ポスター　Poster

第 1 日目（9 月 22 日（土））／ Day1(Sep. 22, Sat.)

筋肉　Muscle / 理学南

1PS001　アクチンの Tyr143 変異による生化学的性質の変化
Changes of biochemical properties of *Dictyostelium* actin induced by mutation of tyrosine-143
Yuki Gomibuchi[1], Taro Uyeda[3], Takeyuki Wakabayashi[2] ([1]*Teikyo Uni.Grad.Scienceand Engineering*, [2]*Teikyo Uni. Dept. Judo Therapy*, [3]*AIST*)

1PS002　誘電緩和分光法によるアクチンフィラメントの水和特性の温度依存性
Temperature dependence of hydration properties of F-actin by dielectric relaxation spectroscopy
Yuichiro Okazaki, Asato Imao, Noriyoshi Ishida, **George Mogami**, Tetsuichi Wazawa, Makoto Suzuki (*Grad. Sch. Eng., Univ. Tohoku*)

1PS003　アクチン重合における水和変化の誘電緩和分光解析
Dielectric analysis of hydration change of actin by polymerization
Asato Imao, Yuichiro Okazaki, Noriyoshi Ishida, Tetsuichi Wazawa, George Mogami, Makoto Suzuki (*Grad. Sch. Eng., Tohoku. Univ*)

1PS004　アクチンの水和状態に及ぼすハライドイオンの効果
Effects of halide ions on the hydration properties of F-actin
Noriyoshi Ishida, Asato Imao, Yuichiro Okazaki, Tetsuichi Wazawa, George Mogami, Makoto Suzuki (*Grad. Sch. Eng., Tohoku. Univ.*)

1PS005　ミオシン S1 の水和に及ぼす共溶媒の影響
Cosolvent effects on the hydration state and the enzymatic activity of skeletal myosin
Takuya Nakagawa, Shin-ichiro Yasui, Tetsuichi Wazawa, George Mogami, Makoto Suzuki (*Grad. Sch. Eng., Tohoku. Univ.*)

1PS006　蛍光性カルモジュリンを用いた血管平滑筋ミオシン I および足場タンパク質によるアクチン繊維の組織化メカニズム
Actin filament organization of smooth muscle and possible roles of myosin I and scaffolding protein visualized by fluorescent calmodulin
Yoh Okamoto, Kai Sunada, Syougo Tokuda (*Muroran Institute of Technology, Division of Applied Science*)

1PS007　ホッキ牽引筋 NAM Mg-ATPase 活性に対する 2 種類の TM（TM1,TM2) の影響
The effects of two kinds TM(TM1,TM2) to Mg-ATPase activity of hokki retractor muscle NAM
Yoichi Yazawa

1PS008　クライオ電子顕微鏡法を用いたアクチン－ミオシン硬直複合体の高分解能構造への試み
Approach to higher-resolution structure of actin-myosin rigor complex by electron cryo-microscopy
Norihiro Shimizu[1], Yoshihiro Tsukada[1], Yakuo Yasunaga[1,2] ([1]*Kyushu Inst. of Tech.*, [2]*JST*)

1PS009　In vivo マウス心臓におけるサルコメア長のリアルタイム計測
Real-time measurement of sarcomere length in the mouse heart in vivo by using α-actinin-GFP
Akari Mizuno[1], Fuyu Kobirumaki-Shimozawa[2], Kotaro Oyama[1], Takako Terui[2], Erisa Hirokawa[2], Togo Simozawa[3], Shin'ichi Ishiwata[1], Norio Fukuda[2] ([1]*Department of Physics, Waseda University*, [2]*Department of Cell Physiology, The Jikei University School of Medicine*, [3]*Department of Physics, Gakushuin University*)

1PS010　チャネルロドプシンを発現した骨格筋管細胞における筋収縮と成熟の光操作
Optogenetic manipulation of myogenic contraction and maturation in channelrhodopsin-expressing skeletal muscle myotubes
Toshifumi Asano[1,2], Toru Ishizuka[1,3], Hiromu Yawo[1,3,4] ([1]*Grad. Sch. of Life Sci., Tohoku Univ.*, [2]*JSPS*, [3]*JST, CREST*, [4]*Center for Neurosci., Tohoku Univ. Grad. Sch. of Med.*)

1PS011　軟体動物横紋筋のコネクチン様タンパク質
Connectin-like protein in molluscan striated muscle
Yulong Bao[1], Akira Hanashima[1], Fumiaki Sodeyama[2], Sumiko Kimura[1] ([1]*Department of Biology, Graduate School of Science, Chiba University*, [2]*Department of Biology, Graduate School of Science, University of Tokyo*)

1PS012　環形動物斜紋筋のコネクチン様 4000K タンパク質の 47 アミノ酸リピート
47 amino acids repeat of connectin-like 4000K-protein in obliquely striated muscle of Annelida
Yui Nomiya[1], Shuji Kanamaru[2], Fumio Arisaka[2], Sumiko Kimura[1] ([1]*Department of Biology, Graduate School of Science, Chiba University*, [2]*Department of Life Science, Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology*)

1PS013　プラナリアのコネクチン様タンパク質の配列
Sequential analysis of Planarian connectin-like protein
Kouhei Sasano[1], **Masayoshi Kurasawa**[1], Akira Hanashima[1], Yulong Bao[1], Yuni Nakauchi[2], Sumiko Kimura[1] ([1]*Grad. Sch. Sci., Chiba Univ.*, [2]*Fac. Sci., Yamagata Univ.*)

1PS014　*in vitro* 運動におけるアクチン束の自発的形成
Spontaneous formation of moving actin bundles *in vitro*
Masayuki Hoshida, Yuuto Maruko, Hajime Honda (*Nagaoka University of Technology*)

1PS015　異なる滑り運動を持つ 2 種類のアクチン分子は独立したフィラメントを形成する
Independent formation of actin filament with two actin species with different sliding velocities
Syunsuke Kinoshita, Kouhei Iwase, Hajime Honda (*Nagaoka University of Technology*)

1PS016　ヒト心筋 SPOC に対する疾患と加齢の影響
The effects of disease and aging on human myocardial SPOC
Tatsuya Kagemoto[1], Mitsunori Yamane[1], Cristobal G. Dos Remedios[2], Norio Fukuda[3], Shin'ichi Ishiwata[1] ([1]*Department of Physics, Faculty of*

Science and Engineering, Waseda University, [2]*Bosch Institute, The University of Sydney*, [3]*Department of Cell Physiology, The Jikei University School of Medicine*)

1PS017 弛緩状態との境界領域における骨格筋筋原線維の自励振動状態（SPOC）

Characteristics of auto-oscillation (SPOC) for skeletal myofibrils observed near the boundary region with relaxation conditions

Kaori Sato[1], Shin'ichi Ishiwata[2] ([1]*Science and Engineering, Waseda Univ.*, [2]*Waseda Bioscience Research Institute in Singapore (WABIOS)*)

1PS018 Force transmission and anisotropic stiffening of reconstituted cytoskeletons

David Head[1], Emi Ikebe[2], Akiko Nakamasu[2], Peijuan Zhang[2], Shoji Ando[3], Daisuke Mizuno[2] ([1]*University of Leeds*, [2]*Kyushu University*, [3]*Sojo University*)

1PS019 高圧下におけるαアクチン構造安定性の理論的解析

Theoretical Analysis of α-Actin Stability at High Pressure

Nobuhiko Wakai[1], Kazuhiro Takemura[2], Takami Morita[3], Akio Kitao[2,4] ([1]*Grad. Sch. of Fron. Sci., Univ. of Tokyo*, [2]*IMCB, Univ. of Tokyo*, [3]*NRIFS*, [4]*JST, CREST*)

1PS020 ミオシンのレバーアーム・スイングの自由エネルギー計算とアクチンフィラメントの影響

Free energy calculation of lever-arm swing of myosin and the effect of actin filament

Jun Ohnuki, Takato Sato, Koji Umezawa, Mitsunori Takano (*Grad. Scl. of Adv. Sci. & Eng., Waseda Univ.*)

分子モーター　Molecular Motors / 理学南

1PS021 ATP 合成酵素の結晶化

Crystallization of ATPsynthase

Yasuo Shirakihara[1], Hiromi Tanikawa[1], Satoshi Murakami[2] ([1]*National Institute of Genetics*, [2]*Tokyo Institute of Technology*)

1PS022 TF1 β E190D 変異体の外部トルクに対する影響

Effect of external torque on the rotation of TF1 βE190D mutant

Tomohiro Kawakami[1], Shoici Toyabe[2], Hiroshi Ueno[1], Seishi Kudo[3], Eiro Muneyuki[1] ([1]*Dept. Phys., Faculty of Science and Engineering, Chuo Univ.*, [2]*Faculty of Physics, LMU Munich*, [3]*Dept. Appl. Phys., Sch. Eng., Tohoku Univ.*)

1PS023 Effect of nucleotide structure on nucleotide binding and rotation of F_1-ATPase

Yohsuke Kikuchi[1], Masaike Tomoko[2], Shoichi Toyabe[3], Hiroshi Ueno[1], Eiroh Muneyuki[1] ([1]*Dept. of Phys., Univ. Chuo*, [2]*Dept. of Phys., Univ. Gakushuin*, [3]*Fac. of Phys., LMU Munich*)

1PS024 F_1-ATPase の P-loop 変異体に対するリン酸の阻害効果

Inhibitory effect of Pi on F_1-ATPase P-loop mutant

Hikaru Yoshida[1], Ayumi Ito[1], Jotaro Ito[1,3], Syoichi Toyabe[1,2], Hiroshi Ueno[1], Eiro Muneyuki[1] ([1]*Dept, of Physics. Chuo Univ.*, [2]*Faculty of Physics, LMU Munich*, [3]*School of Engineering, The University of Tokyo*)

1PS025 Conformational changes in the β subunits of F_1-ATPase revealed by FRET measurements during the rotation of the γ subunit

Mitsuhiro Sugawa, Masaru Kobayashi, Takashi Matsui, Tomoko Masaike, Takayuki Nishizaka (*Department of Physics, Gakushuin University*)

1PS026 F_1-ATPase におけるトルクの入出力

Torque input/output profiles of F_1-ATPase

Eiichiro Saita[1,2], Kazuhiko Kinosita[3], Masasuke Yoshida[1,2] ([1]*Dept. Mol. Bio., Kyoto Sangyo Univ.*, [2]*ICORP, JST*, [3]*Dept. Phys., Waseda Univ.*)

1PS027 H^+/ATP ratio of F_oF_1-ATP synthase from the thermophilic *Bacillus* PS3

Naoki Soga[1], Kazuya Kimura[1], Yuzo Kasuya[1], Toshiharu Suzuki[2], Masasuke Yoshida[2], Kazuhiko Kinosita[1] ([1]*Dept. of Phys., Waseda Univ.*, [2]*Molecular Bioscience, Kyotosangyo Univ.*)

1PS028 新ステップ解析アルゴリズムの F_1－ ATPase への応用

Application of New step finding algorithm to F_1-ATpase

Akihiko Seino, Takeshi Nakagawa, Kazuo Sasaki, Kumiko Hayashi (*Dept. Appl. Phys., Sch. Eng., Tohoku Univ.*)

1PS029 回転電場を用いた F_1-ATPase の一分子計測による拡散の Giant Acceleration の観察

Giant Acceleration of diffusion in single-molecule experiments

Ryunosuke Hayashi[1], Syuichi 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*)

1PS030 バネでつながれたモーター分子による ATP 合成

ATP synthesis by elastically coupled nanomotors

Yasuhiro Imafuku[1], **Nils Gustafsson**[2], Neil Thomas[2] ([1]*Department of Biology, Kyushu University*, [2]*School of Physics and Astronomy, University of Birmingham*)

1PS031 回転モーター F_1-ATPase の強制回転における長短ヌクレオチド結合の解釈

The interpretation of long and short bindings of nucleotides to rotary motor of F_1-ATPase during forced rotation

Kengo Adachi[1], Kazuhiro Oiwa[2], Masasuke Yoshida[3], Kazuhiko Kinosita, Jr.[1] ([1]*Waseda Univ.*, [2]*Adv. ICT Res. Inst., NICT*, [3]*Kyoto Sangyo Univ.*)

1PS032 プラズモン増強電場を利用した蛍光 ATP と回転分子モーターの回転の同時観察

Simultaneous observation of fluorescent-nucleotides and rotation of rotary molecular motor on plasmonic metal nanostructures

Hiroshi Ueno[1], Shoichi Toyabe[1,2], Eiro Muneyuki[1] ([1]*Dept. of Phys., Fac. of Sci. & Eng., Univ. Chuo*, [2]*Sys. Biophys., Fac. of Phys. Munich Univ.*)

1PS033 F_oF_1-ATP 合成酵素のプロトン駆動力による回転運動の直接観察

Direct observation of H^+-driven rotation of F_oF_1-ATP synthase

Rikiya Watanabe, Kazuhito V. Tabata, Ryota Iino, Hiroyuki Noji (*School of Engineering, The University of Tokyo*)

1PS034 分子動力学計算を用いて明らかにするγ 16°回転前後の Yeast F1-ATPase の構造的特徴

Molecular Dynamics Simulation on Structural Characteristics of Yeast F1-ATPase before and after 16-degree Rotation of Gamma Subunit

Yuko Ito[1], Takashi Yoshidome[1,2], Nobuyuki Matsubayashi[3], Masahiro Kinoshita[2], Mitsunori Ikeguchi[1] ([1]*Yokohama-city univ. Nanobioscience*, [2]*Kyoto univ. Institute of Advanced Energy*, [3]*Kyoto univ. Institute of Chemical Research*)

1PS035 **Single-molecule analyses of the rotation and regulation of human F1-ATPase**

Toshiharu Suzuki[1,2,3], Tanaka Kazumi[1,2], Chiaki Wakabayashi[1], Eiichiro Saita[1,2], Shou Furuike[4], Kazuhiko Kinosita Jr[5], Masasuke Yoshida[1,2] ([1]*ATP-synthesis regulation project, ICORP, JST*, [2]*Dept of Mol Bioscience, Kyoto Sangyo Univ*, [3]*Chemical Resources Laboratories, Tokyo Inst of Tech*, [4]*Dept of physics, Osaka Med College*, [5]*Dept of Physics, Faculty of Science and Engineering, Waseda Univ*)

1PS036 **一分子 FRET 法によるキネシン頭部のヌクレオチド依存的な構造変化の観察**

Single molecule FRET observation of the nucleotide-dependent conformational changes of the kinesin motor domain

Ryosuke Komiyama, Michio Tomishige (*Department of Applied Physics, School of Engineering, The University of Tokyo*)

1PS037 **キネシンのヘッド間張力がヌクレオチド結合部位に与える影響 (分子シミュレーションによる調査)**

The effect of the internal tension between two heads on the nucleotide binding site of kinesin-1 studied by All-atom MD

Ryo Kanada[1], Tsukasa Makino[2,3], Michio Tomishige[3], Shoji Takada[1] ([1]*Grad. Sch. Sci., Univ. Kyoto*, [2]*BSI, Riken*, [3]*Dept. of Appl. Phys., Univ. Tokyo*)

1PS038 **スピンラベル ESR によるキネシンのネックリンカードッキング、リンカー間歪み、ヌクレオチドーリンカーサイト間伝達の動的構造解析**

Structural dynamics of necklinker docking, interlinker strain and nucleotide-to-linker transmission in kinesin probed by spin-label ESR

Satoshi Yasuda[1], Shinji Takai[1], Masafumi D. Yamada[2], Shinsaku Maruta[2], Toshiaki Arata[1] ([1]*Grad. Sch. Sci., Osaka Univ.*, [2]*Grad. Sch. Eng., Soka Univ.*)

1PS039 **The role of electrostatic interaction in binding-site selectivity of KIF1A on microtubule**

Yukinobu Mizuhara, Kyohei Yamamoto, Jun Narita, Mitsunori Takano (*Grad. Scl. of Adv. Sci. & Eng., Waseda Univ.*)

1PS040 **Regulation of motor activity of kinesin-6 by phosphorylation of the N-terminal extension domain**

Akihiko Sato[1], Tim Davis[2], Shin Yamaguchi[1], Masanori Mishima[2], Junichiro Yajima[1] ([1]*Graduate School of Arts and Sciences, Univ. Tokyo*, [2]*Centre for Mechanochemical Cell Biology Warwick Medical School University of Warwick*)

1PS041 **カーボンナノチューブを用いたキネシン運動の局所加熱**

Local heating of kinesin motors on carbon nanotubes

Yuichi Inoue, Mitsunori Nagata, Akihiko Ishijima (*IMRAM, Tohoku Univ.*)

1PS042 **多分子キネシン間の協調性は運搬物を効率的に長距離輸送するのに重要である**

Multiple kinesin molecules coordinate to ensure the long-distance walking: a DNA-kinesin hybrid nanomachine study

Yuya Miyazono[1], Masayuki Endo[2], Takuya Ueda[3], Hiroshi Sugiyama[2], Yoshie Harada[2], Hisashi Tadakuma[3] ([1]*Grad. Sch. Appl. Phys., Univ. Tokyo*, [2]*iCeMS, Univ. Kyoto*, [3]*Grad. sch. of Frontier Sci., Univ. Tokyo*)

1PS043 **フォトクロミック阻害剤を用いた有糸分裂キネシン Eg5 の光制御**

Photo-regulation of mitotic kinesin Eg5 using photochromic inhibitors

Kumiko Ishikawa[1], Hideo Seo[1], Kanako Touyama[2], Shinsaku Matuta[1] ([1]*Div. Bioinfo., Grad. Eng., Soka Univ.*, [2]*Dept. Bioinfo., Fac. Eng., Soka Univ.*)

1PS044 **フォトクロミック阻害剤を利用したキネシン Kif18A の光制御**

Photo-regulation of kinesin Kif18A using photochromic inhibitor

Hideo Seo[1], **Kumiko Ishikawa**[1], Kanako Touyama[2] ([1]*Div. Bioinfo., Grad., Eng., Soka Univ.*, [2]*Dept. Bioinfo., Fac. Eng., Soka Univ.t*)

1PS045 **RAD54, A CHROMATIN REMODELER, TRANSLOCATES ALONG DNA BY TRACKING THE DNA HELIX**

Ichiro Amitani, Christopher Dombrowski, Ronald Baskin, Stephen Kowalczykowski (*Department of Microbiology, University of California, Davis*)

1PS046 **DNA を分解中の RecBCD の高速 AFM 観察**

Structural dynamics of RecBCD enzyme during DNA degradation processes studied by high-speed atomic force microscopy

Yusuke Moriguchi[1], Naofumi Handa[2], Noriyuki Kodera[3], Toshio Ando[1,3] ([1]*Sch. Math. & Phys., Int. Sci. & Eng., Kanazawa Univ.*,, [2]*Dept. Microbiology, UC Davis*, [3]*Bio-AFM Frontier Research Center, Inst Sci. & Eng., Kanazawa Univ.*)

1PS047 **高密度昆虫細胞によるアクチン発現**

Expression of recombinant beta-actin in the high-density insect cell culture

Takashi Ohki[1], Shin'ichi Ishiwata[1,2] ([1]*Dept. of Phys., Waseda Univ.*, [2]*WABIOS, Waseda Univ.*)

1PS048 **ATP、ADP と無機リン酸存在下での運動するアクチン繊維の変形**

Deformations of moving actin filaments on myosin molecules in the presence of ATP, ADP, and inorganic phosphate

Satoru Kikuchi, Kuniyuki Hatori (*Grad. Sch. Sci. Eng., Yamagata Univ*)

1PS049 **生体分子モーターのストレインセンサー機構の発見とエネルギー変換への寄与の定量化**

Discovery of strain-sensor mechanism in motor protein and the quantification for the energy conversion

Mitsuhiro Iwaki[1,2,3], Keisuke Fujita[2], Atsuko Iwane[2], Lorenzo Marcucci[2], Toshio Yanagida[1,2] ([1]*QBiC, RIKEN*, [2]*Grad. Sch. Biosci., Osaka Univ.*, [3]*Harvard Med. Sch.*)

1PS050 **統計処理による素過程推定手法の開発（分子マシンを例として）**

Construction of statistical method for estimating elementary processes and their characteristics

Hiroto Tanaka, Hiroaki Kojima (*NICT*)

1PS051 **Photo-control of microtubule flexibility using photochromic nucleotide analogue entrapped within GTP binding site of tubulin**

Nozomi Furutani-Umezu[1], Takeshi Itaba[2], Shinsaku Maruta[1,2] ([1]*Dep. Bioinfo., Fac. Eng., Soka Univ.*, [2]*Div. Bioinfo., Grad. Sch. Eng., Soka Univ.*)

1PS052 **ヌクレオチドを利用する生体分子機械へのフォトクロミックヌクレオチドアナログの応用**

Possible application of photochromic nucleotide analogue to the nucleotide required bio-molecular machines

Takeshi Itaba, Shinsaku Maruta (*Div. of Bioinfo., Grad. Sch. of Eng., Soka Univ.*)

水和　Water, Hydration & Electrolytes / 豊田講堂エントランス

1PT001　タンパク質ドッキング過程における溶媒和自由エネルギー変化
Solvation free energy in protein dochking process
Taku Mizukami[1], Hiroaki Siato[2], Hidemi Nagao[2] ([1]*Materials Science, JAIST*, [2]*Natural Science and Technology, Kanazawa Univ.*)

1PT002　ミオシン周囲の水の密度揺らぎ
Density fluctuation of water around myosin
Takato Sato, Jun Ohnuki, Koji Umezawa, Mitsunori Takano (*Grad. Scl. of Adv. Sci. & Eng., Waseda Univ.*)

1PT003　中性子散乱による F-アクチン周辺水分子のダイナミクスの研究
Dynamics of Water around F-actin in Solution Studied by Neutron Scattering
Satoru Fujiwara[1], Marie Plazanet[2], Toshiro Oda[3] ([1]*QuBS, JAEA*, [2]*Univ. Fourier*, [3]*RIKEN SPring8 Center*)

1PT004　Mean Exit Time Analysis about Water Molecules around Membrane Surfaces
Eiji Yamamoto[1], Takuma Akimoto[1], Yoshinori Hirano[2], Masato Yasui[3], Kenji Yasuoka[4] ([1]*Department of Mechanical Engineering, Keio University*, [2]*The Institute of Physical and Chemical Research (RIKEN)*, [3]*Department of Pharmacology, School of Medicine, Keio University*, [4]*Department of Mechanical Engineering, Keio University*)

1PT005　アルギニンによるカフェ酸の可溶化とそのダイナミクス
Solubilization and Its Dynamics of Caffeic Acid Induced by Arginine
Daisuke Shinozaki[1], Atsushi Hirano[2], Tomoshi Kameda[3], Tsutomu Arakawa[4], Kentaro Shiraki[1] ([1]*Facul. of Pure and Appl. Sci., Univ. of Tsukuba*, [2]*NRI, AIST*, [3]*CBRC, AIST*, [4]*Alliance Protein Lab.*)

1PT006　Single molecule analysis for the energy conversion of actomyosin in the presence of osmolyte
Keisuke Fujita[1], Koji Itoh[2], Atsuko Iwane[1], Toshio Yanagida[1,3], Mitsuhiro Iwaki[1,3] ([1]*Grad. Sch. Front. Biosci., Osaka Univ.*, [2]*Fac. Sci., Chiba Univ.*, [3]*QBiC, RIKEN*)

1PT007　低分子周囲の水のダイナミクスおよび電荷計算：MD および QM 計算
Calculation of dynamics and charges of water around small solute molecules: MD and QM calculations
Takuya Takahashi (*College of Life Sciences, Ritsumeikan Univ.*)

1PT008　力場パラメタが溶媒和ダイナミクスに及ぼす影響の探索
Investigation of force field parameter effect on solvation dynamics
Yoshito Kondo, Takuya Takahashi (*College of Life Sciences, Ritsumeikan Univ*)

1PT009　蛋白質水和の物理的特性．IV. 水和サイト動力学の定量解析
Physical Properties of Protein Hydaration. IV. Quantitative Analysis of Hydration-Site Dynamics
Kunitsugu Soda[1], Yudai Shimbo[1], Yasutaka Seki[2], Makoto Taiji[1] ([1]*Lab. Comp. Molec. Des., QBiC, RIKEN*, [2]*Lab. Struc. Biol., Sch. Pharmacy, Iwate Med. Univ.*)

1PT010　誘電緩和分光測定によるオリゴリン酸塩の水和解析
Hydration study of oligophosphates by dielectric relaxation spectroscopy
Kazuki Ishimori, George Mogami, Nobuyuki Morimoto, Makoto Suzuki (*Grad. Sch. Eng., Univ. Tohoku*)

1PT011　ATP，ADP，Pi の水溶液から脂肪酸アミン / オクタノール溶媒への移行：その熱力学特性とメカニズム
Thermodynamics and mechanism of transfer of ATP, ADP and Pi from aqueous solution to fatty acid amine/octanol solvent
Hideyuki Komatsu (*Dept. Bioscience & Bioinformatics, Kyushu Inst. Tech.*)

蛋白質構造　Proteins: Structure / 豊田講堂シンポジオン

1PT101　リガンド結合状態及び非結合状態のケナガマンモスヘモグロビンの結晶構造
The crystal structures of hemoglobin from the woolly mammoth in liganded and unliganded states
Hiroki Noguchi[1], Satoru Unzai[1], Kevin L. Campbell[2], Chien Ho[3], Sam-Yong Park[1], Jeremy R.H. Tame[1] ([1]*Protein Design Laboratory, Yokohama City University, Japan*, [2]*Department of Biological Science, University of Manitoba, Canada*, [3]*Department of Biological Sciences, Carnegie Mellon University, USA*)

1PT102　HIV-1 プロテアーゼによるダルナビル耐性の分子機構の解明
Structural change at the flap region of HIV-1 protease associated with darunavir resistance
Hirotaka Ode[1], Koji Suzuki[1,2], Masayuki Fujino[3], Masami Maejima[1], Yuki Kimura[1,2], Takashi Masaoka[1], Junko Hattori[1], Yoshiyuki Yokomaku[1], Atsuo Suzuki[2], Nobuhisa Watanabe[2], Yasumasa Iwatani[1,4], Wataru Sugiura[1,4] ([1]*Clin. Res. Center, Nagoya Med. Center*, [2]*Grad. Sch. Eng., Nagoya Univ.*, [3]*AIDS Res. Center, NIID*, [4]*Grad. Sch. Med., Nagoya Univ.*)

1PT103　P2X 受容体の ATP 認識機構およびチャネル活性化機構
Mechanism of ATP binding and channel activation in P2X receptors
Motoyuki Hattori[1], Eric Gouaux[1,2] ([1]*Vollum Institute, Oregon Health & Science University*, [2]*Howard Hughes Medical Institute*)

1PT104　20S プロテアソームの機能阻害と X 線結晶構造解析
Crystal structure of the yeast 20S proteasome in complex with new inhibitor
Takuma Maekawa[1], Kazuya Nishio[2], Bahrudin Udin[3], Ichiro Hisatome[3], Yasushi Saeki[4], Keiji Tanaka[4], Hiroshi Yamaguchi[1], Yukio Morimoto[2] ([1]*Grad. Sch. Sci&Tec, Univ. Kangaku*, [2]*Grad. Sch. Physi, Univ. Kyoto*, [3]*Grad. Sch. Med., Univ. Tottori*, [4]*Tokyo Inst., Rinshoken*)

1PT105　Ⅳ型分泌系構成蛋白質、DotI の構造
Structure of DotI, a core component of the Type IVB secretion system
Takuya Kuroda[1], Yumiko Uchida[1], Tomoko Kubori[2], Hiroki Nagai[2], Katsumi Imada[1] ([1]*Grad. Sch. Sci. Osaka Univ.*, [2]*RIMD Osaka Univ.*)

1PT106 枯草菌細胞壁溶解酵素阻害タンパク質 IseA の立体構造解析：特徴的な阻害ループを持つ弓鋸型新規構造の解明

Solution structure of an autolysin inhibitor IseA from *Bacillus subtilis*: a novel hacksaw-like fold with a characteristic inhibitory loop

Sadaharu Fukui[1], **Ryoichi Arai**[1,2], Naoya Kobayashi[1], Hua Li[3], Satoru Watanabe[3], Junichi Sekiguchi[1] ([1]*Appl. Biol., Fac. Tex. Sci. Tech., Shinshu Univ.*, [2]*YREC, Shinshu Univ.*, [3]*SSBC, RIKEN*)

1PT107 4.1 蛋白質 FERM domian と calmodulin の結合解析

Unique structural changes in calcium-bound calmodulin upon interaction with a peptide of protein 4.1R

Wataru Nunomura[1,2], Noriyoshi Isozumi[3], Shigeyoshi Nakamura[4], Shinya Ohki[3], Shun-Ichi Kidokoro[4], Yuichi Takakuwa[5] ([1]*Dept. of Life Sci., Grad. Sch. Eng. & Resource Sci., Akita Univ.*, [2]*Cent. for Geo-Environment. Sci., Grad. Sch. Eng. & Resource Sci., Akita Univ.*, [3]*Cent. for Nano Mat. & Tech., JAIST*, [4]*Dept. of Bioeng., Nagoka Univ. of Tech.*, [5]*Dept. of Biochem., TWMU*)

1PT108 真空紫外円二色性分光により予測されたβ_2-Microglobulin フラグメントの Steric Zipper 構造

Steric-Zipper Structures of β_2-Microglobulin Fragment in Amyloid Fibrils Revealed by Vacuum-Ultraviolet Circular Dichroism Spectroscopy

Koichi Matsuo[1,2], Hirotsugu Hiramatsu[3], Kunihiko Gekko[4], Robert W. Woody[2] ([1]*Synch. Radi., Hiroshima Univ.*, [2]*Biochem. Mol. Biol., Colorado State Univ.*, [3]*Grad. Sch. Pharm. Sci., Tohoku Univ.*, [4]*Inst. Sust. Sci. Devel., Hiroshima Univ.*)

1PT109 どのようにβ-strnad はβ-sheet 中でその位置を決めるのか？

How do β-strands determine their positions in β-sheets ?

Hiromi Suzuki (*Sch. Agri., Meiji Univ.*)

1PT110 X 線小角散乱法による酵母 26S プロテアソームの構造研究

Structural investigation of the yeast 26S proteasome in an aqueous solution by a small-angle X-ray scattering

Yuya Morita[1,2], Takashi Matsumoto[3], Akihito Yamano[3], Yukio Morimoto[1,2] ([1]*Graduate School of Science, Kyoto University*, [2]*Research Reactor Institute, Kyoto University*, [3]*TX-ray Research Laboratory, Rigaku Corporation*)

1PT111 Bombyx mori 液状絹の溶液 NMR 構造解析

NMR Study of Bombyx mori liquid silk

Yu Suzuki[1], Toshimasa Yamazaki[2], Akihiro Aoki[1], Tetsuo Asakura[1] ([1]*Tokyo Univ. of Agri. and Tech.*, [2]*NIAS*)

1PT112 Solution stucture of the alternatively folded state of ubiquitin

Soichiro Kitazawa[1], Tomoshi Kameda[2], Maho Yagi[3,4], Kenji Sugase[5], Nicky Baxter[6], Koichi Kato[3,4], Michael P. Williamson[6], Ryo Kitahara[1] ([1]*Ritsumeikan, univ*, [2]*Computational Biology Research Center,AIST*, [3]*Okazaki Institute for Integrative Bioscience and Institute for Molecular Science*, [4]*Nagoya City univ.*, [5]*Suntory Foundation for Life Sciences*, [6]*University of Sheffield*)

1PT113 加圧による IPMDH への水分子の侵入と深海微生物由来タンパク質の圧力適応

High-pressure-induced water penetration into IPMDH and pressure-adaptation mechanism of the proteins from deep-sea bacteria

Takayuki Nagae[1], Yuki Hamajima[2], Takashi Kawamura[3], Ken Niwa[1], Masashi Hasegawa[1], Chiaki Kato[4], Nobuhisa Watanabe[1,3] ([1]*Grad. Sch. of Eng., Nagoya Univ.*, [2]*Grad. Sch. of Life Sci., Rikkyo Univ.*, [3]*Synchrotron Res. center, Nagoya Univ.*, [4]*Inst. of Biogeosci., JAMSTEC*)

1PT114 Amyloid-Fibrillation of Lysozyme Is Enhanced by C64-C80 and C76-C94 Disulfide Bonds

Ryohei Kono[1,3], Kaoru Shinohara[2], Yutaro Fujita[2], Hideki Tachibana[2,3] ([1]*Med. Univ. Wakayama*, [2]*Dep. Biotech., School of BOST, Univ. Kinki*, [3]*HPPRC, Institute of Advanced Technology, Univ. Kinki*)

1PT115 Structural analysis of hNck2 SH3 domain at various pH: non-native α-helix-rich monomer and native dimer

Masaji Shinjio[1], Yoshitaka Matsumura[1], Kaoru Ichimura[1], Jianxing Song[2], Kihara Hiroshi[3] ([1]*Kansai Medical Univ.*, [2]*Department of Biochemistry, Yong Loo Lin School of Medicine and Department of Biological Sciences*, [3]*SR Center, Ritsumeikan University*)

1PT116 Crystal structure of the fatty acid binding protein 3 (FABP3) with or without fatty acid

Mika Hirose[1,2], Shigeru Sugiyama[1,2], Mayumi Niiyama[1,2], Hanako Ishida[2,3], Tsuyoshi Inoue[2,3], Shigeru Matsuoka[1,2], Michio Murata[1,2] ([1]*Grad Sch. of Sci., Osaka Univ.*, [2]*JST, ERATO, Lipid Active Structure Project*, [3]*Appl. Chem., Grad Sch. of Eng., Osaka Univ.*)

1PT117 結晶構造に基づくグラム陰性菌多剤排出ポンプ阻害剤開発に向けた研究

Structural study on inhibitor specifity of bacterial multidrug efflux pumps

Katsuhiko Hayashi[1,2], Ryosuke Nakashima[1], Keisuke Sakurai[1], Seiji Yamasaki[1,2], Chikahiro Nagata[3], Kazuki Hoshino[3], Yoshikuni Onodera[3], Kunihiko Nishino[1], Akihito Yamaguchi[1,2] ([1]*ISIR, Osaka Univ.*, [2]*Grad. Sch. Pharm. Sci., Osaka Univ.*, [3]*DAIICHI SANKYO COMPANY, LIMITED*)

1PT118 STEM トモグラフィー法を用いた細菌および真核細胞内超分子複合体の可視化

Structural visualization of supramolecules in bacterial and eukaryotic cells using STEM tomography

Masafumi J. Koike[1,3], Shiho Minakata[2], Akihiro Narita[3], Michio Homma[4], Jiro Usukura[2,5], Yuichiro Maeda[3] ([1]*RIMD, Osaka Univ.*, [2]*Grad. Sch. Eng., Nagoya Univ.*, [3]*Structural Biology Research Center, Nagoya Univ.*, [4]*Grad. Sch. Sci., Nagoya Univ.*, [5]*EcoTopia Sci. Inst., Nagoya Univ.*)

1PT119 EM Data Bank と Protein Data Bank の低分解能 3D 電子顕微鏡構造データの類似構造検索システム

Similarity search system for low-resolutin 3D-EM strcutre data in EM Data Bank and Protein Data Bank

Hirofumi Suzuki[1,2], Haruki Nakamura[1,2] ([1]*IPR, Osaka-univ.*, [2]*PDBj*)

1PT120 Residues contributing to the stability of bovine β lactoglobulin elucidated by comparing with a chimera protein, Gyuba

Ryo Imaizumi, Hideaki Ohtomo, Masamichi Ikeguchi (*Soka Univ.*)

1PT121 X-ray crystallographic analysis of a chemoreceptor protein of Vibrio cholerae, Mlp24

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

1PT122 時計タンパク質 KaiB の KaiABC 複合体形成における構造変化

Structural change of the clock protein KaiB on the formation of the KaiABC clock oscillator complex

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

1PT123 分裂酵母由来 SpHsp16.0 のシャペロン機能における N 末領域のフェニルアラニン残基の重要な役割
Phenylalanine residues of the N-terminus region play a crucial role in regulating chaperone activity of SpHsp16.0 from fission yeast
Yuya Hanazono[1], Yoshiki Aikawa[1], Nobuhiko Akiyama[1], Tetsuya Abe[2], Kazuki Takeda[1], Toshihiko Oka[3], Masafumi Yohda[2], Kunio Miki[1] ([1]*Grad. Sch. Sci., Kyoto Univ.*, [2]*Dept. Biotech. Life Sci., Tokyo Univ. Agricult. Tech.*, [3]*Grad. Sch. Sci. Tech., Shizuoka Univ.*)

1PT124 Staphylococcal nuclease の触媒活性におけるループの役割
The role of the flexible loop in Staphylococcal nuclease on its catalytic activity
Rumi Shiba, Hironari Kamikubo, Yoichi Yamazaki, Mariko Yamaguchi, Mikio Kataoka (*Graduate School of Materials Science, Nara Institute of Science and Technology*)

1PT125 Athermal Fluctuations in Active Cytoskeletal Networks Follow Truncated Levy Distribution
Heev Ayade, Syou Yamamoto (*kyushu University*)

1PT126 Atoms in molecules 法によるタンパク質αヘリックス、βシートの水素結合相互作用の理論解析
Atoms in molecules analysis of hydrogen-bond interactions in α- helix, and β-sheets of protein
Hideki Yamasaki, Haruki Nakamura (*IPR, Osaka Univ.*)

1PT127 Go モデルによるフォールディングシミュレーションに対する天然構造の差異の影響について
Analysis of the influence of differences in native structures of a protein on its folding simulations with a Go model
Shuji Abe, Masatake Sugita, Takeshi Kikuchi (*Dept. Bioinf., Coll. Life Sci., Ritsumeikan Univ.*)

1PT128 光駆動性陽イオンチャネルであるチャネルロドプシンの結晶構造解析
Crystal Structure of a light-gated cation channel, channelrhodopsin
Hideaki E. Kato[1], Feng Zhang[2], Ofer Yizhar[2], Charu Ramakrishnan[2], Tomohiro Nishizawa[1], Kunio Hirata[3], Jumpei Ito[4], Yusuke Aita[4], Tomoya Tsukazaki[1], Shigehiko Hayashi[5], Peter Hegemann[6], Andres D. Maturana[4], Ryuichiro Ishitani[1], Karl Deisseroth[2], Osamu Nureki[1] ([1]*Dept. of Biophys. and Biochem., Grad. Sch. of Sci., Univ. of Tokyo*, [2]*Dept. of Bioengineering, Stanford Univ.*, [3]*Harima Inst., Riken*, [4]*Bioengineering Dept., Nagaoka Univ, of Tech.*, [5]*Dept. of Chem., Grad. Sch. of Sci., Kyoto Univ.*, [6]*Inst. of Biol., Experimental Biophys., Humboldt-Univ.*)

1PT129 DNA ポリメラーゼηによるホスホジエステル結合形成を観察する
Watching DNA polymerase η make a phosphodiester bond
Teruya Nakamura[1], Ye Zhao[2,3], Yuriko Yamagata[1], Yue-jin Hua[3], Wei Yang[2] ([1]*Grad. Sch. of Pharmaceut. Sci., Kumamoto Univ.*, [2]*NIDDK, NIH*, [3]*INAS, Zhejiang Univ.*)

1PT130 Endo-1,3-β-glucanase・オリゴ糖複合体の MD シミュレーション
Molecular dynamics simulations of endo-1,3-β-glucanase and oligosaccharide complex
Nobutaka Komichi[1], Narutoshi Kamiya[2], Haruki Nakamura[2], Masayuki Oda[1] ([1]*Grad. Sch. of Life and Environ. Sci., Kyoto Pref. Univ.*, [2]*Inst. for Protein Res., Osaka Univ.*)

1PT131 αヘリックス・βストランドレプリカ交換分子動力学シミュレーション法の開発と応用
Development and application of the helix-strand replica-exchange molecular dynamics method
Hisashi Okumura[1,2], Satoru G. Itoh[1,2] ([1]*Inst. Mol. Sci.*, [2]*SOKENDAI*)

1PT132 PDB データベースによるアミノ酸ごとに最適化した主鎖二面角力場
Development of a force field of backbone dihedral angles for each amino acid using Protein Data Bank
Yoshitake Sakae[1,2], Yuko Okamoto[1,3,4] ([1]*Dept. of Phys., Nagoya Univ.*, [2]*IMS*, [3]*Structural Biology Research Center, Nagoya Univ.*, [4]*Center for Computational Science, Nagoya Univ.*)

1PT133 コフィルアクチンフィラメントの分子動力学モデルの構築
Molecular dynamics model of cofilactin filament
Tetsuya Fujii[1], Yasuhiro Inoue[2], Taiji Adachi[3] ([1]*Grad. Sch. Eng., Dept. of Micro Eng., Kyoto Univ.*, [2]*Dept. of Biomechanics, Inst. Frontier Med. Sci., Kyoto Univ.*, [3]*Dept. of Biomechanics, Inst. Frontier Med. Sci., Kyoto Univ.*)

1PT134 ロボット機構の運動学に基づくタンパク質の内部運動解析
Internal Motion Analysis of Proteins based on Robot Kinematics
Keisuke Arikawa (*Fcl. Eng., Kanagawa Inst. of Tech.*)

1PT135 コンピュータシミュレーションによる 4-helix bundle タンパク質を基にしたタンパク質分子間相互作用面の設計
Simulation study for designing protein-protein interaction interfaces based on a four-helix bundle protein
Masaki Fukuda[1], Yu Komatsu[2], Ryota Morikawa[1], Takeshi Miyakawa[1], Masako Takasu[1], Satoshi Akanuma[1], Akihiko Yamagishi[1] ([1]*Dept. of Mol. Biol., Tokyo Univ. of Pharm. Life Sci.*, [2]*Grad. Sch. of Pure Appl. Sci., Univ. of Tsukuba*)

1PT136 透明で柔軟性を持った実用性の高いタンパク質分子模型
A Soft and Transparent Handleable Protein Model
Masaru Kawakami (*Sch. Mat. Sci.*)

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1PT137 蛋白質熱安定性に及ぼす糖の影響
Effects of sugars on the thermal stability of proteins
Hiraku Oshima[1], Ken-ichi Amano[2], Masahiro Kinoshita[1] ([1]*Inst. Adv. Energy, Kyoto Univ.*, [2]*Dep. Chem., Kobe Univ.*)

1PT138 ヒトカルシトニンアミロイド線維形成阻害機構の解析
Amyloid fibril inhibition mechanism of human calcitonin
Naoharu Kouduki[1], Hironari Kamikubo[1], Tomoyasu Aizawa[2], Yoko Ogawa[3], Yoichi Yamazaki Yoichi Yamazaki[1], Mariko Yamaguchi[1], Mikio Kataoka[1] ([1]*Grad. Sch. Mat. Sci., NAIST*, [2]*Graduate School of Life Science, Hokkaido University*, [3]*Osaka University of Pharmaceutical Sciences*)

1PT139 ダブル pH ジャンプによるアミロイド線維のほぼ可逆的な構造変化の解析

Analysis of Almost Reversible Conformational Change of Amyloid Fibrils by Double pH-jump
Keiichi Yamaguchi[1], Yuji O. Kamatari[2], Mayuko Fukuoka[1], Reiji Miyaji[3], Kazuo Kuwata[1] ([1]*Unit. Grad. Sch. of Drug Dis. and Med. Inf. Sci., Gifu Univ.*, [2]*Life Sci. Res. Center, Gifu Univ.*, [3]*Sup. and Dev. Center for Tech. Ed., Fac. of Eng., Gifu Univ.*)

1PT140 金属結合によるヒトプリオンタンパク質のペプチド断片の構造変化
Conformation change in peptide fragments of human prion protein caused by metal binding
Kazuya Iwama[1], Takahito Imaki[1], Masahiro Yagi[2], Wakako Hiraoka[2] ([1]*Grad.Sch.Sci,Univ.Meiji*, [2]*Sch.Sci,Univ.Meiji*)

1PT141 ユビキチンの温度-圧力-自由エネルギー地形図
Temperature-pressure-free energy landscape of ubiquitin
Tsubasa Yamamoto[1], Minoru Kato[2] ([1]*Graduate school of Life Science, Ritsumeikan University*, [2]*Department of Pharmacy, Ritsumeikan University*)

1PT142 X 線小角散乱によるフェリチンアセンブリ反応の追跡
Ferritin assembly kinetics followed by small-angle X-ray scattering
Daisuke Sato[1], Masayoshi Inoue[1], Ayumi Sunato[1], Yoshiteru Yamada[2], Hideaki Ohtomo[1], Seiichi Tukamoto[1], Kanako Nakagawa[1], Masamichi Ikeguchi[1] ([1]*Soka university*, [2]*JASRI/SPring-8*)

1PT143 GroEL-GroES 複合体形成の熱力学的解析
THERMODYNAMIC PARAMETERS ASSOCIATED WITH THE GroEL-GroES BINDING
Toshio Takenaka, Takashi Nakamura, Jin Chen, Kunihiro Kuwajima (*Okazaki Institute for Integrative Bioscoence*)

1PT144 Local and Global Structural Analysis of Denatured Protein by CW and pulsed ESR
Jun Abe[1], Munehito Arai[2], Satoshi Takahashi[1], Seigo Yamauchi[1], Yasunori Ohba[1] ([1]*IMRAM*, [2]*Grad. Sch. Art and Sci, Univ. Tokyo*)

1PT145 β_2ミクログロブリン部分ペプチドの運動性とアミロイド線維形成能との相関
Correlation of the dynamics of β_2-microglobulin fragments with their amyloidogenicity
Mahoshi Takeda[1], Kazumasa Sakurai[1], Takahisa Ikegami[1], Hironobu Naiki[2], Yuji Goto[1] ([1]*Inst. Protein Res., Osaka Univ.*, [2]*Med. Sci., Univ. Fukui.*)

1PT146 タウタンパク質の凝集の初期段階の解析
In vitro analysis of the early stage of aggregation of tau protein
Teikichi Ikura, Nobutoshi Ito (*Medical Research Institute, Tokyo Medical and Dental University*)

1PT147 MSES 法によるタンパク質間相互作用の解析
Multiscale enhanced sampling simulation of protein interaction
Kei Moritsugu[1], Tohru Terada[1,2], Akinori Kidera[1,3] ([1]*CSRP, RIKEN*, [2]*Grad. Sch. of Agri. and Life Sci., Univ. of Tokyo*, [3]*Grad. Sch. of Nanobiosci., Yokohama City Univ.*)

1PT148 原子間力顕微鏡を用いたβ-カテニンの力学的挙動解析
Analysis of the mechanical behavior of β-catenin using AFM
Koichiro Maki[1,2], Sung-Woong Han[1], Taiji Adachi[1,2] ([1]*Department of Biomechanics, Institute for Frontier Medical Sciences, Kyoto University, Japan*, [2]*Department of Microengineering, Kyoto University, Japan*)

1PT149 PPC, DSC のコンビネーション解析により明らかになったシトクロム c の新規多状態熱転移
A combination analysis of PPC and DSC revealed novel multi-state thermal transitions of cytochrome c
Shigeyoshi Nakamura, Shun-ichi Kidokoro (*Nagaoka University of Technology*)

1PT150 蛍光共鳴エネルギー移動を用いたスタフィロコッカルヌクレアーゼのフォールディングにおける特異的凝縮過程の研究
Site-specific collapse of staphylococcal nuclease during the folding followed by Förster resonance energy transfer
Takuya Mizukami[1], Ming Xu[2], Heinrich Roder[2,3], Kosuke Maki[1] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*Fox Chase Cancer Center*, [3]*Dep. Biochem. Biophys., Univ. Penn.*)

1PT151 蛍光相関分光法を用いた網羅的 *in vivo* 酵母タンパク質動態解析
Global analysis of protein dynamics in living yeast cells using fluorescence correlation spectroscopy
Takafumi Fukuda[1], Chan-Gi Pack[2], Yasushi Sako[2], Shigeko Kawai-Noma[1], Hideki Taguchi[1] ([1]*Grad. Sch. of Biotech., Tokyo Tech*, [2]*RIKEN ASI*)

1PT152 マイクロ秒分解一分子 FRET 測定による蛋白質折り畳み運動の追跡
Microsecond-resolved traces of protein folding by single-molecule FRET measurements
Hiroyuki Oikawa[1], Yuta Suzuki[2], Kiyoto Kamagata[1], Munehito Arai[3], Satoshi Takahashi[1] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. Sci., Tohoku Univ.*, [3]*Grad. Sch. Arts. Sci., Univ. Tokyo*)

1PT153 エレメントを用いた人工酵素の設計と機能解析
Element-based molecular design can reproduce an artificial protein with an expected enzymatic activity
Hironari Kamikubo, Eri Sakai, Yoichi Yamazaki, Mariko Yamaguchi, Mikio Kataoka (*NAIST/MS*)

1PT154 水及び非水環境におけるタンパク質の立体構造安定性
Structural stability of a protein in aqueous and nonaqueous environments
Satoshi Yasuda[1], Hiraku Oshima[2], Masahiro Kinoshita[2] ([1]*Graduate School of Energy Science, Kyoto University*, [2]*Institute of Advanced Energy, Kyoto University*)

1PT155 抗プリオン化合物のプリオンタンパク質への結合特性による分類
Characterization of anti-prion compounds according to the binding properties to the prion protein
Yuji O. Kamatari[1], Yosuke Hayano[2], Keiichi Yamaguchi[2], Junji Hosokawa-Muto[2], Kazuo Kuwata[2] ([1]*Life Sci. Res. Center, Gifu Univ.*, [2]*Unit. Grad. Sch. Drug Dis. Med. Info. Sci., Gifu Univ.*)

1PT156 糖タンパク質 A の変性温度、可逆性及び熱によって誘起される重合体の解析
Conformational stability, reversibility and heat-induced aggregation of glycoprotein A
Takafumi Iwura, **Fumio Arisaka** (*Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology*)

1PT157 Structural properties and folding process of hNck2 SH3 domain

Yoshitaka Matsumura[1], Masaji Shinjo[1], Tsutomu Matsui[2], Kaoru Ichimura[1], Jianxing Song[3], Hiroshi Kihara[4] ([1]*Dept. Phys., Kansai Med. Univ.*, [2]*Bio-SAXS, SSRL*, [3]*Dept. Biochem., Yong Loo Lin School of Medicine, Dept. Biol. Sci., Facul. Sci., National Univ. Singapore*, [4]*SR center, Ritsumeikan Univ.*)

1PT158 天然変性蛋白質 p53 TAD による CBP TAZ2 への極めて速い結合反応

Extremely rapid binding of the intrinsically disordered p53 transactivation subdomain with the TAZ2 domain of CBP

Munehito Arai[1,2,3], Josephine C. Ferreon[2], Peter E. Wright[2] ([1]*Dept. Life Sci., Univ. Tokyo*, [2]*Dept. Mol. Biol., The Scripps Res. Inst.*, [3]*PRESTO, JST*)

1PT159 STABILITY OF FOLDING INTERMEDIATE AFFECTS THE AMYLOIDOGENIC PROPENSITY OF IMMUNOGLOBULIN LIGHT CHAIN VARIABLE DOMAIN

Yuta Kobayashi[1], Yuki Tashiro[2], Kyohei Ikeda[2], Tetsuyuki Abe[2], Daizo Hamada[1] ([1]*Grad. Sch. Med., Univ. Kobe*, [2]*Sch. Med., Univ. Kobe*)

1PT160 Recognition of a TAR nucleic acid by HIV-1 Tat, an intrinsically disordered protein

Kohei Sodeyama[1], Yuuki Hayashi[1], Takashi Nakamura[2], Koki Makabe[2], Kunihiro Kuwajima[2], Munehito Arai[1] ([1]*Dept. Life Sci., Univ. Tokyo*, [2]*Okazaki Inst. Integr. Biosci.*)

1PT161 NRSF/REST の競合誘起天然変性による mSin3 の構造安定性制御

Control of Structure Stability of mSin3 by Frustration- Induced Intrinsic Disorder of NRST/REST

Katsuyoshi Matsushita[1,2], Macoto Kikuchi[1,3,4] ([1]*Cybermedia Center, Osaka University*, [2]*Institute for Protein Research, Osaka University*, [3]*Graduate School of Science, Osaka University*, [4]*Graduate School of Frontier Biosciences, Osaka University*)

1PT162 リゾチームの乾燥誘導凝集に対する G3LEA タンパク質及びモデルペプチドの抑制効果

Measurement of the association constant of a G3LEA protein or its model peptide with lysozyme in aqueous solution

Kentaro Yamakawa[1], Takao Furuki[1], Rie Hatanaka[2], Hiroyuki Furusawa[3], Takahiro Kikawada[2], Yoshio Okahata[3], Alan Tunnacliffe[4], Minoru Sakurai[1] ([1]*Center for Biological Resources and Informatics, Tokyo Inst. Tech.*, [2]*National Institute of Agrobiological Sciences*, [3]*Department of Biomolecular Engineering, Graduate School of Tokyo Inst. Tech.*, [4]*University of Cambridge, Department of Chemical Engineering and Biotechnology*)

1PT163 表面力測定によるシグナル伝達タンパク質間相互作用の研究

Interactions between signal transduction proteins studied by surface force measurement

Hitomi Fujiwara[1], Taizo Umemura[1], Masaya Fujita[2], Kazue Kurihara[1,3] ([1]*Institute of Multidisciplinary Research for Advanced Materials (IMRAM) Tohoku*, [2]*University of Houston*, [3]*World Premier International-Advanced Institute for Materials Research*)

1PT164 GroEL 円順列変異体 CP86 のストップトフロー機能解析

Functional and Stopped-flow analysis of circularly permutated GroEL mutant CP86

Toshifumi Mizuta[1], Tatsuya Uemura[2], Takuma Hirayama[1], Kunihiro Hongo[1,2], Yasushi Kawata[1,2], Tomohiro Mizobata[1,2] ([1]*Dept. of Chem.and Biotech.,Grad.Sch.of Eng.,Tottori Univ*, [2]*Dept. of Biomed.Sci., Grad.Sch.,Tottori Univ*)

1PT165 Design of functional miniature peptides acting like the lipase

Yoshihiro Iida, Atsuo Tamura (*kobe university*)

1PT166 異なるリガンドと結合した DHFR の構造転移のカメレオンモデルによる比較

Comparison of the conformational transitions of DHFR bound to the different ligands using the chameleon model

Toru Kimura[1], Masaki Sasai[2], Tomoki P. Terada[2] ([1]*Dept. of Applied Physics, Grad. Sch. of Engineering, Nagoya Univ.*, [2]*Dept. of Computational Science and Engineering, Grad. Sch. of Engineering, Nagoya Univ.*)

1PT167 DHFR のフォールディング過程の多次元自由エネルギー曲面

Multidimensional free energy landscape of folding of DHFR

Takashi Inanami, Tomoki Terada, Masaki Sasai (*Dept. of Comp. Sci. Eng., Univ. of Nagoya*)

1PT168 Effect of flexibility and electrostatic interaction on rapid binding and unbinding of an intrinsically disordered protein

Koji Umezawa[1], Kohei Nishimura[1], Junichi Higo[2], Haruki Nakamura[2], Mitsunori Takano[1] ([1]*Grad. Scl. of Adv. Sci. & Eng., Waseda Univ.*, [2]*IPR, Osaka Univ.*)

1PT169 Calculation of local dielectric constants of proteins using dipole-dipole correlations

Asahi Konno, Jun Narita, Kentaro Fukunaga, Koji Umezawa, Mitsunori Takano (*Grad. Scl. of Adv. Sci. & Eng., Waseda Univ.*)

1PT170 シグナル伝達に関与する PDZ ドメインの分子動力学データに対する時系列解析

The time series analysis of molecular dynamics data about PDZ domain in synapse

Naoko Kishida[1], Hiroshi Fujisaki[2], Mikito Toda[3] ([1]*Graduate School of Humanities and Science, Nara Women's University*, [2]*Nippon Medical School*, [3]*Faculty of Science Nara ,Women's University*)

1PT171 粗視化シミュレーションによる 3 ドメインタンパク質 suf1 のコ・トランスレーショナルフォールディングの研究

Co-translation folding of a three-domain protein surf1 studied by coarse-grained molecular simulations

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

1PT172 粗視化シュミレーションによるサテライトタバコモザイクウィルスの安定性とダイナミクス

Stability and dynamics of satellite tobacco mosaic viruses studied by coarse-grained simulations

Koji Ono, Naoto Hori, Shoji Takada (*Dept of Biophys, Kyoto Univ*)

1PT173 エピレギュリン－抗体の分子動力学シミュレーション

Molecular dynamics simulation of epiregulin and its antibody

Keiko Shinoda, Hideaki Fujitani (*Laboratory for Systems Biology and Medicine, Research Center for Advanced Science and Technology, University of Tokyo*)

1PT174 Molecular Dynamics Simulation of Protein Using Robot Dynamics Algorithm

Yu Yamamori[1,2], Kazuhiro Takemura[1], Akio Kitao[1,2] ([1]*Institute of Molecular and Cellular Biosciences The University of Tokyo*, [2]*Department of computational biology Graduate school of frontier science, University of Tokyo*)

1PT175 **4 量体型サルコシン酸化酵素の酵素-基質複合体の分子動力学的解析**
Analysis of enzyme-substrate complex of heterotetrameric sarcosine oxidase by molecular dynamic simulation
Akinori Hiroshima, Haruo Suzuki, Shigetaka Yoneda (*Grad. Sch. Sci., Kitasato Univ.*)

1PT176 **アデニル酸キナーゼ反応機構に関する ONIOM 法による研究**
Study on the reaction mechanism of adenylate kinase with ONIOM method
Kenshu Kamiya (*Department of Physics, School of Science, Kitasato university*)

1PT177 **酵素の多機能性に関する解析**
Analysis of enzyme promiscuity
Chioko Nagao, Kenji Mizuguchi (*NIBIO*)

1PT178 **Folding of topologically complex proteins by an atomic interaction based coarse grained model**
Wenfei Li[1,2,3], Tsuyoshi Terakawa[2], Wei Wang[1], Shoji Takada[2,3] ([1]*National Laboratory of Solid State Microstructure and Department of Physics, Nanjing University*, [2]*Graduate School of Science, Kyoto University*, [3]*CREST, Japan Science and Technology Agency*)

蛋白質測定と解析　Proteins: Measurement & Analysis / 豊田講堂シンポジオン

1PT179 **多様な分子コンホメーションを取り得る溶質の小角 X 線散乱プロフィルの近似計算法**
A new approximation method for estimating SAXS profiles of solutes with multiple molecular conformations
Yasutaka Seki[1], Shigeyoshi Nakamura[2], Shun-ichi Kidokoro[2], Takamasa Nonaka[1], Kunitsugu Soda[3] ([1]*Sch. of Pharm., Iwate Med. Univ.*, [2]*Dept. of Bioeng., Nagaoka Univ. of Technol.*, [3]*High Perform. Molec. Simula. Team, ASI, RIKEN*)

1PT180 **極低温電子顕微鏡による 26S プロテアソームの単粒子解析**
Single particle analysis of 26S proteasome by cryo-electron microscopy
Kaoru Mitsuoka[1], Daisuke Kasuya[2], Yasushi Saeki[3], Takuo Yasunaga[4] ([1]*BIRC, AIST*, [2]*BIRC, JBIC*, [3]*Tokyo Metropolitan Institute of Medical Science*, [4]*KITEC*)

1PT181 **Free energy decomposition and functional sites of proteins**
Mami Saito, Shoji Takada (*Grad.Sch.Sci.,Kyito Uni.*)

1PT182 **時間分解蛍光偏光法によるタンパク質周囲の水和層の局所粘性測定**
Measurement of the local viscosity of the hydration shell around protein by time-resolved fluorescence anisotropy spectroscopy
Tetsuichi Wazawa, George Mogami, Nobuyuki Morimoto, Noriyoshi Ishida, Makoto Suzuki (*Dept of Material Processing, Grad Sch of Engin, Tohoku Univ*)

1PT183 **Highly accurate statistical pickup method for single particle 3D analysis using electron microscope**
Masaaki Kawata[1], Chikara Sato[2] ([1]*ITRI, AIST*, [2]*BRI, AIST*)

1PT184 **中程度傾斜撮影した電子顕微鏡画像からの単粒子 3 次元再構築**
Single Particle Reconstruction with Medium Tilt Images by Electron Microscopy
Yutaka Ueno, Emiko Kobayashi, Shouhei Mine, Kazunori Kawasaki (*AIST Kansai*)

1PT185 **拘束付き分子動力学法を適用した、電子顕微鏡法のための原子モデル構築ツールの開発**
Development of atomic modelling tool for Electron Microscopy, applying steered Molecular Dynamics method
Risa Yamashita, Ryota Nakao, Hiroshi Sakamoto, Takuo Yasunaga (*Kyushu Institute of Technology*)

1PT186 **Comparative survey of image processing packages for electron computed tomography**
Nan Shen, Mingyue Jin, Takuo Yasunaga (*Dep. Biosci. Bioinf., Inst. Tech. Kyushu*)

1PT187 **Gibbs energies of secondary structures for α-Chymotrypsinogen A investigated by FT-IR spectroscopy**
Koichi Murayama (*Grad. Sch. Med., Gifu Univ.*)

1PT188 **TIP3P モデルおよび Generalized Born モデルを併用した分子動力学計算によるタンパク質の構造サンプリング**
Improvement of sampling efficiency through combined use of molecular dynamics simulations with implicit and explicit solvent models
Hiroko Kondo[1,2], Noriaki Okimoto[2], Makoto Taiji[1,2] ([1]*Department of Computational Biology, the University of Tokyo*, [2]*Laboratory for Computational Molecular Design, Quantitative Biology Center (QBiC), RIKEN*)

1PT189 **生体分子の分子動力学に対する時系列解析ー集団運動の揺らぎと構造変化の関係を探るー**
Time-series analysis of molecular dynamics: Conformational change and dynamics of collective behavior
Kana Fuji[1], Masakazu Sekijima[2], Hiroshi Fujisaki[3], Mikito Toda[4] ([1]*Graduate of school Humanities and Sciences, Nara Women's Univ.*, [2]*GSIC, Tokyo Tech*, [3]*Phys., Nippon Medical School*, [4]*Sci. , Nara Women's Univ.*)

1PT190 **イオンモビリティ質量分析と分子動力学シミュレーションを用いた気相中におけるヒストン多量体の構造解析**
Characterization of histone multimers in the gas phase by ion mobility mass spectrometry and molecular dynamics simulation
Kazumi Saikusa[1], Sotaro Fuchigami[1], Kyohei Takahashi[1], Yuuki Asano[1], Aritaka Nagadoi[1], Hiroaki Tachiwana[2], Hitoshi Kurumizaka[2], Mitsunori Ikeguchi[1], Yoshifumi Nishimura[1], Satoko Akashi[1] ([1]*Yokohama City Univ.*, [2]*Waseda Univ.*)

1PT191 **カーネル正準相関分析と離散ウェーブレット変換を用いたタンパク質立体構造の時系列解析**
Time-series analysis for protein dynamics using discrete wavelet transform with kernel canonical correlation analysis
Mayumi Kamada[1], Mikito Toda[2], Tatsuya Akutsu[1] ([1]*Inst. Chem. Res., Kyoto University*, [2]*Phys. Dept., Nara Womens Univ.*)

1PT192 **生体分子における原子レベルでのストレステンソル解析**
Atomic stress tensor analysis in biomolecules
Takakazu Ishikura, Tatsurou Hatano, Takahisa Yamato (*Grad. Sch. Sci., Nagoya Univ.*)

細胞生物学　Cell Biology / 豊田講堂北

1PT201　細胞環境における蛋白質の構造安定性とダイナミクス
Protein stability and dynamics under cellular environments
Ryuhei Harada[1], Yuji Sugita[1,2,3], Michael Feig[3,4] ([1]*RIKEN AICS*, [2]*RIKEN ASI*, [3]*RIKEN QBiC*, [4]*Michgan state university*)

1PT202　マクロファージ細胞株における LPS 活性化時の遺伝子発現の細胞間ゆらぎに細胞間相互作用が与える影響
Effects of the cell-cell communication on the populational variability of mRNA levels among clonal macrophages after LPS stimulation
Mai Yamagishi[1], Yoshitaka Shirasaki[1], Nanako Shimura[1,2], Nobutake Suzuki[1], Osamu Ohara[1,3] ([1]*RCAI, RIKEN*, [2]*Grad. Sch. Med. Pharm., Chiba Univ.*, [3]*KAZUSA DNA Res. Inst.*)

1PT203　小腸絨毛下線維芽細胞における各種刺激による ATP 放出
ATP-releases with various stimuli in subepithelial fibroblasts in intestinal villi
Kishio Furuya[1], Sonoko Furuya[2], Masahiro Sokabe[3] ([1]*FIRST Research Center for Innovative Nanobiodevice, Nagoya Univ*, [2]*National Institute for Physiological Science*, [3]*Dept. Physiol., Grad. Sch. Med., Nagoya Univ*)

1PT204　An optimal heterogeneity in a cell population maximizes the effects of growth factors directing stochastic PC12 cell fate decisions
Kazunari Mouri, Yasushi Sako (*Adv. Sci. Inst., Riken*)

1PT205　蛍光相関分光法を用いた単一細胞内グルココルチコイド受容体のホモダイマー形成の解析
Quantification of Glucocorticoid Receptor of homo-dimer in single cell by using Fluorescence Correlation Spectroscopy
Sho Oasa[1], Akira Sasaki[1], Shintaro Mikuni[1,2], Masataka Kinjo[1] ([1]*Grad. Life Sci., Hokkaido Univ.*, [2]*Grad. Med. Department of Advanced Optical Imaging Reasarch., Hokkaido Univ.*)

1PT206　マスト細胞と後根神経節初代培養細胞の相互作用における接着分子の研究
Cell adhesion molecule 1 (CADM1) on mast cells promotes interaction with dorsal root ganglion neurites by heterophilic binding to nectin-3
Tadahide, Furuno[1], Miho, Sekimura[2], Keisuke, Okamoto[2], Man, Hagiyama[3], Akihiko, Ito[3], Ryo, Suzuki[2], Naohide, Hirashima[2], Mamoru, Nakanishi[1] ([1]*Sch. Pharm., Aichi Gakuin Univ.*, [2]*Grad. Sch. Pharm. Sci., Nagoya City Univ.*, [3]*Fac. Med., Kinki Univ.*)

1PT207　Duration of CaMKII activation required for plasticity of dendritic spines revealed by photo-activatable CaMKII inhibitor
Hideji Murakoshi[1,2], Ryohei Yasuda[3] ([1]*National Institute for Physiological Sciences*, [2]*PRESTO, JST*, [3]*Dept of Neurobiology, Howard Hughes Medical Institute, Duke University Medical Center*)

1PT208　TPO 受容体の二量体安定化によるシグナルの正のフィードバック制御
Positive feedback control of thrombopoietin signaling by stabilization of its receptor dimers revealed through single-molecule imaging
Akihiko Sakamoto[1], Takashi Kato[2], Takashi Funatsu[1] ([1]*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*, [2]*Fac. of Ed. and Int. Arts. and Sci., Waseda Univ.*)

1PT209　Rac1 recruitment to the archipelago structure of focal adhesion through the fluid membrane as revealed by single-molecule analysis
Akihiro Shibata[1], Chen Limin[1], Nagai Rie[1], Fumiyoshi Ishidate[1], Yoshihiro Miwa[2], Keiji Naruse[3], Takahiro Fujiwara[1], Akihiro Kusumi[1] ([1]*Institute for Frontier Medical Sciences, Kyoto University*, [2]*Department of Pharmacology, Institute of Basic Medical Sciences, University of Tsukuba*, [3]*Cardiovascular Physiology, Okayama University Graduate School of Medicine, Dentistry, and Pharmaceutical Sciences*)

1PT210　ERK リン酸化・脱リン酸化反応再構成系の ERK 濃度に依存した応答特性
Response characteristics of reconstructed ERK phosphorylation and dephosphorylation depending on ERK concentration
Masahiro Takahashi[1], Toshio Yanagida[2], Yasushi Sako[1] ([1]*RIKEN ASI*, [2]*Graduate School of Frontier Biosciences, Osaka University*)

1PT211　マウス胚盤胞における細胞内カルシウム濃度とメカニカルストレス負荷の同時計測
Simultaneous investigation of intracellular calcium concentration and mechanical stimuli to mouse blastocysts
Koji Matsuura[1], Yuka Asano[1], Ikuyo Sugimoto[1], Mieko Kodama[1], Keiji Naruse[2] ([1]*Research Core for Interdisciplinary Sciences, Okayama University*, [2]*Cardiovascular Physiology, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University*)

1PT212　バイセクティング GlcNAc とフコースの導入が水中 N 型糖鎖の構造多様性に及ぼす影響
Effect of Bisecting GlcNAc and Core Fucosylation on Conformational Properties of Biantennary Complex-Type N-Glycans in Solution
Wataru Nishima[1], Naoyuki Miyashita[2], Yoshiki Yamaguchi[1], Yuji Sugita[1,2,3], Re Suyong[1] ([1]*ASI, Riken*, [2]*QBiC, Riken*, [3]*AICS, Riken*)

遺伝　Molecular Genetics & Gene Expression / 豊田講堂北

1PT213　新規フォトクロミック HDAC 阻害剤の設計・合成ならびに阻害作用
Design and synthesis of a novel photochromic HDAC inhibitor and its inhibitory effect
Keiko Tanaka, Shinsaku Maruta (*Dept. of Bioinfo., Fac. Eng., Soka Univ.*)

1PT214　PC12 細胞シグナル伝達系における PLS 回帰を用いた解析
PLS regression analysis of Signal transduction network and phenotypes in PC12 cell
Yuki Akimoto, Katsuyuki Yugi, Shinsuke Uda, Shinya Kuroda (*University of Tokyo*)

発生　Development & Differentiation / 豊田講堂北

1PT215　幹細胞様のふるまいを示す人工遺伝子ネットワークの構築
Synthetic biology of stem cells: creating artificial gene network of "differentiation"
Sumire Ono[1], Reiko Okura[1], Yuichi Wakamoto[2,3] ([1]*Grad. Sch. Arts and Sci., Univ. Tokyo*, [2]*Research Center for Complex Systems Biology, Univ of Tokyo*, [3]*JST PRESTO*)

1PT216　カタユウレイボヤ初期胚におけるラマン顕微鏡による細胞内分子の検出

Detection of bio-molecules localized in specific cells of *Ciona intestinalis* embryo by Raman spectroscopy
Mitsuru Nakamura, Kohji Hotta, Kotaro Oka (*Graduate School of Science and Technology, Keio University*)

1PT217 **細胞分化のエピジェネティック動力学の平均場理論**
Mean field theory of epigenetic dynamics of cell differentiation
Takaya Koshii[1], Tomoki P. Terada[2], Masaki Sasai[2] ([1]*Department of Applied Physics, Nagoya University*, [2]*Department of Computational Science and Engineering, Nagoya University*)

1PT218 **細胞分化の力学系モデル：安定な発生過程と細胞リプログラミングの理解へ向けて**
A dynamical system modeling of cell differentiation for understanding of robust development and cell reprogramming
Chikara Furusawa[1], Kunihiko Kaneko[2] ([1]*QBiC, RIKEN*, [2]*Dept. Basic Sci., Univ. Tokyo*)

1PT219 **リバーシブル・ネットワーク・リコネクションモデルによる形態形成過程の組織大変形シミュレーション**
Simulations of large deformation during tissue morphogenesis using reversible network reconnection model
Satoru Okuda[1], Yasuhiro Inoue[1], Mototsugu Eiraku[2], Yoshiki Sasai[2], Taiji Adachi[1] ([1]*Inst. Frontier Med. Sci., Kyoto Univ.*, [2]*Riken CDB*)

生物工学　Bioengineering / 豊田講堂北

1PT220 **細胞体位置と神経突起の伸長方向を制御した 3 次元脳回路再構成技術の開発**
Development of Three-dimensional reconstruction brain circuit controlling the direction of neurite elongation and cell body position
Aoi Odawara, Ikuro Suzuki, Masao Gotoh (*Tokyo University of Technology*)

1PT221 **3 次元ネットワーク再構成のための神経組織の脱細胞化条件**
Decellularized conditions of neuronal tissue for the reconstruction of 3D neuronal network
Shota Amano, Ikuro Suzuki, Masao Gotoh (*Tokyo University of Technology*)

1PT222 **一分子蛍光ソーティングを目指したマイクロ流体システムの構築**
Construction of a microfluidic system for fluorescence-based single-molecule sorting
Sho Saitoh[1], Hiroyuki Oikawa[2], Kiyoto Kamagata[2], Satoshi Takahashi[2] ([1]*Grad. Sch. Life Sci., Tohoku Univ.*, [2]*IMRAM, Tohoku Univ.*)

1PT223 **電子顕微鏡画像分類の利便化のためのツール開発**
Development of a convenient tool for making processes of particle clustering and averaging in 3D reconstruction from electron micrographs
Tatsuya Kihara, Takuo Yasunaga (*Dept. of Biosc. and Bioinfo., Grad. of Comp. Sc. and System Eng., Kyushu Inst. of Tech.*)

1PT224 **高重力を利用した非球形構造を持つマイクロハイドロゲル粒子の作製法**
High-gravity-based synthesizing method for hydrogel microparticles with non-spherical structures
Masayuki Hayakawa[1], Hiroaki Onoe[3], Ken H. Nagai[4], Masahiro Takinoue[1,2] ([1]*Interdisciplinary Grad. Sch. Sci. and Eng., Tokyo Tech.*, [2]*PRESTO, JST*, [3]*IIS, Univ. of Tokyo*, [4]*Dept. Phys, Univ. of Tokyo*)

1PT225 **ハイドロゲルマイクロファイバー内での血管内皮細胞の管構造形成**
Tube Formation of Endothelial Cells in the Hydrogel Microfiber
Hiroaki Onoe[1,2], Shoji Takeuchi[1,2] ([1]*IIS, The University of Tokyo*, [2]*ERATO Takeuchi Biohybrid Innovation Project, JST*)

1PT226 **分子ロボットによる人工パンスペルミア**
Artificial Panspermia by Molecular Robots
Masahiro Endo[1], Kei Fujiwara[1,2], Syougo Hamada[1,3], Satoshi Murata[1,4], Shin-ichiro. M Nomura[1,5] ([1]*Undergrad. Sch. Eng., Tohoku Univ.*, [2]*JSPS. Postdoc., Tohoku Univ.*, [3]*Assi Prof. Tohoku Univ.*, [4]*Prof. Tohoku Univ.*, [5]*Assoc Prof. Tohoku Univ.*)

1PT227 **細胞膜上の分子ロボットの作成に向けて**
Prototype molecular robots working on cellular membrane
Yusuke Sato[1], Kei Fujiwara[2], Shogo Hamada[3], Satoshi Murata[4], Sin-ichiro Nomura[5] ([1]*Undergrad. Sch. Eng., Tohoku Univ*, [2]*JSPS. Research Fellow. Tohoku Univ*, [3]*Assi Prof. Tohoku Univ*, [4]*Prof. Tohoku Univ*, [5]*Assoc Prof. Tohoku Univ*)

1PT228 **分子ロボティクス：リモコン分子クロラ・プロトタイプの構築**
Molecular robotics: Construction of a remote control molecule crawler prototype
Daiki Komatsu, Kei Fujiwara, Shin-ichiro M. Nomura (*Tohoku University*)

1PT229 **バクテリア駆動マイクロギアの構築とトルク計測**
Building and torque measurement of bacteria driven micro gear
Masaru Kojima[1,2], Tatsuya Miyamoto[2], Masahiro Nakajima[3], Michio Homma[4], Toshio Fukuda[2,3] ([1]*Present address: Grad. Sch. Eng. Sci., Osaka Univ.*, [2]*Dept. Micro-Nano Sys. Eng., Nagoya Univ.*, [3]*Center for Micro-Nano Mech., Nagoya Univ.*, [4]*Div.Bio. Sci., Nagoya Univ.*)

1PT230 **Evaluation of microtubule deformation by live cell imaging and image analysis**
Ryosuke Tanaka, Takeomi Mizutani, Hisashi Haga, Kazushige Kawabata (*Grad. Sch. Life. Sci., Univ. Hokkaido*)

1PT231 **マイクロファイバーゲルマトリックスの弾性パターニングによる三次元細胞運動のメカニカル制御**
Mechanical control of 3-D cell movement in elastically-micropatterned matrix of micro-fiber gels
Aya Ogata[1], Satoru Kidoaki[2] ([1]*Grad. Sch. Eng., Univ. Kyushu*, [2]*IMCE, Univ. Kyushu*)

1PT232 **微視的弾性境界の曲率設計による細胞メカノタクシスの高効率誘導**
Efficient manipulation of cell mechanotaxis: effect of the curvature of micro-elasticity boundary
Ayaka Utsumi[1], Satoru Kidoaki[2] ([1]*Grad. Sch. Eng., Univ. Kyushu*, [2]*IMCE, Univ. Kyushu*)

1PT233 **線虫内部への蛍光ナノビーズの選択的導入**
Selective Injection of Fluorescent Nanobeads into *Caenorhabditis elegans*
Masahiro Nakajima[1], **Hirotaka Tajima**[2], Masaru Kojima[2], Naoya Nakanishi[2], Naoki Hisamoto[3], Michio Homma[3], Toshio Fukuda[1,2] ([1]*Cent. For Micro-nano Mechatro., Grad. Sch. of Engineer., Nagoya Univ.*, [2]*Dept. of Micro-Nano Sys. Engineer., Grad. Sch. of Engineer., Nagoya Univ.*, [3]*Div. of Biol. Sci., Grad. Sch. of Sci., Nagoya Univ.*)

1PT234 W/O ドロップレット内での酵母を用いた G タンパク質共役受容体のリガンドアッセイシステム
Yeast-based ligand assay system for detecting G protein-coupled receptor activation in water-in-oil droplets
Takashi Sakurai[1], Ryo Iizuka[1], Yasuyuki Tanigaki[2], Rui Sekine[3], Dong H. Yoon[3], Tetsushi Sekiguchi[4], Jun Ishii[5], Akihiko Kondo[6], Naoto Nemoto[2], Shuichi Shoji[3], Takashi Funatsu[1] ([1]*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*, [2]*Grad. Sch. of Sci. and Eng., Saitama Univ.*, [3]*Major in Nanosci. and Nanoeng., Waseda Univ.*, [4]*Nanotech. Research Center, Waseda Univ.*, [5]*Org. of Advanced Sci. and Tech., Kobe Univ.*, [6]*Grad. Sch. of Sci. and Tech., Kobe Univ.*)

1PT235 フロー型乳酸バイオセンサの開発とその脳内乳酸測定への応用
Development of a flow-type lactate biosensor and its application to the measurement of lactate in the mouse brain
Kaoru Yamazaki[1], Mai Ichikawa[1], Ryo Shimazaki[1], Hideo Mukai[2], Minoru Saito[1] ([1]*Graduate School of Integrated Basic Sciences, Nihon University*, [2]*Faculty of Medicine, Saitama Medical University*)

1PT236 マイクロチャンバー内でのβ-グルコシダーゼ 1 分子の酵素活性のモニタリング
Monitoring the single-molecule enzymatic activity of β-glucosidase in a microchamber array chip
Kentaro Tahara[1], Ryo Iizuka[1], Takao Ono[2], Kiyohiko Igarashi[3], Masahiro Samejima[3], Takanori Ichiki[2,4], Takashi Funatsu[1,4] ([1]*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*, [2]*Grad. Sch. of Eng., The Univ. of Tokyo*, [3]*Grad. Sch. of Agri. and Life Sci., The Univ. of Tokyo*, [4]*JST-CREST*)

1PT237 フェリチン空洞内でのレアアース(Eu、Tb、Tm、Y)ナノ粒子合成
Synthesis of rear earth (Eu, Tb, Tm and Y) nanoparticles in apoferritin cavity
Tomoaki Harada, Hideyuki Yoshimura (*Meiji Univ.*)

1PT238 カゴ状蛋白質アポフェリチンを使用したガドリニウムナノ粒子の作成
Synthesis of gadolinium-based nanoparticles using the protein cage of apoferritin
Hiroko Fukano, Hideyuki Yoshimura (*Physics. Univ. Meiji*)

第 2 日目（9 月 23 日（土））／ Day2(Sep. 23, Sun.)

分子モーター　Molecular Motors / 理学南

2PS001 タンデム PomA を固定子とする Na^+駆動型キメラべん毛モーターの回転計測
Rotation Measurement of Na^+-driven Chimeric Flagellar Motor with Tandem PomA
Yong-Suk Che, Yoshiyuki Sowa (*Department of Frontier Bioscience, Hosei University*)

2PS002 枯草菌べん毛モーターの異なる 2 種類の固定子 MotA サブユニットと MotP サブユニットの細胞質内ループの荷電アミノ酸残基の機能的役割
The functional role of the charged residues of two different stators: MotA subunit and MotP subunit in *B. subtilis* flagellar motor
Yuka Takahashi, Masahiro Ito (*Grad. Sch. Life., Univ. Toyo*)

2PS003 べん毛モーターの回転と GFP 標識固定子の同時観察
Simultaneous observation of the rotation of flagellar motor and GFP-labeled stator unit in a functioning flagellar motor
Mizuki Nakajima[1], Hajime Fukuoka[2], Yuichi Inoue[2], Hiroto Takahashi[2], Akihiko Ishijima[2] ([1]*Grad.Sch.Life.Sci.,Tohoku Univ.*, [2]*IMRAM.Tohoku Univ.*)

2PS004 蛍光観察による細菌鞭毛モーターの解析
Imaging of fluorescently-tagged motor components of bacterial flagella
Yoshiyuki Sowa, Yong-Suk Che (*Department of Frontier Bioscience, Hosei University*)

2PS005 べん毛輸送装置構成タンパク質 FliP ペリプラズム領域の構造機能解析
Structural and functional analyses of a periplasm region of FliP, a component of the flagellar protein export apparatus
Takuma Fukumura[1], Yukio Furukawa[1], Yumiko Saijo-Hamano[1], Katsumi Imada[2], Keiichi Namba[1,3], Tohru Minamino[1] ([1]*Grad. Sch, Frontier Biosci., Osaka Univ.*, [2]*Grad. Sch. Sci. Osaka Univ.*, [3]*QBiC, RIKEN*)

2PS006 2 種類の異なる固定子から構成されるべん毛モーターのトルク特性の解析
Torque-speed relationship of the flagellar motor consisting of two distinct stators
Naoya Terahara[1], Yukina Noguchi[2], Syuichi Nakamura[1], Nobunori Kami-ike[1], Masahiro Ito[2], Keiichi Namba[1] ([1]*Graduate School of Frontier Biosciences, Osaka University*, [2]*Graduate School of Lifescience, Toyo University*)

2PS007 べん毛特異的分子シャペロン FlgN から紐解くⅢ型蛋白質輸送制御
Reading of the flagellar type III protein export regulation from a flagellar specific chaperone FlgN
Akira Hida (*Graduate School of Frontier Biosciences, Osaka University*)

2PS008 Controlling Bacterial Flagellar Motor Rotation by Optical Spanner
Tsai-Shun Lin, Chien-Jung Lo (*National Central University*)

2PS009 Insights into myosin V stepping mechanism using point mutations in the converter
Sergey V. Mikhailenko[1], Takashi Ohki[1], Jun-ichi Yoshimoto[1], Shin'ichi Ishiwata[1,2,3] ([1]*Sch. Adv. Sci. Eng., Waseda Univ., Japan*, [2]*Org. Univ. Res. Initiatives, Waseda Univ., Japan*, [3]*WABIOS, Waseda Univ., Singapore*)

2PS010 負荷存在下におけるアクチン－ミオシン VI 相互作用の自由エネル ギーランドスケープ解析
Free energy landscape analysis of the actin-myosin VI interaction under the applied force
Masahito Ikeo[1], Masaki Sasai[2], Tomoki P. Terada[2] ([1]*Dept. of Applied Physics, Grad. Sch. of Engineering, Nagoya Univ.*, [2]*Dept. of Computational Science and Engineering, Grad. Sch. of Engineering, Nagoya Univ.*)

2PS011 ミオシン 6 の双機能性とレバーアーム構造の関係
Relation between myosin VI's dual functionality and its lever arm structures
Keigo Ikezaki[1,2], Tomotaka Komori[1], **Toshio Yanagida**[1,2,3,4] ([1]*Graduate School of Frontier Biosciences, Osaka University*, [2]*Quantitative Biology*

Center (QBiC), RIKEN, [3]*Center for Information and Neural Networks (CiNet)*, [4]*WPI, Immunology Frontier Research Center*)

2PS012 アクトミオシン活性に対する尿素とトリメチル N オキシドの中和効果

Counteractive effect of urea and trimethylamine N-oxide on the activity of the actomyosin motor

Kuniyuki Hatori, Ryusei Kumemoto (*Grad. Sch. Sci. Eng. Yamagata Univ.*)

2PS013 アクチン線維が滑走中のミオシン線維トラックからの ADP 遊離速度計測

Measurement of ADP release from bipolar myosin filament track along which actin filament slides

Takahiro Maruta, Hiroyuki Okubo, Takahiro Kobatake, Shigeru Chaen (*Department of Integrated Sciences in Physics and Biology, College of Humanities and Sciences, Nihon University*)

2PS014 細胞性粘菌ミオシン II の SH1 ヘリックス領域の変異がその運動特性に与える影響

Effect of mutation of the SH1 helix region of Dictyosterium myosin II on the motile characteristics

Tsubasa Koyama[1], Takahiro Maruta[1], Sosuke Iwai[2], Shigeru Chaen[1] ([1]*Department of Integrated Sciences in Physics and Biology, College of Humanities and Sciences, Nihon University*, [2]*Department of Biology, Faculty of Education, Hirosaki university*)

2PS015 ミオシン首振り運動の分子動力学シミュレーション

Molecular dynamics simulation for the swinging lever-arm motion of a myosin molecular motor

Tadashi Masuda (*Symbiotic Sys. Sci., Fukushima Univ.*)

2PS016 Movement of cortical actin cables is driven by type V myosins in fission yeast cells during interphase

Jun Kashiwazaki, Issei Mabuchi (*Dept. of Life Sci., Faclt. of Sci., Gakushuin Univ.*)

2PS017 Contribution of the conformational change of myosin II in the coupled sliding and binding process of the force-generation

Qing-Miao Nie[1,2,3], Masaki Sasai[1], Tomoki P. Tereda[1] ([1]*Dept. of Comp. Sci. Eng., Nagoya Univ., Chikusa-Ku, Nagoya 464-8603, Japan*, [2]*Institute for Molecular Science, Okazaki 444-8585, Japan*, [3]*Dept.of Applied Physics, Zhejiang Univ. of Tech., Hangzhou 310023, China*)

2PS018 コフィリンと HMM のアクチンフィラメントへの相互排他的な協同的結合はアクチンフィラメントの協同的構造変化に依存する

Cooperative conformational changes of actin filaments drive mutually exclusive cooperative binding of cofilin and HMM to the filaments

Nobuhisa Umeki, Taro Uyeda (*Advanced Industrial Science and Technology*)

2PS019 分子数を制御したキネシンとダイニンの綱引きによる積極的な両方向性運動の再構成

Reconstitution of tug-of-war between defined numbers of kinesin and dynein as active bidirectional transport

Kazuyuki Yamamoto[1], Ken'ya Furuta[2], Hajime Honda[1], Hiroaki Kojima[2] ([1]*Department of Bioengineering, Nagaoka University of Technology*, [2]*Bio ICT lab, NICT*)

2PS020 Ascaris 精子をもちいたアメーバ運動装置の in vitro 再構成

Simultaneous reconstitution of MSP-based protrusion and retraction in the amoeboid sperm of Ascaris

Katsuya Shimabukuro[1,2], Naoki Noda[3], Masasuke Yoshida[2,4], Murray Stewart[5], Thomas M. Roberts[6] ([1]*Ube Nat. Colg. Tech.*, [2]*ICORP, JST*, [3]*MBL*, [4]*Kyoto Sangyo Univ.*, [5]*MRC*, [6]*Florida St. Univ.*)

2PS021 Identification of leg and crank proteins of Mycoplasma mobile on gliding machinery by electron microscopy

Hiroki Yamamoto, Makoto Miyata (*Graduate School of Science, Osaka City University*)

2PS022 ヒト肺炎 *Mycoplasma pneumoniae* の滑走運動装置と構成タンパク質の構造解析

Structural analysis of gliding machinery and component proteins of *Mycoplasma pneumoniae*

Yoshito Kawakita[1], Daisuke Nakane[1], Lisa Matsuo[1], Tsuyoshi Kenri[2], Makoto Miyata[1] ([1]*Osaka City University*, [2]*National Institute of Infectious Diseases*)

2PS023 *Mycoplasma mobile* の滑走運動に方向性を持たせる“あし”の結合

Directed binding of *Mycoplasma mobile* may cause directed displacement in gliding

Akihiro Tanaka[1], Daisuke Nakane[1], Takayuki Nishizaka[2], Makoto Miyata[1] ([1]*Graduate School of Science, Osaka City University*, [2]*Faculty of Science, Gakushuin University*)

2PS024 Leg movements suggested from inhibition of mycoplasma gliding by free sialylated oligosaccharid

Taishi Kasai[1], Daisuke Nakane[1], Hideharu Ishida[2], Hiromune Ando[2,3], Makoto Kiso[2,3], Makoto Miyata[1] ([1]*Graduate School of Science, Osaka City University*, [2]*Faculty of Applied Biological Sciences, Gifu University*, [3]*iCeMS, Kyoto University*)

2PS025 Swarm Dynamics of Vibrio alginolyticus

Szu-Ning Lin, Chien-Jung Lo (*Department of Physics and Institute of Biophysics, National Central University, Taoyuan County 32001, Taiwan*)

2PS026 表面タンパク質のらせん流で動くバクテリア

Helical Flow of Surface Protein Required for Bacterial Locomotion

Daisuke Nakane[1], Keiko Sato[1], Hirofumi Wada[2], Mark J. McBride[3], Koji Nakayama[1] ([1]*Grad. Sch. Biomedical Sci., Univ. Nagasaki*, [2]*Dept. Phys., Univ. Ritsumeikan*, [3]*Dept. Biological Sci., Univ. Wisconsin-Milwaukee*)

2PS027 Gene manipulation of gliding bacterium, *Mycoplasma mobile*

Isil Tulum, Atsuko Uenoyama, Makoto Miyata (*Graduate School of Science, Osaka City University*)

細胞生物学　Cell Biology / 理学南

2PS028 低温電子線トモグラフィーによって明らかとなった細菌べん毛蛋白質輸送装置の構造と機能

Structure and function of bacterial flagellar protein export apparatus revealed by electron cryotomography of *Salmonella* minicells

Akihiro Kawamoto[1,2], Yusuke V. Morimoto[1,2], Takayuki Kato[2], Kelly T. Hughes[3], Toshio Yanagida[1,2], Keiichi Namba[1,2] ([1]*QBiC., RIKEN*, [2]*Grad. Sch. of Frontier Biosci., Osaka Univ*, [3]*Dept. Med. Sci., Univ. Fribourg*)

2PS029 細菌べん毛モーターの固定子組込み機構に対する MotB(D33N)点変異の影響

Effect of the D33N mutation in MotB on stator assembly of the bacterial flagellar motor

Shuichi Nakamura[1], Tohru Minamino[2], Nobunori Kami-ike[2], Seishi Kudo[1], Keiichi Namba[2,3] ([1]*Department of Applied Physics, Tohoku*

University, [2]*Graduate School of Frontier Bioscience, Osaka University*, [3]*Riken Quantitative Biology Center*)

2PS030 MS リングに突然変異が生じたサルモネラ菌べん毛モータの構造安定性と出力特性

Structural stability and rotational characteristics of the flagellar motor of Salmonella MS-ring mutant

Shun Taga[1], Akira Asaumi[1], Shuichi Nakamura[1], Fumio Hayashi[2], Kenji Oosawa[2], Seishi Kudo[1] ([1]*Department of Applied Physics Tohoku University*, [2]*Department of Chemistry and Chemical Biology Gunma University*)

2PS031 The role of the flagellar C ring in hook-length control by FliK

Kaoru Uchida, Tatsuya Yamasaki, Shin-Ichi Aizawa (*Grad. Sch. Pref. Univ. Hiroshima*)

2PS032 べん毛モーターのトルク発生器における帯電残基の性質

Characterization of the electrically-charged residues in the torque-generating unit of the flagellar motor

Satoshi Inaba, Shin-Ichi Aizawa (*Prefectural University of Hiroshima*)

2PS033 Meaning of HAP1 in the length measurement of the hook

Kohei Dono, Kaoru Uchida, Sin-Ichi Aizawa (*Grad. Sch.,Pref. Univ. Hiroshima*)

2PS034 コフィリンのアクチン線維への協同的結合の直接観察

Direct observation of cooperative binding of cofilin to actin filaments

Kimihide Hayakawa[1], Hitoshi Tatsumi[2], Takafumi Goto[2], Masahiro Sokabe[1,2] ([1]*FIRST Research Center for Innovative Nanobiodevice, Nagoya Univ.*, [2]*Dept. of Physiol., Nagoya Univ. Grad. Sch. of Med.*)

2PS035 微小管結合蛋白質 4 を介したアクチンフィラメントと微小管の相互作用の解析

Analysis of microtubule-associated protein 4-mediated interaction between actin filaments and microtubules

Shoma Saito[1], Ayumu Kuramoto[1], Tsuyoshi Yamasaki[2], Taro Q.P. Noguchi[2], Yurika Hashi[3], Susumu Kotani[3], Kiyotaka Tokuraku[1] ([1]*Grad. Sch. Appl. sci., Muroran Inst.*, [2]*Miyakonojo Nation. Col. Tech.*, [3]*Kanagawa Univ.*)

2PS036 血管平滑筋細胞から単離したストレスファイバの収縮特性の計測

Measurement of contractile properties of stress fibers isolated from vascular smooth muscle cells

Tsubasa S. Matsui[1], Daiki Komatsu[2], Masaaki Sato[3], Shinji Deguchi[2] ([1]*Grad. Sch. Life Sci., Tohoku Univ.*, [2]*Grad. Sch. Eng., Tohoku Univ.*, [3]*Grad. Sch. Biomed. Eng., Tohoku Univ.*)

2PS037 IQGAP confines myosin-II to the cytokinetic contractile ring

Masak Takaine, Osamu Numata, Kentaro Nakano (*Grad. Sch. Life & Env. Sci., Univ. Tsukuba*)

2PS038 キネシン Eg5 に対するフォトクロミック阻害剤を用いた細胞分裂の光制御

Photo-regulation of cell division using photochromic inhibitors for kinesin Eg5

Kei Sadakane[1], Kumiko Ishikawa[1], Hideo Seo[1], Banri Yamanoha[2], Shinsaku Maruta[1] ([1]*Division of Bioinfomatics, Graduate school of engneering, Soka University*, [2]*Department of development of environmental engineering , Faculty of engineering, Soka University*)

2PS039 蛍光顕微鏡観察による細胞性粘菌由来のコフィリン、HMM と F-actin の協同的相互作用の解析

Analysis of cooperative interaction of Dictyostelium-derived cofilin and HMM to F-actin using fluorescence microscopy

Yusuke Nishikawa[1], Ayumi Satoh[1], Taro Q.P. Ueda[2], Kiyotaka Tokuraku[1] ([1]*Grad. Sch. Appl. Sci., Muroran Inst.*, [2]*Nation. Inst. Adv. Indust. Sci. Tech.*)

2PS040 棘皮動物コラーゲン性のキャッチ結合組織における可逆的な硬さ変化の分子機構

Molecular mechanisms of reversible changes in stiffness of echinoderm collagenous 'catch' connective tissues

Akira Yamada[1], Yasuhiro Takehana[2], Masaki Tamori[2], Tatsuo Motokawa[2] ([1]*Adv. ICT Res. Inst., NICT*, [2]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*)

2PS041 Cooperative function of raft domains and actin skeleton utilized for anthrax toxin assembly and internalization: a single-molecule study

Yukihiko Kudo[1,2], **An-An Liu**[1,2,3], Shihui Liu[4], Kenichi Suzuki[1,5], Takahiro Fujiwara[1], Dai-Wen Pang[3], Stephen Leppla[4], Akihiro Kusumi[1,2] ([1]*Institute for Integrated Cell-Material Sciences, Kyoto University, Japan*, [2]*Institute for Frontier Medical Sciences, Kyoto University, Japan*, [3]*College of Chemistry and Molecular Sciences,Wuhan University*, [4]*Division of Intramural Research, NIAID, NIH, USA*, [5]*The National Centre for Biological Science/The Institute for Stem Cell Biology and Regenerative Medicine (inStem), Bangalore, India*)

2PS042 核内を運動する粒子の分子同定と、可視化、トラッキング解析

Imaging, tracking and analysis on the intranulclear moving particles

Soyomi Uchibori[1], Maiko Kuramochi[1,2], Saori Mimatsu[1,2], Emiko Kobayashi[1,2], Kaoru Katoh[1,2] ([1]*Biomed. Res. Inst, AIST*, [2]*Grad. Sch. Live & Env. Sci., Univ. Tsukuba*)

2PS043 クライオトモグラフィーによる動的生細胞内イメージングの開発

Development for dynamic Live Cell imaging by cryo-electron tomography

Atsuko H. Iwane[1,2], Ruriko Ogawa[2], Rina Nagai[1], Akihiro Kawamoto[1,2], Kazuhiro Aoyama[1,3] ([1]*Osaka Univ. Grad. Sch. of Front. Biosci. Speci. Res. Promotion Group*, [2]*RIKEN Quantitative Biol. Center Cell Dynamics Res.*, [3]*FEI JAPAN Application Lab.*)

2PS044 Live cell imaging of the growth factor-induced nuclear translocation of ERK in PC12 cells

Yuki Shindo[1,2,3], Kazunari Mouri[4], Kayo Hibino[3], Masaru Tomita[1,2], Yasushi Sako[4], Koichi Takahashi[1,3] ([1]*Inst. Adv. Bio. Sci., Keio Univ.*, [2]*Syst. Biol. Prog. Grad. Sch. Media & Governance, Keio Univ.*, [3]*RIKEN QBiC.*, [4]*RIKEN ASI.*)

2PS045 Live-cell imaging and analysis of cAMP-induced cAMP response in *Dictyostelium* using microfluidics chambers

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

2PS046 高密度な集団中におけるサルモネラ菌の走化性応答の解析

Chemotactic response of Salmonella in high cell density

Takahiro Abe, Shuichi Nakamura, Seishi Kudo (*Depertment of applied physics, graduate school of engineering, Tohoku University*)

2PS047 円弧パターンを用いた *Navicula pavillardii* の運動解析

Trajectory analysis of *Navicula pavillardii* cells by using an arc pattern

Kazuo Umemura[1], Takahiro Haneda[1], Yoshikazu Kumashiro[2], Kazuyoshi Itoga[2], Teruo Okano[2], Shigeki Mayama[3] ([1]*Fac. Sci, Tokyo Univ Sci*, [2]*Tokyo Women's Medical Univ*, [3]*Fac. Edu, Tokyo Gakugei Univ*)

2PS048 基質伸縮に対する運動性細胞毎の応答の違い

Difference of migrating directions among fast crawling cell types on a substratum with cyclic stretch-shrinkage

Chika Okimura[1], Takafumi Mizuno[2], Katsuya Sato[3], Yuta Nakashima[4], Kazuyuki Minami[4], Hitomi Nakashima[1], Yoshiaki Iwadate[1] ([1]*Grad. Sch. Med., Yamaguchi Univ.*, [2]*Biomedical Research Institute, AIST*, [3]*Inst. Tech. Sci., Grad. Sch., The Univ. Tokushima*, [4]*Grad. Sch. Sci. Eng., Yamaguchi Univ.*)

2PS049 コレラ菌走化性因子ホモログの局在制御機構の解析

Localization control of chemotaxis-related signaling components of *Vibrio cholera*

Hiroki Okabe[1], Tomoyuki Nakamura[2], Hiremath Geetha[3], Ikuro Kawagishi[1,2,3] ([1]*Dept. Frontier Biosci., Fac. Biosci. Appl. Chem., Hosei Univ*, [2]*Dept. Frontier Biosci., Grad. Sch. Eng., Hosei Univ*, [3]*Res. Cen. Micro-Nano Tech., Hosei Univ*)

2PS050 クラミドモナスにおける走光性符号のレドックス調節

Redox-regulated switching of the phototactic sign in Chlamydomonas

Shota Mochiji[1], Norikazu Ohnishi[2], Jun Minagawa[2], Ritsu Kamiya[3], Ken-ichi Wakabayashi[1] ([1]*Dept. Biological Sciences, Grad. School of Science, Univ. Tokyo*, [2]*Div. Environmental Photobiology, National Institute for Basic Biology*, [3]*Dept. Life Science, Faculty of Science, Gakushuin Univ.*)

行動　Cell Biology & Behavior / 理学南

2PS051 細胞性粘菌で探る細胞運動ダイナミクスと走電性応答の関係性

Cell migration dynamics and its relevance to electrotaxis in Dictyostelium cells

Hiroaki Takagi[1,3], Masayuki J. Sato[2,3], Masahiro Ueda[2,3,4,5] ([1]*Sch. Med., Nara Med. Univ.*, [2]*Grad. Sch. Front. Biosci., Osaka Univ.*, [3]*JST, CREST*, [4]*Grad. Sch. Sci., Osaka Univ.*, [5]*QBiC, Riken*)

2PS052 細胞運動のための力と生化学の相互作用

Force-biochemical interaction for cell migration

Yuichi Sakumura[1], Yoshiaki Iwadate[2] ([1]*Sch. Info. Sci., Aichi Pref. Univ.*, [2]*Grad. Sch. Sci., Yamaguchi Univ.*)

分子モーター　Molecular Motors / 理学南

2PS053 歩行中ミオシン X の高速 AFM 観察

Direct observation of walking behavior of myosin X by high-speed atomic force microscopy

Yusuke Sakiyama[1], Noriyuki Kodera[2], Osamu Satou[3], Mitsuo Ikebe[3], Toshio Ando[1,2] ([1]*Sch. Math. & Phys., Int. Sci. & Eng., Kanazawa Univ.* [2]*Bio-AFM Frontier Research Center, Inst Sci. & Eng., Kanazawa Univ.* [3]*Dept. Physiology, Univ. Massachusetts Med. Sch.*)

バイオインフォマティクス　Bioinformatics / 豊田講堂エントランス

2PT001 独立してフォールドする構造ドメインデータベースの構築

I-StDom: A dataset of Independently foldable Structural Domains automatically delineated from protein structures

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

2PT002 ADS 仮説に基づくタンパク質のデノボ立体構造予測法の開発

Development of a de novo protein structure prediction method based on the antecedent domain segment(ADS) hyphothesis

Kota Nakamori, Shintaro Minami, Kengo Sawada, George Chikenji (*Grad. Sch. of Eng. Univ. of Nagoya*)

2PT003 配列順序に依存しない構造関係性を用いた長い挿入配列の構造モデリング

Modeling structure of large insersion regions in homology modeling bu utilizing non-sequential structure relationship

Yuki Nakagawa, Shintaro Minami, Kengo Sawada, George Chikenji (*Grad. Sch. of Engineering, Nagoya Univ.*)

2PT004 Common structural / sequence features of proteins that share non-sequential structural similarity

Kengo Sawada, Shintaro Minami, Geroge Chijenji (*Dept. of eng., Nagoya Univ.*)

2PT005 PoSSuM: タンパク質の既知及び潜在的基質結合部位類似性検索のためのデータベース

PoSSuM: a database for searching similar pairs of known and potential ligand-binding sites in proteins

Jun-ichi Ito[1,2,4], Yasuo Tabei[3], Kana Shimizu[1], Koji Tsuda[1,3], **Kentaro Tomii**[1,2] ([1]*CBRC, AIST*, [2]*Department of Computational Biology, Graduate School of Frontier Sciences, The University of Tokyo*, [3]*Minato Discrete Structure Manipulation System Project, JST*, [4]*National Institute of Biomedical Innovation*)

2PT006 サポートベクターマシンを用いた糖鎖結合部位予測手法の開発

Development of method for predicting carbohydrate binding site using support vector machine

Masaki Banno, Kentaro Shimizu (*Grad Sch Agricul. life sci., Univ Tokyo*)

2PT007 タンパク質における部位間での同時的補償的置換に基づく隣接残基対予測

Prediction of Contact Residue Sites Based on Concurrent and Compensatory Substitutions Between Sites in Protein Evolution

Sanzo Miyazawa (*Gunma Univ., Grad. Sch. Eng.*)

2PT008 3DMET 構築のためのキュレーション支援システム

Supporting system for manual curation of the 3DMET database

Miki Maeda (*National Institute of Agrobiological Sciences*)

2PT009 配列順序を無視したタンパク質構造アライメントの性質
Some characteristic features of non-sequential structural alignment: difference between sequential and non-sequental alignments
Tatsuo Mukai, Kengo Sawada, Shintaro Minami, George Chikenji (*Grad. Sch. of Eng. Univ. of Nagoya*)

2PT010 Prediction of the types of carbohydrate-binding proteins
Zhenyi Ge, Wei Cao, Kazuya Sumikoshi, Shugo Nakamura, Kentaro Shimizu (*Department of Biotechnology, Graduate School of Agricultural and Life Sciences, The University of Tokyo*)

2PT011 Analysis of DNA-binding sites using novel amino acid index for molecular recognition (MR-index)
Katsutoshi Hibino[1], Yasunori Yokoyama[2], Shigeki Mitaku[2] ([1]*Dept. of Computational Science and Engineering, Grad. Sch. of Engineering, Nagoya Univ.*, [2]*Dept. of Applied Physics, Grad. Sch. of Engineering, Nagoya Univ.*)

2PT101 アミノ酸保存度と相互作用エネルギーを組み合わせたタンパク質ーリガンド結合部位予測手法の開発
Protein-Ligand Binding Site Prediction by Using Energy-based Method with Amino Acid Conservation Scores
Hiroto Tsujikawa, Yusuke Umeda, Mizuki Morita, Shugo Nakamura, Kentaro Shimizu (*Grad. Sch. Agric. Life Sci., Univ. Tokyo*)

2PT102 蛋白質・蛋白質相互作用ネットワークにおけるドメイン及び非ドメイン間相互作用の解析
Analysis of Domain and Non-Domain Interactions in Protein-Protein Interaction Network
Komori Satoshi, Sarai Akinori, Fujii Satoshi (*Kyusyu Institute of Technology*)

2PT103 進化的に保存されたタンパク質間相互作用の複合体立体構造の予測
3D complex structure assignment for evolutionary conserved protein-protein interactions
Takeshi Kawabata, Haruki Nakamura, Akira Kinjo (*Institute of Protein Research, Osaka University*)

2PT104 相互作用プロファイルを使った正解相互作用部位の絞込みによる再ドッキング法の研究
Development of re-docking method by obtaining native interaction pattern
Nobuyuki Uchikoga[1], Yuri Matsuzaki[2], Masahito Ohue[2], Yutaka Akiyama[2], Takatsugu Hirokawa[3] ([1]*Dept. Phys., Sch. Sci. & Eng., Chuo Univ*, [2]*Grad. Sch. Comput. & Sci., Tokyo Inst. Tech.*, [3]*CBRC, AIST*)

2PT105 タンパク質-低分子リガンド相互作用における結合様式の網羅的比較解析
Comprehensive comparisons of interactions in small-ligand recognitions by proteins at the atomistic level
Kota Kasahara[1], Kengo Kinoshita[1,2,3] ([1]*Grad. Sch. Information Sci., Tohoku Univ.*, [2]*ToMMo, Tohoku Univ.*, [3]*IDAC, Tohoku Univ.*)

2PT106 分子ネットワークにおける構造情報と相互作用情報の統合
Integration of Structural and Biochemical Information into Protein Interaction Network
Yuji Kawakami, Akinori Sarai, Satoshi Fujii (*Kyushu Institute of Technology*)

2PT107 酵素反応の分類と代謝パスウェイ検索への応用
A classification of enzymatic reactions and its application to metabolic pathway search
Susumu Goto, Masaaki Kotera, Toshiaki Tokimatsu, Yuki Moriya, Zen-ichi Nakagawa, Ai Muto, Minoru Kanehisa (*Inst. Chem. Res., Kyoto Univ.*)

2PT108 アポリポプロテインにおける疾患感受性のある点変異付近のアミノ酸配列断片の物性的特徴
Physical characteristics of amino acid fragments around point mutation with disease susceptibility in apolipoproteins
Ryouta Masai, Yasunori Yokoyama, Shigeki Mitaku (*Dept. Applied Physics, Grad. Sch. of Engineering, Nagoya Univ*)

蛋白質構造と機能　Proteins: Structure & Function / 豊田講堂シンポジオン

2PT109 L-リシン酸化酵素の X 線結晶構造解析
Structure of L-lysine α-oxidase from *Trichoderma viride*
Tadahisa Sano[1], Tatsuya Kawaguchi[1], Marie Amano[2], Kengo Shinyashiki[2], Haruka Nakata[2], Takashi Tamura[2], Kenji Inagaki[2], Hitoshi Kusakabe[3], Katsumi Imada[1] ([1]*Grad. Sch. Sci. Osaka Univ*, [2]*Grad. Sch. Env. & Life. Sci. Okayama Univ*, [3]*Enzyme Sensor Co. Ltd.*)

2PT110 Differences between key amino acid residues for the transitions L- to R- and R- to L-protofilaments of Salmonella flagellar filament
Fumio Hayashi, Hidetoshi Tomaru, Eiji Furukawa, Kanami Ikeda, Kenji Oosawa (*Department of Chemistry and Chemical Biology, Graduate School of Engineering, Gunma University*)

2PT111 アミロイドベータペプチドのオリゴマー形成メカニズムに関する構造学的解析
Structural analysis of the oligomerization mechanism of amyloid beta peptide
Hitomi Yamauchi[1], Shigeto Iwamoto[1], Takashi Saito[2], Toshiyuki Kohno[3], Takaomi Saido[2], Hiroaki Terasawa[1] ([1]*Facul. of Life Sci., Kumamoto Univ.*, [2]*RIKEN BSI*, [3]*Sci. of Med., Kitasato Univ.*)

2PT112 Role of the Tyr residue stacked on the si-face of the isoalloxazine ring moiety in ferredoxin-NADP$^+$ oxidoreductase from *Bacillus subtilis*
Daisuke Seo, Hiroshi Naito, Erika Nishimura, Takeshi Sakurai (*Division of Material Science, Graduate School of Natural Science and Technology, Kanazawa University*)

2PT113 アミロイド構造の決定におけるタンパク質揺らぎの役割の解析
NMR study on the role of protein fluctuation in determining the amyloid conformation
Yumiko Ohhashi, Motomasa Tanaka (*Brain Science Institute, RIKEN*)

2PT114 抗真菌活性をもつ DUF26 タンパク質 Gnk2 の構造と機能
Structure and function of Gnk2, a DUF26 protein with antifungal activity
Takuya Miyakawa[1], Yoriko Sawano[1], Ken-ichi Hatano[2], Masaru Tanokura[1] ([1]*Grad. Sch. Agric. Life Sci., Univ. Tokyo*, [2]*Fac. Eng., Gunma Univ.*)

2PT115 The short α2-helix of the phospholipase C-δ1 pleckstrin homology domain contributes to stable IP_3 binding
Michikazu Tanio, Katsuyuki Nishimura (*Institute for Molecular Science*)

2PT116 ヒト心臓脂肪酸結合蛋白質(FABP3)の脂肪酸結合メカニズムに関する研究
Study of the Fatty Acid Binding Mechanism to Human Heart Fatty Acid Binding Protein (FABP3)

Daisuke Matsuoka[1,2], Shigeru Matsuoka[1,2], Mika Hirose[1,2], Mayumi Niiyama[1,2], Hanako Ishida[1,3], Fuminori Sato[1], Shigeru Sugiyama[1,2], Michio Murata[1,2] ([1]*JST ERATO*, [2]*Grad. Sch. of Sci., Osaka Univ.*, [3]*Grad. Sch. of Eng., Osaka Univ.*)

2PT117 **Actinin-4 変異体の機能解析**

The prediction of three dimensional structure for mutants of actinin-4

Nami Miura[1], Miho Banno[2], Kazufumi Honda[1], Akihiko Miyanaga[1], Tesshi Yamada[1] ([1]*Div. Chem. Clin., Natl. Cancer Ctr. Res. Ins.*, [2]*Mitsui Knowledge Industry Co., Ltd.*)

2PT118 **蛋白質濃度感受性蛍光蛋白質の開発**

New fluorescent protein indicator for intracellular protein concentration

Takamitsu Morikawa[1], Katsumi Imada[2], Keiko Yoshizawa[3], Toshio Yanagida[1,3], Takeharu Nagai[4], Tomonobu Watanabe[1,3] ([1]*Graduate School of Frontier Biosciences, Osaka University*, [2]*Department of Macromolecular Science, Graduate School of Science, Osaka University*, [3]*RIKEN Quantitative Biology Center (QBiC)*, [4]*The Institute of Scientific and Industrial Research, Osaka University*)

2PT119 **Interactions of SicP with SptP subdomains in SicP-binding domain**

Yurie Kawashima, Fumio Hayashi, Kenji Oosawa (*Department of Chemistry and Chemical Biology, Graduate School of Engineering, Gunma University*)

2PT120 **Purification and characterization of glycine-proline-fused type of InvC involved in Salmonella type III secretion system**

Aya Watanabe, Fumio Hayashi, Kenji Oosawa (*Department of Chemistry and Chemical Biology, Graduate School of Engineering, Gunma University*)

2PT121 **X 線 1 分子追跡法による II 型シャペロニン協同性評価**

Cooperative Motion Analysis of group II chaperonin at Single-molecule Level using Diffracted X-ray Tracking

Hiroshi Sekiguchi[1,2], Ayumi Nakagawa[4], Kazuki Moriya[4], Mayuno Arita[4], Yohei Yamamoto[4], Kouhei Ichiyanagi[2,3], Masafumi Yohda[4], Naoto Yagi[1], Yuji Sasaki[3] ([1]*Research Utilization Div., JASRI*, [2]*JST CREST Sasaki Team*, [3]*Grad. School Frontier Sci., Univ. Tokyo*, [4]*Dept. Biotech. Life Sci., Tokyo Univ. Agricult. Tech.*)

2PT122 **PAP の酵素活性制御因子としてのトリプトファン残基近傍のコンフォメーションとダイナミクス**

The dynamics and conformation of Trp208 and Trp237 as regulating factor of enzymatic activity of Pokeweed Antiviral Protein

Hiromichi Nakashima[1], Yukihiro Fukunaga[2], Keiichi Watanabe[3], Shoji Yamashita[4], Etsuko Nishimoto[4] ([1]*Institute of Biophysics, Faculty of Agriculture, Graduate School of Kyushu University*, [2]*Interdisciplinary Graduate School of Engineering Sciences Kyushu University*, [3]*Department of Applied Biological Sciences, Saga University*, [4]*Molecular Biosciences, Bioscience and Biotechnology, Kyushu University*)

2PT123 **フォトンファクトリーの小角散乱ビームラインの現状**

Current Status of Small-Angle X-ray Scattering Beamlines at Photon Factory

Nobutaka Shimizu[1], Noriyuki Igarashi[1], Takeharu Mori[1], Ohta Hiromasa[2], Yasuko Nagatani[1], Takashi Kosuge[1], Kenji Ito[1] ([1]*KEK, Photon Factory*, [2]*Mitsubishi Electric SC*)

2PT124 ***Legionella* DotI and DotJ form a multimeric subcomplex associated with the core complex of the Dot/Icm type IVB secretion system**

Tomoko Kubori[1], Takuya Kuroda[2], Katsumi Imada[2], Hiroki Nagai[1] ([1]*RIMD, Osaka Univ.*, [2]*Grad. Sch. Sci., Osaka Univ.*)

2PT125 **基質及び阻害剤によって誘起される ABC トランスポーター ABCB1 の構造・ダイナミクス変化**

Dynamics and Structural Changes of ABCB1 transporter induced by binding of substrates and inhibitors

Wei-Lin Hsu, Yurika Watanabe, **Tadaomi Furuta**, Minoru Sakurai (*Center for Biol. Res. & Inform., Tokyo Tech*)

2PT126 **核磁気共鳴法による DNA ミスマッチ修復蛋白質 MutL の解析**

NMR study on DNA mismatch repair protein MutL

Ryota Mizushima[1,2], Tomoyo Takai[2], Young-Ho Lee[2] ([1]*Grad. Sch. Frontier Biosciences, Osaka Univ.*, [2]*IPR, Osaka Univ.*)

2PT127 **選択的スプライシングによる新規タンパク質アイソフォームの機能・構造予測情報を得るためのツールの開発と公開**

Development of a functional and structural annotation tool of novel protein isoforms produced by alternative splicing

Masafumi Shionyu[1], Ken-ichi Takahashi[1], Mitiko Go[1,2] ([1]*Fac. Bio-Sci., Nagahama Inst. Bio-Sci. Tech.*, [2]*ROIS*)

2PT128 **EGFR 分子 C-末端の天然変性ドメインの 1 分子 FRET 時系列計測**

Single-molecule FRET measurement of a intrinsically
disordered C-tail domain of an epidermal growth factor receptor

Kenji Okamoto, Yasushi Sako (*RIKEN*)

2PT129 **タンパク質の変性及びクロスベータ転移に対する浸透圧効果**

Effect of osmotic pressure on protein unfolding and cross-beta transition

Kazuki Takeuchi, Mitsuhiro Hirai (*Grad. Sch. Eng., Gunma Univ.*)

2PT130 **Motion Tree 法で解析された SERCA の大規模な構造変化**

Large-scale conformational changes of SERCA analyzed by Motion Tree method

Chigusa Kobayashi[1], Ryotaro Koike[2], Motonori Ota[2], Yuji Sugita[1,3,4] ([1]*RIKEN, ASI, Theoretical molecular science*, [2]*Graduation school for information science, Nagoya University*, [3]*RIKEN, AICS*, [4]*RIKEN, QBiC*)

2PT131 **H-ras GTP 複合体と H-ras GDP 複合体の分子動力学シミュレーションにおける水分子の解析**

Analysis of water molecules in molecular dynamics simulations of H-ras GTP and GDP complexes

Takeshi Miyakawa[1], Ryota Morikawa[1], Masako Takasu[1], Kimikazu Sugimori[2], Kazutomo Kawaguchi[3], Hiroaki Saito[3], Hidemi Nagao[3] ([1]*Sch. Life Sci., Tokyo Univ. Pharm. and Life Sci.*, [2]*Dept. Phys. Therapy, Faculty Health Sci., Kinjo Univ.*, [3]*Inst. Sci. and Eng., Kanazawa Univ.*)

2PT132 **T4 ゲノムパッケージングモーターの分子ダイナミクス**

Molecular Dynamics of T4 Genome Packaing Motor

Kazuhiro Takemura[1], Akio Kitao[1,2] ([1]*IMCB, Univ. of Tokyo*, [2]*JST,CREST*)

2PT133 **タンパク質へのリガンド結合過程の粗視化シミュレーション：タンパク質の立体構造変化の影響の解析**

Coarse-grained MD simulations of ligand binding to proteins: Effect of the conformational changes of the proteins

Tatsuki Negami[1], Tohru Terada[2], Kentaro Shimizu[1,2] ([1]*Department of Biotechnology, Graduate School of Agricultural and Life Sciences, The University of Tokyo*, [2]*Agricultural Bioinformatics Research Unit, Graduate School of Agricultutal and Life Sciences, The University of Tokyo*)

2PT134 分子動力学シミュレーションによるリジン 48 結合型ジユビキチンのコンパクト構造の解析
Molecular dynamics simulation study of Lys48-linked diubiquitin in compact conformation
Sotaro Fuchigami[1], Mitsunori Ikeguchi[1], Akinori Kidera[1,2] ([1]*Grad. Sch. of Nanobioscience, Yokohama City Univ.*, [2]*CSRP, RIKEN*)

2PT135 粗視化モデルによる PPAR γの基質依存的な活性変化の考察
Coarse-grained molecular dynamics study of ligand-dependent reaction activity of PPARγ
Akinori Awazu (*Dept. of Mathematical and Life Sciences, Hiroshima University*)

2PT136 多剤排出トランスポーター AcrB の全原子分子動力学シミュレーションによる解析
All-atom molecular dynamics simulation of multidrug transporter AcrB
Tsutomu Yamane, Mitsunori Ikeguchi (*Grad. Sch. Bio-nano sci. Yokohama City Univ.*)

2PT137 キサンチン酸化還元酵素とリガンド複合体に関する分子動力学計算と結合自由エネルギー解析
Molecular dynamics simulations and binding free energy analysis of xanthine oxidoreductase-ligand complexes
Hiroto Kikuchi[1], Hiroshi Fujisaki[1,3], Tadaomi Furuta[2], Ken Okamoto[4], Takeshi Nishino[5] ([1]*Dept. of Phys., Nippon Med. Sch.*, [2]*Grad. Sch. of Biosci. & Biotech., Tokyo Inst. of Tech.*, [3]*Wako, Riken*, [4]*Dept. of Biochem., Nippon Med. Sch.*, [5]*Grad. Sch. of Agri. & Life Sci., Univ. Tokyo*)

2PT138 Features of Amino Acids Changes Determining the Glycan Specificities of Influenza Hemagglutinins: Interaction Energy Profiles
Katsumi Omagari (*Nagoya City University*)

2PT139 筋小胞体カルシウムポンプの ATP 結合状態の分子動力学計算
Molecular dynamics simulations of SR Ca2+-pump in the ATP bound forms
Yasuaki Komuro[1,2], Chigusa Kobayashi[2], Eiro Muneyuki[1], Yuji Sugita[2,3,4] ([1]*Grad. Dept. Phys., Chuo Univ.*, [2]*RIKEN ASI*, [3]*RIKEN QBiC*, [4]*RIKEN AICS*)

2PT140 Computational design of small peptide inhibotrs of protein-protein interactions in intracellular signaling
Junya Yamagishi[1,2], Noriaki Okimoto[2], Takuma Kasai[3], Mariko Okada[3], Akira Imamoto[4], Makoto Taiji[1,2] ([1]*Grad. Sch. of Fron. Sci., Univ. of Tokyo*, [2]*QBiC, RIKEN*, [3]*Yokohama Inst., RIKEN*, [4]*Ben May Dept., Chicago Univ.*)

2PT141 タンパク質（DHFR）における局所変異が引き起こす運動性の変化に関する理論的考察
Theoretical study of change of motility by local mutation in DHFR
Tomo Matsubara, Masashi Fujii, Hiraku Nishimori, Akinori Awazu (*Dept. of math and Life Sci, Hiroshima Univ*)

2PT142 Theoretical evaluation of structural stability of the active site of T1 lipase: cation-π vs. water-π interactions
Atsushi Nakamura, Jiyoung Kang, Masaru Tateno (*Grad. Sch. Sci., Univ. Hyogo*)

2PT143 分子動力学シミュレーションによる緑色蛍光タンパク質の切断位置と蛍光回復の研究
Research of Split Point and Fluorescent Recovery of Green Fluorescent Protein by Molecular Dynamics Simulation
Mashiho Ito[1,2], Shoji Takada[2], Takeaki Ozawa[1] ([1]*Dep. Chem., Sch. Sci., Univ. Tokyo*, [2]*Dep. Bio., Grad. Sch. Sci., Kyoto Univ.*)

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2PT144 SlyD 融合による人工三本鎖ベータヘリックスの可溶化の試み
Solubilization approaches of artificial three-stranded beta-helix by fusing SlyD protein
Kaname Nishijo[1], Shuji Kanamaru[2], Fumio Arisaka[1] ([1]*Dept of LifeScience, Grad Sch of Biosci&Bioeng, Tokyo Institute of Technology*, [2]*Dept of Bioengineering, Grad Sch of Biosci&Bioeng, Tokyo Institute of Technology*)

2PT145 Fluorescence Titration for finding the binding sites of Peptide Aptamers on Calmodulin
Yasodha Manandhar, Wei Wang, Takanori Uzawa, Yoshihiro Ito, Toshiro Aigaki (*RIKEN, Advanced Science Institute*)

2PT146 Characterization of norovirus RNA replicase *in vitro* for the autonomous protein evolution using *in vitro* virus
Hidenao Arai[1], Manish Biyani[2], Yuzuru Husimi[3] ([1]*Grad. Sch. Sci. Eng., Saitama Univ.*, [2]*Inst. of Engineering Innovation, Grad. Sch. Eng., Univ. of Tokyo*, [3]*Innovation Research Organization, Saitama Univ.*)

2PT147 *In vitro* selection of a protease using cDNA display
Shingo Ueno[1,3], Yuka Mashio[2,3], Takanori Ichiki[1,3], Naoto Nemoto[2,3] ([1]*Grad. Sch. Eng., Univ. Tokyo*, [2]*Grad. Sch. Sci. and Eng., Saitama Univ.*, [3]*CREST, JST*)

2PT148 ヒトレチノイン酸結合蛋白質をスカッフォールドとする蛋白質のスクリーニング
Screening of mutant proteins scaffolding human cellular retinoic acid binding protein 2
Hinako Nakada, Nobuya Itoh, Yoshihide Makino (*Grad. Sch. Eng., Toyama Pref. Univ.*)

2PT149 マイクロ波照射下での PCR 反応の DNA ポリメラーゼの特異性
The DNA Polymerase Specificity on Microwave Assisted PCR
Hiroya Osoegawa[1], Seiji Higa[1], Takaya Takei[1], Kaori Tanaka[1], Takeo Yoshimura[2], Shokichi Ohuchi[1] ([1]*Dept. Biosci. Bioinform., Kyushu Inst. Technol.*, [2]*Dept. Appl. Bio. Sci., Tokyo Univ. Sci.*)

2PT150 モルテングロビュール状態の蛋白質を利用した新規抗腫瘍複合体の作製
Development of novel anti-tumor complexes made from a protein in the molten globule state
Takashi Nakamura[1,2], Ryusho Kariya[3], Seiji Okada[3], Kunihiro Kuwajima[1,2,4] ([1]*Okazaki Inst. Integr. Biosci.*, [2]*Inst. Mol. Sci.*, [3]*Center for AIDS Reseach, Kumamoto Univ.*, [4]*Dept. of Funct. Mol. Sci., Grad. Univ. Adv. Studies*)

2PT151　計算化学と実験から考察した，黄色ブドウ球菌のヘム鉄結合・輸送機構解析

Computational and experimental studies on heme-binding and heme-transport mechanisms of Isd proteins of *Staphylococcus aureus*

Yoshitaka Moriwaki[1], Tohru Terada[1], Jose M. M. Caaveiro[2], Yousuke Takaoka[3], Itaru Hamachi[3], Kouhei Tsumoto[2], Kentaro Shimizu[1] ([1]*Dept. of Biotech., Grad Sch. of Agri. Life Sci., Univ. of Tokyo*, [2]*Ins. of Med. Sci., Univ. of Tokyo*, [3]*Dept. Syn., Chem. & Biol. Chem., Kyoto Univ.*)

2PT152　ヒトヘモグロビンの酸素親和性の制御における本質：四次構造、三次構造変化に共通して起こる Fe-His 結合の変化

Essence in oxygen affinity regulation of human adult hemoglobin: Change of Fe-His bond length by quaternary or tertiary structure change

Shigenori Nagatomo, Yasuhisa Yamamura, Kazuya Saito (*Dept. Chem., Univ. Tsukuba*)

2PT153　Structural fluctuation and change around heme pockets of liganded Hb induced by L35 binding

Kenji Kanaori[1], Yusuke Tajiri[1], Antonio Tsuneshige[2], Takashi Yonetani[3] ([1]*Grad. Sch., Kyoto Inst. of Tech.*, [2]*Hosei Univ.*, [3]*Univ. Pennsylvania*)

2PT154　ヒトヘモグロビンのβ 145Tyr の Thr または Leu への置換が機能と構造に与える影響

Effects of the substitutions of Thr or Leu for β145 Tyr on the structure and oxygen binding properties of human hemoglobin

Momoko Ichii[2], Yukifumi Nagai[1], Kiyohiro Imai[1,2], Masako Nagai[1] ([1]*Res.Center for Micro-Nano Tech.Hosei Univ.*, [2]*Frontier Biosci. and Applied Chem.Hosei Univ.*)

2PT155　*cbb*$_3$型チトクロム酸化酵素の酸素消費活性

Oxygen consumption activity of *cbb*$_3$-type cytochrome c oxidase

Yui Iwamoto[1], Yuriko Ando[1], Kazumasa Muramoto[1], Robert Gennis[2], Yoshitsugu Shiro[1,3] ([1]*Grad. Sch. Sci., Univ. Hyogo*, [2]*Univ. Illinois*, [3]*Harima Inst., Riken*)

2PT156　*cbb*$_3$型チトクロム酸化酵素の精製

Purification of *cbb*$_3$-type cytochrome c oxidase

Yuriko Ando[1], Yui Iwamoto[1], Kazumasa Muramoto[1], Hideo Shimada[1,2], Robert Gennis[3], Yoshitsugu Shiro[1,4] ([1]*Graduate school of Life Science, University of Hyogo*, [2]*Picobiology Institute, University of Hyogo*, [3]*University of Illinois*, [4]*RIKEN, SPring-8 Center*)

2PT157　水素原子レベルでの酸化還元に伴う構造変化同定を目的としたウシ心筋チトクロム酸化酵素の X 線結晶構造解析

X-ray structural analysis of bovine heart cytochrome *c* oxidase to clarify redox coupled structural changes at H atom level

Naomine Yano[1], Kazumasa Muramoto[1], Kyoko Shinzawa-Itoh[1], Tomoko Maeda[1], Eiki Yamashita[2], Tomitake Tsukihara[2], Shinya Yoshikawa[3], Yoshitugu Shiro[1,4] ([1]*Dept. of Life Sci., Univ. of Hyogo*, [2]*Inst. for protein Res., Osaka Univ*, [3]*Picobio. Inst., Univ. of Hyogo*, [4]*Harima Inst., Riken*)

2PT158　有機薄膜電極上での P450 反応の電気化学制御と応用

Electrochemically-driven cytorhcome P450 reactions at organic films and its bioprocess application

Yasuhiro Mie, Emi Tateyama, Yasuo Komatsu (*AIST*)

2PT159　ヒトヘモグロビンα鎖の近位ヒスチジンのグリシンへの置換が構造と酸素結合機能に与える影響

Substitution effects of Gly for the proximal His of α subunits on the structure and oxygen binding function of human hemoglobin

Yayoi Aki[1], Yukifumi Nagai[2], Kiyohiro Imai[2], Shigenori Nagatomo[3], Takashi Ogura[4], Teizo Kitagawa[4], Masako Nagai[2] ([1]*Med., Kanazawa Univ.*, [2]*Res. Center for Micro-Nano Tec.*, [3]*Chem., Univ. Tsukuba*, [4]*Life Sci., Univ. Hyogo*)

2PT160　細菌 Vibrio alginolyticus 由来呼吸鎖末端酸化酵素の遺伝子クローニングと同定

Gene cloning and identification of terminal oxidase of respiratory chain in Vibrio alginolyticus

Naomine Yano[1], **Kazumasa Muramoto**[1], Seiji Kojima[2], Michio Homma[2], Yoshitsugu Shiro[1,3] ([1]*Dept. of Life Sci., Univ. of Hyogo*, [2]*Dept. of Biol. Sci., Nagoya Univ.*, [3]*RIKEN, Harima*)

2PT161　硬骨魚類の祖先型ヘモグロビン遺伝子の設計・合成および大腸菌内発現

Design and construction of ancestral Osteichthyes hemoglobin genes and its expression in *Escherichia coli*

Sho Sugiyama[1], Takatoshi Matsuo[2], Kazuha Seki[3], Taro Nakagawa[4], Kiyohiro Imai[1,2,3] ([1]*Department of Frontier Bioscience, Graduate School of Engineering, Hosei University*, [2]*Research Center for Micro-Nano Technology, Hosei University*, [3]*Department of Frontier Bioscience,Faculty of Bioscience and Applied Chemistry, Hosei University*, [4]*Department of Bioscience, Nagahama Institute of Bio-Science and Technology*)

2PT162　Exclusion of the active site waters by substrate in cytochrome P450cam

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

2PT163　ヘモグロビンの自動酸化速度に対する糖類の効果

The effect of saccharide on autoxidation rate of hemoglobin

Wataru Uehara, Kiyohiro Imai (*Department of Frontier Bioscience, Graduate School of Engineering, Hosei University*)

2PT164　Norcamphor binding to cytochrome P450cam with a mutation to block pathway for the active site waters excluded by substrate

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

2PT165　ヒトヘモグロビンの複数酸素分子侵入経路の計算的解析

Computational analysis of multiple oxygen migration pathways in human hemoglobin

Masayoshi Takayanagi[1,2], Ikuo Kurisaki[1,2], Masataka Nagaoka[1,2] ([1]*Graduate School of Information Science, Nagoya University*, [2]*CREST, Japan Science and Technology Agency, Japan*)

2PT166　Theoretical analysis of fully-hydrated structures of human adult hemoglobin exploiting molecular dynamics simulations

Tetsuhiko Itagaki, Jiyoung Kang, Masaru Tateno (*Grad. Sch. Sci., Univ. Hyogo*)

2PT167　Theoretical analysis of the electronic structure of CuB site of bovine cytochrome c oxidase

Toru Matsuoka, Jiyoung Kang, Masaru Tateno (*Grad. Sch. Sci., Univ. Hyogo*)

2PT168 In-situ 光照射固体 NMR を用いた D96N-bR の M 中間体で生じる構造変化の解析
Conformational change in M-intermediate of D96N-bR as studied by in-situ photo-irradiated solid-state NMR
Ryota Miyasa[1], Izuru Kawamura[1], Satoru Tuzi[2], Akira Naito[1] ([1]*Graduate School of Engineering, Yokohama National University*, [2]*Department of Life Science, University of Hyogo*)

2PT169 LOV2 ドメインの中間体揺らぎの時間分解検出
Transient fluctuation of phototropin LOV2 domain
Kunisato Kuroi[1], Francielle Sato[2], Yusuke Nakasone[1], Kazunori Jikihara[3], Satoru Tokutomi[3], Masahide Terazima[1] ([1]*Univ. of Kyoto*, [2]*Univ. of Maringa*, [3]*Osaka Prefecture University*)

2PT170 Photoactive Yellow Protein 中に存在する低障壁水素結合近傍のアルギニン 52 のプロトン化状態
Protonation State of Arginine 52 near the Low Barrier Hydrogen Bond in Photoactive Yellow Protein
Kento Yonezawa[1], Hironari Kamikubo[1], Keito Yoshida[1], Shigeo Yamaguchi[1], Tarou Tamada[2], Kazuo Kurihara[2], Yoichi Yamazaki[1], Mariko Yamaguchi[1], Mikio Kataoka[1] ([1]*Grad. Sch. Mat. Sci., NAIST*, [2]*Japan Atomic Energy Agency*)

2PT171 PYP Phytochrome Protein Related (Ppr) に存在する PYP ドメインによるフィトクロムドメインの光反応構造変化の制御
Photoreaction of PYP domain regulates the structural change during the photoreaction of phytochrome domain of Ppr
Keito Yoshida, Hironori Kamikubo, Kento Yonezawa, Yoichi Yamazaki, Mariko Yamaguchi, Mikio Kataoka (*Graduate school of Materials Science, Nara Institute of Science Technology*)

2PT172 PYP の構造形成に対する N 末端領域の効果
Effect of N-terminal region to the structure formation of PYP
Mitsuhiro Sakonji, Yoichi Yamazaki, Hironari Kamikubo, Mariko Yamaguchi, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

2PT173 Rc-PYP の相互作用における発色団周辺水素結合の寄与
The role of hydrogen bonding network around the chromophore for the interaction of Rc-PYP
Yoichi Yamazaki, Mayu Shimada, Hironari Kamikubo, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

2PT174 桂皮酸導入 Photoactive Yellow Protein の発色団由来水素結合の欠損効果
Roles of hydrogen bonds around chromophore in Photoactive Yellow Protein studied by OH-defficient cinnamic acid
Masatoshi Narumi, Yoichi Yamazaki, Mariko Yamaguchi, Hironari Kamikubo, Mikio Kataoka (*Grad. Sch. Mat. Sci., NAIST*)

2PT175 青色光センサータンパク質 YtvA の LOV と LOV-linker の光化学反応の比較
Comparison of the photochemical reaction between the LOV domain and the LOV-linker domain of a blue light sensor protein YtvA
Seokwoo Choi[1], Yusuke Nakasone[1], Klaas Hellingwerf[2], Masahide Terazima[1] ([1]*Department of Chemistry, Graduate school of Science Kyoto University*, [2]*University of Amsterdam, Swammerdam Inst Life Sci*)

2PT176 *Natronomonas pharaonis* 由来のセンサリーロドプシン II の光誘起プロトン移動における塩化物イオンの役割
The role of chloride in the photo-induced proton transfer in sensory rhodopsin II from *Natronomonas pharaonis*
Jun Tamogami[1], Katsunori Iwano[2], Atsushi Matsuyama[1], Takashi Kikukawa[2], Makoto Demura[2], Kazumi Shimono[1], Toshifumi Nara[1], Naoki Kamo[2] ([1]*College of Pharmaceutical Sciences, Matsuyama University*, [2]*Faculty of Advanced Life Science, Hokkaido University*)

2PT177 アナベナセンサリーロドプシンの光誘起プロトン移動反応の解析
Photo-induced proton transfer of *Anabaena* sensory rhodopsin
Takatoshi Hasemi[1], Takashi Kikukawa[1], Masakatsu Kamiya[1], Tomoyasu Aizawa[1], Keiichi Kawano[1], Kwang-Hwan Jung[2], Naoki Kamo[1,3], Makoto Demura[1] ([1]*Grad. Sch. Life Sci.,Hokkaido Univ.*, [2]*Dept. Life Sci. & Inst. Biol. Interfaces, Sogang Univ.*, [3]*College Pharm. Sci., Matsuyama Univ.*)

2PT178 ウシロドプシンの構造に関する理論研究
A theoretical study on the structure of bovine rhodopsins
Motoshi Kamiya, Shigehiko Hayashi (*Grad. Sch. Sci., Kyoto Univ.*)

2PT179 グロエオバクターロドプシンの三量体形成に関する研究
Homo-trimeric assembly of a cyanobacterial ion-pump *Gloeobacter* rhodopsin
Takashi Tsukamoto[1], Takashi Kikukawa[1,2], Masakatsu Kamiya[1,2], Tomoyasu Aizawa[1,2], Keiichi Kawano[1,2], Kwang-Hwan Jung[3], Naoki Kamo[2,4], Makoto Demura[1,2] ([1]*Grad. Sch. Life Sci., Hokkaido Univ.*, [2]*Fac. Adv. Life Sci., Hokkaido Univ.*, [3]*Dept. Life Sci. & Inst. Biol. Interfaces, Sogang Univ.*, [4]*College Pharm. Sci., Matsuyama Univ.*)

2PT180 パルミトイル修飾とロドプシンのラフト親和性の関係
Relationship between palmitoylations and raftophilicity of rhodopsin
Keiji Seno[1], Fumio Hayashi[2] ([1]*Hamamatsu Univ. Sch. Med.*, [2]*Grad. Sch. Sci., Kobe Univ.*)

2PT181 海洋性細菌におけるプロテオロドプシンの生理的役割および分子特性
Physiological role and molecular properties of proteorhodopsin from marine bacterium
Rei Abe-Yoshizumi[1], Keiichi Inoue[1], Susumu Yoshizawa[2], Kazuhiro Kogure[2], Hideki Kandori[1] ([1]*Dept. of Frontier Materials, Nagoya Inst. Tech.*, [2]*AORI, Univ. Tokyo*)

2PT182 時間分解赤外分光法によるファラオニスハロロドプシンの機能発現過程での水の水素結合ダイナミクス
Water hydrogen-bonding dynamics in the function of *pharaonis* halorhodopsin studied by time-resolved FTIR spectroscopy
Kuniyo Fujiwara[1,2], Tetsunari Kimura[1,2,3], Takashi Kikukawa[4], Makoto Demura[4], Hideki Kandori[5], Yuji Furutani[1,2,6] ([1]*SOKENDAI*, [2]*IMS*, [3]*JST CREST*, [4]*Grad. Sch. Life Sci., Hokkaido Univ.*, [5]*Grad. Sch. Eng. , NITech*, [6]*JST PRESTO*)

2PT183 全反射赤外分光法によるキメラチャネルロドプシンの構造変化解析
Structural changes in the chimeric Channelrhodopsins revealed by ATR-FTIR spectroscopy

Asumi Inaguma[1,2], Hisao Tsukamoto[1], Tetsunari Kimura[1,3], Toru Ishizuka[3,4], Hiromu Yawo[3,4], Yuji Furutani[1,2] ([1]*Inst. Mol. Sci.*, [2]*JST PREST*, [3]*JST CREST*, [4]*Grad. Sch. Life Sci., Tohoku Univ.*)

2PT184 Crystal Structure of deltarhodospin from Haloterrigena Thermotolerans
Jin Zhang, **Katsuhide Mizuno**, Mizuno Kouyama (*Nagoya University*)

2PT185 The chroride ion uptake mechanism in *pharaonis* halorhodopisin as studied by the energy representation method
Hiroyuki Tamura[1], Shuntaro Chiba[1], Shun Sakuraba[2], Nobuyuki Matsubayasi[2], Minoru Sakurai[1] ([1]*Center for Biol. Res. & Inform, Tokyo Tech*, [2]*ICR, Kyoto Univ*)

2PT186 ATP ショットと caged-ATP の光分解により開始されるホタル生物発光の時間発展及びその pH 依存性
Time Dependent Characteristics of Firefly Bioluminescence Initiated by Two Methods with Usual ATP Injection and Photolysis of Caged-ATP
Yuki Yanagisawa[1], Takeshi Kageyama[1], Masatoshi Tanaka[1], Shin-ya Ohno[1], Naohisa Wada[2] ([1]*Faculty of Engineering, Yokohama National University*, [2]*Department of Life Sciences, Toyo University*)

2PT187 水溶液中のホタルルシフェリン蛍光スペクトルの理論的研究
Theoretical Analysis of Fluorescence Spectra of Firefly Luciferin in Aqueous Solutions
Miyabi Hiyama[1], Hidefumi Akiyama[2], Kenta Yamada[3], Nobuaki Koga[1] ([1]*Grad. Sch. Info. Nagoya Univ.*, [2]*ISSP Univ. Tokyo*, [3]*Grad. Sch. Nanobio. Yokohama City Univ.*)

2PT188 シアノバクテリア由来のフィトクロム様光受容体「PixJ1」における短波長シフトした光反応の分子基盤
Molecular Basis for the Blue-shifted Photoconversion of PixJ1, Phytochrome-like Photoreceptor in Cyanobacterium, Studied by FTIR
Kazunori Zikihara[1,2], Shizue Yoshihara[1], Takahiro Kitano[1], Hitomi Katsura[1], Takayuki Kohchi[3], Satoru Tokutomi[1] ([1]*Grad. Sch. Sci., Osaka Pref. Univ.*, [2]*Grad. Sch. Med., Osaka Univ.*, [3]*Grad. Sch. Bio., Kyoto Univ.*)

2PT189 視物質の熱雑音発生メカニズム
Mechanism of thermal activation of visual pigments in the dark
Daiki Kawata[1], Kota Katayama[1], Hiroo Imai[2], Hideki Kandori[1] ([1]*Department of Frontier Materials, Nagoya Institute of Technology*, [2]*Primate Research Institute, Kyoto University*)

2PT190 クモにおけるピンぼけ像を用いた新規距離知覚メカニズム
A novel depth perception mechanism based on image defocus in a spider
Takashi Nagata[1], Mitsumasa Koyanagi[2], Hisao Tsukamoto[2], Shinjiro Saeki[3], Kunio Isono[3], Yoshinori Shichida[4], Fumio Tokunaga[5], Michiyo Kinoshita[1], Kentaro Arikawa[1], Akihisa Terakita[2] ([1]*Dept Evol Stud Biol Sys, Sokendai-Hayama*, [2]*Grad. Sch. Sci., Osaka City Univ.*, [3]*Grad. Sch. Information Sci., Tohoku Univ.*, [4]*Grad. Sch. Sci., Kyoto Univ.*, [5]*Grad. Sch. Sci., Osaka Univ.*)

2PT191 酵母におけるニワトリクリプトクロム 4 の大量発現と特異的抗体を用いた精製
Overexpression of chicken cryptochrome4 in a budding yeast and its purification using a specific monoclonal antibody
Hiromasa Mitsui, Toshinori Maeda, Chiaki Yamaguchi, Yusuke Tsuji, Yoko Kubo, Keiko Okano, Toshiyuki Okano (*Dept. Eng. and Biosci., Grad. Sch. Adv. Sci. and Eng., Waseda Univ.*)

2PT192 青色光により誘起される転写因子 AUREO1 の構造変化
Blue-light induced conformational change of a transcription factor, AUREO1
Osamu Hisatomi[1], Ken Takeuchi[1], Youichi Nakatani[1], Fumio Takahashi[2], Hironao Kataoka[3] ([1]*Graduate School of Science, Osaka University*, [2]*PRESTO, JST*, [3]*Botanical Gardens, Tohoku University*)

バイオインフォマティクス　Bioinformatics / 豊田講堂北

2PT201 インシリコハイブリダイゼーション：新しい原核生物種の分類手法
***In silico* hybridization: A new tool for the classification of prokaryotic cells**
Kunio Ihara[1], Tomomi Kitajima-Ihara[1], Masahiro Kamekura[2], Akinobu Echigo[3] ([1]*Nagoya Univ.*, [2]*Halophiles Lab.*, [3]*Toyo Univ.*)

2PT202 Homologous proteins with different fold: how were they raised ?
Shintaro Minami[1], Kengo Sawada[1], George Chikenji[2] ([1]*Grad. Sch. Eng., Nagoya Univ.*, [2]*Dept. Eng., Nagoya Univ.*)

進化　Origin of Life & Evolution / 豊田講堂北

2PT203 全生物共通祖先以前のタンパク質のアミノ酸組成に実験的に迫る
Experimental approach to the amino acid usage of pre-last universal ancestor
Masami Shimada, **Satoshi Akanuma**, Kozue Shinozaki, Yoshiki Nakajima, Akihiko Yamagishi (*Dept. of Mol. Biol., Tokyo Univ. of Pharm. Life Sci.*)

2PT204 cDNA display 法による 4 種類のアミノ酸からなる機能ペプチドの創出
Generation of Functional Peptides Consisting of 4 Types of Amino Acids by cDNA Display Method
Shigefumi Kumachi[1], Miho Suzuki[1], Koichi Nishigaki[1], Yuzuru Husimi[2], Naoto Nemoto[1] ([1]*Grad. Sch. Sci. & ENG., Saitama Univ.*, [2]*Innovation Research Organization, Saitama Univ.*)

2PT205 Directed evolution of a self-encoding system using giant liposome
Takeshi Sunami[1,2], Norikazu Ichihashi[1,2], Takehiro Nishikawa[1], Yasuaki Kazuta[1], Tomoaki Matsuura[1,3], Hiroaki Suzuki[1,2], Tetsuya Yomo[1,2,4] ([1]*ERATO, JST*, [2]*Grad. Sch. Info., Univ. Osaka*, [3]*Grad. Sch. Eng., Univ. Osaka*, [4]*Grad. Sch. Biosci., Univ. Osaka*)

2PT206 枯葉に擬態した蛾・蝶の翅模様に実装された正確な擬態をもたらすモジュールデザイン
Modular spatial stabilization of leafy moth/butterfly wing pattrns for precise mimesis
Takao K. Suzuki, Hideki Sezutsu (*NIAS TG_SilkwormUnit*)

2PT207 巨大化大腸菌(GP)からの大腸菌再生過程の観察
Observation of reproducing process the E. coli bacterium from a giant protoplast
Kazuhito Tabata[1], Takao Sogo[1], Shoji Takeuchi[2], Hiroyuki Noji[1] ([1]*App. chem. Univ. Tokyo*, [2]*IIS Univ. Tokyo*)

2PT208 天然のタンパク質のアミノ酸配列における隠れた局所的な反復性についての考察
An investigation on local pseudo-periodicity in the amino-acid sequences of native proteins
Koji Inai, **Masahito Oka** (*Osaka Prefecture University*)

2PT209 人工共生系の実験進化
Experimental evolution of a synthetic symbiosis
Kazufumi Hosoda[1], Akihiro Asao[2], Shingo Suzuki[1], Tetsuya Yomo[1,2,3] ([1]*IST, Osaka-u*, [2]*FBS, Osaka-u*, [3]*ERATO, JST*)

生態系　Ecology & Environment / 豊田講堂北

2PT210 束論を用いた種の遷移における頑健性と最適性の研究
The robust and the optimal adaptation in species-transition network from the perspective of the lattice theory
Takayuki Niizato, Yukio Gunji (*Grad. Sch. Sci., Univ. Kobe*)

数理　Mathematical Biology / 豊田講堂北

2PT211 Study on competitive reaction between enzymes with different diffusivity
Kenta Yashima[1], Jun Nakabayashi[2], Akira Sasaki[3] ([1]*Meiji Univ.*, [2]*Yokohama City Univ.*, [3]*The Graduate University for Advanced Studies*)

2PT212 Counting statistics for genetic switches
Jun Ohkubo (*Grad. Sch. Informatics, Kyoto Univ.*)

2PT213 分化多能性を持つ細胞の分化初期段階における状態遷移
Transitions of the cell state in the early stage of differentiation from the pluripotent cell
Kou Makishi, Tomoki P. Terada, Masaki Sasai (*Dept. of Computational Science and Engineering, Nagoya Univ.*)

2PT214 シロイヌナズナにおける植物ホルモンの制御ネットワーク解析
Regulation network analysis of plant hormones in Arabidopsis thaliana
Mariko Miyamoto, Hiraku Nishimori, Akinori Awazu (*Dept. of Mathematical and Life Sciences, Hiroshima University*)

2PT215 Toward simulation of epidermal growth factor (EGF) pathway at the molecular resolution for K computer
Kazunari Iwamoto, Kazunari Kaizu, Koichi Takahashi (*Laboratory for Biochemical Simulation, QBiC, RIKEN*)

2PT216 Emergence of a spatial structure with a minority molecule in a catalytic reaction network
Atsushi Kamimura, Kunihiko Kaneko (*Dept. of Basic Science, The Univ. of Tokyo*)

2PT217 Complex biological networks from the standpoint of the category theoretical duality
Taichi Haruna (*Kobe University*)

2PT218 分子混み合いが小胞内反応系に与える影響の理論的考察
Theoretical study of influence of molecular crowding to enzyme reaction system in vesicle
Masashi Fujii, Hiraku Nishimori, Akinori Awazu (*Grad. Sch. Sci., Hiroshima Univ.*)

2PT219 Temporal Decoding of MAP Kinase and CREB Phosphorylation by Selective Immediate Early Gene Expression
Takeshi Saito[1], Shinsuke Uda[1], Yu-ichi Ozaki[1,2], Shinya Kuroda[1] ([1]*Department of Biophysics and Biochemistry, Graduate School of Science, University of Tokyo*, [2]*Laboratory for Cell signaling Dynamics, Quantitative Biology Center, RIKEN*)

2PT220 ショウジョウバエ翅原基における成長制御メカニズム
Growth control mechanism in the Drosophila wing disc
Ken-ichi Hironaka[1,2], Yoh Iwasa[2], Yoshihiro Morishita[1] ([1]*CDB, RIKEN*, [2]*Grad. Sch. of Sys. Life Sci., Kyushu Univ.*)

2PT221 ミドリゾウリムシの細胞内共生における最適行動
Optimal Behavior in Endosymbiosis in Green Paramecium
Sosuke Iwai (*Faculty of Education, Hirosaki Univ.*)

2PT222 2 次元セルオートマトンモデルによる細胞の自己形成及び自己複製のシミュレーション
Two-dimensional cellular automata simulation of the self-assembly and self-reproduction phenomenon of cell
Takeshi Ishida (*Nippon Institute of Technology*)

2PT223 神経細胞の過渡的ダイナミクスにより神経情報コーディングがどのように制限されるか
Restriction of the information-coding scheme in the nervous system based on transient dynamics of neuronal activity
Takanobu Yamanobe[1,2] ([1]*Sch. Med., Hokkaido Univ.*, [2]*PRESTO, JST*)

2PT224 Spontaneous and Evoked Neural Activities Shaped through A Sequential Learning Process
Tomoki Kurikawa, Kunihiko Kaneko (*Univ. Tokyo, Grad. Sch. Arts. Scis.*)

2PT225 大腸菌の複数の鞭毛モーターの回転方向の協調的な切り換え現象の理論
A theory of the coordinated switching in the rotational direction of multiple flagellar motors in a single bacterium
Toshinori Namba[1,2], Tatsuo Shibata[2] ([1]*Department of Mathematical and Life Sciences, Hiroshima University*, [2]*RIKEN CDB*)

2PT226 走化性真核細胞の変形と勾配認識
Gradient sensing of deformed eukaryotic chemotactic cells
Akinori Baba, Tetsuya Hiraiwa, Tatsuo Shibata (*CDB, Riken*)

2PT227 アメーバ運動による 3 次元経路探索の理論的考察
A theoretical study for three-dimensional path finding by amoeboid migration

Shin I. Nishimura (*Hiroshima University*)

2PT228 **一細胞分布解析を用いた大腸菌運動性の非遺伝的な影響評価**

Single cell distribution analysis of motility reveals the heterogeneity of Escherichia coli

Daisuke Takagi, Kazumi Hakamada, Jun Miyake (*Osaka university*)

非平衡　Nonequilibrium State & Biological Rhythm / 豊田講堂北

2PT229 **時計タンパク質 KaiB-KaiC 相互作用間の ATP による制御**

The regulation of cyanobacterial circadian clock proteins KaiB-KaiC interaction by ATP

Risa Mutoh[1], Atsuhito Nishimura[2], So Yasui[2], Kiyoshi Onai[2], Masahiro Ishiura[2] ([1]*Institute for Protein Research*, [2]*Center for Gene Research*)

2PT230 **時計タンパク質 KaiC の ATP 放出**

ATP release from cyanobacterial circadian clock protein KaiC

Keita Iwata[1,2], Risa Mutoh[3], Kiyoshi Onai[1], **Masahiro Ishiura**[1] ([1]*Center for Gene Research, Nagoya Univ.*, [2]*Sch. of Sci., Nagoya Univ.*, [3]*Institute for Protein Research*)

2PT231 **概日周期の温度 / 栄養補償性に関する理論的研究**

Theoretical study of temperature and nutrient compensation of circadian clock

Tetsuhiro Hatakeyama, Kunihiko Kaneko (*Graduated school of Arts and Science, Univ. of Tokyo*)

2PT232 **シアノバクテリアの概日時計は低温で Hopf 分岐を介して消失する**

Cyanobacterial circadian clock is nullified by low temperature through Hopf bifurcation

Yoriko Murayama[1], Hiroshi Kori[2,3], Takao Kondo[4,5], Hideo Iwasaki[1,3], Hiroshi Ito[2,6] ([1]*Grad. Sch. Sci. Eng., Waseda Univ.*, [2]*Fac. Sci., Ochanomizu Univ.*, [3]*PRESTO JST*, [4]*Grad. Sch. Sci., Nagoya Univ.*, [5]*CREST JST*, [6]*Fac. Design, Kyushu Univ.*)

2PT233 **チャコウラナメクジ嗅覚神経系に見られる時空間活動パターンとその非線形解析**

Spatiotemporal Patterns of Neural Activities in the Olfactory Center of the Land Slug and the Nonlinear Analysis

Tomoya Shimokawa[1], Yuuta Hamasaki[1], Yoshimasa Komatsuzaki[2], Minoru Saito[1] ([1]*Graduate School of Integrated Basic Sciences, Nihon University*, [2]*College of Science and Technology, Nihon University*)

2PT234 **Motion analysis of collective soldier crab swarms**

Hisashi Murakami[1], Yuta Nishiyama[1], Takayuki Niizato[1], Koichiro Enomoto[2], Masashi Toda[2], Toru Moriyama[3], Kojiro Iizuka[3], Yukio Gunji[1] ([1]*Kobe University*, [2]*Hakodate Future University*, [3]*shinshu University*)

2PT235 **Analysis of lateral connectivity in networks based on a lattice theory**

Takenori Tomaru, Yukio Gunji (*Kobe University*)

2PT236 **真性粘菌モデルを用いた感性の計算**

Computation of emotional information by using numerical model of true slime mold

Iori Tani, Yukio-Pegio Gunji (*Department of Earth and Planetary Sciences, Graduate School of Science, Kobe University*)

2PT237 **Hill 式による非線形自励力学系の近似計算**

Numerical investigation with Hill equation on approximated nonlinear autonomous dynamical systems

Eisuke Chikayama[1,2] ([1]*Niigata University of International and Information Studies*, [2]*RIKEN*)

2PT238 **非平衡人工細胞モデルのための油中水滴マイクロ流体システム**

Droplet-based microfluidic system for nonequilibrium artificial cells

Masahiro Takinoue[1,2], Haruka Sugiura[1] ([1]*Interdisciplinary Grad. Sch. Sci. and Eng., Tokyo Tech.*, [2]*PRESTO, JST*)

2PT239 **Phase response of the collective cAMP oscillations in Dictyostelium discoideum and its implication to the adaptive properties**

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

2PT240 **Feedback-enhanced active-passive microrheology in cells**

Hiroshi Arimatsu, Marcel Bremerich, Daisuke MIzuno, Heev Ayade, Peijuan Zhang (*Univ.Kyushu*)

第 3 日目（9 月 24 日（土））／ Day2(Sep. 24, Mon.)

分子モーター　Molecular Motors / 理学南

3PS001 **IC138 リン酸化によるクラミドモナスダイニン-f テールの形態変化**

Configuration changes of *Chlamydomonas* dynein-f tail coupled with IC138 phosphorylation

Hitoshi Sakakibara, Kazuhiro Oiwa, Hiroaki Kojima (*KARC, Nat. Inst. Inf. Com. Tech.*)

3PS002 **鞭毛・繊毛運動の研究に向けたヒト軸糸ダイニンの発現系の開発**

Expression and purification of human axonemal dynein for studying cilia/flagella beating

Akane Furuta, Ken'ya Furuta, Misako Amino, Hiroaki Kojima (*Bio ICT lab, NICT*)

3PS003 **Tubulin polyglutamylation regulates axonemal motility by modulating the function of a specific inner-arm dynein species**

Tomohiro Kubo[1], Toshiki Yagi[2], Ritsu Kamiya[1] ([1]*Department of Biological Sciences, Graduate School of Science, University of Tokyo*, [2]*Department of Cell Biology and Anatomy, Graduate School of Medicine, University of Tokyo*)

3PS004 **高速 AFM による細胞質ダイニンの機能動態の観察**

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

Shuji Fujita[1], Karunakaran Aathi[2], Uchihashi Takayuki[1,3], Vale Ronald D.[2], Toshio Ando[1,3] ([1]*College of Science and Engineering, Kanazawa*

University, [2]*Department of Cellular & Molecular Pharmacology, University of California, San Francisco*, [3]*Bio-AFM Frontier Research Center, College of Science and Engineering, Kanazawa University*)

3PS005 鞭毛軸糸ダイニンによって駆動される微小管配列の振動運動

Oscillation of a microtubule array driven by axonemal dynein

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

3PS006 Structural and Biochemical Properties of the Outer-Dynein-Arm Docking Complex (ODA-DC) in Chlamydomonas flagella

Mikito Owa[1], Takahiro Ide[1], Ritsu Kamiya[1,2], Kenichi Wakabayashi[1] ([1]*Dept. Biological Sciences, Grad. school of Science, Univ. Tokyo*, [2]*Dept. Life Science, Faculty of Science, Gakushuin Univ.*)

3PS007 クラミドモナス軸糸微小管上の外腕ダイニンの組み立てに必要なタンパク質間相互作用の解析

Analysis of protein-protein interactions required for the assembly of outer arm dyneins on the axonemal microtubules in Chlamydomonas

Takahiro Ide[1], Mikito Owa[1], Kaoru Yoshida[3], Manabu Yoshida[2], Ritsu Kamiya[4], Ken-ichi Wakabayashi[1] ([1]*Dept. Biological Sciences, Grad. School of Science, Univ. Tokyo*, [2]*Misaki Marine Biological Station, Graduate School of Science, University of Tokyo*, [3]*Biomedical Engineering Center, Toin University of Yokohama*, [4]*Department of Life Science, Graduate School of Science, Gakushuin University*)

3PS009 *In vitro* analyses on two adjacent inner-arm dyneins, subspecies e and c

Youské Shimizu, Hiroaki Kojima, Kazuhiro Oiwa, Hitoshi Sakakibara (*Advanced ICT Research Institute, NICT*)

イメージング，測定　Bioimaging & Measurements / 理学南

3PS010 生細胞内における温度分布のイメージング

Imaging of temperature distribution in a living cell

Kohki Okabe[1], Seiichi Uchiyama[1], Noriko Inada[2], Yoshie Harada[3], Takashi Funatsu[1] ([1]*Grad. Sch. Pharm. Sci., Univ. Tokyo*, [2]*NAIST*, [3]*iCeMs, Kyoto Univ.*)

3PS011 走査電子顕微鏡を用いた非染色生物試料の高コントラスト・低ダメージ観察方法

A high-contrast and low-damage observation method of the unstained biological samples by scanning-electron microscope

Toshihiko Ogura (*AIST Biomedical Research Institute*)

3PS012 低温電子顕微鏡による細菌べん毛キャップ連結部の 3 次元再構成

The structure of the flagellar cap-junction complex by electron cryomicroscopy

Fumiaki Makino, Takayuki Kato, Tomoko Miyata, Keiichi Namba (*Frontier Bioscience*)

3PS013 バイメタルカンチレバーを用いた褐色脂肪細胞の発熱量の定量的解析

Quantitative analysis of heat production of brown adipocytes using bimetal cantilever

Masaaki Sato[1], Masaya Toda[2], Naoki Inomata[2], Yuichi Inoue[1], Takahito Ono[2], Akihiko Ishijima[1] ([1]*IMRAM, Tohoku Univ.*, [2]*Grad. Sch. Eng., Tohoku Univ.*)

3PS014 細胞シート 1 軸延伸測定法による時間依存力学測定

Time-dependetn Poisson's ratio and Power-law rheology of cell sheet in uniaxial stretching experiment

Masahiro Tsuchiya, Yusuke Mizutani, Takaharu Okajima (*Graduate School of Information Science and Technology, Hokkaido Univ.*)

3PS015 原子間力顕微鏡を用いた単一細胞レオロジーの高速・精密測定法の開発

High-speed measurement of single cell rheology with an atomic force microscope

Ryosuke Takahashi, Satoshi Ichikawa, Takaharu Okajima (*Graduate School of Information Science and Technology, Hokkaido University*)

3PS016 "ホッピングモード"高速原子間力顕微(HS-AFM)の開発

Development of “hopping-mode” high speed atomic force microscopy (AFM)

Hiroki Watanabe[1], Mikihiro Shibata[2], Takayuki Uchihashi[1,4], Ryohei Yasuda[3], Toshio Ando[1,4] ([1]*Department of Mathematics and Physics, Grad School of Natural Science and Technology, Kanazawa University*, [2]*Department of Neurobiology, Duke University Medical Center*, [3]*Max Planck Florida Institute*, [4]*Bio-AFM Frontier Research Center, College of Science and Engineering, Kanazawa University*)

3PS017 超音波高速 AFM の開発に向けた基礎研究

Pilot study for the development of high-speed ultrasonic AFM

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

3PS018 原子間力顕微鏡を用いたタンパク質界面膜の研究

AFM studies on the spread films of protein

Taiji Furuno (*Dept. Phys., Keio Univ. Sch. Med.*)

3PS019 カーボンナノチューブ電極を用いた神経伝達物質の高感度記録法の開発

Development of Carbon Nanotube Electrode For High Sensitivity Recordings of Neurotransmitters

Mao Fukuda, Ikurou Suzuki, Masao Gotoh (*Department of Bionics, Graduate School of bionics, computer and media science Tokyo University of Technology*)

3PS020 心毒性検査での細胞外電位記録における心筋細胞拍動周期制御のための電気刺激方法の最適化

Optimization of electrical stimulation protocol for cardiac beat control with extracellular potential measurement in cardiotoxicity test

Tomoyuki Kaneko, Fumimasa Nomura, Tomoyo Hamada, Kenji Yasuda (*Dept. Biomed. Inform., IBB, TMDU*)

3PS021 イオン移動ボルタンメトリーに基づく微量ペプチドの物質量決定

Determination of mole number for trace amount of a peptide based on the ion transfer voltammetry

Yumi Yoshida, Yoshiro Morita, Shotaro Nakamura, Junya Uchida, Kohji Maeda (*Department of Chemistry and Materials Technology, Kyoto Institute of Technology*)

3PS022 リング状微小電極上の心筋細胞の環状細胞ネットワークを用いた心毒性検査技術

On-chip quasi-in vivo cardiac toxicity assay using ring-shaped closed circuit microelectrode with lined-up cardiomyocyte network
Fumimasa Nomura, Tomoyuki Kaneko, Tomoyo Hamada, Kenji Yasuda (*Inst. of Biomaterials & Bioengineering, Tokyo Medical & Dental Univ.*)

3PS023 細胞外電位解析と光学イメージング解析を組み合わせた心機能計測解析システムの開発
Development of Dual Recording Assay for Cardiac Function Measurement using Electrical Field Potential and Optical Image Analysis
Toru Shoji, Tomoyuki Kaneko, Fumimasa Nomura, Akihiro Hattori, Kenji Yasuda (*BMI, IBB, TMDU*)

3PS024 白色 X 線源を用いた X 線 1 分子計測法の開発
Development of Diffracted X-ray Tracking measurement system using various wide-band energy X-ray sources
Kouhei Ichiyanagi[1,2], Hiroshi Sekiguichi[2,3], Masato Hoshino[3], Kentaro Kajiwara[3], Shunsuke Nozawa[4], Tokushi Sato[4], Shin-ichi Adachi[4], Naoto Yagi[3], Yuji Sasaki[1,2] ([1]*Graduate School of Frontier Sciences*, [2]*JST CREST Sasaki team*, [3]*Japan Synchrotron Radiation Research Institute*, [4]*High energy acceralation research organization*)

3PS025 CT 撮影用投影型 X 線顕微鏡の開発
Development of Projection X-ray Microscope for Micro-Tomography
Hideyuki Yoshimura (*Meiji Univ.*)

3PS026 XFEL を用いた 3 次元分子イメージングのための雑音下における 2 次元回折像の類似度自動同定
Automatic similarity identification of 2D diffraction patterns with noisy background for 3D coherent x-ray diffractive imaging
Atsushi Tokuhisa[1], Yasumasa Joti[2], Hidetoshi Kono[3], Nobuhiro Go[1] ([1]*Harima Inst., Riken*, [2]*JASRI*, [3]*KPSI,JAEA*)

3PS027 植物細胞の飛行時間型二次イオン質量分析法と多変量スペクトル分離法による評価
Evaluation of plant cells using time-of-flight secondary ion mass spectrometry and multivariate curve resolution
Satoka Aoyagi[1], Noriko Kodani[1], Katsushi Kuroda[2], Kazuhiko Fukushima[3], Isao Kayano[4], Seiichi Mochizuki[4], Akira Yano[1] ([1]*Facul. Life & Environmental Sci., Shimane Univ.*, [2]*Forestry & Forest Products Res. Institute*, [3]*Dept. Biosphere Resources Sci., Nagoya Univ.*, [4]*Dept. Medical Eng., Kawasaki Univ. Medical Welfare*)

3PS028 Shannon エントロピーの可視化による質量顕微鏡データの情報解析
Information analysis by visualizing Shannon entropy using Imaging Mass Spectrometric data
Noritaka Masaki, Mitsutoshi Setou (*Hamamatsu University School of Medicine, Department of Cell Biology and Anatomy*)

3PS029 シャペロニン GroEL フットボール型複合体を介したタンパク質フォールディングの直接観察
Direct observation of protein folding mediated by the football-shaped GroEL-GroES complex
Yodai Takei, Ryo Iizuka, Taro Ueno, Takashi Funatsu (*Grad. Sch. of Pharm. Sci., The Univ. of Tokyo*)

3PS030 等方性と偏光変調性の 2 つの全反射型蛍光顕微鏡を組み合わせる
Combining of isotropic TIRFM and polarization-modulation TIRFM
Shoko Fujimura[1], Yuh Hasimoto[1,2], Kengo Adachi[1,3], Rinako Nakayama[1], Tomoko Masaike[1], Takayuki Nishizaka[1] ([1]*Gakushuin Univ.,Dept. Physics*, [2]*Present Dept. Hamamatsu Photonics K.K.*, [3]*Present Dept. Waseda Univ.*)

3PS031 炎症時におけるヒト単球サイトカイン分泌のライブセルイメージング
Live-cell secretion imaging assay of the inflammatory cytokine from human monocytes
Yoshitaka Shirasaki[1,2], Nanako Shimura[1,3], Nobutake Suzuki[1], Kazushi Izawa[4], Asahi Nakahara[1,2], Mai Yamagishi[1], Yoshie Harada[5], Shuichi Shouji[2], Ryuta Nishikomori[4], Osamu Ohara[1,6] ([1]*RCAI, RIKEN*, [2]*Grad. Sch. Adv. Sci. Eng., Waseda Univ.*, [3]*Grad. Sch. Med. Pharm., Chiba Univ.*, [4]*Grad. Sch. Med., Kyoto Univ.*, [5]*iCeMS, Kyoto Univ.*, [6]*KAZUSA DNA Res. Inst.*)

3PS032 大腸菌異物排出タンパク質複合体コンポーネントの細胞内動態解析
Intracellular dynamics of the xenobiotic efflux proteins in *Escherichia coli*
Kentaro Yamamoto[1], Takehiko Inaba[2,4], Yoshiyuki Sowa[2,3], Ikuro Kawagishi[1,2,3] ([1]*Dept. Frontier Biosci., Grad. Sch. Eng., Hosei Univ.*, [2]*Res. Cen. Micro-Nanotech., Hosei Univ.*, [3]*Dept. Frontier Biosci., Fac. Biosci. and Appl. Chem., Hosei Univ.*, [4]*Present: RIKEN Adv. Sci. Inst.*)

3PS033 1 分子蛍光イメージングを用いた転写活性化による Arp4 の動態変化の定量解析
Quantitative analysis of changes in molecular dynamics of Arp4 upon transcriptional activation using single-molecule fluorescence imaging
Katsuo Ichinomiya[1], Masahiko Harata[2], Kumiko Sakata-Sogawa[1,3], Makio Tokunaga[1,3] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*Grad. Sch. Agr. Sci., Tohoku Univ.*, [3]*RCAI, RIKEN*)

3PS034 ATP 結合部位変異体 Arp4 βのイメージング解析
Imaging analysis of Arp4β mutants in ATP-binding site
Naomichi Inaba[1,2], Yuma Ito[1,2], Masahiko Harata[3], Makio Tokunaga[1,2], Kumiko Sakata-Sogawa[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*RCAI, RIKEN*, [3]*Grad. Sch. Agr. Sci., Tohoku Univ.*)

3PS035 遺伝的にコードされたカルシウムインジケーターを用いた細胞内カルシウム分布の動態解析
Dynamics of intracellular Ca^{2+} distribution measured by genetically encoded Ca^{2+} indicators
Hirofumi Oyama[1,2], Yuma Ito[1,2], Satoshi Ikeda[1,2], Kumiko Sakata-Sogawa[1,2], Makio Tokunaga[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*RCAI, RIKEN*)

3PS036 大腸菌二成分制御系センサーおよび応答調節因子の蛍光イメージング
Fluorescence imaging of histidine kinases and response regulators of *Escherichia coli*
Daigo Nakamura[1], Yuka Iritani[2], Mitsuyasu Fukushima[2], Akiko Yamakawa[1], Hiroyuki Sawaki[1], Takehio Inaba[3,5], Satomi Banno[4], Ikuro Kawagishi[1,2,3] ([1]*Dept. Frontier Biosci., Grad. Sch. Eng., Hosei Univ.*, [2]*Dept. Frontier Biosci., Fac. Biosci. Appl. Chem., Hosei Univ.*, [3]*Res. Cen. Micro-Nano. Tech., Hosei Univ.*, [4]*Natl. Inst. Infect. Dis.*, [5]*RIKEN Adv. Sci. Inst.*)

3PS037 ラマン分光顕微鏡を用いて細胞の分化状態を識別する
Raman microscopy distinguishes the status of differentiating cell
Muneki Yoshida[1], Taro Ichimura[1,2], Chiu Liang-da[3], Katsumasa Fujita[3], Tomonobu Watanabe[1,2,4], Hideaki Fujita[1,2] ([1]*Grad. Sch. FBS, Unive.*

Osaka, [2]*QBiC, Riken*, [3]*Grad. Sch. Eng., Unive. Osaka*, [4]*Precursory Research for Embryonic Science and Technology*)

3PS038 VSFG 検出赤外超解像顕微鏡を用いた毛髪サンプルの分子構造解析

Molecular structure analysis of the human hair samples by using VSFG detected IR super-resolution microscope

Katsuya Kikuchi[1], **Takaki Sato**[1], Tomoki Tajima[1], Masaaki Fujii[1], Shinobu Nagase[2], Yuuji Hirano[2], Takashi Itou[2], Makoto Sakai[1] ([1]*Tokyo Tech*, [2]*Kao Corp*)

3PS039 希土類材料を用いた膜蛋白質の高感度イメージング

Highly sensitive imaging of cell membrane proteins by using lanthanide materials

Tatsuya Nakamrua[1], Shin Mizukami[1,2], Kazuya Kikuchi[1,2] ([1]*Graduate school of Engineering, Osaka University*, [2]*Immunology Frontier Research Center, Osaka University*)

3PS040 ストレス顆粒内 mRNA 微小構造体の超解像イメージング

Super-resolution imaging of mRNA nano-structures in stress granule

Ko Sugawara, Kohki Okabe, Akihiko Sakamoto, Takashi Funatsu (*Grad. Sch. Pha. Sci., Univ. Tokyo*)

3PS041 位相変調型微分干渉顕微鏡を用いたミトコンドリアのイメージング解析

The imaging analysis of mitochondria with retardation mediated differential interference microscope (RM-DIC)

Keisuke Haseda, Keita Kanematsu, Yoshihiro Ohta (*Div. Biotechnology and Life sciences , Tokyo University of Agriculture and Technology*)

3PS042 ^{19}F MRI monitoring of Gene Expression in living cells

Hisashi Matsushita[1], Shin Mizukami[1,2], Yuki Mori[2,3], Fuminori Sugihara[1,2], Masahiro Shirakawa[4], Yoshichika Yoshioka[2,3], Kazuya Kikuchi[1,2] ([1]*Grad. Sch. Eng., Univ. Osaka*, [2]*Immunology Frontier Research Center, Univ. Osaka*, [3]*Grad. Sch. Frontier Biosci., Univ. Osaka*, [4]*Grad. Sch. Eng., Univ. Kyoto*)

3PS043 Development of nanocapsule probes for sensitive ^{19}F MRI

Hiroaki Mukai[1], Shin Mizukami[1,2], Yosuke Nakanishi[1], Fuminori Sugihara[2], Kazuya Kikuchi[1,2] ([1]*Grad. Sch. Engin., Osaka univUniv.*, [2]*iFReC*)

生物工学　Bioengineering / 理学南

3PS044 hiPSCs 細胞培養のための polydimethylsiloxane への細胞外基質コート

ECM coating on polydimethylsiloxane for hiPSCs culture

Ryosuke Yoshimitsu[1], Koji Hattori[2], Shinji Sugiura[2], Toshiyuki Kanamori[2], Kiyoshi Ohonuma[1] ([1]*Nagaoka University of Technology*, [2]*National Institute of Advanced Industrial Science and Technology*)

3PS045 Perfusion device to observe of single ES cells

Shougo Nakamura[1], Atushi Maruyama[4], Yuichi Wakamoto[2], Shin-ichi Sakai[3], Bayar Hexig[3], Toshihiro Akaike[3], Kiyoshhi Ohnuma[4] ([1]*Nagaoka university of Technology*, [2]*Grad. Sch. Arts. & Sci., Univ. Tokyo*, [3]*Grad. Sch. Biosci. & Biotech., Tokyo Inst of Tech*, [4]*TRI, Nagaoka Univ of Tech*)

3PS046 アルギン酸シートを用いた初代培養細胞セルソーティング法の開発

A Non-destructive Culturing and Cell Sorting Method for Cardiomyocytes and Neurons Using an Alginate Layer

Hideyuki Terazono[1], Hyonchol Kim[1], Akihiro Hattori[2], Fumimasa Nomura[2], Tomoyuki Kaneko[2], Kenji Yasuda[1,2] ([1]*Yasuda "On-chip cellomics" project, KAST*, [2]*Biomed. Info., Biosys., Biomat. Bioeng., Tokyo Medical and Dental Univ.*)

3PS047 様々な粒径の超常磁性ヤヌス微粒子の作製と非侵襲的細胞回収技術への応用

Fabrication of Superparamagnetic Janus Particles Having Various Sizes and Its Application for Non-Destructive Cell Sorting

Hyonchol Kim[1], Hideyuki Terazono[1], Hiroyuki Takei[1,2], Kenji Yasuda[1,3] ([1]*KAST*, [2]*Facul. Life Sci., Toyo Univ.*, [3]*Inst. Biomat. Bioeng., Tokyo Med. Dent. Univ.*)

3PS048 一細胞時系列解析を用いた定量的プロモータ活性評価法の開発

Event driven time lapse image analysis reveal the promoter activity

Kazumi Hakamada, Yusaku Somei, Jun Miyake (*Osaka University*)

3PS049 画像認識型オンチップ・セルソーターによる形状認識に基づいた細胞分離法の定量的評価

Quantitative evaluation of cell separation method based on shape recognition using on-chip imaging cell sorter

Akihiro Hattori[1,2], Tomoyuki Kaneko[1], Fumimasa Nomura[1], Kenji Yasuda[1,2] ([1]*Dept. Biomedical Information, Div. Biosystems, Inst. Biomaterials and Bioengineering, Tokyo Medical ana Dental Univ.*, [2]*Yasuda "On-chip Cellomics"Project, Kanagawa Academy of Science and Technology*)

3PS050 マイクロ波照射下での微生物培養とプロテオーム解析

Microorganism cultivation under microwave irradiation and its proteomic analysis

Wataru Nagayoshi[1], Rintaro Hoshino[1], Yuki Kurita[1], Arata Shiraishi[1], Takeo Yoshimura[2], Toru Kodama[3], **Shokichi Ohuchi**[1] ([1]*Dept. Biosci. Bioinform., Kyushu Inst. Technol.*, [2]*Dept. Appl. Bio. Sci., Tokyo Univ. Sci.*, [3]*Vecell Inc.*)

3PS051 PDMS 基盤表面上でのタンパク質混合物の吸着による hiPS 細胞のパターニング

Patterning for human iPS cells by adsorption mixture of proteins on PDMS surface

Ryotaro Yamada[1], Koji Hattori[2], Shinji Sugiura[2], Toshiyuki Kanamori[2], Kiyoshi Ohnuma[1] ([1]*Nagaoka University of Technology*, [2]*Agency of Industrial Science and Technology*)

核酸　Nucleic Acid Binding Proteins / 豊田講堂エントランス

3PT001 飢餓的ストレス下での 100S リボソーム形成による細菌の生存戦略

Survival strategy of bacteria under the starvation stress by 100S ribosome formation

Takayuki Kato[1], Masami Ueta[2], Tomoko Miyata[1], Hideji Yoshida[3], Akira Wada[3], Keiichi Namba[1] ([1]*Grad. Sch. of Frontier Biosci Osaka Univ*, [2]*Yoshida Biol. Lab.*, [3]*Dept. Phys., Osaka Med. Coll.*)

3PT002 ラミノパチー発症に関する A 型ラミンの構造学的研究

Electron microscopy of oligomerization function of nuclear lamin A and the laminopathic mutants

Kazuhiro Mio[1], Toshihiko Sugiki[2], Muneyo Mio[1], Chie Matsuda[1], Yukiko Hayashi[3] ([1]*AIST*, [2]*Dep. Pharm, Musashino Univ.*, [3]*NCNP*)

3PT003 NMR 法による APOBEC3C デアミネース活性に関する研究

A study on deaminase activity of APOBEC3C by NMR

Ryo Iwaoka[1], Shingo Kitamura[2,3], Keisuke Kanba[1], Ayako Furukawa[1], Hideyasu Okamura[1], Wataru Sugiura[2,4], Takashi Nagata[1], Yasumasa Iwatani[2,4], Masato Katahira[1] ([1]*Inst. Of Adv. Energy, Kyoto Univ.*, [2]*CRC, NMC*, [3]*Biotech., Grad. Sch. Of Eng., Nagoya Univ.*, [4]*Prog. In Integ. Mol. Med., Grad. Sch. Of Med., Nagoya Univ.*)

3PT004 蛍光相互相関分光法を用いた転写因子-DNA 間相互作用の定量

Determination of dissociation constant between glucocorticoid receptor and DNA using FCCS

Shintaro Mikuni[1], Masataka Kinjo[2] ([1]*Research Center for Cooperative Projects, Graduated School of Medicine, Hokkaido University, Japan*, [2]*Laboratory of Molecular Cell Dynamics, Faculty of Advanced Life Science, Hokkaido University, Japan*)

3PT005 Quantitative study of Homo-Dimer Glucocorticoid Receptor interaction by using Fluorescence Cross Correlation Spectroscopy in living cell

Manisha Tiwari[1], Shintaro Mikuni[2], Masataka Kinjo[3] ([1]*Graduate School of Life Science, Hokkaido University, Japan*, [2]*Research Center for Cooperative Project, Graduate School of Medicine, Hokkaido University, Japan*, [3]*Faculty of Advanced Life Science, Hokkaido University, Japan*)

3PT006 Transcription factor p53 searching dynamics on nucleosomal DNA: Coarse-grained molecular dynamics simulation study

Tsuyoshi Terakawa, Shoji Takada (*Grad. Sch. Sci., Univ. Hyogo*)

3PT007 粗視化分子シミュレーションを用いた T4 sliding clamp の DNA 上での動きの解析

Movement of T4 sliding clamp on DNA studied by coarse-grained molecular simulations

Itaru Narihara, Tsuyoshi Terakawa, Hiroo Kenzaki, Shoji Takada (*Biophy, Grad Sch Sci, Kyoto Univ*)

3PT008 分子シミュレーションと電子顕微鏡像を用いて解析された tRNA 転位の自由エネルギー地形

Free-energy landscape of tRNA translocation through ribosome analysed using MD simulations and cryo-EM density maps

Hisashi Ishida, Atsushi Matsumoto (*Quantum Beam Science Directorate, Japan Atomic Energy Agency*)

3PT009 粗視化シミュレーションによる単 / 多ヌクレオソーム系の構造ダイナミクス

Mono- and poly-nucleosome structural dynamics by coarse-grained simulations

Hiroo Kenzaki[1], Shoji Takada[1,2] ([1]*Dept. of Biophysics, Graduate School of Science, Kyoto Univ*, [2]*CREST-JST*)

3PT010 Zero-dipole summation 法を用いた Est1-DNA 複合体の分子動力学シミュレーション

Molecular Dynamics Simulations of Ets1-DNA complexes using Zero-Dipole Summation Method

Takamasa Arakawa[1,2], Masaaki Shiina[3], Kazuhiro Ogata[3], Narutoshi Kamiya[2], Ikuo Fukuda[4], Haruki Nakamura[2] ([1]*Dept. of Biol. Sci., Grad. Sch. of Sci., Osaka Univ.*, [2]*IPR, Osaka Univ.*, [3]*Dept. of Biochem., Yokohama City Univ. Sch. of Med.*, [4]*Riken*)

3PT011 分子シミュレーションによる TFIIIA ジンクフィンガーの DNA 上の拡散

Diffusion of TFIIIA zinc fingers along DNA studied by molecular simulations

Yohei Miyoshi, Tsuyoshi Terakawa, Shoji Takada (*Dept Biophysics, Div Biology, Grad School Science, Kyoto University*)

3PT101 溶液環境が決定付ける単一 DNA 分子の凝縮速度

How dose Environmental Solution Conditions Determine the Compaction Velocity of Single DNA Molecules?

Ken Hirano[1], Ishido Tomomi[1], Katsuhisa Nakamichi[2], Naoki Ogawa[2], Masatoshi Ichikawa[3], Kenichi Yoshikawa[2] ([1]*Health Res. Inst., AIST*, [2]*Fac. Life Med. Sci., Doshisha Univ.*, [3]*Dep. Phys., Kyoto Univ.*)

3PT102 新規なフォトクロミック ATP アナログによるキネシン / 微小管系の駆動と光可逆的な運動制御

Driving and Reversible Photo-control of Motility of a Kinesin/Microtubule System by a Novel Photochromic ATP Analogue

Takashi Kamei, Tuyoshi Fukaminato, Nobuyuki Tamaoki (*RIES, Hokkaido Univ.*)

3PT103 ナノメートルサイズの軸で巻くことにより DNA の曲げ弾性を測定

Bending stiffness of double-stranded DNA measured by winding single-molecule on a nanometer-sized reel

Huijuan You, Ryota Iino, Rikiya Watanabe, Hiroyuki Noji (*Department of Applied Chemistry, School of Engineering, The University of Tokyo*)

3PT104 1 分子機械的アンジッピングが示すエントロピー駆動的 DNA 構造安定性の GC と AT 塩基対における違い

GC and AT pairs show different entropic stabilization of DNA structures found in single-molecule mechanical unzipping

Akihiro Fukagawa[1], Michio Hiroshima[2], Makio Tokunaga[1,3] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech.*, [2]*Adv. Sci. Inst. RIKEN*, [3]*RCAI, RIKEN*)

3PT105 Controllable adsorption-desorption of double-stranded DNA onto single-walled carbon nanotube functionalized with polyethylene glycol

Daisuke Nii, Takuya Hayashida, Kazuo Umemura (*Grad. Shc. Sci. univ of science. Tokyo*)

3PT106 分子動力学シミュレーションによる dGMP、8-oxo-dGMP のコンフォメーション比較：イオンの影響

Comparison of dGMP and 8-oxo-dGMP conformation by molecular dynamics simulations: effect of ions

Shin-ichi Fujiwara, Takashi Amisaki (*Fac. Med., Tottori Univ.*)

3PT107 粗視化モデル分子動力学法を用いた RNA 立体構造予測

RNA 3D structure prediction by using coarse-grained molecular dynamics simulation

Tomoshi Kameda (*CBRC, AIST*)

3PT108 分子動力学シミュレーションによる DNA 構造に対する溶媒条件の影響の研究

The influence of solvent condition on DNA structures studied by molecular dynamics simulations

Satoshi Fujii[1], Hidetoshi Kono[2], Akinori Sarai[1] ([1]*Dept. Bioscience and Bioinformatics, Kyushu Institute of Technology*, [2]*Computational Biology, JAEA*)

3PT109 Model for self-assembly of flexible DNA motifs using stacking interactions

Keitel Cervantes-Salguero, Shogo Hamada, Satoshi Murata (*Tohoku University*)

生物工学　Bioengineering / 豊田講堂シンポジオン

3PT110 **A Growth mechanism of DNA tile array**
Yuki Matsubara, Nao Otani, Miho Tagawa, Akira Suyama (*Univ Tokyo, Dept Life Sci*)

3PT111 **DNA ナノ構造を用いた DNA-RNA ポリメラーゼ・ハイブリッドナノマシンの構築と機能評価**
Construction and functional analysis of DNA origami base DNA-RNAP hybrid nanomachine
Takeya Masubuchi[1], Hisashi Tadakuma[1], Masayuki Endo[2], Hiroshi Sugiyama[2], Yoshie Harada[2], Takuya Ueda[1] ([1]*Graduate School of Frontier Science, The University of Tokyo*, [2]*iCeMS, Kyoto University*)

3PT112 **リポソームへの DNA リングの吸着**
Adsorption of DNA ring onto Liposome
Yumiko Kumagai, Shogo Hamada, Shin-ichiro Nomura, Satoshi Murata (*Department of Bioengineering and Robotics, Graduate School of Engineering, Tohoku University, Japan*)

3PT113 **脂質二重膜上での DNA ナノ構造の基板上成長**
Substrate-Assisted Self-Assembly of DNA Nanostructure on lipid bilayer
Shogo Kudo, Shogo Hamada, Shin-ichiro Nomura, Satoshi Murata (*Department of Bioengineering and Robotics, Graduate School of Engineering, Tohoku University, Japan*)

膜タンパク　Membrane Proteins / 豊田講堂シンポジオン

3PT114 **中性膜に結合した LFampinB の膜結合構造と膜親和性の固体 NMR と QCM による解析**
Structure and affinity of bovine lactferrampin bind to neutral model membrane as studied by by solid state NMR and QCM
Masayoshi Imachi[1], Javkhlantugs Namsrai[1], Atsushi Kira[2], Izuru Kawamura[1], Akira Naito[1] ([1]*Graduate School of Engineering, Yokohama National University*, [2]*Reasearch and Development Division, ULVAC Inc.*)

3PT115 **大腸菌異物排出タンパク AcrB のペリスタポンプ機構の解明**
Structures of the multidrug exporter AcrB reveal a proximal multisite drug-binding pocket
Keisuke Sakurai[1], Ryosuke Nakashima[1], Seiji Yamasaki[1,2], Kunihiko Nishino[1], Akihito Yamaguchi[1,2] ([1]*Institute of Scientific and Industrial Research, Osaka University*, [2]*Graduate school of pharmaceutical sciences, Osaka University*)

3PT116 **エントロピー力による円筒状容器からの大球の放出**
Entropic release of a big sphere from a cylindrical vessel
Hirokazu Mishima[1], Hiraku Oshima[1], Satoshi Yasuda[1], Ken-ichi Amano[2], Masahiro Kinoshita[1] ([1]*Inst. of Adv. Energy, Kyoto Univ.*, [2]*Dept. of Chem., Kobe Univ.*)

3PT117 **2 者タンパク質間を認識するライト抗体を利用したバンド 3-グリコフォリン A 複合体の精製**
Use of a dual specificity Wright antibody for the purification of structurally unstable band 3-glycophorin A complex
Yohei Ikeda[1], Hinako Hatae[2], Hiroyuki Kuma[2], Naotaka Hamasaki[2], Teruhisa Hirai[1] ([1]*Harima Inst., RIKEN*, [2]*Fac. Pharm. Sci., Nagasaki International Univ.*)

3PT118 **カルシウム活性化クロライドチャネルの *in vitro* でのイオン透過活性測定系の構築**
Functional *in vitro* reconstitution of Calcium-activated Chloride channel, TMEM16A/anoctamin1
Hiroyuki Terashima[1,2], Alessandra Picollo[1], Alessio Accardi[1] ([1]*Department of Anesthesiology, Weill Cornell Medical College*, [2]*Department of Macromolecular Science, Graduate School of Science, Osaka University*)

3PT119 **COS7 細胞と酵母細胞を用いた筋型 CPT1 の発現系の比較**
Comparison of two expression systems using COS7 cells and yeast cells for expression of heart/muscle-type CPT1
Takuya Hada[1,2], Yumiko Kato[1,2], Eriko Obana[1], Naoshi Yamazaki[2], Takenori Yamamoto[1], **Yasuo Shinohara**[1,2] ([1]*Inst Genome Res, Univ Tokushima*, [2]*Fac Pharm Sci, Univ Tokushima*)

3PT120 **紫膜表面の隆起構造およびバクテリオロドプシン分子構造に与える紫膜中の古細菌型脂質除去の影響**
Effects of archaeal lipids removal in purple membrane upon bump structures of membrane surface and bacteriorhodopsin conformations
Kosuke Yamada, **Yasunori Yokoyama**, Shigeki Mitaku (*Department of Applied Physics, Graduate School of Engineering, Nagoya University*)

3PT121 **EGF 受容体の活性化機構：EGFR はリガンド結合前に 2 量体として存在する**
Molecular mechanism underlying activation of the EGF receptor: preformed, inactive dimer and positive cooperativity
Hiraku Miyagi, Ichiro Maruyama (*OIST*)

3PT122 **表層ストレス応答における、PDZ ドメインによる RseP プロテアーゼ機能制御機構の解析**
Analysis of a regulatory mechanism of the proteolytic function of RseP by the PDZ domains in extracytoplasmic stress response
Yohei Hizukuri, Yoshinori Akiyama (*Institute for Virus Research, Kyoto Univ.*)

3PT123 **部分フッ素化ホスファチジルコリン小胞に再構成されたバクテリオロドプシンの液晶相における分子集合体**
Molecular assembly of bacteriorhodopsin reconstituted into partially fluorinated phosphatidylcholine liposome in liquid crystalline phase
Masaru Yoshino[1], Kenji Kanayama[1], Takashi Kikukawa[2], Toshiyuki Takagi[3], Hiroshi Takahashi[1], Toshihiko Baba[3], Toshiyuki Kanamori[3], Masashi Sonoyama[1] ([1]*Grad. Sch. Eng., Univ. Gunma*, [2]*Grad. Sch. Sci., Univ. Hokkaido*, [3]*R.C. Stem Cell Eng., AIST*)

3PT124 **Elucidation of the membrane microdomain assembly mechanism via reconstituted artificial lipid membranes using high performance proteomics**
Lumi Negishi[1], Satoshi Hosoya[1], Osamu Toda[1], Tsuyoshi Oosawa[1], Ken Hirosaki[1], Thanai Paxton[2], Nobuhiro Hayashi[1] ([1]*Grad. Sch. of Life Sci. and Biotech., Tokyo Inst. Tech.*, [2]*Solution Center, Nihon Waters K.K.*)

3PT125 **無細胞膜タンパク質合成におけるリポソームのシャペロン機能**

Liposomes as chaperone in cell-free membrane protein synthesis
Minato Akiyama[1], Jun-ichi Yasuoka[2,3], Shin-ichi Sawada[1,3], Kazunari Akiyoshi[1,3] ([1]*Grad. Sch. Eng., Kyoto Univ.*, [2]*Inst. Biomater. Bioeng., Tokyo Med. Dent. Univ.*, [3]*JST-ERATO*)

3PT126 **可溶化系における膜タンパク質ハロロドプシンとバクテリオルベリンの複合体形成**
Formation of a complex between membrane protein halorhodopsin and carotenoid of bacterioruberin in the solubilized system
Takanori Sasaki, Nur Wahida Abdul Razak, Noritaka Kato, Yuri Mukai (*Sch. Sci. and Tech., Univ. Meiji*)

3PT127 **Structure, orientation and interactions of bovine lactoferrampin in membrane bilayers**
Namsrai Javkhlantugs, Kazuyoshi Ueda, Akira Naito (*Department of Advanced Materials Chemistry, Graduate School of Engineering, Yokohama National University*)

3PT128 **Laser flash photolysis study on the decay kinetics of the M photointermediate of bacteriorhodopsin in diheptanoylphosphocholine micelles**
Masashi Sonoyama[1], Yumiko Kuwabara[1], Takashi Kikukawa[2] ([1]*Grad. Sch. Eng., Gunma Univ.*, [2]*Grad. Sch. Life Sci., Hokkaido Univ.*)

3PT129 **Characterization by mutagenesis analysis of putative proton transfer pathway, D-pathway of bovine heart cytochrome *c* oxidase**
Ryohta Aminaka[1], Mai Itoh[1], Kunitoshi Shimokata[2], Yukie Katayama[3], Tomitake Tsukihara[1], Shinya Yoshikawa[1], Hideo Shimada[1] ([1]*Grad. Sch. Life Sci., Univ. Hyogo*, [2]*WORLD INTEC CO., LTD.*, [3]*Grad. Sch. Agric. Life Sci., Univ. Tokyo*)

3PT130 **陰溶媒膜モデルとレプリカ交換シミュレーションによるα-ヘリカル型膜タンパク質の構造予測**
Prediction of α-helical membrane protein structures by replica-exchange simulations with implicit membrane model
Ryo Urano[1], Yuko Okamoto[1,2,3] ([1]*Dept. of Phys.Grad. Sch. of Sci. Nagoya Univ.*, [2]*Bio. Research Center Grad. Sch. of Sci. Nagoya Univ.*, [3]*Center for Comput. Sci. Grad. Sch. of Eng. Nagoya Univ.*)

3PT131 **Homology modeling and molecular dynamics study of proton permeation pathway in a channel protein**
Susumu Chiba[1], Kota Kasahara[1], Matsuyuki Shirota[1,2], Kengo Kinoshita[1,2,3] ([1]*Grad. Sch. of Information Sci., Tohoku Univ.*, [2]*Tohoku Medical Megabank Organization, Tohoku Univ.*, [3]*IDAC, Tohoku Univ.*)

3PT132 **大腸菌機械受容チャネル MscL の開口過程におけるタンパク質と水との協調過程の役割の分子動力学的解析**
Molecular Dynamics Analysis of the Role of Protein-Water Interplay in the Opening Process of E-coli Mechanosensitive Channel MscL
Yasuyuki Sawada[1], Masahiro Sokabe[1,2] ([1]*Dept. Physiol. Nagoya Univ. Grad. Sch. Med.*, [2]*FIRST Res. Ctr. for Innovative Nanobiodevice, Nagoya Univ.*)

3PT133 **ATP-Binding induced conformational change in CFTR as studied by MD simulation**
Tomoka Hagiya[1], Tadaomi Furuta[1], Shuntaro Chiba[1], Yoshiro Sohma[2], Minoru Sakurai[1] ([1]*Grad. Sch. of Biosci. & Biotech., Tokyo Tech.*, [2]*Dept of Pharmacol., Sch. Med., Keio Univ.*)

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3PT134 **リポソームと機能性ペプチドを用いた酵素活性検出法の開発**
Development of enzyme activity detection system using liposome and functional antimicrobial peptide
Masayoshi Kashibe[1], Shin Mizukami[1,2], Kazuya Kikuchi[1,2] ([1]*Graduate School of Engineering, Osaka University*, [2]*Immunology Frontier Research Center, Osaka Univ.*)

3PT135 **モデル細胞間に形成された脂質 2 分子膜の吸着力測定**
Adhesive force of a lipid bilayer between contacted cell-sized droplets
Taka-aki Yoshida[1], Miyuki Furuta[2], Yui Matuda[2], Satoshi Nakata[2], Masayuki Tokita[1], Miho Yanagisawa[1] ([1]*Grad. Sch. Sci., Kyushu Univ.*, [2]*Grad. Sch. Sci., Hiroshima Univ.*)

3PT136 **ジェット流による細胞サイズリポソームの作製**
Preparation of cell-sized liposomes by pulsed jet flow
Koki Kamiya[1], Ryuji Kawano[1], Toshihisa Osaki[1], Syoji Takeuchi[1,2] ([1]*Kanagawa Academy of Science and Technology*, [2]*Institute of Industrial Science, The University of Tokyo*)

3PT137 **タンパク質内包リポソームの熱安定性に関する小角・広角 X 線散乱研究**
SWAXS study of thermal structural stability of liposomes entrapping proteins
Ryota Kimura, Mitsuhiro Hirai (*Grad. Sch. Eng., Gunma Univ.*)

3PT138 **溶質含有脂質フィルムから調製した巨大リポソームのサイズ、形態と膜多重度**
Size, morphology and lamellarity of giant liposomes generated from solute-containing lipid films
Kanta Tsumoto, Shota Kimura, Masahiro Tomita (*Grad. Sch. Eng., Mie Univ.*)

3PT139 **表面修飾ナノ粒子の巨大リポソームへのエンドサイトーシス様取込み**
Endocytosis-like Uptake of Surface-Modified Nanoparticles into a Giant Liposome
Kohei Tahara[1,2,3], Satoshi Tadokoro[1], Yoshiaki Kawashima[2], **Naohide Hirashima**[1] ([1]*Grad. Sch. Pharmaceut. Sci., Nagoya City Univ.*, [2]*Sch. Pharm., Aichi Gakuin Univ.*, [3]*Gifu Pharmaceut. Univ.*)

3PT140 **トランスポータン 10 が DOPC 膜の巨大リポソームの膜透過性と構造に与える効果**
Effects of Transportan-10 on Membrane Permeability and Structure of Single Giant Unilamellar Vesicles of DOPC membranes
Hirotaka Ariyama, Masahito Yamazaki (*Integrated Bioscience Section, Graduate School of Science and Technology, Shizuoka Univ.*)

3PT141 **F-BAR によるリポソームのチューブレーションのリアルタイム観察**
Real-time observation of liposome tubulation by F-BAR
Yohko Takiguchi[1], Toshiki Itoh[2], Kingo Takiguchi[1] ([1]*Grad. Sch. Sci., Univ. Nagoya*, [2]*Grad. Sch. Med., Univ. Kobe*)

3PT142 **PEG 担持ジャイアントベシクルにおける膜組成と分裂様式の関係**
Correlation between Membrane Composition and Mode of Division of PEG-grafted Giant Vesicles
Yumi Kan[1], Kensuke Kurihara[2], Taro Toyota[2,3], Masayuki Imai[4], Tadashi Sugawara[3,5] ([1]*Ochanomizu University*, [2]*The University of*

Tokyo, [3]*Research Center for Complex Systems Biology*, [4]*Tohoku University*, [5]*Kanagawa University*)

3PT143 静置水和法による均一径リポソームアレイ

Size-controlled Giant Liposome Array System with Gentle Hydration

Toshihisa Osaki[1], Koki Kamiya[1], Kaori Kuribayashi[2], Ryuji Kawano[1], Shoji Takeuchi[2] ([1]*Kanagawa Academy of Science and Technology*, [2]*Institute of Industrial Science, The University of Tokyo*)

3PT144 REMD シミュレーションによる粗視化された脂質膜の相転移の研究

Study on phase transition of coarse-grained lipid bilayer by REMD simulations

Tetsuro Nagai, Yuko Okamoto (*Grad. Sch. Sci., Nagoya Univ.*)

3PT145 長鎖リン脂質 DMPC と短鎖リン脂質 DHPC で構成される複雑な相挙動のダイナミクス

Dynamics of complicated phase behavior on the mixtures consisting of long-chain phospholipids DMPC and short-chain phospholipids DHPC

Ryota Kobayashi, Tetsuhiko Ohba (*Department of Physics, Tohoku University.*)

3PT146 細胞毒性を有する酸化コレステロールのホスファチジルコリン膜分子充填への影響

Effect of cytotoxic oxysterols on the molecular packing of phosphatidylcholine membranes

Tatsuya Hoshino[1], Takaaki Hikima[2], Masaki Takata[2], Toshihide Kobayashi[3], Hiroshi Takahashi[1] ([1]*Grad. Sch. Eng., Gunma Univ.*, [2]*Harima Inst., Riken*, [3]*Wakou Inst., Riken*)

3PT147 ジヘキサデシルホスファチジルコリンの指組ゲル相二層膜間の氷点下温度における水和斥力

Hydration repulsive force of the interdigitated phase of dihexadecylphosphatidylcholine at subzero temperatures

Hiroshi Takahashi (*Grad. Sch. Eng., Gunma Univ.*)

3PT148 架橋脂質二分子膜における秩序液体相／液晶相の分離

Localization of Liquid-Ordered/Liquid-Crystalline Phase Separation at a Lipid Bilayer Suspended over Microwells

Koji Sumitomo[1], Yukihiro Tamba[2], Aya Tanaka[1], Touichiro Goto[1], Keiichi Torimitsu[1] ([1]*NTT Basic Research Labs.*, [2]*Suzuka Nat. Coll. of Tech.*)

3PT149 ラウリル硫酸ナトリウム(SLS)溶液塗布によるヒト皮膚角層の構造変化

Effect of sodium lauryl sulfate on the human stratum corneum structures

Hironori Yoshida[1], Satoe Azechi[2], Hiromitsu Nakazawa[1], Yasutami Shigeta[2], Satoru Kato[1] ([1]*Sch. Sci. Tech., Kwansei Gakuin Univ.*, [2]*SUNSTAR INC.*)

3PT150 高感度 DSC によって求めたジトリデカノイルホスファチジルコリン-コレステロール系の詳細な相図

Detailed Phase Diagram of Ditridecanoylphosphatidylcholine-Cholesterol System Determined by High-Sensitivity DSC

Yasushi Kamitani, Fumihiro Okazaki, Yasuo Saruyama, Haruhiko Yao (*Gra. Sch. Sci. Tech., Kyoto Inst. of Tech.*)

3PT151 高感度 DSC によるヒト皮膚角層の熱容量測定

Heat Capacity Measurement of Human Stratum Corneum using High-Sensitivity DSC

Keisuke Oki[1], Ichiro Hatta[2], Yasuo Saruyama[1], Haruhiko Yao[1] ([1]*Gra. Sch. Sci. & Tech., Kyoto Inst. of Tech.*, [2]*Nagoya Ind. Sci. Res. Inst.*)

3PT152 モデル細胞内における相分離とミクロゲルのパターン形成

Gel pattern formation in model cells coupled with phase separation

Shinpei Nigorikawa, Masayuki Tokita, Miho Yanagisawa (*Grad. Sch. Sci., Kyushu Univ.*)

3PT153 脂質膜ヘテロ界面はナノ物質をサイズ依存的に識別する

Size-dependent selective localization of nano-particles on heterogeneous membrane surfaces

Tsutomu Hamada, Masamune Morita, Makiyo Miyakawa, Masahiro Takagi (*Japan Adv. Inst. of Sci. and Tech.*)

3PT154 UV irradiation driven deformation of photoresponsive molecule doped membrane

Kazunari Yoshida, Yasuhiro Fujii, Izumi Nishio (*Sci. and Eng., Aoyama Gakuin Univ.*)

3PT155 フリップフロップのダイナミクスの直接的観察

Direct observations of flip-flops in membranes

Takuma Akimoto[1], Noriyoshi Arai[2], Eiji Yamamoto[1], Kenji Yasuoka[1], Masato Yasui[3] ([1]*Department of Mechanical Engineering, Keio university*, [2]*Department of Mechanical Engineering and Intelligent Systems, University of Electro-Communications*, [3]*Department of Pharmacology, Keio university*)

3PT156 Low-frequency dynamics of phospholipid bilayers studied by terahertz time-domain spectroscopy

Tomoyo Andachi[1], Naoki Yamamoto[2], Atsuo Tamura[1], Keisuke Tominaga[1,2] ([1]*Grad. Sch. Sci., Univ. Kobe*, [2]*Molecular Photoscience Reserch Center, Univ. Kobe*)

3PT157 表面張力レプリカ交換法による脂質二重膜の構造サンプリング

Surface tension replica exchange molecular dynamics method for an efficient sampling of lipid bilayer structures

Takaharu Mori[1], Yuji Sugita[1,2,3] ([1]*RIKEN Quantitative Biology Center*, [2]*RIKEN Advanced Institute for Computational Science*, [3]*RIKEN Advanced Science Institute*)

3PT158 膜厚変化とゲル、アミノ酸、水素化アモルファスシリコンを用いたイオン伝導整流素子の特性

Film thickness and property of ion conductive rectification element using amino acids, gel and hydrogenated amorphous silicon

Takahiko Sano[1], Hideaki Sugawara[1], Takaaki Ichikawa[1], Yuuki Hiramitsu[1], Hiroshi Masumoto[2], Takashi Goto[3], Yutaka Tsujiuchi[1] ([1]*Department of Material Science and Engineering, Akita University*, [2]*Center for Interdisciplinary Research, Tohoku University*, [3]*Institute for Materials Research, Tohoku University*)

3PT159 BLM を介したイオン性蛍光プローブの膜透過性―電流と蛍光に基づいた動的解析―

Permeability of an ionic fluorescent probe through a BLM - dynamic analysis based on an electric current and a fluorescent change-

Yasuhiro Naka, Yumi Yoshida, Megumi Shimazaki, Kazunari Sakai, Kohji Maeda (*Department of Chemistry and Materials Technology, Kyoto Institute of Technology*)

3PT160 ABC トランスポーターのヌクレオチド結合ドメインに対する ATP 結合自由エネルギー計算

Calculation of the binding free energy of ATP to the nucleotide binding domain of an ABC transporter
Yusuke Kaneta, Shuntaro Chiba, Tadaomi Furuta, **Minoru Sakurai** (*Center for Biol. Res. & Inform., Tokyo Tech*)

3PT161 パターン化モデル生体膜へのロドプシンの再構成
Reconstitution of rhodopsin into micropatterned model biological membrane
Keisuke Okada[1], Kenichi Morigaki[1,2], Fumio Hayashi[3] ([1]*Grad. Sch. Agr., Univ. Kobe*, [2]*Res. Cent. Env. Genomi., Univ. Kobe*, [3]*Grad. Sch. Sci., Univ. Kobe*)

3PT162 カリウムチャネル KcsA の開閉によるリン脂質の flip-flop 誘起能の評価
Induction of phospholipid flip-flop by KcsA channel gating
Hiroyuki Nakao[1], Masaki Wakabayashi[1], Yasushi Ishihama[1], Minoru Nakano[2] ([1]*Grad. Sch. Pharm. Sci., Kyoto. Univ*, [2]*Grad. Sch. Med. Pharm. Sci., Fac. Pharm. Sci., Univ. Toyama*)

3PT163 人工細胞膜アレイを用いた全自動イオンチャネル計測システム
Automated Drug Screening System for Ion Channel Proteins using Artificial Cell Membranes
Ryuji Kawano[1], Yotaro Tsuji[1,4], Koki Kamiya[1], Toshihisa Osaki[1], Minako Hirano[3,5], Toru Ide[3,5], Norihisa Miki[1,4], Shoji Takeuchi[1,2] ([1]*Kanagawa Academy of Science and Technology (KAST)*, [2]*IIS, Univ. of Tokyo*, [3]*Riken*, [4]*Keio Univ.*, [5]*The Graduate School for the Creation of New Photonics Industries*)

3PT164 KcsA カリウムチャネル活性に影響を及ぼすリン脂質作用部位の同定
Identification of the interaction site with the effective phospholipids for the KcsA potassium channel activity
Masayuki Iwamoto, Shigetoshi Oiki (*Dept. Mol. Physiol. Biophys., Univ. Fukui Facult. Med. Sci.*)

3PT165 Kv1.2 チャネルでの選択的イオン透過
Selective Ion Permeation though the Kv1.2 Channel
Takashi Sumikama[1], Shinji Saito[2], Shigetoshi Oiki[1] ([1]*University of Fukui*, [2]*Institute for Molecular Science*)

3PT166 Controlling an ion channel's voltage sensing domain without voltage
Morten Bertz, Kazuhiko Kinosita (*Waseda University, Dpt. of Physics*)

3PT167 ガラス針による人工平面膜へのイオンチャネルの再構成
Reconstitution of ion channel into lipid bilayer using glass needle
Daichi Okuno[1], Minako Hirano[2], Yukiko Onishi[1], Toshio Yanagida[1], Toru Ide[2] ([1]*Quantitative Biology Center, Riken*, [2]*The Graduate School for the Creation of New Photonics Industries*)

3PT168 生物物理学的解析を目指した、哺乳培養細胞を用いた哺乳類カリウムイオンチャネルの大量発現の試み
Trials of large amount expression of mammalian potassium ion channels using cultured mammalian cells for biophysical analyses
Hisao Tsukaoto[1], Koichi Nakajo[2], Yoshihiro Kubo[2], Yuji Furutani[1] ([1]*Institute for Molecular Science*, [2]*National Institute for Physiological Sciences*)

3PT169 テトラエーテル型人工リン脂質とアポリポタンパク質からの膜ディスク形成
Membrane disc formation from tetraether-type artificial phospholipids and apolipoproteins
Teruhiko Baba[1], Toshiyuki Takagi[1], Toshiyuki Kanamori[1], Daisuke Handa[2], Tatsuya Oka[3], Hiroyuki Saito[2,3] ([1]*Res. Center Stem Cell Eng., AIST*, [2]*Fac. Pharm. Sci., Univ. Tokushima*, [3]*HBS, Univ. Tokushima Grad. Sch.*)

3PT170 AFM Probing Opioid Signalosome on Neuroblastoma
Lara Villaruz[1], Junhua Li[1], Catherine Tardin[2], Daisuke Mizuno[1] ([1]*Kyushu Universiy*, [2]*IPBS/CNRS*)

3PT171 Analysis of protein translocation in a reconstituted *Dictyostelium* cell membrane on a solid substrate
Kei Takahashi[1], Nao Shimada[1], Taro Toyota[1,2], Satoshi Sawai[1,2,3] ([1]*Grad. Sch. Arts Sci.,Univ. Tokyo*, [2]*Res. Center as Complex Sys. Bio., Univ. Tokyo*, [3]*PRESTO, Japan Science and Technology Agency*)

3PT172 ラフト親和性 GPI アンカー型分子プリオンタンパク質の神経細胞膜でのダイナミクス
Dynamics of normal prion protein, a raft-associated GPI-anchored molecule, in the live neuronal plasma membrane
Yuri L. Nemoto[1], Chieko Nakada[1], Hiroko Hijikata[1], Takahiro K. Fujiwara[1], Rinshi S. Kasai[1], Yoshiro Ishikawa[1], Akihiro C. E. Shibata[1], Ankita Chadda[1], Roger J. Morris[2], Akihiro Kusumi[1] ([1]*Institute for integrated Cell-Material Sciences (WPI-iCeMS), Institute for Frontier Medical Sciences, Kyoto University*, [2]*Wolfson Centre for Age Related Disease, King's College London*)

3PT173 マガイニン 2 が誘起するポア形成の初期過程
The Initial Stage of Magainin 2-Induced Pore Formation in Lipid Membranes
Victor Levadny[1,2], Tomoki Takahashi[3], Jahangir Md. Alam[1], **Masahito Yamazaki**[1,3] ([1]*Int. Biosci., Grad. Sch. Sci. Tech., Shizuoka Univ.*, [2]*Rus. Acad. Sci.*, [3]*Dept. Phys., Fac. Sci., Shizuoka Univ*)

3PT174 外力が誘起する脂質膜の張力によるポア形成の速度定数
Rate constants of constant tension-induced pore formation in single GUVs
Taka-aki Tsuboi[1], Victor Levadny[2,3], Masahito Yamazaki[1,3] ([1]*Dept. Phys. Fac. Sci. Shizuoka Univ.*, [2]*Rus. Acad. Sci.*, [3]*Grad. Sch. Sci. Tec. Shizuoka Univ.*)

3PT175 ミトコンドリアの密集が ATP 合成に及ぼす影響
Effects of the crowding of mitochondria on their ATP production
Daiki Yoshimatsu, Yoshihiro Ohta (*Dept. of Biotech. and Lifesci.,Tokyo Univ. of Agric. and Tech.*)

3PT176 Promotion of DNA delivery into nucleus dramatically enhances the transfection efficiency mediated by biosurfactant -containing liposomes
Yoshikazu Inoh[1], Tadahide Furuno[1], Naohide Hirashima[2], Dai Kitamoto[3], Mamoru Nakanishi[1] ([1]*Sch. Pharm., Aichi Gakuin Univ.*, [2]*Grad. Sch. Pharm. Sci., Nagoya City Univ.*, [3]*AIST*)

3PT177 マスト細胞の開口放出様の膜融合におけるカルシウムの役割
Effects of Ca2＋ on liposomal membrane fusion that mimics mast cell exocytosis

Satoshi Tadokoro, Yumiko Nagai, Hiroki Sakiyama, Naohide Hirashima (*Graduate School of Pharmaceutical Sciences, Nagoya City University*)

3PT178 脂質二重膜上における Def6 PH ドメインの高次構造の解析

Conformational properties of the Def6 PH domain located at the lipid bilayer surface

Naomi Tokuda[1], Michikazu Tanio[2], Katsuyuki Nishimura[2], Toshiyuki Kohno[3], Daisuke Yokogawa[4], Takahisa Ikegami[5], **Satoru Tuzi**[1] ([1]*Grad. Sch. Life Sci., Univ. Hyogo*, [2]*Inst. Mol. Sci.*, [3]*Kitasato Univ., Sch. Med.*, [4]*Grad. Sch. Sci., Nagoya Univ.*, [5]*Inst. Prot. Res., Osaka Univ.*)

3PT179 ErbB シグナル伝達過程において Shc と Grb2 は個別に反応する

Independent response of Shc and Grb2 in the ErbB signaling revealed by FCS/FCCS and single molecule analysis

Chang-Gi Pack, Yuko Saeki, Michio Hiroshima, Mariko Okada, Yasushi Sako (*RIKEN, ASI*)

3PT180 クロストークを利用したべん毛回転制御系の構築

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

Tohru Umemura[1], Chiho Hara[2], Yoshiyuki Sowa[1,3], Ikuro Kawagishi[1,2,3] ([1]*Res. Cen. Micro-Nano Tech., Hosei Univ*, [2]*Dept. Frontier Biosci., Fac. Eng., Hosei Univ*, [3]*Dept. Frontier Biosci., Fac. Biosci. Appl. Chem., Hosei Univ*)

3PT181 T 細胞活性化におけるカルシウムシグナリングと細胞内構造変化の時空間定量解析

Spatial-temporal dynamics of calcium signaling and organelles in T cell activation

Masahiro Shimozawa[1,2], Yuma Ito[1,2], Makio Tokunaga[1,2], Kumiko Sakata-Sogawa[1,2] ([1]*Grad. Sch. Biosci. Biotech., Tokyo Inst. Tech*, [2]*RCAI, RIKEN*)

3PT182 低分子量 G タンパク質 Ras のフォトクロミック分子 PAM を用いた光制御

Photo-regulation of small G protein Ras using photochromic molecule

Seigo Iwata[1], Shinsaku Maruta[2] ([1]*Division of Bioinformatics, Graduate school of Engineering, Soka University*, [2]*Department of Bioinformatics, Faculty of Engineering, Soka University*)

3PT183 Gradient sensing limit in Dictyostelium discoiduem cell

Masaki Watabe, Kazunari Kaizu, Koichi Takahashi (*RIKEN*)

化学受容　Chemoreception / 豊田講堂シンポジオン

3PT184 3-クロロ安息香酸による 3-クロロ安息香酸分解細菌 *Burkholderia* sp. NK8 外膜ポリン遺伝子の転写促進

Enhanced transcription of a porin gene in a 3-chlorobenzoate degrading bacterium, *Burkholderia* sp. NK8, with 3-chlorobenzoate

Kimiko Yamamoto[1,2], Ikuro Kawagishi[2], Takeshi Fujii[1] ([1]*Natl. Inst. Agro-Environ. Sci.*, [2]*Dept. Frontier Biosci., Grad. Sci. Eng., Hosei Univ.*)

3PT185 ペリプラズム領域を欠失した走化性受容体 Tar の温度受容能

Thermosensing abilities of the mutant aspartate chemoreceptor Tar lacking the periplasmic domain

So-ichiro Nishiyama[1,2], Masaaki Jinguji[1], Ikuro Kawagishi[1,2] ([1]*Dept. Frontier Biosci., Hosei Univ.*, [2]*Res. Cent. Micro-nano Tech., Hosei Univ.*)

3PT186 大腸菌アスパラギン酸走性受容体 Tar による忌避物質 Ni^{2+}感知機構の解析

Exploring the mechanism underlying sensing of the repellent Ni^{2+} by the aspartate chemoreceptor Tar of *Escherichia coli*

Takaya Inui[1], Hirotaka Tajima[2], Yosiyuki Sowa[3,4], Ikuro Kawagishi[1,3,4] ([1]*Dept. Frontier Biosci., Grad. Sch. Eng., Hosei Univ.*, [2]*Dept. Micro-Nano Systems Eng., Grad. Sch. Eng. Nagoya Univ.*, [3]*Dept. Frontier Biosci., Fac. Biosci. Appl. Chem., Hosei Univ.*, [4]*Res. Cen. Micro-Nano Tech., Hosei Univ.*)

3PT187 走化性受容体 Tcp によるクエン酸と金属-クエン酸複合体の識別機構の解析

Characterization of the bacterial chemoreceptor Tcp that discriminates citrate and the citrate-metal ion complex as distinct attractants

Tetsuya Shiroi[1], Ikuro Kawagishi[1,2,3], Hirotaka Tajima[4] ([1]*Dept of Frontier Biosci., Grad. Sch. Eng., Hosei Univ.*, [2]*Res. Cen. Micro-Nano. Tech., Hosei Univ.*, [3]*Dept of Frontier Biosci., Fac. Biosci. Appl. Chem., Hosei Univ.*, [4]*Dept. Micro-Nano Systems Eng., Grad. Sch. Eng. Nagoya Univ.*)

3PT188 コレラ菌新規アミノ酸走性トランスデューサーの同定と機能解析

Identification and characterization of novel *Vibrio cholerae* transducers for amino acid chemotaxis

Tetsuya Kawaguchi[1], Kimiko Yamamoto[1,2], So-ichiro Nishiyama[3,4], Ikuro Kawagishi[1,3,4] ([1]*Dept. Frontier Biosci., Grad. Sci. Eng., Hosei Univ.*, [2]*Natl. Inst. Agro-Environ. Sci.*, [3]*Dept. Frontier Biosci., Fac. Biosci. Appl. Chem., Hosei Univ.*, [4]*Res. Cen. Micro-Nano Tech., Hosei Univ.*)

3PT189 アミノ酸変異による苦味受容体 TAS2R16 機能の多様化

Functional diversity of bitter taste receptor TAS2R16 by amino acid substitution

Hiroo Imai[1], Nami Suzuki[1], Yoshiro Ishimaru[2], Takanobu Sakurai[2], Lijie Yin[3], Wenshi Pan[3], Keiko Abe[2], Takumi Misaka[2], Hirohisa Hirai[1] ([1]*Primate Research Institute, Kyoto University*, [2]*Graduate School of Agricultural and Life Sciences, The University of Tokyo*, [3]*School of Life Sciences, Peking University*)

3PT190 弾性ネットワークモデルを利用したβ_2アドレナリン受容体のアンサンブルドッキング

Ensemble Docking Simulation for β_2 Adrenergic Receptor Using Elastic Network Models

Tomoyuki Iwamoto[1], Hiroshi Wako[2], Shigeru Endo[3], Haruki Nakamura[4] ([1]*Department of Biological Sciences, Graduate School of Science, and Faculty of Science Osaka University*, [2]*School of Social Sciences, Waseda University*, [3]*Department of Physics, Faculty of Science, Kitasato University*, [4]*Institute for Protein Research, Osaka University*)

3PT191 大腸菌走化性受容体 Tar システイン置換シリーズの化学架橋によるクラスター構造推定

Characterization of receptor clustering by cross-linking a series of cysteine-substituted mutants of the aspartate chemoreceptor Tar

Tsuyoshi Watanabe[1], Kosuke Jintori[1], Hiroki Irieda[2], Ikuro Kawagishi[1,3,4] ([1]*Dept. Frontier Biosci., Grad. Sch. Eng., Hosei Univ.*, [2]*Div. Biol. Sci., Grad. Sch. Sci., Nagoya Univ.*, [3]*Res. Cen. Micro-Nano. Tech., Hosei Univ.*, [4]*Dept. Frontier Biosci., Fac. Biosci. Appl. Chem., Hosei Univ.*)

3PT192 コレラ菌走化性解析のためのスウォームアッセイ法の開発

Development of a system for swarm assays to evaluate chemotaxis of *Vibrio cholera*

Ryosuke Iwazaki[1], Nakagawa Tsubasa[2], So-ichiro Nishiyama[3], Ikuro Kawagishi[1,2,3,4] ([1]*Dept. Frontier Biosci., Grad. Sci. Eng., Hosei Univ.*, [2]*Dept. Frontier Biosci., Fac. Eng., Hosei Univ.*, [3]*Res. Cen. Micro-Nano Tech., Hosei Univ.*, [4]*Dept. Frontier Biosci., Fac. Biosci., Appl.*

Chem., Hosei Univ.)

神経　Neuroscience & Sensory Systems / 豊田講堂北

3PT201 **Seeking molecular and neural mechanisms of temperature response and resistance in C. elegans**
Tomoyo Ujisawa, Satoru Sonoda, Yukie Ohkubo, Hitomi Mizutani, Hiromi Nagaya, Naoto Kuwahara, Akane Ohta, Atsushi Kuhara (*Sch. Sci., Univ. Konan*)

3PT202 **Inhibitory effect of glutamate-stimulated astrocytes on action potentials evoked by bradykinin in cultured dorsal root ganglion neurons**
Kazuo Suzuki, Kenji Tonaka, Minehisa Ono (*Dept. Biomedical Engr.Tokai Univ.*)

3PT203 **マウス脳ホモジネートにおける一酸化窒素（NO）の測定**
Nitric oxide measurement in mice brain homogenate
Yoshiichiro Kitamura, Akira Hirai, Toshihiko Nishio, Yutaka Kirino (*Kagawa Sch. Pharm. Sci., Tokushima Bunri Univ.*)

3PT204 **線虫 AIY 介在神経細胞での局在した神経活動：蛍光イメージングによる研究**
Localized neural activities in AIY interneuron of Caenorhabditis elegans: fluorescent imaging study
Hisashi Shidara, Junya Kobayashi, Ryo Tanamoto, Kohji Hotta, Kotaro Oka (*Grad. Sch. Sci and Tech., Keio Univ*)

3PT205 **コルチコステロンは、シナプス局在の GR-kinase 系を介して、海馬神経シナプスを増やす**
Corticosterone induced GR/kinase network-driven rapid spinogenesis in rat hippocampus
Yoshimasa Komatsuzaki[1,2,3], Masatoshi Kasuya[2,3], Yasushi Hojo[2,3], Suguru Kawato[2,3] ([1]*Dept of Physics, CST, Nihon Univ*, [2]*Grad Sch of Arts and Sci, Univ of Tokyo*, [3]*Bioinformatics Project, JST*)

3PT206 **IP_3/Ca^{2+} シグナリングによる GABA 作動性シナプスの制御**
Regulation of GABAergic synapses by IP_3/Ca^{2+} signaling
Hiroko Bannai[1], Fumihiro Niwa[1], Mark W. Sherwood[1], Misa Arizono[1], Akitoshi Miyamoto[1], Kotomi Sugiura[1], Sabine Levi[2], Antoine Triller[3], Katsuhiko Mikoshiba[1] ([1]*RIKEN BSI*, [2]*Institut du Fer a Moulin*, [3]*IBENS, ENS Paris*)

3PT207 **海馬でのアクチビンによるシナプス可塑性の急性制御**
Acute Modulation of Synaptic Plasticity of Pyramidal Neurons by Activin in Adult Hippocampus
Yoshitaka Hasegawa, Hideo Mukai, Makoto Asashima, Yuki Ooishi, Suguru Kawato (*Life sciences, The University of Tokyo*)

3PT208 **カエル神経筋接合部シナプスでの細胞外 Ca^{2+}濃度変化による神経伝達物質放出量増加の二項分布解析**
Binomial distribution analysis of increase of transmitter release depending on $[Ca^{2+}]_e$ at the frog neuromuscular junction
Taisuke Matsuda, Naoya Suzuki (*Dept. Phys., Sch. Sci., Univ. Nagoya*)

3PT209 **アミロイドβペプチドが及ぼす神経活動への影響とチモキノンによる保護効果の検討**
Thymoquinone, the Nigella sativa Bioactive Compound, Prevents β amyloid neurotoxicity in cultured rat primary neurons
Amani Alhibshi, Ikuro Suzki, Masao Gotoh (*Tokyo University of Technology*)

3PT210 **インスリンを介した神経シグナルによって制御される線虫 *C. elegans* の温度適応の解析**
Insulin-mediated neural signals negatively regulate temperature tolerance in *C. elegans*
Akane Ohta, Tomoyo Ujisawa, Yukari Kinoshita, Hitomi Mizutani, Takurou Inoue, Naho Inoue, Atsushi Kuhara (*Dept. Biol., Facul. Sci. Engin., Konan Univ.*)

3PT211 **海馬での年齢依存的な性ホルモン受容体・合成酵素遺伝子の発現変動解析**
Age-related changes in the expression of mRNAs encoding for sex steroidogenic enzymes and sex hormone receptors in the hippocampus
Tetsuya Kimoto, Masahiko Wakabayashi, Suguru Kawato (*Dept. Biophys. Life Sci., Grad. Sch. Art. Sci., Univ. Tokyo*)

神経回路　Neuronal Circuit & Information Processing / 豊田講堂北

3PT212 **NMDA 受容体と相互作用することにより CaMKII は分子メモリとして機能する － *in vitro* 実験系による実証－**
CaMKII functions as a molecular memory through interaction with NMDA receptors - validation in *in vitro* experiments -
Hidetoshi Urakubo[1,2], Shin Ishii[2], Shinya Kuroda[1] ([1]*Dept. Biophys. Biochem., Grad. Sch. Sci., U. Tokyo*, [2]*Dept. Syst. Sci., Grad. Sch. Info, Kyoto U.*)

3PT213 **新規な神経スパイン解析プログラム**
Novel program and its applications for spines in neurons
Hideo Mukai[1,2,3], Yuusuke Hatanaka[2], Kenji Mitsuhashi[2], Gen Murakami[2,3], Yasushi Hojo[2,3], Suguru Kawato[2,3] ([1]*Dept. Biochem., Fac. Med., Saitama Med. Univ.*, [2]*Dept. Biophys. & Life Sci., Grad. Art & Sci., Univ. Tokyo*, [3]*BIRD, JST*)

3PT214 **高速ビデオカメラ法および筋電位法によるサル瞬目反射条件付けシステムの開発**
Evaluation of eyeblink classical conditioning in monkey by using high-speed video sensing and electromyogram signal
Yasushi Kishimoto[1], Shigeyuki Yamamoto[2], Kazutaka Suzuki[2], Toyoda Haruyoshi[2], Hideo Tsukada[2], Yutaka Kirino[1] ([1]*Lab. Neurobiophysics, Kagawa Sch Pharmaceut Sci, Tokushima Bunri Univ.*, [2]*Central Research Lab., Hamamatsu Photonics Co., Ltd.*)

3PT215 **視床下部室傍核の吻側部位に存在するヒスタミン H1 受容体発現ニューロンは摂食抑制作用をもつ**
Histamine H1 receptor-expressing neurons in the anterior part of the hypothalamic paraventricular nucleus inhibit food intake
Shuhei Horio (*Institute of Health Biosciences, The University of Tokushima Graduate School*)

3PT216 **記憶・学習中枢海馬の性差は海馬で合成されるホルモンによるものである**
Sex difference in profile of hippocampal hormones generates sex difference in hippocampal function
Yasushi Hojo[1,2], Masahiko Wakabayashi[1], Kotaro Yoshida[1], Tetsuya Kimoto[1,2], Suguru Kawato[1,2] ([1]*The University of Tokyo*, [2]*BIRD, JST*)

3PT217 **老化に伴う海馬神経シナプスの密度の減少と記憶の劣化**
Age-related changes in spine density and morphology of hippocampal neurons in relation to memory impairment

Suguru Kawato, Koren Li, Yasushi Hojo (*Grad Sch of Arts& Sci, Univ Tokyo*)

3PT218 **オプトジェネティクスを用いた光によるウィスカへの触覚刺激**

Whisker photostimulation induces spike and LFP responses in barrel cortex of ChR2 transgenic rat

Tatsuya Honjoh[1,2], Zhi-Gang Ji[1,2], Toru Ishizuka[1,2], Hiromu Yawo[1,2,3] ([1]*Tohoku Univ. Grad.Sch. Lif Sci, Sendai, Japan*, [2]*CREST, JST*, [3]*Tohoku Univ. Center for Neuroscience*)

3PT219 **軟体動物ナメクジの嗅覚中枢における長期活動ダイナミクス**

Dynamics of long-term activities of the olfactory center in the land slug

Yuichi Tanaka[1], Kouya Katou[1], Minoru Saito[3], Yoshimasa Komatsuzaki[2] ([1]*Grad. Sch. Sci. and Tech., Nihon Univ.*, [2]*Dept Phys, CST, Nihon Univ*, [3]*Grad Sch Integ Basic Sci, Nihon Univ*)

3PT220 **ヨーロッパモノアラガイの中枢神経系における神経活動の膜電位イメージング**

Fluorescent Voltage Imaging of the Neural Activities in the Central Nervous System of the Pond Snail

Shogo Nakada[1], Makoto Hosoi[1], Yosimasa Komatuzaki[2], Minoru Saito[1] ([1]*Graduate School of Integrated Basic Sciences, Nihon University*, [2]*College of Science and Technology, Nihon University*)

3PT221 **マウス海馬スライスの CA1 領域における様々な時空間活動パターンのレーザー共焦点イメージング**

Laser confocal imaging of various spatiotemporal activity patterns in the CA1 region of mouse hippocampal slices

Hiromi Osanai[1], Akiyoshi Suzuki[2], Sachiko Matsumura[2], Hideo Mukai[3], Minoru Saito[2] ([1]*College of Humanities and Sciences, Nihon University*, [2]*Graduate School of Integrated Sciences, Nihon University*, [3]*Faculty of Medicine, Saitama Medical University*)

電子状態　Electronic State / 豊田講堂北

3PT222 **QM/MM 法による同化型亜硝酸還元酵素の反応機構についての理論的研究**

A QM/MM study on the reaction mechanism of assimilatory nitrite reductase

Mitsuo Shoji[1,2], Kyohei Hanaoka[1], Daiki Kondo[1], Hiroaki Umeda[2], Megumi Kayanuma[2], Katsumasa Kamiya[1], Kenji Shiraishi[1], Shogo Nakano[3], Katsuo Katayanagi[3] ([1]*Grad. Sch. Pure & Appl. Sci., Univ. Tsukuba*, [2]*CCS, Univ. Tsukuba*, [3]*Grad. Sch. Sci., Hiroshima Univ.*)

3PT223 **RNase H の RNA 加水分解反応機構の理論的研究**

Computational study of the phosphodiester hydrolysis of RNA by RNase H

Yu Takano, Makoto Kita, Haruki Nakamura (*IPR, Osaka University*)

3PT224 **First principles molecular simulation with a generalized-ensemble algorithm for studying chemical reactions of biomolecular systems**

Yoshiharu Mori[1], Yuko Okamoto[2,3,4] ([1]*IMS*, [2]*Dept. of Phys., Nagoya Univ.*, [3]*Structural Biology Research Center, Nagoya Univ.*, [4]*Center for Computational Science, Nagoya Univ.*)

3PT225 **大規模量子化学計算(FMO 法)による HIV-1 糖鎖認識抗体 2G12 と糖鎖間の相互作用解析**

Interaction Analysis of HIV-1 Antibody 2G12 and Glycans by Large-Scale Quantum Chemical Calculations based on FMO method

Kaori Noto[1], Yuka Koyama[2], Keiko Takano[2] ([1]*Kitasato University*, [2]*Ochanomizu University*)

光合成　Photobiology: Photosynthesis / 豊田講堂北

3PT226 **FTIR 法による光合成酸素発生マンガンクラスター近傍の水素結合ネットワークの構造解析**

FTIR analysis of the hydrogen bonding network around the O_2-evolving Mn_4CaO_5 cluster

Kai Ota, Takumi Noguchi (*Grad. Sch. Sci., Univ. Nagoya*)

3PT227 **QM/Langevin-MD と振動モード解析を用いた光合成初期過程における光化学系 II の理論的研究**

A study of QM/Langevin-MD simulation and vibrational analysis for photosystem II in early process of photosynthesis

Waka Uchida[1], Yoshiro Kimura[1], Taichi Yuki[1], Makoto Hatakeyama[1], Koji Ogata[3], Satoshi Yokojima[2,3], Shinichiro Nakamura[3] ([1]*Graduate School of Tokyo Institute of Technology*, [2]*Tokyo University of Pharmacy and Life Sciences*, [3]*RIKEN Research Cluster for Innovation*)

3PT228 **コケ植物におけるそれぞれ異なる 3 つの消光機構**

Three different mechanisms of energy dissipation of a desiccation-tolerant moss to protect reaction centres against photo-oxidation

Hisanori Yamakawa[1], Yoshimasa Fukushima[1], Shigeru Itoh[1], Ulrich Heber[2] ([1]*Grad. Sch. Sci., Univ. Nagoya*, [2]*Bio. Sci., Univ. Wurzburg*)

3PT229 **光化学系 II と金ナノ粒子の結合による人工光水分解ナノデバイスの開発**

Development of artificial light-driven water splitting nanodevice using gold nanoparticles and photosystem II

Kousuke Kawahara[1], Tatsuya Tomo[2,3], Takumi Noguchi[1] ([1]*Grad. Sch. Sci., Nagoya Univ.*, [2]*Faculty of Sci., Tokyo Univ. of Sci.*, [3]*JST PRESTO*)

3PT230 **光化学系 II 酸素発生中心の暗所安定状態における電子スピン状態とプロトン化状態の理論的研究**

Theoretical Study on the Protonation and Electronic Spin State of the O2-Evolving Complex in Photosystem II at the dark stable S1 state

Makoto Hatakeyama[1], Waka Uchida[1], Kouji Ogata[2], Satoshi Yokojima[2,3], Shinichiro Nakamura[2] ([1]*Grad. Sch. Bio., Titech*, [2]*Harima Inst., Riken*, [3]*Sch. Pharm., Tokyo Univ. Pharm.*)

3PT231 **光合成酸素発生の S 状態サイクルにおける NH_4^+阻害のメカニズム**

Mechanism of NH_4^+ inhibition in the S-state cycle of photosynthetic oxygen evolution

Takashi Kobayashi, Takumi Noguchi (*Grad.Sch.Sci.,Univ.Nagoya*)

3PT232 **光合成膜蛋白質 PSII の分子動力学シミュレーション**

A study of molecular dynamics simulation on Photosystem II protein

Koji Ogata[1], Makoto Hatakeyama[2], Taichi Yuki[2], Waka Uchida[2], Shinichiro Nakamura[1] ([1]*RIKEN Research Cluster for Innovation*, [2]*Tokyo Institute of Technology*)

3PT233 **好熱性紅色硫黄細菌 Thermochromatium tepidum 由来 cytochrome c' における耐熱化メカニズムの検討**

Molecular mechanisms for the thermostabilization of cytochrome c' from the thermophilic purple sulfur bacterium Thermochromatium

tepidum

Sachiko Kasuga[1], Yukihiro Kimura[1,2], Kei Furusawa[3], Takashi Ohno[2], Seiu Otomo[3] ([1]*Grad. Sch. Agri. Sci., Kobe Univ.*, [2]*OAST, Kobe Univ.*, [3]*Fac. Sci., Ibaraki Univ.*)

3PT234 **好熱性紅色硫黄細菌 Thermochromatium tepidum 由来光捕集 1 複合体における BChl-a と Trp 残基間の水素結合相互作用**

Hydrogen-bonding interactions between BChl-a and Trp residues in the light-harvesting1 complexes from Thermochromatium tepidum

Yong Li[1], Yukihiro Kimura[1,2], Tomoko Numata[3], Yuta Inada[1], Teruhisa Arikawa[1], Seiu Otomo[4], Takashi Ohno[1] ([1]*Grad. Sch. Agri. Sco, Kobe Univ.*, [2]*OAST, Kobe Univ.*, [3]*HORIBA Co., Ltd.*, [4]*Fac. Sci., Ibaraki Univ.*)

3PT235 **緑色硫黄細菌のホモダイマー光合成反応中心において部位特異的変異が一次電子供与体周辺の構造に与える影響**

Local Structural Modifications around the Primary Electron Donor of the Green Sulfur Bacterial Photosynthetic Reaction Center

Chihiro Azai[1], Yuko Sano[1], Takumi Noguchi[1], Hirozo Oh-oka[2] ([1]*Div. Mat. Sci., Grad. Sch. Sci., Nagoya Univ.*, [2]*Dept. Biol. Sci., Grad. Sch. Sci., Osaka Univ.*)

3PT236 **Light-harvesting Antenna Phosphorylation Enhances Protein Mobility in Thylakoid Membranes**

Masakazu Iwai[1,2], Changi Pack[2], Yoshiko Takenaka[3], Yasushi Sako[2], Akihiko Nakano[2,4] ([1]*JST PRESTO*, [2]*RIKEN ASI*, [3]*AIST*, [4]*University of Tokyo*)

放射線　Radiobiology & Active Oxygen / 豊田講堂北

3PT237 **Essential role of NADPH oxidase in vitamin D3- and PMA-induced monocytic differentiation of PLB-985 cells**

Hiroyuki Kato, Omi Nawa, Asuka Kato, Wakako Hiraoka (*Meiji University*)

3PT238 **Effects of inositol hexaphosphate apatite cements on human cells and a biological implication between the cements and ROS**

Asuka Kato, Mamoru Aizawa, Wakako Hiraoka (*Sch. Sci.&Tec, Univ. Meiji*)

3PT239 **MHz ultrasound inhibits leukemia cells**

Risa Fuji, Yusuke Kobayashi (*Grad.Sch. Sci.&Tec, Univ. Meiji*)