ポスター　Poster

第 1 日目（9 月 25 日（木））／Day 1（Sep. 25 Thu.）大ホール / Main Hall

01A. 蛋白質：構造 / 01A. Protein: Structure

1P001 **耐熱性ストマチン特異的切断プロテアーゼの構造と機能解析**
Structural and functional analysis of a thermostable stomatin-specific protease
Hideshi Yokoyama[1], Daisuke Kobayashi[1], Naoto Takizawa[1], Satoshi Fujii[1], Ikuo Matsui[2] ([1]*Sch. of Pharm. Sci., Univ. of Shizuoka*, [2]*Biomedical Res. Inst., AIST*)

1P002 **黄色ブドウ球菌由来 α-ヘモリジン単量体の結晶構造**
Crystal structure of staphylococcal α-hemolysin monomer
Takaki Sugawara[1], Daichi Yamashita[1], Yoshikazu Tanaka[1,2], Jun Kaneko[3], Yoshiyuki Kamio[3], Isao Tanaka[1,2], Min Yao[1,2] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*Fac. Adv. Life Sci., Hokkaido Univ.*, [3]*Grad. Sch. Agri., Tohoku Univ.*)

1P003 ***Mycoplasma pneumoniae* 滑走メカニズムに関わる P65 の構造解析**
Structural analysis of P65 involved in *Mycoplasma pneumoniae* gliding mechanism
Masaru Yabe[1], Miki Kinoshita[1], Yukio Furukawa[2], Katsumi Imada[3], Makoto Miyata[1] ([1]*Grad. Sch. of Sci., Osaka City University*, [2]*Grad. Sch. of Frontier BioSci., Osaka University*, [3]*Grad. Sch. of Sci., Osaka University*)

1P004 **Concentration Dependence of Amyloid Peptide Assembly by Using the Molecular Dynamics Simulations**
Naohiro Nishikawa[1,2], Yoshikate Sakae[1], Yuko Okamoto[1,3,4,5] ([1]*Grad. Sch. of Sci., Nagoya Univ.*, [2]*Inst. for Mol. Sci.*, [3]*Str. Biol. Res. Cent., Grad. Sch. of Sci., Nagoya Univ.*, [4]*Cent. for Comp. Sci., Grad. Sch. of Eng., Nagoya Univ.*, [5]*Info. Tech. Cent., Nagoya Univ.*)

1P005 **Lectin-like transcript 1 (LLT1)の構造解析と LLT1-CD161 複合体のモデル作製**
Structure analysis of lectin-like transcript 1 (LLT1) and model building of LLT1-CD161 complex
Shunsuke Kita[1], Haruki Matsubara[2], Jun Kamishikiryo[3], Yuki Okabe[1], Hideo Fukuhara[1], Kimiko Kuroki[1], Katsumi Maenaka[1] ([1]*Pharm., Univ. of Hokkaido*, [2]*Grad. Univ. Advanced Studies, KEK PF SBRC, Dep. of Materials Structure Science*, [3]*Sch. of Pharm., Univ. of Fukuyama*)

1P006 **Photon Factory の BioSAXS ビームラインの現状**
Current status of BioSAXS beamlines at Photon Factory
Nobutaka Shimizu[1], Shinya Saijyo[1], Hiromasa Ota[2], Takeharu Mori[1], Yasuko Nagatani[1], Ai Kamijyo[1], Takashi Kosuge[1], Noriyuki Igarashi[1] ([1]*Photon Factory, KEK*, [2]*Mitsubishi Electric SC*)

1P007 **エネルギー表示溶液理論を用いた蛋白質複合体構造予測**
Protein-protein complex structure prediction using the solution theory in the energy representation
Kazuhiro Takemura[1], Nobuyuki Matubayasi[2], Akio Kitao[1] ([1]*IMCB, Univ. Tokyo*, [2]*Grad. Sch. Eng. Sci, Osaka Univ.*)

1P008 **B 細胞共受容体 CD72 の C 型レクチン様ドメインの X 線結晶構造解析**
Crystal structure of the C-type lectin-like domain 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.*)

1P009 **ADP 結合型 腸球菌 A_3B_3 複合体の X 線結晶構造解析**
Crystal Structure of ADP-Bound A_3B_3 Complex of *Enterococcus hirae* V-ATPase
Kazuya Nakamoto[1], Kenji Mizutani[1,2], Kano Suzuki[1], Yoshiko Ishizuka-Katsura[3], Mikako Shirouzu[3], Shigeyuki Yokoyama[4], Ichiro Yamato[2], Takeshi Murata[1,5] ([1]*Grad. Sch. Sci., Univ. Chiba*, [2]*Dept. Bio. Sci. Tech., Tokyo Univ. of Science*, [3]*RIKEN CLST*, [4]*Structure Bio. Lab., RIKEN*, [5]*JST, PRESTO*)

1P010 **TtFbpA による新規鉄結合様式の解明**
A novel six-coordinated ferric ion binding mode of TtFbpA
Shipeng Wang, Misaki Ogata, Shoichiro Horita, Jun Ohtsuka, Koji Nagata, Masaru Tanokura (*Department of Applied Biological Chemistry, Graduate School of Agricultural and Life Sciences, University of Tokyo*)

1P011 **X 線 1 分子追跡法による α シヌクレイン構造揺らぎ 1 分子観察**
X-ray Single Molecule Observations of Alpha-synuclein's Structural Fluctuations by using Diffracted X-ray Tracking (DXT)
Masahiro Shimura[1], **Naruki Hara**[1], Yufuku Matsushita[1], Keigo Ikezaki[1], Hiroshi Sekiguchi[2], Naoya Fukui[3], Yasushi Kawata[3], Yuji Sasaki[1,2] ([1]*The University of Tokyo*, [2]*SPring-8/JASRI*, [3]*Tottori University*)

1P012 **分子ドッキングによるタンパク質–基質複合体の乖離構造と結合エネルギー評価**
Molecular docking study of structure and binding energy of ligand-protein complex in dissociation process
Hiroaki Saito, Kazutomo Kawaguchi, Hidemi Nagao (*Kanazawa University*)

1P013 **Some cooperative aspects of protein aggregation phenomena**
Takashi Konno (*Med., Univ. Fukui*)

1P014 **タイワンカブトムシ由来セリンプロテアーゼ阻害タンパク質オリクチンの変異体とトリプシンの複合体の構造解析**
Crystal structure of the M14R mutant of oryctin, a Kazal-type serine protease inhibitor, in complex with trypsin
Desheng Liu[1], Tatsuya Suzuki[1], Shoichiro Horita[1], Takeshi Kawai[1], Jun Ishibashi[2], Minoru Yamakawa[2], Koji Nagata[1], Masaru Tanokura[1] ([1]*Grad. Sch. of Agri. Lif Sci., Univ. Tokyo*, [2]*Nat. Ins. of Agro. Sci*)

1P015 **[NiFe]ヒドロゲナーゼ成熟化段階において Ni 挿入を担う HypAB 複合体**
Studies on intermediate HypAB complexes for Ni insertion during [NiFe] hydrogenase maturation
Takumi Kawashima[1], Satoshi Watanabe[1,2], Yuichi Nishitani[1], Tamotsu Kanai[3], Haruyuki Atomi[3], Tadayuki Imanaka[4], Kunio Miki[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*IMRAM, Tohoku Univ.*, [3]*Grad. Sch. Eng., Kyoto Univ.*, [4]*Coll. Life Sci., Ritsumeikan Univ.*)

1P016 **T4 型ファージと T2 型ファージの尾繊維先端受容体結合蛋白質の構造と機能**
Structure and function of receptor binding proteins of T4-type phages and T2-type phages
Shuji Kanamaru[1], Kazuya Uchida[1], Takahiro Momiyama[1], Kaname Nishijo[1], Fumio Arisaka[1,2] ([1]*Grad. Sch. of Biosci. & Biotech., Tokyo Inst. of Tech.*, [2]*Life Sci. Res. Center, Nihon Univ.*)

1P017 **べん毛 III 型輸送シャペロン FlgN の構造と FlhA との相互作用**
Structure of FlgN, a flagellar type III export chaperone, and its interaction with FlhA, a flagellar type III export gate protein
Yuya Ogawa[1], Yuki Nakanishi[1], Yumiko Uchida[1], Miki Kinoshita[2], Tohru Minamino[2], Katsumi Imada[1] ([1]*Grad. Sch. Sci., Univ. Osaka*, [2]*Grad. Sch. Frontier BioSci., Univ. Osaka*)

1P018 **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, Takayuki Kato, Keiichi Namba (*Osaka University*)

1P019 **Expression and Structural Analysis of Two Kinds of Perireceptor Proteins (PRPs)**
Xing Li[1], Durige Wen[2], Masaru Hojo[3], Mamiko Ozaki[3], Tatsuo Iwasa[1,4] ([1]*Div. Eng., Muroran Ins. of Tech.*, [2]*Div of Prod Sys Eng., Muroran Ins. of Tech.*, [3]*Dept. Biol., Grad.School Sci., Kobe Univ*, [4]*Cen. Env. Sci. Dis. Mit. Adv. Res., Muroran Ins. of Tech.*)

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

1P020 **SepCysE の機能・構造解析による Cys-tRNA^{Cys} 生合成機構の解明**
The study on the structure and function of SepCysE related to Cys-tRNA^{Cys} synthesis
Yuto Nakazawa[1], Nozomi Asano[1], Akiyoshi Nakamura[2], Keisuke Komoda[3], Isao Tanaka[1,4], Min Yao[1,4] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*MB&B, Yale Univ.*, [3]*Grad. Sci. Agri. Life sci., Univ. Tokyo*, [4]*Fac. Adv. Life Sci., Hokkaido Univ.*)

1P021 **タンパク質レアイベントを抽出する効率的構造サンプリング法**
Enhanced conformational sampling methods for extracting biological rare events of proteins
Ryuhei Harada[1,3], Yu Takano[2,3], Yasuteru Shigeta[1,3] ([1]*CCS, University of Tsukuba*, [2]*IPR, Osaka University*, [3]*JST-CREST*)

1P022 **遷移温度付近のシニョリンの緩和モード解析**
Relaxation Mode Analysis of Chignolin at Transition Temperature
Ayori Mitsutake, Hiroshi Takano (*Dep. Phys, Keio Univ.*)

1P023 **真空紫外円二色性分光による α_1 酸性糖蛋白質と生体膜の相互作用機構の解明**
Interaction Mechanism of α_1-Acid Glycoprotein with Biomembrane Characterized by Vacuum-Ultraviolet Circular Dichroism Spectroscopy
Koichi Matsuo[1], Hirofumi Namatame[1], Masaki Taniguchi[1,2], Kunihiko Gekko[3] ([1]*HiSOR, Hiroshima Univ.*, [2]*Grad. Sch. Sci., Hiroshima Univ.*, [3]*ISSD, Hiroshima Univ.*)

1P024 **レチノール結合タンパク質とカルパインの立体構造上に形成されたイントロンの平面**
Planes formed with 4 introns in tertiary structures of RBP & calpain D-VI
Michiko Nosaka[1], Syunya Sunaba[2], Ryoutarou Tsuji[4], Katsuki Hitata[3] ([1]*Biol. & Mat. Eng., Sasebo College, National Inst. of Tech.*, [2]*Canon*, [3]*RHOM*, [4]*Unknown Company*)

1P025 **アカネ科由来抗腫瘍活性ペプチド RA-VII の構造解析**
Structure analysis of antitumor peptide RA-VII from Rubia Cordifolia
Yoh Noguchi[1], Hironao Yamada[1], Sakiko Mori[1], Takeshi Miyakawa[1], Ryota Morikawa[1], Satoshi Yokojima[2], Yukio Hitotsuyanagi[2], Koichi Takeya[2], Masako Takasu[2] ([1]*School of Life Sciences, Tokyo University of Pharmacy and Life Sciences*, [2]*School of Pharmacy, Tokyo University of Pharmacy and Life Sciences*)

1P026 **分子シミュレーションによるラクトースリプレッサーの転写制御機構のモデル提案**
MD and *ab initio* MO simulations on transcriptional mechanism controlled by lactose repressor protein and ligand
Yuki Matsushita, Kanako Shimamura, Masato Oishi, Tatsuya Ohyama, Noriyuki Kurita (*Toyohashi University of Technology*)

1P027 **抗体の親和性成熟に着目した抗原 - 抗体結合挙動への洞察**
Insight into the antigen binding motion of germline and affinity-matured antibodies
Yusui Sato[1], Yusuke Tanaka[1], Hiroshi Sekiguchi[2], Yuji C. Sasaki[3], Takachika Azuma[4], Masayuki Oda[1] ([1]*Grad. Sdh. of Life and Environ. Sci., Kyoto Pref. Univ.*, [2]*JASRI/SPring-8*, [3]*Grad. Sch. of Fron. and Sci., Univ. of Tokyo.*, [4]*Res. Ins. for Biol. Sci., Tokyo Univ. of Sci.*)

1P028 **L-Thr と NAD$^+$の結合に伴う Cupriavidus necator 由来 L-スレオニン脱水素酵素の構造変化の解析**
Analysis of structural change of L-threonine dehydrogenase from Cupriavidus necator (CnThrDH) by binding of L-Thr and NAD$^+$
Shogo Nakano[1,3], Seiji Okazaki[1,3], Hiroaki Tokiwa[2,3], Yasuhisa Asano[1,3] ([1]*Biotech. Res. Center & Dept. Biotech., Toyama Pref. Univ.*, [2]*Dept. Chem., Rikkyo Univ*, [3]*ERATO, JST*)

1P029 **アナアオサ由来のプラストシアニンにおける弱い相互作用の役割**
The role of weak interaction in a blue copper protein, plastocyanin from Ulva pertusa
Soichiro Ikeda[1], Akiko Takashina[1], Takahide Yamaguchi[1], Risa Aoki[1], Masaki Unno[1,2], Takamitsu Kohzuma[1,2] ([1]*Grad. ins. Appl. Beam Sci., Univ. Ibaraki*, [2]*iFRC., Univ. Ibaraki*)

1P030 **ブルー銅タンパク質シュウドアズリン Met16His/His6Val 変異体の性質と構造の pH 依存性**

pH dependency of the structure and properties of a blue copper protein, Met16His/His6Val pseudoazurin mutant

Hikaru Sunagawa[1], Tsuyoshi Sakairi[1], Masaki Unno[1,2], Takamitsu Kohzuma[1,2] ([1]*Graduate School of Sci. and Eng., Ibaraki Univ.*, [2]*iFRC, Ibaraki Univ.*)

1P031 **リソスタシンの炭酸カルシウム結晶結合部位の解析**

Functional analysis of calcite-binding site of lithostathine

Maho Nara[1], Yuichi Hanada[2], Hidemasa Kondo[2,3], Sakae Tsuda[2,3] ([1]*Hokkaido College of High Technology*, [2]*Graduate School of Life Science, Hokkaido University*, [3]*Bioproduction Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)*)

1P032 **Production and NMR study of plant defensin-like peptides using plant cell expression system**

Yoshitaka Umetsu[1], Masashi Mori[2], Shinya Ohki[1] ([1]*JAIST*, [2]*Ishikawa Pref. Univ.*)

1P033 **FRET プローブアクチンを用いた細胞内におけるアクチンの構造多型の検出**

Polymorphism of actin in cells, detected by FRET-probed actin

Mio Okazaki[1], Saku Kijima[2,4], Yoshiaki Iwadate[3], Taro Q.P Uyeda[2,4], Taro Q.P Noguchi[1] ([1]*MNCT*, [2]*ATST*, [3]*Yamaguchi University*, [4]*University of Tsukuba*)

1P034 **HP 1 クロモドメイン/histone H3 tail 複合体の全原子構造サンプリング**

Conformational sampling of HP1 chromodomain/histone H3 tail complex

Nobuto Hashiguchi, Satoshi Omori, Kei Moritsugu, Yoshifumi Nishimura, Akinori Kidera (*Yokohama City Univ.*)

1P035 **Sox2 の DNA 結合ドメインの構造揺らぎと DNA 結合に付随するフォールディング**

Conformational Flexibility of the high-mobility group box domain of sox2 and its folding coupled with DNA binding

Erisa Harada, Tsuyoshi Konuma, Syoko Mori, Kenji Sugase (*Suntory Foundation for Life Sciences*)

1P036 **巨大ヘモグロビン結晶内での oxy 型から deoxy 型への移行**

Transition from oxy to deoxy state in crystalline giant hemoglobin

Nobutaka Numoto[1], Taro Nakagawa[2], Akiko Kita[3], Nobutoshi Ito[1], Yoshihiro Fukumori[4], Kunio Miki[5] ([1]*Med. Res. Inst., Tokyo Med. and Dent. Univ. (TMDU)*, [2]*Nagahama Inst. of Bio-Sci. and Tech.*, [3]*Research Reactor Inst., Kyoto Univ.*, [4]*College of Sci. and Eng., Kanazawa Univ.*, [5]*Grad. Sch. of Sci., Kyoto Univ.*)

1P037 **効率的な自由エネルギー計算と構造サンプリングに向けた Integrated Hamiltonian Sampling 法の開発**

Integrated Hamiltonian Sampling: towards efficient free energy calculation and conformational sampling

Toshifumi Mori[1], Qiang Cui[2] ([1]*Institute for Molecular Science*, [2]*Univ. of Wisconsin, Madison*)

1P038 **K63 および linear ユビキチン鎖の構造サンプリング**

Full-scale conformational sampling of K63 and linear polyubiquitins

Masanori Shimizu, Hafumi Nishi, Kei Moritsugu, Akinori Kidera (*Grad. Sch. of Med. Life Sci., Yokohama City University*)

1P039 **Microscopic observation of amyloid deposits associated with lipids of amyloid β-peptide**

Kenji Sasahara (*Grad. Med. Kobe Univ.*)

1P040 **微小管切断蛋白質 katanin の構造と機能に関する研究**

Structure and function of katanin, a microtubule severing protein

Naoko Iwaya[1,2], Syouta Noda[1], Natsuko Goda[1], Takeshi Tenno[1], Hidekazu Hiroaki[1] ([1]*Grad. Sch. Pharm. Sci., Univ. Nagoya*, [2]*JSPS Research Fellow*)

1P041 **リボソームストークによる翻訳伸長因子の認識の仕組み**

The study on aEF-2 recognition mechanism of ribosomal stalk

Takehito Tanzawa[1], Yuki Kumakura[1], Yoshikazu Tanaka[1,2], Toshio Uchiumi[3], Isao Tanaka[2], Min Yao[1,2] ([1]*Grad. Schl. Life. Sci., Hokkaido Univ.*, [2]*Fac. Adv. Life. Sci., Hokkaido Univ.*, [3]*Dept. Biol., Fac. Sci., Niigata Univ.*)

1P042 **HP1 クロモドメイン N 末端部分の構造探索と HP1αCD/histone H3 tail 複合体モデル構築**

Replica-exchange simulation of N-ter fragment in HP1 chromodomain and model construction of HP1αCD/histone H3 tail complex

Satoshi Omori, Nobuto Hashiguchi, Kei Moritsugu, Yoshifumi Nishimura, Akinori Kidera (*Grad. Sch. of Med. Life Sci., Yokohama City University*)

1P043 **Real-Time Observation of DNA Digestion by RecBCD with High-Speed Atomic Force Microscopy**

Weidong Zhao (*Kanazawa University*)

1P044 **Molecular basis of conformational dynamics and enzymatical maturation process of nuclear lamin A related to onset of laminopathies**

Mai Tsunoda[1], Muneyo Mio[1,2], Toshihiko Sugiki[3], Kazuhiro Mio[1,2] ([1]*AIST*, [2]*YCU*, [3]*IPR*)

1P045 **Functional Analysis of a New Type I Antifreeze Protein from Barfin plaice, *Liposetta pinnifasciata***

Sheikh Mahatabuddin[1], Kazunari Ishihara[1], Yuichi Hanada[1], Ai Miura[2], Hidemesa Kondo[1,2], Sakae Tsuda[1,2] ([1]*Graduate School of Life Science, Hokkaido University*, [2]*National Institute of Advanced Industrial Science and Technology (AIST)*)

1P046 **アクチンフィラメントの圧電特性**

Piezoelectric property of an actin filament

Jun Ohnuki[1], Takato Sato[1], Koji Umezawa[1], Taro Q.P. Uyeda[2], Mitsunori Takano[1] ([1]*Dept. of Pure & Appl. Phys., Waseda Univ.*, [2]*Biomedical Res. Inst., AIST*)

1P047 **家族性 ALS に関連した A4V、G93A 変異 SOD1 の酸化促進性獲得**

Acquisition of pro-oxidant activity by fALS-linked SOD1 mutants A4V and G93A

Ken Nishiya, Nobuhiro Fujimaki, Furi Kitamura, Takashi Miura, Takakazu Nakabayashi, Hideo Takeuchi (*Grad. Sch. Pharm. Sci., Tohoku Univ.*)

1P048 **GroEL に結合した基質 BFP の一分子 FRET 計測による構造解析**
Conformation of the denatured BFP bound to GroEL by single molecule FRET measurements
Aya Yoshida[1,2], Fumihiro Motojima[3], Hiroyuki Oikawa[1], Kiyoto Kamagata[1], Hideki Taguchi[4], Masasuke Yoshida[3], Satoshi Takahashi[1] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. Sci., Tohoku Univ.*, [3]*Dept of Mol Biosci, Kyoto Sangyo Univ.*, [4]*Grad. Sci. of Biosci. Biotech., Tokyo Tech*)

1P049 **p53C 末端の負の制御ドメインに関する自由エネルギー地形**
Free-energy landscape of the C-terminal negative regulatory domain of p53
Shinji Iida[1], Haruki Nakamura[2], Junichi Higo[2] ([1]*Grad. Sch. Sci., Univ. Osaka*, [2]*Institute for Protein Research*)

1P050 **タンパク質分子動力学シミュレーションの二次構造主成分分析**
Secondary Structure Principal Component Analysis of Protein Molecular Dynamics Simulations
Norifumi Yamamoto (*Chiba Inst Tech*)

1P051 **塩酸グアニジン変性における *Aspergillus niger* 由来グルコアミラーゼのデンプン結合ドメインの二つの異なる変性状態**
Two distinctive unfolded states starch binding domain of *Aspergillus niger* accumulated during GdnHCl-induced unfolding
Daizo Hamada[1], **Chiaki Ota**[2], Momoko Kitazawa[2], Hideo Miyake[1], Akiyoshi Tanaka[1] ([1]*Grad Schl Bioresource, Mie Univ*, [2]*Dept Bioresource, Mie Univ*)

1P052 **多機能性タンパク質 PHB2 のフォールディング状態に対する疎水環境の影響**
The effect of hydrophobic environment on folding states of multifunctional protein PHB2
Takeru Chigira[1], Satoru Nagatoishi[2], Toyomasa Katagiri[3], Kouhei Tsumoto[1,2,4] ([1]*Dept. of Chem. and Biol., Sch. of Eng., Univ. of Tokyo*, [2]*Dept. of Bioeng., Sch. of Eng., Univ. of Tokyo*, [3]*Inst. for Genome Res., Univ. of Tokushima*, [4]*Inst. of Med. Sci., Univ. of Tokyo*)

1P053 **AFM による酸化 LDL 粒子の物理的性質の解析**
Mechanical properties of oxidized low-density lipoprotein particles disclosed with AFM
Seiji Takeda[1], Agus Subagyo[2], Shu-Ping Hui[1], Hirotoshi Fuda[1], Kazuhisa Sueoka[2], Hitoshi Chiba[1] ([1]*Hokkaido Univ. Faculty of Health Sciences*, [2]*Hokkaido Univ. Graduate School of Information Science and Technology*)

1P054 **分子動力学シミュレーションによる抗体表面を動く水の解析**
Analysis of water dynamics at the surfaces of antibodies: Molecular dynamics study
Keiko Shinoda, Hideaki Fujitani (*RCAST, Univ. of Tokyo*)

1P055 **二次元蛍光寿命相関分光法による BdpA 折りたたみ機構解明に向けた研究:2 つの BdpA 変異体による包括的解析**
Study of BdpA folding by two-dimensional fluorescence lifetime correlation spectroscopy: Comprehensive analysis of two BdpA mutants
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*)

1P056 **たった 10 残基から成るタンパク質の立体構造安定性に及ぼす主鎖と側鎖の充填の効果**
Effect of Backbone and Side-chain Packing on Structural Stability of the Protein with Only Ten Residues
Satoshi Yasuda, Tomohiko Hayashi, Masahiro Kinoshita (*IAE, kyoto Univ.*)

1P057 **カルシトニンアミロイド凝集機構の解明と抑制法の考案**
Analysis of amyloid formation and inhibition mechanisms of human calcitonin
Hiroko Tanaka, Hironari Kamikubo, Yoichi Yamazaki, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

1P058 **分子動力学シミュレーションを用いたリガンド結合による PR-Set7 の構造変化の研究**
Molecular dynamics simulations for structure changes of PR-Set7 by ligand binding
Takako Sakano, Hideaki Fujitani (*RCAST, UTokyo*)

1P059 **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との競合結合性**
Competitive binding of metal ions to the octarepeat region of human prion protein
Masahiro Yagi, Kazuya Iwama, Haruto Onda, Wakako Hiraoka (*Dept. Phys., Grad. Sch. Sci. & Tech., Meiji Univ.*)

1P060 **粗視化 MD-SAXS 法の開発**
Development of Coarse-Grained MD-SAXS method
Yuichi Kokabu[1], Tomotaka Oroguchi[2], Mitsunori Ikeguchi[1] ([1]*Yokohama City Univ.*, [2]*Keio Univ.*)

1P061 **高圧分子動力学法によるヘリックス構造を持つペプチドの熱力学と構造に関する研究**
High-pressure molecular dynamics study on the thermodynamics and structures of helical peptides
Yoshiharu Mori[1], Hisashi Okumura[1,2] ([1]*IMS*, [2]*SOKENDAI*)

1P062 **トリプトファン三重項寿命測定を用いた staphylococcal nuclease の変性構造の評価**
Characterization of the denatured structure of staphylococcal nuclease by tryptophan triplet state lifetime measurements
Sadatoshi Aoyagi, Mariko Yamaguchi, Hironari Kamikubo, Yoichi Yamazaki, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

1P063 **フェリチンのアセンブリメカニズムの研究**
A study of ferritin assembly mechanism
Daisuke Sato, Hideaki Ohtomo, Atsushi Kurobe, Ayumi Sunato, Kazuo Fujiwara, Masamichi Ikeguchi (*Dept. Bioinfo., Soka Univ.*)

1P064 **ヨウ素染色によるアミロイド線維構造の識別**
Discrimination of amyloid fibril structures by iodine staining
Takato Hiramatsu, Seongmin Ha, Yuki Masuda, Eri Chatani (*Grad.Sch.of Sci.,Univ. Kobe*)

1P065 **β-ストランドの局所配列とねじれ、曲がりの関係**
Local sequence of protein β-strands influences twist and bend angles
Kazuo Fujiwara, Shinichi Ebisawa, Yuka Watanabe, Hiromi Toda, Masamichi Ikeguchi (*Dept. of Bioinfo., Soka Univ.*)

1P066 **アミノ酸挿入によるアミロイドβペプチドの線維形成への影響**
Effects of single amino-acid insertion on amyloid β fibril formation
Kazuto Yamashita, Motonari Tsubaki, Eri Chatani (*Grad. Sch. Sci., Kobe Univ.*)

01D. 蛋白質：機能 / 01D. Protein: Function

1P067 **超好熱アーキア由来 S-layer タンパク質の糖結合特異性**
Carbohydrate binding of S-layer protein derived from hyperthermophilic archaea
Shuichiro Goda, Kenichiro Yamashita, Hideaki Unno, Tomomitsu Hatakeyama (*Grad. Sch. Eng., Nagasaki Univ.*)

1P068 **４量体型サルコシン酸化酵素の分子動力学シミュレーション: 反応物と生成物の輸送経路の解明**
Molecular dynamics simulation of heterotetrameric sarcosine oxidase: analysis of channeling of reactants and products
Daisuke Nakajima[1], Go Watanabe[2], Haruo Suzuki[2], Shigetaka Yoneda[2] ([1]*Grad. Sch. Sci., Kitasato Univ.*, [2]*Sch. Sci., Kitasato Univ.*)

1P069 **リガンド結合の動的側面：PDZ ドメインタンパク質を用いた研究**
Dynamical aspects of ligand binding: A case study for PDZ domain protein
Hiroshi Fujisaki[1], Norifumi Yamamoto[2], Kana Fuji[3], Mikito Toda[3] ([1]*Nippon Medical School*, [2]*Chiba Inst. Tech.*, [3]*Nara Women's Univ.*)

1P070 **網羅的アミノ酸置換変異によるアシル ACP 還元酵素の活性部位の解析**
Comprehensive mutagenesis reveals residues critical for aldehyde producing activity of acyl-ACP reductase
Munehito Arai[1,2], Fumitaka Yasugi[1] ([1]*Dept. Life Sci., Univ. Tokyo*, [2]*PRESTO, JST*)

1P071 **アミロイド線維の人工設計ペプチドによる加水分解**
Hydrolysis of amyloid fibrils by artificially designed peptides
Yoshihiro Iida, Atsuo Tamura (*Grad. Sch. Sci., Univ. Kobe*)

1P072 **Large time step molecular dynamics using Torsion Angle Molecular Dynamics**
Yu Yamamori, Akio Kitao (*Tokyo Univ. ICMS*)

1P073 **鉄イオン貯蔵タンパク質に対する交流磁場の影響**
Effects of alternating magnetic fields on iron-storage protein
Yuta Yamada, Tsuyoshi Hondou, Hidetake Miyata (*Grad. Sch. Sci. , Univ. Tohoku*)

1P074 **ニトリルヒドラターゼ（NHase）によるアミド生成機構に関する理論的研究**
A QM/MM study of amide formation reaction of Nitrile Hydratase
Megumi Kayanuma[1], Mitsuo Shoji[2], Yasuteru Shigeta[2] ([1]*Grad. Sch. of Sys. and Inf. Eng., Univ. of Tsukuba*, [2]*Grad. Sch. of Pure and App. Sci., Univ. of Tsukuba*)

1P075 **Effect of C-terminal truncation of chaperonin GroEL on the yield of an in-cage folding of GFP**
So Ishino[1], Yasushi Kawata[2], Hideki Taguchi[3], Katsumi Matsuzaki[1], Masaru Hoshino[1] ([1]*Graduate School of Pharmaceutical Sciences, Kyoto Univiersity*, [2]*Department of Biotechnology, Graduate School of Engineering, Tottori University*, [3]*Department of Biomolecular Engineering Graduate School of Biosciences and Biotechnology Tokyo Institute of Technology*)

1P076 **抗体 G2 の複数の抗原を特異的に認識する機構**
Mechanism of multispecific recognition of monoclonal antibody G2
Yuji O. Kamatari[1], Masayuki Oda[2], Takahiro Maruno[3], Shohey Shimizu[2], Yuji Kobayashi[3], Naotaka Ishiguro[4] ([1]*Life Sci. Res. Ctr, Gifu Univ.*, [2]*Grad. Sch. Life Environm. Sci., Kyoto Pref. Univ.*, [3]*Grad. Sch. Engn., Osaka Univ.*, [4]*Fac. Appl. Biol. Sci., Gifu Univ.*)

1P077 **NMR およびドッキングによる抗菌ペプチドとリポ多糖の複合体構造解析**
NMR and docking structure of antimicrobial peptide complexed with lipopolysaccharide
Takahiro Kushibiki[1], Masakatsu Kamiya[1], Tomoyasu Aizawa[1], Yasuhiro Kumaki[2], Takashi Kikukawa[1], Mineyuki Mizuguchi[3], Makoto Demura[1], Syun-ichiro Kawabata[4], Keiichi Kawano[1,5] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*Grad. Sch. Sci., Hokkaido Univ.*, [3]*Grad. Sch. Med. & Pharm. Univ. of Toyama*, [4]*Dept. Biol., Kyusyu Univ.*, [5]*Chitose Inst. Sci. Tech.*)

1P078 **MD シミュレーションを用いた Neuropsin - Neuregulin-1 リガンド間の相互作用に関する研究**
Molecular Dynamics Study on Interactions between Neuropsin and Neuregulin-1 Ligand
Mitsumasa Abe[1], Hideki Tamura[2], Yoshifumi Fukunishi[3], Masami Lintuluoto[1] ([1]*Grad. Sch. of Life and Environ. Sci., Kyoto Pref. Univ.*, [2]*L-StaR, Hoshi Univ. Sch. Pham. and Pham. Sci.*, [3]*AIST*)

1P079 **Analysis on the interaction between G3LEA proteins and other proteins by quartz crystal microbalance**
Tetsuro Yamaguchi[1], Kentaro Yamakawa[1], Takao Furuki[1], Rie Hatanaka[2] ([1]*Center for Biol. Res. & Inform., Tokyo Tech*, [2]*Natl. Inst. Agrobiol. Sci.*, [3]*Grad. Sch. of Biosci. Biotech., Tokyo Tech*)

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

1P080 **NMR スペクトルの再構成における圧縮センシングの基底選択の影響**
Effect of basis selection in reconstructing NMR spectra using compressed sensing
Kazuya Sumikoshi[1], Teppei Ikeya[2], Yutaka Ito[2], Kentaro Shimizu[1] ([1]*Grad. Sch. Agr. Life Sci., Univ. Tokyo*, [2]*Grad. Sch. Sci. Eng., Tokyo Metropolitan Univ.*)

1P081 **べん毛 C-ring 構成要素である FliM-FliN 複合体のストイキオメトリと、べん毛輸送装置タンパク質との高次複合体**
Stoichiometry of the FliM-FliN complex, a flagellar C-ring component, and its higher order complex with flagellar export appratus proteins
Kazushi Matsushima[1], Hiroyuki Terashima[1], Miki Kinoshita[2], Tohru Minamino[2] ([1]*Grad. sch. sci. Osaka Univ.*, [2]*Grad. Sch. Front. Bio. Sci. Osaka Univ.*)

1P082 **Ｘ線１分子追跡法によるリン酸化タウタンパク質の構造動態**
X-ray Single Molecule Observations of Phosphorylated Tau protein's structural fluctuations
Masahiro Shimura[1], Yuufuku Matsushita[1], Keigo Ikezaki[1], Tomohiro Miysasaka[2], Kouhei Ichiyanagi[3], Hiroshi Sekiguchi[4], Yasuo Ihara[2], Yuji Sasaki[1,4] ([1]*Grad. School Frontier Sci., Univ. Tokyo*, [2]*Faculty of life & Medical Sci., Doshisha Univ.*, [3]*High Energy Accelerator Research Organizaiton*, [4]*Research & Utilization Div., SPring-8/JASRI*)

1P083 **ラマン分光法による高濃度タンパク質溶液の分子間相互作用の評価**
Evaluation of inter-molecular interaction of a protein in highly concentrated solution investigated by Raman spectroscopy
Sakiko Akaji[1], Chikashi Ota[1], Shintaro Noguchi[1], Kohei Tsumoto[2,3] ([1]*HORIBA, Ltd.*, [2]*Dept. of Bioeng., Grad. Sch. of Eng., Univ. of Tokyo*, [3]*Inst. Med. Sci., Univ. of Tokyo*)

1P084 **基準振動解析に基づいたタンパク質分子動的領域のモデル化**
Modeling Motion Parts of Protein Based on Normal Mode Analysis
Shinya Muraoka[1], Yutaka Ueno[1,2] ([1]*NAIST*, [2]*Health Resarch Institute, AIST*)

1P085 **プロリン異性化酵素 Pin1 のドメイン間接触頻度による機能制御**
Functional regulation of Pin1 cis-trans Pro-isomerase by the inter-domain contact frequency
Naoya Tochio[1], Ryosuke Kawasaki[2], Yu Tamari[2], Shin-ichi Tate[1,2] ([1]*RcMcD, Hiroshima Univ.*, [2]*Dept. of Math. and Life Sci., Grad Sch. of Sci. Hiroshima Univ.*)

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

1P086 **アポミオグロビン折り畳み中間体に存在するノンネーティブなＨヘリックス領域構造**
Non-native H helix translocation in folding intermediate of apomyoglobin
Chiaki Nishimura[1,2], Phillip Aoto[1], Jane Dyson[1], Peter Wright[1] ([1]*Dept. Mol. Biol., Scripps Res. Inst.*, [2]*Fac. Pharm. Sci., Teikyo Heisei Univ.*)

1P087 **機能性ペプチドから創出する小型タンパク質**
Generating a small-sized protein from a functional peptide
Hideki Watanabe, Shinya Honda (*AIST BMRI*)

1P088 **ハロゲン化チロシンの多箇所への部位特異的導入によるタンパク質の安定化**
Multiple site-selective integrations of bulky halogenated tyrosines enhance protein stability
Kazumasa Ohtake[1,2], Atsushi Yamaguchi[1,2], Mitsuru Haruki[3], Kenji Yamagishi[3], Kazutaka Murayama[4], Mikako Shirouzu[1,2], Shigeyuki Yokoyama[1,5], Kensaku Sakamoto[1,2] ([1]*RIKEN Systems and Structural Biology Center*, [2]*RIKEN Center for Life Science Technologies*, [3]*Department of Chemical Biology and Applied Chemistry, College of Engineering, Nihon University*, [4]*Biomedical Engineering Research Organization, Tohoku University*, [5]*RIKEN Structural Biology Laboratory*)

1P089 **Expression and refolding of the protein from a fruits of *Richardella dulcifica***
Maria Namba, Satoko Shibuya, Naoya Hashikawa, Satoru Yamaguchi (*Okayama Univ. Sci.*)

1P090 **Introduction of negatively charged residues compensates for decreased protein solubility caused by an artificial hydrophobic surface**
Sota Yagi, Satoshi Akanuma, Akihiko Yamagishi (*Tokyo University of Pharmacy and Life Sciciences*)

1P091 **抗体精製用リガンド FPA の抗体解離メカニズムの解明と改良**
Mechanism and improvement of pH-sensitive antibody dissociation by FPA, a ligand for antibody purification
Taihei Sawada[1], Takahiro Watanabe[1], Yuuki Hayashi[1], Munehito Arai[1,2] ([1]*Dept. Life Sci., Univ. Tokyo*, [2]*PRESTO, JST*)

02. ヘム蛋白質 / 02. Heme proteins

1P092 **亜硝酸還元酵素と一酸化窒素還元酵素複合体の結晶構造**
Crystal structure of complex of nitrite reductase and nitric oxide reductase
Takehiko Tosha[1], Erina Terasaka[1,2], Hiroshi Sugimoto[1], Yoshitsugu Shiro[1,2] ([1]*RIKEN SPring-8*, [2]*Grad. Sch. Sci., Univ. Hyogo*)

1P093 **ハーフメト Hb M における酸素親和性と正常鎖、異常鎖の配位状態との関係**
Relationship between oxygen affinity and coordination state of normal or abnormal chain in half-met Hb Ms
Shusei Hashihara[1], Miki Okumura[1], Shigenori Nagatomo[1], Masako Nagai[2], Takashi Ogura[3], Teizo Kitagawa[3], Mafumi Hishida[1], Yasuhisa Yamamura[1], Kazuya Saito[1] ([1]*Dept. Chem., Univ. Tsukuba*, [2]*Res. Center Micro-Nano Tech., Hosei Univ.*, [3]*Grad. Sch. Life Sci., Univ. Hyogo*)

1P094 **α 鎖あるいは β 鎖の近位ヒスチジンがグリシンに置換された変異ヘモグロビンの機能と構造**
Function and structure of mutant hemoglobins with the proximal histidine replaced by glycine in either α or β subunit
Shigenori Nagatomo[1], Yukufumi Nagai[2], Yayoi Aki[3], Hiroshi Sakurai[3], Natsumi Maruyama[4], Kiyohiro Imai[4], Naoki Mizusawa[2,4], Takashi Ogura[5], Teizo Kitagawa[5], Masako Nagai[2,3] ([1]*Dept. Chem., Univ. Tsukuba*, [2]*Res. Center Micro-Nano Tech., Hosei Univ.*, [3]*Sch. Health Sci., Coll. Med., Pharm. and Health Sci., Kanazawa Univ.*, [4]*Dept. Frontier Biosci., Hosei Univ.*, [5]*Grad. Sch. Life Sci., Univ. Hyogo*)

1P095 **Unique reaction mechanism of MhuD, a heme-degrading enzyme from Mycobacterial tuberculosis**
Toshitaka Matsui, Syusuke Nambu, Masao Ikeda-Saito (*IMRAM, Tohoku Univ.*)

1P096 **The Caged State, the Transition State of the Regulation of Oxygen-Affinity in Hemoglobin**
Takashi Yonetani[1], Kenji Kanaori[2] ([1]*Univ. of Pennsylvania*, [2]*Kyoto Inst. of Tech.*)

1P097 **異なるゾル・ゲル由来シリカゲル中へモグロビンのアロステリック転移の比較**
Comparison of allosteric transitions in hemoglobin in different sol-gel derived silica gels
Naoya Shibayama (*Div. of Biophysics, Jichi Medical Univ.*)

1P098 **シトクロム c_3 中のヘムの電子構造制御に関する計算科学的研究**
Computational study of the electronic structures of hemes in cytochrome c_3
Yasuhiro Imada, Haruki Nakamura, Yu Takano (*IPR, Osaka Univ.*)

03. 膜蛋白質 / 03. Membrane proteins

1P099 **分子動力学法が明らかにした ADP/ATP 透過担体の内向き開構造のモデル**
A plausible model for the structurally unknown inward-facing conformation of ADP/ATP carrier: A molecular dynamics study
Koichi Tamura, Shigehiko Hayashi (*Grad. Sch. Sci., Univ. Kyoto*)

1P100 **拡張アンサンブルシミュレーションを用いた繊維芽細胞増殖因子受容体(FGFR3)の膜貫通ドメインの構造予測結果と実験との比較**
Comparison of the predicted structure of the FGFR3 transmembrane domain by enhanced sampling simulations with experimental results
Yumi Kashihara[1,2], Naoyuki Miyashita[1,2], Pai-Chi Li[3], Yuji Sugita[1,2,3,4] ([1]*RIKEN QBiC*, [2]*RIKEN AICS*, [3]*RIKEN TMS*, [4]*RIKEN*)

1P101 **アクアポリン 3 の投影像へのホモロジーモデルの当てはめ**
Fitting of a homology model to a projection map of aquaporin-3
Kaoru Mitsuoka (*Next Generation Natural Products Chemistry*)

1P102 **酸素センサータンパク質 Aer のシグナル伝達機構の解明**
Elucidation of signal transduction mechanism of Aer
Yoriyoshi Oka, Tatsuya Iwata, Hideki Kandori (*Nagoya Institute of Technology*)

1P103 **NMR, QCM, MD シミュレーションによる κ-オピオイド受容体細胞外第２ループとダイノルフィンとの細胞膜中での相互作用解析**
Interaction of ECL-II of k-opioid receptor with dynorphin in membrane environments as revealed by solid state NMR, QCM and MD simulation
Akira Naito[1], Atsushi Kira[1], Namsrai Javkalantugs[2], Takenori Miyamori[1], Yoshiyuki Sasaki[1], Masayuki Eguchi[1], Izuru Kawamura[1], Kazuyoshi Ueda[1] ([1]*Yokohama National University*, [2]*National University of Mongolia*)

1P104 **分子動力学計算から明らかにされた細菌機械受容チャネル MscL のゲーティングにおける N 末端領域のメカノセンサーとしての役割**
The N-terminal domain acts as a mechanosensor in the gating of the bacterial mechanosensitive channel MscL: molecular dynamics study
Yasuyuki Sawada[1], Masahiro Sokabe[2] ([1]*Dept. Physiol. Nagoya Univ. Grad. Sch. Med.*, [2]*Mechanobiology Lab. Nagoya Univ. Grad. Sch. Med.*)

1P105 **改良した多リン酸力場を用いた ATP/ADP 結合状態の筋小胞体カルシウムポンプの分子動力学計算**
Molecular dynamics simulations of ATP/ADP bound forms of SR Ca^{2+}-ATPase using CHARMM force field with modified polyphosphate parameters
Yasuaki Komuro[1,2,3], Suyong Re[2], Chigusa Kobayashi[3], Eiro Muneyuki[1], Yuji Sugita[2,3,4,5] ([1]*Grad. Sci and Eng., Chuo Univ.*, [2]*RIKEN*, [3]*RIKEN AICS*, [4]*RIKEN QBiC*, [5]*RIKEN iTHES*)

1P106 **膜孔形成蛋白質 FraC の構造変化機構の解析：可溶性構造から膜貫通構造までの変遷**
Structural analysis of the α-helical pore-forming toxin FraC; metamorphosis from a water-soluble to a transmembrane protein
Koji Tanaka[1], Jose Caaveiro[1], Kouhei Tsumoto[1,2] ([1]*Sch. of Eng., Univ. of Tokyo*, [2]*IMSUT*)

1P107 **性フェロモン生合成活性化神経ペプチド受容体（PBANR）の発現、リガンド結合、会合状態の解析による結晶化の為の T4 リゾチーム置換位置の検討**
Positional optimization of T4L that replaces IL3 of PBANR for crystallization by expression, ligand binding, and size exclusion analyses
Yukie Katayama[1], Tatsuya Suzuki[1], Tatsuki Ebisawa[1], Takeshi Kawai[1], Jun Ohtsuka[1], Ryo Natsume[2], Yu-Hua Lo[3], Toshiya Senda[3], Toshihiro Nagamine[4], Masaaki Kurihara[4], Jae Min Lee[4], J. Joe Hull[5], Shogo Matsumoto[4], Hiromichi Nagasawa[1], Koji Nagata[1], Masaru Tanokura[1] ([1]*UTokyo*, [2]*TDU*, [3]*KEK-PF*, [4]*RIKEN*, [5]*USDA-ARS*)

1P108 **レプリカ交換アンブレラサンプリングシミュレーションでのコレステロール分子との相互作用によるアミロイド前駆体の C99 単量体の構造変化**
Structural change of APP-C99 induced by interactions with cholesterol studied by Replica Exchange Umbrella Sampling (REUS) simulation
Ryo Urano[1], John E. Straub[2], Yuko Okamoto[1,3,4,5] ([1]*Dept. Phys, Grad. Sch. Sci., Nagoya Univ.*, [2]*Dept. Chem., Boston Univ.*, [3]*Cent. Comput. Sci., Grad. Sch. Eng., Nagoya Univ.*, [4]*Info. Tech. Cent., Nagoya Univ.*, [5]*Struct. Biol. Res. Cent., Sch. Sci., Nagoya Univ.*)

1P109 **チャネルロドプシンの構造変化におけるカチオンの効果**
Structural changes of channelrhodopsin under various cation conditions
Shota Ito[1], Hideaki Kato[2], Satomi Ohishi[3], Reiya Taniguchi[3], Tatsuya Iwata[1], Osamu Nureki[3], Hideki Kandori[1] ([1]*Nagoya Inst.Tech*, [2]*Stanford University Medical School*, [3]*Grad.Sch.of Sci., Univ. of Tokyo*)

1P110 **Effect of partial fluorination on bacteriorhodopsin reconstituted in dimerized Di-o-tetradecylphosphatidylcholine vesicle**
Naoyuki Tsuchida[1], Toshiyuki Takagi[2], Takashi Kikukawa[3], Hiroshi Takahashi[1], Toshiyuki Kanamori[2], Masashi Sonoyama[1] ([1]*Fac. Sci. & Tecnol., Gunma. Univ.*, [2]*Res. Center. Stem Cell Eng., AIST*, [3]*Grad. Sch. Sci., Hokaido. Univ.*)

1P111 **Ca^{2+}-ATPase の第 2 膜貫通ヘリックス（M2）とロングレンジの共役**
Second Transmembrane Helix (M2) and Long-range Coupling in Ca^{2+}-ATPase
Takashi Daiho, Kazuo Yamasaki, Stefania Danko, Hiroshi Suzuki (*Asahikawa Med. Univ.*)

1P112 **アジ化物結合型チトクロム酸化酵素の高分解能 X 線結晶構造解析によるアジ化物結合様式の解析**
High-resolution crystal structural analysis reveals that the two azide ions bind to Cytochrome c oxidase in different manner
Atsuhiro Shimada[1], Masahide Hikita[1], Hitomi Tadehara[1], Akima Yamamoto[1], Eiki Yamashita[1], Kyoko Shinzawa-Itoh[1], Tomoko Maeda[1], Tomitake Tsukihara[1,2], Shinya Yoshikawa[1] ([1]*Picobiology Inst., Univ. Hyogo*, [2]*Inst. for Prot. Res., Osaka Univ.*)

1P113 **NDQ モチーフを持つ pseudo gene の機能復元**
Functional restoration of apseudo gene of rhodopsin with NDQ motif
Yuto Suzuki[1], Rei Abe-Yoshizumi[1], Keiichi Inoue[1,2] ([1]*Nagoya Institute of Technology*, [2]*PRESTO, JST*)

1P114 **Role of a unique arginine residue on the assembly of the translocator domain in a trimeric autotransporter**
Eriko Aoki, Riki Hisata, Kazuo Fujiwara, Masamichi Ikeguchi (*Dept. of Bioinfo., Soka Univ.*)

1P115 **ヒト cytochrome b561 form 3 (hb561-3)タンパク質の機能解析**
Analyses of the physiological function of hb561-3: the cytochrome b561 form 3 protein in human
Yuma Takahashi, Takako Yamazoe, Akikazu Asada, Motonari Tsubaki (*Grad. Sch. Sci., Univ. Kobe*)

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

1P116 **常磁性緩和促進を利用した転写因子 FMBP-1 の分子ダイナミクスの解析**
Molecular dynamics of transcription factor FMBP-1 proved by paramagnetic relaxation enhancement
Kosuke Yuhara[1], Masakatsu Kamiya[1], Yasuhiro Kumaki[1], Shigeharu Takiya[1], Takashi Kikukawa[1], Keiichi Kawano[1,2], Makoto Demura[1], Tomoyasu Aizawa[1] ([1]*Grad. Sch. Life. Sci., Hokkaido Univ.*, [2]*Chitose Inst. Sci. Tech.*)

1P117 **MBD4 蛋白質のメチル化 CpG 結合ドメインと塩基除去活性ドメインをつなぐリンカー領域の構造と機能**
Structural analysis of a linker region between methyl CpG binding and glycosylase domains in MBD4
Itaru Takeshita (*Grad. Sch. Eng., Kyoto Univ.*)

1P118 **新奇 DNA 結合ドメイン STPR を持つ転写因子 FMBP-1 の in situ コンディションにおける DNA 認識動態の FCS 解析**
FCS analysis of DNA recognition movements of transcription factor FMBP-1 contains a novel DNA binding domain STPR in situ condition
Motosuke Tsutsumi[1], Hideki Muto[1], Mai Kimoto[1], Masakatsu Kamiya[1], Takashi Kikukawa[1], Shigeharu Takiya[1], Makoto Demura[1], Keiichi Kawano[1,2], Masataka Kinjo[1], Tomoyasu Aizawa[1] ([1]*Grad. Sch. of Life Sci., Hokkaido Univ*, [2]*Chitose Inst. Sci. Tech.*)

1P119 **転写因子はいかにして障害物を迂回するか。分子シミュレーションによるアプローチ**
How transcription factor can bypass obstacles? Molecular simulation approaches
Mami Saito[1], Tsuyoshi Terakawa[2], Shoji Takada[1] ([1]*Grad. Sch.Sci., Univ. Kyoto*, [2]*Univ. Columbia*)

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

1P120 **RecA 蛋白質の生体分子認識能力によるカーボンナノチューブ表面の DNA の生物的機能の評価**
Evaluation of biological function of DNA on the single-walled carbon nanotubes by using biomolecular recognition ability of RecA proteins
Shusuke Oura, Masahiro Ito, Yoshikazu Homma, Kazuo Umemura (*Grad. Sch. Sci., Tokyo University of Science*)

1P121 **新規プリオンアプタマーの探索とその構造研究**
Search for novel aptamer against prion protein and its structural study
Tsukasa Mashima[1], Fumiko Nishikawa[2], Yuji O. Kamatari[3], 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.*)

1P122 **剪断流下における二重ラセンＤＮＡのダイナミクス**
Dynamics of double helix DNA under shear flow
Yosuke Fujita[1], Nobumasa Nakazawa[1], Takako Kato-Minoura[1], Hiroyuki Iwamoto[2], Shinji Kamimura[1] ([1]*Dept. Biol. Sci., Chuo Univ.*, [2]*SPring-8, JASRI*)

05B. 核酸：相互作用・複合体 / 05B. Nucleic acid: Interaction & Complex formation

1P123 **ヌクレオソームＤＮＡ解離の自由エネルギープロファイル**
Free Energy Profile of Nucleosomal DNA Unwrapping
Hidetoshi Kono, Shun Sakuraba, Hisashi Ishida (*Molecular Modeling and Simulation, JAEA*)

1P124 **SecM の N 末端側領域による翻訳アレストの安定化**
N-terminal region of SecM is essential for its stable translation arrest
Zhuohao Yang, Ryo Iizuka, Takashi Funatsu (*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*)

1P125 **蛍光タンパク質との融合による光二量体化モジュール（Photodimerizer）の機能評価**
Functional evaluation of the light-induced dimerizing module, Photodimerizer, fused with fluorescent proteins
Osamu Hisatomi, Yoichi Nakatani, Yuki Kai (*Grad. Sch. od Sci., Osaka Univ.*)

1P126 **大腸菌 *E.coli* ゲノム複製開始における DNA 二重らせん開裂機構の分子動力学シミュレーション研究**
DNA unwinding mechanism at DNA replication initiation of *E.coli* studied by coarse grained molecular dynamics simulation
Masahiro Shimizu[1], Tsutomu Katayama[2], Shoji Takada[1] ([1]*Dept. of Biophys., School of Sci., Kyoto Univ.*, [2]*Dept. of Mol. Biol., Kyusyu Univ.*)

1P127 **Model of reverse tRNA translocation through the ribosome analyzed by electron microscopy density maps and molecular dynamics simulations**
Hisashi Ishida, Atsushi Matsumoto (*Quantum Beam Science Center, Japan Atomic Energy Agency*)

1P128 **染色体対合形成の力学モデル**
Dynamical model of chromosome synapsis formation
Keisuke Yamamoto[1], Hiraku Nishimori[1,2], Akinori Awazu[1,2] ([1]*Dept. of Math. and Life Sci., Hiroshima Univ.*, [2]*Research Center for the Mathematics on Chromatin Live Dynamics*)

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

1P129 **タンパク質構造に対するイオン効果のエネルギー解析**
Free-energy analysis of the effect of ions on protein structure
Yasuhito Karino[1,2], Yuji Sugita[1,2,3] ([1]*RIKEN QBiC*, [2]*RIKEN AICS*, [3]*RIKEN*)

1P130 **積分方程式理論を用いた剛体球混合系における選択的溶媒和の研究**
Preferential Solvation in Hard-Sphere Mixtures: Integral Equation Study
Yuichi Kawabata, Ryo Akiyama (*Grad. Sch. Sci., Univ. Kyushu*)

1P131 **グルタミン酸脱水素酵素のドメイン運動に協奏した水和構造変化**
Hydration structure controls domain motion of glutamate dehydrogenase
Tomotaka Oroguchi[1,2], Masayoshi Nakasako[1,2] ([1]*Dept. of Phys., Keio Univ.*, [2]*Harima Inst., Riken*)

1P132 **テラピア及チョウザメコラーゲン水溶液の広帯域誘電緩和**
Broadband dielectric relaxation of the aqueous solution of tilapia and sturgeon collagen
Hiroshi Kawamata[1], Shunsuke Kuwaki[1], Masanori Mizuno[1], Kazunari Urasawa[1], Tomobumi Mishina[1], Toshiyuki Ikoma[2], Junzo Tanaka[2], Xi Zhang[3], Shinji Adachi[3], Kazuhiro Ura[3], Noriko Azuma[3], Yasuaki Takagi[3], Ryusuke Nozaki[1] ([1]*Dep. Phys., Fac. Sci., Hokkaido Univ.*, [2]*Dep. Metallurgy and Ceramics Sci., Grad. Sch. Sci. and Eng., Tokyo Inst. Tech.*, [3]*Dep. Acuaculture Life Sci., Fac. Fishers Sci., Hokkaido Univ.*)

09. 発生・分化 / 09. Development & Differentiation

1P133 **極性タンパク質 PAR-2 の非対称局在は、細胞質における拡散によって安定化される**
Stable maintenance of the cortical PAR-2 asymmetry by the cytoplasmic diffusion in the one-cell *C. elegans* embryo
Yukinobu Arata[1], Michio Hiroshima[2], Chan-gi Pack[1], Kennichi Nakazato[3], Tetsuya Kobayashi J.[4], Tatsuo Shibata[5], Yasushi Sako[1] ([1]*Cell. Info. Lab., RIKEN*, [2]*Lab. Cell Sig. Dyn., QBiC, RIKEN*, [3]*Theor. Biol. Lab., RIKEN*, [4]*Inst. Indst. Sci., Univ. Tokyo*, [5]*Lab. Phy. Biol., CDB, RIKEN*)

1P134 **組織応力の異方性が細胞の六角格子化を促進する**
Anisotropic tissue stress promotes ordering in hexagonal cell packing
Kaoru Sugimura[1], Keisuke Ikawa[1], Shuji Ishihara[3] ([1]*Kyoto Univ.*, [2]*JST PRESTO*, [3]*Meiji Univ.*)

1P135 **細胞間に非対称性を生み出すしくみの再構成**
Reconstitution of an intercellular symmetry breaking mechanism
Mitsuhiro Matsuda[1], Makito Koga[1], Knut Woltjen[2], Eisuke Nishida[3], **Miki Ebisuya**[1] ([1]*RIKEN CDB*, [2]*CiRA, Kyoto Univ*, [3]*Grad Sch of Biostudies, Kyoto Univ*)

10. 筋肉 / 10. Muscle

1P136 **低温電子顕微鏡による骨格筋の細いフィラメントの構造解析**
Structural analysis of Ca2+ regulated thin filament from skeletal muscle by electron cryomicroscopy
Yurika Yamada[1], Takashi Fujii[2], Keiichi Namba[1,2] ([1]*Grad. Sch. of Frontier Biosci., Osaka Univ.*, [2]*QBiC, RIKEN*)

1P137 **中性子非弾性散乱による F-アクチン及びミオシン S1 のダイナミクス解析**
Difference in dynamics between F-actin and myosin S1 measured by neutron scattering
Tatsuhito Matsuo[1], Toshiaki Arata[2], Toshiro Oda[3], Satoru Fujiwara[1] ([1]*Japan Atomic Energy Agency*, [2]*Osaka Univ.*, [3]*Univ. of Hyogo*)

1P138 **アクチン疎水性ヘリックスに導入した変異は細胞性粘菌の細胞運動と細胞分裂を阻害する**
Mutations introduced into the hydrophobic helix of the *Dictyostelium* actin impaired cell motility and cytokinesis
Takahiro Ohnuki[1], Yuki Gomibuchi[1], Taro Uyeda[2], Takeyuki Wakabayashi[1] ([1]*Teikyo Univ. School of Science and Engineering*, [2]*AIST*)

1P139 **心筋症特異的なトロポミオシン変異体による再構成フィラメントの光ピンセット及び熱パルスを用いた in vitro assay**
Characterization of tropomyosin mutants that cause hypertrophic cardiomyopathy (HCM): In vitro assays with optical tweezers and heat pulse
Shuya Ishii[1], Kotaro Oyama[1], Madoka Suzuki[2,3], Masataka Kawai[4], Shin'ichi Ishiwata[1,2,3] ([1]*Sch. Adv. Sci. Eng., Waseda Univ.*, [2]*WABIOS, Singapore*, [3]*Org. Univ. Res. Initiatives, Waseda Univ.*, [4]*Coll. Med., Univ. Iowa, USA*)

1P140 **ミオシンフィラメント懸濁液の ATP 存在下でのプロトン NMR 緩和経過**
Spin-spin relaxation of 1H NMR signals from myosin filaments suspension with or without ATP
Tetsuo Ohno, Maki Yamaguchi (*Dept. of Physiol., The Jikei Univ. School of Med.*)

1P141 **アクチン結合タンパク質は結合ドメイン単独でも細胞内の特定の F-アクチンに局在する**
Actin binding domains of certain actin binding proteins are sufficient to localize at specific F-actin in vivo
Keitaro Shiabta[1], Akira Nagasaki[1], Masatsune Tsujioka[2], Taro Q.P. Uyeda[1] ([1]*Biomed. Res. Inst., AIST*, [2]*Medical Res. Inst., TMDU*)

1P142 **昆虫飛翔筋線維の収縮蛋白交換実験と X 線回折**
X-ray diffraction from insect flight muscle with exchanged contractile proteins
Hiroyuki Iwamoto, Naoto Yagi (*SPring-8 JASRI*)

11. 分子モーター / 11. Molecular motor

1P143 **タキソールは、急速な微小管内チューブリン周期の伸長を誘導する**
Paclitaxel induces the quick elongation of tubulin dimer periodicity in microtubules
Shinji Kamimura[1], Megumi Kiyohara[1], Nobumasa Nakazawa[1], Yosuke Fujita[1], Yuuko Wada[1], Toshiki Yagi[3], Hiroyuki Iwamoto[2] ([1]*Dept. Biol. Sci., Chuo Univ.*, [2]*JASRI, SPring-8*, [3]*Biol. Sci., Pref. Univ. Hiroshima*)

1P144 **V1-ATPase の粗視化分子動力学シミュレーション**
Course-grained molecular dynamics simulation of V1-ATPase
Hiroki Kashimura, Yuta Isaka, Yuichi Kokabu, Mitsunori Ikeguchi (*Yokohama City Univ.*)

1P145 **フォトクロミック化合物フルギミドを結合したミオシン頭部ドメインのＸ線小角散乱**
Small-angle X-ray Scattering Study of Photochromic Fulgimide-bound Myosin
Sayaka Hayashi[1], Yasunobu Sugimoto[1,2], Nobuhisa Watanabe[1,2], Shinsaku Maruta[3] ([1]*Grad. Sch. Eng., Nagoya Univ.*, [2]*Nagoya Univ. Synchrotron radiation Center*, [3]*Fac. Eng., Univ. Soka*)

1P146 **ATP 結合で誘起されるミオシンの誘電応答**
Dielectric response of myosin induced by ATP binding
Takato Sato, Jun Ohnuki, Koji Umezawa, Mitsunori Takano (*Dept. of Pure & Appl. Phys., Waseda Univ.*)

1P147 **Multiscale analysis of functional motions in F1-ATPase: From Pi release to elasticity and friction of γ-subunit rotation**
Kei-ichi Okazaki, Gerhard Hummer (*Max Planck Institute of Biophysics*)

1P148 **Molecular mechanism of the epsilon subunit from F-type ATP synthases studied by Molecular Dynamics simulations**
Alexander Krah, Shoji Takada (*Department of Biophysics, Kyoto University*)

1P149 **ダイナクチンのアンテナ構造**
Antenna structure of Dynactin Complex
Hatsuha Kajita, Takuya Kobayashi, Kei Saito, Yoko Y. Toyoshima (*Grad. Sch. of Arts & Sci., Univ. of Tokyo*)

1P150 **Structure of dimeric axonemal dynein in cilia suggests an alternative mechanism of force generation**
Hironori Ueno[1], Bui Khanh[2,3], Takashi Ishikawa[2,3] ([1]*Mol. Func. & Life Sci., Aich Univ. Edu.*, [2]*Inst. Mol. Biol. and Biophys., ETH*, [3]*Biol. & Chem., PSI*)

1P151 **細胞質ダイニンの微小管上での運動は右方向にバイアスされている**
Cytoplasmic dynein takes a route switching randomly between protofilaments with a bias toward the right
Mitsuhiro Sugawa[1], Shin Yamaguchi[1], Keitaro Shibata[1,2], Yoko Y. Toyoshima[1], Junichiro Yajima[1] ([1]*Grad. Sch. Arts & Sciences, Univ. Tokyo*, [2]*AIST*)

1P152 **細菌べん毛モーター固定子複合体のイオン透過メカニズム**
Ion permeation mechanism through the stator complex in the flagellar motor
Yasutaka Nishihara[1], Akio Kitao[2] ([1]*Univ. of Tokyo, CMSI*, [2]*Univ. of Tokyo, IMCB*)

1P153 **V1 モーターでのトルク発生機構**
Torque generation mechanism in V1 motor
Mihori Baba[1], Shou Furuike[2], Atsuko Nakanishi[1], Jun-ichi Kishikawa[1], Nao Takeuchi[1], Ken Yokoyama[1] ([1]*Kyoto Sangyo University*, [2]*Osaka Medical College*)

1P154 **LC1 Binds to the Stalk of the Outer Arm Dynein**
Muneyoshi Ichikawa[1], Kei Saito[1], Haru-aki Yanagisawa[1], Toshiki Yagi[1,2], Ritsu Kamiya[1,3], Yasuharu Kushida[4], Kentaro Nakano[4], Osamu Numata[4], Yoko Y. Toyoshima[1] ([1]*The Univ. of Tokyo*, [2]*Pref. Univ. of Hiroshima*, [3]*Gakushuin Univ.*, [4]*Univ. of Tsukuba*)

1P155 **溶媒を陽に考慮した全原子分子動力学シミュレーションから得られたダイニンの弾性**
Elastic property of dynein motor domain obtained from all-atom molecular dynamic simulations in explicit water
Narutoshi Kamiya[1], Tadaaki Mashimo[2], Yu Takano[1,3], Takahide Kon[4,5], Genji Kurisu[1], Haruki Nakamura[1] ([1]*IPR, Osaka Univ.*, [2]*AIST*, [3]*JST, CRESTO*, [4]*Hosei Univ.*, [5]*JST, PRESTO*)

1P156 **細菌Ⅲ型分泌装置の回転運動およびエフェクター分泌に対する高粘性高分子の物理化学的影響評価**
Evaluation of physicochemical effect of viscous polymers toward rotation and effector secretion of bacterial type III secretion apparatus
Takashi Ohgita, Naoki Hayashi, Naomasa Gotoh, Kentaro Kogure (*Kyoto Pharm. Univ.*)

1P157 **The role of amino acid residues located at the catalytic site in the rotation of *Enterococcus hirae* V_1-ATPase**
Yoshihiro Minagawa[1], Hiroshi Ueno[2], Mayu Hara[1], Hiroyuki Noji[1], Takeshi Murata[3], Ryota Iino[4] ([1]*Dept. App. Chem.,Grad. Sch. Eng., The Univ. Tokyo*, [2]*Fac. Sci. & Eng., Univ. Chuo*, [3]*Grad. Sch., Univ. Chiba*, [4]*Okazaki Inst. Integ. Biosci., NINS*)

1P158 **マイコプラズマ Gli349 の構造解析**
Structural analysis of the gliding protein Gli349 from Mycoplasma mobile
Jun-ichi Inatomi[1], Yuuki Hayashi[1], Yoshito Kawakita[2], Masaru Yabe[2], Makoto Miyata[2], Munehito Arai[1,3] ([1]*Life Sci, Art and Sci, Univ.Tokyo*, [2]*Osaka City Univ*, [3]*JST.PRESTO*)

1P159 **確率的モデリングによるキネシンの化学-力学ネットワーク**
Chemomechanical network modeling of kinesin
Tomonari Sumi[1], Stefan Klumpp[2] ([1]*Dep. Chem., Okayama Univ.*, [2]*Dept. Theo. & Bio-syst., Max Planck Inst. Colloids & Interfaces*)

1P160 **F_1-ATPase の P-loop 変異体 TF_1(βG158A)に対するリン酸の阻害効果**
Inhibitory effect of Pi on F_1-ATPase P-loop mutant TF_1(βG158A)
Hitoshi Hoshina[1], Hikaru Yoshida[1], Ayumi Ito[1], Jotaro Ito[1,3], Shoichi Toyabe[2], Hiroshi Ueno[1], Eiro Muneyuki[1] ([1]*Dept. of Physics. Chuo Univ.*, [2]*Faculty of Physics. Tohoku Univ.*, [3]*School of Engineering, The University of Tokyo*)

1P161 **一定外力下での F1 の回転の観察**
Observation of the rotation of F1-ATPase under the constant external torque
Yohsuke Kikuchi[1], Hiroshi Ueno[1], Takahiro Nakayama[1], Eiro Muneyuki[1], Shouichi Toyabe[2] ([1]*Dept. Phys., Univ. Chuo*, [2]*Fac. Phys., Univ. Munchen*)

1P162 **Single-molecule fluorescent observations of the biased binding/unbinding of the tethered kinesin head**
Kouhei Matsuzaki, Michio Tomishige (*Dept. Appl. Phys., Grad. Sch. Eng., Univ. Tokyo*)

1P163 **TF1 βE190D 変異体の外部トルク依存性**
The response of TF1 βE190D mutant to the external torque
Mana Tanaka[1], Tomohiro Kawakami[1], Shoichi Toyabe[2], Hiroshi Ueno[1], Seishi Kudo[2], Eiro Muneyuki[1] ([1]*Dept. Phys., Faculty of Science and Engineering, Chuo Univ*, [2]*Dept. Appl. Phys., Sch. Eng., Tohoku Univ*)

1P164 **軸糸外腕ダイニンによるトルク発生**
Torque generation by axonemal outer-arm dynein
Shin Yamaguchi[1], Kei Saito[1], Miki Sutoh[1], Takayuki Nishizaka[2], Yoko Y Toyoshima[1], Junichiro Yajima[1] ([1]*Department of Life sciences, Graduate School of Arts & Sciences, The University of Tokyo*, [2]*Department of Physics, Gakushuin University*)

1P165 **演題取り消し**

1P166 **偏光変調 TRIFM とデフォーカスイメージングによる単一蛍光色素の角度と回転方向の検出**
Detection of 3-D orientation and rotation of single fluorophores by combination of polarization-modulation TIRFM and defocused imaging
Shoko Fujimura, Nagisa Mikami, Tatsuro Itoh, Takayuki Nishizaka (*Dept. Phys., Gakushuin Univ.*)

12. 細胞生物的課題 / 12. Cell biology

1P167 **ビブリオ菌べん毛の MS リングを構成し大量発現で可溶性となる膜タンパク質 FliF の生化学的解析**
Biochemical analysis of the membrane protein FliF, a MS-ring component of *Vibrio* flagellar motor with being soluble when overproduced
Erika Yamaguchi, Seiji Kojima, Michio Homma (*Div. Biol. Sci., Grad. Sch. Sci., Univ. Nagoya*)

1P168 **クライオ電子線トモグラフィー法を用いたフィロポディア内構造解析**
The ultrastructure of filopodia were observed 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]*Application Lab., FEI Company Japan*, [4]*Graduate School of Frontier Bioscience, Osaka Univ.*)

1P169 **微小管結合蛋白質 MAP2、MAP4、Tau の F-アクチン-微小管束化活性の違い**
Difference of F-actin-microtubule bundling activity of microtubule-associated proteins, MAP2, MAP4, and Tau
Syouma Saito[1], Ayumu Kuramoto[1], Hikari Makihara[1], Miyuki Siga[1], Susumu Kotani[2], Kiyotaka Tokuraku[1] ([1]*Grad. Sch. Appl. sci., Muroran Inst.*, [2]*Kanagawa Univ.*)

1P170 **単離したラジアルスポークと微小管との結合**
Binding of the Isolated Radial Spokes and Microtubules
Hitoshi Sakakibara, Youské Shimizu, Hiroaki Kojima (*Bio-ICT, NICT*)

1P171 **海洋性ビブリオ菌のべん毛本数抑制に関与する FlhG の ATPase 活性の役割**
Role of ATPase activity of FlhG on the negative regulation of the flagellar number in *Vibrio alginolyticus*
Hikaru Hirata, Akari Takashima, Hiroki Ono, Michio Homma, Seiji Kojima (*Div.Bio.Sci., Grad.Sch.Sci., Univ.Nagoya*)

1P172 **細胞収縮コラーゲンゲル中における分子の拡散挙動**
Biomolecular diffusion in contracted collagen gel caused by fibroblasts
Takanori Kihara[1], Junri Ito[2], Jun Miyake[2] ([1]*Faculty Environmental Engineering, Univ. Kitakyushu*, [2]*Grad. Sch. Engineering Science, Osaka Univ.*)

1P173 **ATP および ADP 結合アクチンフィラメントに対するコフィリン結合の一分子観察**
Single molecule imaging of the binding of cofilin to ATP- and ADP-F-actin
Kimihide Hayakawa[1], Masahiro Sokabe[1], Hitoshi Tatsumi[2] ([1]*Mechanobiology Laboratory, Nagoya University*, [2]*Department of Physiology, Graduate School of Medicine, Nagoya Univerisity*)

1P174 **Na^+駆動型べん毛モーターの固定子複合体のナノディスク再構成への試み**
Attempt to reconstruct the stator complex of the bacterial Na^+-driven flagellar motor into Nanodisc
Mizuki Gohara[1], Norihiro Takekawa[1], Yohei Miyanoiri[2], Masatune Kainosho[2,3], Seiji Kojima[1], Michio Homma[1] ([1]*Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ.*, [2]*Structural Biol. Research Center, Grad. Sch. Sci., Nagoya Univ.*, [3]*Grad. Sch. Sci. Tech., Tokyo Metro. Univ.*)

1P175 **Localization and roles of F_1-ATPase subunit homologs and P42 of *Mycoplasma mobile* revealed by gene manipulation**
Tulum Isil, Masaru Yabe, Atsuko Uenoyama, Makoto Miyata (*Osaka City University*)

1P176 **原子間力顕微鏡によるマウス顎下腺組織の弾性率マッピング測定**

Mapping elastic modulus of mouse submandibular gland tissue by atomic force microscopy

Mitsuhiro Nakamura[1], Yuki Fujii[1], Hiroaki Taketa[2], Takuya Matsumoto[2], Takaharu Okajima[1] ([1]*Grad. Sch. Info. Sci. & Tech.,Univ. Hokkaido*, [2]*Grad. Sch. Med. Den. & Pham. Sci.,Univ. Okayama*)

1P177 **アクチンの Tyr143 に変異を導入した細胞性粘菌は高圧処理に対してより敏感になる**

***Dictyostelium* cells carrying the plasmids to express mutant actin (Tyr143Phe) are more susceptible to high-pressure treatment**

Yuki Gomibuchi[1], Takahiro Ohnuki[1], Taro Q.P. Uyeda[2], Masayoshi Nishiyama[3], Takeyuki Wakabayashi[1] ([1]*Teikyo Univ.*, [2]*AIST*, [3]*Kyoto Univ.*)

1P178 **粘菌管で作る懸垂線のコイル形成**

Coiling of catenaries made from *Physarum* tube

Takahiro Noguchi[1], Taito Watanabe[1], Itsuki Kunita[2], Hirofumi Wada[3], Toshiyuki Nakagaki[2], Yoshimi Tanaka[4] ([1]*Grad. Sch. Sci., Yokohama National Univ.*, [2]*RIES., Hokkaido Univ.*, [3]*Physical Sciences., Ritsumeikan Univ.*, [4]*Environment and Information Science., Yokohama National Univ.*)

1P179 **溶液中のアクチン繊維の構造のゆらぎ**

Diversity of monomers configuration within a single actin filament detected by FRET

Sakura Maesato, Kenji Kobayasi, Hajime Honda (*Department of Bioengineering, Nagaoka University of Technology*)

1P180 **蛍光顕微鏡で見た AMP-PNP アクチンの重合**

Observation of polymerization with AMP-PNP bound actin molecules

Kiwa Koike[1], Koshin Mihashi[2], Hajime Honda[1] ([1]*Deprtoment of bioengineering , Nagaoka University of Technology*, [2]*Nagoya University*)

1P181 **モータータンパク質を活用したナノバイオデバイスの開発**

Nano-Bio-Devices transporting antigens for electrical measurements

Yuto Maruko[1], Shiori Sawada[1], Shin Nanasaki[2], Kenji Moriya[2], Takashi Ishiguro[3], Shigeru Sakurazawa[4], Hajime Honda[1] ([1]*Department of bioengineering, Nagaoka University of Technology*, [2]*National Institute of Technology, Hakodate College*, [3]*Taiyo Yuden Co., Ltd.*, [4]*Future University Hakodate*)

1P182 **RAF の疾病関連変異体のコンフォメーションと機能**

Conformation and function of disease-associated RAF mutants

Kayo Hibino[1], Masahiro Ueda[1], Yasushi Sako[2] ([1]*RIKEN, QBiC*, [2]*Cellular Informatics Lab., RIKEN*)

1P183 **シロイヌナズナアクチンアイソフォームはファロイジンに結合しない**

***Arabidopsis thaliana* actin isoforms do not bind phalloidin**

Saku Kijima[1,2], Sam Geun Kong[4], Masashi Mori[3], Masamitsu Wada[4], Taro Uyeda[1,2] ([1]*Bio. Inst., AIST*, [2]*Grad. Sch. Sci., Univ. Tsukuba*, [3]*Res. Inst., Pre. Univ. Ishikawa*, [4]*Dep. Biol., Univ. Kyushu*)

1P184 **Motor activity of myosin-II is required for maintanance of the contractile ring in fission yeast**

Masak Takaine, Osamu Numata, Kentaro Nakano (*Univ. of Tsukuba*)

1P185 **コラーゲン溶液中の微粒子に働く粘性力の速度依存性**

Velocity dependence of drag force acting on a micro particle in collagen solution

Masafumi Kuroda, Yoshihiro Murayama (*Dept. of Applied Physics, Tokyo University of Agriculture and Technology*)

1P186 **Direct measurement of *Vibrio alginolyticus* polar flagellum growth rate**

Chien-Jung Lo[1,2], Meiting Chen[1,2] ([1]*Dept. of Phys., National Central Univ.*, [2]*Inst. Biophys., National Central Univ.*)

1P187 **極限環境下での超好熱始原菌の運動観察**

Motility of *Thermococcus kodakaraensis* cells at extreme environmental conditions

Masayoshi Nishiyama[1], Ryohei Tsukamoto[2], Toshiki Yagi[3,4], Masahide Kikkawa[4], Tadayuki Imanaka[5], Tamotsu Kanai[2] ([1]*The HAKUBI Center, Kyoto Univ.*, [2]*Grad. Sch. Eng., Kyoto Univ.*, [3]*Dept. Biol. Sci., Pref. Univ. Hiroshima*, [4]*Grad. Sch. Medicine, Univ. Tokyo*, [5]*Grad. Sci. Life Sci., Ritsumeikan Univ.*)

1P188 **蛍光量子ドットを用いた細胞内高速小胞輸送機構の解明**

Mechanism of high-speed vesicular transport inside cells explored by using quantum dots

Kenji Kikushima, Hideo Higuchi (*Dept. of Phys., Sch. of Sci., The Univ. of Tokyo*)

1P189 **Examining mitotic functions of bipolar kinesin Eg5 in a reconstituted minimal microtubule network**

Yuta Shimamoto[1,2,3], Scott Forth[3], Tarun Kapoor[3] ([1]*National Institute of Genetics*, [2]*JST PRESTO*, [3]*The Rockefeller University*)

1P190 **細胞サイズ液滴内でのアクトミオシンリングの自発形成と収縮**

In vitro self-assembly and contraction of actomyosin rings inside a cell-sized droplet

Makito Miyazaki[1], Masataka Chiba[1], Takashi Ohki[1], Shin'ichi Ishiwata[1,2] ([1]*Dept. of Physics, Waseda Univ.*, [2]*WABIOS, Waseda Univ.*)

1P191 **単離マウス気管上皮繊毛が生み出す力の三次元顕微計測**

Force measurement of individual isolated mouse tracheal cilia using three-dimensional optical trapping

Takanobu Kato[1], Koji Ikegami[2], Toshihito Iwase[3], Tomoko Masaike[3,4], Mitsutoshi Setou[2], Takayuki Nishizaka[1] ([1]*Dept. Phys., Gakushuin Univ.*, [2]*Dept. Cell Biol. and Anat., Hamamatsu Univ. Sch. Med.*, [3]*Dept. Appl. Biol. Sci., Tokyo Univ. of Sci.*, [4]*PRESTO, JST*)

1P192 **微小管結合タンパク質シヌクレインは細胞質ダイニンを細胞辺縁部に運ぶ機能を持つ輸送性微小管の形成に必須である**

Synucleins are essential for the creation of transportable microtubules, which is required for anterograde transport of cytoplasmic dynein

Shiori Toba[1], Kotaro Koyasako[2], Masami Yamada[1], Takuo Yasunaga[2], Hiroaki Kojima[3], Hideki Wanibuchi[1], Shinji Hirotsune[1] ([1]*Osaka City University Graduate School of Medicine*, [2]*Faculty of Computer Science and Systems Engineering, Kyushu Institute of Technology*, [3]*Advanced ICT Research Institute, National Institute of Information and Communications Technology*)

1P193 **べん毛本数を負に制御する FlhG の ATPase モチーフは FlhF の極局在の阻害に重要である**
ATP binding motif of FlhG, a negative regulator of flagellar number, is important to prevent polar localization of FlhF
Hiroki Ono, Michio Homma, Seiji Kojima (*Grad. Sch. Sci., Univ. Nagoya*)

1P194 **大腸菌走化性シグナル伝達における CheZ 極局在の役割**
Role of the polar localization of CheZ in chemotactic signal transduction of *Escherichia coli*
Yong-Suk Che, Hajime Fukuoka, Yuichi Inoue, Hiroto Takahashi, Akihiko Ishijima (*IMRAM, Tohoku Univ.*)

1P195 **回転電場による大腸菌の強制回転が細胞内 CheY の振る舞いに与える影響**
Effect of forced-rotation of *E. coli*'s flagella motor on the behavior of intracellular CheY
Masaaki Sato, Hajime Fukuoka, Akihiko Ishijima (*IMRAM, Tohoku Univ.*)

1P196 **海洋性ビブリオ菌のべん毛モーター回転方向決定における FliG と PomB の変異の影響**
Effect of mutations in FliG and PomB on rotational direction of flagellar motor in *Vibrio alginolyticus*
Tatsuro Nishikino[1], Yasuhiro Onoue[2], Norihiro Takekawa[2], Shiwei Zhu[2], Seiji Kojima[2], Michio Homma[2] ([1]*Department of Biological Science, School of Science, Nagoya University*, [2]*Division of Biological Science, Graduate School of Science Nagoya University*)

1P197 **基質伸展刺激下でケラトサイトは伸展に垂直にも平行にも運動する**
Hybrid mechanosensing system for directional migration in fish keratocytes
Chika Okimura[1], Takafumi Mizuno[2], Yoshiaki Iwadate[1] ([1]*Fac. Sci., Yamaguchi Univ.*, [2]*AIST*)

1P198 **海洋性ビブリオ菌の c-di-GMP 結合タンパク質 PlzD における表現型および生化学的特性の解析**
Biochemical and phenotypic characterization of PlzD, a YcgR homolog of c-di-GMP binding protein in Vibrio alginolyticus
Seiji Kojima, Takuro Yoneda, Michio Homma (*Grad. Sch. Sci., Nagoya Univ.*)

1P199 **ケラトサイトとその断片の同一なかたち・細胞骨格・基質牽引力分布**
Same traction force distributions in fish keratocytes and their fragments represent the same fan-shape
Ayane Sonoda, Chika Okimura, Yoshiaki Iwadate (*Dept. Funct. Mol. Biol., Grad. Sch. Med., Yamaguchi Univ.*)

1P200 **伸縮性の表層を伝わるゾウリムシのメタクロナールウェーブ**
Ciliary metachronal wave propagation on the compliant surface of Paramecium cells
Naoki Narematsu[1], Quek Quek[2], Keng-Hwee Chiam[2], **Yoshiaki Iwadate**[1] ([1]*Fac. Sci., Yamaguchi Univ.*, [2]*A*STAR, Singapore*)

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

1P201 **中世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に基づく抗菌活性機構の解析**
Elucidation of the antimicrobial activity based on affinity and bound structure of LFampinB embedded into the neutral membrane
Masayoshi Imachi[1], Atsushi Tsutsumi[1], Atsushi Kira[2], Izuru Kawamura[1], Akira Naito[1] ([1]*Graduate School of Engineering, Yokohama National University*, [2]*Research and Development Division, ULVAC Inc*)

1P202 **diphenylhexatriene を用いる脂質膜流動性測定に与える Aβ ペプチドの影響**
Limitation of the use of diphenylhexatriene to measure the fluidity of membrane in the presence of amyloid β-peptide
Masako Suzuki, Takashi Miura, takakazu Nakabayashi (*Grad. Sch. Pharm. Sci., Tohoku Univ.*)

1P203 **Dependence of Purple Membrane Bump Curvature on pH and Ionic Strength Analyzed by Atomic Force Microscopy Combined with Solvent Exchange**
Yasunori Yokoyama[1], Kousuke Yamada[1], Yousuke Higashi[1], Satoshi Ozaki[1], Haorang Wang[1], Naoki Koito[1], Masashi Sonoyama[1,2], Shigeki Mitaku[1,3] ([1]*Dept. Appl. Phys., Grad. Sch. Eng., Nagoya Univ.*, [2]*Div. Mol. Sci., Fac. Sci. Tech., Gunma Univ.*, [3]*Toyota Phys. Chem. Res. Inst.*)

1P204 **リン脂質/水界面における水和構造の分子動力学シミュレーション**
Structure and orientation of hydrating water molecules at phospholipid/water interface revealed by molecular dynamics simulation
Suyong Re, Wataru Nishima, Tahei Tahara, Yuji Sugita (*RIKEN,Wako*)

1P205 **膜の変形による BAR ドメインの凝集**
Assembly of BAR domains induced by membrane shape deformation
Hiroshi Noguchi (*ISSP, Univ. Tokyo*)

1P206 **コレステロールによるホスファチジルコリン膜へのクロルゾキサゾン（筋弛緩剤）の結合阻害**
Cholesterol inhibits the binding of chlorzoxazone (muscle relaxant agent) to phosphatidylcholine membranes
Ayumi Yamada, Hiroshi Takahashi (*Grad. Sch. Sci & Tech., Gunma Univ.*)

1P207 **イノシトールリン脂質が誘起する支持脂質二重膜内のドメイン構造とタンパク質反応活性との関連**
Relation between phosphatidylinositol-induced domain structure and protein reaction activity in supported lipid bilayer
Toshinori Motegi[1], Yohko Takiguchi[2], Kingo Takiguchi[2], Toshiki Itoh[3], Ryugo Tero[1,4] ([1]*Toyohashi Univ. Tech. EIIRIS*, [2]*Nagoya Univ. Dep. Sci.*, [3]*Kobe Univ. Dep. Med.*, [4]*Toyohashi Univ. Tech. Dep. Environ. Life Sci.*)

1P208 **細胞毒性を有する酸化コレステロールと酸性リン脂質（DMPG）の相互作用の構造学的研究**
Structural studies of the interaction between cytotoxic oxysterols and acidic phospholipid (DMPG) bilayer membranes
Hiroshi Takahashi[1], Takaaki Hikima[2], Masaki Takata[2], Toshihide Kobayashi[3] ([1]*Grad. Sch. Sci & Tech., Gunma Univ.*, [2]*Harima Inst., Riken*, [3]*Wako Inst., Riken*)

1P209 **脂質膜ナノチューブのダイナミクス**
Dynamics of a single nano-tube hollow of phospholipid membrane
Masatoshi Ichikawa[1], Akihisa Yamamoto[2] ([1]*Grad. Sci., Kyoto Univ.*, [2]*iCeMS, Kyoto Univ.*)

1P210 **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と構造変化に関する研究**
Study on the phase behavior and the structural changes of lipid multi-component system consisting of long- and short-chain phospholipids
Ryota Kobayashi, Tetsuhiko Ohba (*Dept. of Phys., Tohoku Univ.*)

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

1P211 **ラフト中でのアミロイド前駆体タンパク質の膜貫通部位の二量化にコレステロールが与える影響**
Cholesterols affect to the association of the transmembrane region of Amyloid Precursor Protein in the raft
Naoyuki Miyashita[1,2], Fumiko Ogushi[3], Yuji Sugita[1,2,4] ([1]*RIKEN Quantitative Biology Center*, [2]*RIKEN AICS*, [3]*Ochanomizu University*, [4]*RIKEN*)

1P212 **リポソーム内膜タンパク質合成が誘起する脂質膜の形態変化**
Morphological changes of the lipid membrane induced by in-liposome membrane protein synthesis
Kosuke Okamura, Hajime Watanabe, Tomoaki Matsuura (*Department of biotechnology, Graduate school of engineering Osaka university*)

1P213 **光応答 DNA と細胞サイズリポソームの融合による人工細胞型分子ロボット**
Artificial cell-based molecular robots by fusion of light responsive DNA and cell-sized liposomes
Masamune Morita[1], Hao Li[1], Tomonori Shibata[2], Hirohide Saito[2,3], Masahiro Takinoue[1,4] ([1]*Interdisciplinary Grad. Sch. Sci. and Eng., Tokyo Institute of Technology*, [2]*Center for iPS Cell Res. and App. (CiRA), Kyoto University*, [3]*The Hakubi Center for Adv. Res., Kyoto University*, [4]*PRESTO, JST*)

1P214 **チューブリン封入ジャイアントリポソームの温度・静水圧変化による可逆的形態制御**
Reversible morphological control of tubulin-encapsulated giant-liposomes induced by change of hydrostatic pressure and temperature
Masahito Hayashi[1], Masayoshi Nishiyama[2], Yuki Kazayama[3], Taro Toyota[3,4], Kingo Takiguchi[1] ([1]*Grad. Sch. Sci. Nagoya Univ.*, [2]*Kyoto Univ., iCeMS*, [3]*Grad. Sch. Arts Sci., Univ. of Tokyo*, [4]*Res. Center Complex Sys. Biol., Univ. of Tokyo*)

1P215 **粘弾性流体を内包したリポソームの膜変形**
Effects of viscoelastic cytoplasm in liposome on the shape deformation
Miho Yanagisawa[1], Kei Fujiwara[2] ([1]*Dept. Appl. Phys., Tokyo Univ. Agric. Technol.*, [2]*Dept. Biosci. Info., Keio Univ.*)

1P216 **表面張力レプリカ交換分子動力学法の開発と生体膜系への応用**
Surface-tension replica-exchange molecular dynamics simulations of biological membrane systems
Takaharu Mori, Yuji Sugita (*RIKEN*)

1P217 **一分子 FRET 測定法を用いた、膜貫通ヘリックス間相互作用への GXXXG モチーフの寄与の解明**
Contributions of GXXXG motif to transmembrane helical interactions as revealed by single molecule FRET
Kotaro Kondo, Yoshiaki Yano, Katsumi Matsuzaki (*Grad. Sch. Pha., Univ. Kyoto*)

13C. 生体膜・人工膜：興奮・チャネル / 13C. Biological & Artificial membrane: Excitation & Channels

1P218 **X 線１分子追跡法による 5 量体リガンド作動性イオンチャネル GLIC の pH 依存３D分子内運動マップ**
PH dependent 3D Motion Maps of GLIC from X-ray Single Molecule Observations
Yuji Sasaki[1,2], Hiroshi Sekiguchi[2], Yufuku Matsushita[1], Keigo Ikezaki[1], Yuri Nishino[3], Atsuo Miyazawa[3], Christele Huon[4], Jean-Pierre Changeux[4], Pierre-Jean Corringer[4] ([1]*The University of Tokyo*, [2]*SPring-8/JASRI*, [3]*University of Hyogo*, [4]*Pasteur Institute*)

1P219 **電位依存性 H^+チャネルのゲート電流**
Gating charge movement of the voltage-gated H^+ channel
Yuichiro Fujiwara, Yasushi Okamura (*Integrative Physiology, Grad Sch of Med., Osaka University*)

1P220 **再構成した電位依存性プロトンチャネルの電気生理学的計測**
The electrophysiological recording of the reconstituted voltage-gated proton channel in artificial membrane
Akira Kawanabe, Yasushi Okamura (*Grad. Sch. Med., Osaka Univ.*)

1P221 **カリウムチャネル KcsA のゲート開閉と連動した膜中集合・離散**
Gating-associated clustering-dispersion dynamics of the KcsA potassium channel in a lipid membrane environment
Ayumi Sumino[1,2], Daisuke Yamamoto[3], Masayuki Iwamoto[2], Takehisa Dewa[4], Shigetoshi Oiki[2] ([1]*JST/PRESTO*, [2]*Facult. Med. Sci., Univ. Fukui*, [3]*Facult. Sci., Univ. Fukuoka*, [4]*Grad. Sch. Eng., Nagoya Inst. Tech.*)

13D. 生体膜・人工膜：輸送 / 13D. Biological & Artificial membrane: Transport

1P222 **無細胞翻訳系による SecYEG トランスロコンの合成**
In vitro synthesis of SecYEG translocon
Hideaki Matsubayashi[1], Yutetsu Kuruma[1,2], Takuya Ueda[1] ([1]*Graduate School of Frontier Sciences, The University of Tokyo*, [2]*Earth-Life Science Institute, Tokyo Institute of Technology*)

1P223 **細菌 III 型分泌装置の in vitro 輸送再構成系の構築**
Construction of an in vitro transport assay system for the bacterial type III protein secretion
Hiroyuki Terashima[1], Akihiro Kawamoto[2], Tohru Minamino[2], Keiichi Namba[2], Katsumi Imada[1] ([1]*Grad. Sch. Sci., Osaka univ.*, [2]*Grad. Sch. Front. Biosci., Osaka Univ.*)

1P224 **人工細胞モデルを用いた RNA の脂質二分子膜透過**
Bilayer lipid membrane permeation of RNA
Kazuma Sato (*Grad. Sch. Inf Sci., Univ. Osaka*)

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

1P225 **カルシウムシグナルによるシナプス構造の競合的制御**
Competitive control of synaptic structure by calcium signaling
Fumihiro Niwa[1], Hiroko Bannai[2], Antoine Triller[3], Katsuhiko Mikoshiba[1] ([1]*BSI, RIKEN*, [2]*Grad. Sch. Biol. Sci., Univ. Nagoya*, [3]*IBENS*)

1P226 **背に腹は代えられぬ： モノアラガイの隠された記憶**
Necessity Knows No Law: Overwhelmed Memory in a Snail
Etsuro Ito, Miki Yamagishi (*Kagawa Sch. Pharmaceu. Sci., Tokushima Bunri Univ.*)

1P227 **Acute Modulation of long-term potentiation of Pyramidal Neurons by Hippocampal-derived Estrogen**
Hiroki Kojima, Keisuke Hotta, Yoshitaka Hasegawa, Suguru Kawato (*Department of Life Science*)

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

1P228 **昆虫の投射ニューロンにおける樹状突起 Ca^{2+}上昇はシナプス入力によって修飾される活動電位波形に依存する**
Dendritic Ca^{2+} elevation depends on spike waveform modulated by local synaptic activity in projection interneurons of insect
Hiroto Ogawa[1], Ruriko Mitani[2] ([1]*Dept Bio Sci, Fac Sci, Hokkaido Univ*, [2]*Biosystem Sci, Grad Sch Life Sci, Hokkaido Univ*)

1P229 **新規な多電極を用いた海馬の神経回路に対する神経ステロイドの作用の解析**
Analysis of neurosteroid effects on hippocampal neural circuits using novel multi-electrode probe methods
Yoshitaka Hasegawa[1], Chung Bon-chu[2], Suguru Kawato[1] ([1]*Dept. Biophysics & Life Sciences, Grad School of Arts & Sciences, Univ. of Tokyo, Tokyo, Japan*, [2]*Institute of Molecular Biology, Academia Sinica, Taipei, Taiwan*)

17. 行動 / 17. Behavior

1P230 **滑走細菌 *Flavobacterium johnsoniae* の滑走装置**
Gliding machinery of the gliding bacterium *Flavobacterium johnsoniae*
Satoshi Shibata[1], Keiko Sato[1], Yuka Narita[1], Daisuke Nakane[2], Koji Nakayama[1] ([1]*Nagasaki Univ. Graduate Sch. of Biomedical Science*, [2]*Dept. Physics, Gakushuin Univ.*)

1P231 **トラウマストレスはエンドカンナビノイドシステムを介しオペラント条件付けによる記憶の形成を障害する**
Traumatic stress impairs learning and memory formation via an endocannabinoid system in *Lymnaea stagnalis*
Hiroshi Sunada[1], Jeremy Forest[1], Manabu Sakakibara[2], Ken Lukowiak[1] ([1]*HBI, Univ of Calgary*, [2]*Grad. Sch. Biosci., Tokai Univ*)

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

1P232 **ファラオニス・ハロロドプシンの N 中間体の結晶構造解析**
Crystallographic analysis of the N intermediate of pharaonis halorhodopsin
Haruki Kawaguchi, Taichi Nakanishi, Midori Murakami, **Tsutomu Kouyama** (*Graduate School of Science, Nagoya University*)

1P233 **クラックスロドプシンの 3 量体構造と光安定性**
Photostability of the trimeric form of cruxrhodopsin
Siu Kit Chan[1], Tomomi Kitajima[1], Midori Murakami[1], Kunio Ihara[2], Tsutomu Kouyama[1] ([1]*Graduate School of Science, Nagoya University*, [2]*Center of the gene research, Nagoya University*)

1P234 **hCRBPII 及びその変異体の構造とスペクトルに関する QM/MM 理論計算**
QM/MM calculation of structure and spectral properties for human cellular retinal binding protein II (hCRBPII) and its mutants
Cheng Cheng, Motoshi Kamiya, Yoshihiro Uchida, Shigehiko Hayashi (*Grad. Sch. Sci, Kyoto U.*)

1P235 **センサリーロドプシン I-トランスデューサーの一分子 FRET 観察**
Single-molecule FRET study of the sensory rhodopsinI-transducer
Ryo Nisimura[1], Keiichi Inoue[1,2], Jin Yagasaki[3], Kenichi Kawamoto[1], Yuki Sudo[4,5,6], Hideki Kandori[1] ([1]*Nagoya Institue of Technology*, [2]*JST PREST*, [3]*Nagoya University*, [4]*Okayama University*, [5]*Institue for Molecule Science*, [6]*JST CREST*)

1P236 **海洋緑藻 *Ostreococcus tauri* 由来の光修復酵素（CPF1, CPF2）における FAD 光反応中心の分光解析**
Spectroscopic analysis of FAD photoreaction center in two photolyase (CPF1, CPF2) from a marine green alga *Ostreococcus tauri*
Shouhei Ueda[1], Kazunori Zikihara[1,2], Tomoko Ishikawa[2], Chris Bowler[3], Takeshi Todo[2], Satoru Tokutomi[1] ([1]*Grad. School Sci., Osaka Prefect. Univ*, [2]*Grad. School Med., Osaka Univ*, [3]*Ecole. Norm. Supe., Inst. Biol., Paris*)

1P237 **光修復酵素の DNA 修復能と光反応中心 FAD コンフォメーションとの相関**
Correlation of DNA repair type with FAD conformation in the photoreaction center of photolyases
Kazunori Zikihara[1,2], Shouhei Ueda[1], Takahiro Kitano[1], Kohei Kasakawa[1], Reo Fukazawa[1], Tomoko Ishikawa[2], Kristin Tessmar-Raible[3], Chris Bowler[4], Takeshi Todo[2], Satoru Tokutomi[1] ([1]*Grad. School Sci., Osaka Prefect. Univ.*, [2]*Grad. School Med., Osaka Univ.*, [3]*Max F. Perutz Labo., Univ. Vienna*, [4]*Ecole Norm. Supe., Inst. Biol., Paris*)

1P238 **チャネルロドプシンの機能理解への理論的アプローチ**
Theoretical approach toward an understanding of molecular functions of channelrhodopsin
Hiroshi C. Watanabe[1,2], Marcus Elstner[3], Minoru Sakurai[1] ([1]*Center for Biol. Res. & Inform., Tokyo Tech*, [2]*JSPS fellow*, [3]*KIT*)

1P239 **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, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

1P240 **PYP-Phytochrome Related Protein の 2 つのセンサードメインで生じる光反応の関連性**
Relationship of the photoreactions between two sensor domains in PYP-Phytochrome Related Protein
Keito Yoshida, Hironari Kamikubo, Kento Yonezawa, Yoichi Yamazaki, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

1P241 **ATP 結合におけるシロイヌナズナクリプトクロム 1 の光反応の赤外分光測定**
FTIR spectroscopy of the photoreaction of Arabidopsis Cryptochrome1 upon ATP binding
Katsuhiro Mikuni[1], Daichi Yamada[1], Tatsuya Iwata[1], Kenichi Hitomi[2], Elizabeth D. Getzoff[2], Hideki Kandori[1] ([1]*Nagoya Inst. Tech.*, [2]*The Scripps Res. Inst. USA*)

1P242 **光回復酵素への機能転換のためのクリプトクロム-DASH の変異導入**
Mutagenesis to convert Cyanobacterial Cryptochrome-DASH into a 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], Takeshi Todo[3], Shigenori Iwai[2], 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*)

1P243 **培養細胞内２次メッセンジャーの発光モニタリングを利用した多様なオプシン類の分子特性解析の試み**
Analysis of molecular properties of various opsins by bioluminescence monitoring of second-messengers in cultured cells
Takashi Nagata[1], Tomohiro Sugihara[1], Mitsumasa Koyanagi[1,2], Akihisa Terakita[1] ([1]*Grad. Sch. Sci., Osaka City Univ.*, [2]*JST-PRESTO*)

1P244 **アクチノロドプシンの His-62 残基の光化学反応における役割**
Role of His-62 in the photochemistry of actinorhodopsin
Shintaro Nakamura[1], Takashi Kikukawa[1], Masakatsu Kamiya[1], Tomoyasu Aizawa[1], Martin W Hahn[2], Naoki Kamo[1], Makoto Demura[1] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*Innsbruck Univ.*)

1P245 **QM/MM RWFE 法によるウシ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.*)

1P246 **Accelerated MD シミュレーションを用いた AsLOV2 ドメイン光活性機構の解明**
Study of the photactivation mechanisms in AsLOV2 domain by using accelerated molecular dynamics simulations
Tomohiro Yaita, Tadaomi Furuta, Minoru Sakurai (*Cent Biol Res & Info, Tokyo Inst of Tech*)

1P247 ***Truepera radiovictrix* 由来 Na^+ポンプ型ロドプシンの機能解析**
Functional analyses of Na^+-pumping rhodopsin from *Truepera radiovictrix*
Kazuki Goto, Takashi Kikukawa, Takatoshi Hasemi, Yuta Saito, Masakatsu Kamiya, Tomoyasu Aizawa, Naoki Kamo, Makoto Demura (*Grad. Sch. Life Sci., Hokkaido Univ.*)

1P248 **光センサー蛋白質フォトトロピン 2 の光刺激による構造変化ダイナミクス**
Light induced conformational changes of a blue light receptor phototropin2: LOV2-kinase
Akira Takakado[1], Yusuke Nakasone[1], Koji Okajima[2], Satoru Tokutomi[2], Masahide Terazima[1] ([1]*Kyoto Univ. Sci.*, [2]*Osaka Prefecture Univ.*)

1P249 **DNA 光回復酵素間の機能転換**
Functional conversion of (6-4) photolyase and CPD photolyase
Daichi Yamada[1], Junpei Yamamoto[2], Tomoko Ishikawa[3], Tomohiro Suzuki[1], I Made Mahaputra Wijaya[1], Tatsuya Iwata[1], Elizabeth D. Getzoff[4], Takeshi Todo[3], Shigenori Iwai[2], 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*)

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

1P250 **緑藻型[FeFe]ヒドロゲナーゼ成熟化機構の構造研究**
Structural studies on the maturation mechanism of [FeFe] hydrogenase maturation from green alga *Chlamydomonas reinhardtii*
Daiki Kiyota[1], Risa Mutoh[2], Chihiro Azai[3], Hirozo Oh-oka[1], Genji Kurisu[1,2] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*Institute for Protein Research, Osaka Univ.*, [3]*College of Life Sciences, Ritsumeikan Univ.*)

1P251 **光化学系 I－フェレドキシン複合体の結晶構造および NMR 解析**
X-ray structure and NMR analysis of the electron transfer complex between photosystem I and ferredoxin
Risa Mutoh[1], Hisako Kubota-Kawai[1], Marc Nowaczyk[2], Matthias Rögner[2], Hideaki Tanaka[1], Takahisa Ikegami[1], Genji Kurisu[1] ([1]*Inst. Prot. Res., Osaka Univ.*, [2]*Dept. of Plant Biochemistry, Faculty of Biology and Biotechnology, Ruhr-Univ. Bochum*)

1P252 **光合成反応中心タンパク質の極低温単一分子分光**
Single-molecule spectroscopic study of photosynthetic reaction center at 6 K
Toru Kondo[1], Risa Mutoh[2], Genji Kurisu[2], Hirozo Oh-oka[3], Satoru Fujiyoshi[1], Michio Matsushita[1] ([1]*Grad. Sch. Sci. and Eng., Tokyo Tech.*, [2]*Institute for Protein Research, Osaka Univ.*, [3]*Grad. Sch. Sci., Osaka Univ.*)

1P253 **同位体標識された好熱性紅色光合成細菌における膜タンパク質耐熱化の分子機構解析**
Isotope-edited ATR-FTIR analysis of the light-harvesting 1 reaction center complex from thermophilic purple photosynthetic bacteria
Yuki Yura[1], Yukihiro Kimura[1], Seiu Otomo[2], Takashi Ohno[1] ([1]*Grad. Sch. Agri. Sci., Kobe Univ.*, [2]*Fac. Sci., Ibaraki Univ.*)

1P254 光合成光化学系 II における MnCa クラスターの歪んだ椅子型構造の起源
Origin of the distorted-chair structure of the MnCa cluster in photosystem II
Keisuke Saito[1,2], Hiroshi Ishikita[1] ([1]*Dep. App. Chem., Grad. Schol. Eng., Univ. Tokyo*, [2]*JST PRESTO*)

1P255 紅色硫黄細菌由来光捕集１反応中心複合体における金属―タンパク質間相互作用の熱力学的解析
Thermodynamic analysis of metal-protein interaction in the light-harvesting 1 reaction center complex from purple sulfur bacteria
Yukihiro Kimura[1], Yusuke Hayashi[1], Seiu Otomo[2], Takashi Ohno[1] ([1]*Grad. Sch. Agri. Sci., Kobe Univ.*, [2]*Fac. Sci., Ibaraki Univ.*)

1P256 光合成酸素発生系における表在性蛋白質と Cl^-結合部位の相互作用 ：NO_3^-置換による赤外分光解析
Effect of the extrinsic proteins on the Cl^- binding sites of the oxygen evolving center in photosystem II: Analysis by FTIR spectroscopy
Junpei Kondo, Shin Nakamura, Ryo Nagao, Takumi Noguchi (*Grad. Sch. Sci., Nagoya Univ.*)

1P257 時間分解赤外分光法による光合成水分解反応の解析
Proton-coupled electron transfer mechanism of photosynthetic water oxidation as revealed by time-resolved infrared spectroscopy
Hiroki Sakamoto, Ryo Nagao, Takumi Noguchi (*Grad. Sch. Sci., Nagoya Univ.*)

1P258 光化学系Ⅱにおける第二キノン電子受容体 Q_B の電子・プロトン移動機構
Electron and proton transfer mechanism of the secondary quinone electron acceptor Q_B in photosystem II
Yukihiro Kadekawa, Yuki Kato, Takumi Noguchi (*Grad. Sch. Sci., Nagoya Univ.*)

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

1P259 ポリメラーゼリボザイムを活性化するペプチドの試験管内創出
In vitro selection of Polymerase Ribozyme-assisting peptides
Shigefumi Kumachi[1], Yuzuru Husimi[2], Naoto Nemoto[1] ([1]*Grad. Sci. & Tech., Saitama Univ.*, [2]*Emeritus Prof, Saitama Univ.*)

1P260 リポソーム内 RNA 複製におけるリポソームサイズの影響
Size effect of liposome on the inner RNA replication
Takeshi Sunami[1,2], Norikazu Ichihashi[1,2], Takehiro Nishikawa[2], Yasuaki Kazuta[2], Tetsuya Yomo[1,2,3] ([1]*Grad. Info., Osaka Univ.*, [2]*ERATO, JST*, [3]*Grad. Fron., Osaka Univ.*)

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

1P261 ３つ以上のドメインからなるマルチドメインタンパク質の構造予測
Prediction of 3D structures of multidomain proteins composed of more than two domains
Masafumi Shionyu, Atsushi Hijikata, Tsuyoshi Shirai (*Fac. Bio-Sci., Nagahama Inst. Bio-Sci. Tech.*)

1P262 細胞表面のビジュアルプロテオミクスに向けた計算技術開発：二次元電子顕微鏡画像と立体構造との照合
Computing technology for the visual proteomics of cell surface : Collation of protein structure and electron microscopic image
Go Inoue[1], Masami Ikeda[2], Makiko Suwa[1,2] ([1]*Biol. Sci., Grad. Sci. Eng., Aoyama Gakuin Univ.*, [2]*Chem. Biol. Sci., Sci. Eng., Aoyama Gakuin Univ.*)

1P263 **Analyses of the effects of amino acid mutations on the protein folding segments by means of sequence and evolutionary analyses**
Masanari Matsuoka[1,2], Takeshi Kikuchi[1] ([1]*Ritsumeikan Univ., Col. of Life Sci., Dept. of Bioinf.*, [2]*Japan Society Promotion Science DC2*)

1P264 Ets1 およびパートナー転写因子の協調的結合に関する分子動力学的解析
Molecular dynamics study on cooperative binding of Ets1 and partner transcription factors on regulatory elements
Kota Kasahara, Ikuo Fukuda, Haruki Nakamura (*IPR, Osaka Univ.*)

1P265 タンパク質相互作用データベースを利用した超分子モデリング法の開発
Development of a method for protein-protein interaction modeling using IntAct database
Toshiyuki Tsuji, Takao Yoda, Tsuyoshi Shirai (*Nagahama Institute of Bio-Science and Technology*)

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

1P266 **Improved prediction of mitochondrial presequence for detecting undiscovered mitochondrial proteins**
Kenichiro Imai[1], Yoshinori Fukasawa[2], Kentaro Tomii[1,2], Paul Horton[1,2] ([1]*CBRC, AIST*, [2]*Dept. of Comp. Biol., Grad. Sch. of Frontier Sci., Univ. of Tokyo*)

22C. 生命情報科学：比較ゲノミクス / 22C. Bioinformatics: Comparative genomics

1P267 **Application of novel amino acid substitution matrix, MIQS, to the MAFFT multiple sequence aligner**
Kazunori Yamada[1], Kazutaka Katoh[1,2], Kentaro Tomii[1] ([1]*AIST*, [2]*Osaka University*)

22D. 生命情報科学：分子進化 / 22D. Bioinformatics: Molecular evolution

1P268 **Evolutionary Relationships of Clostridia Species**
Takashi Kunisawa (*Dept. Appl. Biol. Sci., Sci. Univ. Tokyo*)

23. 生態／環境 / 23. Ecology & Environment

1P269 **魚たちができること ー 実験的視点から**
The things fishes can do - From an empirical perspective
Takayuki Niizato[1], Hisashi Murakami[2], Takenori Tomaru[2], Yuta Nishiyama[3], Kohei Sonoda[4], Yukio Gunji[5] ([1]*Tsukuba University*, [2]*Kobe University*, [3]*Osaka University*, [4]*Shiga University*, [5]*Waseda University*)

24. 数理生物学 / 24. Mathematical biology

1P270 **Pattern formations of a polymer consisting of "hot" and "cold" monomers as a model of chromosome**
Akinori Awazu[1] ([1]*Dept. of Math. and Life Sciences, Hiroshima Univ.*, [2]*RcMcD, Hiroshima Univ.*)

1P271 **Bubbly vertex dynamics: 曲率をもつ細胞形状を含む上皮組織のための幾何学的動力学モデル**
Bubbly vertex dynamics: a dynamical and geometrical model for epithelial tissues with curved cell shapes
Yukitaka Ishimoto, Yoshihiro Morishita (*RIKEN CDB*)

1P272 **回転する自走粒子の渦格子**
Vortex lattice of rotating self-propelled particles
Ken Nagai (*School of Mater. Sci., JAIST*)

1P273 **細胞内環境における生体高分子の動態： ブラウン動力学法による解析**
Macromolecular dynamics in intracellular environment: Bronian dynamics simulation study
Tadashi Ando[1], Yuji Sugita[1,2,3] ([1]*QBiC, RIKEN*, [2]*RIKEN*, [3]*AICS, RIKEN*)

1P274 **受容体分子のマイクロクラスター形成はシグナル伝達におけるシグナルノイズ比を改善する**
Formation of microclusters of receptor molecules improves signal/noise ratio in cellular signal transduction
Akihiro Fukagawa[1], Kumiko Sakata-Sogawa[1,2], **Makio Tokunaga**[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS, RIKEN*)

1P275 **Spatiotemporal Noisy Signal Processing in Chemotaxis**
Ryo Yokota[1,2], Tetsuya Kobayashi[1] ([1]*Inst. Ind. Sci., Univ. Tokyo*, [2]*Res. & Edu. Platf. Dyn. Liv. States*)

1P276 **神経細胞モデルの現在の発火頻度の入力およびモデルパラメータへの依存性**
The dependence of the current firing rate of a neuron model on the input and the model parameters
Takanobu Yamanobe (*Hokkaido University*)

1P277 **真性粘菌の運動に対する化学的障壁の影響**
The effect of a chemical bump on a migrating amoeba
Dai Akita[1], Itsuki Kunita[2], Shigeru Kuroda[2], Toshiyuki Nakagaki[2] ([1]*Grad. Sch. of Life Sci., Hokkaido Univ.*, [2]*RIES, Hokkaido Univ.*)

1P278 **Band-pass filtering to rhythmic input: A simple model of nonlinear response in a living cell**
Hiroshi Ueno[1], Tatsuaki Tsuruyama[2,3], Kenichi Yoshikawa[1] ([1]*Laboratory of Biological Physics, Faculty of Life and Medical Sciences, Doshisha Univ.*, [2]*Department of Pathology, Graduate School of Medicine, Kyoto University*, [3]*Department of Anatomical, Forensic Medicine, and Pathological Studies, Graduate School of Medicine, Kyoto University*)

25. 非平衡・生体リズム / 25. Nonequilibrium state & Biological rhythm

1P279 **時計タンパク質による概日リズムの同調機構**
KaiC intersubunit communication facilitates robustness of circadian rhythms in cyanobacteria
Yoko Kitayama[1], Taeko Nishiwaki-Ohkawa[1,2], Michio Homma[1], Takao Kondo[1] ([1]*Grad. Sch. Sci., Univ. Nagoya*, [2]*ITbM, Univ. Nagoya*)

1P280 **心臓組織片による同期化のメカニズム**
Synchronization of cardiac rhythms after reassembling of multiple heart fragment tissues
Tomonori Takahashi, Yuji Mitsui, Shin Arai, Kentaro Ishida, Toshiyuki Mitsui (*Dept. of Phys. & Math., Coll. of Sci. & Eng., Aoyama Gakuin Univ.*)

1P281 **酵素競合律速による動的細胞記憶の形成**
Kinetic memory based on the enzyme-limited competition
Tetsuhiro S. Hatakeyama, Kunihiko Kaneko (*Dept. of Basic Science, The Univ. of Tokyo*)

1P282 **情報熱力学による生化学シグナル伝達の情報理論**
Information thermodynamics reveals the robustness of biochemical signal transduction
Sosuke Ito[1], Takahiro Sagawa[1,2] ([1]*Department of Physics, the University of Tokyo*, [2]*Department of Basic Science, the University of Tokyo*)

1P283 **Coherence vs Dynamics on Random Boolean Networks**
Taichi Haruna (*Graduate School of Science, Kobe University*)

26. 計測 / 26. Measurements

1P284 **LN 光変調器を用いた高精度周波数領域蛍光異方性測定による蛍光色素の回転運動解析**
High-precision frequency-domain fluorescence anisotropy measurement using a waveguide LN modulator for dye rotational motion analysis
Tetsuichi Wazawa[1,2], Nobuyuki Morimoto[2], Makoto Suzuki[2] ([1]*Biomolec Sci Engin, ISIR, Osaka Univ*, [2]*Dept Mater Proc, Grad Sch Engin, Tohoku Univ*)

1P285 **近赤外蛍光ゆらぎ計測のためのナノ秒光子計数システムの構築**
A photon-timing recorder in a nano-second resolution and its application for near-infrared fluorescence fluctuation measurements
Goro Nishimura (*RIES, Hokkaido University*)

1P286 **二光子励起によるホログラフィック多点蛍光相関分光計測装置の開発**
Development of a holographic multipoint fluorescence correlation spectroscopy based on two photon excitation
Johtaro Yamamoto, Masataka Kinjo (*Faculty of Adv. Life Sci., Hokkaido Univ.*)

1P287 **Simple method for lipid bilayer formation with simultaneous incorporation of ion channels using gold electrode**
Daichi Okuno[1], Minako Hirano[2], Hiroaki Yokota[2], Yukiko Onishi[1], Toshio Yanagida[1], Toru Ide[3] ([1]*RIKEN QBiC*, [2]*GPI*, [3]*Grad. Sch. Nat. Sci. & Tec., Okayama Univ.*)

1P288 **Holliday junction DNA の自発的 branch migration 過程の FRET による解析**
FRET analysis of the spontaneous branch migration of the Holliday junction DNA
Kenji Okamoto, Yasushi Sako (*RIKEN*)

1P289 **光渦三次元トラップで生物の回転運動を操作・計測する**
The manipulation and analysis of biological rotary motions by 3D optical vortex trapping
Yu Hashimoto[1], Tomoko Otsu[2], Yuji Kimura[1], Sayaka Kazami[1], Yoshiyuki Sowa[3], Yu Takiguchi[2], Taro Ando[2], Ikuro Kawagishi[3], Hiroyasu Itoh[1] ([1]*Tsukuba Reserch Laboratory, Hamamatsu Photonics K.K.*, [2]*Central Reserch Laboratory, Hamamatsu Photonics K.K.*, [3]*Dept. Frontier Biosci., Hosei Univ.*)

1P290 **ビデオ計測による大腸菌の回転運動特性の統計解析**
Statistical analysis of rotational motion properties of tethered E. coli by video measurement
Hiroto Tanaka[1], Tadashi Matsukawa[1], Takashi Sagawa[1], Sakura Maesato[2], Yukihiro Tominari[3], Yoshiyuki Sowa[4], Ikuro Kawagishi[4], Hiroaki Kojima[1] ([1]*Bio ICT lab., NICT*, [2]*Dept. Bioeng., Nagaoka Univ. Tech.*, [3]*Nano ICT lab., NICT*, [4]*Dept. Front. Biosci., Hosei Univ.*)

1P291 **マイクロ波加熱効果：生体系に対する in situ マイクロ波照射 NMR の応用**
Microwave heating effects: Application to analyze biological system by in situ microwave irradiation NMR
Yugo Tasei[1], Fumiichi Tanigawa[1], Izuru Kawamura[1], Motoyasu Sato[2], Akira Naito[1] ([1]*Yokohama National University*, [2]*Chubu University*)

1P292 **走査型イオンコンダクタンス顕微鏡の単一細胞ナノバイオプシーへの応用と細胞内 mRNA 局在性の評価**
Single-cell nanobiopsy to investigate intracellular mRNA localization using scanning ion conductance microscopy
Yuji Nashimoto[1], Yasufumi Takahashi[2], Kosuke Ino[1], Kumi Inoue Y[1], Hitoshi Shiku[1], Tomokazu Matsue[1,2] ([1]*Enviromental studies, Tohoku Univ.*, [2]*WPI-AIMR, Tohoku Univ.*)

27. バイオイメージング / 27. Bioimaging

1P293 **高速 AFM を用いたタンパク質構造変化のライブイメージング**
Live Imaging of Protein Structural Change by High-Speed AFM
Motonori Imamura[1,2], Takayuki Uchihashi[3,4], Toshio Ando[3,4], Jonathan G. Heddle[1], Ali D. Malay[1] ([1]*Riken*, [2]*Grad. Sch. of Biosci. & Biotech., Tokyo Tech.*, [3]*Dept. Phys., Kanazawa Univ.*, [4]*Bio-AFM Frontier Research Center, Kanazawa Univ.*)

1P294 **マニフォールドの概念に基づく新規画像分類法を用いた投影イメージの解析**
Analysis of the projection images using the novel classification protocol based on the concept of manifold
Takashi Yoshidome[1], Tomotaka Oroguchi[2,3], Masayoshi Nakasako[2,3], Mitsunori Ikeguchi[1] ([1]*Grad. Sch. Med. Life Sci., Yokohama City Univ.*, [2]*Fac. Sci., Keio. Univ.*, [3]*Harima Inst., Riken*)

1P295 **Metallothionein labeling for CLEM(Correlative Light and Electron Microscopy) method**
Ryutaro Yamanaka[1], Yuka Hirasaka[1], Mingyue Jin[1], Yanagisawa Haruaki[2], Takuo Yasunaga[1] ([1]*Kyushu Institute of Technology*, [2]*Univ. of Tokyo*)

1P296 **高速 AFM/１分子蛍光顕微鏡複合機によるタンパク質の構造動態と化学反応の同時イメージング**
Simultaneous imaging of dynamic structural and chemical events in protein by high-speed AFM combined with single-molecule TIRFM
Shingo Fukuda[1], Takayuki Uchihashi[1,2], Ryota Iino[3], Toshio Ando[1,2] ([1]*Sch. Math. & Phys., Col. Sci. & Eng., Kanazawa Univ.*, [2]*Bio-AFM FRC, Inst. Sci. & Eng., Kanazawa Univ.*, [3]*Okazaki Inst. Integr. Biosci., NINS*)

1P297 **Real time imaging of collagenase behavior by high speed atomic force microscopy**
Takahiro Nakayama, Noriyuki Kodera, Hiroki Kon'no, Toshio Ando (*Bio-AFM Frontier Research Center, Kanazawa University*)

1P298 **新規共分散 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**
Spatio-temporal distribution analysis of dimeric glucocorticoid receptor using a new Number and Brightness method based on covariance
Hideto Ishikawa[1], Johtaro Yamamoto[2], Shintaro Mikuni[2], Masataka Kinjo[2] ([1]*Grad. Life Sci., Univ.Hokkaido*, [2]*Fuc. Adv. Life Sci, Univ.Hokkaido*)

1P299 **生細胞蛍光イメージングによる ALS 関連変異体 TDP43 の構造解析**
Analysis of structural difference in ALS-linked mutant of TDP43 by fluorescence imaging in living cells
Sachiko Yuno[1], Akira Kitamura[1,2], Ai Shibasaki[1], Masataka Kinjo[1,2] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*Advanced Life Sci., Hokkaido Univ.*)

1P300 **高速原子間力顕微鏡による AAA シャペロン p97 の主要 ATPase（D2）リングの構造変化の直接観察**
Direct observation of the structural changes of the major ATPase domain D2 of the AAA chaperone p97 by high-speed atomic force microscopy
Daisuke Yamamoto[1,3], Kentaro Noi[2,3], Ken-ichi Arita-Morioka[2,3], Teru Ogura[2,3] ([1]*Dept. Appl. Phys., Fac. Sci., Fukuoka Univ.*, [2]*Dept. Mol. Cell Biol., IMEG, Kumamoto Univ.*, [3]*CREST, JST*)

1P301 **マルチモーダル超高輝度化学発光タンパク質**
Multi-modal super-duper chemi-luminescent protein
Kazushi Suzuki[1], Yoshiyuki Arai[1,2], Takeharu Nagai[1,2] ([1]*Grad sch engin, Osaka Univ*, [2]*ISIR, Osaka Univ*)

1P302 **生体発光共鳴エネルギー転移（BRET）を用いたミトコンドリア外膜タンパク質 MAVS の構造基盤解析**
A structural analysis of the MAVS-regulatory mechanism using BRET
Osamu Sasaki[1], Takuma Yoshizumi[1], Misa Kuboyama[1], Takeshi Ishihara[2], Emiko Suzuki[3], Shun-ichiro Kawabata[2], Takumi Koshiba[2] ([1]*Graduate School of Systems Life Scienses, Kyushu University*, [2]*Department of Biology, Faculty of Sciences, Kyushu University*, [3]*Structural Biology Center, National Institute of Genetics and Department of Genetics*)

1P303 **ストレス顆粒内一分子 mRNA 立体構造の超解像イメージング**
Super-resolution imaging of molecular conformation of single mRNA in stress granules
Yuki Suzuki[1], Kou Sugawara[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Graduate School of Pharmaceutical Sciences, The University of Tokyo*, [2]*JST, PRESTO*)

1P304 **転写伸長因子 NELF ダイナミクスの１分子イメージング定量解析**
Single molecule imaging and quantitative analysis of dynamics of negative elongation factor NELF
Daichi Ikeda[1], Yuma Ito[1,2], Makio Tokunaga[1,2], Kumiko Sakata-Sogawa[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS, RIKEN*)

1P305 **AIP1 とコフィリン共存下でのアクチンフィラメント切断の 1 分子リアルタイムイメージング**
Real-time imaging of actin filament disassembly in the presence of cofilin and actin interacting protein 1 (AIP1)
Carina Sekiguchi[1], Kimihide Hayakawa[2], Shoichiro Ono[3], Masahiro Sokabe[2], Hitoshi Tatsumi[1] ([1]*Department of Physiology, Nagoya University Graduate School of Medicine*, [2]*Mechano-biology Laboratory, Nagoya University Graduate School of Medicine*, [3]*Department of Pathology, Emory University School of Medicine*)

1P306 **１細胞分泌実時間測定による IL-1β 非古典的分泌機序の解明**
Analysis of non-classical secretion of IL-1β using real-time single-cell secretion imaging
Yoshitaka Shirasaki[1], Ting Liu[2], Yoshifumi Yamaguchi[2], Mai Yamaguchi[1], Nobutake Suzuki[1], Kazushi Izawa[3], Jun Mizuno[4], Shuichi Shoji[4], Yoshie Harada[5], Ryuta Nishikomori[3], Toshio Heike[3], Masayuki Miura[2], Osamu Ohara[1,6] ([1]*IMS, Riken*, [2]*Grad. Sch. Pharm., Tokyo Univ.*, [3]*Grad. Sch. Med., Kyoto Univ.*, [4]*Grad. Sch. Sci. & Eng., Waseda Univ.*, [5]*iCeMS, Kyoto Univ.*, [6]*Kazusa DNA Inst.*)

1P307 **ナノスリット基板を用いたアクチンの重合の一分子観察**
Single molecule observation of actin polymerization in linear zero-mode waveguid
Masamichi Yamamoto[1], Makoto Tsunoda[1], Shun Higano[2], Kotaro Okubo[2], Takashi Tanii[2], **Takashi Funatsu**[1] ([1]*Grad. Sch. Pharm. Sci., Univ. Tokyo*, [2]*Sch. Sci. Eng., Waseda Univ.*)

1P308 **培地温度の珪藻運動に与える影響の一細胞観察による評価**
Effects of medium temperature on diatom motility studied by single cell observation
Kazuo Umemura[1], Toru Miyabayashi[1], Yoshikazu Kumashiro[2], Teruo Okano[2], Shigeki Mayama[3] ([1]*Tokyo Univ. Sci.*, [2]*Tokyo Women's Med. Univ.*, [3]*Tokyo Gakugei Univ.*)

1P309 **異物排出トランスポーター AcrD の発現は外膜チャネル TolC 遺伝子の欠失により促進される**
Expression of the xenobiotic efflux transporter AcrD is induced by the deletion of outer membrane channel gene *tolC*
Kentaro Yamamoto[1], Rei Tamai[1], Takehiko Inaba[2], Yoshiyuki Sowa[1,2,3], 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.*)

1P310 **大腸菌異物排出トランスポーター MdtB, MdtC の膜内動態解析**
Dynamics of the xenobiotic efflux transporter components MdtB and MdtC in the cytoplasmic membrane of *Escherichia coli*
Megumi Yamazaki[1], Kentaro Yamamoto[1], Rei Tamai[1], Yoshiyuki Sowa[1,2,3], 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.*)

28. バイオエンジニアリング / 28. Bioengineering

1P311 **電子伝達タンパク質による転写調節因子の出力変換**
Readout Conversion of Transcriptional Regulator by Electron Transfer Proteins
Hiroshi Nakajima[1], Souji Miyazaki[2], Yoshihito Watanabe[2] ([1]*Dept. Chem., Sch. Sci., Nagoya Univ.*, [2]*RCMS, Nagoya Univ.*)

1P312 **再構成無細胞系を用いた抗菌ペプチドの直接発現**
Direct expression of antimicrobial peptides in an intact form by using a reconstitued cell-free system
Satoshi Tomisawa, Masakatsu Kamiya, Takashi Kikukawa, Makoto Demura, Tomoyasu Aizawa (*Grad. Sch. Life Sci., Univ. Hokkaido*)

1P313 **カリウムイオンを感知して自らの活性をスイッチングする Tat 捕捉アプタマーおよびリボザイムの創製**
Development of Tat-binding aptamer and ribozyme which switch their activities in response to K+
Yudai Yamaoki[1,2,3], Tsukasa Mashima[1], Takashi Nagata[1,2], Masato Katahira[1,2] ([1]*Inst. Adv. Energy, Kyoto Univ.*, [2]*Grad. Sch. Energy Sci., Kyoto Univ.*, [3]*JSPS Research Fellow*)

1P314 **細胞シグナル制御を目指した機能性核酸の設計**
Design of functional nucleic acid that controls receptor signaling
Ryosuke Ueki[1], Shinsuke Sando[2] ([1]*Inamori Frontier Research Center, Kyushu University*, [2]*Grad. Sch of Eng, The University of Tokyo*)

1P315 **Fabrication of photosensiting and electron-transfer RNA-modules**
Tran Thoa Thi Thanh[1,2], Noriko Minagawa[1], Sivakumar Ponnurengam Malliappan[1], Toshiro Aigaki[2], Yoshihiro Ito[1,2], **Takanori Uzawa**[1] ([1]*RIKEN*, [2]*Tokyo Metro. Univ.*)

1P316 **Rational design of orthogonal gene transcription nano device on DNA origami**
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*)

1P317 **微小管リング状集合体の内径を制御する方法**
How to control the size of ring-shaped microtubule assemblies
Shoki Wada[1], Masaki Ito[1], Daisuke Inoue[1], Kazuki Sada[1,2], Akira Kakugo[1,2] ([1]*Graduate School of Chemical Science and Engineering, Hokkaido University*, [2]*Faculty of Science, Hokkaido University*)

1P318 **応力場を利用した微小管集団運動の動的制御**
Dynamic Control of Collective Motion of Microtubules Propelled by Kinesin in a Stress Field
Daisuke Inoue[1], Kazuki Sada[1,2], Akira Kakugo[1,2] ([1]*Grad. Sch. of Chem. Sci. and Eng., Univ. Hokkaido*, [2]*Fac. of Sci., Univ. Hokkaido*)

1P319 **DNA の相互作用に基づいた能動的自己組織化の制御**
Control of Active Self-organization of microtubule by using DNA based interaction
Kyohei Uenishi[1], Shoki Wada[1], Daisuke Inoue[1], Kazuki Sada[1,2], Akira Kakugo[1,2] ([1]*Grad. Sch. of Chem. Sci. and Eng., Hokkaido Univ.*, [2]*Fac. of Sci., Hokkaido Univ.*)

1P320 **Cell trapping device for observation of connexin function by a single cell device**
Kosuke Inoue[1,2], Koki Kamiya[1,4], Yuta Abe[1,2], Toshihisa Osaki[1,3], Norihisa Miki[2], Shoji Takeuchi[1,3] ([1]*Kanagawa Academy of Science and Technology*, [2]*Keio University*, [3]*Institute of Industrial Science, the University of Tokyo*, [4]*PRESTO, Japan Science and Technology Agency*)

30. その他 / 30. Miscellaneous topics

1P321 **質量を変えたレプリカ交換分子動力学法**
Mass-scaling replica-exchange molecular dynamics method
Tetsuro Nagai, Takuya Takahashi (*College of Life Sciences, Ritsumeikan University*)

1P322 **分裂酵母クロマチンダイナミクスの定量的解析**
Quantitative analyses of chromatin dynamics in fission yeast
Takeshi Sugawara[1,2], Shota Masuda[3], Jun-ichi Uewaki[1,2], Akinori Awazu[1,2], Hiraku Nishimori[1,2], Masaru Ueno[1,3] ([1]*RcMcD, Hiroshima Univ.*, [2]*Department of Mathematical and Life Sciences, Faculty of Science, Hiroshima University*, [3]*Department of Molecular Biotechnology, Graduate School of Advanced Sciences of Matter, Hiroshima University*)

1P323 **Dynamical heterogeneity and dynamics of cage breaking and formation in colloidal fluids**
Preetom Nag[1,2], Hiroshi Teramoto[1,2], Chun-Biu Li[2,3,4], Tamiki Komatsuzaki[1,2,4] ([1]*Graduate School of Life Science, Transdisciplinary Life Science Course, Hokkaido University*, [2]*Molecule and Life Nonlinear Sciences Laboratory, Research Institute for Electronic Science, Hokkaido University*, [3]*Graduate School of Science, Department of Mathematics, Hokkaido University*, [4]*Research Center for Integrative Mathematics, Hokkaido University*)

第 2 日目（9 月 26 日（金））／Day 2（Sep. 26 Fri.）大ホール / Main Hall

01A. 蛋白質：構造 / 01A. Protein: Structure

2P001 **イネ萎縮ウイルスの詳細な細胞侵入機構**
Detailed cell entry mechanism of Rice dwarf virus (RDV)
Naoyuki Miyazaki[1,2], Akifumi Higashiura[2], Tomoko Higashiura[2], Fusamichi Akita[3], Hiroyuki Hibino[3], Toshihiro Omura[3], Atsushi Nakagawa[2], Kenji Iwasaki[2] ([1]*NIPS*, [2]*IPR*, [3]*NARC*)

2P002 **タンパク質における埋もれた極性残基の構造と置換パターンの網羅的解析**
Comprehensive analysis on the conformation and substitution patterns of buried polar residues in protein structures
Matsuyuki Shirota[1,2,3], Kengo Kinoshita[2,3,4] ([1]*Grad. Sch. Med. Tohoku Univ.*, [2]*ToMMo, Tohoku Univ.*, [3]*GSIS, Tohoku Univ.*, [4]*IDAC, Tohoku Univ.*)

2P003 **Crowding 環境下でのタンパク質構造の熱安定性**
Thermal Structural Stability of Proteins Under Crowding Environment
Mitsuhiro Hirai[1], Shouki Sato[1], Masaaki Sugiyama[2], Noboru Ohota[3], Lionel Porcar[4], Anne Martel[4], Giuseppe Zaccai[4] ([1]*Grad. Sch.Sci. Tech., Gunma Univ.*, [2]*KURRI*, [3]*JASRI*, [4]*Institut Laue-Langevin*)

2P004 **相手に応じた様々な折り畳みを伴う一対多分子認識機構の統計熱力学：転写因子タンパク質 p53 の場合**
Statistical thermodynamics of one-to-many molecular recognition accompanied by partner-dependent folding: in the case of p53 protein
Tomohiko Hayashi, Hiraku Oshima, Satoshi Yasuda, Masahiro Kinoshita (*Institute of Advanced Energy, Kyoto University*)

2P005 **結晶環境における弾性ネットワークモデルを用いた非等方性温度因子の再現**
Anisotropic atomic fluctuations reproduced by normal modes based on an elastic-network model in the crystal environment
Shigeru Endo[1], Hiroshi Wako[2] ([1]*Dept. Phys., Sch. Science, Kitasato Univ.*, [2]*Sch. Social Sciences, Waseda Univ.*)

2P006 **レプリカ置換分子動力学法の詳細釣り合い条件の有無に対する検証と生体分子への応用**
Comparison of the replica-permutation molecular dynamics with and without detailed balance conditions and its application to biomolecules
Hiroaki Nishizawa[1], Hisashi Okumura[1,2] ([1]*IMS*, [2]*Sokendai*)

2P007 **β-sheet 中でのペア傾向は edge strand と central strand では全く異なる**
Pairing propensity in β-sheets is quite defferent between edge and central strands
Hiromi Suzuki (*School of Agriculture, Meiji Univ.*)

2P008 **最適化した力場のアミノ酸ごとのパラメータ依存性について**
Parameter dependency of an optimized force field for each amino acid
Yoshitake Sakae[1], Yuko Okamoto[1,2,3,4] ([1]*Dept. Phys., Nagoya Univ.*, [2]*Structural Biology Research Center, Nagoya Univ.*, [3]*Center for Computational Science, Nagoya Univ.*, [4]*Information Technology Center, Nagoya Univ.*)

2P009 **固体 NMR および MD シミュレーションによるヒトカルシトニン線維形成機構と構造の解析**
Fibrillation mechanism and fibril structure of human calcitonin as studied by solid-state NMR and MD simulation
Shuuhei Toyoda[1], Ganchimeg Lkhamsuren[2], Javklantugs Namsrai[1,2], Hikari Watanabe[1], Izuru Kawamura[1], Kazuyoshi Ueda[1], Akira Naito[1] ([1]*Grad. Sch. Eng., Yokohama Natl. Univ.*, [2]*Monglia Natl. Univ.*)

2P010 **４量体型サルコシン酸化酵素の分子動力学シミュレーション: 水分子の透過経路解析**
Molecular dynamics simulation of heterotetrameric sarcosine oxidase: pathways of water molecules
Go Watanabe, Akinori Hiroshima, Haruo Suzuki, Shigetaka Yoneda (*Sch. Sci., Kitasato Univ.*)

2P011 **生体高分子中性子結晶構造解析におけるフーリエマップ改善のための実践的考察**
A practical study for the improvement on the Fourier map in neutron protein crystallography(NPC)
Ichiro Tanaka[1,2], Nobuo Niimura[2] ([1]*Coll. of Eng., Ibaraki Univ.*, [2]*Frontier Center, Ibaraki Univ.*)

2P012 **分子動力学シミュレーションによる GLP-1 と Exendin-4 の構造解析**
Structure Analysis of GLP-1 and Exendin-4 by Molecular Dynamics Simulation
Sakiko Mori, Hironao Yamada, Yo Noguchi, Takeshi Miyakawa, Ryota Morikawa, Takuya Watanabe, Masako Takasu (*Sch. of Life Sci., Tokyo Univ. of Pharm. and Life Sci.*)

2P013 **分子動力学シミュレーションによる γS-WT と γS-G18V の構造変化の比較**
Structural changes of γS-WT and γS-G18V studied by molecular dynamics simulation
Ai Ozawa, Hironao Yamada, Sakiko Mori, Yo Noguchi, Takeshi Miyakawa, Ryota Morikawa, Masako Takasu (*Tokyo University of Pharmacy and Life sciences*)

2P014 **MEGADOCK: 超並列計算環境による大規模タンパク質間相互作用予測**
MEGADOCK: a high-performance protein-protein interaction prediction tool on supercomputing environments
Masahito Ohue[1,2], Yuri Matsuzaki[3], Nobuyuki Uchikoga[4], Takashi Ishida[1], Yutaka Akiyama[1,3] ([1]*Grad. Sch. Inform. Sci. and Eng., Tokyo Tech*, [2]*JSPS Research Fellow*, [3]*ACLS, Tokyo Tech*, [4]*Dept. Phys., Chuo Univ.*)

2P015 **マイクロ流路を用いた X 線溶液散乱測定用サンプルチェンジャーの開発**
Development of a microfluidics-based auto-sample changer for solution X-ray scattering
Ryuji Okabe, Hironari Kamikubo, Yoichi Yamazaki, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

2P016 **タンパク質の構造コンプライアンス解析手法の改良**
Improvement of a Method for Structural Compliance Analysis of Proteins
Keisuke Arikawa (*Fcl. Eng. , Kanagawa Inst. of Tech.*)

2P017 **固体 NMR 法によるタンパク質立体構造解析への常磁性緩和促進の応用**
Application of paramagnetic relaxation enhancement to solid-state NMR protein structure analysis
Hajime Tamaki[1], Ayako Egawa[2], Kouki Kido[1], Tomoshi Kameda[3], Masakatsu Kamiya[1], Takashi Kikukawa[1], Tomoyasu Aizawa[1], Toshimichi Fujiwara[2], Makoto Demura[1] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*IPR, Osaka Univ.*, [3]*CBRC, AIST*)

2P018 **低温電子顕微鏡による単粒子像解析法における GFP ラベル**
GFP labeling for single particle analysis with cryoEM
Takayuki Kato[1], Naoya Terahara[1], Tomoko Miyata[1], Keiichi Namba[1,2] ([1]*Grad. Sch. Front. Biosci., Osaka Univ*, [2]*QBIC, Riken*)

2P019 **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 flexneri* by cryo electron microscopy
Naoko Kajimura[1], Fumiaki Makino[1,2], Martin P Cheung[2], Takayuki Kato[1], Ariel J Blocker[2], Keiichi Namba[2,3] ([1]*Grad. Sch. of Frontier Biosci., Osaka Univ.*, [2]*Sch. of Cell. & Mol. Med., Univ. of Bristol*, [3]*RIKEN, QBiC*)

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

2P020 **ファルネシル基の結合による hGal-1 のオリゴマー化**
Oligomerization of hGal-1 induced via the binding of farnesyl group
Kazumi Yamaguchi, Hirotsugu Hiramatsu, Takakazu Nakabayashi (*Grad. Sch. Pharm. Sci., Tohoku Univ*)

2P021 **高精度自由エネルギー計算によるドラッグデザイン**
Computational Drug Design by Accurate Free Energy Calculations
Hironori Kokubo, Akihiro Yokota, Nao Morishita, Atsutoshi Okabe, Etsurou Watanabe (*Takeda Pharmaceutical*)

2P022 **変性 apo-SOD1 の Cu 結合部位における His 残基の帰属**
Assignments of His residues in the Cu^{2+}-binding sites of the denatured apo-SOD1
Nobuhiro Fujimaki, Takashi Miura, Takakazu Nakabayashi (*Grad. Sch. Pharm. Sci., Tohoku Univ.*)

2P023 **Pin1 のプロリン異性化活性とタウタンパク質に対する凝集抑制活性との関係**
Relationship between Pin1's peptidyl-prolyl isomerase activity and its aggregation-inhibitory activity for tau protein
Teikichi Ikura, Nobutoshi Ito (*MRI, TMDU*)

2P024 **Hsp90 の結合ポケット内における ADP の分布に関する理論的研究**
Theoretical study of distribution of ADP in binding pocket of Hsp90
Kazutomo Kawaguchi, Hiroaki Saito, Hidemi Nagao (*Institute of Science and Engineering, Kanazawa University*)

2P025 **計算と実験による黄色ブドウ球菌の Isd 蛋白質間ヘム輸送機構の解明**
Structural insight into the heme-transfer mechanism between Isd proteins in Staphylococcus aureus
Yoshitaka Moriwaki[1], Tohru Terada[1], Jose M. M. Caaveiro[2], Kouhei Tsumoto[2], Kentaro Shimizu[1] ([1]*Dept. of Biotech., Grad Sch. of Agri. Life Sci., Univ. of Tokyo*, [2]*Dept. of Bioeng., Sch. of Eng., Univ. of Tokyo*)

2P026 **滑走細菌 *Mycoplasma mobile* 由来新規シアル酸レセプターの結合活性**
Binding activity of novel sialic acid receptor from gliding bacterium, *Mycoplasma mobile*
Tasuku Hamaguchi[1], Masaru Kawakami[2], Makoto Miyata[1] ([1]*Grad. Sch. of Sci., Osaka City Univ.*, [2]*Fac. of Eng., Yamagata Univ.*)

2P027 **子嚢菌由来不凍タンパク質の機能と構造**
Function and Structure of Antifreeze Protein from Ascomycete
Daichi Fukami[1], Yuichi Hanada[1], Jing Cheng[1], Sakae Tsuda[1,2], Hidemasa Kondo[1,2] ([1]*Grad. Sch. Sci., Univ. Hokkaido*, [2]*Bioproduction Research Inst., AIST*)

2P028 **分裂酵母キネシン Cut7 の両方向運動性**
Bidirectional motility of the fission yeast kinesin-5, Cut7
Masaki Edamatsu (*Department of Life Sciences, Graduate School of Arts and Sciences, The University of Tokyo*)

2P029 **第一原理フラグメント分子軌道法による ブチリルコリンエステラーゼと阻害剤間の特異的相互作用の解析**
***Ab initio* fragment molecular orbital calculations on specific interactions between butylcholinesterase and its inhibitors**
Takeru Murakawa[1], Tomoya Suzuki[1], Tareq Khan[2], Noriyuki Kurita[1] ([1]*Toyohashi University of Technology*, [2]*University of Tromso*)

2P030 **Ab initio 分子シミュレーションによるがん細胞レセプターへのリガンド結合を阻害する新規ペプチド阻害剤の提案**
***Ab initio* molecular simulation for proposing novel peptide inhibitors blocking the ligand-binding to the receptor of cancer cell**
Tatsuro Mizushima[1], Ryushi Kadoya[1], Tomoyo Kasumi[1], Hiroshi Kobayashi[2], Noriyuki Kurita[1] ([1]*Toyohashi University of Technology*, [2]*Nara Medical University*)

2P031 **Mechanism of glycan receptor recognition for influenza virus Hemagglutinins: Comparative molecular dynamis studies**
Katumi Omagari (*Nagoya City University*)

2P032 **比較粗視化シミュレーションを用いたタンパク質-リガンド結合過程の解析**
The factors determining protein-ligand binding processes revealed by comparative coarse-grained simulations
Tatsuki Negami, Tohru Terada, Kentaro Shimizu (*Grad. Sch. of Agri. and Life Sci.*)

2P033 **DM 分子はペプチド交換時の MHC 複合体の動きを制御する**
DM defines motions of peptide/MHC complex for peptide exchange
Toshihiro Miyabe[2], Kohsuke Kasadera[1], Yufuku Matsushita[2], Yuko Kozono[1], Hiroshi Sekiguchi[3], Keigo Ikezaki[2], Yuji Sasaki[2], Haruo Kozono[1] ([1]*Res. Inst. Biomed. Sci., Tokyo Univ. of Science*, [2]*Grad. Sch. Front. Sci., Univ. Tokyo*, [3]*JASRI, JST*)

2P034 **高速 AFM による MukB の構造と機能の観察**
High-speed AFM observation of structure and function of MukB
Kenta Yagi[1], Koichi Yano[2], Noriyuki Kodera[3,4], Hironori Niki[2], Toshio Ando[1,3,5] ([1]*Div. of Math & Phys. Sci., Grad. Sch. of Nat. Sci. & Tech., Kanazawa Univ.*, [2]*Natl. Inst. of Genet.*, [3]*Bio-AFM FRC, Inst. of Sci. and Eng., Kanazawa Univ.*, [4]*PRESTO, JST*, [5]*CREST, JST*)

2P035 **アミロイドベータペプチドのオリゴマー形成機構の解析**
Analyses of the oligomerization mechanism of amyloid β peptides
Ayumi Tanaka[1], Shigeto Iwamoto[1], Takashi Saito[2], Hitomi Yamaguchi[1], Sosuke Yoshinaga[1], Toshiyuki Kohno[3], Takaomi Saido[2], Hiroaki Terasawa[1] ([1]*Fac. Life Sci., Kumamoto Univ.*, [2]*RIKEN BSI*, [3]*Kitasato Univ. Sch. Med.*)

2P036 **カメレオンモデルを用いた酸素結合に伴うヘモグロビンのアロステリック転移の研究**
A study of the allosteric transition of hemoglobin associated with oxygen binding using chameleon model
Yui Sobue, Toru Kimura, Masaki Sasai, Tomoki P. Terada (*Grad. Sch. Eng., Nagoya Univ.*)

2P037 **cAMP 結合による Catabolite Activator Protein のアロステリック構造変化のダイナミックスに関する Molecular dynamics 研究**
Molecular dynamics study on dynamics of allosteric conformational change of Catabolite activator protein induced by cAMP binding
Mayuka Ojima[1], Yoshifumi Fukunishi[2], Masami Lintuluoto[1] ([1]*Grad. Sch. of Life and Environ. Sci., Kyoto Pref. Univ.*, [2]*AIST*)

2P038 **カチオン分布がトロンビン-基質会合に及ぼす影響**
Influence of Cation Distribution on the Thrombin-substrate Association
Ikuo Kurisaki[1], Masayoshi Takayanagi[1,2], Masataka Nagaoka[1,2] ([1]*Grad. Sch. Info. Sci. Univ. Nagoya*, [2]*CREST, JST*)

2P039 **Ectopic A-lattice seams destabilize microtubules**
Miho Katsuki[1,2], Douglas R. Drummond[2], Robert A. Cross[2] ([1]*Fukuoka Univ., Japan*, [2]*Warwick Med. Sch., Univ. Warwick, UK*)

2P040 **cDNA ディスプレイ法による固相上のアミノ基認識ペプチドの探索とその分子認識機構の解析**
Exploring the peptide aptamer against amino group on a solid-phase by cDNA display and analysis of its molecular recognition mechanism
Yuki Mochizuki, Koichi Nishigaki, Naoto Nemoto (*Grad. Sch. of Sci. and Eng., Saitama Univ.*)

2P041 **ミトコンドリア呼吸鎖のシトクロム c-シトクロム c 酸化酵素複合体における 電子伝達反応の構造制御機構**
Conformational Gating for Electron Transfer Reaction from Cytochrome c to Cytochrome c Oxidase in Mitochondrial Respiratory Chain
Mizue Imai[1], Wataru Sato[1], Kaoru Inoue[3], Koichi Sakamoto[3], Kyoko Shinzawa[2], Takeshi Uchida[1,3], Shinya Yoshikawa[2], Koichiro Ishimori[1,3] ([1]*Grad. School of Chem. Sci. and Eng., Hokkaido Univ.*, [2]*Grad. Sch. of Life Sci., Hyogo Pred. Univ.*, [3]*Dept. of Chem., Fac. of Sci., Hokkaido Univ.*)

2P042 **MD シミュレーションを用いたマウス・線虫 ABCB1 トランスポーターの構造・ダイナミクスの解析**
Analysis of dynamics and structure of ABCB1 transporters from mouse and *C. elegans* using molecule dynamics simulations
Tatsushi Nishimoto, **Tadaomi Furuta**, Minoru Sakurai (*Center for Biol. Res. & Inform., Tokyo Tech*)

2P043 **多剤排出トランスポーター AcrB の Motion-Tree 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]*Grad. School of Medical Life Science, Yokohama City Univ.*, [2]*Grad. School of Information Science, Nagoya Univ.*, [3]*Grad. School of Biosci. & Biotech., Tokyo Inst. Tech.*)

2P044 **Conformational states of HAMP domains interacting with SRII-membrane systems: A molecular dynamics approach**
Bikash Sahoo, Toshimichi Fujiwara (*Inst. Protein Res., Osaka Univ.*)

2P045 **高速 X 線 1 分子追跡法によるニコチン性アセチルコリン受容体の機能運動**
3D X-ray Single Molecule Tracking of nAChRs in Open, Resting, and Desensitization States
Hiroshi Sekiguchi[1], Maki Tokue[2], Yuri Nishino[3], Kouhei Ichiyanagi[4], Naoto Yagi[1], Atsuo Miyazawa[3], Tai Kubo[5], Yuji C. Sasaki[1,2] ([1]*Research & Utilization Div., JASRI/SPring-8*, [2]*Grad. School Frontier Sci., Univ. Tokyo*, [3]*Grad. School Life Sci., University of Hyogo*, [4]*Inst. Material. Struct. Sci. KEK*, [5]*Mol. Profil. Res. Ctr., AIST*)

2P046 **ドメイン運動の階層的な解析により描かれる SERCA の反応による構造変化**
Conformational changes of SERCA in response to reactions described by hierarchical domain-motion analysis
Chigusa Kobayashi[1], Ryotaro Koike[2], Motonori Ota[2], Yuji Sugita[1,3,4,5] ([1]*AICS, RIKEN*, [2]*Grad. Sch. Info. Nagoya Univ.*, [3]*TMS, RIKEN*, [4]*QBiC, RIKEN*, [5]*iTHES, RIKEN*)

2P047 **大腸菌機械受容チャネル MscL の開口における脂質膜環境に影響される脂質–タンパク質間相互作用の解析**
Analysis on Lipid-Protein Interactions Affected by Membrane Environment in Mechano-Gating of the E.coli Mechanosensitive Channel MscL
Hiroki Katsuta[1], Yasuyuki Sawada[2], Masahiro Sokabe[3] ([1]*Sch. Med., Nagoya Univ.*, [2]*Dept. Physiol. Grad. Sch. Med., Nagoya Univ.*, [3]*Mechanobiology Lab. Grad. Sch. Med., Nagoya Univ.*)

01C. 蛋白質：物性 / 01C. Protein: Property

2P048 **天然変性タンパク質と変性状態蛋白質の構造特性の比較**
A Comparison of structural properties between an intrinsically disordered protein and denatured state of proteins
Yasutaka Seki[1], Takamasa Nonaka[1], Kunitsugu Soda[2] ([1]*Sch. of Pharm., Iwate Med. Univ.*, [2]*High Perform. Molec. Simula. Team, ASI, RIKEN*)

2P049 **平衡条件下において形成される二つの天然変性蛋白質融合蛋白質のフォールディング中間状態**
Folding intermediates formed by the fusion protein of two intrisically disordered proteins under equilibrium condition
Hamada Daizo (*Dept Life Sci, Grad Schl Bioresource, Mie Univ.*)

2P050 **天然タンパク質の分子サイズに関する統計解析**
Statistical analysis on the molecular size of native proteins
Hidenobu Kawai[1], Daisuke Takahashi[2], Munehito Arai[1,2,3] ([1]*Dept. Integ Sci. Univ. Tokyo*, [2]*Dept. Life Sci., Univ. Tokyo*, [3]*PRESTO,JST*)

2P051 **アクチンフィラメントの引張，ねじり，曲げ挙動の定量評価：粗視化分子動力学法による検討**
Quantifying how actin filament is stretched, twisted and bent: A coarse grained molecular dynamics simulation study
Shinji Matsushita, Shoji Takada (*Grad. Sch. Sci., Kyoto Univ.*)

2P052 **Calculation methods for configurational entropy from molecular dynamics simulations**
Simon Hikiri, Takashi Yoshidome, Mitsunori Ikeguchi (*Grad. Sc. of Med. Life Sci., Yokohama City Univ.*)

2P053 **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**
Analysis of amyloid fibrillation mechanism and its inhibition effects of hCT
Hikari Watanabe(Itoh)[1], Ken Takeuchi[1], Javkhlantugs Namsrai[1], Kengo Daidoji[1], Izuru Kawamura[1], Kazuyoshi Ueda[1], Hiroshi Hirota[2], Tsutomu Nakayama[3], Akira Naito[1] ([1]*Grad. Sch. Eng, Yokohama Natl. Univ.*, [2]*Wako Inst., Riken*, [3]*Faculty of Applied Life Sci., Nippon Veterinary and Life Sci. Univ.*)

2P054 **MSES 法によるリガンド結合過程の全原子構造解析**
Ligand binding process at atomistic resolution revealed by multiscale enhanced sampling
Kei Moritsugu[1], Tohru Terada[2], Akinori Kidera[1] ([1]*Grad. Sch. of Med. Life Sci., Yokohama City University*, [2]*Grad. Sch. of Agri. and Life Sci., University of Tokyo*)

2P055 **抗体を用いた抗原蛋白質の揺らぎの検出**
Detection of conformational dynamics of protein antigen by antibody
Shohey Shimizu[1], Yoshito Abe[2], Yuji O. Kamatari[3], Tadashi Ueda[2], Takachika Azuma[4], Masayuki Oda[1] ([1]*Grad. Sch. Life and Environ. Sci., Kyoto Pref. Univ.*, [2]*Grad. Sch. Pharm. Sci., Kyushu Univ.*, [3]*Life Sci. Res. Ctr, Gifu Univ.*, [4]*Res. Inst. Biol. Sci., Tokyo Univ. Sci.*)

2P056 **天然変性タンパク質 HIV-1 Tat と転写コアクチベータ CBP の KIX ドメインとの相互作用**
Interaction of the intrinsically disordered HIV-1 Tat protein with the KIX domain of the transcriptional coactivator CBP
Tomoko Kunihara[1], Yuuki Hayashi[1], Munehito Arai[1,2] ([1]*Department of Life Sciences, The University of Tokyo*, [2]*PRESTO, JST*)

2P057 **ニワトリオボムコイドにおける変性中間状態の構造と熱力学**
Structure and thermodynamics of the unfolding intermediate of hen egg ovomucoid
Akihiro Maeno[1,2], Hiroshi Matsuo[3], Sumiko Odani[4], Kazuyuki Akasaka[1] ([1]*High Pressure Protein Res. Center, Kinki Univ.*, [2]*Sch. Med., Wakayama Med. Univ.*, [3]*NICO*, [4]*Grad. Human Life Sci., Jumonji Univ.*)

2P058 **Variable temperature and pressure NMR studies on flexible conformation of c-Myb DNA-binding domain**

Satomi Inaba[1], Akihiro Maeno[2,3], Kazumasa Sakurai[3], Kazuyuki Akasaka[3], **Masayuki Oda**[1] ([1]*Grad. Sch. Life Environ. Sci., Kyoto Pref. Univ.*, [2]*Sch. Med., Wakayama Med. Univ.*, [3]*High-Pressure Protein Res. Center, Kinki Univ.*)

2P059 **Effects of chemical structure of hydrophilic tertaammonium-type ionic liquids for stability of higher-order structure of proteins**

Shigeaki Abe[1], Atsushi Hyono[1], Nobuhiro Kaneko[2], Kotaro Kaneko[2], Koji Kawai[2], Yasuhiro Yoshida[1] ([1]*Hokkaido University*, [2]*Miyoshi Oil & Fat Co., Ltd.*)

2P060 **ジスルフィド結合のシャッフリングを標的とした異常なタンパク質オリゴマー化の抑制手法**

Disulfide shuffling in Cu,Zn-superoxide dismutase is a key to develop potential drugs for neurodegeneration

Itsuki Anzai[1], Keisuke Toichi[1], Atsushi Mukaiyama[2,3], Shuji Akiyama[2,3], Yoshiaki Furukawa[1] ([1]*Dept. of Chem., Keio Univ.*, [2]*Research Center of Integrative Molecular System (CIMoS), Institute for Molecular Science*, [3]*The Graduate University for Advanced Studies (SOKENDAI)*)

2P061 **天然変性蛋白質のリン酸化に共通して見られる分子内静電相互作用の特徴**

Common intra-molecular electrostatic property of intrinsically disordered proteins for phosphorylation

Koji Umezawa[1], Jun Ohnuki[1], Yukinobu Mizuhara[1], Junichi Higo[2], Mitsunori Takano[1] ([1]*Dept. of Pure & Appl. Phys., Waseda Univ.*, [2]*IPR, Osaka Univ.*)

2P062 **金ナノ粒子の界面におけるアミロイド線維形成機構に関する研究**

Study on the mechanisms of amyloid fibrillation at the interface of gold nanoparticles

Hiroya Muta[1], Young-Ho Lee[1], Masatomo So[1], Akira Saito[2], Kazumitsu Naoe[2], Yuji Goto[1] ([1]*Inst. for Pro. Research, Osaka Univ.*, [2]*Nara National Collage of Technology*)

2P063 **Contact number diffusion model for the normal mode analysis of protein structure**

Bhaskar Dasgupta, Kota Kasahara, Narutoshi Kamiya, Haruki Nakamura, Akira Kinjo (*IPR, Osaka University*)

2P064 **NMR を用いた動的構造解析により明らかとなったヒト主要組織適合複合体のペプチド認識、及び構造維持機構**

The Dynamic stabilization and peptide recognition mechanism of Human Leukocyte Antigen revealed by NMR relaxation dispersion analysis

Saeko Yanaka[1,2], Kenji Sugase[1], Takamasa Ueno[4], Kouhei Tsumoto[2,3] ([1]*Sunbor*, [2]*Grad. School of Frontier Sciences, Univ. of Tokyo*, [3]*Grad. School of Engeneering, Univ. of Tokyo*, [4]*Center for AIDS Research*)

2P065 **Helix-turn-helix モチーフを有する蛋白質の pH 変化および DNA 結合に伴う動的構造変化の解明**

Effects of pH and DNA-binding on conformational dynamics of protein with helix-turn-helix motif

Satomi Inaba[1], Hiroshi Sekiguchi[2], Yuji C. Sasaki[3], Masayuki Oda[1] ([1]*Grad. Sch. Life and Environ. Sci., Kyoto Pref. Univ.*, [2]*JASRI/SPring-8*, [3]*Grad. Sch. Fron. and Sci., Univ. Tokyo*)

2P066 **一分子蛍光分光法による変性剤濃度ジャンプ後のユビキチンの折り畳みダイナミクスの測定**

Folding dynamics of ubiquitin after rapid mixing detected by single molecule fluorescence spectroscopy

Masataka Saito[1], Eric Chen[2], Po-Ting Chen[2], Rita P.-Y. Chen[2], Kiyoto Kamagata[1], Hiroyuki Oikawa[1], Satoshi Takahashi[1] ([1]*Institute of Multidisciplinary Research for Advanced Materials Tohoku University*, [2]*Academia Sinica*)

2P067 **タバコモザイクウイルス外被蛋白質会合体の安定性**

Stability of the Tobacco Mosaic Virus Coat Protein Assemblage

Hiroaki Fukao[1], Kazumasa Sakurai[2], Yasushige Yonezawa[2], Masao Fujisawa[1], Kazuhiro Ishibashi[3], Masayuki Ishikawa[3], Tetsuo Meshi[3], Hideki Tachibana[1,2] ([1]*Fac Biol-Ortd Sci Tech, Kinki Univ*, [2]*High-Pres Prot Res Center, Kinki Univ*, [3]*Div Plant Sci, NIAS*)

01D. 蛋白質：機能 / 01D. Protein: Function

2P068 **計算化学的手法によるアデニル酸キナーゼの反応機構の研究**

Computational Study on the reaction mechanism of adenylate kinase

Kenshu Kamiya (*Dept. Phys., Sch. Sci., Kitasato Univ.*)

2P069 **局所パッキングパターンによる GroEL 基質蛋白質の構造的特徴の記述**

Discrimination of GroEL substrate proteins using a small set of packing-patterns

Shintaro Minami[1], Tatsuya Niwa[2], Hideki Taguchi[2], Motonori Ota[1] ([1]*Grad. Sch. of Inf. Sci., Nagoya Univ.*, [2]*Grad. Sch. of Biosci. and Biotech., Tokyo Inst. of Tech.*)

2P070 **天然変性タンパク質としてのグループ３ LEA モデルペプチドの役割 -乾燥に伴うリポソームの融合を防止する効果-**

A role of group-3 LEA model peptides as IDPs. Protective effects on desiccation-induced liposome fusion

Takao Furuki, Minoru Sakurai (*Tokyo Institute of Technology*)

2P071 **An activation mechanism of human Cu,Zn-superoxide dismutase by its copper chaperone, CCS**

Carolyn T. Lim, Yoshiaki Furukawa (*Dept. of Chem., Keio Univ.*)

2P072 **変異体を用いた分子動力学シミュレーションによる電位依存性カリウムチャネルのイオン透過機構の解析**

Analysis of the ion permeation mechanism of Kv1.2 using the molecular dynamics simulations of a single point mutant

Hiroko X. Kondo[1], Matsuyuki Shirota[1,2,3], Kota Kasahara[4], Toshiyuki Saito[1], Kengo Kinoshita[1,3,5] ([1]*GSIS, Tohoku Univ*, [2]*Grad Sch Med, Tohoku Univ*, [3]*ToMMo, Tohoku Univ*, [4]*IPR, Osaka Univ*, [5]*IDAC, Tohoku Univ*)

2P073 **コラゲナーゼによるコラーゲン原繊維分解過程の高速 AFM 観察**

High speed AFM observation for degradation process of collagen fibril by collagenase

Hayato Yamashita[1], Naoko Teramura[2], Keisuke Tanaka[2], Shunji Hattori[2], Katsumasa Iijima[2], Osamu Hayashida[2], Teru Okitsu[3], Yoshiro Sohma[1] ([1]*Pharmacol., Keio Univ. Med. Sch.*, [2]*Res. inst. Biomatrix, Nippi Inc.*, [3]*Inst. Indus. Sci., Univ. Tokyo*)

2P074 タンパク質ジスルフィドの異常が神経変性疾患の発症に果たす役割：線虫を用いた表現型解析
Investigating the Role of SOD1 Cysteine Residues in Neurodegeneration using C. elegans
Mariko Ogawa[1], Hisashi Shidara[2], Kotaro Oka[2], Yoshiaki Furukawa[1] ([1]*Lab. for Mechanistic Chem. of Biomolecules, Dept. of Chem., Keio Univ.*, [2]*Lab. for Biophysics and Neuroinformatics, Dept. of Biosciences and Informatics, Keio Univ.*)

2P075 青色光センサータンパク質フォトトロピン１ LOV2 ドメインの光反応に対するクラウディング効果
Crowding effect on the reaction dynamics of blue light sensor protein phototropin1 LOV2 domain
Tomoyuki Yoshitake[1], Yusuke Nakasone[1], Tsuguyoshi Toyooka[1], Kazunori Zikihara[2], Satoru Tokutomi[2], Masahide Terazima[1] ([1]*Kyoto Univ.*, [2]*Osaka Prefecture Univ.*)

2P076 FTIR 測定でみたエクスパンシン活性
Exapnsin activity observed by FTIR
Tomoya Imai[1], Masato Naruse[1], Yoshiki Horikawa[1], Katsuro Yaoi[2], Kentaro Miyazaki[2], Junji Sugiyama[1] ([1]*RISH, Kyoto Univeristy*, [2]*AIST*)

2P077 T-, L-プラスチン EF-hand の Ca2+感受性の違い
Different Ca2+-sensitivities between the EF-hands of T- and L-plastins
Takuya Miyakawa[1], Hiroto Shinomiya[2], Fumiaki Yumoto[1], **Yusuke Kato**[1,3], Masaru Tanokura[1] ([1]*Department of Applied Biological Chemistry, The University of Tokyo,*, [2]*Ehime Prefectural Institute of Public Health and Environmental Science*, [3]*Institute for Health Sciences, Tokushima Bunri University*)

2P078 新規金表面親和性ペプチドの同定及びタンパク質固定化への応用
Screening of a novel gold affinity peptide and its application on protein immobilization
Yojiro Shigemori[1], Kaori Yoshida[2], Koreyoshi Imamura[1], Yuichiro Takahashi[2], Hiroyuki Imanaka[1] ([1]*Div. of Chem. and Biotech., Grad. Sch. of Nat. Sci. & Tech., Okayama Univ.*, [2]*Div. of Biological Sci., Grad. Sch. of Nat. Sci. & Tech., Okayama Univ.*)

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

2P079 MMV-4SR:シングルセル生物学(SCB)基盤検出系の開発
MMV-4SR : Development of basic detection system in Single Cell Biology (SCB)
Naoki Takeuchi[1], Tommy Nagano[2], Koichi Nishigaki[1] ([1]*Grad. Sch. of Sci. and Eng., Saitama Univ.*, [2]*DRC Co., Ltd.*)

2P080 表面増強赤外分光法によるモデル脂質膜上におけるタンパク質フォールディングの動的挙動の解析
Surface Enhanced IR study of Protein folding dynamics at a solid support lipid layer
Kenichi Ataka, Joachim Heberle (*Freie Universitaet Berlin, Fachbereich Physik, Experimental Molecular Biophysics*)

2P081 **Microtubule-kinesin binding assay to differentiate wild and mutant 4R tau proteins**
Subhathirai Subramaniyan Parimalam[1], Tarhan Mehmet Cagatay[2], Stan Karsten[3], Hiroyuki Fujita[2], Hirofumi Shintaku[1], Hidetoshi Kotera[1], Ryuji Yokokawa[1] ([1]*Kyoto University*, [2]*LIMMS, Institute of Industrial Science, The University of Tokyo, Japan*, [3]*NeuroInDx Inc., Signal Hill, CA, USA*)

2P082 高速 AFM による Ascaris 精子由来の MSP 繊維の観察
Direct observation of MSP filaments in cell-free extract from Ascaris sperm by Atomic Force Microscopy
Yutaro Yamada[1], Takamitsu Haruyama[2], Ryoko Chijimatsu[1], Hiroki Konno[2], Katsuya Shimabukuro[1] ([1]*Ube Nat. Col. Tech.*, [2]*Bio-AFM, Kanazawa Univ*)

2P083 固体 NMR を用いた単一細胞あたりの特定タンパク質の分子数計測
Counting of the target recombinant protein molecule in an intact Escherichia coli cell by solid-state NMR
Kazuya Yamada, Ayako Egawa, Toshimichi Fujiwara (*IPR, Osaka Univ.*)

2P084 リポソーム内での再構成リボソームの翻訳活性
Translation activity of a reconstructed ribosome in liposomes
Hiroki Nakanishi (*Grad. Sch. Imf., Univ. Osaka*)

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

2P085 CS 複合体形成をモデルとした高感度ペプチド―タンパク質間相互作用検出系のデザイン
Design of highly sensitive peptide-protein interaction detection system adopting CS complex formation as the model
Runa Matsushita, Naoyuki Ishida, Koreyoshi Imamura, Hiroyuki Imanaka (*Graduate School of Natural Science and Technology, Okayama University*)

2P086 無機基板表面を標的としたラクダ抗体から着想するスマートなバイオセンサー仕様抗体の設計
Smart interface antibody design for biosensor
Takuma Sujino[1], Hikaru Nakazawa[1], Keiko Tawa[2], Ryutaro Asano[1], Izumi Kumagai[1], Mitsuo Umetsu[1] ([1]*Dept. Biomol. Eng., Grad. Sch. Eng., Tohoku Univ.*, [2]*HRI, AIST.*)

2P087 タンパク質デザインの新たな方法の開発: 蛍光強度の違いを利用してファージを選別する
Development of a new strategy of protein design: the single phage sorting based on fluorescence intensity
Rie Kiriguchi[1,2], Toshihiko Kubota[1,2], Norihisa Takahashi[1,3], Seiji Sakamoto[1,3], Hiroyuki Oikawa[1], Kiyoto Kamagata[1,2,3], Takehiko Wada[1,3], Satoshi Takahashi[1,2,3] ([1]*IMRAM., Univ Tohoku.*, [2]*Grad. Sch. Life Sci., Univ Tohoku.*, [3]*Grad, Sch. of Sci., Univ Tohoku.*)

2P088 α/β フォールドをもつ新規ヘム蛋白質の設計と合成
Design and syntheses of de novo heme proteins with an α/β fold
Yasuhiro Isogai[1], Kiyotaka Yamamoto[1], Hiroshi Imamura[2] ([1]*Dept. Biotech., Toyama Pref. Univ.*, [2]*Biomedical Res. Inst., AIST*)

2P089 **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による α-ヘモリシンの in vitro 分子進化**
Directed evolution of membrane protein, alpha hemolysin, by development of liposome display method
Satoshi Fujii[1], Tomoaki Matsuura[1,2], Takeshi Sunami[1,3], Yasuaki Kazuta[1], Tetsuya Yomo[1,3,4] ([1]*JST*, [2]*Grad. Eng. Univ. Osaka*, [3]*Grad. Bioinfo. Univ. Osaka*, [4]*Grad. Fron. BioSci. Univ. Osaka*)

2P090 **リポソームディスプレイ法によるメリチンの人工進化**
In vitro evolution of Melittin using a liposome display
Taiga Izumi[1], Takeshi Sunami[1,2], Tetsuya Yomo[1,2,3] ([1]*Grad. Sch. Info., Osaka Univ.*, [2]*ERATO,JST*, [3]*Grad. Sch. Bio., Osaka Univ.*)

02. ヘム蛋白質 / 02. Heme proteins

2P091 **チトクローム酸化酵素の反応初期過程における共役機構の解明**
Elucidation of the coupling mechanism in the initial stage of the reaction of cytochrome c oxidase
Satoru Nakashima, Minoru Kubo, Izumi Ishigami, Kyoko Itoh-Shinzawa, Shinya Yoshikawa, Takashi Ogura (*Grad. Sch. Sci., Univ. Hyogo*)

2P092 **過渡吸収分光法による一酸化窒素還元酵素の単寿命 NO 結合体の解析**
Characterization of transient NO-bound form of Nitric Oxide Reductase by Transient Absorption Spectroscopy
Tetsunari Kimura[1], Shoko Ishii[1,2], Takehiko Tosha[1], Yoshitsugu Shiro[1,2], Minoru Kubo[1,3] ([1]*RIKEN, SPring-8*, [2]*Grad. Sch. Life Sci., Univ. Hyogo*, [3]*JST, PRESTO*)

2P093 **チトクロム c 酸化酵素の酸素還元反応の時間分解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 sample flow system with an oxygen lung for time-resolved infrared measurements of cytochrome c oxidase
Tatsuhito Nishiguchi[1], Masahide Hikita[1], Kyoko Shinzawa-Itoh[1], Shinya Yoshikawa[2], Satoru Nakashima[2], Takashi Ogura[1,2] ([1]*Grad. Sch. Sci., Univ. Hyogo*, [2]*Picobiology Ins., Univ. Hyogo*)

2P094 **タンパク質を基盤とした酸素濃度 FRET センサー**
Protein-based FRET sensor for oxygen concentration
Haruto Ishikawa[1], Shigetoshi Aono[2], Yasuhisa Mizutani[1] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*Okazaki Inst.*)

2P095 **細胞内の遊離ヘムの可視化に向けた融合タンパク質の開発**
Development of the FRET-based sensor protein for visualization of free heme *in vivo*
Kazuyuki Matsumoto[1], Haruto Ishikawa[1], Shigetoshi Aono[2], Yasuhisa Mizutani[1,2] ([1]*Grad.Sch.Sci.,Univ. Osaka*, [2]*Okazaki Inst.*)

2P096 **紫外共鳴ラマン分光法によるインドールアミン 2,3-ジオキシゲナーゼの三者複合体中間体モデルの研究**
Ultraviolet resonance Raman study on a ternary complex intermediate model of indoleamine 2,3-dioxygenase
Kure'e Kayama[1], Sachiko Yanagisawa[1], Hiroshi Sugimoto[2], Yoshitsugu Shiro[2], Takashi Ogura[1] ([1]*Univ. of Hyogo*, [2]*RIKEN SPring-8 center*)

2P097 **紫外共鳴ラマン分光法による酵素に結合した基質の構造解析**
Structural Analysis of the Substrate Bound to Enzyme by UV Resonance Raman Spectroscopy
Sachiko Yanagisawa[1], Masayuki Hara[1], Hiroshi Sugimoto[2], Yoshitsugu Shiro[2] ([1]*Univ. of Hyogo*, [2]*RIKEN SPring-8 center*)

03. 膜蛋白質 / 03. Membrane proteins

2P098 **マイクロ流路デバイスを用いた生体膜実時間解析システムの開発**
Development of a novel system for the real-time analysis of biological membranes by using a microfluidic device
Yuji Kimura, Sayaka Kazami, Yu Hashimoto, Hiroyasu Itoh (*Tsukuba Research Laboratory, Hamamatsu Photonics KK*)

2P099 **ブタ心臓由来ミトコンドリア調製法の確立と活性測定**
Establishment of a new process for preparation of porcine heart mitochondria, and their activity measurements
Sayaka Kazami, Yuji Kimura, Hiroyasu Itoh (*Tsukuba Research Laboratory, Hamamatsu Photonics K.K.*)

2P100 **PiericidinA によるウシ心筋 NADH-ユビキノン還元酵素の活性中心の定量**
Quantification of the active center of bovine heart NADH-ubiquinone reductase with Piericidin A
Shigefumi Uene[1], Satoru Shimada[1], Kyoko Shinzawa-Itoh[1], Tomitake Tsukihara[1,2], Shinya Yoshikawa[1] ([1]*Grad. Sch. Life Sci., Univ. Hyogo*, [2]*Inst. Protein Res., Osaka Univ.*)

2P101 **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], Kaori Masuhara[2], Nobuhisa Umeki[3], Kazunori Kondo[2], Shinsaku Maruta[1,2] ([1]*Div. Bioinfo., Grad. Sch. Eng., SOKA Univ.*, [2]*Dept. BioInfo., Fac. Eng., SOKA Univ.*, [3]*Wako Inst., Riken*)

2P102 **ヒト癌抑制遺伝子候補 *101F6* によるカスパーゼ非依存性細胞死の機構分析**
Analyses of caspase-independent apoptosis caused by the expression of a candidate human tumor suppression gene, *101F6*
Takako Yamaoze[1], Hiroaki Okano[1], Akikazu Asada[1], Kazuo Kobayashi[2], Takahiro Kozawa[2], Motonari Tsubaki[1] ([1]*Dept. of Chemistry, Grad. Sch. Sci., Kobe Univ.*, [2]*ISIR, Osaka Univ.*)

2P103 **哺乳類ミトコンドリア呼吸鎖超複合体の精製**
Purification of the respiratory super complex from mammalian mitochondria
Kyoko Shinzawa-Itoh[1], Satoru Shimada[1,2], Ryoko Takahashi[1], Shigefumi Uene[1], Harunobu Shimomura[1], Shinya Yoshikawa[1], Tomitake Tsukihara[1,2] ([1]*Grad. Sch. Life Sci., Univ. Hyogo*, [2]*CREST, JST*)

2P104 **定常状態での GPCR シグナルは GPCR ダイマーによって誘起される**
Dimers are the key trigger for the GPCR's basic signaling without ligation
Rinshi Kasai, Akihiro Kusumi (*Inst. Front. Med. Sci., WPI-iCeMS, Kyoto Univ.*)

2P105 **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高次多量体形成と内在化の解析**
Single-molecule imaging analysis of higher-order oligomerization and internalization of metabotropic glutamate receptor
Masataka Yanagawa[1], Michio Hiroshima[1,2], Takahiro Yamashita[3], Yoshinori Shichida[3], Yasushi Sako[1] ([1]*Cell. Info. Lab., Riken*, [2]*QBiC, Riken*, [3]*Grad. Sch. Sci., Kyoto Univ.*)

2P106 **AFM Probing Opioid Signalosome on Neuroblastoma**
Lara Gay Villaruz[1], Catherine Tardin[2], Daisuke Mizuno[1] ([1]*Kyushu University*, [2]*IPBS/CNRS University of Toulouse*)

2P107 **プロトン駆動力を細胞外へと捨てる微生物外膜タンパク質**
Proton discarded to cell exterior via outer-membrane bound enzyme
Akihiro Okamoto, Shafeer Kalathil, Yoshihide Tokunou, Kazuhito Hashimoto (*Grad. Sch. Eng., Univ. of Tokyo*)

2P108 **ペリプラズム pH 追跡による細胞外電子移動酵素のプロトン移動能検討**
***In-vivo* periplasmic pH assay for studying proton export by outer membrane cytochromes in extracellular electron transport**
Yoshihide Tokunou[1], Akihiro Okamoto[2], Kazuhito Hashimoto[2] ([1]*Department of applied chemistry, Univ. Tokyo*, [2]*Department of applied chemistry, Univ. Tokyo*)

2P109 **サイズの異なるナノポアの脂質二分子膜への再構成**
Reconstitution of various-sized nanopores in lipid bilayer
Hirokazu Watanabe, Ryuji Kawano (*TUAT*)

2P110 **多剤輸送担体 EmrE の pH 依存性基質結合駆動力に対する酸性残基の役割**
Role of acidic residues of multidrug resistance transporter, EmrE for the pH dependent driving force of substrate binding
Kazumi Shimono[1,2], Toshifumi Nara[3], Tomomi Someya[2], Mikako Shirouzu[2], Shigeyuki Yokoyama[4], Seiji Miyauchi[1] ([1]*Fac. Pharm. Sci., Toho Univ.*, [2]*CLST, RIKEN*, [3]*Coll. Pharm. Sci., Matsuyama Univ.*, [4]*Struct. Biol. Lab., RIKEN*)

2P111 **Fast measurements of membrane transporter activity with attoliter-sized arrayed lipid bilayer chamber system**
Naoki Soga[1], Rikiya Watanabe[1,2], Hiroyuki Noji[1] ([1]*Grad. Sch. Eng., Univ. Tokyo*, [2]*PRESTO, JST*)

2P112 **新世界ザルの苦味受容体 TAS2R1 および TAS2R4 のリガンド感受性の種間差と進化**
Interspecific variation of ligand sensitivity and evolution 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], Barbara J. Welker[3], Filippo Aureli[4,5], Colleen M. Schaffner[5], Linda M. Fedigan[6], Shoji Kawamura[2], Hiroo Imai[1] ([1]*Primate Res. Inst., Kyoto Uni.*, [2]*Dept. Integ. Biosci., Univ. Tokyo*, [3]*Dept. Anthropol., State Univ. New York Geneseo*, [4]*Res. Cent. Evol. Anthropol. Palaeoecol., Liverpool John Moores Univ.*, [5]*Inst. Neuroetol., Univ. Veracruzana*, [6]*Dept. Anthropol., Univ. Calgary*)

2P113 **新規 *Halorubrum* 属菌のもつバクテリオロドプシン類タンパク質の研究**
Study on the microbial rhodopsins from the cell membrane of *Halorubrum* sp.ejinoor
Chao Luomeng[1], Gang Dai[2], Takashi Kikukawa[3], Kunio Ihara[4], Tatsuo Iwasa[1] ([1]*Div. Eng.Composite Funct., Muroran Ins. Technol., Japan*, [2]*Coll. Chem. Environ. Sci., Inner Mongolia Normal Univ., China*, [3]*Grad. Sch. Life. Sci., Hokkaido Univ., Japan*, [4]*CGR, Nagoya Univ., Japan*)

2P114 **NpHR の三量体安定化に寄与するアミノ酸残基の特定**
Specification of amino acid residues which stabilize trimer formation of halorhodopsin
Kentaro Saito[1], Noritaka Kato[1], Takashi Kikukawa[2], Makoto Demura[2], Takanori Sasaki[1] ([1]*Sch. Sci. and Tech., Meiji Univ.*, [2]*Fac. Adv. Life Sci., Hokkaido Univ.*)

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

2P115 **蛍光相互相関分光法を用いたグルココルチコイドレセプターと DNA 間相互作用の定量化**
Determination of the quantitative interaction between glucocorticoid receptor and DNA by fluorescence cross-correlation spectroscopy
Mari Saito[1], Shintaro Mikuni[2], Masataka Kinjo[2] ([1]*Grad. Sch. Life Sci., Univ. Hokkaido*, [2]*Grad. Sch. Advanced Life Sci., Univ. Hokkaido*)

2P116 **一分子蛍光観測法による癌抑制蛋白質 p53 の DNA 探索機構の研究**
Investigation of DNA search mechanism of tumor suppressor p53
Agato Murata[1,2], Yuji Itoh[1,2], Dwiky Rendra Graha Subekti[3], Chihiro Igarashi[1,2], Satoshi Takahashi[1], Kiyoto Kamagata[1] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad., Sch., Sci., Tohoku Univ.*, [3]*AMC, Fac., Sci., Tohoku Univ.*)

2P117 **二種の好熱菌由来ヌクレオチドキナーゼと変異体における高次構造変化とヌクレオチド結合の蛍光分光学的解析**
Fluorescence spectroscopic studies on conformational changes and Nucleotide binding of thermophilic nucleotide kinases and their variants
Yuto Oe[1], Momoko Abe[1], Shota Inoue[1], Shota Takahashi[1], Misaki Nakayama[1], Yurie Ohiwa[2], **Takanori Satoh**[3] ([1]*Biochem. Lab., Fac. of IAS, Tokushima Univ.*, [2]*Biochem. Lab., Grad. Sch. of SAS, Tokushima Univ.*, [3]*Biochem. Lab., Inst. of SAS, Tokushima Univ.*)

2P118 **哺乳類ヌクレオチド除去修復タンパク質 XPC の DNA 結合モードの 1 分子イメージング**
Single-molecule direct visualization of DNA binding modes of the mammalian nucleotide excision repair protein XPC
Hiroaki Yokota[1], Daisuke Tone[2], Yong-Woon Han[3], Yoshie Harada[3], Kaoru Sugasawa[2,4] ([1]*BioPhotonics Lab, GPI*, [2]*Dept. Biol., Grad. Sch. Sci., Kobe Univ.*, [3]*iCeMS, Kyoto Univ.*, [4]*Biosig. Res. Center, Kobe Univ.*)

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

2P119 **15N NMR 分光法を用いた C-Ag(I)-C 塩基対の構造解析**
Nitrogen-15 NMR spectroscopic studies of Ag (I)-mediated C-C base-pairs
Takenori Dairaku[1], Kyoko Furuita[2], Itaru Okamoto[3], Shuji Oda[1], Daichi Yamanaka[1], Yoshinori Kondo[1], Akira Ono[3], Chojiro Kojima[2], Vladimir Sychrovsky[4], Yoshiyuki Tanaka[1] ([1]*Graduate School of Pharmaceutical Sciences, Tohoku University*, [2]*Institute for Protein Research, Osaka University*, [3]*Faculty of Engineering, Kanagawa University*, [4]*Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic*)

2P120 **ヌクレオソーム３量体の構造ダイナミクスの粗視化分子動力学法と X 線小角散乱による研究**
Structural dynamics of tri-nucleosome studied by combination of coarse grained molecular simulation and SAXS
Yusuke Takagi[1], Yuichi Kokabu[2], Takashi Oda[2], Hiroaki Tachiwana[3], Hiroo Kenzaki[4], Hitoshi Kurumizaka[3], Mamoru Sato[2], Mitsunori Ikeguchi[2], Shoji Takada[1] ([1]*Dept. Biophys., Grad. Sch. Sci., Kyoto Univ*, [2]*Grad. Sch. Med. Life Sci., Yokohama City Univ*, [3]*Faculty of Science and Engineering, Waseda Univ*, [4]*ACCC, RIKEN*)

2P121 **密度汎関数法による DNA 塩基対とラジカルの反応機構の解析**
DFT calculations on attacking mechanism of radicals to DNA base pair
Naoko Okutsu, Hideaki Tamai, Eisuke Shimizu, Noriyuki Kurita (*Toyohashi University of Technology*)

05B. 核酸：相互作用・複合体 / 05B. Nucleic acid: Interaction & Complex formation

2P122 **アルコールによって誘起される DNA の凝縮・脱凝縮二段階転移**
Condensed DNA is unfolded into elongated conformation at ethanol concentration around 80%
Yuki Oda[1], Yuko Yoshikawa[2], Tadayuki Imanaka[2], Kenichi Yoshikawa[1] ([1]*Graduate School of Life and Medical Sciences, Doshisha University*, [2]*Department of Biotechnology, College of Life Sciences, Ritsumeikan University*)

2P123 **Effect of branched polyamine from hyperthermophile on the structure of genomic DNA**
Akira Muramatsu[1], Yuko Yoshikawa[2], Naoki Umezawa[3], Shinsuke Fujiwara[4], Toshio Kanbe[5], Wakao Fukuda[2], Tadayuki Imanaka[2], Kenichi Yoshikawa[1] ([1]*Doshisha Univ.*, [2]*Ritsumeikan Univ.*, [3]*Nagoya City Univ.*, [4]*Kwansei Gakuin Univ.*, [5]*Nagoya univ.*)

2P124 **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サンプリング**
Structural sampling of polynucleosome by coarse-grained simulations
Hiroo Kenzaki[1], Shoji Takada[2] ([1]*Advanced Center for Computer and Communications, RIKEN*, [2]*Grad. Sch. of Sci., Kyoto Univ.*)

2P125 **エステル基を有するテトラゾラト架橋白金(II)二核錯体による DNA の高次構造変化**
Action of tetrazolato-bridged dinuclear platinum(II) complexes with ester moiety on the higher order structure of DNA
Yuta Shimizu[1], Akira Muramatsu[1], Yuko Yoshikawa[2], Takahiro Tsuchiya[3], Hiroki Yoneyama[4], Shinya Harusawa[4], Seiji Komeda[3], Tadayuki Imanaka[2], Kenichi Yoshikawa[1] ([1]*Doshisha University*, [2]*Ritsumeikan University*, [3]*Suzuka University of Medical Science*, [4]*Osaka University of Pharmaceutical Sciences*)

2P126 **分子動力学計算を用いた蛋白質･RNA 複合体立体構造予測**
Three dimensional structure prediction of RNA-protein complexes by MD simulation
Kei Yura[1], Junichi Iwakiri[2], Michiaki Hamada[3], Kiyoshi Asai[2,4], **Tomoshi Kameda**[4] ([1]*Grad. School of Humanities and Sciences, Univ. of Ochanomizu*, [2]*Grad. School of Frontier Sciences, Univ. of Tokyo*, [3]*Faculty of Science and Engineering, Waseda Univ.*, [4]*CBRC, AIST*)

2P127 **光制御型 bZip モジュール Photodimerizer の二量体化分子機構**
Molecular mechanism for dimerization of the light-regulated bZip module, Photodimeizer
Yoichi Nakatani, Osamu Hisatomi (*Grad. Sch. Sci., Osaka Univ.*)

06. 電子状態 / 06. Electronic state

2P128 **FMO/3D-RISM 法の開発と応用**
Development of FMO/3D-RISM method and its applications
Norio Yoshida (*Kyushu University*)

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

2P129 **Generalized Born モデルによる蛋白質-蛋白質間相互作用計算の重要パラメータ**
Critical parameters of the generalized Born model to simulate protein-protein interactions
Yukinobu Mizuhara, Koji Umezawa, Jun Ohnuki, Dan Parkin, Mitsunori Takano (*Dept. of Pure & Appl. Phys., Waseda Univ.*)

2P130 **シトクロム c – シトクロム c 酸化酵素間における電子伝達複合体形成機構の浸透圧を用いた解析**
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[2], Kyoko Ito[3], Shinya Yoshikawa[3], Koichiro Ishimori[2] ([1]*Grad. Sch. of Chem. Sci. and Eng., Hokkaido Univ.*, [2]*Fac. of Sci., Hokkaido Univ.*, [3]*Grad. Sch. of Life Sci., Hyogo Pref. Univ.*)

2P131 **The solvent-accessible surface area of proteins is a key factor for hydration structure and dynamics in crowded environment**
Po-hung Wang[1], Isseki Yu[1], Michael Feig[2], Yuji Sugita[1,3,4] ([1]*RIKEN Theo. Mol. Sci. Lab.*, [2]*Dept. Biochem. & Mol. Biol. and Dept. Chem. MSU, USA*, [3]*RIKEN Adv. Int. Comput. Sci.*, [4]*RIKEN Quant. Biol. Center*)

2P132 **混合分布モデルにより分離されたタンパク質水和水の振る舞い：シミュレーション・データマイニングによるアプローチ**
Hydration water behavior classified by mixture model : Simulation data-mining approach
Taku Mizukami[1], Hieu Chi Dam[2], Tu Bao Ho[2], Viet Cuong Nguen[3] ([1]*JAIST, Materials Science*, [2]*JAIST, Knowledge Science*, [3]*HPC Systems, Inc*)

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

2P133 **マイクロドロップアレイを用いた一分子 DNA からの無細胞タンパク質合成**
Cell free protein synthesis from single DNA in microdrop array
Hiroto Kizoe, Yi Zhang, Kazuhito Tabata, Hiroyuki Noji (*Grad. Sch. apply chem, Univ. Tokyo*)

2P134 **転写制御ダイナミクスの in vitro 1 分子計測**
In vitro single molecule assay for the dynamics of transcriptional regulation
Keisuke Fujita[1], Mitsuhiro Iwaki[1,2], Lorenzo Marcucci[1], Rika Kawaguchi[1], Toshio Yanagida[1,2] ([1]*QBiC, Riken*, [2]*Grad. Sch. of Front. Biosci., Osaka Univ.*)

09. 発生・分化 / 09. Development & Differentiation

2P135 **アポトーシスに伴う上皮恒常性維持への機械的力の寄与**
Maintenance of tissue integrity by intrinsic and extrinsic forces during apoptosis in Drosophila epithelial tissue morphogenesis
Yusuke Toyama[1,2,3] ([1]*Mechanobiology Institute, National Univ. of Singapore*, [2]*Dep. Biological Sciences, National Univ. of Singapore*, [3]*Temasek Life Sciences Lab.*)

2P136 **枯葉にそっくりな蝶の翅の模様はどのように進化してきたのか？**
Gradual and contingent evolutionary emergence of leaf wing patterns
Takao K. Suzuki, Shuichiro Tomita, Hideki Sezutsu (*NIAS, Transgenic Silkmoth Unit*)

2P137 **多細胞の形態形成における力学機構を明らかにするための三次元バーテックスモデル**
3D vertex model for revealing mechanics in multicellular morphogenesis
Satoru Okuda, Mototsugu Eiraku, Yoshiki Sasai (*RIKEN Center for Developmental Biology*)

10. 筋肉 / 10. Muscle

2P138 **細胞性粘菌由来ミオシン II の SH1 ヘリックス上の変異が運動活性に与える影響**
Mutations in SH1 helix affect the motile activity of Dictyostelium myosin II
Kotomi Shibata[1], Tsubasa Koyama[1], Sosuke Iwai[2], Shigeru Chaen[1] ([1]*College of Humanities and Sciences, Nihon University*, [2]*Faculty of Education, Hirosaki University*)

2P139 **F-アクチンの水和状態のミオシン-サブフラグメント 1 密度依存性**
Bound-Myosin Density Dependence of Hydration State of Actin-Filament
Takahiro Watanabe, Noriyoshi Ishida, Tetsuichi Wazawa, George Mogami, Makoto Suzuki (*Grad.Sch.Eng., Tohoku Univ.*)

2P140 **ATP 結合アナログを用いたミオシンサブフラグメント 1 の水和研究**
Hydration study of myosin subflagment1 with bound ATP analogs
Hideyuki Ohsugi, Takahiro Watanabe, Tetsuichi Wazawa, George Mogami, Makoto Suzuki (*Grad. Sch. Eng., Tohoku Univ.*)

2P141 **2, 3-ブタンジオン 2-モノキシムによるミオシン II ATP 加水分解のケミカルレスキュー**
Chemical rescue of myosin II ATP hydrolysis by 2, 3-butandione 2-monoxime
Hideyuki Komatsu, Yuji Koseki, Shunsuke Aoki (*Dept. of Bioscience & Bioinformatics, Kyushu Inst. Tech.*)

2P142 **F-アクチンの水和状態に及ぼす Mg2+と Ca2+の効果**
Effect of Mg2+ and Ca2+ ions on the hydration state of F-actin
Ryotaro Chishima, Asato Imao, Takahiro Watanabe, Tetsuichi Wazawa, George Mogami, Makoto Suzuki (*Grad. Sch. Eng., Tohoku Univ.*)

2P143 **Investigating conditions for structure analysis of binding states of formin/mDia1 to the actin filament by electron microscopy**
Mizuki Matsuzaki, Akihiro Narita (*Grad. Sch. Sci., Nagoya Univ.*)

2P144 **高温の心筋細胞内でみられる高速サルコメア振動**
High-frequency sarcomeric auto-oscillations in living cardiomyocytes under hyperthermal conditions
Seine Shintani[1], Kotaro Oyama[1], Norio Fukuda[2], Shin'ichi Ishiwata[1,3] ([1]*Pure and Applied Physics, Waseda Univ.*, [2]*Dept of Cell Phy, Jikei Univ of Medicine*, [3]*Waseda Bioscience Research Institute in Singapore*)

11. 分子モーター / 11. Molecular motor

2P145 **金ナノロッドを用いた運動中キネシン 1 のモータードメイン回転の観察**
Observation of the Rotational Motion of the Motor Domain during Processive Motility of Kinesin-1 using Gold Nanorod
Yamato Niitani[1], Sawako Enoki[2], Hiroyuki Noji[2], Ryota Iino[3], Michio Tomishige[1] ([1]*Dept. Appl. Phys., Grad. Sch. Eng., Univ. Tokyo*, [2]*Dept. Appl. Chem., Grad. Sch. Eng., Univ. Tokyo*, [3]*Okazaki Institute for Integrative Bioscience, National Institutes of Natural Sciences*)

2P146 **X 線 1 分子計測による分子モーターの構造揺らぎ測定**
X-ray Single Molecule Observations of Structural Fluctuations in Molecular Motors
Keigo Ikezaki[1], Naruki Hara[1], Hiroshi Sekiguchi[2], Naoto Yagi[2], Yuji Sasaki[1] ([1]*Grad. Sch. Sci., Univ. Tokyo*, [2]*SPring-8/JASRI*)

2P147 **アクチンフィラメントの違いによるミオシン IXb の運動性**

The motility of Myosin IXb depend on difference of actin filaments

Masafumi D. Yamada[1], Nobuhisa Umeki[1], Mitsuo Ikebe[2], Taro Q.P. Uyeda[1] ([1]*AIST, Biomedical Research Institute*, [2]*The Univ. of Texas Health Science center at Tyler, Dept. of Cellular and Mol. Biol.*)

2P148 **全原子 MD 計算による F_o のサブユニット間水分布と相対運動の観測**

Water distribution and relative motion between subunits of F_o observed by all-atom MD simulation

Ryoichi Kiyama, Asahi Konno, Mitsunori Takano (*Dept. of Pure & Appl. Phys., Waseda Univ.*)

2P149 **タンパク質間の実行相互作用：多価カチオンを介した引力パッチ間相互作用**

Protein-Protein Effective Interaction: Interaction between Attractive Patches Mediated by Multivalent Cations

Takuto Sawayama, Ryo Akiyama (*Kyushu Univ. sci.*)

2P150 **アクチンの PEG 化は運動速度よりも運動割合に影響を与える**

Pegylation of actin affects motile fraction rather than the velocity of actin filaments on myosin molecules

Kuniyuki Hatori, Hiroki Souma (*Dept. Bio-Systems, Grad. Sch. Sci. Eng., Yamagata Univ.*)

2P151 **高速 AFM により可視化された、コフィリンによるアクチンフィラメントの協同的な構造変化の一方向的な伝播**

Cofilin-induced unidirectional cooperative conformational changes of actin filaments visualized by high speed atomic force microscopy

Kien Ngo[1], Noriyuki Kodera[2,3], Eisaku Katayama[4], Akira Nagasaki[1], Toshio Ando[2,5,6], **Taro Uyeda**[1] ([1]*Biomedical Res Inst, AIST*, [2]*Bio-AFM FRC, Inst. of Sci. and Eng., Kanazawa U.*, [3]*PRESTO, JST*, [4]*Grad. Sch. Sci., Osaka City U.*, [5]*Div. of Math & Phys. Sci., Grad. Sch. of Nat. Sci. & Tech., Kanazawa U.*, [6]*CREST, JST*)

2P152 **ミオシン・サブフラグメント１ネック部位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 neck domain swinging motion of a myosin subfragmnet-1

Tadashi Masuda (*Fukushima Univ.*)

2P153 **ATP 非存在下におけるミオシン V のアクチンフィラメント上での歩行運動**

ATP-less walking of myosin V on actin filaments

Noriyuki Kodera[1,2], Takayuki Uchihashi[1,3,4], Toshio Ando[1,3,4] ([1]*Bio-AFM FRC, Inst. of Sci. & Eng., Kanazawa Univ.*, [2]*PRESTO, JST*, [3]*Div. of Math & Phys. Sci., Grad. Sch. of Nat. Sci. & Tech., Kanazawa Univ.*, [4]*CREST, JST*)

2P154 **直流電流を付加した導電性基盤上でのアクトミオシンの運動**

Movement of actomyosin on a conductive base under DC current

Reito Wada[1], Takao Nakamura[1], Kuniyuki Hatori[2] ([1]*Grad. Sch. Med. Sci., Yamagata Univ.*, [2]*Grad. Sch. Sci. Eng., Yamagata Univ.*)

2P155 **ミオシンフィラメント上における骨格筋ミオシン分子間の協同性**

Intermolecular cooperativity of skeletal myosins in myofilaments

Motoshi Kaya[1], Yoshiaki Tani[1], Takuya Kobayashi[2], Hideo Higuchi[1] ([1]*Graduate School of Science, University of Tokyo*, [2]*Graduate School of Arts and Sciences, University of Tokyo*)

2P156 **高速 AFM と蛍光顕微鏡観察による F-アクチンへの HMM、コフィリンの協同的結合の解析**

An analysis of cooperative binding of myosin to F-actin using high-speed atomic force microscope and fluorescence microscopy

Hiroaki Ueno[1], Yuusuke Nishikawa[1], Akira Ainai[1], Rika Hirakawa[1], Atuki Yoshino[1], Noriyuki Kodera[3], Taro Ueda[2], Kiyotaka Tokuraku[1] ([1]*Grad. Sch. Sustain. Environ. Eng., Muroran Inst.*, [2]*Biomedical Res. Inst., AIST*, [3]*Bio-AFM FRC, Inst. Sci. & Eng., Kanazawa Univ.*)

2P157 **高負荷におけるバクテリアべん毛モーターの回転ステップ解析**

Sub-14 ° steps of the bacterial flagellar motors at high load

Yuichi Inoue, Hajime Fukuoka, Hiroto Takahashi, Akihiko Ishijima (*IMRAM, Tohoku University*)

2P158 **A novel role of dynactin for dynein motility revealed by gliding assay**

Takuya Kobayashi, Hatsuha Kajita, Kei Saito, Yoko Y Toyoshima (*Grad. Sch. of Arts and Sci., Univ. of Tokyo*)

2P159 **A novel role of dynactin for dynein motility revealed by single-molecule assay**

Takuya Miyashita, Takuya Kobayashi, Hatsuha Kajita, Yoko Y. Toyoshima (*Grad. Sch. of Arts & Sci., Univ. of Tokyo*)

2P160 **ダイニン·微小管複合体の DNA 折り紙による架橋**

Cross-linking the dynein-microtubule complex by DNA origami

Keiko Hirose[1], Kangmin Yan[1], Hisashi Tadakuma[2] ([1]*Biomed. Res. Inst., AIST*, [2]*Grad. Sch. Frontier Sci., Univ. Tokyo*)

2P161 **Athermal Fluctuations of Probe Particles in Active Gel**

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

2P162 **軸糸ダイニンが駆動する微小管が創出する in vitro での動的渦形成**

In vitro dynamic vortex formation of microtubules driven by axonemal dyneins

Naoki Kanatani[1], Hiroaki Kojima[2], Kazuhiro Oiwa[1,2,3] ([1]*Grad. Sch. Sci., Univ. Hyogo*, [2]*Adv. ICT Res. Inst, NICT*, [3]*JST,CREST*)

2P163 **DNA オリガミバネを用いたミオシン VI のアンカー機能の分子動態計測**

Anchoring mechanism of myosin VI revealed with a programmed DNA origami spring

Mitsuhiro Iwaki[1,2,3], Shelley Wickham[2], Keigo Ikezaki[4], Toshio Yanagida[1,3], William Shih[2] ([1]*QBiC, RIKEN*, [2]*Harvard Med. Sch.*, [3]*Grad. Sch. Frontier Biosci., Osaka Univ.*, [4]*Dep. of Adv. Mat. Sci., Tokyo Univ.*)

2P164 **微生物の運動超分子マシナリーの単位ステップの直接観察：滑走バクテリアと遊泳古細菌について**

Direct observation of unitary steps of supermolecular motility machineries of microorganisms: gliding bacterium and swimming archaeon

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 Univ.*)

2P165 **好熱菌 F_1 のカップリングスキーム**
Coupling scheme of thermophilic F_1
Kengo Adachi[1], Kazuhiro Oiwa[2], Masasuke Yoshida[3], Kazuhiko Kinosita, Jr.[1] ([1]*Sci. & Engin., Waseda Univ.*, [2]*Adv. ICT Res. Inst., NICT*, [3]*Dep. Mol. Biosci., Kyoto Sangyo Univ.*)

2P166 **高速 AFM によるミオシンⅥの機能の直接観察**
Direct observation of functioning myosin VI by high-speed AFM
Shiori Sano[1], Noriyuki Kodera[2,3], Daniel Safer[4], H. Lee Sweeney[4], Toshio Ando[1,2,5] ([1]*Div. of Math & Phys. Sci., Grad. Sch. of Nat. Sci.& Tech., Kanazawa Univ.*, [2]*Bio-AFM FRC, Inst. of Sci. and Eng., Kanazawa Univ.*, [3]*PRESTO, JST*, [4]*Dept. of Physiol., Univ. of Pennsylvania Sch. of Med.*, [5]*CREST, JST*)

2P167 **Investigating the Coordination of RecB and RecD Subunits within RecBCD Helicase Complex Using Cy3-labeled ATP**
Chia-Chuan Cho, Hung-Wen Li (*Dept. Chemistry, Natl. Taiwan Univ.*)

12. 細胞生物的課題 / 12. Cell biology

2P168 **海洋性細菌 *Vibrio alginolyticus* のべん毛基部体 T-ring の低温電子顕微鏡を用いた構造解析**
Structural analysis of T-ring in the flagellar basal body 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*)

2P169 **アクチニンで架橋された二次元アクチンネットワークのミオシン依存的な形態変化**
Myosin-dependent morphological changes of two-dimensional actin networks crosslinked by α-actinin
Hiroki Eguchi[1], Makito Miyazaki[1], Takashi Ohki[1], Shin'ichi Ishiwata[1,2] ([1]*Dept. of Physics, Waseda Univ.*, [2]*WABIOS, Waseda Univ.*)

2P170 **微小管ネットワークの対称性の破れによって引き起こされる細胞質回転流動**
Cytoplasmic rotational flow induced by symmetry breaking of active microtubule networks
Kazuya Suzuki[1], Makito Miyazaki[1], Jun Takagi[2], Takeshi Itabashi[1], Shin'ichi Ishiwata[1,3] ([1]*Dept. Phys., Univ. Waseda*, [2]*Quantitative Mechanobiology Laboratory, NIG*, [3]*WABIOS*)

2P171 **二種類の固定子を持つシュードモナス･シリンゲの運動解析**
Motility analysis of Pseudomonas syringae possessing two different stator systems
Takuto Tensaka, Shuichi Nakamura, Seishi Kudo (*Grad. Sch. Eng., Tohoku. Univ.*)

2P172 **MotA に点変異を持つ細菌べん毛モーターの出力特性解析**
Rotation analysis of the bacterial flagellar motor with a point mutation in MotA
Kodai Oono[1], Shuichi Nakamura[1], Fumio Hayashi[2], Kenji Oosawa[2], Seishi Kudo[1] ([1]*Grad. Sch. Eng., Univ. Tohoku.*, [2]*Div. Mol. Sci., Fac. Sci. and Tech, Univ. Gunma.*)

2P173 **ミオシン結合タンパク質の消失は細胞が出す力に影響を与えるのか**
The examination of whether deletion of myosin binding subunit 85 would lead to alteration of cellular mechanical features
Rui Li[1], Takeomi Mizutani[2], Hisashi Haga[2], Kazushige Kawabata[2] ([1]*Graduate School of Life Science Hokkaido University*, [2]*Faculty of Advanced Life Science Hokkaido University*)

2P174 **アフリカツメガエルの卵抽出液中の方向性を持った F アクチンの流れの観察**
Observation of directional F-actin flow in Xenopus egg extracts
Masatoshi Tanabe[1], Makito Miyazaki[1], Kazuya Suzuki[1], Shin'ichi Ishiwata[1,2] ([1]*Dept. of Physics, Waseda Univ.*, [2]*WABIOS, Waseda Univ.*)

2P175 **高圧負荷によって誘導されるクラミドモナス非運動性変異株鞭毛の屈曲運動**
High pressure induces flagellar bending movements in *Chlamydomonas* paralyzed mutants
Toshiki Yagi[1,2], Masayoshi Nishiyama[3] ([1]*Dept. Biol. Sci., Pref. Univ. Hiroshima*, [2]*Grad. Sch. Med., Univ. Tokyo*, [3]*The Hakubi Center, Kyoto Univ.*)

2P176 **バクテリアの集団運動による巨大渦パターン形成**
Large-scale vortex pattern emerging from bacteria collective motion
Showko Odaka, Daisuke Nakane, Takayuki Nishizaka (*Dept. Phys., Gakushuin Univ.*)

2P177 **シグナル変換のアダプター分子 LAT は細胞膜直下の小胞膜上で働く：1 分子追跡法による解明**
Transmembrane signaling adaptor LAT works on the vesicles associated with the plasma membrane: a single-molecule tracking study
Koichiro M. Hirosawa[1], Kenta J. Yoshida[2], Taka A. Tsunoyama[1], Kenichi G.N. Suzuki[1,3], Takahiro K. Fujiwara[1], Akihiro Kusumi[1,2] ([1]*Inst. Integrated Cell-Material Sciences (WPI-iCeMS), Kyoto Univ.*, [2]*Inst. Frontier Medical Sciences, Kyoto Univ.*, [3]*NCBS/inStem, India*)

2P178 **The bidirectional role of conserved charged residues in rotor-stator interaction in a rotary motor of bacterial flagella**
Yasuhiro Onoue, Norihiro Takekawa, Tatsuro Nishikino, Seiji Kojima, Michio Homma (*Grad. Sch. Sci., Nagoya Univ.*)

2P179 **細胞-GUV 電気融合による μm サイズ人工物の導入**
Introducing micro-meter size objects into live cells mediated by cell-GUV electrofusion
Akira C. Saito[1], Toshihiko Ogura[2], Kei Fujiwara[3], Satoshi Murata[1], Shin-ichiro M. Nomura[1] ([1]*Department of Bioengi. and Robo. Tohoku Univ.*, [2]*Depart. of Develo. of Neurobiolo. (IDAC). Tohoku. Univ.*, [3]*Department of Biosciences and Informatics Keio University*)

2P180 **量子ドットを用いた脳がん幹細胞表面の膜タンパク質の運動解析**
Membrane Protein Dynamics on Brain Tumor Stem Cell Evaluated by Using Quantum Dot
Morito Sakuma, Sayaka Kita, Hideo Higuchi (*Department of Physics, Graduate School of Science, The University of Tokyo*)

2P181 ***Xenopus* 卵抽出液を封入した脂質膜小胞中でのアクチンのダイナミクス**
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Naoki Noda, Issei Mabuchi (*Dep. Life Sci., Gakushuin Univ.*)

2P182 **神経と接着した膵島 α 細胞内顆粒動態の解析**
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Tadahide Furuno[1], Atsuhiro Shinohara[1], Satoru Yokawa[1], Yoshikazu Inoh[1], Naohide Hirashima[2], Mamoru Nakanishi[1] ([1]*Sch. Pharm., Aichi Gakuin Univ.*, [2]*Grad. Sch. Pharm. Sci., Nagoya City Univ.*)

2P183 **細胞極性形成におけるポジティブフィードバック機構の 1 分子イメージング解析**
PTEN Membrane Binding is Destabilized by PI(3,4,5)P_3: Positive Feedback Loop in Establishing Cellular Polarity
Satomi Matsuoka[1,2], Masahiro Ueda[1,2] ([1]*Quantitative Biology Center (QBiC), RIKEN*, [2]*Graduate School of Science, Osaka University*)

2P184 **三量体 G タンパク質と相互作用する新規タンパク質 Gip1 は走化性における応答濃度範囲を広げる働きをする**
A novel heterotrimeric G protein interacting protein (Gip1) extend chemotactic range
Yukihiro Miyanaga[1,2], Yoichiro Kamimura[2], Masahiro Ueda[1,2] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*QBiC, Riken*)

2P185 **分子の混み合いが膜上シグナル伝達過程に与える影響の分子動力学法による考察**
Analysis of Molecular Crowding effect on signal transduction process by Molecular dynamics simulation
Rei Takamoto, Hiraku Nishimori, Akinori Awazu (*Dept. Math. Life Sci, Hiroshima Univ.*)

2P186 **ウシ毛様体筋細胞においてカフェインはムスカリン受容体作動性陽イオンチャネルの活性化を誘起する**
Activation of an M_3-muscarinic receptor operated non-selective cation channel by depletion of intracellular Ca^{2+}
Motoi Miyazu, Akira Takai (*Dept. Physiol., Asahikawa Med. Univ.*)

2P187 **表皮細胞の傷の治癒には伸展によるヘミチャネルからの ATP 放出と TRPC6 を介した Ca^{2+}流入が効く**
Wound healing in keratinocyte is accelerated by mechanosensitive ATP release via hemichannels and Ca^{2+} influx through TRPC6 channels
Kishio Furuya[1,2], Hiroya Takada[2], Masahiro Sokabe[1,2] ([1]*Mechanobiology Labo, Grad Sch Med, Nagoya Univ*, [2]*Dept Physiol, Grad Sch Med, Nagoya Univ*)

2P188 **Trial for detecting the activation and inactivation of chemoreceptor array in a single *E. coli* cell**
Hajime Fukuoka[1], Tomoko Horigome[2], Yuichi Inoue[1], Hiroto Takahashi[1], Akihiko Ishijima[1] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. Life Sci., Tohoku Univ.*)

2P189 **単離ヒドラ神経細胞の神経突起動態**
Neurite dynamics of isolated hydra nerve cells
Rui Tanaka[1], Miharu Nagaishi[2], Mio Ogawa[2], **Hiroyuki Nakagawa**[1,2] ([1]*Div. Bio., Fac. Sci., Fukuoka Univ.*, [2]*Grad. Sch. Sci., Fukuoka Univ.*)

2P190 **サルモネラ菌の遊泳行動と生物対流**
Chemotactic behavior of *Salmonella* and bioconvection
Takahiro Abe, Shuichi Nakamura, Seishi Kudo (*Grad. Sch. Eng., Tohoku Univ.*)

2P191 **Rotation analysis of the spirochete cell body by 3D dark-field microscopy**
Kyosuke Takabe, Md. Shafiqul Islam, Seishi Kudo, Shuichi Nakamura (*Grad. Sch. Engineering., Univ. Tohoku*)

2P192 **細菌の走化性に起因する リング状パターンの形成過程の解析**
Formation process of a ring-like pattern induced by bacterial chemotaxis
Tadahiko Sato, Shuichi Nakamura, Seishi Kudo (*Grad. Sch. Eng., Univ. Tohoku*)

2P193 **Theoretical and simulation study for deformation of caveolae under hypo-osmotic condition**
Masashi Tachikawa[1], Shiro Suetsugu[2] ([1]*RIKEN*, [2]*NAIST*)

2P194 **細胞性粘菌の F-アクチン波の基質依存性**
Substrate dependence of F-actin waves in Dictyostelium
Yuko Chida[1], Satoshi Sawai[1,2,3] ([1]*Graduate School of Arts and Science, University of Tokyo*, [2]*Research Center for Complex Systems Biology*, [3]*PRESTO, Japan Science and Technology Agency*)

2P195 **心筋細胞における温度依存的拍動周期の特性**
Characterization of temperature-dependent beating rate of cardiomyocytes
Tomoyuki Kaneko (*LaRC, Dept. Frontier Biosci., Hosei Univ.*)

2P196 **多電極電位計測による心筋細胞に対するエタノールの影響**
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Chiho Nihei, Tomoyuki Kaneko (*LaRC, Dept. Frontier Biosci., Hosei Univ.*)

2P197 **多電極電位計測システムを用いた薬剤の催不整脈性の検出**
Detection of arrhythmogenicity of drugs by using multi electrode array system
Shin Yoshida, Tomoyuki Kaneko (*LaRC, Grad. Sci. Eng., Hosei Univ.*)

2P198 **多電極電位計測システムを用いた薬剤試験を行うための培地条件の探索**
Exploration of the optimum medium for a toxicity testing by multi electrode array system
Yuichiro Kamei, Tomoyuki Kaneko (*LaRC, Grad. Sci. Eng., Hosei Univ*)

2P199 **Raman Micro-spectroscopy of the Dynamics of Cellular Chemical State upon Stimulation with Growth Factors**
Sota Takanezawa[1,2], Shin-ichi Morita[3], Yukihiro Ozaki[2], Yasushi Sako[1] ([1]*RIKEN. Cellular Informatics Lab.*, [2]*School. Sci. Tech., Kwansei-Gakuin Univ.*, [3]*Grad. Sch. Sci., Tohoku Univ*)

2P200 **単層上皮細胞シートの複素弾性率の空間分布：原子間力顕微鏡測定**
Spatial distribution of complex shear modulus in confluent epithelial cell sheet : Atomic Force Microscopy measurements
Yuki Fujii, Yuki Ochi, Takaharu Okajima (*Grad. Schl. Inform. Sci. and Technol., Hokkaido Univ.*)

2P201 **心筋細胞ネットーワークにおける時空間的ゆらぎ計測を用いた心毒性評価のための Quasi-*in vivo* 前臨床モデル**
Quasi-*in vivo* pre-clinical model for cardiac toxicity using spatiotemporal fluctuation measurement on human cardiomyocyte cell-network
Fumimasa Nomura[1], Tomoyuki Kaneko[2], Hideyuki Terazono[1], Kenji Yasuda[1] ([1]*IBB, Tokyo Medical & Dental Univ.*, [2]*Dept. of Frontier Bioscience, Hosei Univ.*)

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

2P202 **Probing the sphingomyelin clusters in pure and mix lipid bilayer by the Raman spectroscopy: A theoretical study**
Pai-Chi Li, Kiyoshi Yagi, Koichiro Shirota, Toshihide Kobayashi, Yuji Sugita (*RIKEN*)

2P203 **スズガエルの皮膚分泌物由来のペプチド Bombinin H2 および H4 により誘起される相乗的な抗菌活性および細胞膜の揺らぎ**
Synergistic antimicrobial activity and membrane disturbance induced by Bombinin H2 and H4 peptides from *Bombina variegata* skin secretion
Yuki Kitahashi, Izuru Kawamura, Akira Naito (*Grad. Sch. Eng, Yokohama Natl Univ.*)

2P204 **蛍光一分子追跡に基づいた支持脂質膜内における部分フッ素化リン脂質の熱力学的性質の評価**
Evaluation of thermodynamic property of partially fluorinated phospholipid in supported lipid bilayer based on single molecule tracking
Yoshiaki Okamoto[1], Toshinori Motegi[1], Kohei Morita[2], Toshiyuki Takagi[3], Toshiyuki Kanamori[3], Masashi Sonoyama[2], Ryugo Tero[1] ([1]*Toyohashi Univ. Tech.*, [2]*Gunma Univ.*, [3]*AIST*)

2P205 **脂質二分子膜と高分子材料を融合したハイブリッド型人工膜の創製**
Hybrid model membrane composed of phospholipid bilayer and polymeric materials
Koji Ando[1], Kenichi Morigaki[1,2] ([1]*Grad. Sch. Agri., Univ. Kobe*, [2]*Res. Cen. Env Gen., Kobe*)

2P206 **ベシクル基盤分子ロボットのための分子センサーの開発**
Development of a molecular sensor for vesicle-based molecular robots
Koh-ichiroh Shohda, Akira Suyama (*The University of Tokyo*)

2P207 **リポソームを固定した QCM センサーで脂質膜結合プローブの相互作用を測る**
Liposome fixed sensor of quartz crystal microbalance quantifies the interaction between the lipid binding probe and target membrane
Takehiko Inaba, Toshihide Kobayashi (*RIKEN (Wako)*)

2P208 **ラマン分光法によるモデル膜におけるスフィンゴミエリン会合体の研究**
Study on sphingomyelin aggregates in model membranes by Raman spectroscopy
Koichiro Shirota[1], Takehiko Inaba[1], Pai-Chi Li[2], Kiyoshi Yagi[2], Yuji Sugita[2], Toshihide Kobayashi[1] ([1]*LBL, RIKEN*, [2]*TMSL, RIKEN*)

2P209 **高速原子間力顕微鏡によるバクテリオロドプシン球殻構造体の分子構造の直接観察**
Direct observation of molecular arrangement in a bacteriorhodopsin vesicle by high-speed atomic force microscopy
Yuto Noda, Daisuke Yamamoto (*Dept. Appl. Phys., Grad. Sch. Sci., Fukuoka Univ.*)

2P210 **固液界面に形成したコレステロールとコレステロールエステルからなる自己組織化単分子膜の研究**
Self-Assembled Monolayers of Cholesterol and Cholesteryl Esters at the Liquid/Solid Interface
Masahiro Hibino[1], Hiroshi Tsuchiya[2], Junpei Abe[3] ([1]*Dept. Appl. Sci., Muroran Inst. Tech.*, [2]*Display Device Dev. Div., Sharp*, [3]*Dept. Appl. Chem., Muroran Inst. Tech.*)

2P211 **細胞膜を構成する脂質分子種の二重層間および膜平面における非対称分布の凍結割断レプリカ電顕法による解析**
Transbilayer and lateral lipid distribution in plasma membranes in nano scale
Motohide Murate[1], Mitsuhiro Abe[1], Kohji Kasahara[2], Kazuhisa Iwabuchi[3], Masato Umeda[4], Toshihide Kobayashi[1,5] ([1]*Lipid Biol. Lab., RIKEN*, [2]*Lab. Biomembrane, Tokyo Met. Inst. Med. Sci.*, [3]*Lab. Biochem., Juntendo Univ.*, [4]*Dept. Syn. Chem. Biol. Chem., Kyoto Univ.*, [5]*INSERM Unite 1060*)

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

2P212 **メリチンが持つ多才な膜小胞変形能力**
Multiple membrane interactions and versatile vesicle deformations elicited by melittin
Tomoyoshi Takahashi[1], Fumimasa Nomura[2], Yasunori Yokoyama[3], Yohko Tanaka-Takiguchi[1], **Kingo Takiguchi**[1] ([1]*Dev. Bio. Sci., Grad. Sch. Sci., Nagoya Univ.*, [2]*Institut Biomater. Bioengineer., Tokyo Med. Dent. Univ.*, [3]*Dept. App. Phys., Grad. Sch. Eng., Nagoya Univ.*)

2P213 **ER 膜タンパク質の膜貫通配列のリン脂質フリップフロップ誘起能の評価**
Promotion of phospholipid flip-flop by membrane-spanning sequences in the ER proteins
Hiroyuki Nakao[1], Keisuke Ikeda[2], Yasushi Ishihama[1], Minoru Nakano[2] ([1]*Grad. Sch. of Pharm. Sci., Kyoto Univ.*, [2]*Grad. Sch. of Med. and Pharm. Sci., Univ. Toyama*)

2P214 **細胞サイズリン脂質非対称膜リポソームによる膜ダイナミクスの観察**
Cell-sized asymmetric lipid vesicles for membrane dynamics observation
Koki Kamiya[1,2], Toshihisa Osaki[1,3], Kousuke Shibasaki[1], Shoji Takeuchi[1,3] ([1]*KAST*, [2]*JST PRESTO*, [3]*IIS Univ. Tokyo*)

2P215 **低い pH が誘起する DOPS/MO 膜の一枚膜リポソームからキュービック相への構造転移の初期過程**
Initial Step of Low pH-Induced Structural Transition from Unilamellar Vesicles of DOPS/MO to Inverse Bicontinuous Cubic Phase
Takahiro Saiki[1], 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.*)

2P216 **単一 GUV 法による脂質膜に EGCg が誘起した孔構造の可視化**
Visualization of the EGCg-induced bursting of single giant unilamellar vesicles at higher time resolution
Yukihiro Tamba[1], Masahito Yamazaki[2] ([1]*Suzuka Natl Coll Tech*, [2]*Shizuoka Univ*)

2P217 **静電効果によるジャイアントリポソームの膜チューブ形成**
Formation of endocytosis-like membrane tubes in giant liposomes induced by electrostatic effect
Tamiki Umeda[1], Yohko Tanaka-Takiguchi[2], Kingo Takiguchi[3] ([1]*Grad. Sch. Maritime Sci. Kobe Univ.*, [2]*Struct. Biol. Res. Center, Nagoya Univ.*, [3]*Grad. Sch. Sci., Nagoya Univ.*)

2P218 **Self-Emergent Cell-Sized Sphere Entrapping DNA through Micro Phase-Segregation**
Naoki Nacatani[1], Kanta Tsumoto[2], Zyunya Nakamura[2], Kenichi Yoshikawa[1] ([1]*School of Life and Biomedical Sciences, Doshisha Univ.*, [2]*Graduate school of Engineering, Mie Univ.*)

13C. 生体膜・人工膜：興奮・チャネル / 13C. Biological & Artificial membrane: Excitation & Channels

2P219 **Conformational Transitions in Voltage Sensor Domains**
Morten Bertz, Kazuhiko Kinosita (*Waseda University, Dpt. of Science & Engineering*)

2P220 **破骨細胞膜に存在する新規の（?）プロトン流入経路**
A novel (?) proton influx pathway in the plasma membrane of osteoclasts
Miyuki Kuno, Guanshuai Li, Yoshiko Hino, Yoshie Moriura, Junko Kawawaki, Hiromu Sakai (*Dept Physiol, Osaka City Univ Grad Sch Med*)

2P221 **Kv1.2 でのイオン透過における透過パターンの解析**
Analysis on Ion Permeation Pattern through the Kv1.2 Channel
Takashi Sumikama[1], Shinji Saito[2], Shigetoshi Oiki[1] ([1]*Univ. of Fukui*, [2]*IMS*)

2P222 **two-pore 型カリウムチャネル TWIK-1 の特徴的なイオン選択性を生み出すメカニズムについての全反射赤外分光解析**
ATR-FTIR spectroscopic analyses of interaction modes underlying unique ion selectivity of a 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*)

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

2P223 **Akt と受容体の生細胞内 1 分子追跡によるシグナル伝達機構の解明**
Signal transduction mechanism of Akt reveald by single molecule imaging of Akt and receptor molecules
Hideaki Yoshimura, Takeaki Ozawa (*Department of Chemistry, School of Science, The University of Tokyo*)

2P224 **細胞性粘菌の走化性シグナル伝達におけるグアニル酸シクラーゼ(sGC)経路の興奮性応答**
Excitability of Guanylate Cyclase (sGC) signaling pathway mediating chemotaxis in Dictyostelium cells
Yuki Tanabe[1], Masahiro Ueda[1,2] ([1]*Grad. Sch. Sci., Univ. Osaka*, [2]*QBiC, Riken*)

2P225 **モデル生体膜を用いたロドプシン光受容体の脂質ラフト親和性解析**
Evaluating the raftophilicity of rhodopsin in a patterned model membrane
Yasushi Tanimoto[1], Kenichi Morigaki[1,2], Humio Hayashi[3] ([1]*Grad. Sch. Agri, Univ Kobe*, [2]*Res. Cen. Env Gen, Univ Kobe*, [3]*Grad. Sch. Scie, Univ Kobe*)

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

2P226 **ミミズ非連合学習における NO-cGMP シグナル経路の役割**
Role of NO-cGMP signaling in non-associative learning of the earthworm
Yoshiichiro Kitamura[1], Hitoshi Aonuma[2], Hiroto Ogawa[3], Kotaro Oka[4] ([1]*Dept Math Sci Phys, Kanto Gakuin Univ*, [2]*Res Inst Elect Sci, Hokkaido Univ*, [3]*Dept Biol Sci, Hokkaido Univ*, [4]*Dept Biosci Info, Keio Univ*)

2P227 **チャコウラナメクジ脳嗅覚中枢における匂い応答の数理解析**
Tone-Entropy analysis on odor-evoked neuronal activities in the procerebral lobe of a slug
Yoshimasa Komatsuzaki[1], Tamon Eto[1], Minoru Saito[2] ([1]*CST, Nihon Univ.*, [2]*Grad. Sch. of Int. Basic Sci., Nihon Univ.*)

2P228 **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の解析**
Sex difference in hippocampus: Fluctuation of hippocampal sex hormones and synapses
Yasushi Hojo[1,2], Asami Kato[1], Bon-chu Chung[2], Tetsuya Kimoto[1,2], Suguru Kawato[1,2] ([1]*Grad. Sch. of Arts and Sci., The Univ. of Tokyo*, [2]*JST, Japanese-Taiwanese Cooperative Programme*)

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

2P229 **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ゆらぎ解析**
Fluctuation analysis for spatiotemporal activity patterns in mouse hippocampal slices
Yuuta Hamasaki[1], Yoshiki Uno[2], Shodai Izumi[2], Hiromi Osanai[2], Yoshimasa Komatsuzaki[3], Minoru Saito[1,2] ([1]*The Institute of Natural Sciences, College of Humanities and Sciences, Nihon University*, [2]*Graduate School of Integrated Basic Sciences, Nihon University*, [3]*College of Science and Technology, Nihon University*)

2P230 **膜電位イメージングを用いたチャコウラナメクジ嗅覚神経回路の解析**
Characterization of the olfactory neural network of the land slug using fluorescent voltage imaging
Kohei Ishida[1], Tomoya Shimokawa[1], Yuuta Hamasaki[1], Yoshimasa Komatsuzaki[2], Satoshi Watanabe[3], Minoru Saito[1] ([1]*Graduate School of Integrated Basic Sciences, Nihon University*, [2]*College of Science and Technology, Nihon University*, [3]*Graduate School of Engineeing, Tohoku University*)

17. 行動 / 17. Behavior

2P231 **ゾウリムシにおける長期後退遊泳の膜興奮モデルによる解析**
The analyses based on a membrane excitation model for Long-term Backward Swimming in a protozoa Paramecium
Kaito Ohki[1], Itsuki Kunita[2], Shigeru Kuroda[2], Toshiyuki Nakagaki[2] ([1]*Grad. Sch. Life. Sci., Univ. Hokkaido*, [2]*RIES., Univ. Hokkaido*)

2P232 **T 細胞の自発運動の解析**
Analysis of spontaneous migration of T cell
Hiroaki Takagi[1], Tomoya Katakai[2], Tatsuo Kinashi[2] ([1]*Nara Medical University*, [2]*Kansai Medical University*)

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

2P233 **高度好熱菌由来サーモフィリックロドプシンの温度依存的な不可逆構造転移**
Temperature-Dependent Irreversible Structural Transition of Thermophilic Rhodopsin
Takashi Tsukamoto[1], Makoto Demura[2], Yuki Sudo[1] ([1]*Div. Pharm. Sci., Okayama Univ.*, [2]*Fac. Adv. Life Sci., Hokkaido Univ.*)

2P234 **ナトリウムポンプロドプシンにおけるナトリウムイオンの結合の役割**
Role of Sodium Ion Binding in Sodium Pumping Rhodopsin
Keiichi Inoue[1,2], Rei Abe-Yoshizumi[1], Hideki Kandori[1] ([1]*Grad. Sch. Eng., Nagoya Inst. Tech.*, [2]*PRESTO, JST*)

2P235 **プロテオロドプシンのプロトンドナー Glu108 の変異が光化学特性に及ぼす影響について**
Effects on the photochemical properties in proteorhodopsin by the mutation of the Glu108 residue
Jun Tamogami[1], Takashi Kikukawa[2], Kimi Okubo[1], Makoto Demura[2], Toshifumi Nara[1], Naoki Kamo[2] ([1]*College Pharm. Sci., Matsuyama Univ.*, [2]*Fac. Adv. Life Sci., Hokkaido Univ.*)

2P236 ***Acetabularia* rhodopsin II (ARII)の Asp81 変異体による一過性光誘起電流**
Transient photo-induced current by Asp81 mutants of *Acetabularia* rhodopsin II (ARII) heterologously expressed in *Xenopus laevis* oocytes
Seiji Miyauchi[1], Kazumi Shimono[1], Takashi Kikukawa[2], Makoto Demura[2], Jung Kwang-Hwan[3], Naoki Kamo[2] ([1]*Toho Univ., Grad. Sch. Pharm. Sci.*, [2]*Hokkaido Univ., Grad. Sch. Life Sci.*, [3]*Sogang Univ., Inst. Biol. Interfaces*)

2P237 **Low-temperature FTIR spectroscopy of the Light-driven sodium ion pump: Krokinobacter eikastus rhodopsin 2**
Faisal Hammad Mekky Koua[1], Rei Abe-Yoshizumi[2], Hikaru Ono[2], Shota Ito[2], Yoshitaka Kato[2], Keiichi Inoue[1,2], Hideki Kandori[1,2] ([1]*OptoBioTech. Res. Cent., Nagoya Inst. Tech.*, [2]*Dept. Front. Mat., Nagoya Inst. Tech.*)

2P238 **ロドプシンの低い熱活性化頻度の分子メカニズム**
Molecular mechanism of the low thermal activation rate of rhodopsin
Keiichi Kojima[1], Masataka Yanagawa[2], Takahiro Yamashita[1], Yasushi Imamoto[1], Takesi Matsuyama Hoyos[1], Koji Nakanishi[3], Yumiko Yamano[4], Akimori Wada[4], Yasushi Sako[2], Yoshinori Shichida[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Cell. Info. Lab., Riken*, [3]*Columbia Univ.*, [4]*Kobe Pharm. Univ.*)

2P239 **ロドプシン構成的活性変異体 M257Y における構造平衡の一分子観測**
Single-molecule observation of the conformational equilibrium in constitutively active mutant of rhodopsin, M257Y
Ryo Maeda[1], Michio Hiroshima[1,3], Yasushi Imamoto[2], Takahiro Yamashita[2], Yasushi Sako[1], Yoshinori Shichida[2] ([1]*Cellular Informatics Lab., RIKEN*, [2]*Grad. Sch. Biophys., Kyoto Univ.*, [3]*QBiC, RIKEN*)

2P240 **In situ 光照射固体 NMR による光受容膜タンパク質センサリーロドプシン I の光反応過程の解析**
Photocycle of sensory rhodopsin I as revealed by in situ photo irradiation solid-state NMR
Yoshiteru Makino[1], Hiroki Yomoda[1], Yuya Tomonaga[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. Pharm, Okayama Univ.*, [4]*Grad. Sch. Life Sci , Hokkaido Univ.*)

2P241 **アナベナセンサリーロドプシンの細胞質側で生じる光誘起プロトン移動反応の解析**
Light-induced proton transfer reactions at the cytoplasmic half channel of *Anabaena* sensory rhodopsin
Takatoshi Hasemi[1], Takashi Kikukawa[1], Masakatsu Kamiya[1], Tomoyasu Aizawa[1], Kwang-Hwan Jung[2], Naoki Kamo[1], Makoto Demura[1] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*Dept. Life Sci. & Inst. Biol. Interfaces, Sogang Univ.*)

2P242 **海洋性細菌に含まれる光駆動クロライドポンプの分光研究**

Spectroscopic study of light-driven chloride pump from marine bacteria

Arisa Mori[1,2], Keiichi Inoue[2,3], Faisal Hammand Mekky Koua[2], Yoshitaka Kato[2], Rei Abe-Yoshizumi[2], Michio Homma[1], Hideki Kandori[2] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*Nagoya Inst. Tech*, [3]*JST, PRESTO*)

2P243 **チャネルロドプシンの吸収波長に関する量子化学的研究**

Quantum chemical study of the absorption maximum of channelrhodopsin

Nami Yoshino[1], Tomohiko Hayashi[1], Azuma Matsuura[2], **Tadaomi Furuta**[1], Minoru Sakurai[1] ([1]*Tokyo Tech*, [2]*Fujitsu Lab*)

2P244 **固体 ^{13}C NMR によるファラオニスフォボロドプシンの機能に重要な Tyr 残基の構造解析**

Conformation of functionally important Tyr residues in *pharaonis* phoborhodopsin as studied by Solid-State ^{13}C NMR

Ryota Nishikawa[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]*Okayama Univ.*, [4]*Grad. Sch. Life Sci, Hokkaido Univ.*)

2P245 **サル青感受性視物質の赤外分光解析**

FTIR study of monkey blue-sensitive visual pigment

Yuki Nonaka[1], Kota Katayama[1], Kei Tsutsui[2], Hiroo Imai[2], Hideki Kandori[1] ([1]*Nagoya Institute of Technology*, [2]*Primate Research Institute, Kyoto University*)

2P246 **In-situ 光照射固体 NMR による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 photoexcited process in retinal of Bacteriorhodopsin studied by in-situ photoirradiation solid-state 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*)

2P247 ***In-situ* 光照射固体 NMR によるバクテリオロドプシン Y185F 変異体に捕捉された O-中間体の評価**

Characterization of O-like intermediate trapped in Y185F mutant in Bacteriorhodopsin by *in-situ* photo-irradiation solid-state NMR

Kyosuke Oshima[1], Arisu Shigeta[1], Yoshiteru Makino[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*)

2P248 **光依存転写因子オーレオクロム 1 の反応ダイナミクス**

Reaction Dynamics of Light Dependent Transcription Factor Aureochrome-1

Yuki Akiyama[1], Yusuke Nakasone[1], Osamu Hisatomi[2], Yoichi Nakatani[2], Masahide Terazima[1] ([1]*Graduate School of Science, Kyoto University*, [2]*Graduate School of Science, Osaka University*)

2P249 **(6-4)光回復酵素による 2 光子 DNA 修復の分子メカニズム**

Molecular mechanism of the two photon DNA repair by the (6-4) photolyase

Junpei Yamamoto[1], Kohei Shimizu[1], Tomoko Fujiwara[2], Takeshi Todo[2], Pascal Plaza[3], Klaus Brettel[4], Shigenori Iwai[1] ([1]*Grad. Sch. Eng. Sci., Osaka Univ.*, [2]*Grad. Sch. Med., Osaka Univ.*, [3]*ENS Paris, France*, [4]*CEA Saclay, France*)

2P250 **Theoretical study of the electron transfer reaction by DNA photolyase**

Ryuma Sato[1], Hirotaka Kitoh-Nishioka[1], Tsutomu Kawatsu[2,3], Kei Yura[4], Koji Ando[5], Takahisa Yamato[1] ([1]*Grad. Sch. Sci., Univ. Nagoya*, [2]*Grad. Sch. Arts and Sci., Univ. Tokyo*, [3]*Grad. Sch. Nanobiosci., Univ. Yokohama City*, [4]*Grad. Sch. Human & Sci., Univ. Ochanomizu*, [5]*Grad. Sch. Sci., Univ. Kyoto*)

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

2P251 **光化学系 II 複合体と層状複水酸化物からなるバイオ–無機ハイブリッド電極**

Bio-inorganic hybrid water oxidation electrodes of Photosystem II and layered double hydroxide

Masaru Kato[1], Hisako Sato[2], Miwa Sugiura[3,4] ([1]*Grad. Sch. Env. Sci., Hokkaido Univ.*, [2]*Grad. Sch. Sci., Ehime Univ.*, [3]*Proteo-Sci. Cen., Ehime Univ.*, [4]*PRESTO, JST*)

2P252 **光化学系 II における TyrZ - D1/His190 の距離と PCET の関係**

Proton-coupled electron transfer and hydrogen-bond distance of TyrZ - D1-His190 in Photosystem II

Miwa Sugiura[1], Shogo Ogami[2], Fabrice Rappaport[3], Alain Boussac[3] ([1]*PROS, Ehime Univ./JST-PRESTO*, [2]*Dep. Chem., Ehime Univ.*, [3]*IBPC*)

2P253 **光電子収量分光による非真空環境下の生体関連分子の電子構造観察：クロロフィル a 測定の試み**

Observation of the electronic structure of bio-related molecule in non-vacuum environment by using photoemission: Trial to Chlorophyll a

Yuki Takeda[1], Hiroshi Ezawa[2], Takuya Miyauchi[1], Hiroumi Kinjo[1], Yasuo Nakayama[1], Hisao Ishii[1,3] ([1]*AIS, Chiba Univ.*, [2]*Faculty of engineering, Chiba Univ.*, [3]*CFS, Chiba Univ.*)

2P254 **光捕集アンテナにおける色素の励起エネルギーの揺らぎに関する理論的研究**

Theoretical Studies on Excitation Energy Fluctuations of Pigments in a Light-Harvesting Complex

Masahiro Higashi[1], Shinji Saito[2] ([1]*Fac. Sci. Univ. Ryukyus*, [2]*IMS*)

2P255 **OEC の Kok-S2 状態の反応活性部位の分子構造に関する B3LYP 計算：Mn4 の配位水分子のプロトン化状態**

A B3LYP study on molecular structures of active site at the Kok-S2 state of OEC: protonation states of Mn4-ligated water molecules

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

2P256 **水分解 Mn_4Ca クラスター S_3 状態に関する理論的研究**

Theoretical Study of the S_3 state of the Mn_4Ca-cluster in Photosystem II: A compact chair form consisting of the short Mn-Mn pairs

Makoto Hatakeyama[1], Kouji Ogata[1], Satoshi Yokojima[2], Shinichiro Nakamura[1] ([1]*Wako Inst., Riken*, [2]*Sch. Pharm., Tokyo Univ. Pharm. Life Sci.*)

2P257 **光合成酸素発生中心(PSII-OEC)の立体構造と電荷状態変化についての理論的研究**
Theoretical investigation on the conformation-charge relationship of the photosystem II oxygen evolving complex (PSII-OEC)
Mitsuo Shoji[1], Hiroshi Isobe[2], Shusuke Yamanaka[3], Jian-Ren Shen[2], Kizashi Yamaguchi[3] ([1]*Grad. Sch.of Pure & App. Sci., Univ. Tsukuba*, [2]*Grad. Sch. Nat. Sci. & Tec., Okayama Univ.*, [3]*Grad. Sch. Sci, Osaka Univ*)

2P258 **Ca 除去と Sr 置換をした Mn クラスターの ENDOR 法による研究**
ENDOR studies on Ca depleted and Sr substituted Mn cluster in photosystem II
Hiroki Nagashima[1], Nakajima Yoshiki[2], Jian-Ren Shen[2], Hiroyuki Mino[1] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*Grad. Sch. Nat. & Tech., Okayama Univ.*)

2P259 **Target analysis of the photosystem II-enriched membrane: The effect of oxidizing agent on fluorescence quenching in PSII**
Ahmed Mohamed[1], Ryo Nagao[2], Takumi Noguchi[2], Hiroshi Fukumura[1], Yutaka Shibata[1] ([1]*Grad. Sch. Sci., Univ. Tohoku*, [2]*Grad. Sch. Sci., Univ. nagoya*)

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

2P260 **超音波に誘発されるケージド化合物の活性化**
Ultrasound-induced activation of caged compounds
Haruko Koura[1], Risa Fuji[1], Asuka Kato[1], Masato Mutoh[2], Wakako Hiraoka[1] ([1]*Dept. Phys., Grad. Sch. Sci. & Tech., Meiji Univ.*, [2]*Dept. Mater. & Human Env. Sci., Shonan Inst. of Tech.*)

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

2P261 **ノロウイルス RNA 複製酵素を用いた試験管内 RNA 淘汰実験から、新奇な dsRNA 複製機構が示唆された**
A novel dsRNA replication mode was suggested from the *in vitro* RNA selection using Norovirus RNA replicase
Hidenao Arai[1], Koichi Nishigaki[2], Naoto Nemoto[1], Miho Suzuki[1], Yuzuru Husimi[2] ([1]*Grad. Sch. Sci. Eng., Saitama Univ.*, [2]*Professor Emeritus, Saitama Univ.*)

2P262 **phi29DNA 複製酵素を使った自己複製系の確立**
Establishment of a self-replication system using phi29 DNA polymerase
Yoshihiro Sakatani[1], Norikazu Ichihashi[1,2], Tetsuya Yomo[1,2,3] ([1]*Grad. Sch. Inf., Univ. Osaka*, [2]*JST, ERATO*, [3]*Grad. Sch. Bio., Univ. Osaka*)

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

2P263 **分子動力学計算を用いた β2 アドレナリン受容体と G タンパク質間の 相互作用解析**
Structural analysis of interaction between β2 adrenergic receptor and G-protein using molecular dynamics simulation
Hidenori Sakaki[1], Masami Ikeda[2], Makiko Suwa[1,2] ([1]*Biol. Sci., Grad. Sci. Eng., Aoyama Gakuin Univ.*, [2]*Chem. Biol. Sci., Sci. Eng., Aoyama Gakuin Univ.*)

2P264 **Global clustering of whole organisms enabled by the GP method**
Harshita Sharma[1], Fumihito Ohtani[1], Parmila Kumari[1], Deepti Diwan[1], Miho Suzuki[1], Naoto Nemoto[1], Takuyo Aita[2], Koichi Nishigaki[1] ([1]*Dept. of Functional Materials Science, Graduate School of Science and Engineering, Saitama University*, [2]*Graduate School of Information Science and Technology, Symbiotic Network Design Laboratory, Osaka University*)

21B. ゲノム生物学：ゲノム構造 / 21B. Genome biology: Genome structure

2P265 **Super-resolution imaging of chromatin domains 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.*)

2P266 **出芽酵母の核の内側に“転写が不活発な領域”が存在する？**
Are there transcriptionally inactive regions localized in a budding yeast nucleus?
Naoko Tokuda, Shin Fujishiro, Masaki Sasai (*Grad. Sch. Engr., Univ. Nagoya*)

2P267 **Computational chromosome conformation sampling of human diploid genome**
Shin Fujishiro, Naoko Tokuda, Masaki Sasai (*Grad. Sch. Eng., Univ. Nagoya*)

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

2P268 **相補性に依らないタンパク質—タンパク質ドッキングポーズ予測法**
A protein-protein docking prediction method not relying on the shape complementarity
Atsushi Hijikata, Masafumi Shionyu, Tsuyoshi Shirai (*Nagahama Inst. Bio-Sci. Tech.*)

2P269 **データベース IDEAL の新機能と機能性天然変性領域の配列・構造比較**
The update of the IDEAL database, and sequence and structure comparisons of intrinsically disordered regions
Satoshi Fukuchi[1], Takayuki Mamemiya[2], Shigetaka Sakamoto[3], Yukiko Nobe[2], Yumiko Kado[2], Kazuo Hosoda[1], Ryoutaro Koike[2], Hidekazu Hiroaki[4], Motonori Ota[2] ([1]*Maebashi IT*, [2]*Nagoya Univ. SIS*, [3]*Holonics*, [4]*Nagoya Uni. BMS*)

2P270 **GGIP : GPCR-GPCR Interaction Pair Predictor**
Wataru Nemoto[1,2], Yoshihiro Yamanishi[3], Vachiranee Limviphuvadh[4], Hiroyuki Toh[2] ([1]*Grad. Sch. Sci and Eng., TDU*, [2]*CBRC., AIST*, [3]*MiB., Univ. Kyushu*, [4]*BII., A*STAR*)

2P271 **Re-docking によって正解候補構造が多く得られるタンパク質分子表面の特徴の解析**
Analysis of properties of protein-protein interaction surface areas involved in more near-native complexes by Re-docking scheme
Nobuyuki Uchikoga[1], Yuri Matsuzaki[2], Masahito Ohue[3,4], Yutaka Akiyama[2,4], Takatsugu Hirokawa[5] ([1]*Dept. Phys., Chuo Univ.*, [2]*ACLS, Tokyo Tech*, [3]*JSPS Res. Fellow*, [4]*Grad. Sch. Inform. Sci. and Eng., Tokyo Tech.*, [5]*MolProf, AIST*)

2P272 **A Ligand Based Virtual Screening method that takes into account of protein-ligand interactions**
Koya Kato, George Chikenji (*Sasai group, Department of Computational Science and Engineering, Graduate School of Engineering, Nagoya University*)

24. 数理生物学 / 24. Mathematical biology

2P273 **生命システムにおける情報の適応的価値**
Fitness Value of Information in Biological Systems
Tetsuya J. Kobayashi[1], Yuki Sughiyama[2] ([1]*IIS, Univ. Tokyo*, [2]*College of Arts and Sciences, Univ. Tokyo*)

2P274 **Detecting the selection acting on heterogeneous cell phenotypes without environmental perturbation**
Takashi Nozoe, Yuichi Wakamoto (*Univ of Tokyo*)

2P275 **完全変態昆虫の最適成長スケジュール**
Optimal growth schedule of holometabolous insects
Ken-ichi Hironaka[1,2], Yoshihiro Morishita[1] ([1]*RIKEN CDB*, [2]*JSPS Research Fellow*)

2P276 **時間依存する出生死滅過程に対する代数的アプローチ**
Algebraic approach to time-inhomogeneous birth-death processes
Jun Ohkubo (*Grad. Sch. Informatics, Kyoto Univ.*)

2P277 **多繊毛細胞における繊毛の空間配向秩序のモデル化**
Modeling of spatial distribution and orientational order of cilia mediated by multi-ciliated cells
Hironobu NOGUCHI[1], Shuji ISHIHARA[2] ([1]*Graduate School of Arts and Sciences, the University of Tokyo*, [2]*Department of Physics, School of Science and Technology, Meiji University*)

2P278 **マイクロアレイデータに基づく植物の遺伝子発現揺らぎと機能の関係**
Analysis of between gene fluctuation and function of plants based on microarray data
Kodai Hirao[1], Atsushi Nagano[2] ([1]*Dept. of Mathematical and Life Sciences, Hiroshima Univ.*, [2]*Center for Ecological Research, Kyoto Univ.*)

2P279 **化学反応における少数性効果の理論解析**
Mathematical Analysis of Small Number Effect in Biochemical Reactions
Nen Saito, Yuki Sughiyama, Kunihiko Kaneko (*Grad. Sch. Art. Sci., Univ. Tokyo*)

2P280 **人工遺伝子回路における下流レポーター遺伝子の影響**
Effects of downstream reporter genes on synthetic genetic circuits
Takefumi Moriya[1], Masayuki Yamamura[1], Daisuke Kiga[1,2] ([1]*Tokyo Institute of Technology, Department of Coputational Intelligence and Systems Science*, [2]*Tokyo Institute of Technology, Earth-Life Science Institute*)

2P281 **類似分子識別機構の数理モデル**
Mathematical modeling of molecular discrimination system
Masashi Kajita[1], Kazuyuki Aihara[1,2], Tetsuya J. Kobayashi[1,2] ([1]*Department of Mathematical Informatics, Graduate School of Information Science and Technology, The University of Tokyo*, [2]*Institute of Industrial Science, The University of Tokyo*)

25. 非平衡・生体リズム / 25. Nonequilibrium state & Biological rhythm

2P282 **油中水滴による非平衡な人工細胞システム**
Nonequilibrium artificial cell system based on water-in-oil microdroplet
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.*)

2P283 **細胞濃度制御のためのマイクロ流体ケモスタット**
Microfluidic chemostat for cell density control
Manami Ito[1], Haruka Sugiura[1], Masahiro Takinoue[1,2] ([1]*Interdisciplinary Grad. Sch. Sci. and Eng., Tokyo Institute of Technology*, [2]*PRESTO, JST*)

2P284 **微小液滴を用いた非線形化学反応間の相互作用**
Interaction among nonlinear chemical reactions based on microdroplets
Tomoya Okuaki[1], Haruka Sugiura[1], Masahiro Takinoue[1,2] ([1]*Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology*, [2]*PRESTO, JST*)

2P285 **自律的に駆動する複雑形状粒子の並進、回転、円運動**
Translational, rational, circular motions of self-driven complex-shaped microparticles
Masayuki Hayakawa[1], Hiroaki Onoe[2], Ken H. Nagai[3], Masahiro Takinoue[1,4] ([1]*Interdisciplinary Grad. Sch. Sci. and Eng., Tokyo Tech.*, [2]*Dept. of Mech. Eng., Keio University*, [3]*School of Materials Science, JAIST*, [4]*PRESTO, JST*)

2P286 **The analysis of energy transfer in Chaotic Dynamical Systems 2**
Mami Kushida[1], Kana Fuji[1], Mikito Toda[2], Hiroshi Fujisaki[3] ([1]*Grad., Univ. Nara-wu.*, [2]*Univ. Nara-wu.*, [3]*NMS*)

26. 計測 / 26. Measurements

2P287 **イメージングバイオマーカーを用いた標的細胞検出のためのオンチップマルチイメージングセルソータシステムの認識アルゴリズム開発**
Development of the cell imaging biomarker identification algorism for on-chip multi imaging cell sorter system
Masao Odaka[1], Hyonchol Kim[1], Mathias Girault[1], Akihiro Hattori[1], Hideyuki Terazono[1,2], Kenji Matsuura[1], Kenji Yasuda[1,2] ([1]*Kanagawa Academy of Science and Technology*, [2]*Tokyo Medical and Dental University*)

2P288 **標的細胞特定のためのイメージングバイオマーカー：血中循環がん細胞クラスター同定の例**
Imaging biomarkers for identification of target cells: Identification of clustered circulating tumor cells as an example
Hyonchol Kim[1], Hideyuki Terazono[1,2], Akihiro Hattori[1], Masao Odaka[1], Mathias Girault[1], Kenji Yasuda[1,2] ([1]*KAST*, [2]*Inst. Biomat. Bioeng., Tokyo Med. Dent. Univ*)

2P289 **Optimization of the cell encapsulation in the water in oil droplet using 3D printed object**
Mathias Girault[1], Akihiro Hattori[1], Hyonchol Kim[1], Kenji Matsuura[1], Masao Odaka[1], Yumi Mikami[1], Hideyuki Terazono[1,2], Kenji Yasuda[1,2] ([1]*Kanagawa Academy of Science and Technology*, [2]*Tokyo Medical and Dental University*)

2P290 **Single particle detection of influenza virus by micro droplet array**
Shuho Kidokoro[1], Kazuhito V. Tabata[1,2], Hiroyuki Noji[1] ([1]*Department of Applied Chemistry, Graduate School of Engineering, The University of Tokyo*, [2]*PRESTO, JST*)

2P291 **水中に発生させたレーザー励起キャビテーションバブルの高速温度場イメージング**
Fast temperature measurement following single laser-induced cavitation inside a microfluidic gap
Madoka Suzuki[1,2], Pedro A. Quinto-Su[3], Claus-Dieter Ohl[4] ([1]*WABIOS, Singapore*, [2]*Org. Univ. Res. Initiatives, Waseda Univ.*, [3]*ICN, UNAM, Mexico*, [4]*SPMS, NTU, Singapore*)

2P292 **振動和周波検出赤外超解像顕微鏡法による毛髪試料の分子構造解析**
Molecular structural analysis of human hair samples by VSFG detected IR super-resolution microscopy
Makoto Sakai[1], **Yukihisa Watase**[2], Kohei Ushio[1], Haruki Ishikawa[2], Masaaki Fujii[1], Shinobu Nagase[3], Takashi Itou[3] ([1]*Tokyo Institute of Technology*, [2]*Kitasato University*, [3]*Kao Corporation*)

2P293 **筋芽細胞のインパルス応答特性とひずみエネルギ計測**
Measurements of impuls responce and strein energy for a single myoblast
Takayuki Hoshino, Yuki Miyazako, Akira Wagatsuma, Kuihiko Mabuchi (*IPC, UTokyo*)

2P294 **マイクロ電極アレイ上における非拍動性単一細胞のインピーダンスベースによる電気生理学的解析**
Non-firing impedance-based electrophysiological analysis of single cells on micro-electrode arrays
Kenji Matsuura[1], Akihiro Hattori[1], Fumimasa Nomura[2], Hideyuki Terazono[2], Kenji Yasuda[1,2] ([1]*Kanagawa Academy of Science and Technology*, [2]*Tokyo Medical and Dental Univ.*)

2P295 **a-Si:H 光機能制御可能な生体分子固体電解質によるバイオセンサ**
Biosensor using electrochemical biomolecular element photo-controlled on hydrogenated amorphous silicon film
Yutaka Tsujiuchi[1], Hiroshi Masumoto[2], Takashi Goto[3] ([1]*Dept of Mat Sci & Eng, Akita Univ*, [2]*FRIS, Tohoku Univ*, [3]*Inst for Mat Res, Tohoku Univ*)

27. バイオイメージング / 27. Bioimaging

2P296 **時間イメージ相関分光法によるダイナミック生細胞内オルガネラ解析**
Live cell analysis of organelle dynamics using temporal image correlation spectroscopy
Yasuo Takahashi, Isao Sakane (*Olympus Corporation*)

2P297 **マウス耳介内がん細胞およびがん組織の非侵襲イメージング**
Noninvasive *in vivo* imaging of tumor cells and tissue in mouse auricles
Sayaka Kita (*Dept. of Physics, University of Tokyo*)

2P298 **炎症反応抑制タンパク質 PDLIM2 の活性化分子機構の解明**
The elucidation of the molecular mechanism of PDLIM2 activation
Satoshi Toriyama[1,2], Yuma Ito[1,2], Takashi Tanaka[2], Makio Tokunaga[1,2], Kumiko Sakata-Sogawa[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS, RIKEN*)

2P299 **超解像光学顕微鏡の動画から見積もったアクチンのダイナミクス**
Dynamics of actin and actin assoicate proteins estimated from superresolution image data
Kaoru Katoh[1,2], Saori Mimatsu[1,2], Minami Tanaka[1,2] ([1]*Biomed RI, AIST*, [2]*Grad. Sch. Life & Enviromental Sci.*)

2P300 **2 軸クライオ電子線トモグラフィーと光学顕微鏡同視野観察を用いた無傷細胞の 3D-イメージングへの挑戦**
The challenge to intact cell 3D-imaging by dual-axis Cryo-electron tomography and correlative light imaging
Ruriko Ogawa[1], Takako M. Ichinose[1], Rina Nagai[1], Kazuhiro Aoyama[2,3], **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*)

2P301 **FIB（Focused Ion Beam: 集束イオンビーム加工）-SEM による全細胞レベル、ナノスケール分解能での細胞周期の可視化**
Visualization of cell cycle by three-dimensional FIB-SEM with nanoscale resolution at whole cell level
Rina Nagai[1], Keisuke Ohota[1,2], Takako M. Ichinose[1], Akinobu Togo[2], Atsuko H. Iwane[1,3] ([1]*Cell Field Struc., QBiC, Riken*, [2]*Anatomy, Med., Kurume Univ.*, [3]*Spec. Res. Promot. Group, Grad. Sch. Fronti. Biosci., Osaka Univ.*)

2P302 **1 型リアノジン受容体 N 末領域における悪性高熱症に関わる機能的変異**
Functional mutations in N-terminal region of type 1 ryanodine receptor in malignant hyperthermia
Toshiko Yamazawa[1], Takashi Murayama[2], Hideto Oyamada[3], Junji Suzuki[4], Nagomi Kurebayashi[2], Kazunori Kanemaru[4], Maki Yamaguchi[1], Shigeru Takemori[1], Masamitsu Iino[4] ([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*)

2P303 **Development of Nano Electrochemical Mircoscope for living cell imaging**
Yasufumi Takahashi[1], Sen Mustafa[2], Yoshiharu Matsumae[2], Kosuke Ino[2], Hitoshi Shiku[2], Tomokazu Matsue[1,2] ([1]*Tohoku University, WPI-AIMR*, [2]*Tohoku University, Graduate School of Environmental Studies*)

2P304 **Real-time fluorescence imaging of quantum dot-loaded single synaptic vesicles**
Masashi Ohmachi, Tomoyuki Takahashi (*OIST*)

2P305 **原子間力顕微鏡や表面力測定装置によって測定されたフォースカーブを元に溶媒和構造を計算する方法**
A method for calculating the solvation structure from force curves measured by atomic force microscopy and surface force apparatus
Ken-ichi Amano (*Grad. Sch. Eng., Kyoto Univ.*)

2P306 **細胞における緑色蛍光タンパク質のカソードルミネッセンス**
Cathodeluminescence of Green Fluorescent Protein in Cell
Kazuyoshi Murata[1], Ryusuke Ueno[2], Naoki Yamamoto[3], Hideji Murakoshi[1], Kuniaki Nagayama[4], Hiroki Minoda[2] ([1]*National Institute for Physiological Sciences*, [2]*Tokyo University of Agriculture and Technology*, [3]*Tokyo Institute of Technology*, [4]*The Graduate University for Advanced Studies (SOKENDAI)*)

2P307 **細胞内分子混雑感受性蛍光蛋白質の開発**
Glycine-inserted mutant Forster resonance energy transfer (FRET) fluorescent protein to evaluate intracellular crowding
Takamitsu Morikawa[1], Hiroaki Machiyama[2], Kazuko Okamoto[3], Keiko Yoshizawa[3], Hideaki Fujita[2,3], Taro Ichimura[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]*WPI, Immunology Frontier Research Center, Osaka University*, [3]*RIKEN Quantitative Biology Center (QBiC)*, [4]*Department of Macromolecular Science, Graduate School of Science, Osaka University*, [5]*Institute of Sciencific and Industrial Research Center, Osaka University*)

2P308 **赤外超解像イメージングによる毛髪 α-ケラチンの分子配向観察**
Orientation-sensitive IR super-resolution imaging of human hair α-keratins
Kohei Ushio[1], Yukihisa Watase[2], Haruki Ishikawa[2], Masaaki Fujii[1], Makoto Sakai[1] ([1]*Tokyo Institute of Technology*, [2]*Kitasato University*)

2P309 **オルガネラの低温コヒーレント X 線回折イメージング**
Cryogenic coherent X-ray diffraction imaging of cellular organelle particles
Yuki Sekiguchi[1,2], Amane Kobayashi[1,2], Saki Hashimoto[1,2], Tomotaka Oroguchi[1,2], **Masayoshi Nakasako**[1,2], Yuki Takayama[2], Koji Yonekura[2], Masaki Yamamoto[2], Yayoi Inui[3], Sachihiro Matsunaga[3], Yuichi Ichikawa[4], Hitoshi Kurumizaka[4], Mitsuhiro Shimizu[5] ([1]*Sci. Tech., Keio Univ.*, [2]*RIKEN SPring-8 Center*, [3]*Sci. Tech., Tokyo Univ. Sci.*, [4]*Sci. Tech., Waseda Univ.*, [5]*Sci. Tech., Meisei Univ.*)

2P310 **Real-Time Observation of Single Macromolecular Rotation Using Gold Nanorods**
Wen-Hsuan Chang, Hung-Wen Li (*Department of Chemistry, National Taiwan University*)

2P311 **生細胞における 1 分子内在性 mRNA イメージングのためのアンチセンスプローブの開発**
Development of potent antisense probes for imaging individual endogenous mRNA in live cells
Shunsuke Takeda[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Grad. Sch. Pharma. Sci., Univ of Tokyo*, [2]*JST, PRESTO*)

2P312 **広範囲な細胞内カルシウム濃度に対応する GECO 変異体系列**
A series of GECO mutants suitable for calcium imaging in a wide range of calcium concentration
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, RIKEN*)

2P313 **ラスター画像相関分光法の画像取得条件最適化と生細胞の定量解析への応用**
Optimization in raster image correlation spectroscopy and application of quantitative live cell measurements
Takashi Horio[1], Johtaro Yamamoto[2], Akira Sasaki[3], Masataka Kinjo[2] ([1]*Lab. Mol. Cell Dynamics, Grad. Life Sci., Hokkaido Univ.*, [2]*Lab. Mol. Cell Dynamics, Fac. Adv. Life Sci., Hokkaido Univ.*, [3]*Biomedical Research Inst., AIST.*)

28. バイオエンジニアリング / 28. Bioengineering

2P314 **リポソーム融合法を用いたハイブリッドエクソソームの構築**
Development of hybrid exosomes by liposome fusion
Yuko Sato[1,2], Kaori Umezaki[1,2], Shin-ichi Sawada[1,2], Sada-atsu Mukai[1,2], Kazunari Akiyoshi[1,2] ([1]*Grad. Sch. of Engineering, Kyoto Univ.*, [2]*JST-ERATO*)

2P315 **自律移動人工アメーバの構築に向けて**
Toward creating an autonomous mobile artificial amoeba
Yoshiaki Tanaka[1], Yuichi Hiratsuka[2], Kei Fujiwara[3], Satoshi Murata[1], Shin-ichiro M. Nomura[1] ([1]*Grad. Sch. Eng., Tohoku Univ.*, [2]*Sch. Matl. Sci., JAIST*, [3]*Grad. Sch. Sci. Tech., Keio Univ.*)

2P316 **96 穴 ANSI/SBS プラットフォームの 3 分間超高速 PCR と融解曲線分析に向けた温度均質性と正確な温度制御技術の開発**
A temperature-control technique with great accuracy and uniformity for a ANSI/SBS plate for 3-min PCR and a melting curve analysis
Hideyuki Terazono[1,2], Hyonchol Kim[2], Kenji Matsuura[2], Akihiro Hattori[2], Fumimasa Nomura[1], Kenji Yasuda[1,2] ([1]*Tokyo Med. Dent. Univ.*, [2]*Kanagawa Acad. Sci. Tech.*)

2P317 **Peptide-based ligand screening system for G protein-coupled receptors (GPCRs) using water-in-oil microdroplets**
Takashi Sakurai[1], Ryo Iizuka[1], Yasuyuki Nakamura[2], Jun Ishii[3], Rui Sekine[4], Yoon Dong H.[4], Tetsushi Sekiguchi[5], Akihiko Kondo[2], Shuichi Shoji[4], Takashi Funatsu[1] ([1]*Grad. Sch. of Pharm. Sci., Univ. of Tokyo*, [2]*Grad. Sch. of Sci. and Tech., Kobe Univ.*, [3]*Org. of Advanced Sci. and Tech., Kobe Univ.*, [4]*Major in Nanosci. and Nanoeng., Waseda Univ.*, [5]*Nanotech. Research Center, Waseda Univ.*)

2P318 **96 ウエル SBS フォーマットサンプルの同時実時間解析のための光学系の開発**
Investigation of wide range optical set-up for simultaneous real-time analysis of 96-well SBS formatted samples
Akihiro Hattori[1], Hideyuki Terazono[2], Kenji Matsuura[1], Hyonchol Kim[1], Masao Odaka[1], Mathias Girault[1], Kenji Yasuda[1,2] ([1]*Kanagawa Academy of Science and Technology*, [2]*Tokyo Medical and Dental University*)

2P319 **ナノポアとナノスリットにおける DNA 通過ダイナミクス**
DNA dynamics and translocations though solid-state nanopore and nanoslit
Yuta Kato, Shohei Kawaguchi, Kensaku Shibasaki, Kentaro Ishida, Toshiyuki Mitsui (*Coll. of Sci. & Eng., Aoyama Gakuin Univ.*)

2P320 **電極付加ナノポアの DNA 通過とその挙動解析**
DNA motions near a nanopore with a voltage controlled gate embedded in dielectrics
Shohei Kawaguchi, Yuta Kato, Kensaku Shibasaki, Kentaro Ishida, Toshiyuki Mitsui (*Coll. of Sci. & Eng., Aoyama Gakuin Univ.*)

2P321 **マイクロ波でアシストされた蛋白質加水分解酵素の速度論解析**
Kinetic analysis of microwave assisted enzymatic protein digestion
Arata Shiraishi[1], Hiroya Osoegawa[1], Takeo Yoshimura[1,2], Shokichi Ohuchi[1] ([1]*Dept. Biosci. & Bioinform., Kyushu Inst. Tech.*, [2]*Dept. Appl. Biol. Sci. Tokyo Univ. Sci*)

2P322 **精密な温度制御下でのマイクロ波照射酵素反応**
Microwave irradiated enzyme reaction under controlled temperature
Kengo Kawachi, Fujiko Aoki, Arata Shiraishi, Shokichi Ohuchi (*Dept. Biosci. & Bioinform., Kyushu Inst. Tech.*)

2P323 **好熱菌のマイクロ波加熱培養**
Microwave heating cultivation of Thermus thermophilus
Wataru Nagayoshi[1], Ryota Nakama[1], Takeo Yoshimura[2], Makoto Kodama[3], Shokichi Ohuchi[1] ([1]*Dept. Biosci. & Bioinform., Kyushu Inst. Tech.*, [2]*Dept. Appl. Biol. Sci., Tokyo Univ. Sci.*, [3]*Vessel Inc.*)

第 3 日目（9 月 27 日（土））／Day 3（Sep. 27 Sat.）大ホール / Main Hall

01A. 蛋白質：構造 / 01A. Protein: Structure

3P001 **各種蛍光タンパク質が疎水的環境下において示す蛍光特性の違いに関する構造学的アプローチ**
Different sensitivity of various fluorescent proteins to hydrophobic environments
Suguru Asai, Hide A. Konishi, Kunio Takeyasu, Shige H. Yoshimura (*Grad. Schl. Biostudies., Univ. Kyoto*)

3P002 **溶液中で配向させたコラーゲンの X 線繊維回折**
X-ray diffraction study of aligned collagen fiber
Yasunobu Sugimoto[1,2], Sakurako Hayashi[3], Sayaka Hayashi[2], Nobuhisa Watanabe[1,2], Shinji Kamimura[4], Takanori Kihara[5] ([1]*Nagoya Univ. Synchrotron Radiation Research Center*, [2]*Grad. Sch. Eng., Nagoya Univ.*, [3]*Fac. Eng., Nagoya Univ.*, [4]*Fac. Sci. & Eng., Chuo Univ.*, [5]*Fac. Environmental Eng., Univ. Kitakyushu*)

3P003 **セグメンテーション＆フィッティング - 低解像度密度マップへの複数のサブユニットのあてはめ計算法 -**
Segmentation & fitting algorithm for multiple subunit fitting into a low resolution density map
Takeshi Kawabata, Hirofumi Suzuki, Haruki Nakamura (*Inst. Prot. Res., Osaka Univ.*)

3P004 **構造データベース中の 3 次元電子顕微鏡データの形状比較とフィッティング**
Shape comparison of 3D electron microscopy data using both feature-vectors and GMM-based superimpositions
Hirofumi Suzuki[1,2], Takeshi Kawabata[1], Haruki Nakamura[1,2] ([1]*IPR, Osaka-u*, [2]*PDBj*)

3P005 **スピンラベルタンパクの変性過程におけるダイナミックな電子スピン共鳴線形の解析**
An analysis of Dynamic Electron Paramagnetic Resonance Lineshape for a Denaturation Process of Spin-labeled Protein
Yasunori Ohba[1], Tetsuya Itabashi[1], Munehito Arai[2], Jun Abe[3], Toshikazu Nakamura[3], Satoshi Takahashi[1], Seigo Yamauchi[1] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. Art and Sci, Univ. Tokyo*, [3]*IMS*)

3P006 **TEM 単粒子解析と大気圧電子顕微鏡（ASEM）によるタンパク質複合体形成の観察**
TEM single particle reconstruction and atmospheric SEM of protein complex formations
Chikara Sato, Kazuhiro Mio, Nassirhadjy Memtily, Mari Sato, Tatsuhiko Ebihara, Toshihiko Ogura (*Biomed-Ri., AIST*)

3P007 **Systematic structural study 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.*)

3P008 **分子動力学シミュレーションを用いた Hras-GTP 複合体の溶媒水と複合体の水素結合の解析**
Analysis of hydrogen bonds between solvent water and atoms in the Hras-GTP complex by molecular dynamics simulations
Miyakawa Takeshi[1], Ryota Morikawa[1], Masako Takasu[1], Kimikazu Sugimori[2], Kazutomo Kawaguchi[2], Hiroaki Saito[2], Hidemi Nagao[2] ([1]*Tokyo Univ. of Pharmacy and Life Sci.*, [2]*Kanazawa Univ.*)

3P009 **固体 NNR を用いたヌクレオソームにおけるヒストン H2A、H4 の構造解析**
Structural analysis of histone H2A, H4 in nucleosome using by solid-state NMR
Yasuto Todokoro[1], Yoshihito Moriwaki[2], Aritaka Nagadoi[2], Hiroaki Tachiwana[3], Hitoshi Kurumizaka[3], Yoshifumi Nishimura[2] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*Grad. Sch. Med. Life Sci., Yokohama City Univ.*, [3]*Sch. Adv. Sci. & Eng., Waseda Univ.*)

3P010 **細胞接着ペプチドと α2β1 インテグリン I ドメインとの結合シミュレーション**
Docking simulation of cell adhesion peptide and α2β1 integrin I domain
Hironao Yamada[1], Takeshi Miyakawa[1], Ryota Morikawa[1], Fumihiko Katagiri[2], Kentaro Hozumi[2], Yamato Kikkawa[2], Motoyoshi Nomizu[2], Masako Takasu[1] ([1]*Sch of Life Sci, Tokyo Univ of Pharm and Life Sci*, [2]*Sch of Pharm, Tokyo Univ of Pharm and Life Sci*)

3P011 **DFTB+ソフトウェアへの REUS 法の導入**
Implementation of Replica-Exchange Umbrella Sampling to the DFTB+ Simulation Package
Shingo Ito[1], Yuko Okamoto[1], **Stephan Irle**[2,3] ([1]*Dept. Phys., Grad. Sch. Sci., Univ. Nagoya*, [2]*Dept. Chem., Grad. Sch. Sci., Univ. Nagoya*, [3]*WPI-Institute of Transformative Bio-Molecules*)

3P012 **Preliminary study of voltage-gated proton channel in activated state for X-ray crystallography**
Wataru Kumano[1], Kohei Takeshita[1,2], Kohta Emura[1], Eiki Yamashita[1], Yasushi Okamura[3], Atsushi Nakagawa[1] ([1]*IPR., Osaka Univ.*, [2]*IAI., Osaka Univ.*, [3]*Grad. Sch. Med., Osaka Univ.*)

3P013 **アミロイドβの構造探索 II**
Conformational Search of Amyloid β Peptide II
Satoshi Yokojima[1,2] ([1]*Tokyo Univ. of Pharmacy and Life Sci., School of Pharmacy*, [2]*RIKEN*)

3P014 **蛋白質の二次構造形成に関わる相互作用に関する理論的研究**
Theoreical analysis of molecular interactions in secondary strucutures of proteins
Yu Takano, Ayumi Kusaka, Haruki Nakamura (*IPR, Osaka University*)

3P015 **コレラ菌走化性受容体 Mlp24,Mlp37 のリガンド認識機構**
Ligand recognition mechanism of Mlp24 and Mlp37, chemoreceptor proteins of *Vibrio cholerae*
Yohei Takhashi[1], Kazumasa Sumita[1], Yumiko Uchida[1], So-ichiro Nishiyama[2], Ikuro Kawagishi[2], Katsumi Imada[1] ([1]*Grad. Sch. Sci. Osaka Univ.*, [2]*Dept. Front. Biosci. Sci., Hosei Univ.*)

3P016 **DFG-out コンフォメーションを持つ MEK1 構造**
Structure of MEK1 in DFG-Out conformation
Setsu Nakae[1], Daishuke Fujiwara[2], Katsuya Doko[2], Tsuyoshi Shirai[1], Toshiji Tada[2] ([1]*Dept. BioSci., Nagahama Inst. Bio-Sci. Tech.*,, [2]*Grad. Sch.Sci., Osaka Pref. Univ.*)

3P017 **2D hybrid analysis: A new approach to build 3D atomic model from 2D EM image**
Atsushi Matsumoto[1], Junichi Takagi[2], Kenji Iwasaki[2] ([1]*JAEA*, [2]*Osaka University*)

3P018 **Structural analysis of the intron-encoded domain of herstatin**
Daisuke Tashiro[1], Yuuki Hayashi[1], Munehito Arai[1,2] ([1]*Dept. of Life Sci., Univ. Tokyo*, [2]*PRESTO, JST*)

3P019 **分子動力学法を用いた高圧下における c-Myb R2 ドメインのキャビティ圧縮と構造変化および揺らぎとの関係**
A relationships among compression of the cavity of c-MybR2, conformational changes and fluctuation under high-pressure using MD simulation
Takuya Sogabe[1], Hisashi Yoshida[1], Kazuyuki Akasaka[2] ([1]*Graduate school of Biology-Oriented Science and Technology, Kinki University*, [2]*Department of Computational Systems Biology, Faculty of Biology-Oriented Science and Technology, Kinki University*)

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

3P020 **ヒスタミン H_1 受容体の分子内情報伝達機構に関する理論的研究**
Computational study on the intramolecular signaling mechanism of histamine receptor
Yuko Ishii, Takakazu Ishikura, Takahisa Yamato (*Grad. Sch. Sci., Nagoya Univ.*)

3P021 **KcsA カリウムチャネルの開構造への構造変化前における分子揺らぎの増大**
The Enhancement of Structural Fluctuations Prior to The Opening Conformational Changes of The KcsA Potassium Channel
Hirofumi Shimizu, Masayuki Iwamoto, Yumiko Oota, Shigetoshi Oiki (*Univ.Fukui.Fac.Med.Sci*)

3P022 **Coarse-grained Generalized Born and surface area models and its application to protein docking**
Le Chang[1], Wenfei Li[2], Naoto Hori[1], Shoji Takada[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Dept. Phys., Nanjing Univ.*)

3P023 **Factor Xa に対する薬剤候補分子の結合自由エネルギー:3D-RISM 計算**
Predicting binding free energy of drug candidates to Factor Xa : 3D-RISM study
Sayaka Kohara[1], Masatake Sugita[2], Masanari Matsuoka[1], Takeshi Kikuchi[1], Fumio Hirata[1] ([1]*Dept. Bioinf., Col. Life Sci., Ritsumeikan Univ.*, [2]*Res. Org. Sci. Tech., Ritsumeikan Univ.*)

3P024 **多剤排出トランスポーター AcrB の構造回転機構に対する物理描像**
Physical Picture for Mechanism of Conformational Rotation of Multidrug Transporter AcrB
Hirokazu Mishima[1], **Hiraku Oshima**[2], Satoshi Yasuda[2], Masahiro Kinoshita[2] ([1]*Grad. Sch. Energ. Sci., Kyoto Univ.*, [2]*Inst. Adv. Energ., Kyoto Univ.*)

3P025 **Conformational motions in protein machines: elastic-network computational studies**
Holger Flechsig (*Department of Mathematical and Life Sciences, Graduate School of Science, Hiroshima University*)

3P026 **野生型および変異型 CYP2B6 の柔らかさが薬物代謝に与える影響の推定**
Computational studies for the influences of protein flexibilities on enzymatic activities of the wild type and mutants of CYP2B6
Akifumi Oda[1,2], Kana Kobayashi[3], Yurie Watanabe[1], Shuichi Fukuyoshi[1], Masahiro Hiratsuka[4], Noriyuki Yamaotsu[5], Shuichi Hirono[5], 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.*, [4]*Grad. Sch. Pharm. Sci., Tohoku Univ.*, [5]*Sch. Pharmacy, Kitasato Univ.*)

3P027 **タンパク分子内の力学的情報伝達の特徴付け—粗視化モデルによる試み**
Classification of Mechanical Communication in Proteins: A Coarse-Grained Study
Yuichi Togashi (*RCMCD, Grad. Sch. Sci., Hiroshima Univ.*)

3P028 **粗視化分子シミュレーションによる MEK1-ERK2 相互作用の調査**
Interactions of MEK1 with ERK2 in mammalian MAPK pathway studied by coarse-grained molecular simulations
Ryo Kanada, Shoji Takada (*Grad. Sch. Sci., Univ. Kyoto*)

3P029 **キャビティーが蛋白質機能を制御する**
Cavity controls protein function
Kazuyuki Akasaka (*Kinki University Institute of Advanced Technology High Pressure Protein Research Center*)

3P030 **ソーシャブルなリガンド結合部位の構造的また物理化学的特徴に関する研究**
A Study for the Structural and Physicochemical Properties of Sociable Ligand-Binding Sites in Proteins
Yoichi Murakami, Kengo Kinoshita (*Graduate School of Information Sciences, Tohoku University*)

3P031 **単一シアル酸オリゴ糖上でのマイコプラズマの滑走と結合**
Gliding and binding of mycoplasma on uniform sialylated oligosaccharide
Taishi Kasai, Tasuku Hamaguchi, Makoto Miyata (*Osaka City University, Graduate School of Science*)

3P032 **抗 HIV 因子 APOBEC3G の基質認識及びスライディング機構の実時間 NMR 解析**
Substrate Recognition and Sliding Properties of an Anti-HIV Factor APOBEC3G analyzed by Real-time NMR Monitoring Strategy
Keisuke Kamba[1,2], Takashi Nagata[1,2], Masato Katahira[1,2] ([1]*Inst. of Advanced Energy, Kyoto Univ.*, [2]*Grad. Sch. of Energy Science, Kyoto Univ.*)

3P033 **セルラーゼ TrCel7A の基質取り込み機構に関する分子シミュレーション研究**
Molecular simulation study on the mechanism of substrate uptake in cellulase TrCel7A
Takashi Kanazawa, Minoru Sakurai, Tadaomi Furuta (*Center for Biol. Res. Info., Tokyo Tech*)

3P034 **レプリカ交換 MD 及びフラグメント MO 計算によるアミロイド β ダイマーの水中での安定構造の探索**
Replica exchange MD and ab initio fragment MO calculations for searching stable conformations of amyloid-b dimer in water
Hiromi Ishimura, Akisumi Okamoto, Atsushi Yano, **Noriyuki Kurita** (*Toyohashi University of Technology*)

3P035 **Elastic Network Model を用いた ABC トランスポーターの global motion の解析**
Global motion of ABC transporters using nonlinear relaxation dynamics in elastic network model
Naoki Arai, Tadaomi Furuta, Minoru Sakurai (*Center for Boil. Res. & inform., Tokyo Tech*)

3P036 **一酸化炭素型ヘモグロビンの光解離中間体の X 線結晶構造**
X-ray crystal structures of carbonmonoxy hemoglobin photolysis intermediates
Ayana Tomita[1], Tokushi Sato[1], Hiroki Noguchi[2], Shunsuke Nozawa[1], Shin-ya Koshihara[3], Sam-Yong Park[2], Naoya Shibayama[4], Shin-ichi Adachi[1,5] ([1]*Photon Factory, KEK*, [2]*Gra. Sch. Nanobiosci., Yokohama City Univ.*, [3]*Dep. Mat. Sci., Tokyo Tech/JST-CREST*, [4]*Div. Biophys., Jichi Med. Univ.*, [5]*JST-PREST*)

3P037 **抗体デザイン手法の開発に向けた抗原認識機構の解明**
Elucidation of antigen recognition by antibodies toward the development of a method for antibody design
Yuko Tsuchiya, Kenji Mizuguchi (*NIBIO*)

3P038 **MD シミュレーションで探るマルトーストランスポーター ATP アーゼ（MalK）のダイナミクスと構造変化**
Dynamics and Structural Changes of Maltose Transporter ATPase (MalK) as studied by MD simulations
WeiLin Hsu, Tadaomi Furuta, Minoru Sakurai (*Center for Biol. Res. & Inform., Tokyo Tech*)

3P039 **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*)

3P040 **高速原子間力顕微鏡による Kai タンパク質間相互作用の観察**
Interactions between Kai Proteins observed by high-speed AFM
Shogo Sugiyama[1], Mori Tetsya[2], Takayuki Ucihashi[1,3], Carl H. Johnson[2], Toshio Ando[1,3] ([1]*Dept. of phys., Univ. Kanazawa*, [2]*Dept. of Biol. Sci., Univ. Vanderbilt*, [3]*Bio-AFM FRC., Univ. Kanazawa*)

3P041 **高速 AFM による細胞質ダイニンの動態観察**
Observation of structural dynamics of cytoplasmic dynein by High Speed AFM
Yusuke Kumagai[1], Takayuki Uchihashi[1,2], Yoko Toyoshima[3], Muneyoshi Ichikawa[3], Toshio Ando[1,2] ([1]*College of Science and Engineering, Kanazawa University*, [2]*Bio-AFM Frontier Research Center, College of Science and Engineering, Kanazawa University*, [3]*The University of Tokyo*)

3P042 **ハミルトニアンレプリカ置換分子動力学法の Aβ フラグメントへの応用**
Applications of the Hamiltonian replica-permutation molecular dynamics simulations to Aβ fragments
Satoru G. Itoh[1,2], Hisashi Okumura[1,2] ([1]*IMS*, [2]*Sokendai*)

3P043 **Mutagenesis study of an antifreeze protein isoform from a snow-mold fungus, Typhula ishikariensis**
Jing Cheng[1,2], Yuichi Hanada[1,2], Hidemasa Kondo[1,2], Sakae Tsuda[1,2] ([1]*Grad. Sch. Life. Sci., Hokkaido Univ*, [2]*Biopro. Res. Inst., AIST*)

3P044 **Thg1-like タンパク質の機能構造解析**
The functional and structural analysis of Thg1-like protein
Shoko Kimura[1], Tateki Suzuki[1], Jian Yu[2], Keisuke Komoda[3], Isao Tanaka[2], Min Yao[1,2] ([1]*Grad. Sch. Life Sci., Univ. Hokkaido*, [2]*Fac. Adv. Life Sci., Univ. Hokkaido*, [3]*Grad. Sch. Agri Life Sci., Univ. Tokyo*)

3P045 **Staphylococcal nuclease と Δ44-49 変異体の構造揺らぎの解析：酵素活性への洞察**
Analysis of the structural fluctuation in Staphylococcal nuclease and its Δ44-49 mutant: Insight into the enzymatic activity
Kana Fuji[1], Hiroshi Fujisaki[2], Tadaomi Furuta[3], Rumi Shiba[4], Mikito Toda[1] ([1]*Nara Women's Univ.*, [2]*Nippon Med. Sch.*, [3]*Tokyo Tech*, [4]*JAIST*)

3P046 **サルモネラ菌べん毛繊維の多型変換における Glu114 と Glu121 の役割**
The roles of Glu114 and Glu121 of flagellin in the polymorphic transformation of Salmonella flagellar helical filament
Atsushi Ujiie, Fumio Hayashi, Kenji Oosawa (*Div. Mol. Sci, and Tech, Gunma Univ*)

3P047 **Building an Artificial Protein Capsid**
Jonathan Heddle (*RIKEN*)

01C. 蛋白質：物性 / 01C. Protein: Property

3P048 **溶解性制御タグ（SCP タグ）によるタンパク質結晶化の解析**
Analysis of protein crystallization using short Solubility Controlling Peptide tags
Yutaka Kuroda, Mohammad Islam (*TUAT, Dept of Biotech and Life Sci*)

3P049 **Multimodal chromatography of proteins in arginine solutions**
Atsushi Hirano[1], Tsutomu Arakawa[2], Tomoshi Kameda[3] ([1]*NRI, AIST*, [2]*Alliance Protein Lab.*, [3]*CBRC, AIST*)

3P050 **フェリチン・ヘテロオリゴマーの作製**
Construction of ferritin hetero-oligomer
Atsushi Kurobe, Satsuki Takebe, Daisuke Sato, Kazuo Fujiwara, Masamichi Ikeguchi (*Dept. Bioinfo., Soka Univ.*)

3P051 **蛋白質系の静電自由エネルギーにおける有限サイズ効果**
Finite-size effect on the charging free energy for protein system
Toru Ekimoto[1], Nobuyuki Matubayasi[2], Mitsunori Ikeguchi[1] ([1]*Yokohama City Univ.*, [2]*Osaka Univ.*)

3P052 **Analysis for the structural stability of chignolin**
Yutaka Maruyama, Ayori Mitsutake (*Dep. Phys., Keio Univ.*)

3P053 **圧力効果を用いたシトクロム c の立体構造形成過程における脱水和機構の解析**
Dehydration in cytochrome c folding revealed by high pressure spectroscopy
Shohei Konno[1], Kentaro Doi[1], Takeshi Uchida[1,2], Koichiro Ishimori[1,2] ([1]*Grad. Sch. of Chem. Sci. and Eng., Hokkaido Univ.*, [2]*Fac. of Sci., Hokkaido Univ.*)

3P054 **蛍光分光法による時計タンパク質 KaiC の構造変化の解析**
Conformational transition of a cyanobacterial clock protein KaiC monitored with fluorescence spectroscopy
Atsushi Mukaiyama[1,2], Shuji Akiyama[1,2,3] ([1]*CIMoS, IMS*, [2]*Grad. Univ. for Adv. Studies*, [3]*RIKEN, SPring-8*)

3P055 **Improved Multi-Replica Metadynamics for Free Energy Calculations**
Raimondas Galvelis[1], Yuji Sugita[1,2] ([1]*RIKEN TMSL*, [2]*RIKEN AICS*)

3P056 **タンパク質の高速折り畳みダイナミクスの一分子追跡を目指したライン共焦点顕微鏡の開発**
Development of the line confocal system for the single molecule tracking of fast folding dynamics of proteins
Hiroyuki Oikawa[1], Kiyoto Kamagata[1], Munehito Arai[2], Atsuhito Fukasawa[3,4], Hiroaki Yokota[4], Toru Ide[5], Satoshi Takahashi[1] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. Arts. Sci., Univ. Tokyo*, [3]*Hamamatsu Photonics*, [4]*GPI*, [5]*Grad. Sch. Nat. Sci. and Tech., Okayama 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 **バクテリア細胞質中の生体高分子ダイナミクスと相互作用：全原子分子動力学による研究**
Dynamics and Interactions of Macromolecules in the Bacterial Cytoplasm: All-atom Molecular Dynamics Study
Isseki Yu[1], Tadashi Ando[2], Takaharu Mori[1], Jaewoon Jung[3], Ryuhei Harada[3], Yuji Sugita[1,2,3], Michael Feig[4] ([1]*RIKEN*, [2]*RIKEN QBIC*, [3]*RIKEN AICS*, [4]*Michigan State Univ.*)

3P059 **回転および並進運動から観たタンパク質間相互作用**
Protein-protein interaction revealed by the rotational and translational motion
Akane Kato[1], Etsuko Nishimoto[2] ([1]*Institute of Biophysics, Faculty of Agriculture, Graduate School of Kyushu University*, [2]*Molecular Bioscience, Bioscience and Biotechnology, Kyushu University*)

3P060 **蛋白質のドメイン間相互作用に及ぼすホフマイスター効果**
Hofmeister effect on the domain-domain interaction of protein
Tomohiro Aoyama[1], Etsuko Nishimoto[2] ([1]*Institute of Biophysics, Faculty of Agriculture, Graduate School of Kyushu University*, [2]*Molecular Bioscience, Bioscience and Biotechnology, Kyushu university*)

3P061 **The circumventing mechanism of the folding of β-lactoglobulin**
Kazumasa Sakurai[1], Masanori Yagi[2], Chiaki Nishimura[3], Kazuyuki Akasaka[1], Yuji Goto[4] ([1]*HPPRC, Inst. Adv. Technol., Kinki Univ.*, [2]*RIMD, Osaka Univ.*, [3]*Fac. Pharm. Sci., Teikyo Heisei Univ.*, [4]*Inst. Protein Res., Osaka Univ.*)

3P062 **アポミオグロビンのドメインスワッピングとフォールディングの競合:分子シミュレーション解析**
Monomer folding versus dimer domain-swapping in apo-myoglobin studied by molecular simulations
Koji Ono[1], Mashiho Ito[1], Shun Hirota[2], Shoji Takada[1] ([1]*Dept. Biophys., Grad. Sch. Sci., Kyoto Univ.*, [2]*Nara Inst. Sci. Tech.*)

3P063 **超音波によるアミロイド線維形成と分解**
Ultrasonication dependent induction and degradation of amyloid fibrils
Sayaka Noda, Masatomo So, Masayuki Adachi, Yuji Goto (*Inst. Protein Res., Osaka Univ.*)

3P064 **中性子散乱によるヒト α-シヌクレインのダイナミクス変化の検出**
Changes in the dynamics of human α-synuclein detected by neutron scattering
Satoru Fujiwara[1], Katsuya Araki[2], Tatsuhito Matsuo[1], Hisashi Yagi[3], Takeshi Yamada[4], Kaoru Shibata[5], Hideki Mochizuki[2] ([1]*QuBS, JAEA*, [2]*Osaka Univ. Grad. Sch. Med.*, [3]*Dept. Chem. Biotech., Grad. Sch. Eng., & GSC Cntr., Tottori Univ.*, [4]*CROSS-Tokai*, [5]*J-PARC Center*)

3P065 **変異体解析を用いた緑色蛍光蛋白質の安定化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 with abnormal pK_a values on the stability of green fluorescent protein studied by mutagenesis approach
Taichi Andou, Kosuke Maki (*Grad. Sch. Sci., Nagoya Univ*)

3P066 **ウマアポミオグロビンの pH 4 中間体と塩による中間体の速度論的性質**
Kinetic properties of pH-induced and salt-induced intermediates of horse apomyoglobin
Yukiko Abe, Takuya Mizukami, Kosuke Maki (*Grad. Sch. Sci., Nagoya Univ.*)

01D. 蛋白質：機能 / 01D. Protein: Function

3P067 **大量のアルカンを合成するシアノバクテリア変異体の構築**
Toward the construction of the cyanobacterial mutants that produce high amounts of alkanes
Hisashi Kudo[1], Mai Watabnabe[1], Masahiko Ikeuchi[1], Munehito Arai[1,2] ([1]*Department of life sciences, the university of Tokyo*, [2]*PRESTO, JST*)

3P068 **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*)

3P069 **Pre-steady state kinetic studies of redox reactions between FNR from *Bacillus subtilis* and its substrates**
Daisuke Seo[1], Hidehiro Sakurai[2], Pierre Setif[3], Takeshi Sakurai[1] ([1]*Div Mat Sci, Grad Sch of Nat Sci and Tec, Kanazawa Univ.*, [2]*Res Inst Photo Hyd Prod, Kanagawa Univ.*, [3]*IBiTec-S, CEA Saclay, France*)

3P070 **一分子蛍光顕微鏡による p 53 の標的配列探索ダイナミクスの観察**
Observation of the Search Dynamics of p53 for the Target DNA Sequence by Single-molecule Fluorescence Microscopy
Yuji Itoh[1,2], Agato Murata[1,2], Seiji Sakamoto[1,2], Takehiko Wada[1,2], Satoshi Takahashi[1,2], Kiyoto Kamagata[1,2] ([1]*IMRAM, Univ. Tohoku*, [2]*Grad. Sch. Sci., Univ. Tohoku*)

3P071 **銅含有亜硝酸還元酵素の亜硝酸還元メカニズムにおける計算化学研究**
Computational study on nitirite reduction mechanism in Copper-containing nitrite reductase
Masami Lintuluoto[1], Yohta Fukuda[2,4], Tsuyoshi Inoue[2], Yoshifumi Fukunishi[3] ([1]*Grad. Sch. of Life and Env. Sci., Kyoto Pref. Univ.*, [2]*Gad. Sch. of Eng. Osaka Univ.*, [3]*AIST*, [4]*Dep. Biochem. and Mol. Biophys. , Columbia Univ.*)

3P072 **ポリアミンは α-キモトリプシンの活性化剤として機能する**
Polyamines Act as an Enzyme Activator for α-Chymotrypsin
Takaaki Kurinomaru, Kentaro Shiraki (*Grad. Sch. Pure and Appl. Sci., Univ. Tsukuba*)

3P073 **膜表面の GM1 糖鎖に対する hGal-1 結合能「増大」**
"Increased" affinity of hGal-1 to GM1 on membrane surface
Ryota Hori, Hirotsugu Hiramatsu, Takakazu Nakabayashi (*Grad. Sch. Pharm. Sci., Tohoku Univ.*)

3P074 **抗菌ペプチドを用いた病原性微生物検出系のための新規スクリーニング法の開発**
Novel screening method for detection system of pathogens using antimicrobial peptides
Tatsuyuki Koshiyama[1], Satoshi Tomisawa[1], Takashi Kikukawa[1], Yasuhiro Kumaki[1], Masakatsu Kamiya[1], Keiichi Kawano[2], Makoto Demura[1] ([1]*Grad. Sch. Life Sci., Hokkaido. Univ.*, [2]*Chitose Inst. Sci. Tech.*)

3P075 **抗菌ペプチド human defensin 5 の NMR による多量体形成機構の解析**
NMR analysis of the oligomerization mechanism of antimicrobial peptide human defensin 5
Arata Hashimoto, Satoshi Tomisawa, Masakatsu Kamiya, Takashi Kikukawa, Yasuhiro Kumaki, Kiminori Nakamura, Tokiyoshi Ayabe, Tomoyasu Aizawa, Makoto Demura (*Grad. Sch. Life Sci., Hokkaido Univ.*)

3P076 **トレオニン合成酵素の反応制御機構解明のための分子動力学計算：反応中間体間自由エネルギー評価**
Molecular dynamics study on the reaction control mechanism of threonine synthase: evaluating the free energies of the intermediate states
Yuzuru Ujiie[1], Wataru Tanaka[1], Mitsuo Shoji[1], Megumi Kayanuma[2], Yasuteru Shigeta[1], Yasuhiro Machida[3], Takeshi Murakawa[4], Hideyuki Hayashi[3] ([1]*Grad. Sch. of Pure & Appl. Sci., Univ. of Tsukuba*, [2]*Grad. Sch. of Sys. & Inf. Eng., Univ. of Tsukuba*, [3]*Dept. Chem., Osaka Medical College*, [4]*Dept. Biochem., Osaka Medical College*)

3P077 **ウリジンシチジンキナーゼの基質結合相互作用についての理論的研究**
A theoretical study on the substrate bindings in uridine-cytidine kinase
Wataru Tanaka[1], Yuzuru Ujiie[1], Fumiaki Tomoike[2], Mitsuo Shoji[1], Megumi Kayanuma[3], Ryoji Masui[4], Seiki Kuramitsu[4], Yasuteru Shigeta[1] ([1]*Grad. Sch. Pure & Appl. Sci., Univ. Tsukuba*, [2]*Inst. Indus. Sci., Univ. Tokyo*, [3]*Grad. Sch. Sys. & Inf. Eng., Univ. Tsukuba*, [4]*Grad. Sch. Sci., Osaka Univ.*)

3P078 **Role of FAD N5 proximal Asn residue in CPD-Photolyase**
I M. Mahaputra Wijaya[1], Tatsuya Iwata[1], Elizabeth D. Getzoff[2], Hideki Kandori[1] ([1]*Nagoya Institute of Technology, Japan*, [2]*Scripps Research Institute, USA*)

3P079 **抗菌ペプチド cecropin P1 の大腸菌発現系における発現効率に影響を与える要因の解明**
Elucidation of influential factor for productivity of the antimicrobial peptide using *Escherichia coli*
Chiharu Abe[1], Taichi Nakazumi[1], Masakatsu Kamiya[1], Takashi Kikukawa[1], Keiichi Kawano[1,2], Makoto Demura[1], Tomoyasu Aizawa[1] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*Chitose Inst. Sch. Tech.*)

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

3P080 **ベイズ推定を用いた NMR 立体構造計算法の開発**
A refinement method for NMR protein structure determination based on Bayesian inference
Teppei Ikeya[1], Yutaka Ito[1], Guentert Peter[1,2] ([1]*Tokyo Metropolitan University*, [2]*Goethe University Frankfurt*)

3P081 **複雑分子系の異性化反応ネットワークに埋め込まれた時間階層構造の抽出**
An extraction of hierarchical organization of embedded timescales buried in complex reaction network
Yutaka Nagahata[1], Satoshi Maeda[2], Hiroshi Teramoto[1,3], Chun-Biu Li[3], Takashi Horiyama[4], Tetsuya Taketsugu[2], Tamiki Komatsuzaki[1,3] ([1]*Graduate School of Life Science, Hokkaido Univ.*, [2]*Graduate School of Science, Hokkaido Univ.*, [3]*Research Institute for Electronic Science, Hokkaido Univ.*, [4]*Information technology center, Saitama Univ.*)

3P082 **RI に依存しない高感度 MGMT 活性測定法の開発と新型マイクロアレイ MMV への適応化**
Development of MGMT activity assay methods of high sensitivity and being adaptabe to the novel-concept microarray
Aya Hongo, Takuto Saiki, Ran Gu, Miho Suzuki, Naoto Nemoto, Koichi Nishigaki (*Grad. Sch. of Sci. and Eng., Univ. Saitama*)

3P083 **1 分子イメージングによる PI3K の活性制御機構の解析**
Analysis of the Regulation Mechanism of PI3K Activity by Live-cell Single-molecule Imaging
Seiya Fukushima[1], Satomi Matsuoka[2], Masahiro Ueda[1,2] ([1]*Graduate School of Science, Osaka University*, [2]*Riken Quantitative Biology Center*)

3P084 **X 線自由電子レーザーを用いたパターンマッチング法による第一原理構造モデリングの検討**
Examination of ab initio structural modeling for the pattern matching method using X-ray free electron laser
Atsushi Tokuhisa, Osamu Miyashita, Florence Tama (*Advanced Institute for Computational Science, RIKEN*)

3P085 **X 線 1 分子追跡法を用いたタンパク質過飽和溶液中における核形成前駆体クラスターの動態観察**
Dynamical Observations of Prenucleation Clusters in Supersaturated Protein Solution from Diffracted X-ray Tracking
Yufuku Matsushita[1], Hiroshi Sekiguchi[2], Keigo Ikezaki[1], Noboru Ohta[2], Yuji Goto[3], Yuji Sasaki[1] ([1]*The University of Tokyo*, [2]*JASRI/SPring-8*, [3]*Osaka University*)

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

3P086 **細菌由来アルブミン結合ドメインの接触表面の模倣によるアルブミン結合ヒト型タンパク質のデザイン**
Design of an Albumin-Binding Humanized Protein by Mimicking the Contact Surface of a Bacterial Albumin-Binding Domain
Satoshi Oshiro[1], Shinya Honda[1,2] ([1]*Dept. of Medical Genome Sci., Grad. Sch. of Frontier Sci., The Univ. of Tokyo*, [2]*BioMed. Research Inst., AIST*)

3P087 **ファージディスプレイ法で同定した白金結合アミノ酸配列の解析**
Analysis of a platinum-binding amino acid sequence identified by phage display
Asumi Kaji, Hiroya Niiro, Satoshi Akanuma, Tatsuya Uchida, Akihiko Yamagishi (*Tokyo University of Pharmacy and Life Sciences*)

3P088 **エングレイルドホメオドメインを用いた新たな転写因子の設計**
Designing a new artificial transcription factor based on engrailed homeodomain
Tomoko Sunami, Hidetoshi Kono (*JAEA*)

3P089 **Design of a peptide nanotube having the capability of rare metal binding**
Keisuke Ogihara, Atsuo Tamura (*Univ. Kobe*)

3P090 **脂肪酸アシル-ACP 還元酵素の迅速活性評価法の開発**
Development of a high-throughput method to evaluate catalytic activity of fatty acyl-ACP reductase
Yuuki Hayashi[1], Munehito Arai[1,2] ([1]*Department of Life Science, The University of Tokyo*, [2]*PRESTO*)

02. ヘム蛋白質 / 02. Heme proteins

3P091 **線虫 cytochrome b561 ホモログ Cecytb-1 の生理機能解析**
Analyses on the physiological 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., Kobe Univ.*)

3P092 **一酸化窒素還元酵素における基質 NO 結合の分子機構**
Molecular mechanism for substrate NO binding to bacterial Nitric Oxide Reductase
Shoko Ishii[1,2], Tetsunari Kimura[2], Takehiko Tosha[2], Yoshitsugu Shiro[1,2], Minoru Kubo[2,3] ([1]*Grad Sch. Life Sci., Univ. of Hyogo*, [2]*RIKEN, SPring-8 Center*, [3]*JST, PRESTO*)

3P093 **チトクロム *c* とチトクロム酸化酵素複合体の X 線結晶構造解析**
X-ray structural analysis of the cytochrome *c* and cytochrome *c* oxidase
Satoru Shimada[1,2], Kyoko Shinzawa-Itoh[1], Shimpei Aoe[1], Atsuhiro Shimada[1], Jumpei Baba[1], Syuhei Takemura[1], Eiki Yamashita[3], Tomitake Tsukihara[1,2,3], Shinya Yoshikawa[1] ([1]*Grad. Sch. Life Sci., Univ. Hyogo*, [2]*CREST, JST*, [3]*Inst. Protein Res., Osaka Univ.*)

3P094 **亜硝酸還元酵素と一酸化窒素還元酵素の相互作用解析**
Analysis of the Interaction between Nitric Oxide Reductase and Nitrite Reductase
Kimi Matsumoto[1], Erina Terasaka[1], Takehiko Tosha[2], Yoshitsugu Shiro[1,2] ([1]*Grad. Sch. Sci., Univ. Hyogo*, [2]*RIKEN SPring-8 Center*)

3P095 **ナノ構造電極上でのシトクロム P450 153A13a の電気化学触媒反応**
Electrochemically-driven CYP153A13a reaction at nanostructured electrode
Yasuhiro Mie[1], Naoya Fujita[2], Toshio Cho[2], Yasuo Komatsu[1] ([1]*Bioproduction Res. Inst., AIST*, [2]*KNC Laboratories Co., Ltd.*)

3P096 **一酸化炭素よりも酸素に対して高い親和性を示すミオグロビンの創製**
Preparation of myoglobin mutants exhibiting preferential binding of oxygen over carbon monoxide
Ryu Nishimura[1], Daichi Matsumoto[1], Tomokazu Shibata[1], Sachiko Yanagisawa[2], Takashi Ogura[2], Hulin Tai[3], Takashi Matsuo[3], Shun Hirota[3], Saburo Neya[4], Akihiro Suzuki[5], **Yasuhiko Yamamoto**[1] ([1]*Dept. Chem., Univ. Tsukuba*, [2]*Grad. Sch. Life Sci., Univ. Hyogo*, [3]*Grad. Sch. Mater. Sci., NAIST*, [4]*Grad. Sch. Pharm. Sci., Chiba Univ.*, [5]*Dept. Mater. Eng., Nagaoka Natl. Coll. Tech.*)

3P097 **ヘモグロビンの R,T,不安定 T の酸素親和力の計算：MD シミュレーションによる自由エネルギー計算**
Oxygen affinity differences of hemoglobin between the R, T, an unstable T structures: By free energy calculations based on MD simulations
Minoru Saito (*Hirosaki University*)

03. 膜蛋白質 / 03. Membrane proteins

3P098 **Engineering of Channelrhodopsin with Specific Ion Selectivity**
Monica Patti, Rieko Kamii, Toru Ishizuka, Hiromu Yawo (*Tohoku University*)

3P099 **新規キメラタンパク質による G_s タンパク質の光制御**
Optical control of G_s-protein activity by novel chimeric 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*)

3P100 **Conformation and topology of pharaonis phoborhodopsin in the lipid environment as studied by solid-state NMR**
Izuru Kawamura[1], Satoshi Nakatani[1], Yoshiteru Makino[1], Naoki Kamo[2], Akira Naito[1] ([1]*Grad. Sch. Eng., Yokohama Natl. Univ.*, [2]*Hokkaido Univ.*)

3P101 **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**
Functional significance of homotrimer formation in the Nanodisc-embedded Halorhodopsin
Kenshiro Suzuki[1], Ayumi Yamamoto[1], Takashi Tsukamoto[2], Yoshihiro 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. Hookaido Univ*)

3P102 **凍結割断低温原子間力顕微鏡の製作**
Fabrication of freeze fracture cryogenic atomic force microscope
Naoto Kuga, Toshiaki Gotoh, Tsutomu Kouyama (*Graduate School of science, Nagoya University*)

3P103 **緑色イオウ細菌 *Chlorobaculum tepidum* の Rieske/cyt *b* 複合体単離の試み**
Isolation of Rieske/cytochrome *b* complex from a green sulfur bacterium *Chlorobaculum tepidum*
Hirozo Oh-oka[1], Kazuya Yamamoto[1,2], Risa Mutoh[2], Chihiro Azai[3], Genji Kurisu[1,2] ([1]*Dept. Biol. Sci., Grad. Sch. Sci., Osaka Univ.*, [2]*Inst. for Prot. Res., Osaka Univ.*, [3]*Col. Life Sci., Ritsumeikan Univ.*)

3P104 **Significance of phospholipid composition in generating Min protein waves in vitro**
Satya N. V. Arjunan[1], Yusuke Morimoto[2], Koichi Takahashi[1] ([1]*Laboratory for Biochemical Simulation, RIKEN Quantitative Biology Center*, [2]*Laboratory for Cell Signaling Dynamics, RIKEN Quantitative Biology Center*)

3P105 **膜受容体内在化のリアルタイムモニタリング：走査型電気化学顕微鏡(SECM)による低侵襲・定量的・単一細胞レベルでの測定**
Real-time Monitoring of Membrane Receptor Internalization: Low-Invasive, Quantitative and Single-Cell Level Measurement by SECM
Yoshiharu Matsumae[1], Yasufumi Takahashi[2], Kosuke Ino[1], Hitoshi Shiku[1], Tomokazu Matsue[1,2] ([1]*Grad. Sch. Environ. Stud., Tohoku Univ.*, [2]*WPI-AIMR, Tohoku Univ.*)

3P106 **The improvement of 2D crystal quality by crystallization temperature correlated with fluidity of lipids mixture**
Shintaro Maeda[1], Kyoko Shinzawa(Itoh)[1], Atsuo Miyazawa[1], Christoph Gerle[1], Yoshinori Fujiyoshi[2], Tomitake Tsukihara[1], Shinya Yoshikawa[1] ([1]*Grad. Sch. Sci., Univ. Hyogo*, [2]*CeSPI.,Univ.Nagoya*)

3P107 **Molecular dynamics simulations of β2AR: the comparison of different protein-lipid force field parameters**
Md. Iqbal Mahmood, Nozomu Kamiya, Hideaki Fujitani, Yamashita Takefumi (*LSBM, RCAST, The University of Tokyo*)

3P108 **三量体ハロロドプシンの特異的なカロテノイド結合**
Specific carotenoid binding of halorhodopsin trimer
Yasuyuki Miyazaki[1], Noritaka Kato[1], Takashi Kikukawa[2], Makoto Demura[2], Takanori Sasaki[1] ([1]*Sch. Sci. and Tech., Meiji Univ.*, [2]*Fac. Adv. Life Sci., Hokkaido Univ.*)

3P109 **アルカリ条件下における三量体ハロロドプシン-バクテリオルベリン複合体の熱安定性**
Thermal stability of trimer halorhodopsin-bacterioruberin complex in alkali condition
Kaede Suzuki[1], Takashi Kikukawa[2], Makoto Demura[2], Takanori Sasaki[1] ([1]*Sch. Sci. and Tech., Meiji Univ.*, [2]*Fac. Adv. Life Sci., Hokkaido Univ.*)

3P110 **Calculation of free energy changes due to charged residues mutation from alchemical free energy calculations:Improving toxins selectivity**
Md. Harunur Rashid[1,2], Shigehiko Hayashi[1], Serdar Kuyucak[2] ([1]*Kyoto University, Japan*, [2]*University of Sydney, Australia*)

3P111 **アデノシン A2a 受容体の熱安定性を向上させるアミノ酸置換の理論的予測**
Theoretical Prediction of Mutations Improving Thermal Stability of Adenosine A2a Receptor
Yuta Kajiwara[1], Satoshi Yasuda[2], Yuki Takamuku[3], Takeshi Murata[3], Masahiro Kinoshita[3] ([1]*Graduate School of Energy Science, Kyoto University*, [2]*Institute of Advanced Energy, Kyoto University*, [3]*Graduate School of Science, Chiba University*)

3P112 **C 末端に異なるアミノ酸タグをもつハロロドプシン同士での三量体の形成**
Trimer formation between halorhodopsins with different amino acid tags at C terminus
Tomokazu Wakatsuki, Takanori Sasaki (*Sch. Sci. and Tech., Meiji Univ.*)

3P113 **ヒト由来膜タンパク質の無細胞発現と 膜局在化傾向の網羅的解析**
The comprehensive analysis of human membrane protein expression and membrane insertion in vitro
Go Takizawa (*Univ.Tokyo*)

3P114 **全反射赤外分光法を用いた苦味受容体のリガンド結合解析**
ATR-FTIR study of ligand binding in a bitter taste receptor
Tomoaki Ohashi[1], Kota Katayama[1], Masayo Iwaki[1], Kei Tsutsui[2], Hiroo Imai[2], Hideki Kandori[1] ([1]*Nagoya Institute of Technology*, [2]*Primate Reserch Institute, Kyoto University*)

3P115 **High stability of two-dimensional crystal of reconstituted bacteriorhodopsin in partially fluorinated phosphatidylcholine**
Masaru Yoshino[1], Hiroshi Takahashi[1], Kohei Morita[1], Toshiyuki Takagi[2], Hideki Amii[1], Toshiyuki Kanamori[2], Masashi Sonoyama[1] ([1]*Fac. Sci. Tech., Gunma Univ.*, [2]*R.C. Stem Cell Eng., AIST*)

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

3P116 **Reverse gyrase likely biases thermal DNA strand passage toward overwinding**
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.*)

3P117 **Single-molecule study of how RecA displaces SSB from single-stranded DNA**
Hung-Yi Wu, Hung-Wen Li (*Dept. of Chem., Natl. Taiwan Univ.*)

3P118 **クロマトソームの粗視化シミュレーション: H1 結合に伴うヌクレオソーム構造のコンパクト化のダイナミクス**
Coarse-grained simulation of chromatosome: H1-mediated dynamic compaction of nucleosome structure
Nobu C. Shirai, Shoji Takada (*Grad. Sch. Sci., Kyoto Univ.*)

3P119 **Characterization of the hemi-methylated CpG methylation process using fluorescent labeled SRA**
Yubing Cui[1,2], Yong-Woon Han[2], Mariko Ariyoshi[3], Kyohei Arita[4], Isao Suetake[5], Shoji Tajima[5], Yoshie Harada[1,2] ([1]*Grad. Sch. Biostudies, Univ. Kyoto*, [2]*iCeMS Inst., Univ. Kyoto*, [3]*Grad. Sch. Tech., Univ. Kyoto*, [4]*Grad. Sch. Medical Life Sci., Univ. Yokohama City*, [5]*Protein Inst., Univ. Osaka*)

3P120 **蛍光標識ヌクレオソームを用いたクロマチン再構成複合体の機能解析**
Characterization of ATP-dependent chromatin remodeling complexes using fluorescently labeled nucleosome
Yong-Woon Han[1], Yasuo Tsunaka[1,2], Hiroaki Yokota[3], Kazuhiro Yamada[4], Mai Ohnishi[1,5], Sayaka Yamazaki[1,5], Isao Suetake[6], Shoji Tajima[6], Hisashi Tadakuma[7], Yoshie Harada[7] ([1]*iCeMS, Kyoto University*, [2]*PREST*, [3]*Bio Photonics, Grad. Sch. for the Creation of New Photonics Ind.*, [4]*Max-Planck-Inst. for Med. Res.*, [5]*Faculty of Human Life and Sci., Doshisha Woman's College of Liberal of Arts*, [6]*Inst. for Protein Res., Osaka Univ.*, [7]*Grad. Sch. of Frontier Sci., Univ. of Tokyo*)

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

3P121 **粗視化モデルを用いた Ars インスレーターの力学的特性の考察**
Analysis of dynamic characteristics of Ars-insulator by coarse-grained models
Shuhei Isami[1], Sayuri Tatemoto[1], Hiraku Nishimori[1,2], Naoaki Sakamoto[1], Akinori Awazu[1,2] ([1]*Dept. Math. and Life Sciences, Hiroshima Univ.*, [2]*Research Center for the Mathematics on Chromatin Live Dynamics*)

3P122 **等温条件で増幅可能な人工 RNA の設計原理の理解**
Design Principle of Replicable RNA under Isothermal Condition
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.*)

05B. 核酸：相互作用・複合体 / 05B. Nucleic acid: Interaction & Complex formation

3P123 **Protective Effect of Ascorbic Acid on Double-strand Breaks of Giant DNA induced by photo- and gamma-irradiation**
Yue Ma[1], Yuko Yoshikawa[2], Toshiaki Mori[3], Tadayuki Imanaka[2], Kenichi Yoshikawa[1] ([1]*Doshisha University*, [2]*Ritsumeikan University*, [3]*Osaka Prefecture University*)

3P124 **α-hemolysin 及び T7 RNA polymerase を用いた DNA/RNA ロジックゲートの実現**
Construction of DNA computing platform using α-hemolysin and DNA/RNA with the enzyme reaction
Masayuki Ohara[1], Masahiro Takinoue[2], Ryuji Kawano[1] ([1]*TUAT*, [2]*Tokyo Tech*)

3P125 **DNA を湾曲する HMG-1/2 は塩基配列非特異的に長鎖 DNA を折り畳み**
DNA-bending protein HMG-1/2 sequence-independently folds a single giant duplex DNA chain
Hiroyuki Mayama[1], Naomi Tsumura[1], Norio Hazemoto[2], Toshio Kanbe[3], Hideaki Yamaguchi[4], Koji Kubo[5], Anatoly Zinchenko[5], Shizuaki Murata[5], Kenichi Yoshikawa[6], Tatsuo Akitaya[1] ([1]*School of Medicine, Asahikawa Med. Univ.*, [2]*Graduate School of Pharmaceutical Sciences, Nagoya City Univ.*, [3]*School of Medicine, Nagoya Univ.*, [4]*Faculty of Pharmacy, Meijo Univ.*, [5]*Graduate School of Environmental Study, Nagoya Univ.*, [6]*Faculty of Life and Medical Sciences, Doshisha Univ.*)

3P126 **転写調節タンパク質 STPR は長鎖 DNA を塩基配列非特異的に折り畳む**
Transcription modulator protein STPR induces the folding of a single giant DNA molecule in sequence-nonspecific manner
Tatsuo Akitaya[1], Naoko Makita[2], Naomi Tsumura[1], Hiroyuki Mayama[1], Norio Hazemoto[3], Toshio Kanbe[4], Hideaki Yamaguchi[5], Koji Kubo[6], Anatoly Zinchenko[6], Shizuaki Murata[6], Kenichi Yoshikawa[7], Tomoyasu Aizawa[8], Makoto Demura[8] ([1]*School of Medicine, Asahikawa Med. Univ.*, [2]*Faculty of Environmental and Information Sciences, Yokkaichi Univ.*, [3]*Graduate School of Pharmaceutical Sciences, Nagoya City Univ.*, [4]*School of Medicine, Nagoya Univ.*, [5]*Faculty of Pharmacy, Meijo Univ.*, [6]*Graduate School of Environmental Study, Nagoya Univ.*, [7]*Faculty of Life and Medical Sciences, Doshisha Univ.*, [8]*Graduate School of Life Science, Hokkaido Univ.*)

3P127 **Comparison of DNA double-strand breaks caused by ultrasound and Co60 gamma-ray with attention to the effect on its higher-order structure**
Rinko Kubota[1], Naoki Ogawa[1], Yukihiro Kagawa[1], Yuko Yoshikawa[2], Yoshiaki Watanabe[1], Takahiro Kenmotsu[1], Toshiaki Mori[3], Tadayuki Imanaka[2], Kenichi Yoshikawa[1] ([1]*Graduate School of Life and Medical Sciences, Doshisha University*, [2]*Department of Biotechnology, College of Life Sciences, Ritsumeikan University*, [3]*Radiation Research Center, Osaka Prefecture University*)

3P128 **Metal Cations(2+) Cause the Folding Transition of DNA but Inhibit Spermidine(3+)-Induced Compaction**
Chika Tongu[1], Yuko Yoshikawa[2], Zinchenko Anatoly A[3], Chen Ning[3], Takahiro Kenmotsu[1], Kenichi Yoshikawa[1] ([1]*Doshisha University*, [2]*Ritsumeikan University*, [3]*Nagoya University*)

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

3P129 **溶質と水分子の間の LJ ポテンシャルパラメタが水和ダイナミクスに及ぼす影響**
Effects of LJ potential parameters between solute and water on the hydration dynamics
Takuya Takahashi, Tetsuro Nagai (*Coll.Life.Sc., Ritsumeikan Univ*)

3P130 **水和水が小分子のテラヘルツ振動モードに与える影響**
Effect of Hydration water on terahertz vibrational modes of small molecules
Ohki Kambara[1], Norihisa Hiromoto[2,3] ([1]*RIE, Shizuoka Univ.*, [2]*GSE, Shizuoka Univ.*, [3]*GSST, Shizuoka Univ.*)

3P131 **蛋白質間相互作用への溶媒効果を観測することの困難さ：単純なモデルでの理論研究**
Difficulty in Observing of Solvent Effect on Protein-Protein Interaction: A Theoretical Study with a Simple Model
Takumi Yamashita, Shingo Fujihara, Ryo Akiyama (*Sci., Univ. Kyushu*)

3P132 **誘電緩和分光法と分子動力学法を用いたアルカリハライドとアルカリリン酸イオンの水和ダイナミクスおよびエネルギー論**
On the Hydration Dynamics and Energetics of Alkali halide and Phosphate Ions by Dielectric Relaxation Spectroscopy and Molecular Dynamics
George Mogami[1], Kazuki Ishimori[1], Nobuyuki Matubayasi[2], Hideaki Takahashi[3], Makoto Suzuki[1] ([1]*Grad. Sch. Eng., Tohoku Univ.*, [2]*Grad. Sch. Eng. Sci., Osaka Univ.*, [3]*Grad. Sch. Sci., Tohoku Univ.*)

3P133 **NaCl、NaI 水溶液におけるハイパーモバイル水の熱容量及び密度の評価**
Estimation of Heat Capacity and Density of Hyper-Mobile Water in NaCl and NaI Solutions
Masayoshi Sato, George Mogami, Nobuyuki Morimoto, Makoto Suzuki (*Grad. Sch. Eng., Tohoku Univ.*)

09. 発生・分化 / 09. Development & Differentiation

3P134 **低周波超音波により引き起こされたメダカ胚における卵黄球の収縮と出血**
Shrinkage of yolk sphere and bleeding on medaka embryo caused by low frequency ultrasound
Kento Yamada[1], Masato Ueda[1], Kenji Yoshida[1,2], Yasuhiro Tonoyama[3], Nobuyoshi Shimizu[3], Yoshiaki Watanabe[1] ([1]*Doshisha Univ.*, [2]*Chiba Univ.*, [3]*Keio Univ, Advanced Research Center for GSP.*)

3P135 **アフリカツメガエル卵成熟過程における卵母細胞の ATP 産生**
ATP production in *Xenopus laevis* oocytes during maturation
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.*)

3P136 **3 次元培養下での再生皮膚の発生における反応拡散機構による羽毛原基パターン再構築**
Reconstruction of feather bud patterning by a reaction-diffusion mechanism during bioengineered skin development in 3D culture
Kentaro Ishida, Toshiyuki Mitsui (*Coll. of Sci. & Eng., Aoyama Gakuin Univ.*)

10. 筋肉 / 10. Muscle

3P137 **電気ー機械相互作用を考慮した心筋細胞群モデル**
Model of Cardiac Muscle Cells with Reference to Electro-Mechanical Interaction
Hiroki Miyazako[1], Toshiki Murata[2], Osamu Fukayama[1,2], Kunihiko Mabuchi[1,2], Takayuki Hoshino[1,2] ([1]*Grad. Sch. IST, Univ. of Tokyo*, [2]*Sch. Eng., Univ. of Tokyo*)

3P138 **骨格筋繊維の急激な伸張に対する張力応答のシミュレーション**
Simulation of force responses to fast ramp stretches in the skeletal muscle fibres
Youjiro Tamura[1], Akira Ito[2], Andrew Cresswell[3] ([1]*SNCT*, [2]*SNCT*, [3]*UQ HMS*)

3P139 **コネクチン遺伝子の上流から転写される横紋筋タンパク質の解析**
Analysis of proteins in striated muscles that transcribed from the upstream region of connectin gene
Akira Hanashima[1], Naruki Sato[2], Sumiko Kimura[3], Takashi Murayama[1] ([1]*Dept. Pharmacol., Facl. Med., Juntendo Univ.*, [2]*Dept. Nanobiol., Grad. Adv. Int. Sci., Chiba Univ.*, [3]*Dept. Biol., Grad. Sci., Chiba Univ.*)

3P140 **"Mg-Polymer" 再考**
Revisiting "Mg-Polymer"
Mahito Kikumoto, Shuichi Takeda, Tomoharu Matsumoto, Yuichiro Maeda (*Strct. Biol. Cntr, Nagoya-univ.*)

3P141 **ヒト心筋筋原線維 SPOC の外部力学刺激に対する応答**
Response of SPOC in human cardiac myofibrils to mechanical stimuli
Toshiki Shimomura[1], Hisashi Maejima[1], Yuta Shimamoto[3], Shin'ichi Ishiwata[1,2] ([1]*Dept. of Physics, Waseda Univ.*, [2]*WABIOS, Waseda Univ.*, [3]*National Institute of Genetics*)

3P142 **温度変化のヒト心筋 SPOC への作用**
Effects of temperature changes on SPOC in a human myocardium
Yoshihisa Yamamura[1], Tatuya Kagemoto[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)*)

3P143 **ギボシムシのコネクチン様タンパク質のドメイン構造**
Sequential analysis of connectin-like protein in acorn worm
Shunsuke Kubota[1], Akira Hanashima[2], Hiroki Sonobe[3], Yuh Nanmoku[1], Yukihiro Seiji[1], Satoshi Nakayama[1], Mai Kanno[1], Kunifumi Tagawa[4], Sumiko Kimura[1] ([1]*Dept. Biol., Grad. Sci., Chiba Univ.*, [2]*Dept. Pharmacol., Facl. Med., Juntendo Univ.*, [3]*Dept. Nanobiol., Grad. Adv. Int. Sci., Chiba Univ.*, [4]*Marine Biol. Lab. Grad. School Sci., Hiroshima Univ.*)

11. 分子モーター / 11. Molecular motor

3P144 **高速暗視野顕微鏡による運動中のキネシン頭部の結合解離の直接観察**
Direct observation of binding and unbinding motions of kinesin motor domain during processive motility
Hiroshi Isojima[1], Ryota Iino[2], Hiroyuki Noji[3], **Michio Tomishige**[1] ([1]*Dept. Appl. Phys., Univ. Tokyo*, [2]*Okazaki Inst. Integ. Biosci., NINS*, [3]*Dept. Appl. Chem., Univ. Tokyo*)

3P145 **Control of microtubule trajectory within an electric field by altering surface charge density**
Naoto Isozaki[1], Suguru Ando[1], Hirofumi Shintaku[1], Hidetoshi Kotera[1], Edgar Meyhofer[2], Ryuji Yokokawa[1] ([1]*Kyoto University*, [2]*Michigan University*)

3P146 **キネシンとダイニンによる Tug-of-war 分子系の再構築および多分子ダイニンの発生力計測**
Tug-of-war molecular system between dynein- and kinesin-coated regions and force measurement of multiple dyneins
Fumie Oda, Hirofumi Shintaku, Hidetoshi Kotera, Ryuji Yokokawa (*Dept. Microengineering, Kyoto Univ.*)

3P147 **べん毛モーター解析のための長時間リアルタイム観察・刺激システムの構築**
Development of the real-long-time observation and local stimulation system for flagellar motor analysis
Masaru Kojima, Takahiro Motoyoshi, Mitsuhiro Horade, Kazuto Kamiyama, Yasushi Mae, Tatsuo Arai (*Grad. Sch. Eng. Sci., Osaka Univ.*)

3P148 **Visualization of functional components of the bacterial flagellar motor**
Yoshiyuki Sowa[1], Yong-Suk Che[1,2] ([1]*Dept. Frontier Biosci., Hosei Univ.*, [2]*IMRAM, Tohoku Univ.*)

3P149 **Molecular dynamics simulations of the β subunit in F_1-ATPase: Relation between the large-scale structural change and common motifs**
Yuko Ito, Mitsunori Ikeguchi (*Grad. Sch. Med. Life Sci., Yokohama-City Univ.*)

3P150 **Slow axonemal dynein e facilitates the motility of faster dynein c**
Youske Shimizu[1], Hitoshi Sakakibara[1], Hiroaki Kojima[1], Kazuhiro Oiwa[1,2] ([1]*NICT*, [2]*CREST*)

3P151 **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 II**
Giant Acceleration of diffusion in F_1-ATPase II
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*)

3P152 **$TF_1\beta$ サブユニットのヌクレオチド結合への Pi の影響**

Nucleotide binding to TF_1 β subunit in relation to the effect of Pi

Riku Nagano, Kiyoshi Obara, Hiroshi Ueno, Eiro Muneyuki (*Dept. of Physics. Chuo Univ.*)

3P153 **非天然アミノ酸導入型 F_1-ATPase を用いた１分子回転観察**

Key factors of arginine finger of F_1-ATPase clarified by an unnatural amino acid mutation

Ayako Yukawa[1], Ryota Iino[2], Rikiya Watanabe[1], Shigehiko Hayashi[3], Hiroyuki Noji[1] ([1]*Grad. Sch. Eng., Univ. Tokyo.*, [2]*Okazaki Inst. Integ. Biosci., NINS*, [3]*Grad. Sch. Sci., Univ. Kyoto.*)

3P154 **Rotor-Stator Interactions in V_1 and V_o from *Enterococcus hirae* V-ATPase**

Hiroshi Ueno[1], Yoshihiro Minagawa[2], Mayu Hara[2], Ichiro Yamato[3], Hiroyuki Noji[2], Takeshi Murata[4], Ryota Iino[5], Eiro Muneyuki[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*, [5]*Okazaki Inst. for Integr. Biosci., NINS*)

3P155 **有糸分裂キネシン Eg5 の新規 SH 基反応性フォトクロミック分子を用いた光制御**

Photo-control of mitotic kinesin Eg5 using novel SH reactive photochromic molecules

Tamura Yuki[1], Mutoh Hiroyuki[2], Tohyama Kanako[1], Kondo Kazunori[2], Maruta Shinsaku[1] ([1]*Div. Bioinfo., Grad. sch. Eng., Univ. Soka*, [2]*Dep. Bioinfo., Fac. Eng., Univ. Soka*)

3P156 **ヒト細胞質ダイニンのパワーストローク測定**

Determination of Power Stroke Distance Driven by Human Cytoplasmic Dynein

Yoshimi Kinoshita[1], Taketoshi Kambara[2], Satoshi Ikeda[1], Motoshi Kaya[1], Hideo Higuchi[1] ([1]*Graduate School of Science, The University of Tokyo*, [2]*RIKEN QBiC*)

3P157 **V-ATPase の中心回転軸におけるトルク伝達機構**

The ingenious structure of central rotor apparatus in V_oV_1; torque transmission mechanism in the central rotor of V_oV_1

Atsuko Nakanishi[1], Jun-ichi Kishikawa[1], Masatada Tamakoshi[2], Shou Furuike[3], Ken Yokoyama[1] ([1]*Dept. Mol. Biosci., Kyoto Sangyo Univ.*, [2]*Dept. Mol. Biol., Tokyo University of Pharm. & Life Sci.*, [3]*Dept. Physics, Osaka Medical College*)

3P158 **フォトクロミック分子によって誘導されるキネシン・ADP・フルオロメタル複合体の構造変化**

Conformational change of kinesin-ADP-fluorometal ternary complexes induced by photochromic molecules

Akihisa Iwata[1], Takeshi Itaba[1], Mitsuo Ohmori[2], Shinya Mitsuhashi[3], Shinsa Maruta[1,2] ([1]*Div. Bioinfo., Grad. sch. Eng., Univ. Soka*, [2]*Dep. Bioinfo., Fac. Eng., Univ. Soka*, [3]*Div. Applied Bioscience, Grad. sch. Agri., Uni. Hokkaido*)

3P159 **複数のキネシンによる協調的カーゴ輸送のメカニズムの解明**

Investigation of the mechanism of cooperative cargo transport by multiple kinesins

Naoto Sawairi[1], Takayuki Ariga[2], Mitsuhiro Iwaki[3,4], Michio Tomishige[2], Kumiko Hayashi[1] ([1]*Dept. Appl. Phys., Sch. Eng., Tohoku Univ.*, [2]*Dept. Appl. Phys., Grad. Sch. Eng., Univ. Tokyo*, [3]*QBiC, RIKEN*, [4]*Grad. Sch. Frontier Biosci., Osaka Univ.*)

3P160 **MD シミュレーションによる *Enterococcus hirae.* V_1-ATPase の回転機構の解明**

Rotation mechanism of V_1-ATPase studied by MD simulation

Yuta Isaka[1], Takeshi Murata[2,3], Mitsunori Ikeguchi[1] ([1]*Grad. Schi. of Med. Life Sci., Yokohama City Univ.*, [2]*Fac. of Sci., Chiba Univ.*, [3]*JST, PRESTO*)

3P161 **リニアモータータンパク質キチナーゼの蛍光一分子観察**

Single-Molecule Fluorescence Imaging of Linear Motor Protein Chitinase

Tomoyuki Tasaki[1], Yusuke Shinafuji[1], Mayu Hara[1], Hiroyuki Noji[1], Ryota Iino[2] ([1]*Grad. Sch. Eng., Univ. Tokyo*, [2]*Okazaki Inst. Integ. Biosci., NINS*)

3P162 **ATP synthesis by elastically coupled molecular motors**

Yasuhiro Imafuku[1], Nils Gustafsson[2], Thomas Thomas[2] ([1]*Department of Biology, Kyushu University, Japan*, [2]*School of Physics and Astronomy, University of Birmingham, UK*)

3P163 **CYK-4 による kinesin-6 の螺旋運動調節機構**

The spiraling movement of kinesin-6 regulated by CYK-4

Yohei Maruyama[1], Akihiko Sato[1], Tim Davis[2], Tetsuhiko Teshima[3], Shin Yamaguchi[1], Shoji Takeuchi[3], Masanori Mishima[2], Junichiro Yajima[1] ([1]*Dept. Life Sci., Grad. Sch. of Arts and Sci., Univ. of Tokyo*, [2]*CMCB at Warwick Med. Sch., Univ. of Warwick*, [3]*Inst. of Ind. Sci., Univ. of Tokyo*)

3P164 **Autoinhibition and cooperative activation mechanisms of cytoplasmic dynein**

Takayuki Torisawa[1,3], Ken'ya Furuta[1], Muneyoshi Ichikawa[2], Akane Furuta[1], Kei Saito[2], Kazuhiro Oiwa[1,3], Hiroaki Kojima[1], Yoko Toyoshima[2] ([1]*Bio ICT lab, NICT*, [2]*Dept. Life Sciences, Graduate School of Arts and Sciences, the Univ. of Tokyo*, [3]*CREST, JST*)

3P165 **ミオシンの協調的首振りとアクチン滑り運動のゆらぎ**

Cooperative lever-arm swings of myosins and fluctuation of actin sliding

Yota Kondo, Kazuo Sasaki (*Dept. Appl. Phys., Sch. Eng., Tohoku Univ.*)

3P166 **全反射型蛍光顕微鏡における受像偏向と偏光変調 ーF_1-ATPase の構造変化検出への応用ー**

Emitter modulation and polarization switching under TIRF illumination: Application for detection of conformational change in F_1-ATPase

Nagisa Mikami[1], Tomoko Masaike[2,3], Takayuki Nishizaka[1] ([1]*Dept. phys., Gakushuin Univ.*, [2]*PRESTO, JST*, [3]*Dept. Appl. Biol. Sci., Tokyo Univ. of Science*)

3P167 **蛍光標識 ATP アナログを用いたイネ特有のキネシン E11 の速度論的解析**

Kinetic characterization of rice plant specific kinesin E11 using fluorescent ATP analogue

Hironobu Taniguchi[1], Kouichi Miyabe[2], Nozomi Umezu-Furutani[1], Shinsaku Maruta[1] ([1]*Div.Bioinfo.,Grad.Sch.Eng.,Univ.Soka*, [2]*Dep. Bioinfo., Fac. Eng., Univ.Soka*)

3P168 **金ナノロッドを用いた高速配向イメージングシステムの開発と F1-ATPase の構造変化検出への応用**

Development of high-speed orientation imaging system for gold nanorod and application to detection of conformational change of F1-ATPase

Sawako Enoki[1], Ryota Iino[2], Yamato Niitani[3], Yoshihiro Minagawa[1], Michio Tomishige[3], Hiroyuki Noji[1] ([1]*Dept. Appl. Chem., Grad. Sch. Eng., Univ. Tokyo*, [2]*Okazaki Inst. Integ. BioSui., NINS*, [3]*Dept. Appl. Phys., Grad. Sch. Eng., Univ. Tokyo*)

12. 細胞生物的課題 / 12. Cell biology

3P169 **多重周波数モジュレーション原子間力顕微鏡法：単一細胞レオロジーの高速測定**

Multi-frequency modulation atomic force microscopy for the high-speed measurement of single cell rheology

Ryosuke Takahashi, Kaori Kuribayashi-Shigetomi, Agus Subagyo, Kazuhisa Sueoka, Takaharu Okajima (*Grad. Sch. Info. Sci. & Tech., Hokkaido Univ.*)

3P170 **ケージド化合物の光分解を用いた大腸菌細胞応答の定量的計測**

Quantitative measurement of the cellular response of *Escherichia coli* using photolysis of the caged chemoattractant

Takashi Sagawa[1], Hiroto Tanaka[1], Tadashi Matsukawa[1], Yoshiyuki Sowa[2], Ikuro Kawagishi[2], Hiroaki Kojima[1] ([1]*Bio ICT Lab., NICT*, [2]*Dept. Frontier Bioscience, Hosei Univ*)

3P171 **蛍光相関分光法を用いた単一細胞由来のグルココルチコイドレセプター二量体形成と転写活性の定量**

Quantification of glucocorticoid receptor homo-dimer and transcriptional activity in single cell by fluorescence correlation spectroscopy

Sho Oasa[1], Akira Sasaki[2], Shintaro Mikuni[3], Masataka Kinjo[3] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*AIST*, [3]*Fac. Adv. Life. Sci., Hokkaido Univ.*)

3P172 **超解像顕微鏡法による上皮成長因子受容体クラスタリングの定量解析**

A Quantitative Analysis of Epidermal Growth Factor Receptor Clustering Using Super-resolution Microscopy

Michio Hiroshima[1,2], Msahiro Ueda[1], Yasushi Sako[2] ([1]*RIKEN QBiC*, [2]*RIKEN*)

3P173 **FRAP による、成長円錐のアクチンおよびアクチン関連タンパク質の動態解析**

FRAP experiments on actin and actin associate proteins in growth cones

Minami Tanaka[1,2], Takeshi Tougasaki[3], Kaoru Katoh[3] ([1]*Biomed. Res. Inst, AIST*, [2]*Grad. Sch. Life & Env. Sci., Univ. Tsukuba*, [3]*FANCL Co.*)

3P174 **神経細胞膜の分子選択的な並進拡散障壁**

Molecule-selective lateral-diffusion barrier in the neuronal axon membrane

Manami Miyahara[1], Chieko Nakada[3], Ziya Kalay[1], Toshiki Matsui[2], Hiroo Iwata[2], Takahiro Fujiwara[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*)

3P175 **κ オピオイド受容体の動的濃縮領域（ホットスポット）：１分子イメジングによる検出**

Single-molecule detection of hotspots for dynamic concentration of the kappa opioid receptor

Yuki Shirai[1], Peng Zhou[1], Rinshi Kasai[2], Wonhwa Cho[3], Takahiro Fujiwara[1], Akihiro Kusumi[1,2] ([1]*iCeMS, Kyoto University*, [2]*Institute for Frontier Medical Sciences, Kyoto University*, [3]*University of Illinois*)

3P176 **Noonan 症候群における SOS を介した Ras positive feedback 異常の生細胞一分子解析**

Dysregulations of SOS-mediated positive feedback on RAS activation in Noonan syndrome observed using single molecule imaging

Yuki Nakamura[1,2], Kayo Hibino[3], Yasushi Sako[1,2] ([1]*RIKEN*, [2]*Osaka Univ.*, [3]*QBiC., RIKEN*)

3P177 **二つの抗体送達システムにおける送達作用の比較**

Comparison of the delivery effects of two antibody carrier systems

Kana Kuwahara[1,2], Kazuki Harada[1,2], Takenori Yamamoto[1,2], Yasuo Shinohara[1,2] ([1]*Inst. Genome Research.*, [2]*Fac. Pharm. Sci., Univ. Tokushima*)

3P178 ***Amoeba proteus* 細胞膜の 3 次元曲率に関する研究**

Characterization of surface structures of *Amoeba proteus* in three dimensional spaces

Yukinori Nishigami[1], Atsushi Taniguchi[2], Seiji Sonobe[3], Shigenori Nonaka[2], Masatoshi Ichikawa[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Grad. Sch. Sci., Univ. Hyogo*, [3]*NIBB*)

3P179 **電子顕微鏡法によるヒト毛乳頭細胞の一次繊毛の構造解析**

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.*)

3P180 **Intranulear particles include RPS or RPL subunits**

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[3,4], Kaoru Katoh[1] ([1]*Biomed. Res. Inst., AIST*, [2]*Grad. Sch. Life & Env. Sci., Univ. Tsukuba*, [3]*REKEN ASI*, [4]*RIKEN QBiC*)

3P181 **アクチン細胞骨格と核との力学的結合が血管平滑筋細胞の分化に与える影響**

Effects of Actin-Nucleus Connections on the Vascular Smooth Muscle Cell Differentiation

Kazuaki Nagayama[1], Makoto Iwata[2], Takeo Matsumoto[2] ([1]*Department of Intelligent Systems Engineering, Ibaraki University, Japan*, [2]*Department of Mechanical Engineering, Nagoya Institute of Technology, Japan*)

3P182 **繰り返し伸展刺激によって起こるストレスファイバーの脱重合のメカニズムについて**

What is the molecular mechanism of stress fiber disassembly caused by mechanical cyclic stretch?

Wenjing Huang[2], Tsubasa Matsui[1], Masahiro Kuragano[3], Masayuki Takahashi[3], Tomohiro Kawahara[2], Masaaki Sato[4], **Shinji Deguchi**[1] ([1]*Nitech*, [2]*Kyutech*, [3]*Hokkaido Univ*, [4]*Tohoku Univ*)

3P183 **３次元コラーゲンゲル内に培養された線維芽細胞のメディウムの流れ刺激に対する反応**

Responses of fibroblasts against fluid flow stimuli in a three-dimensional collagen gel culture system

Natsumi Saito[1], Hiroaki Adachi[2], Hiroshi Tanaka[2], Satoru Nakata[2], Norifumi Kawada[1], Katsutoshi Yoshizato[1] ([1]*Dept. Hepatology, Grad. Sch. Med., Osaka City Univ.*, [2]*Nippon Menard Cosmetic Co., Ltd.*)

3P184 **細胞シート延伸における細胞核変形量の測定**

Measurements of cell nucleus deformation during stretching a cell sheet

Kota Onishi, Masahiro Tsuchiya, Takaharu Okajima (*Grad. Sch. Inform. Sci. and Techno. Hokkaido Univ.*)

3P185 **Microfluidics analyses of coordinated dynamics of F-actin and cAMP signaling in *Dictyostelium* chemotaxis**

Fumihito Fukujin[1,2], Satoshi Sawai[1,3,4] ([1]*Graduate School of Arts and Science, University of Tokyo*, [2]*Research Fellow of Japan Society for the Promotion of Science*, [3]*Research Center for Complex Systems Biology, University of Tokyo*, [4]*PRESTO, Japan Science and Technology Agency*)

3P186 **紡錘体の力学特性の遷移は染色体分配を手助けする**

Mechanical transition of the vertebrate meiotic spindle facilitates chromosome dynamics

Jun Takagi[1], Takeshi Itabashi[2], Shin'ichi Ishiwata[2,3] ([1]*Quantitative Mechanobiology Laboratory, NIG*, [2]*Fac. Sci. Engn., Waseda Univ.*, [3]*WABIOS, Waseda Univ.*)

3P187 **オリゴマイシンとロテノンはミトコンドリアの透過性遷移に相乗的な阻害作用を示す**

Synergistic inhibitory effects of oligomycin and rotenone on the mitochondrial permeability transition

Kazumasa Kotake[1,2], Yuki Inotani[1,2], Yuya Yoshimura[1,2], Kazuki Harada[1,2], Takenori Yamamoto[1,2], Yasuo Shinohara[1,2] ([1]*Inst. Genome Research., Univ. Tokushima*, [2]*Fac. Pharm. Sci., Univ. Tokushima*)

3P188 **がん細胞接着及び運動における硬さの影響の評価**

Evaluation of the Impact of Stiffness on Adhesion and Migration of Cancer Cells

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

3P189 **マイクロパターン上に培養した単一細胞の細胞核の動態**

Movement of nucleus in cells cultured on micro-patterned substrates

Xinfeng Zhu, Kaori Kuribayashi-Shigetomi, Pinggen Cai, Agus Subagyo, Kazuhisa Sueoka, Takaharu Okajima (*Graduate school of Information Science and Technology, Hokkaido University*)

3P190 **F-アクチン溶液のシアバンディング**

Shear banding in an F-actin solution

Itsuki Kunita[1], Katsuhiko Sato[2], Yoshimi Tanaka[3], Yoshinori Takikawa[4], Hiroshi Orihara[4], Toshiyuki Nakagaki[1] ([1]*RIES, Hokkaido Univ.*, [2]*RIKEN CDB*, [3]*Grad. Sch. Env. & Info. Sci., Yokohama Natl. Univ.*, [4]*Facul. Eng., Hokkaido Univ.*)

3P191 **細胞運動におけるアクチンストレスファイバと焦点接着斑の時空間ダイナミクス**

Spatio-temporal dynamics of actin stress fibers and focal adhesions during cell migration in Swiss 3T3 fibroblasts

Michiko Sugawara[1], Takuya Miura[1], Hiromi Miyoshi[2], Ken-ichi Tsubota[1], Hao Liu[1] ([1]*Grad. Sch. Eng., Chiba Univ.*, [2]*RIKEN Center for Advanced Photonics*)

3P192 **核膜孔複合体内部における疎水性分子環境の in vivo 解析**

In vivo analysis of hydrophobic molecular crowding environment in the Nuclear Pore Complex

Hide A. Konishi[1], Suguru Asai[1], Tomonobu M Watanabe[2], Shige H. Yoshimura[1] ([1]*Grad. Schl. Biostudies., Univ. Kyoto*, [2]*RIKEN, QBiC*)

3P193 **回虫精子の MSP マシナリー構成要素の探索**

Identification of protein components involved in MSP machinery in the cell-free extract of *Ascaris* sperm

Tatsuya Iida[1], Takao Kitagawa[2], Saki Uemura[1], Aya Takamori[3], Makoto Miyata[3], Katsuya Shimabukuro[1] ([1]*Ube Nat. Col. Tech.*, [2]*Grad. Sch. Med., Yamaguchi Univ.*, [3]*Grad, Sch, Sci., Osaka City Univ.*)

3P194 **Possible points of action for rectification in directional sensing model**

Akihiko Nakajima[1,2], Shuji Ishihara[3], Satoshi Sawai[1,2,4] ([1]*Grad. Sch. Arts & Sci., Univ. Tokyo*, [2]*Research Center for Complex Systems Biology, Univ. Tokyo*, [3]*Dept. Phys., Meiji Univ.*, [4]*PRESTO, JST*)

3P195 **免疫シグナルアダプター分子 SLP-76 の複合体の形成と成長：1 分子追跡による解明**

Formation and growth of the key immune signaling complex based on the adaptor protein SLP-76 revealed by single-molecule tracking

Kenta J. Yoshida[1], Koichiro M. Hirosawa[1], Takahiro K. Fujiwara[1], Akihiro Kusumi[1,2] ([1]*Institute for Integrated Cell-Material Sciences (WPI-iCeMS), Kyoto University*, [2]*Institute for Frontier Medical Sciences, Kyoto University*)

3P196 **細胞内力学特性に対する分子混み合い効果の影響**

Crowding effects on viscoelastic properties in cell model systems

Kenji Nishizawa[1], Kei Fujiwara[2], Nobushige Nakajo[1], Miho Yanagisawa[3], Daisuke Mizuno[1] ([1]*Kyushu University*, [2]*Keio University*, [3]*Tokyo Univ. Agric. Technol.*)

3P197 **１細胞レベルにおけるバクテリア走化性のメカニズム**

Mechanism of phototaxis of bacteria at single cell level

Daisuke Nakane, Takayuki Nishizaka (*Dept. Phys., Gakushuin Univ.*)

3P198 **アクチンフィラメントの配位構造は結合タンパク質によって変化する**
Modulation of monomer configurations of actin filaments by actin binding proteins
Kouhei Monma[1], Kenji Kobayasi[1], Ryoki Isikawa[2], Hajime Honda[1] ([1]*Nagaoka University of Technology*, [2]*Gunma Prefectural College of Health Sciences*)

3P199 **Ion selectivity of the *Leptospira* flagellar motor**
Md. Shafiqul Islam[1], V. Morimoto Yusuke[2], Seishi Kudo[1], Shuichi Nakamura[1] ([1]*Tohoku University*, [2]*QBiC, RIKEN*)

3P200 **Functional and structural analysis of the flagellar protein FliL from Vibrio alginolyticus**
Ananthanarayanan Kumar, Shiwei Zhu, Seiji Kojima, Michio Homma (*Nagoya University*)

3P201 **Actin filament dynamics and organizations in liposome: A simulation study**
Takahiro Nitta (*Applied Physics Course, Gifu Univ.*)

3P202 **海洋性ビブリオ菌のべん毛形成を制御する DnaJ ファミリータンパク質 SflA の相互作用解析**
Analysis of interaction of the DnaJ family protein SflA, that is involved in regulation of flagellation in *Vibrio alginolyticus*
Satoshi Inaba, Takehiko Nishigaki, Noriko Nishioka, Seiji Kojima, Michio Homma (*Div. Biol. Sci.Grad. Sch. Sci., Nagoya Univ*)

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

3P203 **非対称な脂質 2 重膜の高効率な作成にむけた新規マイクロデバイスの開発**
Novel micro-device to form asymmetric lipid-bilayer membrane in a high throughput manner
Rikiya Watanabe[1,2], Naoki Soga[1], Tomoko Yamanaka[1], Hiroyuki Noji[1] ([1]*Department of Applied Chemistry, The University of Tokyo*, [2]*PRESTO, JST*)

3P204 **脂質キュービック相の単結晶化**
Single Crystallization of an Inverse Bicontinuous Cubic Phase of a Lipid
Toshihiko Oka[1,2], Hiroki Hojo[3] ([1]*Graduate School of Science, Shizuoka University*, [2]*Research Institute of Elctronics, Shizuoka University*, [3]*Faculty of Science, Shizuoka University*)

3P205 **蛍光セルソーターを用いたリポソームの融合・破壊の定量的評価**
Quantitative evaluation of GUV fusion and destruction with fluorescence activated cell sorter
Kunihiro Shimada[1], Takeshi Sunami[1,2], Tetsuya Yomo[1,2,3] ([1]*Grad. Sch. Sci., Univ. Osaka*, [2]*JST, ERATO*, [3]*Grad. Sch. Sci., Univ. Osaka*)

3P206 **モデル細胞膜に対する化学物質の影響について**
Influence of chemical compounds on model cell membranes
Kazunari Yoshida, Akito Takashima, Izumi Nishio (*Coll. Sci. Eng., Aoyama Gakuin Univ.*)

3P207 **アデノウイルス由来両親媒性ペプチドの正曲率依存的な膜傷害性**
Preferential Perturbation of Positively Curved Membranes by Adenovirus-derived Amphiphilic Peptide
Tomo Murayama, Silvia Pujals, Shiroh Futaki (*Institute for Chemical Research, Kyoto Univ.*)

3P208 **動的および静的光散乱法によるリン脂質ベシクルの構造評価**
Structural evaluation of phospholipid vesicles by dynamic and static light scattering techniques
Nobutake Tamai[1], Takeshi Nobuoka[1], Masaki Goto[1,2], Hitoshi Matsuki[1] ([1]*Inst. Technol. & Sci., Univ. of Tokushima*, [2]*Lab. for Neutron Scattering, ETHZ & PSI*)

3P209 **リン脂質二重膜の圧力および化学誘起指組み構造化：形成機構の相違**
Pressure- and chemically induced interdigitation of phospholipid bilayers: difference in the formation mechanisms
Hitoshi Matsuki[1], Masaki Goto[1,2], Nobutake Tamai[1] ([1]*Inst. of Technol. & Sci., The Univ. of Tokushima*, [2]*Lab. for Neutron Scattering, ETHZ & PSI*)

3P210 **凍結超薄切片法によるテープ剥離したヒト皮膚角層構造の部位差研究**
Comparative cryo-ultrathin section study of human stratum corneum cells tape-stripped from different body regions
Keisuke Nakamura, Hiromitsu Nakazawa, Satoru Kato (*Sch. Sci&Tech. Kwansei Gakuin Univ.*)

3P211 **皮膚角層モデル膜に対する水の浸透の FTIR-ATR による解析**
FTIR-ATR analysis of water permeation into stratum corneum model membranes
Kohei Oka, Satoru Kato (*Kwansei Gakuin University*)

3P212 **時分割広角 X 線散乱によるラフトモデルリポソームとアミロイドベータタンパク質との相互作用に関する研究**
Time-resolved wide-angle X-ray scattering study of interaction between raft-model liposome and amyloid-beta protein
Shoki Sato[1], Mitsuhiro Hirai[1], Noboru Ohta[2] ([1]*Grad. Sch. Sci. Eng. Gunma Univ.*, [2]*JASRI*)

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

3P213 **力学的負荷下でのコレステロール含有リン脂質膜中の疎水孔形成：分子動力学シミュレーション**
Hydrophobic Pore Formation in Phospholipid/Cholesterol Bilayers under Mechanical Stretching: Molecular Dynamics Simulation
Taiki Shigematsu, Kenichiro Koshiyama, Shigeo Wada (*Grad. Sch. Eng. Sci., Osaka Univ.*)

3P214 **細胞運動における細胞内局所 pH の影響**
Effect of cytoplasmic local pH on the cell migration
Yusuke V. Morimoto[1], Masahiro Ueda[1,2] ([1]*QBiC, RIKEN*, [2]*Grad. Sch. Sci., Osaka Univ.*)

3P215 **協働的自己会合に基づく脂質―ペプチドナノ微粒子の自己複製**
Self-reproduction of lipid-peptide nanoparticles by synergistic self-assembly
Keisuke Ikeda, Minoru Nakano (*Grad. Sch. Med. Pharm. Sci., Univ. Toyama*)

3P216 **走査型イオンコンダクタンス顕微鏡を用いたコンフルエント上皮生細胞の膜揺らぎ定量化**
Membrane fluctuations of confluent epithelial cells quantified by scanning ion conductance microscopy
Zen Ishikura[1], Yusuke Mizutani[2], Myung-Hoon Choi[2], Sang-Joon Cho[2,3], Takaharu Okajima[1] ([1]*Graduate School of Information Science and Technology, Hokkaido University*, [2]*Park Systems Inc.*, [3]*Seoul National University*)

3P217 **細胞透過ペプチドであるトランスポータン 10 のベシクル内への進入と脂質膜中のポア形成に対する張力の効果**
Effects of tension on entry of cell-penetrating peptide transportan 10 into a single vesicles and its pore formation in lipid membranes
Md. Zahidul Islam[1], Mohammad Abu Sayem Karal[1], Masahito Yamazaki[1,2] ([1]*Int. Biosci., Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Res. Inst. Electronics, Shizuoka Univ.*)

3P218 **張力が誘起する脂質膜中のポア形成に対する静電相互作用の効果**
Effects of Electrostatic Interactions on the Rate Constant of Tension-Induced Pore Formation in Lipid Membranes
Mohammad Abu Sayem Karal[1], Taka-aki Tsuboi[2], Victor Levadny[3], Masahito Yamazaki[1,2,4] ([1]*Int. Biosci., Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Dept. Phys., Grad. Sch. Sci., Shizuoka Univ.*, [3]*Theo. Pro. Center Phys.-Chem. Pharm., Rus. Acad. Sci.*, [4]*Res. Inst. Electronics, Shizuoka Univ.*)

3P219 **膜の伸展により活性化される抗菌ペプチド・マガイニン２のポア形成**
Stretch-Activated Pore of the Antimicrobial peptide, Magainin 2
Md. Jahangir Alam[1], Mohammad Abu Sayem Karal[2], Tomoki Takahashi[3], Victor Levadny[4], Masahito Yamazaki[1,2,3] ([1]*Res. Inst. Electronics, Shizuoka Univ.*, [2]*Int. Biosci., Grad. Sch. Sci. Tech., Shizuoka Univ.*, [3]*Dept. Phys., Grad. Sch. Sci., Shizuoka Univ.*, [4]*Theo. Pro. Center Phys.-Chem. Pharm., Rus. Acad. Sci.*)

3P220 **張力が誘起する脂質膜中のポア形成に対する静電相互作用の効果の理論**
Theory on the electrostatic effects on tension-induced pore formation in lipid membranes
Victor Levadny[1,2], Mohammad Abu Sayem Karal[2], Taka-aki Tsuboi[3], Marina Belaya[1], Masahito Yamazaki[2,3,4] ([1]*Center Theo. Prob. Phys.-Chem.l Pharm., Rus. Acad. Sci.*, [2]*Int. Biosci., Grad. Sch. Sci. Tech., Shizuoka Univ*, [3]*Dept. Phys., Grad. Sch. Sci., Shizuoka Univ.*, [4]*Res. Inst. Electronics, Shizuoka Univ.*)

13C. 生体膜・人工膜：興奮・チャネル / 13C. Biological & Artificial membrane: Excitation & Channels

3P221 **Recording Ion-Channel Activities Based on Microfabricated Silicon Chips**
Yutaka Ishinari[1], Ayumi Hirano-Iwata[1], Yasuo Kimura[2], Michio Niwano[3] ([1]*Grad. Sch. Biomed. Eng., Univ. Tohoku*, [2]*Sch. Comp. Sci., Univ. Tech. Tokyo*, [3]*RIEC., Univ. Tohoku*)

3P222 **イオンチャネルの機能の改変**
Modifications of ion channel function
Minako Hirano[1], Daichi Okuno[2], Yukiko Onishi[2], Hiroaki Yokota[1], Toru Ide[3] ([1]*GPI*, [2]*Qbic, Riken*, [3]*Okayama Univ.*)

3P223 **チャネル内の水の水素結合鎖を介するプロトン透過の整流性**
Rectified proton permeation through the hydrogen-bonded water-chain in a channel peptide
Yuka Matsuki[1], Masayuki Iwamoto[1], Shigeki Matsunaga[2], Shigetoshi Oiki[1] ([1]*Dept. Mol. Physiol. Biophys., Univ. Fukui Fac. Med. Sci.*, [2]*Lab. Aqua. Nat. Products Chem., Grad. Sch. Agri. Life Sci., Univ. Tokyo*)

3P224 **ROS 非依存的な細胞内ミトコンドリアの一過性脱分極について**
ROS-independent transient depolarization of mitochondria in cells
Kanji Umiuchi, Yoshihiro Ohta (*Grad Sch. Engin., Tokyo Univ. Agric. & Technol.*)

14. 化学受容 / 14. Chemoreception

3P225 **大腸菌走化性レセプターの内膜における局在性解析への急速凍結レプリカ電子顕微鏡法によるアプローチ**
A quick-freezing replica electron microscopic analysis for the localization of chemoreceptors on bacterial inner membranes
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.*)

3P226 **二成分制御系間クロストークを用いた細菌べん毛の回転方向制御**
Control of the bacterial flagellar motor by cross regulation between non-cognate two-component regulatory systems
Tohru Umemura[2], Mayumi Kobayashi[2], Chiho Hara[2], Yoshiyuki Sowa[1,2], Ikuro Kawagishi[1,2] ([1]*Micro-Nano Tec. Cen., Univ. Hosei*, [2]*Dept. Frontier Bio., Univ. Hosei*)

3P227 **多刺激受容センサー Tar の温度感知領域の探索**
In search of thermosensing regions of the multimodal sensor Tar
So-ichiro Nishiyama[1,2], Masaaki Jinguji[1], Ikuro Kawagishi[1,2] ([1]*Fac. Front. Biosci., Hosei Univ.*, [2]*Res. Cen. Micro-nano Tech., Hosei Univ.*)

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

3P228 **線虫の単一神経細胞における Ca^{2+}時空間ダイナミクス: 数理モデルとその解析**
Spatial-temporal Ca^{2+} dynamics in a whole single neuron of C. elegans: Mathematical modeling and analysis
Yuishi Iwasaki[1,3], Sayuri Kuge[2,3], Takayuki Teramoto[2,3], Takeshi Ishihara[2,3] ([1]*Fac. Eng., Ibaraki Univ.*, [2]*Grad. Sci., Kyushu Univ.*, [3]*JST, CREST*)

3P229 **低温・Xe 加圧下における DEPC リポソーム相変化と神経細胞のラマン測定**
Raman spectra change at the phase transition of DEPC liposome and cell membrane of neuron under low temperature and xenon pressure
Tsutomu Uchida[1], Masafumi Nagayama[2], Kazutoshi Gohara[1], Amadeu K. Sum[3] ([1]*Fac. Eng., Hokkaido Univ.*, [2]*Hokkaido Univ. Edu., Asahikawa*, [3]*Colorado Sch. Mines, USA*)

3P230 **局所熱パルス法による神経細胞のカルシウム放出の誘導**
Ca2+-burst in rat hippocampal neurons induced by microscopic heat pulses
Yuki Kawamura[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]*Inst. Med. Biol., A*STAR, Singapore*, [3]*Org. Univ. Res. Initiatives, Waseda Univ., Tokyo, Japan.*, [4]*WABIOS, Singapore*)

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

3P231 **ヒト iPS 細胞由来ニューロンとアストロサイト共培養による電気生理学的特徴**
Electrophysiological activity of a human induced pluripotent stem cell derived neuron and astrocyte co-culture
Aoi Odawara[1,3], Ikuro Suzuki[2] ([1]*Department of Bionics, Tokyo University of Technology*, [2]*Department of Electronics and Intelligent Systems, Tohoku Institute of Technology*, [3]*Japan Society for the Promotion of Science*)

3P232 **導電性高分子含浸ファイバー電極の脳活動測定と刺激への適用**
Application of conductive polymer-coated fiber electrodes to neural recording and stimulation in vivo
Satoshi Watanabe, Hideyuki Takahashi, Keiichi Torimitsu (*Dept. Bioeng. Robotics, Grad. Sch. Eng., Tohoku Univ.*)

17. 行動 / 17. Behavior

3P233 **運動性シアノバクテリア *Pseudanabaena* sp. ILC 545 の「彗星状コロニー」の形成ダイナミクス**
Dynamics of comet-like colony formation in the filamentous cyanobacterium, *Pseudanabaena* sp. ILC 545
Yu Shoji[1], Hiroki Yamamoto[1], Yuki Fukasawa[1], Hideo Iwasaki[1,2] ([1]*Waseda University*, [2]*metaPhorest*)

3P234 **Analysis on colony formation in a filamentous cyanobacterium with an extended self-driven particle model with a cellular automaton method**
Masato Ishii[1], Yuki Fukasawa[1], Masaya Takiguchi[1], Kain Yanagi[1], Hideo Iwasaki[1,2] ([1]*Waseda University*, [2]*metaPhorest*)

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

3P235 **光駆動ナトリウムポンプの pH 依存性**
The extracellular pH dependency of transport activity by light-driven sodium ion pump
Rei Abe-Yoshizumi[1], Yoshitaka Kato[1], Keiichi Inoue[1,2], Hideki Kandori[1] ([1]*Nagoya Inst. Tech.*, [2]*JST PRESTO*)

3P236 **ニワトリクリプトクロム 4 の光反応特性に外部環境が与える影響**
***In vitro* redox cycle of Chicken Cryptochrome4 under various ambient condition**
Hiromasa Mitsui, Toshinori Maeda, Chiaki Yamaguchi, Yusuke Tsuji, Kazuki Sakai, Keiko Okano, Toshiyuki Okano (*Dept. Eng. and Biosci., Grad. Sch. Adv. Sci. and Eng., Waseda Univ.*)

3P237 **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 orthologs of mammalian NDRG1 protein in photoreceptors
Shimpei Takita[1], Yasutaka Wada[1,2], Satoru Kawamura[1,2] ([1]*Dept. of Biol. Sci. Grad. Sch. of Sci., Osaka Univ.*, [2]*Grad. Sch. of Frontier Biosci., Osaka Univ.*)

3P238 **イエロープロテインの強い水素結合形成に関する FTIR 研究**
FTIR study on the strong hydrogen bonding formation in photoactive yellow protein
Tatsuya Iwata, Hideki Kandori (*Dept. Ftontier Mat., NITech*)

3P239 **基質の状態によらないロドプシンの脱リン酸化反応速度**
Stage-independent dephosphorylation of rhodopsin during its regeneration cycle
Hiromi Yamaoka, Shuji Tachibanaki, Satoru Kawamura (*Grad. Sch. Frontier Biosci., Osaka Univ.*)

3P240 **バクテリオロドプシン-ハロロドプシン-キメラ蛋白質の光反応サイクル**
Photoreaction cycle of a bacteriorhodopsin-halorhodopsin chimeric protein
Shinji Uyama[1], Tomomi Kitajima[1], Midori Murakami[1], Tsutomu Kouyama[1] ([1]*Graduate School of Science, Nagoya University*, [2]*Center of the gene research, Nagoya University*)

3P241 **時間分解偏光 FTIR 計測によるバクテリオロドプシンの光サイクル反応解析**
Time-resolved polarized FTIR spectroscopy on the photocyclic reaction of bacteriorhodopsin
Kuniyo Fujiwara[1], Yuji Furutani[1,2,3] ([1]*IMS*, [2]*SOKENDAI*, [3]*JST PRESTO*)

3P242 **水溶液中のオキシルシフェリン吸収スペクトルの理論的研究**
Theoretical Analysis of Absorption Spectra of Oxyluciferin in Aqueous Solutions
Miyabi Hiyama[1], Hidefumi Akiyama[1], Nobuaki Koga[2] ([1]*ISSP*, [2]*Nagoya Univ.*)

3P243 **Analysis of the photoresponse mechanism of the LOV-HTH system using accelerated molecular dynamics simulation**
Tetsuo Kokubu, Tadaomi Furuta, Minoru Sakurai (*Center for Biol. Res. & Inform., Tokyo Tech*)

3P244 **2 種類の PYP における光誘起構造変化の違いをうむ部位の解析**
Analysis for different property of light induced structural changes between two PYPs
Yoichi Yamazaki, Yoshiaki Mathumoto, Hironari Kamikubo, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

3P245 **イエロープロテイン光反応中間体の熱平衡の解析**
Thermal equilibria between the photocycle intermediates of photoactive yellow protein
Yasushi Imamoto, Yoshinori Shichida (*Grad. Sch. Sci., Kyoto Univ.*)

3P246 **PYP の β4-5 loop 領域と発色団環境との関係性の解明**
The elucidation of the relationship between β4-5 loop region and the chromophore environment in PYPs
Atsuhiro Kawamura, Yoichi Yamazaki, Hironari Kamikubo, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

3P247 **BLUF タンパク質 PapB の FTIR 法による構造解析**
Characterization of light-induced structural changes of the BLUF protein PapB
Hiroaki Akutsu[1], Shinji Masuda[2,3] ([1]*Grad. Sch. Biosci. & Biotech., Tokyo Inst. Tech.*, [2]*Cent. Biol. Res. & Inforn., Tokyo Inst. Tech.*, [3]*ELSI, Tokyo Inst. Tech.*)

3P248 **NTQ モチーフを持つ新規微生物型ロドプシンの輸送イオン種の同定**
Ion species transported by the novel microbial rhodopsin containing NTQ motif
Naho Toyama[1], Takashi Kikukawa[1], Masakatsu Kamiya[1], Tomoyasu Aizawa[1], Kwang-Hwan Jung[2], Naoki Kamo[1], Makoto Demura[1] ([1]*Grad. Sch. Life Sci., Hokkaido Univ*, [2]*Dept. Life Sci. & Inst. Biol. Interfaces, Sogang Univ*)

3P249 **Photoactive Yellow Protein における酸誘起プロトン移動**
Acid induced proton transfer in Photoactive Yellow Protein
Masayoshi Noji, **Mai Arakawa**, Hironari Kamikubo, Yoichi Yamazaki, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

3P250 **光駆動ナトリウムポンプのイオン取込みに関する分光研究**
Spectroscopic study on the ion uptake mechanism of the light-driven sodium ion pump
Yoshitaka Kato[1], Keiichi Inoue[1,2], Hkaru Ono[1], Rei Abe-Yoshizumi[1], Hideki Kandori[1] ([1]*Nagoya Ist. Tech.*, [2]*JST, PRESTO*)

3P251 **過渡回折格子法でみた赤色光センサー蛋白質(Cph1)の光反応ダイナミクス**
Photoreaction dynamics of the Cyanobacterial phytochrome 1 (Cph1) studied by the transient grating method
Kimitoshi Takeda, Masahide Terazima (*Graduate School of Science, Kyoto University*)

3P252 **NdR2 の D116 残基の機能的および分子的役割の解明**
Role of D116 for the Na^+ pump activity and molecular property of *Nd*R2
Shinya Sugita[1], Keiichi Inoue[1,2], Rei Abe-Yoshizumi[1], Yoshitaka Kato[1], Hideki Kandori[1] ([1]*Grad. Sch .Eng., Nagoya Inst. Tech.*, [2]*JST PRESTO*)

3P253 **New crystal forms of squid rhodopsin**
Midori Murakami, Tsutomu Kouyama (*Nagoya University*)

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

3P254 **コンピュータシミュレーションによる光合成循環的電子伝達の非光化学消光（NPQ）の誘導における役割と寄与率の推定**
Computer simulation of photosynthetic electron transport - Prediction of contribution of the linier and the cyclic electron flow -
Ryoichi Sato[1], Hiroyuki Ohta[2], Shinji Masuda[2] ([1]*Grad. Sch. Biosci. Biotechnol., Tokyo Inst. Technol.*, [2]*Center for Biological Resources and Informatics, Tokyo Inst. Technol.*)

3P255 **光捕獲系内の励起エネルギー移動に対する分子内振動モードの役割の解析**
Analyses of intra-molecular vibrational modes affecting excitation energy transfer in light harvesting systems
Yuta Fujihashi, Akihito Ishizaki (*IMS*)

3P256 **高速原子間力顕微鏡によるホウレンソウ由来グラナ膜の観察**
Observation of grana membranes from spinach by high-speed atomic force microscopy
Ami Komata, Daisuke Yamamoto (*Dept. Appl. Phys., Grad. Sch. Sci., Fukuoka Univ.*)

3P257 **光合成蛋白質と金属ナノ粒子による水素発生人工光合成ナノデバイスの開発**
Development of an artificial light-driven water splitting nano-device using photosynthetic proteins and metal nanoparticles
Kazuki Tahara[1], Kousuke Kawahara[1], Keisuke Namie[2], Natsuko Inoue[3], Ryo Nagao[1], Yuki Kato[1], Tatsuya Tomo[4], Yutaka Shibata[2], Hiroshi Fukumura[2], Yasuhiro Kashino[3], Takumi Noguchi[1] ([1]*Div. of Mater. Sci., Grad. Sch. Sci., Nagoya Univ.*, [2]*Dept. of Chem., Grad. Sch. Sci., Tohoku Univ.*, [3]*Grad. Sch. Life Sci., Univ. of Hyogo*, [4]*Dept. of Biol., Faculty of Sci., Tokyo Univ. of Sci*)

3P258 **Detection of Transient Y_Z Radical Signals during S-State Transition in Photosystem II**
Wataru Koinuma, Hiroyuki Mino (*Grad. Sch. Sci., Nagoya Univ.*)

3P259 **QM/MM 計算による光化学系Ⅱにおける水分解 Mn4Ca クラスターのアミノ酸配位子の基準振動解析**
Vibrational Analysis of the Amino Acid Ligands to the Water Oxidizing Mn4Ca cluster in Photosystem II using QM/MM Calculations
Shin Nakamura, Takumi Noguchi (*Grad. Sch. Sci., Nagoya Univ.*)

3P260 **Site-directed mutagenesis study of amino acid resides relevant to photosynthetic water oxidation in photosystem II**
Ryo Nagao, Hanayo Ueoka-Nakanishi, Takumi Noguchi (*Grad. Sch. Sci.,Univ. Nagoya*)

3P261 **Quantitative refinement of the theory of the improved variational master equation**
Yuta Fujihashi[1], **Akihiro Kimura**[2] ([1]*IMS*, [2]*Nagoya Univ.*)

3P262 **極低温顕微鏡を用いた緑化途上トウモロコシ生葉の光合成タンパク質前駆体の空間分布の測定**
Cryogenic microscope observations of photosynthetic proteins under assembly process in greening etiolated Zea mays leaves
Tomofumi Chiba, Hiroshi Fukumura, Yutaka Shibata (*Grad. Sch. Sci., Univ. Tohoku*)

3P263 **緑色硫黄細菌のタイプ 1 光合成反応中心は 2 系列のエネルギー移動系をもつ**
Two Disconnected Antenna Chlorophyll Pools in Type-1 Photosynthetic Reaction Center of Green Sulfur Bacteria
Chihiro Azai[1], Toru Kondo[2], Shigeru Itoh[3], Hirozo Oh-oka[4] ([1]*Col. Life Sci., Ritsumeikan Univ.*, [2]*Grad. Schl. Sci. & Eng., Tokyo Inst. Tech.*, [3]*Cent. Gene Res., Nagoya Univ.*, [4]*Grad. Schl. Sci., Osaka Univ.*)

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

3P264 **復元した祖先型ヌクレオシドニリン酸キナーゼの解析**
Characterization of resurrected ancestral nucleoside diphosphate kinases
Takahiro Sasamoto, Satoshi Akanuma, Akihiko Yamagishi (*Dept. of Appl. Life Sci., Tokyo Univ. of Pharm. Life Sci.*)

3P265 **バクテリア融合チャンバーからのバクテリア再生に向けた研究**
Toward reproduction of a bacterium from hybrid chamber cells
Kazuhito Tabata, Yoshiki Moriizumi, Rikiya Watanabe, Hiroyuki Noji (*Department of Applied Chemistry, The University of Tokyo*)

3P266 **バクテリアプロトプラストとマイクロ膜チャンバーの融合反応の高感度検出**
High-sensitive detection method of bacterial protoplast fusion into a micron-sized lipid membrane chamber
Yoshiki Moriizumi[1], Kazuhito V. Tabata[1,3], Rikiya Watanabe[1,3], Hiroyuki Noji[1,2] ([1]*Dept. Appl. Chem., Grad. Sch. Eng., Univ. Tokyo.*, [2]*CREST, JST*, [3]*PRESTO, JST*)

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

3P267 **Structural characteristics of phosphorylation sites on disordered binding regions**
Hafumi Nishi, Akinori Kidera (*Grad. Sch. Medical Life Sci., Yokohama City Univ.*)

3P268 **De Novo protein structure modeling by rewiring old folds**
Shunsuke Nishiyama, Tatsuo Mukai, George Chikenji (*Grad. Sch. of Engineering, Nagoya Univ*)

3P269 **Template based modeling utilizing an order-made template libarary**
Kodai Takagi, Tatsuro Mukai, George Chikenji (*Grad. Sch. Eng., Nagoya Univ.*)

3P270 **Homologous protein pairs that share the same core packing but have different topology**
Takahiro Kanemitsu[1], Shintaro Minami[2], George Chikenji[1] ([1]*Grad. Sch. of Eng., Nagoya Univ.*, [2]*Grad.Sch. of Inf.Sci., Nagoya Univ.*)

3P271 **タンパク質立体構造におけるループ交差検出のためのアルゴリズム**
An algorithm for identifying loop crossing in protein structures
Tatsuo Mukai, George Chikenji (*Grad. Sch. of Eng., Dept. of Comput. Sci. and Eng., Nagoya Univ.*)

24. 数理生物学 / 24. Mathematical biology

3P272 **Observing the rotational diffusion of nanodiamonds with arbitrary nitrogen vacancy center configurations**
Ziya Kalay, Yohsuke Yoshinari, Yoshie Harada (*WPI-iCeMS, Kyoto University*)

3P273 **タンパク質量バランス制御機構解明に向けた、個別タンパク質量制御ルールの分類**
Production and degradation balancing mechanism of each protein controls the whole protein balance
Masayo Inoue, Katsuhisa Horimoto (*molprof, AIST*)

3P274 **バクテリアの Twitching 運動における線毛の伸縮規則の影響**
Effect of the extending and retracting rule of the bacterial pili in twitching motility
Ryota Morikawa, Masatada Tamakoshi, Takeshi Miyakawa, Masako Takasu (*Sch. of Life Sci., Tokyo Univ. of Pham. and Life Sci.*)

3P275 **細胞の動的構造・機能とモデリング**
Modeling of crowded environment under micro-confinement: Detachment of a large object from the surface
Soutaro Oda[1], Chwen-Yang Shew[2], Kenichi Yoshikawa[1] ([1]*Faculty of Life and Medical Sciences, Doshisha University*, [2]*City University of New York*)

3P276 **Multicanonical Go モデル分子動力学によるタンパク質の自由エネルギーの網羅的解析**
Comprehensive analysis of protein folding energy landscape by multicanonical Go-model molecular dynamics simulation
Mashiho Ito, Shoji Takada (*Dept. Biophysics, Sch. Sci., Kyoto Univ.*)

3P277 **多変数多項式による動的恒常維持パターンの解析へ向けて**
Toward analysis of multicell-turnover patterns by using multivariable polynomials
Hirosi Yosida (*Faculty of Math. Kyushu Univ.*)

3P278 **Role of intronic delay in oscillatory gene expression**
Bhaswati Bhattacharyya, Ziya Kalay (*Institute for Integrated Cell-Material Sciences, Kyoto University*)

3P279 **不均質環境下における個体群動態の解析**
Analysis of population dynamics in heterogeneous environment
Kenta Yashima[1], Sayaki Suzuki[2], Akira Sasaki[1] ([1]*The Graduate University for Advanced Studies*, [2]*National Agricultural Research Center*)

25. 非平衡・生体リズム / 25. Nonequilibrium state & Biological rhythm

3P280 **中和反応を駆動力とする走化性液滴:(1) ガスに対する応答**
Chemotactic behavior of a liquid droplet:(1) Smelling and running
Hiroki Sakuta[1], Nobuyuki Magome[2], Yoshihito Mori[3], Akihisa Shioi[4], Kenichi Yoshikawa[1] ([1]*Facul. Lif. Med. Sci., Doshisha Univ.*, [2]*Chem., Dokkyo Med. Univ.*, [3]*Facul. Sci., Ochanomizu Univ.*, [4]*Facul. Sci. Eng., Doshisha Univ.*)

3P281 **中和反応を駆動力とする走化性液滴:（2）炭化水素残基効果と境界条件**
Chemotactic behavior of a liquid droplet: (2) Hydrocarbon residue effects and boundary conditions
Lui Mihara[1], Aya Fujii[1], Kyoka Shiraki[1], Miku Shimada[1], **Yoshihito Mori**[1], Kenichi Yoshikawa[2] ([1]*Ochanomizu Univ. Sci*, [2]*Doshisha Univ. Life & Med. Sci.*)

3P282 **中和反応を駆動力とする走化性液滴：(3) 自己触媒反応による pH 変化と液滴の動き**
Chemotactic behavior of a liquid droplet: (3) pH change by autocatalytic reaction and liquid droplet motion
Nobuyuki Magome[1], Tatsuya Okuda[1], Noriko Umezawa[1], Yoshihito Mori[2], Kenichi Yoshikawa[3] ([1]*Premedical Sci., Dokkyo Med. Univ.*, [2]*Grad. Sch. Sci., Ochanomizu Univ.*, [3]*Grad. Sch. Life and Med. Sci, Doshisha Univ.*)

3P283 **Interplay between the ATPase activity and the structural change of KaiC protein studied by stochastic simulation**
Kenju Narita, Masaki Sasai, Tomoki P. Terada (*Grad. Sch. Eng., Nagoya Univ.*)

3P284 **Epigenetic Dynamics of Cell Reprogramming**
Ashwin S.S., Masaki Sasai (*Department of Computational Sciences and Engineering, Nagoya University, Nagoya Japan.*)

26. 計測 / 26. Measurements

3P285 **アトリットル容積を持つナノセルを用いた酵素 1 分子の高速検出**
Rapid Detection of Single-Molecule Enzyme using Attoliter Well Array, Nanocell
Takao Ono[1,2], Takanori Ichki[3], Hiroyuki Noji[1,2] ([1]*Dept. Appl. Chem., Sch. Eng., Univ. Tokyo*, [2]*JST-CREST*, [3]*Dept. Bioeng., Sch. Eng., Univ. Tokyo*)

3P286 **帽子型金ナノ粒子を用いた近赤外型局在表面プラズモン共鳴バイオセンサー**
Near infrared localized surface plasmon resonance biosensing based on cap-shaped gold nanoparticles
Hiroyuki Takei[1,2], Takumi Miyashita[3], Noriyuki Bessho[3], Takayuki Okamoto[4] ([1]*Faculty of Life Sciences, Toyo University*, [2]*Bio Nano Research Centre, Toyo University*, [3]*Grad. School of Life Sciences, Toyo University*, [4]*Riken Wako*)

3P287 **フェムトリットルドロップレットアレイを用いたアルカリフォスファターゼ１分子活性の検出及び定量計測**
Detection and activity measurement of single molecule alkaline phosphatase with femtoliter droplet array
Yusuke Obayashi[1], Ryota Iino[2], Hiroyuki Noji[1] ([1]*Grad. Sch. Eng., Univ. Tokyo*, [2]*Okazaki Inst. Integ. Biosci, NINS.*)

3P288 **培養神経細胞の軸索輸送活動度の新たな評価方法**
A new quantitative method to evaluate the activity of axonal transport of cultured neurons
Takashi Katakura, Risa Isonaka, Tadashi Kawakami (*Dept. Physiol., Kitasato Univ. Sch. Med.*)

3P289 **神経細胞に対する Amyloidβ42 毒性伝搬 in vitro モデルの構築**
Development of neurotoxicity of amyloid β(1-42) proteins propagation in vitro model
Takuma Maruyama[1], Lui Yoshida[2], Kiyoshi Kotani[3], Seiichi Suzuki[1], Yasuhiko Jimbo[3] ([1]*Grad. Sch. Sci and Tech, SEIKEI Univ.*, [2]*Grad. Sch. Frontier Sci, Univ of Tokyo*, [3]*Grad. Sch. Engineering, Univ of Tokyo*)

3P290 **Automation engineering for single molecule imaging using total internal reflection fluorescence microscopy**
Jun Kozuka, Michio Hiroshima, Yasushi Sako, Masahiro Ueda (*RIKEN*)

3P291 **ナノ粒子表面へのプローブオリゴヌクレオチドの修飾密度が DNA ハイブリダイゼーション効率に与える影響**
The contribution of the density of immobilized probe oligonucleotide on nanoparticle surface for DNA hybridization efficiency
Atsushi Kira, Atsushi Suda (*Product Development Center, Japan Aviation Electronics Industry, Ltd.*)

3P292 **高速原子間力顕微鏡ピエゾドライバの広帯域駆動**
Wideband operation of high-voltage amplifier for high-speed atomic force microscopy
Hiroyuki Handa, **Daisuke Yamamoto** (*Dept. Appl. Phys., Grad. Sch. Sci., Fukuoka Univ.*)

3P293 **冷却 HPD によるサブミリ秒時間分解能の広視野蛍光 1 分子検出**
Low-background wide-field sub-millisecond single-molecule fluorescence detection by a cooled hybrid photo-detector (HPD)
Atsuhito Fukasawa[1,2], Minako Hirano[2], Toru Ide[3], Hiroaki Yokota[2] ([1]*Hamamatsu Photonics K.K.*, [2]*GPI*, [3]*Grad. Sch. Nat. Sci. Technol., Okayama Univ.*)

27. バイオイメージング / 27. Bioimaging

3P294 **単粒子解析法の高速化のための GPGPU を用いた並列化処理の実装と評価**
Implementation and evaluation of parallel processing by GPGPU for accelerating single particle analysis
Ayaka Iwasaki, Takuo Yasunaga (*Kyushu Institute of Technology*)

3P295 **生細胞内における長鎖非翻訳 RNA の一分子イメージング法の開発**
A method to visualize endogenous long non-coding RNA with single molecule sensitivity
Toshimichi Yamada, Hideaki Yoshimura, Mituru Hattori, Hiroki Segawa, Takeaki Ozawa (*Grad. Sch. Sci., Univ. Tokyo*)

3P296 **複数の光遺伝学ツールとの組み合わせが可能な化学発光膜電位センサーの開発**
Genetically-encoded chemiluminescent voltage indicator applicable in conjunction with multiple optogenetic tools
Shigenori Inagaki[1], Tomoki Matsuda[1], Yoshiyuki Arai[1], Yuka Jinno[2], hidekazu Tsutsui[2,3], Yasushi Okamura[2], Takeharu Nagai[1] ([1]*ISIR., Univ. Osaka*, [2]*Grad. Sch. Med., Univ. Osaka*, [3]*Sch. Mat. Sci., JAIST*)

3P297 **電子顕微鏡画像処理システム Eos への Web ブラウザと PIONE の統合による、ユーザビリティの向上**
Development of a user-friendly system for image processing of electron microscopy by integrating web browser and PIONE with Eos
Takafumi Tsukamoto, Takuo Yasunaga (*KIT, Creative Informatics*)

3P298 **コヒーレント X 線回折イメージングにおける回復電子密度図の多変量解析を利用した分類と評価**
Classification and assessment of reconstructed electron density maps in coherent X-ray diffraction imaging using multivariate statistics
Yuki Sekiguchi[1,2], Tomotaka Oroguchi[1,2], Masayoshi Nakasako[1,2] ([1]*Grad. Sci. Tech., Keio Univ.*, [2]*RIKEN SPring-8 Center*)

3P299 **コヒーレントX線回折イメージングにおけるフリーデル対称性を拘束条件とした暗視野位相回復法の開発とシングルショット回折データ解析への応用**
Dark-field phase-retrieval method under the constraint of Friedel's symmetry for structure analyses in coherent X-ray diffraction imaging
Amane Kobayashi[1,2], Yuki Sekiguchi[1,2], Yuki Takayama[2], Tomotaka Oroguchi[1,2], Masayoshi Nakasako[1,2] ([1]*Grad. Sci. Tech., Keio Univ.*, [2]*RIKEN SPring-8 Center*)

3P300 **Trafficking of membrane protein PAR-1 carried by endocytotic vesicles in cancer cells**
Seohyun Lee[1], Motoshi Kaya[1], Hideo Higuchi[1] ([1]*School of Science, the University of Tokyo*, [2]*School of Medicine, Tohoku University*)

3P301 **A method to integrate 4D images of *C. elegans* embryos expressing different fluorescent markers**
Yusuke Azuma, Shuichi Onami (*RIKEN QBiC*)

3P302 **新奇"無蛍光"蛍光タンパク質による細胞内シグナル伝達の蛍光寿命イメージング**
Imaging intracelluer signal transduction using a newly developed "non-fluorescent" fluorescent protein for FLIM-FRET
Akihiro Shibata[1], Yoshihisa Nakahata[1], Junichi Nabekura[1], Hideji Hurakoshi[1,2] ([1]*NIPS, Okazaki*, [2]*JST PREST*)

3P303 **生細胞内における microRNA の動態観測**
Observation of microRNA dynamics in living cells
Toshinari Ishikawa[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Graduate School of Pharmaceutical Sciences, The University of Tokyo*, [2]*JST-PRESTO*)

3P304 **生細胞内 mRNA のナノスケール一分子追跡**
Nanoscale Single mRNA Tracking in Living Cells
Ko Sugawara[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Grad. Sch. Pharm., Univ. Tokyo*, [2]*JST, PRESTO*)

3P305 **Preparation of Green-Emitting Pt Nanoclusters for Biomedical Imaging by Pre-equilibrated Pt/PAMAM (G4-OH) and Mild Reduction**
Shin-ichi Tanaka[1,2], Takashi Jin[2], Yasushi Inouye[3] ([1]*Kure National College of Technology*, [2]*RIKEN*, [3]*Osaka University*)

3P306 **高速 AFM による抗体 IgG の動的観察**
Dynamic observation of single antibody IgG using High-Speed Atomic Force Microscopy
Norito Kotani, Tomohiro Hirano, Takao Okada (*RIBM*)

3P307 **１分子イメージング計測による生細胞表面 T 細胞受容体のマイクロクラスター内外における動態変化**
T cell receptor on the surface of living cells changes in the dynamics inside microclusters revealed by single-molecule imaging analysis
Yuma Ito[1,2], Kumiko Sakata-Sogawa[1,2], Makio Tokunaga[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*IMS, RIKEN*)

3P308 **ミトコンドリア新規単離法の検討**
New approach to isolation of less damaged mitochondria
Takahiro Shibata[1], Rie Yamane[2], Kaoru Katoh[3], Yoshihiro Ohta[1] ([1]*Grad. Sch, Life Sci, TUAT*, [2]*Sch, Life Sci, TUAT*, [3]*AIST*)

3P309 **3D Palm Imaging at 50 Micrometers Depth in the Sample**
Audrius Jasaitis[1], Gregory Clouvel[1], Ignacio Izeddin[2], James Sillibourne[3], Mohamed El-Beheiry[3], Xavier Levecq[1], Maxime Dahan[3], Michel Bornens[3], Xavier Darzacq[2] ([1]*Imagine Optic, France*, [2]*ENS Paris, France*, [3]*Institut Curie, France*)

3P310 **Signal enhancement and Patterson-search phasing for high-spatial-resolution coherent X-ray diffraction imaging of biological objects**
Yuki Takayama[1], Saori Maki-Yonekura[1], Tomotaka Oroguchi[1,2], Masayoshi Nakasako[1,2], Koji Yonekura[1] ([1]*RIKEN RSC*, [2]*Fac. Sci. Tech., Keio Univ.*)

3P311 **Investigation of intracellular temperature during stress granule formation**
Beini Shi[1], Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Grad. Sch. Pha. Sci., Univ. Tokyo*, [2]*JST-PRESTO*)

3P312 **蛍光性ポリマー温度センサーを用いた生細胞内における発熱のイメージング**
Imaging of thermogenesis in living cells using fluorescent polymeric thermometer
Kohki Okabe[1,2], Takashi Funatsu[1] ([1]*Grad Sch Pharm Sci, Univ Tokyo*, [2]*JST, PRESTO*)

28. バイオエンジニアリング / 28. Bioengineering

3P313 **マイクロ波照射微生物における至適出力と至適温度**
Optimal microwave energy and optimal temperature on microwave irradiated microbial cultivation
Ryota Nakama[1], Wataru Nagayoshi[1], Takeo Yoshimura[2], Makoto Kodama[3], Shokichi Ohuchi[1] ([1]*Dept. Biosci. & Bioinform., Kyushu Inst. Tech.*, [2]*Dept. Appl. Bio. Sci. Tokyo Univ. Sci.*, [3]*Vessel inc.*)

3P314 **知能ロボットを用いたヒトとのインターフェース**
Intelligence for Robot-Human Communication
Jun Miyake, Amalia Istiqlali Adiba, Nobuyuki Tanaka (*Graduate School of Engineering Science, Osaka University*)

3P315 **マイクロ流体デバイスを用いた三次元モデルにおけるグリオーマ幹細胞と分化誘導グリオーマ細胞の浸潤形態比較**

Comparing of invasion form between glioma stem cells and the differentiated cells in a microfluidic 3D culture system

Sotaro Taki, Shingo Fujioka, Ryo Sudo (*Sci and Tech., Univ. Keio*)

3P316 **らせん構造を有する異方性マイクロゲルファイバーの作製と制御**

Control synthesis of anisotropic hydrogel microfiber with helical structure

Shoya Yasuda[1], Masayuki Hayakawa[1], Masahiro Takinoue[1,2] ([1]*Interdisciplinary Grad. Sch. Sci. and Eng., Tokyo Tech., Japan*, [2]*PRESTO, JST, Japan*)

3P317 **Self-assembly of complex-shaped microgels**

Satoshi Umeyama, Masayuki Hayakawa, Masahiro Takinoue (*Interdisciplinary Graduate School of Science and Engineering, Tokyo Institute of Technology*)

3P318 **温度感受性ゲルを用いた蛍光検出によるドロップレットソーティング技術の開発とその応用**

Development of fluorescence-activated droplet sorting system using thermoreversible gelation polymer and its application

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

3P319 **Selection of RNA aptamers to develop a sensor using rhodamine as a fluorogenic probe**

Tara Bahadur KC[1,2], Hiroshi Abe[3], Yoshihiro Ito[1,2], Uzawa Takanori[1] ([1]*Emergent Bioengineering Materials Research Team, RIKEN*, [2]*Tokyo Metropolitan University*, [3]*Faculty of Pharmaceutical Sciences, Hokkaido University*)

3P320 **Control of a DNA computer-based gene-regulatory module confined in a giant unilamellar vesicle by external molecular signal**

Toru Nishikata[1,2], Takamasa Hasegawa[1,2], Yutetsu Kuruma[3], Koichiro Shoda[1,2], Akira Suyama[1,2] ([1]*Dept.Life Sci., Univ.of Tokyo*, [2]*Suyama Lab*, [3]*Earth Life.,Tokyo inst of tech*)

3P321 **進化分子工学に向けた酵素スクリニーングシステムの開発：酵素合成及び活性測定の試み**

Development of enzyme screening system for directed evolution based on enzymic activity

Yi Zhang, Hiroto Kizoe, Ryota Iino, Kazuhito Tabata, Hiroyuki Noji (*Department of Applied Chemistry, School of Engineering, The University of Tokyo*)

3P322 **シリカバイオミネラリゼーションを行う新奇人工ペプチドの設計**

The design of novel artificial peptide revealing a silica biomineralization activity

Yoshinao Murakami, Yuki Kimura, Ippei Fujiyama, Yusuke Matsuda (*Grad. Sch. Sci., Kwansei Gakuin Univ.*)

3P323 **マイクロ波照射 PCR 反応の DNA ポリメラーゼの変性**

Denaturation of DNA Polymerase on Microwave Assisted PCR

Shokichi Ohuchi[1], Takeo Yoshimura[2], Hiroya Osoekawa[1] ([1]*Biosci. & Bioinform., Kyushu Inst. Tech.*, [2]*Dept. Appl. Biol. Sci., Tokyo Univ. Sci.*)