayama Univ.*, [2]*Grad. Sch. Adv. Integ. Sci., Chiba Univ.*)

3P081 **静的光散乱法による水溶性タンパク質の分子量の測定**
Measurements of molecular weights of soluble proteins using static light scattering
Ken Takeuchi, Youichi Nakatani, Osamu Hisatomi (*Department of Earth and Space Science, Graduate School of Science Osaka University*)

3P082 **タンパク質超高感度測定法の開発：ELISA 法と酵素サイクリング法との組み合わせの試み**
Development of super high-sensitive measurement of proteins by combination of ELISA and enzyme cycling methods
Etsuro Ito (*Kagawa School of Pharmaceutical Sciences, Tokushima Bunri University*)

3P083 **Single-molecule investigation of the force required to release SecM-mediated translation arrest**
Zhuohao Yang, Ryo Iizuka, Takashi Funatsu (*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*)

3P084 **High-Speed AFM Observation of the FliI/ FliJ Complex**
David Carriou[1], Takayuki Uchihashi[1,2], Yumiko Uchida[3], Hiroto Yanagawa[3], Tohru Minamino[4], Katsumi Imada[3], Toshio Ando[1,2] ([1]*Dept. Phys., Kanazawa Univ.*, [2]*Bio-AFM Frontier Research Center, Kanazawa Univ.*, [3]*Grad. Sch. Sci., Osaka Univ.*, [4]*Grad. Sch. Frontier Biosci., Osaka Univ.*)

01F. 蛋白質：蛋白質工学／進化工学 / 01F. Protein: Engineering

3P085 **穏やかな pH で抗体精製するための新規アフィニティーリガンドの開発**
Development of a novel affinity ligand for purification of antibodies at moderate pH
Taihei Sawada[1], Takaihiro Watanabe[1], Yuuki Hayashi[1], Munehito Arai[1,2] ([1]*Dep. Life Sci., Univ. Tokyo,*, [2]*PRESTO, JST*)

3P086 **アルデヒドデカルボニラーゼによるバイオアルカン生産に向けたシステイン置換体の開発**
Toward the development of cysteine-free variants of aldehyde decarbonylase for industrial bioalkane production
Yuuki Hayashi[1], Fumitaka Yasugi[1], Munehito Arai[1,2] ([1]*Dept. Life Sci., Univ. Tokyo*, [2]*PRESTO, JST*)

3P087 **LOV を鋳型とした酸化還元感受性タンパク質の蛍光特性**
Redox-controlled fluorescence from LOV-based proteins
Yukiko Ono, Tatsuya Iwata, Masayo Iwaki, Hideki Kandori (*Nagoya Inst. Of Technol.*)

3P088 **Addition of negatively charged residues can reverse the aggregation of a protein caused by an artificially introduced hydrophobic surface**
Sota Yagi, Satoshi Akanuma, Akihiko Yamagishi (*Tokyo university of pharmacy and life science*)

3P089 **総電荷の異なるフェリチン変異体の作製と特徴付け**
Construction and characterization of ferritin mutants having different net charges
Satsuki Takebe, Eriko Aoki, Daisuke Sato, Kazuo Fujiwara, Masamichi Ikeguchi (*Soka University*)

3P090 **人工 4 ヘリックスバンドルタンパク質上に白金結合ループを創出**
Creation of a platinum-binding loop on an artificial four-helix bundle protein
Hiroya Niiro, Satoshi Akanuma, Akihiko Yamagishi, Yuuto Akiyama, Tatuya Uchida (*Tokyo University of Pharmacy and Life Sciences*)

3P091 **アクチン発現系の確立に向けて**

Toward the establishment of an expression system for actin

Masashi Mori[1], Yoshitaka Umetsu[2], Shinya Ohki[2] ([1]*Ishikawa Prefectural University*, [2]*Japan Advanced Institute of Science and Technology*)

02. ヘム蛋白質 / 02. Heme proteins

3P092 **インドールアミン 2,3 ジオキシゲナーゼの基質トリプトファンの検出-紫外共鳴ラマン分光法**

Detection of the bound tryptophan in indoleamine 2,3-dioxygenase by UV resonance Raman spectroscopy

Sachiko Yanagisawa[1], Masayuki Hara[1], Hiroshi Sugimoto[2], Yoshitsugu Shiro[2], Takashi Ogura[1] ([1]*Univ. of Hyogo*, [2]*RIKEN Harima SPring-8 center*)

3P093 **Interaction Between Heme and Heme-Cu Binuclear Center in Cytochrome *c* Oxidase**

Miyuki Sakaguchi[1], Kyoko Shinzawa-Itoh[2], Shinya Yoshikawa[2], Takashi Ogura[1] ([1]*Department of Protein Vibrational Spectroscopy, Picobiology Institute, University of Hyogo*, [2]*Department of Protein Crystal Growth Mechanism, Picobiology Institute, University of Hyogo*)

3P094 **チトクロム *c* 酸化酵素の酸素還元反応における赤外吸収測定を目的とした酸素肺フローシステムの開発**

Development of the flow system with an oxygen lung aiming at IR measurement on the oxygen reduction reaction of cytochrome *c* oxidase

Tatsuhito Nishiguchi, Masahide Hikita, Kyoko Shinzawa-Itoh, Shinya Yoshikawa, Satoru Nakashima, Takashi Ogura (*Grad. Sch. Lif. Sci., Univ. Hyogo*)

3P095 **シアン化物・アジ化物結合完全酸化型ウシ心筋チトクロム酸化酵素の構造解析**

Structural analysis of bovine heart cytochrome *c* oxidase in the cyanide- and azide-bound fully oxidized states

Kazumasa Muramoto[1], Masao Mochizuki[1], Naomine Yano[1], Tomoko Maeda[1], Kyoko Shinzawa-Itoh[1], Eiki Yamashita[2], Tomitake Tsukihara[1,2], **Shinya Yoshikawa**[1] ([1]*Grad. Sch. Life Sci., Univ. Hyogo*, [2]*Inst. Protein Res., Osaka Univ.*)

3P096 **Sequencing bovine/human hybrid cytochrome c oxidase genes in HeLa cells to verify mutagenesis results disapproving D-path proton pumping**

Ryohta Aminaka[1], Mai Itoh[1], Kunitoshi Shimokata[2], Yukie Katayama[1], Tomitake Tsukihara[1], Shinya Yoshikawa[1], Hideo Shimada[1] ([1]*Grad. Sch. Sci., Univ. Hyogo*, [2]*WORLD INTEC CO., LTD.*)

3P097 **完全酸化型チトクロム *c* 酸化酵素の酸化還元活性金属中心とアザイドの相互作用の分光学的研究**

Spectroscopic characterization of the interaction of azide with the redox-active metal sites of fully oxidized cytochrome *c* oxidase

Masahide Hikita, Akima Yamamoto, Tomoko Maeda, Kyoko Shinzawa-Itoh, Takashi Ogura, Shinya Yoshikawa (*Grad. Sch. Sci., Univ. Hyogo*)

3P098 **一酸化炭素・シアン化物結合混合原子価型ウシ心筋チトクロム酸化酵素の構造解析**

Structural analysis of bovine heart cytochrome *c* oxidase in the CO- and cyanide-bound mixed valence states

Kazumasa Muramoto[1], Masao Mochizuki[1], Maki Taniguchi[1], Naomine Yano[1], Tomoko Maeda[1], Kyoko Shinzawa-Itoh[1], Eiki Yamashita[2], Tomitake Tsukihara[1,2], Shinya Yoshikawa[1] ([1]*Grad. Sch. Life Sci., Univ. Hyogo*, [2]*Inst. Protein Res., Osaka Univ.*)

03. 膜蛋白質 / 03. Membrane proteins

3P099 **人工設計膜貫通ペプチドを用いたシグナル伝達モデル系の構築**

Design of transmembrane peptide for constructing a signaling model

Takato Hiramatsu, Atsuo Tamura (*Grad. Sch. Sci. chem, Univ. Kobe*)

3P100 **好熱菌 F_0F_1-ATP 合成酵素 *c* サブユニットリングの活性部位の構造**

The Active-Site Structure of Thermophilic F_0F_1-ATP Synthase *c*-Subunit Rings in Membranes

Su-Jin Kang[2], **Yasuto Todokoro**[1,5], Ikuko Yumen[1], Bo Shen[1], Iku Iwasaki[2], Toshiharu Suzuki[3,4], Atsushi Miyagi[1], Masasuke Yoshida[3,4], Toshimichi Fujiwara[1], Hideo Akutsu[1,2] ([1]*IPR, Osaka Univ.*, [2]*BpCB, Seoul Nat. Univ.*, [3]*Chem. Res. Lab., Tokyo Inst. Tech.*, [4]*Dep. Mol. Biosci., Kyoto San. Univ.*, [5]*Grad. Sch. Sci., Osaka Univ.*)

3P101 **Analysis of Structure and Function of Synaptotagmin 4**

Masayuki Goto (*Tsukuba, Material Sci,*)

3P102 **擬環状リン脂質リポソーム中のバクテリオロドプシンの構造と機能**

A Biophysical Study of Bacteriorhodopsin in Pseudocyclic Phosphatidylcholine Liposome

Masashi Sonoyama[1], So Yoshioka[1], Naoyuki Tsuchida[1], Toshiyuki Takagi[2], Hiroshi Takahashi[1], Takashi Kikukawa[3], Toshiyuki Kanamori[2] ([1]*Fac. Sci. Tech., Gunma Univ.*, [2]*R. C. Stem Cell, AIST*, [3]*Fac. Adv. Sci., Hokkaido Univ.*)

3P103 **結晶化を目指したカイコガ性フェロモン生合成活性化神経ペプチド受容体（PBANR）の細胞内第 3 ループへの T4 リゾチーム置換位置の検討**

Positional optimization of the T4 lysozyme replacing the third intracellular loop of the silkmoth PBANR for its crystallization

Yukie Katayama[1], Takeshi Kawai[1], Tatsuya Suzuki[1], Tatsuki Ebisawa[1], Jun Ohtsuka[1], Ryo Natsume[2], Yu-Hua Lo[2], Toshiya Senda[2], Toshihiro Nagamine[3], Masaaki Kurihara[3], Jae Min Lee[3], J. Joe Hull[4], Shogo Matsumoto[3], Hiromichi Nagasawa[1], Koji Nagata[1], Masaru Tanokura[1] ([1]*Univ. of Tokyo*, [2]*BRIC, AIST*, [3]*RIKEN*, [4]*USDA-ARS*)

3P104 **膜貫通ヘリックスの膜内配向決定機構の粗視化分子動力学シミュレーションによる探索**

Coarse grained molecular dynamics simulations toward the mechanism elucidation of membrane protein topogenesis

Kouya Sakuma, Shoji Takada (*Grad. Sch. Sci., Kyoto Univ.*)

3P105 **細胞膜モデル「ナノディスク」を用いたハロロドプシンの三量体形成が持つ機能的意義**
Effects of homotrimer formation on chloride pump activity in membrane mimetics, Nanodisc, embedded Halorhodopsin
Kenshiro Suzuki[1], Ayumi Yamamoto[1], Takashi Tsukamoto[2], Toshihiro Kobashigawa[4], Takeshi Uchida[1,3], Fuyuhiko Inagaki[4], Makoto Demura[2], Koichiro Ishimori[1,3] ([1]*Grad. Sch. of Chem. Sci. and Eng. Hokkaido Univ.*, [2]*Grad. Sch. of Life Sci. Hokkaido Univ.*, [3]*Fac. of Sci. Hokkaido Univ.*, [4]*Fac. of Adv. Life Sci. Hokkaido Univ.*)

3P106 **インテグリンと FAK を含む短寿命多分子複合体ラフトが GPI アンカー型受容体の IP3 シグナルを誘起するプラットフォームとなる**
Transient raft-dependent multimolecular complexes including integrin and FAK are the platforms for IP3 signaling of GPI-anchored receptors
Taka A. Tsunoyama[1], Kenichi G.N. Suzuki[1,2], Takahiro K. Fujiwara[1], Akihiro Kusumi[1,3] ([1]*Institute for Integrated Cell-Material Sciences (WPI-iCeMS), Kyoto University*, [2]*National Centre for Biological Science/ Institute for Stem Cell Biology and Regenerative Medicine, Bangalore, India*, [3]*Institute for Frontier Medical Sciences, Kyoto University*)

3P107 **GPCR ダイマーがシグナルトリガーとしてはたらく：インバースアゴニスト効果の 1 分子イメジング解析に基づく発見**
GPCR dimers as active signal triggers: inverse agonist effects revealed by single-molecule imaging analysis
Rinshi Kasai[1], Takahiro Fujiwara[2], Akihiro Kusumi[1,2] ([1]*Inst. For Frontier Med. Sci., Kyoto Univ.*, [2]*WPI-iCeMS, Kyoto Univ.*)

3P108 **生体分子複合体を通した多剤排出の物理に関して**
On the Physics of Multidrug Efflux through a Biomolecular Complex
Hirokazu Mishima[1], Hiraku Oshima[2], Satoshi Yasuda[2], Ken-ichi Amano[3], Masahiro Kinoshita[2] ([1]*Grad. Sch. Ene., Univ. Kyoto*, [2]*Inst. Adv. Ene., Univ. Kyoto*, [3]*Pharm., Univ. Tohoku*)

3P109 **X 線結晶構造の決定に向けた膜タンパク質構造安定性の理論的向上**
Theoretical Enhancement of Structural Stability of a Membrane Protein for X-ray Crystallography
Satoshi Yasuda[1], Hiraku Oshima[1], Takeshi Murata[2], Masahiro Kinoshita[1] ([1]*Institute of Advanced Energy, Kyoto Univ.*, [2]*Department of Chemistry, Graduate School of Science, Chiba Univ.*)

3P110 **Ca^{2+}結合部位のプロトン状態変化による SERCA の構造変化**
Conformational change of SERCA upon alternating protonation states in Ca^{2+}-binding site
Chigusa Kobayashi[1], Yuji Sugita[2,3] ([1]*RIKEN, AICS*, [2]*RIKEN, QBiC*, [3]*RIKEN, TMS*)

3P111 **改良した ATP 分子力場を用いた筋小胞体カルシウムポンプの分子動力学計算**
Molecular dynamics simulations of SR Ca^{2+}-ATPase using improved ATP force field
Yasuaki Komuro[1,2], Chigusa Kobayashi[3], Suyong Re[2], Eiro Muneyuki[1], Yuji Sugita[2,3,4] ([1]*Chuo Univ., Dept. Phys.*, [2]*RIKEN*, [3]*RIKEN AICS*, [4]*RIKEN QBiC*)

3P112 **アミロイド前駆体タンパク質とコレステロールとの相互作用**
Interaction between cholesterol and transmembrane region of Amyloid Precursor Protein
Naoyuki Miyashita[1,2], Fumiko Ogushi[3], Yuji Sugita[1,2,4] ([1]*RIKEN QBiC*, [2]*RIKEN AICS*, [3]*Ochanomizu University*, [4]*RIKEN*)

04. 核酸結合蛋白質 / 04. Nucleic acid binding proteins

3P113 **LRH-1 の beta-catenin による転写活性化の構造基盤**
Structural basis of transcriptional co-activation of LRH-1 by beta-catenin
Fumiaki Yumoto[1,2], Robert Fletterick[2] ([1]*KEK Structural Biology Research Center*, [2]*University of California, San Francisco*)

3P114 **RNA アプタマーとプリオン蛋白質部分ペプチドの結合の統計熱力学**
Statistical Thermodynamics for Binding of an RNA Aptamer and a Partial Peptide of a Prion Protein
Tomohiko Hayashi, Hiraku Oshima, Tsukasa Mashima, Takashi Nagata, Masato Katahira, Masahiro Kinoshita (*Institute of Advanced Energy, Kyoto Univ.*)

3P116 **The coarse grained GBSA method for simulations of biomolecular system**
Le Chang[1], Wenfei Li[2], Naoto Hori[1], Shoji Takada[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Dept. Phys., Nanjing Univ.*)

3P117 **DNA 結合蛋白質はどのようにして障害物を回避するか。分子シミュレーションによるアプローチ**
How DNA-binding proteins can bypass obstacles? Molecular simulation approaches
Mami Saito, Tsuyoshi Terakawa, Shoji Takada (*Grad.Sch.Sci, Kyoto Uni.*)

3P118 **転写因子 p53 の特異的結合部位探索・認識機構：マルチスケールシミュレーション研究**
Specific DNA sequence search and recognition mechanism of transcription factor p53: multi-scale simulation study
Tsuyoshi Terakawa[1], Junichi Higo[2], Shoji Takada[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Inst. Protein Res., Osaka Univ.*)

05A. 核酸：構造・物性 / 05A. Nucleic acid: Structure & Property

3P119 **DNA 塩基対の安定性に及ぼすコリンイオンの効果の分子動力学計算による解析**
Analysis for the effect of choline ions on the stability of DNA base pairs using molecular dynamics simulation
Miki Nakano[1], Hisae Tateishi-Karimata[1], Naoki Sugimoto[1,2] ([1]*Konan Univ. FIBER*, [2]*Konan Univ. FIRST*)

3P120 **粗視化分子動力学シミュレーションによる一本鎖 DNA 領域形成機構の駆動力の解明**
DNA unwinding mechanisms in *E. coli, oriC* region studied by coarse grained molecular dynamics simulations
Masahiro Shimizu, Shoji Takada (*Grad. Sch. Sci., Kyoto Univ.*)

3P121 **粗視化シミュレーションによる多ヌクレオソーム系の構造ダイナミクス**

Poly-nucleosome structural dynamics by coarse-grained simulations

Hiroo Kenzaki[1], Shoji Takada[2] ([1]*Advanced Center for Computer and Communications, RIKEN*, [2]*Dept. of Biophysics, Graduate School of Science, Kyoto Univ.*)

3P122 **長鎖 DNA 分子内折り畳みは高分子電解質の鎖長に依存して２つのモードを示す**

Two-mode Folding of a Single Giant Duplex DNA Chain Depneding on the Length of Cationic Polymer

Tatsuo Akitaya[1], Naomi Tsumura[1], Hiroyuki Mayama[1], Norio Hazemoto[2], Toshio Kanbe[3], Makoto Demura[4], Anatoly Zinchenko[5], Shizuaki Murata[5], Kenichi Yohikawa[6] ([1]*Dept. Chem., Asahiakwa Med. Univ.*, [2]*Grad. Sch. Pharm. Sci., Nagoya City Univ.*, [3]*Sch. Med., Nagoya Univ.*, [4]*Grad. Sch. Life Sci., Hokkaido Univ.*, [5]*Grad. Sch. Env. Study, Nagoya Univ.*, [6]*Grad. Sch. Life Med. Sci., Doshisha Univ.*)

3P123 **Fleeting secondary structure effects on hybridization kinetics**

Hiroaki Hata[1], Akira Suyama[1,2] ([1]*Grad. Sch. Sci., Univ. Tokyo*, [2]*Grad. Sch. Arts and Sci., Univ. Tokyo*)

3P124 **光応答性分子ロボット構築のための DNA マイクロカプセルの設計と作製**

Design and construction of a DNA microcapsule toward light-responsive molecular robots

Yuichi Tsuganezawa[1], Masamune Morita[1], Shogo Hamada[2], Shin-ichiro M. Nomura[3], Kenzo Fujimoto[4], Satoshi Murata[3], Masahiro Takinoue[1,5] ([1]*Interdisciplinary Grad. Sch. Sci. and Eng., Tokyo Tech.*, [2]*Kavli Inst., Cornell Univ.*, [3]*Grad. Sch. Eng., Tohoku Univ.*, [4]*Sch. Mater. Sci., JAIST*, [5]*PRESTO,JST*)

3P125 **モレキュラークラウディング環境における化学修飾を施した 2 本鎖核酸の熱力学的安定性**

Effect of molecular crowding condition on the thermodynamic stability of chemically modified duplex

Hidetaka Torigoe, Hiroshi Noguchi, Yukiko Hashizume (*Dept. Appl. Chem., Fac. Sci., Tokyo Univ. Sci.*)

07. 水・水和／電解質 / 07. Water & Hydration & Electrolyte

3P126 **Development of new algolithm for calculation of the energy distribution function by GPGPU**

Takuhito Shiogama, Tsuhito Yoshida, Hiroaki Saito, Kazutomo Kawaguchi, Hidemi Nagao (*Kanazawa University*)

3P127 **浸透圧効果を利用したシトクロム c – シトクロム c 酸化酵素電子伝達複合体における相互作用の解析**

Analysis of interactions in the electron transfer complex between Cytochrome c and Cytochrome c Oxidase using osmotic pressure

Wataru Sato[1], Mizue Imai[1], Takeshi Uchida[1,2], Kyoko Ito[3], Shinya Yoshikawa[3], Koichiro Ishimori[1,2] ([1]*Hokkaido Univ. Chem.*, [2]*Hokkaido Univ. Sci.*, [3]*Hyogo Univ. Life Sci.*)

3P128 **蛋白質およびリガンドの水和熱力学量計算に向けた形態計測法的アプローチ**

A Morphometric Approach for the Accurate Solvation Thermodynamics of Proteins and Ligands

Yuichi Harano[1], Roland Roth[2], Shuntaro Chiba[3] ([1]*IPR, Osaka Univ.*, [2]*Inst. Theo. Phys. Tuebingen Univ.*, [3]*Bio Center, TITECH*)

3P129 **溶質-溶媒間のレナードジョンズポテンシャルパラメタが溶媒和ダイナミクスに及ぼす影響**

Effects of Lennard-Jones potential parameters between the solute and solvent on the solvation dynamics

Yoshito Kondo, Tetsuro Nagai, Takuya Takahashi (*College of Life Sciences, Ritsumeikan Univ*)

3P130 **MD および QM 計算による水和水のダイナミクスと電荷計算**

MD and QM calculations of dynamics and charges of hydration water

Takuya Takahashi (*College of Life Sciences, Ritsumeikan University*)

09. 発生・分化 / 09. Development & Differentation

3P131 **カタユウレイボヤ未受精卵に一過的低張刺激を与えると、幼生での左右非対称性が乱れる**

Brief hypo-osmotic treatment on eggs disrupts the left-right asymmetry of the larvae in Ciona intestinalis

Shimpei Katsumoto, Kohei Hatta, **Masashi Nakagawa** (*Grad. Sch. Sci., Univ. Hyogo*)

3P132 **How To Achieve Sequential Local Folding of Epithelial Tube in Epididymis Development: Experimental and Mathematical Study**

Tsuyoshi Hirashima, Ryoichiro Kageyama (*Inst. for Virus Research, Kyoto Univ.*)

3P133 **アフリカツメガエル卵母細胞における全 ATP 量の測定と ATP ライブイメージング**

ATP quantification and live-imaging in *Xenopus laevis* oocyte

Takashi W. Ijiri[1], Jun-ichi Kishikawa[1], Hiromi Imamura[2], Maho Sakiie[3], Shuichi Ueno[3], Yasuhiro Iwao[3], Ken Yokoyama[1], Ken-ichi Sato[1] ([1]*Fac. Life Sci., Kyoto Sangyo Univ.*, [2]*Hakubi Center, Kyoto Univ.*, [3]*Grad. Sch. Med., Yamaguchi Univ.*)

10. 筋肉 / 10. Muscle

3P134 **ミオシンの金電極表面への吸着過程の粘弾性解析**

Viscoelastic analysis of myosin adsorbed to gold

Tetsuo Ohno[1], Michiru Wagatuma[2], Motoko Ichihashi[2], Atsushi Itoh[2] ([1]*Dept. Physiology, Jikie Univ. school of Med.*, [2]*Ulvac, Inc.*)

3P135 **ホッキ貝柱筋と牽引筋の天然アクトミオシン(NAM=M+A+TM1 or TM2)の「Mg-ATPase 活性の Ca 依存性」と「TM アイソフォーム TM1 と TM2 の組成比」**

Hokki clam retractor muscle NAM Mg-ATPase activities and seasonal changes of TM1 and TM2 isoform contents

Yoichi Yazawa (*Univ. Hokkaido Education*)

3P136 **中性子及び X 線散乱による F アクチン水和水の構造・ダイナミクス解析**

Characterization of the structural and dynamic properties of hydration water around F-actin detected by neutron and X-ray scattering

Tatsuhito Matsuo[1], Toshiaki Arata[2], Toshiro Oda[3], Satoru Fujiwara[1] ([1]*QuBS, JAEA*, [2]*Grad. Sch. Sci., Osaka Univ.*, [3]*Grad. Sch. Sci., Univ. Hyogo*)

3P137 **ワタリガニ骨格筋における細いフィラメントの精製および低温電子顕微鏡法による構造解析**
Isolation of native thin filament from skeletal muscle for structural analysis by cryoEM
Yurika Yamada[1], Takashi Fujii[2], Keiichi Namba[1,2] ([1]*Graduate School of Frontier Bioscience, Osaka University*, [2]*QBiC, RIKEN*)

3P138 **マルハナバチ飛翔筋トロポニン I の長い延長部の構造的役割**
The structural role of the Pro-Ala-rich extension of the troponin-I of bumblebee flight muscle
Hiroyuki Iwamoto, Naoto Yagi (*SPring-8, JASRI*)

3P139 **塩添加によるアクチン重合過程の研究**
The salt-induced polymerization of actin
Toshiro Oda[1,2], Tomoki Aihara[2], Katsuzo Wakabayashi[2,3] ([1]*Grad. Sch. Sci., Univ. Hyogo*, [2]*RIKEN, RKEN SPring-8 Center*, [3]*Grad. Sch. Eng. Sci., Osaka university*)

11. 分子モーター / 11. Molecular motor

3P140 **自己組織化生体システムの機能創発機構解明に向けたメソスケール反応場のデザインと単分子分解能計測**
Designing of self-assembled biomolecular system and the detection at the single molecule resolution
Mitsuhiro Iwaki[1,2,3], Keigo Ikezaki[1], Toshio Yanagida[1,2], William Shih[3] ([1]*RIKEN, QBiC*, [2]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [3]*Harvard Medical School*)

3P141 **ナノスリット基板を用いたアクチンの重合の観察**
Observation of actin polymerization in linear zero-mode waveguide
Masamichi Yamamoto[1], Makoto Tsunoda[1], Shun Higano[2], Kotaro Okubo[2], Takashi Tanii[2], Takashi Funatsu[1] ([1]*Grad. Pharm. Sci., Univ. Tokyo*, [2]*Sch. Sci. Eng., Waseda. Univ.*)

3P142 **中性環境における好アルカリ性 *Bacillus* 細菌が持つ Na^+駆動型べん毛モーター固定子の遊泳低下に関与するアミノ酸残基の探索**
Critical amino acid residues for motility of the Na^+ -driven flagellar motor stator in alkaliphilic *Bacillus* decrease at neutral pH
Yuka Takahashi[1,2], Yukina Noguchi[1], Masahiro Ito[1,2] ([1]*Graduate School of Life Sciences, Toyo University*, [2]*Bio-nano Electronics Research Center, Toyo University*)

3P143 **アクトミオシン複合体におけるミオシン・サブフラグメント１の首振り運動の分子動力学シミュレーション**
Molecular dynamics simulation for the swinging lever-arm motion of a myosin subfragmnet-1 in an actomyosin complex
Tadashi Masuda (*Fukushima Univ.*)

3P144 **Nonequilibrium dissipation-free transport of F1-ATPase and the thermodynamic role of asymmetric allosterism**
Kyogo Kawaguchi[1], Shin-ichi Sasa[2], Takahiro Sagawa[3] ([1]*Dept. Phys., Univ. Tokyo*, [2]*Dept. Phys., Kyoto Univ.*, [3]*Dept. Basic Science, Univ. Tokyo*)

3P145 **エフェクター分泌機構解明を目指した細菌Ⅲ型分泌装置の回転-分泌相関の解析**
Correlation analysis between rotation and secretion of bacterial type III secretion system for elucidate of effector secretion mechanism
Takashi Ohgita, Naoki Hayashi, Susumu Hama, Naomasa Gotoh, Kentaro Kogure (*Kyoto Pharm. Univ.*)

3P146 **Simultaneous tracking of multiple motor proteins in nanoscale**
Taishi Kakizuka[1], Keigo Ikezaki[2], Hideaki Fujita[3], Taro Ichimura[2], Tomonobu Watanabe[1,2] ([1]*Grad. Sch. FBS., Univ. Osaka*, [2]*QBiC, Riken*, [3]*WPI,iFReC, Univ. Osaka*)

3P147 **クライオ電子顕微鏡法を用いたアクチンミオシン硬直複合体の高分解能密度マップ取得への試み**
Approach to obtain near-atomic resolution map of actin-myosin rigor complex by cryo-EM
Norihiro Shimizu[1], Yoshihiro Tsukada[1], Takuo Yasunaga[1,2] ([1]*Kyushu Inst. of Tech.*, [2]*JST*)

3P148 **cryo-EM と MT ラベルを用いたクラミドモナス外腕ダイニン LC4 の位置決定**
Determination of the location of chlamydomonas outer arm dynein LC4 by cryo-EM and metallothionein labelling
Reiko Chijimatsu[1], Haruaki Yanagisawa[2], Mingyue Jin[1,3,4,5], Takuo Yasunaga[1,3,4,5] ([1]*Kyushu Institute of Technology*, [2]*The University of Tokyo*, [3]*JST*, [4]*JST CREST*, [5]*JST SENTAN*)

3P149 **ヒト遺伝性難聴(DFNA20/26)γ アクチン変異体とミオシンとの相互作用**
Effects of human deafness mutations in gamma actin (DFNA20/26) on the actin/myosin interaction
Takashi Ohki[1], Shin'ichi Ishiwata[1,2] ([1]*Department of Physics, Faculty of Science and Engineering, Waseda University*, [2]*Waseda Bioscience Research Institute in Singapore*)

3P150 **ミオシン V 分子モーターの運動性に対する UV 照射の作用**
Effect of UV irradiation on myosin V motility
Seitaro Sano[1], Hiroaki Kubota[1], Takashi Ohki[1], Shin'ichi Ishiwata[1,2] ([1]*Department of Physics, Faculty of Science and Engineering, Waseda University*, [2]*Waseda Bioscience Research Institute in Singapore*)

3P151 **Ncd の運動方向性の決定機構**
The mechanism of determining the directionality of Ncd
Masahiko Yamagishi, Yoko Toyoshima, Junichiro Yajima (*Dept. Life Sciences, Grad. Sch. Arts and Sciences, Univ. Tokyo*)

3P152 **ダイニンは微小管上を短いピッチで回転しながら運動する**
Dynein moves in a short-pitch helical path around a microtubule
Shin Yamaguchi, Junichiro Yajima (*Dept Life Sciences, Graduate School of Arts and Sciences, Univ. of Tokyo*)

3P153 **破断力測定を用いた Kinesin-6 の力発生原理の研究**
Investigating the torque-generating mechanism of kinesin-6 using unbinding force measurement
Akihiko Sato[1], Tim Davis[2], Shin Yamaguchi[1], Masanori Mishima[2], Junichiro Yajima[1] ([1]*Grad. Sch. of Arts and Sciences, Univ. Tokyo*, [2]*Centre for Mechanochemical Cell Biology Warwick Medical School Univ. of Warwick*)

3P154 **細胞質ダイニンの自己阻害と協同的な活性化**

Autoinhibition and synergistic activation of cytoplasmic dynein

Takayuki Torisawa[1], Ken'ya Furuta[2], Akane Furuta[2], Muneyoshi Ichikawa[1], Yoko Toyoshima[1] ([1]*Dept. Life Sciences, Graduate School of Arts and Sciences, the Univ. of Tokyo*, [2]*Bio ICT lab, NICT*)

3P155 **Bicaudal-D2 による微小管系輸送の制御機構**

Regulatory mechanism of microtubule-based molecular motors by Bicaudal-D2

Takuya Kobayashi[1,2], Akira Hanashima[2], Yoko Y. Toyoshima[1], Takashi Murayama[2] ([1]*Department of Life Sciences, Graduate School of Arts and Sciences, The University of Tokyo.*, [2]*Department of Pharmacology, Juntendo University School of Medicine.*)

3P156 **ダイナクチン p150 の分子構造**

Molecular architecture of dynactin p150

Kei Saito[1], Takashi Murayama[2], Tomonori Hata[1], **Yoko Y. Toyoshima**[1] ([1]*Grad. Sch. of Arts and Sci., Univ. of Tokyo*, [2]*Juntendo Univ.*)

3P157 **テトラヒメナ外腕ダイニン複合体のサブユニット構築**

Subunit structure of *Tetrahymena* outer dynein arm complex

Muneyoshi Ichikawa[1], Yasuharu Kushida[2], Kentaro Nakano[2], Osamu Numata[2], Yoko Toyoshima[1] ([1]*Department of Life Sciences, Graduate School of Arts & Sciences, The University of Tokyo*, [2]*Graduate School of Life and Environmental Sciences, University of Tsukuba*)

3P158 **ヒト細胞質ダイニンのパワーストローク測定**

Power Stroke Measurement of Human Cytoplasmic Dynein

Yoshimi Kinoshita, Taketoshi Kambara, Satoshi Ikeda, Hideo Higuchi (*Department of Physics, Graduate School of Science, The University of Tokyo*)

3P159 **細胞質ダイニンの生物物理学的・生化学的解析**

Biophysical and Biochemical characterization of human cytoplasmic dynein

Taketoshi Kambara, Yoshimi Kinoshita, Takayuki Nakayama, Hideo Higuchi (*Dept of Phys, Grad Sch of Sci, U of Tokyo*)

3P160 **骨格筋ミオシンの S1 および S2 部位と非線形弾性の関係性**

Contribution of S1 and S2 portion of myosin to nonlinear elasticity of skeletal myosin molecules

Satoshi Ikeda, Motoshi Kaya, Hideo Higuchi (*Department of Physics, Graduate School of Science, the University of Tokyo*)

3P161 **ミオシン V の前進および後退ステップ機構**

Mechanism of the forward and backward stepping motion of myosin V

Kazuo Sasaki[1], Hideo Higuchi[2] ([1]*Department of Applied Physics, Tohoku University*, [2]*Department of Physics, University of Tokyo*)

3P162 **Nucleotide turnover rates of bipolar myosin filament during actin filament sliding**

Takahiro Maruta, Shingo Miyazaki, Takahiro Kobatake, Shigeru Chaen (*department of Integrated Sciences in Physics and Biology, College of Humanities and Sciences, Nihon University*)

3P163 **細胞性粘菌ミオシン II の SH1 ヘリックス領域の変異がその運動特性に与える影響**

Effect of mutations in the SH1 helix region of Dictyosterium myosin II on the motile characteristics

Tsubasa Koyama[1], Takahiro Maruta[1], Kotomi Shibata[1], Ayaka Motiduki[1], Eri Umeki[1], Sousuke Iwai[1,2], Shigeru Chaen[1] ([1]*College of Humanities and sciences, Nihon University*, [2]*Department of Biology, Faculty of Education, Hirosaki University*)

3P164 **F1-ATPase β サブユニットの全原子溶媒和自由エネルギー解析**

All-atom hydration analysis of the β subunit in F1-ATPase

Toru Ekimoto[1], Mitsunori Ikeguchi[1], Nobuyuki Matubayasi[2] ([1]*Yokohama city Univercity*, [2]*Kyoto University*)

3P165 **腸球菌由来 V_1ATPase の軸強制回転シミュレーションによる回転機構の解明**

Rotation mechanism of V_1-ATPase studied by steered MD simulations

Yuta Isaka[1], Ichiro Yamato[2], Takeshi Murata[3,4], Mitsunori Ikeguchi[1] ([1]*Grad. Sch. of Med. Life Sci., Yokohama City Univ.*, [2]*Dept. Biol. Sci. Tech., Tokyo Univ. of Science*, [3]*Fac. of Sci., Chiba Univ.*, [4]*JST, PRESTO*)

3P166 **Free energy simulations for the conformational change of the αβ subunits in F_1-ATPase after the ATP hydrolysis**

Yuko Ito, Mitsunori Ikeguchi (*Yokohama City Univ.*)

3P167 **回転モーター F_1-ATPase の化学状態ごとのポテンシャルエネルギー**

The potential energy of the rotary motor F_1-ATPase for given chemical states

Kengo Adachi[1], Taisaku Ogawa[1], Kazuhiro Oiwa[2], Masasuke Yoshida[3], Kazuhiko Kinosita, Jr.[1] ([1]*Waseda Univ.*, [2]*Adv. ICT Res. Inst., NICT*, [3]*Kyoto Sangyo Univ.*)

3P168 **F_oF_1-ATP 合成酵素による ATP 駆動のプロトンポンプ活性の定量測定**

Quantitative assay of ATP-driven proton-pump activity of F_oF_1

Ken Tasaki[1], Yuzo Kasuya[1], Naoki Soga[1], Toshiharu Suzuki[2], Masasuke Yoshida[2], Kazuhiko Kinosita Jr[1] ([1]*Dept. Phys,. Facl. Sci. Eng., Waseda Univ.*, [2]*Dept. Mol. Bio., Facl. Life Sci., Kyoto Sangyo Univ.*)

3P169 **ドメイン交換による V_oV_1 の MgADP 阻害機構の解明**

Analysis of the MgADP-inhibition mechanism of V_oV_1 by domain swapping approach

Jun-ichi Kishikawa[1], Atsuko Nakanishi[1], Shou Furuike[2], Ken Yokoyama[1] ([1]*Life Sci., Kyoto Sangyo Univ.*, [2]*Dept. Phys., Osaka Med. College*)

3P170 **揺らぎの定理による V-ATPase のトルク測定：F サブユニットの働き**

F-subunit reinforces torque generation in V-ATPase

Junichi Kishikawa[1], **Akihiko Seino**[2], Atsuko Nakanishi[1], Naciye Esma Tirtom[3], Hiroyuki Noji[3], ken Yokoyama[1], Kumiko Hayashi[2] ([1]*Department of Biolmolecular Sciences, Kyoto Sangyo University*, [2]*Department of Applied Physics, School of Engineering, Tohoku University*, [3]*Department of Applied Chemistry, School of Engineering, University of Tokyo*)

3P171 **Binding interface between rotor subunits with low binding affinity in V_oV_1**
Atsuko Nakanishi, Jun-ichi Kishikawa, Ken Yokoyama (*Kyoto Sangyo University*)

12. 細胞生物的課題 / 12. Cell biology

3P172 **マイクロピラーアレイ上で成長したフィブロブラスト細胞の大きさと形状**
Size and Shape of Fibroblast Cells Growing on a Micro Pillar
Takuya Tsukagoshi, Uijin G. Jung, Hidetoshi Takahashi, Tetsuo Kan, Kiyoshi Matsumoto, Isao Shimoyama (*The University of Tokyo*)

3P173 **細胞および接着分子の極性の人為的制御**
Artificial control of the polarity of cells and molecular assemblies
Shinji Deguchi[1], Tsubasa Matsui[2] ([1]*Nagoya Institute of Technology*, [2]*Tohoku University*)

3P174 **Study on membrane microfluidity of living cells using Muller Matrix microscopy**
Yudai Kosaka, Tetsuhiko Ohba (*Grad. Sch. Sci., Univ. Tohoku*)

3P175 **負荷をかけた状態での単離マウス気管上皮シリアの三次元運動**
Three-dimensional motion of an isolated murine tracheal cilium under load
Takanobu Kato[1], Toshihito Iwase[2], Tomoko Masaike[2], Koji Ikegami[3], Mitsutoshi Setou[3], Takayuki Nishizaka[1] ([1]*Dept. Phys., Gakushuin Univ.*, [2]*Dept. Appl. Biol. Sci., Tokyo Univ. of Sci.*, [3]*Dept. Cell Biol. and Anat., Hamamatsu Univ. Sch. Med.*)

3P176 **ケラトサイトと好中球と粘菌の遊走のための異なるメカノセンシング機構**
Mechanical responses of keratocytes, neutrophils and *Dictyostelium* cells for their optimal migrations
Chika Okimura[1], Takafumi Mizuno[2], Yoshiaki Iwadate[1] ([1]*Faculty of Science, Yamaguchi University*, [2]*Biomedical Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)*)

3P177 **マイコプラズマは左回りに進むのか？**
Do Mycoplamsas glide to the left?
Hanako Morio, Taishi Kasai, Makoto Miyata (*Grad. Sch. Sci., Univ. Osaka City*)

3P178 **微小管 X 線繊維回折：チューブリンピッチの動的変化**
Dynamic changes of the axial pitch of tubulin repeat in live microtubules revealed by x-ray fiber diffraction
Shinji Kamimura[1], Yosuke Fujita[1], Yuuko Wada[1], Hiroyuki Iwamoto[2] ([1]*Dept. Biol. Sci., Chuo Univ.*, [2]*JASRI, SPring-8*)

3P179 **生細胞内における厳密な PI3K ヘテロダイマー複合体のシグナル応答**
Dynamic Signal Response of Rigorous PI3K Heterodimer in Living Cells
Chan-Gi Pack[1], Yuko Saeki[2], Mariko Okada[2], Yasushi Sako[1] ([1]*Cellular Informatics Laboratory, RIKEN*, [2]*Laboratory for Integrated Cellular Systems, RIKEN IMS-RCAI*)

3P180 **Cell signaling occurs by a specific mobility and clustering state of epidermal growth factor receptor**
Michio Hiroshima[1,2], Yasushi Sako[2] ([1]*RIKEN QBiC*, [2]*RIKEN Cellular Informatics Lab.*)

3P181 **Detection of Cellular Responses to a Differentiation Factor Using Raman Microspectroscopy**
Sota Takanezawa[1,2], Shin-ichi Morita[1], Yasushi Sako[1], Yukihiro Ozaki[2] ([1]*Cellular Informatics Lab., RIKEN*, [2]*School. Sci. Tech., Kwansei-Gakuin Univ.*)

3P182 **蛍光イメージング法による機能的べん毛モーターと走化性シグナル伝達分子 CheY の結合の直接的観察**
Direct imaging of the rotational switching of a functioning flagellar motor by binding of an intracellular signaling protein CheY
Hajime Fukuoka[1], Takashi Sagawa[2], Yuichi Inoue[1], Hiroto Takahashi[1], Akihiko Ishijima[1] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. life Sci., Tohoku Univ.*)

3P183 **細胞における核小体タンパク Nucleophosmin 1 の可視化**
Imaging a nucleolar protein, Nucleophosmin 1, in living cells
Saori L. Mimatsu[1,2], Maiko Kuramochi[1,2], Soyomi Uchibori[1,2], Ayako Kojima[1], Emiko Kobayashi[1], Michio Hiroshima[3,4], Yasushi Sako[3], Kaoru Katoh[1,2] ([1]*Biomed. Res Inst, AIST*, [2]*Grad. Sch. Live & Env. Sci., Univ. Tsukuba*, [3]*RIKEN ASI*, [4]*RIKEN QBiC*)

3P184 **シグナル伝達タンパク質ＥＲＫ２の情報処理を介した細胞運命決定の定量解析**
Cell fate decisions through information processing of a signaling protein ERK2
Kazunari Mouri, Yasushi Sako (*Cellular Informatics Lab., RIKEN*)

3P185 **情報処理タンパク質 RAF の多状態性と細胞応答**
Polymorphism of a signaling protein RAF regulates cellular responses
Kayo Hibino[1], Kenji Okamoto[2], Masahiro Ueda[1], Yasushi Sako[2] ([1]*QBiC (Quantitative Biology Center), RIKEN*, [2]*Cellular Informatics Lab., RIKEN*)

3P186 **Quantitative analysis of signal transduction dynamics between Raf and ERK in living single PC12 cells**
Yuki Shindo[1,2], Kazunari Iwamoto[2], Kayo Hibino[2], Kazunari Mouri[3], Yasushi Sako[3], Koichi Takahashi[2] ([1]*Syst. Biol. Prog. Grad. Sch. Media & Governance, Keio Univ.*, [2]*RIKEN QBiC.*, [3]*Cell. Inform. Lab., RIKEN*)

3P187 **SOS を介した Ras 活性 positive feedback 調節の生細胞一分子解析**
Positive feedback regulation of SOS-mediated Ras activation detected by single-molecule analysis in living cells
Yuki Nakamura[1,2], Kayo Hibino[3], Yasushi Sako[2] ([1]*Grad, sch, FBS., okasa Univ*, [2]*wako inst., Riken*, [3]*QBIC., Riken*)

3P188 **海洋性ビブリオ菌のべん毛形成抑制に関与する DnaJ モチーフを持った SflA の細胞内局在**
The intracellular localization of SflA, the dnaJ family protein that plays a role in the suppression of flagellation in Vibrio
Takehiko Nishigaki, Noriko Nishioka, Seiji Kojima, Michio Homma (*Grad. Sch. Sci., Univ. Nagoya*)

3P189 **Structural analysis of the flagellar basal body in intact cell of *Vibrio alginolyticus* by electron cryomicroscopy**
Hidemaro Hotta[1], Akihiro Kawamoto[2], Satoshi Inaba[1], Yusuke V. Morimoto[2,3], Noriko Nishioka[1], Seiji Kojima[1], Keiichi Namba[2,3], Michio Homma[1] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [3]*QBiC, RIKEN*)

3P190 **Biochemical properties of FlhG, a negative regulator for the number of the polar flagellum in Vibrio alginolyticus**
Akari Takashima, Hiroki Ono, Michio Homma, **Seiji Kojima** (*Grad. Sch. Sci., Univ. Nagoya*)

3P191 **Stator activation requires conformational change in the periplasmic region of PomB, a Na^+-driven stator protein**
Shiwei Zhu[1], Masato Takao[2], Na Li[1], Mayuko Sakuma[1], Michio Homma[1], Seiji Kojima[1], Katsumi Imada[2] ([1]*Nagoya University*, [2]*Osaka University*)

3P192 **細菌べん毛輸送装置構成蛋白質 FlhA の変異に対するロバストネス**
Mutational robustness of FlhA, a subunit of the bacterial flagellar export apparatus
Tohru Minamino[1], Miki Kinoshita[1], Noritaka Hara[1], Satomi Koya[2], Noriko Nishioka[3], Seiji Kojima[3], Kunio Ihara[4], Michio Homma[3], Keiichi Namba[1,5] ([1]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [2]*Dept of Food Sci. and Nutrition, Doshisha Women's College of Liberal Arts*, [3]*Grad. Sch. Sci., Nagoya Univ.*, [4]*Gene, Nagoya Univ.*, [5]*QBiC, RIKEN*)

3P193 **細菌べん毛本数を負に制御する MinD と相同性をもつ FlhG の ATPase モチーフの役割**
Role of ATP binding motif of FlhG, a MinD homolog, which regulates the number of the polar flagellum in *Vibrio alginolyticus*
Hiroki Ono, Seiji Kojima, Michio Homma (*Grad. Sch. Sci., Univ. Nagoya*)

3P194 **Functional chimera of the flagellar stator proteins between *E. coli* MotB and *Vibrio* PomB at the periplasmic region**
Yuuki Nishino, Seiji Kojima, Michio Homma (*Div. Biol. Sci, Grad. Sch. Of Sci., Nagoya Univ.*)

3P195 **N-terminal deletion mutant of the stator protein PomA in the bacterial flagellar motor from Vibrio alginolyticus**
Yasuhiro Onoue, Rei Abe-Yoshizumi, Mizuki Gohara, Shiori Kobayashi, Noriko Nishioka, Seiji Kojima, Michio Homma (*Grad. Sch. Sci., Nagoya Univ.*)

3P196 ***Vibrio alginolyticus* 由来べん毛固定子 PomA のみによる複合体形成**
Flagellar stator protein of Vibrio PomA alone could form multimeric complex
Mizuki Gohara[1], Norihiro Takekawa[1], Yohei Miyanoiri[2], Masatune Kainosho[2,3], Seiji Kojima[1], Michio Homma[1] ([1]*Div. Bio. Sci., Grad Sch. Sci., Nagoya Univ.*, [2]*Structural Bio. Res. Cent., Grad. Sch. Sci., Nagoya Univ.*, [3]*Grad. Sch. Sci. Tech., Tokyo Metropolitan Univ.*)

3P197 **Na+ uptake activity of the plug-deleted Na+-driven stator complex from Vibrio flagellar motor using reconstituted proteoliposome**
Tetsuya Oba, Seiji Kojima, Michio Homma (*Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.*)

3P198 **Vibrio alginolyticus の C リング付き基部体の構造解析**
Structure analysis of the basal body with C-ring components from Vibrio alginolyticus
Satoshi Inaba, Hidemaro Hotta, Seiji Kojima, Michio Homma (*Grad. Sch. Sci., Univ. Nagoya*)

3P199 **c-di-GMP 結合タンパク質 YcgR のホモログ PlzD による *Vibrio alginolyticus* によるべん毛運動の阻害**
Flagellar motility inhibition by PlzD, a YcgR homolog of c-di-GMP binding protein, in *Vibrio alginolyticus*
Takuro Yoneda, Wakako Morimoto, Seiji Kojima, Michio Homma (*Grad. Sch. Sci., Univ. Nagoya*)

3P200 **高度好熱菌 *Aquifex aeolicus* 由来のべん毛モーター固定子タンパク質の性質検討**
Characterization of the stator proteins of flagellar motor from extreme thermophile *Aquifex aeolicus*
Norihiro Takekawa, Mizuki Gohara, Seiji Kojima, Michio Homma (*Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.*)

13A. 生体膜・人工膜：構造・物性 / 13A. Biological & Artifical membrane: Structure & Property

3P201 **アデノウイルス由来両親媒性ペプチドの曲率誘導能における配列効果**
The Sequence Effects of the Amphypathic Peptides of Adenovirus Protein VI on Their Curvature Inducing Ability
Tomo Murayama, Silvia Pujals, Shiroh Futaki (*Institute for Chemical Research, Kyoto University*)

3P202 **脂質膜の膜融合に際する水の協同性**
Water-lipid cooperativity upon lipid membrane fusion
Mafumi Hishida[1], Koichiro Tanaka[2,3], Yasuhisa Yamamura[1], Kazuya Saito[1] ([1]*Dept. Chem., Univ. Tsukuba*, [2]*iCeMS, Kyoto Univ.*, [3]*Dept. Phys., Kyoto Univ.*)

3P203 **長鎖リン脂質と短鎖リン脂質で構成される脂質多成分系の相挙動に関する研究**
Study on the behavior of lipid multi-component system consisting of long- and short-chain phospholipids
Ryota Kobayashi, Tetsuhiko Ohba (*Grad.Sch.Sci., Tohoku Univ.*)

3P204 **ガラス基板上への細胞膜展開法の開発**
Development of a new method for preparation of cell membrane flat sheet on glass surface
Yuta Minami[1], Hiroaki Inuma[1], Toshihiko Sakurai[2], Takashi Okuno[3] ([1]*Graduate School of Science and Engineering, Yamagata University*, [2]*Graduate School of Engineering, Tottori University*, [3]*Department of Science, Yamagata University*)

3P205 **人工テトラエーテル型リン脂質膜と重金属イオンとの相互作用**
Interaction of heavy metal ions with artificial tetraether-type phospholipid membranes
Teruhiko Baba[1], Toshiyuki Takagi[1], Toshiyuki Kanamori[1], Tatsuya Oka[2], Hiroyuki Saito[2] ([1]*Res. Center Stem Cell Eng., AIST*, [2]*HBS, Univ. Tokushima Grad. Sch.*)

3P206 **並列化された粗視化シミュレーションを用いた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 the vesicle by parallelized coarse-grained simulation
Tsuhito Yoshida, Kazuma Tamura, Kazutomo Kawaguchi, Hiroaki Saito, Hidemi Nagao (*Kanazawa University*)

3P207 **Effect of cholesterol and 7-ketocholesterol on localization of Alzheimer's amyloid beta (Aβ_42) in membrane domains**
Huong Phan, Masamune Morita, Tsuyoshi Yoda, Naofumi Shimokawa, Mun'delanji Vestergaard, Masahiro Takagi (*Japan Advanced Institute of Science and Technology*)

3P208 **脂質酸化物による生体模倣膜のドメイン形成**
Effects of lipid oxidation products on domain formation of biomimetic membrane
Tsuyoshi Yoda[1,2], Wataru Inui[1], Huong Thi Than Phan[1], Naofumi Shimokawa[1], Mun'delanji C. Vestergaard[1], Tsutomu Hamada[1], Masahiro Tkagai[1] ([1]*Japan Advanced Institute of Science and Technology*, [2]*JSPS Research Fellow PD*)

13B. 生体膜・人工膜：ダイナミクス / 13B. Biological & Artifical membrane: Dynamics

3P209 **遠心式マイクロ流体デバイスによる細胞サイズリポソームの作製**
The synthesis of cell-sized liposomes by centrifuge-based microfluidic device
Masamune Morita[1], Miho Yanagisawa[2], Hiroaki Onoe[3], Masahiro Takinoue[1,4] ([1]*Interdisciplinary Grad. Sch. Sci. and Eng., Tokyo Institute of Technology*, [2]*Grad. Sch. Sci., Kyushu Univ.*, [3]*IIS, The University of Tokyo*, [4]*PRESTO, JST*)

3P210 **脂質側方拡散を増幅させる新規拡張アンサンブル法の開発と応用**
Acceleration of lipid lateral diffusion by generalized-ensemble molecular dynamics simulation
Takaharu Mori, Jaewoon Jung, Yuji Sugita (*RIKEN*)

3P211 **Time-resolved 3D Quantification and Analysis of Membrane-Lipid Signaling in Dictyostelium**
Marcel Hoerning, Tatsuo Shibata (*Physical Biology Unit, Center for Developmental Biology, RIKEN*)

3P212 **セラミド分子のフリップフロップ速度**
Transbilayer movement of sulfhydryl ceramide analogues in model membranes
Takehiko Inaba[1], Sabrina Kargoll[1], Françoise Hullin-Matsuda[1,2], Peter Greimel[1], Toshihide Kobayashi[1] ([1]*RIKEN Wako*, [2]*Inserm U1060 Universite Lyon*)

3P213 **アミロイドβタンパク質の結合に伴うラフトモデル膜のダイナミックスの変化**
Change of Dynamics of Raft-Model Membrane Induced by Amyloid-β Protein Binding
Mitsuhiro Hirai[1], Ryota Kimura[1], Kazuki Takeuchi[1], Moboru Ohta[2], Bela Farago[3], Stadler Stadler[3], Giuseppe Zaccai[3] ([1]*Grad. Eng., Gunma Univ.*, [2]*Japan Synchrotron Radiation Research Institute*, [3]*Institut Laue-Langevin*)

3P214 **抗菌ペプチドの殺菌メカニズムを探究する**
Investigating bactericidal mechanism of antimicrobial peptids
Kei Kitahara[1,2], Takeshi Sunami[1,2], Tetsuya Yomo[1,2] ([1]*Graduate School of Information Science and Technology, Osaka University*, [2]*Exploratory Research for Advanced Technology, Japan Science and Technology Agency*)

3P215 **コレステロール分子によるリン脂質二重膜の破断抑制メカニズム：分子動力学シミュレーション**
Molecular Mechanism of Inhibitory Effect of Cholesterol on Phospholipid Bilayer Rupture: Molecular Dynamics Simulation
Taiki Shigematsu, Kenichiro Koshiyama, Shigeo Wada (*Grad. Eng. Sci., Osaka Univ.*)

13C. 生体膜・人工膜：興奮・チャンネル / 13C. Biological & Artifical membrane: Excitation & Channels

3P216 **ヒト iPS 由来心筋とヒト ES 由来心筋の電気生理学性質の比較研究**
A comparative study on electrophysiological properties of human iPS- and ES-derived cardiomyocytes
Fernando Lopez-Redondo[1], Junko Kurokawa[2], Fumimasa Nomura[1], Tomoyuki Kaneko[3], Tomoyo Hamada[1], Tetsushi Furukawa[2], Kenji Yasuda[1] ([1]*Inst. Biomat. Bioeng., Tokyo Medical Dental Univ.*, [2]*Med. Res. Inst., Tokyo Med. Dental Univ.*, [3]*Grad. Sch. Sci. Eng., Hosei Univ.*)

3P217 **細胞内ミトコンドリアの一過性脱分極の観察と誘導**
Observation and induction of mitochondrial transient depolarizations in cells
Kanji Umiuchi, Yoshihiro Ohta (*Tokyo Univ. Agr. Tech.*)

3P218 **KcsA チャネルの細胞内ドメインと inactivation gate の連関**
Coordination between the cytoplasmic domain and the inactivation gate in the KcsA channel
Minako Hirano[1], Yukiko Onishi[2], Okuno Daichi[2], Toru Ide[1] ([1]*GPI*, [2]*Riken*)

3P219 **固体支持体に固定したイオンチャネルの人工平面膜への再構成**
Reconstitution of ion channel immobilized on solid support into lipid bilayer
Daichi Okuno[1], Minako Hirano[2], Yukiko Onishi[1], Toru Ide[2] ([1]*RIKEN QBiC*, [2]*The Graduate School for the Creation of New Photonics Industries*)

13D. 生体膜・人工膜：輸送 / 13D. Biological & Artifical membrane: Transport

3P220 **ミトコンドリアの密集が活性に与える影響**
Effects of mitochondrial crowding on their activity
Daiki Yoshimatsu, Yoshihiro Ohta (*Tokyo Univ. of Agric. and Tech.*)

3P221 **Lipid bilayer chamber array system for massive measurement of transporter activity**
Naoki Soga, Rikiya Watanabe, Shinya Ohdate, Hiroyuki Noji (*Department of applied chemistry, School of engineering, The university of Tokyo*)

3P222 **アトリットル容積を持つナノセルを用いた膜輸送たんぱく質の 1 分子計測**
NanoCell, Attoliter Chamber Array for Single-Molecule Measurement of Membrane Transporters
Takao Ono, Rikiya Watanabe, Takanori Ichiki, Hiroyuki Noji (*Grad. Sch. Eng. Univ. Tokyo*)

3P223 **PIP2 は synaptotagmin 2 による SNARE を介した膜融合の促進に関与する**
PIP2 is involved in the enhancement of SNARE-mediated membrane fusion by synaptotagmin 2
Satoshi Tadokoro[1], Yoshikazu Inoh[2], Mamoru Nakanishi[2], Naohide Hirashima[1] ([1]*Grad. Sch. Pharm. Sci., Nagoya City Univ.*, [2]*School Of Pharmacy, Aichi Gakuin University*)

3P224 **支持体を持つ人工細胞の開発**
Development of a closed supported artificial cell
Yasuto Sasaki, Misaki Yamamoto, Ichiro Yamato (*Dept. Biol. Sci. Tech., Tokyo Univ. of Science*)

13E. 生体膜・人工膜：情報伝達 / 13E. Biological & Artifical membrane: Signal transduction

3P225 **SWAP-70 PH ドメインの脂質膜結合に対するトリプトファン残基の寄与**
Role of tryptophan residues in membrane association of the SWAP-70 PH domain
Kotono Akai[1], Michikazu Tanio[2], Katsuyuki Nishimura[2], Satoru Tuzi[1] ([1]*Grad. Sch. Life Sci., Univ. Hyogo*, [2]*Inst. Mol. Sci*)

3P226 **新規ガングリオシドプローブの 1 分子追跡によるラフト組織化と機能の解明**
Single-molecule tracking of new ganglioside probes revealed raft organization and function
Kenichi Suzuki[1], Hiromune Ando[1,2], Naoko Komura[1,2], Rahul Chadda[1], Hideharu Ishida[2], Makoto Kiso[1,2], Akihiro Kusumi[1] ([1]*iCeMS, Kyoto Univ.*, [2]*Dpt. Appl. Biol. Sci., Gifu Univ.*)

14. 化学受容 / 14. Chemoreception

3P227 **光制御水素化アモルファスシリコン薄膜上の化学反応性積層ゲルを用いたバイオセンサ**
Biosensor using electrochemical laminated gels photo-controlled on hydrogenated amorphous silicon film
Hiroki Suzuki[1], Ryohei Matsueda[1], Teruo Matsuno[1], Takahiko Sano[1], Yuta Ando[1], Hiroshi Masumoto[2], Takashi Goto[3], **Yutaka Tsujiuchi**[1] ([1]*Material Science and Engineering, Akita University*, [2]*Center for Interdisciplinary Research, Tohoku University*, [3]*Institute for Materials Research, Tohoku University*)

3P228 **金ナノ粒子キャリヤー表面に提示されたハプテンとしてのアゾベンゼン色素の免疫応答**
Immunological study with azobenzene-dye as a hapten presented on the surface of gold nanoparticle carriers
Noriyuki Ishii[1], Kaoru Tamada[2], Haruhisa Akiyama[3] ([1]*Biomedical, AIST*, [2]*IMCE, Kyushu Univ.*, [3]*Nanosystem, AIST*)

3P229 **Directional-sensing and rectified cell motion towards termporally changing gradient**
Akihiko Nakajima[1], Shuji Ishihara[1,2], Daisuke Imoto[1], Satoshi Sawai[1,2,3] ([1]*Graduate School of Arts and Sciences, University of Tokyo*, [2]*Research Center for Complex Systems Biology, University of Tokyo*, [3]*PRESTO, Japan Science and Technology Agency*)

15. 神経・感覚 / 15. Neuroscience & Sensory systems

3P230 **線虫においてあるモダリティーが異なるモダリティーの順応を引き起こす**
Sensory stimulation from a specific modality adapts a different modality in Caenorhabditis elegans
Hisashi Shidara, Junya Kobayashi, Ryo Tanamoto, Kohji Hotta, Kotaro Oka (*Bio and Info, Keio Univ.*)

3P231 **集光レーザービームの光摂動による神経細胞内分子動態の集合操作**
Optical perturbation of intracellular molecular dynamics of single neuron in living neuronal network
Chie Hosokawa[1], Naoko Takeda[1,2], Yusuke Ueda[1,2], Suguru N. Kudoh[2], Takahisa Taguchi[1,3] ([1]*Health Res. Inst., AIST*, [2]*Grad. Sci. Eng., Kwansei Gakuin Univ.*, [3]*Cinet, NICT*)

3P232 **記憶学習中枢海馬の性差：海馬内ホルモン変動とシナプス変動**
Sex difference in hippocampus: Fluctuation of hippocampal sex hormones and synapses
Yasushi Hojo[1,2], Asami Kato[1], Tetsuya Kimoto[1,2], Suguru Kawato[1,2] ([1]*Grad. Sch. Arts and Sci., Univ. Tokyo*, [2]*JST, Japanese-Taiwanese Cooperative Programme*)

16. 神経回路・脳の情報処理 / 16. Neuronal Circuit & Information processing

3P233 **老化に伴う海馬神経シナプスの密度の減少と記憶の劣化**
Age-related decrease in synapse density of hippocampal neurons in relation to memory impairment
Suguru Kawato[1,2] ([1]*Univ of Tokyo, Grad Sch Arts and Sciences*, [2]*JST Int Collabo*)

3P234 **Acute Modulation of Synaptic Plasticity of Pyramidal Neurons by Hippocampal-derived Sex Steroids**
Yoshitaka Hasegawa[1,2], Keisuke Hotta[1], Hideo Mukai[1], Bon-chu Chung[2,3], Ooishi Yuuki[1], Hojo Yasushi[1,2], Kawato Suguru[1,2] ([1]*Department of Biophysics and Life Sciences, Graduate School of Arts and Sciences, The University of Tokyo*, [2]*International collaboration program of Bioelectronics (JST)*, [3]*Institute of Molecular Biology, Taiwan*)

3P235 **脳海馬が作る男性・女性ホルモンは記憶の神経シナプスを増強する**
Hippocampus-synthesized male and female hormones increase memory-related nerve synapses
Miyuki Yoshiya, Yasushi Hojo, Suguru Kawato (*Grad. Sch. of Art and Sci.*)

3P236 **ハロロドプシンー臭素イオン複合体の N 光反応中間体の X 線結晶構造解析**
X-ray structural analysis of the N photoreaction intermediate of halorhodopsin in complex with bromide ion
Haruki Kawaguchi[1], Taichi Nakanishi[1], Hiroki Kubo[1], Kunio Ihara[2], Midori Murakami[1], Tsutomu Kouyama[1] ([1]*Graduate School of Science, Nagoya University*, [2]*Center for Gene Research, Nagoya University*)

3P237 **Trapping the photoactive form of squid rhodopsin in the P62 crytal**
Midori Murakami, Tsutomu Kouyama (*Dept. Physics, Nagoya Univ.*)

3P238 **哺乳類 NDRG1 のゼブラフィッシュ相同蛋白質の視細胞における機能解析**
Functional analysis of zebrafish orthologues of mammalian NDRG1 protein in photoreceptors
Shimpei Takita[1], Yasutaka Wada[2], Satoru Kawamura[2] ([1]*Dept. of Biol. Sci. Grad. Sch. of Sci., Osaka Univ.*, [2]*Dept. of Biol. Sci. Grad. Sch. of Sci.; Grad. Sch. of Frontier Biosci., Osaka Univ.*)

3P239 **コイ桿体と錐体とでの cGMP ホスホジエステラーゼの活性化効率の定量的理解**
Quantitative Aspects of cGMP Phosphodiesterase Activation in Carp Rods and Cones
Yuki Koshitani[1], Shuji Tachibanaki[1,2], Satoru Kawamura[1,2] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*Grad. Sch. Frontier Biosci., Osaka Univ.*)

3P240 **LOV タンパク質 YtvA のシグナル伝達における分子間相互作用変化の時間分解測定**
Time-resolved study on the intermolecular interaction change in the signal transduction of LOV protein YtvA
Seokwoo Choi[1], Yusuke Nakasone[1], Klaas Hellingwerf[2], Masahide Terazima[1] ([1]*Department of Chemistry, Graduate school of Science Kyoto University*, [2]*Molecular Microbial Physiology Group, Swammerdam Institute for Life Sciences, University of Amsterdam*)

3P241 **青色光センサー蛋白質 PapB の光反応ダイナミクス**
Light induced reaction dynamics of a BLUF photoreceptor PapB
Koutaro Kikukawa[1], Yusuke Nakasone[1], Shinji Masuda[2,3], Masahide Terazima[1] ([1]*Grad. Sci., Univ. Kyoto*, [2]*Center for BioRes. & Inform., Tokyo Inst. Tech.*, [3]*PRSTO, JST*)

3P242 **フォトトロピンの LOV2 ドメインからキナーゼ部位への光情報伝達ダイナミクス**
Photochemical signal transduction dynamics of the LOV2-kinase fragment of phototropin2 from *Arabidopsis*
Akira Takakado[1], Yusuke Nakasone[1], Koji Okajima[2], Satoru Tokutomi[2], Masahide Terajima[1] ([1]*Sci, Univ. Kyoto*, [2]*Sci, Univ. Osaka pref.*)

3P243 **緑藻由来の全長フォトトロピンの光反応**
Photochemistry of full-length phototropin from green algae
Yusuke Nakasone[1], Koji Okajima[2], Kenichi Hitomi[3], Yusuke Aihara[1], Akira Nagatani[1], John Christie[3], Satoru Tokutomi[2], Masahide Terazima[1] ([1]*Graduate School of Science, Kyoto Univ.*, [2]*Graduate School of Science, Osaka Prefecture Univ.*, [3]*Scripps Research Institute*)

3P244 **QM/MM RWFE 法によるロドプシンの光反応中間体に関する理論研究**
A theoretical study on early intermediates of bovine rhodopsin by QM/MM RWFE method
Motoshi Kamiya, Shigehiko Hayashi (*Grad. Sch. Sci., Kyoto Univ.*)

3P245 **高角領域の X 線散乱によるロドプシンの構造変化の解析**
Helical rearrangement of photoactivated rhodopsin probed by high-angle X-ray scattering
Yasushi Imamoto[1], Toshihiko Oka[2], Keiichi Kojima[1], Ryo Maeda[1], Yoshinori Shichida[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Grad. Sch. Sci., Shizuoka Univ.*)

3P246 **Gタンパク質共役型受容体の構成的活性変異体に見られるGタンパク質活性化メカニズムの一分子解析**
Single-molecule analyses of the activation mechanisms of G proteins in constitutively active mutant of G protein-coupled receptor
Ryo Maeda[1], Michio Hiroshima[2,3], Yasushi Imamoto[1], Takahiro Yamashita[1], Yasushi Sako[2], Yoshinori Shichida[1] ([1]*Department of Biophysics, Graduate School of Science, Kyoto University*, [2]*Cellular Informatics Laboratory, RIKEN Advanced Science Institute*, [3]*Laboratory for Cell Signaling Dynamics, RIKEN Quantitative Biology Center*)

3P247 **光依存的なGタンパク質活性化能を失ったロドプシン類の発見とその不活性化機構の解析**
Discovery of a diffusible ligand-binding rhodopsin lacking light-dependent G protein activation ability
Keita Sato[1], Takahiro Yamashita[1], Hideyo Ohuchi[2], Sayuri Tomonari[3], Sari Fujita-Yanagibayashi[1], Kazumi Sakai[1], Atsuko Takeuchi[4], Yasushi Imamoto[1], Sumihare Noji[3], Akimori Wada[4], Yoshinori Shichida[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Grad. Sch. Med. Dent. Pharm. Sci., Okayama Univ.*, [3]*Inst. Tech. Sci., Univ. Tokushima*, [4]*Kobe Pharm. Univ.*)

3P248 **ホヤオプシン 1(Ci-opsin1)の分子特性の解析**
Analysis of molecular property of ascidian opsin, Ci-opsin1
Keiichi Kojima[1], Takahiro Yamashita[1], Yasushi Imamoto[1], Motoyuki Tsuda[2], Takehiro Kusakabe[3], Yoshinori Shichida[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Grad. Sch. Life Sci., Hyogo Univ.*, [3]*Fac. Sci. Engn., Konan Univ.*)

3P249 **脊椎動物の可視光感受性 Opn5 の分子特性解析**
Molecular properties of vertebrate visible-light sensitive Opn5
Takahiro Yamashita[1], Hideyo Ohuchi[2], Akane Yumoto[1], Keita Sato[1], Sayuri Tomonari[3], Masato Kinoshita[4], Sumihare Noji[3], Yoshinori Shichida[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Grad. Sch. Med. Dent. Pharm. Sci., Okayama Univ.*, [3]*Inst. Technol. Sci., Univ. Tokushima Grad.Sch.*, [4]*Grad. Sch. Agr., Kyoto Univ.*)

3P250 **マウスメラノプシンの分子特性**
Molecular Properties of Mouse Melanopsin
Takesi Matsuyama Hoyos, Takahiro Yamashita, Yasushi Imamoto, Yoshinori Shichida (*Kyoto University Department of Science*)

3P251 **双安定性のロドプシン類の分子特性とそれらの光遺伝学への応用の可能性**
Molecular properties of animal bistable rhodopsins and their optogenetic potential
Tomohiro Sugihara, Mitsumasa Koyanagi, Akihisa Terakita (*Grad. Sch. Sci., Osaka City Univ.*)

18B. 光生物：光合成 / 18B. Photobiology: Photosynthesis

3P252 **光合成反応中心タンパク質で機能する電子移動担体の極低温１分子分光**
Cryogenic single molecule spectroscopy of the electron transfer cofactor in the photosynthetic reaction center
Toru Kondo[1], Risa Mutoh[2], Genji Kurisu[2], Hirozo Oh-oka[3], Satoru Fujiyoshi[1], Michio Matsushita[1] ([1]*Dept. Phys., Grad. Sch. Sci. and Eng., Tokyo Tech.*, [2]*Institute for Protein Research, Osaka Univ.*, [3]*Dept. Biol. Sci., Grad. Sch. Sci., Osaka Univ.*)

3P253 **光化学系 II における励起エネルギーと電子の輸送過程に関する階層的粗視化運動論モデル**
Hierarchical coarse-graining kinetic model for excitation energy and electron transfer processes in photosystem II
Takeshi Matsuoka[1], Shigenori Tanaka[1], Kuniyoshi Ebina[2] ([1]*Graduate School of System Informatics, Kobe University*, [2]*Graduate School of Human Development and Environment, Kobe University*)

3P254 **蛍光寿命顕微鏡による葉緑体微細構造の観察**
Fine structures of chloroplasts observed by fluorescence lifetime imaging microscopy
Ryuichi Matsuyama[1], Ryo Yamada[1], Takashi Shiina[3], Masahide Terazima[1], Shigeichi Kumazaki[1,2] ([1]*Grad. Sch. Sci., Univ. Kyoto*, [2]*PRESTO, JST*, [3]*Grad. Sch. of Life and Environ. Sci., Kyoto Pref. Univ.*)

3P255 **光化学系 II におけるプロトン移動経路**
Proton transfer pathway in photosystem II
Keisuke Saito[1,2], A. William Rutherford[3], Hiroshi Ishikita[1,2] ([1]*Dept. Biol. Sci., Grad. Sch. Sci., Osaka Univ.*, [2]*PRESTO JST*, [3]*Dept. of Life Sci., Imperial College, London*)

20. 生命の起源・進化 / 20. Origin of life & Evolution

3P256 **実験室進化を用いた大腸菌の抗生物質耐性獲得ダイナミクスの解析**
Laboratory evolution of antibiotic resistant Escherichia coli
Shingo Suzuki, Takaaki Horinouchi, **Chikara Furusawa** (*Quantitative Biology Center, RIKEN*)

3P257 **全生物共通祖先生物の生育温度の実験による推定**
Empirical estimation of the environmental temperature of the last universal common ancestor
Satoshi Akanuma, Yoshiki Nakajima, Shin-ichi Yokobori, Akihiko Yamagishi (*Dept. of Appl. Life Sci., Tokyo Univ. of Pharm. Life Sci.*)

3P258 **On phenotypic drug tolerance based on expression noise of antibiotic resistant gene**
Takashi Nozoe[1], Reiko Okura[1], Yuichi Wakamoto[1,2] ([1]*Grad. Sch. Arts and Sci., Univ of Tokyo*, [2]*Research Center for Complex Systems Biology, Univ of Tokyo*)

22A. 生命情報科学：構造ゲノミクス / 22A. Bioinformatics: Structural genomics

3P259 **二次構造のパッキングの仕方は同じだがトポロジーの異なるタンパク質ペアの特徴**
Some features of protein pairs which have same SSEs packing arrangement but have different topology
Tatsuo Mukai[1], Shintaro Minami[2], George Chikenji[1] ([1]*Grad. Sch. of Engineering, Nagoya Univ.*, [2]*Grad. Sch. of Info. Sci., Nagoya Univ.*)

3P260 **デノボタンパク質立体構造予測のための新規フォールド構造生成法**
Generating novel protein folds from existing folds for de novo protein structure prediction
Yuki Nakagawa[1], George Chikenji[1], Shintaro Minami[2] ([1]*Grad. Sch. of Eng., Nagoya Univ.*, [2]*Grad. Sch. of Info. Sci., Nagoya Univ.*)

3P261 **Non-sequential structural alignment reveals fold change by segment shuffling during evolution**
Shintaro Minami[1], George Chikenji[2], Motonori Ota[1] ([1]*Dept. of Info. Sci., Nagoya Univ.*, [2]*Dept. of Eng., nagoya Univ.*)

3P262 **Motion Tree 法による蛋白質構造変化の階層的記述と網羅的分類**
Hierarchical description and extensive classification of protein structural changes by Motion Tree
Ryotaro Koike[1], Motonori Ota[1], Akinori Kidera[2] ([1]*Grad. Sch. Info. Sci., Nagoya Univ.*, [2]*Grad. Sch. Med. Life Sci., Yokohama City Univ.*)

3P263 **beta-Trefoil タンパクのフォールディングコアの残基間平均距離統計に基づく解析**
Analyses of folding nuclei of beta-Trefoil fold proteins based on the inter-residue average distance statistics
Norihiro Kanemaru, Masanari Matsuoka, Takeshi Kikuchi (*Dept. Bioinf., Col. Life Sci., Ritsumeikan Univ.*)

22B. 生命情報科学：機能ゲノミクス / 22B. Bioinformatics: Functional genomics

3P264 **FCANAL（構造を基にしたタンパク質機能御予測法）の様々なタンパク質への適用**
FCANAL, structure-based protein function prediction method, applied to various types of proteins
Hiroko Sagisaka, Misaki Yamamoto, Ichiro Yamato (*Dept. Biol. Sci. Tech, Tokyo Univ. of Science*)

22C. 生命情報科学：比較ゲノミクス / 22C. Bioinformatics: Comparative genomics

3P265 **人工プロモーター設計 Web アプリケーション PromoterCAD のためのデータベース構築**
Database Construction for Synthetic Promoter Design Web Application (PromoterCAD)
Koro Nishikata[1], Robert Cox III[1], Sayoko Shimoyama[1], Yuko Yoshida[1], Minami Matsui[2], Yuko Makita[1], Tetsuro Toyoda[1] ([1]*Integrated Database Unit, Advanced Center for Computing and Communication (ACCC), RIKEN*, [2]*Synthetic Genomics Research Team, Biomass Engineering Program Cooperation Division, Center for Sustainable Resource Science (CSRS), RIKEN*)

22D. 生命情報科学：分子進化 / 22D. Bioinformatics: Molecular evolution

3P266 **保存された連続反応を用いた代謝系のモジュール構造の同定とその進化に関する考察**
Identification of metabolic pathway modules by conserved reaction sequences and its application to evolutionary analysis
Ai Muto, Masaaki Kotera, Toshiaki Tokimatsu, Yuki Moriya, Zenichi Nakagawa, Minoru Kanehisa, **Susumu Goto** (*Inst. Chem. Res., Kyoto Univ.*)

3P267 **Lysozyme スーパーファミリーを用いた遠縁タンパク質間のフォールディング部位の頑健性についての解析**
The analysis of the robust folding units among highly diverse proteins in the lysozyme superfamily
Michirou Kabata[1], Yousuke Kawai[2], Takeshi Kikuchi[1] ([1]*Dept. Bioinf., Col. Life Sci., Ritsumeikan Univ.*, [2]*Dept. Bioinf., Fac. Eng., Maebashi Ins. Tech.*)

3P268 **天然変性タンパク質における自然淘汰の dN/dS 比に関する解析**
Estimating the strength of natural selection on intrinsically disordered proteins in terms of dN/dS ratio
Tatsuya Hosokawa[1], Yousuke Kawai[2], Satoshi Fukuchi[2], Takeshi Kikuchi[1] ([1]*Dept. Bioinf., Col. Life Sci., Ritsumeikan Univ.*, [2]*Dept. Bioinf., Fac. Eng., Maebashi Ins. Tech.*)

24. 数理生物学 / 24. Mathematical biology

3P269 **間期染色体の３ D モデル：ゲノム構造と機能の理解に向けて**
3D model of interphase chromosomes: toward understanding of genome structure and function
Takeshi Sugawara, Akinori Awazu, Hiraku Nishimori (*Faculty of Science, Hiroshima University*)

3P270 **Krylov 部分空間法による相関したブラウンノイズの計算**
Krylov subspace methods for computing correlated Brownian noise vectors in Brownian dynamics simulations with hydrodynamic interactions
Tadashi Ando[1], Edmond Chow[1], Yousef Saad[2], Jeffrey Skolnick[1] ([1]*Georgia Institute of Technology*, [2]*Univerity of Minnesota*)

3P271 **3P271 は 2P183 に移動しました.**

3P272 **力を介して細胞の増殖速度の差を感知する仕組み**
Interface mechanics between two clonal cell populations with different growth rates --- A theoretical study of cell competition
Alice Tsuboi[1], Koichi Fujimoyo[1], Nanami Akai[2], Tatsushi Igaki[2] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*Grad. Sch. Biostudies., Kyoto Univ.*)

3P273 **ENaC 細胞内動態の数理モデル構築による上皮 Na^+輸送制御解析**
ENaC dynamics in the intracellular space: analysis of Na^+ transport in epithelial cells by mathematical model
Kouhei Sasamoto[1], Naomi Niisato[2,4], Yoshinori Marunaka[2,3,4] ([1]*Undergrad. (4th-year), Kyoto Pref. Univ. Med.*, [2]*Dept. of Mol. Cell Physiol., Kyoto Pref. Univ. Med.*, [3]*Dept. of Bio-Ionomics, Kyoto Pref. Univ. Med.*, [4]*Japan Inst. for Food Education & Health, St. Agnes' Univ.*)

3P274 **真性粘菌 *Physarum polycephalum* とそのモデルによる錯視の計算**
Computing visual illusion by *Physarum* plasmodium and the model
Iori Tani, Masaki Yamachiyo, Pegio-Yukio Gunji (*Department of Earth and Planetary Sciences, Graduate School of Science, Kobe University*)

3P275 **錯視を引き起こす図形パターンに対する真性粘菌変形体の反応**
Behavior of the physarum plasmodium to the graphical pattern that provide the optical illusion
Masaki Yamachiyo, Iori Tani, Pegio-Yukio Gunji (*Department of Earth and Planetary Sciences, Graduate School of Science, Kobe University*)

3P276 **概日中枢時計のウエーブパターンとその機能について**
Wave-like structure and its function in the circadian master clock
Hiroshi Kori[1,2] ([1]*Ochanomizu Univ*, [2]*CREST*)

3P277 **Dependence of cell differentiation ratio on cell-cell interaction and noise**
Fumiko Ogushi, Hiroshi Kori (*Ochanomize University*)

25. 非均衡・生体リズム / 25. Equality Nonequilibrium state & Biological rhythm

3P278 **クラミドモナスの鞭毛波形変異体における生物対流現象**
Bioconvection in waveform mutants of *Chlamydomonas reinhardtii*
Azusa Kage, Yoshihiro Mogami (*Graduate School of Humanities & Sciences, Ochanomizu Univ.*)

3P279 **KaiC タンパク質のリン酸化と ATPase 活性の概日リズムの確率シミュレーション によるモデリング**
A modeling study of the circadian rhythm of phosphorylation and ATPase activity of KaiC protein by stochastic simulation
Kenju Narita, Masaki Sasai, Tomoki P. Terada (*Grad. Sch. Eng., Nagoya Univ.*)

3P280 **The analysis of energy transfer in Chaotic Dynamical Systems**
Mami Kushida (*Grad., Univ. Narajoshi*)

3P281 **非線形関数のステップ関数表示の公式**
Step Function Representation of Nonlinear Function
Eisuke Chikayama[1,2] ([1]*Niigata University of International and Information Studies*, [2]*RIKEN*)

26. 計測 / 26. Measurements

3P282 **DNA マイクロアレイを基盤とした無標識 miRNA の定量法の開発**
Label-free quantification of miRNA using Ligase-Assisted Sandwich-Hybridization based on DNA microarray
Taro Ueno, Takashi Funatsu (*The University of Tokyo*)

3P283 **蛍光ダイアモンドナノ粒子を使った光検出磁気共鳴**
Optically detected magnetic resonance for fluorescent single nanodiamond in cell and c.elegance
Yohsuke Yoshinari[1], Yuta Kumiya[2], Takuma Sugi[2], Ryuji Igarashi[2], Shingo Sotoma[2], Masahiro Shirakawa[2], Yoshie Harada[1] ([1]*iCeMS, Kyoto University*, [2]*Department of Molecular Engineering, Kyoto University*)

3P284 **一分子計測と一分子粒度細胞シミュレーションの融合**
Development of Fluorescence Microscopy/Spectroscopy Monte Carlo Simulation
Masaki Watabe, **Satya Arjunan**, Koichi Takahashi (*RIKEN*)

3P285 **細菌べん毛モーターへの CheY-P の結合は回転方向だけでなく速度にも影響する。**
CheY-P binding to the bacterial flagellar motor affects not only the direction but also the speed of rotation
Koichi D. Hiraoka[1], Shuichi Nakamura[2], Nobunori Kami-ike[1], Yusuke V. Morimoto[3] ([1]*Grad. Sch. of Frontier Biosci.*, [2]*Grad. Sch. of Eng., Tohoku Univ*, [3]*RIKEN, QBiC*)

3P286 **タンパク質中性子結晶構造解析におけるプロトン偏極法のための基礎的な試み**
Fundamental trials for proton polarization technique in neutron protein crystallography
Ichiro Tanaka[1,2], Katsuhiro Kusaka[2], Toshiyuki Chatake[3], Nobuo Niimura[2] ([1]*Coll. of Eng., Ibaraki Univ.*, [2]*Frontier, Ibaraki Univ.*, [3]*RRI, Kyoto Univ.*)

27. バイオイメージング / 27. Bioimaging

3P287 **X線自由電子レーザーを利用した球状生体超分子複合体のコヒーレントX線イメージングへの取り組み**
Approaches to cohherent X-ray diffraction imaging of single virus particle using X-ray free-electron laser
Akifumi Higashiura[1], Marina Murakami[1], Kenji Iwasaki[1], Eiki Yamashita[1], Kazuki Takeda[2], Yuya Hanazono[2], Kiyofumi Takaba[2], Masahito Hibi[2], Yuriko Tomisaki[2], Kunio Miki[2], Atsushi Nakagawa[1] ([1]*Inst. for Prot. Res., Osaka Univ.*, [2]*Grad. Sch. of Sci., Kyoto Univ.*)

3P288 **hPrx2 のオリゴマー形成過程の高速 AFM 観察**
Investigation of hPrx2 oligomerization process by high-speed AFM
Takamitsu Haruyama, Noriyuki Kodera, Hiroki Konno (*Bio-AFM Frontier Research Center, College of Sci. & Eng., Kanazawa Univ.*)

3P289 **細胞内蛋白質混雑感受性蛍光蛋白質の開発**
Intracellular measurement of protein-crowding condition by a gene-encoded indicator
Takamitsu Morikawa[1], Keiko Yoshizawa[2], hideaki Fujita[2,3], Katsumi Imada[4], Takeharu Nagai[5], Toshio Yanagida[1,2,3], Tomonobu Watanabe[1,2,3] ([1]*Graduate School of Frontier Bioscience, Osaka University*, [2]*RIKEN Quantitative Biology Center*, [3]*WPI, Immunology Frontier Research Center, Osaka University*, [4]*Department of Macromolecular Science, Graduate School of Science, Osaka University*, [5]*Institute of Sciencific and Industrial Research Center, Osaka University*)

3P290 **マウス内がん細胞の非侵襲イメージング**
Noninvasive in vivo imaging of tumor cells in a novel xenograft model
Sayaka Kita, Hideo Higuchi (*Dep. of phys., Grad. Sch. of Sci., The Univ. of Tokyo*)

3P291 **バクテリア細胞内 ATP 濃度の一細胞計測**
Quantifying the absolute ATP concentration inside single bacteria cells
Hideyuki Yaginuma[1,2], Shinnosuke Kawai[3], Keisuke Tomiyama[2], Kazuhito V. Tabata[1,5], Tamiki Komatsuzaki[3], Hiromi Imamura[4], Hiroyuki Noji[1,2] ([1]*Grad. Sch. Eng., Univ. Tokyo*, [2]*Grad. Sch. Front. Biosci., Osaka Univ.*, [3]*Res. Inst. Elect. Sci., Hokkaido Univ.*, [4]*Hakubi Project, Kyoto Univ.*, [5]*PRESTO, JST*)

3P292 **細胞内熱伝導率マッピング**
Mapping of thermal conductivity in single living cells
Taku Sekiguchi[1], Kotaro Oyama[1], Hideki Itoh[1,2], Madoka Suzuki[3,4], Shin'ichi Ishiwata[1,3,4] ([1]*Sch Adv Sci Eng, Waseda Univ, Tokyo, Japan*, [2]*IMB, A*STAR, Singapore*, [3]*Org Univ Res Initiatives, Waseda Univ, Tokyo, Japan*, [4]*WABIOS, Waseda Univ, Singapore*)

3P293 **Structure and fluorescent property of single amino acid insertion mutants of YFP**
Rumika Tanaka[1], Keiko Yoshizawa[2], Tomonobu Watanabe[2], Tatsuya Kawaguchi[1], Katsumi Imada[1] ([1]*Grad. Sch. Sci. Osaka Univ.*, [2]*QBiC, Riken.*)

3P294 **量子ドットナノプローブを用いたアミロイドβ凝集阻害物質の新規微量ハイスループットスクリーニングシステムの開発**
Development of a novel high-throughput screening system of inhibitory substances for amyloid-β aggregation using quantum-dot nanoprobes
Toshiki Ogara, Yukako Ishigaki, Syoya Yamaguchi, Hiroyuki Tanaka, Koji Uwai, Kiyotaka Tokuraku (*Muroran Institute Of Technology*)

3P295 **Simultaneous imaging of intracellular Ca^{2+} and sarcomere length in neonatal cardiomyocytes via expression of cameleon-Nano in Z-discs**
Seiichi Tsukamoto[1], Kotaro Oyama[2], Seine Shintani[2], Fuyu Kobirumaki[1], Shin'ichi Ishiwata[2,3,4], Norio Fukuda[1] ([1]*Dept. Cell Physiol., The Jikei Univ.*, [2]*Sch. Adv. Sci. Eng., Waseda Univ.*, [3]*Org. Univ. Res. Initiatives, Waseda Univ.*, [4]*WABIOS, Waseda Univ., Singapore, Singapore*)

3P296 **超解像イメージング法により明らかとなったストレス顆粒内 mRNA の詳細分布**

Super-resolution imaging reveals nanoscale distribution of mRNA in stress granule

Ko Sugawara[1], Kohki Okabe[1,2], Akihiko Sakamoto[1], Takashi Funatsu[1] ([1]*Graduate School of Pharmaceutical Sciences, the University of Tokyo*, [2]*JST, PRESTO*)

3P297 **生細胞内における microRNA のイメージング**

Imaging of microRNA in living cells

Toshinari Ishikawa[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Graduate School of Pharmaceutical Sciences, The University of Tokyo*, [2]*Sakigake, JST*)

3P298 **大腸菌 RND 型異物排出トランスポーター AcrD の細胞内動態観察**

Dynamics of RND-type xenobiotic transporter AcrD in the cytoplasmic membrane of *Escherichia coli*

Rei Tamai[1], Kentaro Yamamoto[1], Takehiko Inaba[2,4], Yoshiyuki Sowa[2,3], Ikuro Kawagishi[1,2,3] ([1]*Dept. Frontier Biosci., Grad. Sch. Eng and Sci., Hosei Univ.*, [2]*Res. Cen. Micro-Nanotech., Hosei Univ.*, [3]*Dept. Frontier Biosci., Fac. Biosci. and Appl. Chem., Hosei Univ.*, [4]*RIKEN Adv. Sci. Inst.*)

3P299 **大腸菌異物排出システム AcrAB-TolC の細胞内動態解析**

Dynamics of the xenobiotic efflux system AcrAB-TolC in *Escherichia coli*

Kentaro Yamamoto[1], Rei Tamai[1], Takehiko Inaba[2,4], Yoshiyuki Sowa[2,3], Ikuro Kawagishi[1,2,3] ([1]*Dept. Frontier Biosci., Grad. Sch. Sci and Eng., Hosei Univ.*, [2]*Res. Cen. Micro-Nanotech., Hosei Univ.*, [3]*Dept. Frontier Biosci., Fac. Biosci. and Appl. Chem., Hosei Univ.*, [4]*RIKEN Adv. Sci. Inst.*)

3P300 **FIB（Focused Ion Beam: 集束イオンビーム加工）-SEM（Scanning Electron Microscope: 走査電子顕微鏡）による細胞まるごと三次元構造解析法の開発**

Whole cell structure reconstruction by three-dimensional Focused Ion Beam and Scanning Electron Microscopy

Rina Nagai[1], Keisuke Ohta[2], Kazuhiro Aoyama[3,4], Akinobu Togo[2], Akihiro Kawamoto[5], Atsuko H. Iwane[1,3] ([1]*Cell Field Struc., QBiC, Riken*, [2]*2Anatomy, Med., Kurume Univ.*, [3]*Spec. Res. Promot. Group, Grad. Sch. Fronti. Biosci., Osaka Univ.*, [4]*Application Lab., FEI JAPAN*, [5]*Cell Dynamics Observ., QBiC, Riken*)

3P301 **クライオ電子線トモグラフィーと STEM を用いた生細胞内オルガネラのイメージング**

Imaging of live cell organelles by Cryo-electron tomography and STEM

Ruriko Ogawa[1], Kazuhiro Aoyama[2,3], Rina Nagai[1], **Atsuko H. Iwane**[1,2] ([1]*Cell Field Struc., QBiC, Riken*, [2]*Spec. Res. Promot. Group, Grad. Sch. Fronti. Biosci., Osaka Univ.*, [3]*Application Lab., FEI JAPAN*)

3P302 **生物試料中での GFP ー CL の観察**

Observation of GFP-CL in biological specimens

Kazuyoshi Murata[1], Naoyuki Miyazaki[2], Ryusuke Ueno[2], Hiroki Minoda[2], Naoki Yamamoto[3], Kuniaki Nagayama[1] ([1]*Nat. Inst. Physiol. Sci.*, [2]*Tokyo Univ. Agricult. Tech.*, [3]*Tokyo Inst. Tech.*)

3P303 **蛍光蛋白質における光および電子発光の電子線活性化**

Electron-beam Activation of Photo- and Cathodo-luminescence in Fluorescent Proteins

Kuniaki Nagayama[1], Kazuyoshi Murata[1], Hiroki Minoda[2], Ryusuke Ueno[2], Naoki Yamamoto[3] ([1]*National Institute for Physiological Sciences*, [2]*Tokyo University of Agriculture and Technology*, [3]*Tokyo Institute of Technology*)

28. バイオエンジニアリング / 28. Bioengineering

3P304 **Genetically encoded caged Ca^{2+}**

Noritaka Fukuda[1,2], Tomoki Matsuda[1], Takeharu Nagai[1] ([1]*ISIR, Osaka Univ.*, [2]*QBiC, Riken*)

3P305 **細胞解析のためのリアルタイム化学刺激システムの構築**

Development of the real-time local chemical stimulation system for cell analysis

Masaru Kojima, Takahiro Motoyoshi, Kenichi Ohara, Mitsuhiro Horade, Yasushi Mae, Tatsuo Arai (*Grad. Sch. Eng. Sci., Osaka Univ.*)

3P306 **DNA ナノ構造体を用いた DNA-RNA ポリメラーゼ・ハイブリッドナノマシンの構築と活性評価**

Construction and functional analysis of DNA origami base DNA-RNAP hybrid nanomachine

Takeya Masubuchi[1], Hisashi Tadakuma[1], Masayuki Endo[2], Hiroshi Sugiyama[2], Yoshie Harada[2], Takuya Ueda[1] ([1]*Grad. Sch. Frontier Sci., Univ. Tokyo*, [2]*iCeMS, Univ. Kyoto*)

3P307 **人工鞭毛により推進する精子型マイクロマシン**

A “sperm-like” micro-machine propelled by an artificial flagellum

Tsuyoshi Yamasaki, Susumu Aoyama, Yuichi Hiratsuka (*Japan Advanced Institute of Science and Technology*)

3P308 **インフルエンザウイルスと高い親和性を有する、Sialyllactose 修飾 3-way junction DNA**

Sialyllactose - modified Three way junction(3WJ) DNA as a inhibitor of influenza hemagglutinin

Yasuhito Ebara, Daichi Akamatsu, Naoki Hara, Anna Kono (*Grad. Sch. Hum. Dev. Env. Kobe Univ.*)

3P309 **サイズ選択的細胞回収のための超常磁性金属カップの作製**

Fabrication of Superparamagnetic Metal Cups for Size-Selective Cell Collection

Hyonchol Kim[1], Hideyuki Terazono[1,2], Hiroyuki Takei[1,3], Kenji Yasuda[1,2] ([1]*KAST*, [2]*Inst. Biomat. Bioeng., Tokyo Med. Dent. Univ.*, [3]*Fac. Life Sci., Toyo Univ.*)

3P310 **細胞表面特異的結合 DNA アプタマーの作製と心筋細胞の精製**

Non-invasive identification and purification method of target cardiomyocyte cells using cell-surface-binding ssDNA aptamers

Hideyuki Terazono[1,2], Hyonchol Kim[2], Fumimasa Nomura[1], Kenji Yasuda[1,2] ([1]*Tokyo Medical and Dental University*, [2]*Kanagawa Academy of Science and Technology*)

3P311 **DNA ナノデバイスを導入した刺激応答性ハイドロゲルの構築**
Introduction of DNA nanodevices into a hydrogel for achieving its stimuli-responsive behavior
Takashi Kitajima, Ken Komiya, Masahiro Takinoue, Masayuki Yamamura (*Interdisciplinary Grad. Sch. Sci. and Eng., Tokyo Tech.*)

3P312 **遠心力を利用した複雑形状マイクロハイドロゲル粒子の高速生成**
Centrifuge-based rapid synthesis of complex-shaped microhydrogel particles
Masayuki Hayakawa[1], Hiroaki Onoe[2], Ken H. Nagai[3], Masahiro Takinoue[1,4] ([1]*Interdisciplinary Grad. Sch. Sci. and Eng., Tokyo Tech.*, [2]*IIS, Univ. of Tokyo*, [3]*Dept. Phys, Univ. of Tokyo*, [4]*PRESTO, JST*)

30. その他 / 30. Miscellaneous topics

3P313 **Coherent dynamics in colloidal fluids in terms of Lagrangian coherent structures (LCS)**
Preetom Nag, Hiroshi Teramoto, Chun-Biu Li, Tamiki Komatsuzaki (*Research Ins. for Electronic Sci., Univ. Hokkaido*)

3P314 **レプリカ交換分子動力学計算による PA 化糖鎖の立体構造解析**
Conformational analysis of PA-glycans by replica-exchange molecular dynamics simulations
Shigehisa Watabe[1], Suyong Re[2], Eiro Muneyuki[1], Yuji Sugita[2,3,4] ([1]*Dept. Phys. Univ. Chuo*, [2]*Riken, ASI*, [3]*Riken, AICS*, [4]*Riken, QBiC*)

3P315 **Bio-inspired Connectivity Self-Healing in Wireless Mesh Networks**
Rui Teng, Ryu Miura (*The National Institute of Information and Communications Technology, Japan*)

3P316 **桿体・錐体での視物質の脱リン酸化活性の比較**
Highly effective Visual pigment Dephosphorylation in cones
Hiromi Yamaoka, Shuji Tachibanaki, Satoru Kawamura (*Grad. Sch. Frontier Biosci., Osaka Univ.*)