Poster Sessions Thursday, June 27

Presentation time is organized by whether the last part (suffix) of Poster Session number is odd/even.
Odd number: 13:50-14:50 Even number: 14:50-15:50

Abstracts marked with * in the abstract number eligible for IUPAB2024 Student and Early Career Researcher Poster Award voting
Ex) *25P-999

Protein: Structure

***27P-001** **Structural Basis for the Functional Diversity in Mechanosensitive Channel OSCAs**
Kio Horinaka, Tatsuya Hagino, Tsukasa Kusakizako, Osamu Nureki
Department of Biological Sciences, Graduate School of Science, The University of Tokyo, Tokyo, Japan

***27P-002** **Development of an Oxidative Folding Promoter by Controlling Protein Recognition Properties**
Koki Suzuki, Ryoya Nojiri, Tomohide Saio, Takahiro Muraoka
School of Engineering, Tokyo University of Agriculture and Technology

***27P-003** **How well do Alphafold2 structures perform in Molecular Docking?**
Ben Hanks, John Douglas Tanner, Ben Corry
Australian National UNiversity

***27P-004** **Cryo-EM Structure Analysis of hOCT2, Organic Cation Transporter 2**
Haruna Inuzuka, Yongchan Lee, Tomohiro Nishizawa
Yokahama City University

***27P-005** **Magnetic field effects on structure of iron sulfur protein studied by EPR and SAXS**
Shogo Soga, Ryoma Kobayashi, Hirokazu Masai, Shinji Kohara, Kiminori Maeda, Mitsuhiro Hirai, Hiroki Nagashima, Shigeki Arai
Graduate School of Science and Engineering, Saitama University, Saitama, Japan

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***27P-006** **Analysis of the aggregation characteristics of tau droplets under oxidizing and reducing conditions**
Yuki Michiue, Ayumi Masui, Keisuke Yuzu, Yumiko Ohhashi, Keiichi Yamaguchi, Yasushi Kawata, Eri Chatani
Grad. Sch. Sci,. Kobe Univ

***27P-007** **Determination of the hemocyanin structure from Concholepas concholepas using an X ray crystallography and Cryo EM combined approach**
Sebastian Manuel Muñoz, Michelle Salazar, Gabriel Vallejos, Augusto Manubens, Mathias Ellena, José Edwin Quesñay, Andre Ambrosio, Maria Inés Becker, Victor Castro-Fernandez, Victoria Guixé
Laboratorio de Bioquímica y Biología Molecular, Facultad de Ciencias, Universidad de Chile. Santiago, Chile.

***27P-008** **Designing Self-assembling Protein Nanoparticle using computational method**
JinWoong Song, SeaHae Choi, Junsu Ko, Won-Kyu Lee, Juyong Lee
College of Pharmacy, Seoul National University, Seoul, Republic of Korea

***27P-009** **Structure-based discovery of dual pathway inhibitors for SARS-CoV-2 entry**
Haofeng Wang
ShanghaiTech University

27P-010 **Efficient design of allosteric activators for Rsp5 E3 ligase using machine-learning tool ProteinMPNN**
Wei-Lin Lu
Institute of Biological Chemistry, Academia Sinica

27P-011 **Structural analysis of dissimilatory sulfate reductase**
Rio Hamada, Koji Nishikawa, Hideaki Ogata
University of Hyogo

27P-012 **Strucuture analysis of Panx3**
Ryuga Teramura, Taiichi Tsuyama, Ken Yokoyama
Kyoto Sangyo University

Poster Sessions

27P-013 **Approach to in situ structural analysis using JEOL's Cryo-FIB-SEM and CRYO ARM**

Tomoko Miyata, Miki Kinoshita, Fumiaki Makino, Yoshie Kushima, Reiko Yamauchi, Keiichi Namba

Graduate School of Frontier Biosciences, Osaka University/JEOL YOKOGUSHI Research Alliance Laboratories, Osaka University

27P-014 **Cryo-EM structure of full-length cargo receptor ERGIC-53 in complex with MCFD2**

Satoshi Watanabe, Yoshiaki Kise, Kento Yonezawa, Mariko Inoue, Nobutaka Shimizu, Osamu Nureki, Kenji Inaba

Tohoku University

Protein: Structure & Function

***27P-015** **Investigation of structural dynamics of E6AP/E6/p53 complex by using HS-AFM and computational simulation**

Yamamoto Sohma, Kazusa Takeda, Holger Flechsig, Hiroki Konno

College of Science and Engineering, School of Biological Science and Technology, Kanazawa University, Kakuma-machi, Kanazawa 920-1192, Japan

***27P-016** **Structural Basis of How MGME1 Processes DNA 5′ Ends to Maintain Mitochondrial Genome Integrity**

Eric Yin-Chen Mao, Chyuan-Chuan Wu

Department of Chemistry, College of Science, National Cheng Kung University, Tainan, Taiwan

***27P-017** **Unveiling dynamics of Adenosine A2a receptor coupled to G proteins**

Sari Hagimoto, Duy Tran, Akio Kitao

Tokyo Institute of Technology

***27P-018** **Structural basis for recruitment of peptidoglycan endopeptidase MepS by lipoprotein NlpI**

Shen Wang

Institute of Biochemistry and Molecular Biology, College of Medicine, National Taiwan University, Taipei, Taiwan.

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***27P-019** **Structural and functional analysis of PPL, a lectin from the poisonous mushroom Pleurocybella porrigen**

Daisuke Adachi
Graduate School of Medical Life Science, Yokohama City University, 1-7-29 Suehiro, Tsurumi-ku Yokohama, 230-0045, Kanagawa, Japan

***27P-020** **ERK1 is a noble topological factor to relax DNA supercoiling**

Sangmin Ju, Jaehyeon Jeong, Soo Jin Lee, Sanzhar Tarassov, Jeong Ho Jang, Heeyoun Bunch
1School of Applied Biosciences, College of Agriculture & Life Sciences, Kyungpook National University, Daegu, Republic of Korea

***27P-021** **Reconstruction and Analysis of the Ancestral ATPase**

Aya Suzuki, Ryutaro Furukawa, Meghna Sobti, Hiroshi Ueno, Alastair G. Stewart, Satoshi Akanuma, Hiroyuki Noji
Applied Chemistry, Graduate School of Engineering, The University of Tokyo, Tokyo, Japan

***27P-022** **In situ structural analysis of Salmonella T3SS within the SCV**

Taiga Horii, Hiroko Takazaki, Yukihisa Hayashida, Yusuke V. Morimoto, Takayuki Kato
Grad. Sch. Frontier Biosci., Osaka Univ., Japan/IPR, Osaka Univ., Japan

***27P-023** **Structural basis of bifunctionality of mimosine synthase in plants**

Sayaka Tsuji, Shigeki Ogai, Masakazu Fukuta, Hirosuke Oku, Hiroshi Sugimoto, Masaki Horitani
The United Graduate School of Agricultural Sciences, Kagoshima University

***27P-024** **Revealing KcsA dynamics by single-particle analysis and molecular dynamics**

Kotaku Yano, Hiroko Takazaki, Takuo Yasunaga
Graduate School of Computer Science and Systems Engineering, Kyushu Institute of Technology, Fukuoka, Japan

***27P-025** **Molecular Mechanisms of Diverse Chemokine Recognition and Downstream Signaling Selectivity of Chemokine Receptors**

Fumiya K. Sano, Shirsha Saha, Sharma Saloni, Ramanuj Banerjee, Yoshiaki Kise, Wataru Shihoya, Osamu Nureki, Arun Shukla
Grad. Sch. of Sci., The Univ. of Tokyo

Poster Sessions

***27P-027** **Deciphering Substrate Selectivity in SWEET Transporters: A Molecular Dynamics Perspective**
Aditi Laddha, Ramasubbu Sankararamakrishnan
Department of Biological Sciences and Bioengineering, Indian Institute of Technology Kanpur, Kanpur, Uttar Pradesh, India

***27P-028** **Elucidation of Characteristic Cold-Adaptation Mechanism of Pyruvate Kinase from Psychrophilic Bacteria by X-ray Crystallography**
Hansani Ekanayake, Hiroshi Sugimoto, Masaki Horitani
The United Graduate School of Agricultural Sciences, Kagoshima University, Japan

27P-029 **Different Dimerization Behavior of Fluorescent Proteins, eGFP and eYFP**
Yuna Kinoshita, Haruko Hosoi
Toho University

27P-030 **Role of actin-binding loops in determining myosin velocity**
Hideki Furusawa, Takeshi Haraguchi, Kohji Ito
Department of Biology, Graduate School of Science, Chiba University, Chiba 263-8522, Japan

27P-031 **Investigated the Amino Acid Region That Enables the fastest Movement in the Fastest Myosin**
Runa Komoto, Suzune Kato, Kohei Yosimura, Takeshi Haraguchi, Kohji Ito
Department of Biology, Graduate School of Science, Chiba University, Chiba 263-8522, Japan

27P-032 **Real-Time, Site-Specific Observation of Chaperone-Mediated Protein Folding using Noncanonical Amino Acid Labeling**
Munehiro Kumashiro, Adarshi Welegedara, Haocheng Qianzhu, Elwy Abdelkader, Thomas Huber, Gottfried Otting, Tomohide Saio
Institute of Advanced Medical Sciences, Tokushima University, Tokushima, Japan

27P-033 **Search for specific regions of myosin responsible for moving actin through chiral curves**
Yoshiki Takayama, Kohei Yoshimura, Taisei Nagai, Takuma Imi, Takeshi Haraguchi, Kohji Ito
Department of Biology, Graduate School of Science, Chiba University, Chiba 263-8522, Japan

27P-034 **Reaction Pathways in DNA Hydrolysis of EcoRV Calculated by QM/MM Metadynamics**
Itaru Onishi, Mika Mitsumatsu, Hiroki Sato, Ryoutarou Matsuda, Norio Yoshida, Fumio Hirata, Masayuki Irisa
Comp. Sci. and Sys. Eng., Kyushu Inst. Tech., Japan

27P-035 **Elucidating the Mechanism Underlying Atypical UBA7-UBE2L6 Disulfide Complex Formation**
Pei-Tzu Chen, Kuen-Phon Wu
Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan

27P-036 **Molecular mechanisms for smooth rotation of the flagellar rod within the LP ring**
Akio Kitao, Tomoko Yamaguchi, Fumiaki Makino, Tomoko Miyata, Tohru Minamino, Takayuki Kato, Keiichi Namba
School of Life Science and Technology, Tokyo Institute of Technology

Protein: Physical property

***27P-037** **Human antimicrobial peptide LL-37 possesses unique multimerization properties compared to its orthologs in mouse and rat**
Mitsuki Shibagaki, Jeremia Chrisnanto, Dessalegn Tefera, Kotaro Tsukioka, Waka Ueda, Kohei Kano, Hao Gu, Fumi Hirai, Yasuhiro Kumaki, Hiroyuki Kumeta, Tomoyasu Aizawa
Graduate School of Life Science, Hokkaido University, Sapporo, Hokkaido, Japan

***27P-038** **A Nanotech methodology of Liquid-liquid phase separated droplet regulation with Butterfly-shaped Gold Nanomaterials**
Tomohiro Nobeyama, Koji Takata, Megumi Mori, Yoichi Yamada, Tatsuya Murakami, Kentaro Shiraki
Faculty of Pure and Applied Sciences, University of Tsukuba, Tsukuba, Japan

***27P-039** **Nonionic Amino acid Interactions Evaluated Through Solubility**
Akira Nomoto, Shunsuke Tomita, Kentaro Shiraki
Institute of Pure and Applied Sciences, University of Tsukuba/Health and Medical Research Institute, National Institute of Advanced Industrial Science and Technology

Poster Sessions

***27P-040** **Fly-Casting-Like Capture and Translocation of KIF1A by C-Terminal Tail of Tubulin**
Koki Adachi, Mitsunori Takano
Dept. Pure & Appl. Phys., Grad. Scl. Adv. Sci. & Eng., Waseda Univ., Tokyo, Japan

***27P-041** **αB-crystallin prevents aging of α-synuclein droplets**
Kenji Fujitsuka, Keisuke Yuzu, Yuki Michiue, John A. Carver, Eri Chatani
Graduate School of Science, Kobe University, Kobe, Japan

27P-042 **Differences in microstructural changes during tensile deformation between hair shapes**
Hironori Kimura, Kota Yamamoto, Kazuyuki Suzuta
Milbon Co., Ltd

Protein: Function

***27P-043** **Development of Cell-free Screening Method for Terminal deoxynucleotidyl transferase for Enzymatic DNA synthesis**
Takashi Ohmizu, Hiroshi Ueno, Hiroyuki Noji
University of Tokyo

***27P-044** **Analysis of the physiological significance of dual-localization of Hfd1 in yeast**
Yuta Konishi, Haruka Sakaue, Hironori Takeda, Toshiya Endo
Kyoto Sangyo Univ., Division of Life Science

***27P-045** **Identification of multiple responsible genes for abnormal cold acclimation of C. elegans lectin mutants**
Moe Tezuka, Misaki Okahata, Akane Ohta, Atsushi Kuhara
Faculty of Science and Engineering Konan University & Institute for Integrative Neurobiology, Kobe, Japan

27P-046 **Reconstitution of ER glutathione transport system**
Ryuta Sakamoto, Chika Tsutsumi, Ryosuke Tahara, Kazuhiro Nagata, Ryo Ushioda
Laboratory of Molecular and Cellular Biology, Faculty of Life Sciences, Kyoto Sangyo University

27P-047 **Investigating the catalytic mechanism of Sars-CoV-2 MPro**
Stephan Kleine-Doepke, Pedram Mehrabi, Caitlin Hatton
Universität Hamburg, Germany

Protein: Measurement & Analysis

***27P-048** **Supramolecular chirality in DFNKF amyloid fibrils derived from human calcitonin by VCD**
Shinryu Isa, Toki Fujino, Raja Prema, Daisuke Sato, Akira Naito, Hisako Sato, Izuru Kawamura
Yokohama National University, Yokohama, Japan

***27P-049** **Measurement of structural flexibility of enzymes using spin labeling-ESR**
Akane Yato, Rio Asaka, Keiichi Watanabe, Masaki Horitani
The United Graduate School of Agricultural Sciences, Kagoshima University

27P-050 **Muon in Structural Biology: Visualization of proton and electron transfer by the elementary particle "Muon"**
Tamiko Kiyotani, Ichiro Tanaka, Masatoshi Hiraishi, Nobuo Niimura
Showa Pharmaceutical University

27P-051 **Optimization of Cryo 3D-CLEM for in situ Structural Analysis**
Hiroko Takazaki, Misaki Arie, Taiga Horii, Takayuki Kato
Institute for Protein Research, Osaka University, Osaka, Japan.

27P-052 **Investigating CRMP2 isoforms multimerization dynamics by High-Speed AFM**
Djamel Eddine Chafai, Saho Kitagawa
WPI Nano Life Science Institute (WPI-NanoLSI), Kanazawa University, Kakuma-machi, Kanazawa 920-1192, Japan

27P-053 **Designing an alternative protocol to detect the antigen-antibody reaction using EPR and aggregated AuNPs as paramagnetic probes**
Luis Celedón Ornelas, Alma Nelly Díaz Herreros, José Silvestre Figueroa Mendoza, Marco Alonso Arellano Alcántara, Belén Chávez Ramírez, Stephany Natasha Arellano Ahumada, Daniel Ramírez Rosales
Instituto Politécnico Nacional

Poster Sessions

Protein: Design & Engineering

***27P-054** **De novo design of a protein containing one left-handed βαβ-motif.**
Naoki Tomita, Hiroto Murata, Hiroki Onoda, Leonard Chavas, George Chikenji
Dept. of Appl. Phys., Grad. Sch. of Eng., Nagoya Univ., Aichi, Japan

***27P-055** **Machine-learning-assisted multiple maturation of antibody fragment: simultaneous improvement of target-binding, bacterial expression, and thermal stability**
Tomoyuki Ito, Sakiya Kawada, Hikaru Nakazawa, Akikazu Murakami, Mitsuo Umetsu
Grad. Sch. Eng., Tohoku Univ., Sendai, Japan

***27P-056** **Construction of heptameric de novo peptide nanopore by chimera proteinization**
Ayaka Nakada, Kota Natio, Rina Ogawa, Misa Yamaji, Yoshikazu Tanaka, Ryuji Kawano
Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology, Tokyo, Japan

***27P-057** **Library design aiming for the development of covalent binding antibody mimetics**
Yuki Tokunaga, Ryo Matsunaga, Kohei Tsumoto
School of Engineering, The University of Tokyo, Japan

***27P-058** **Miniaturized cyclic peptides derived from CDR-H3 of antibodies exhibit binding activities to SARS-CoV-2 RBD**
Yoshiki Yasuda, Satoru Nagatoishi, Ryo Matsunaga, Daisuke Kuroda, Kouhei Tsumoto
Department of Chemistry and Biotechnology, school of Engineering, The University of Tokyo, Tokyo, Japan

***27P-059** **De novo nanobody binder design by generative AI models**
Hakyung Lee, Juyong Lee
Department of Molecular Medicine and Biopharmaceutical Sciences, Seoul National University

27P-061 **Towards further enhancement of the activity of the minimal luciferase picALuc**
Tadaomi Furuta, Yuki Ohmuro-Matsuyama
School of Life Science and Technology, Tokyo Institute of Technology

27P-062 **Structural analysis unveils the enhanced stability of AI-designed ubiquitin-fold proteins**
Kuen-Phon Wu, Wei-Lin Lu, Wei-Jen Chuang
Institute of Biological Chemistry, Academia Sinica, Taipei, Taiwan

Protein: Intrinsic disorder

***27P-063** **Comprehensive Analysis of Intrinsically Disordered Proteins in the Marsupial**
Shiho Aoki, Wataru Onodera, Toru Asahi
Waseda University, Dept. of Advanced Sci. and Eng., Tokyo, Japan

***27P-064** **Elucidating fusion dynamics of FUS protein droplets using fluorescence microscopy and optical tweezers**
Syamil Muharror Ahsanul Husna, Atsumi Hando, Saori Kanbayashi, Satoshi Takahashi, Kiyoto Kamagata
Department of Chemistry, Graduate School of Science, Tohoku University/Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

***27P-065** **Balancing stability, dynamics and kinetics in phase separation of intrinsically disordered proteins**
Guoqing Zhang, Xiakun Chu
The Hong Kong University of Science and Technology (Guangzhou)

27P-066 **Characterization, regulation, and design of protein droplets**
Kiyoto Kamagata, Ryo Kusano, Atsumi Hando, Nanako Iwaki, Maulana Ariefai, Keisuke Ikeda, Tomoshi Kameda
Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai, Japan

Heme proteins

***27P-067** **Two distinct conformations in apo forms of bacterial heme ABC transporter**
Machika Kataoka, Ayaho Abe, Chai Gopalasingam, Christoph Gerle, Hideki Shigematsu, Masaki Yamamoto, Hiroshi Sugimoto
Graduate School of Science, University of Hyogo, Japan./RIKEN SPring-8 Center, Hyogo, Japan.

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27P-068 **Dramatic Effects of Chemical Modifications on the Function of a Classical Allosteric Protein by Pin-Point Changes in Hydrophobicity**
Antonio Tsuneshige
Department of Frontier Bioscience, and Research Center for Micro-Nano Technology, Hosei University, and Tokyo, Japan

Membrane proteins

***27P-069** **Vibrational spectroscopic study of chemical interaction between κ-opioid receptor (KOR) and ligands having morphinan structure**
Ryo Nishikawa, Kota Katayama, Seiya Iwata, Ryoji Suno, Chiyo Suno, Takuya Kobayashi, Hideki Kandori
Graduate School of Engineering. Nagoya Institute of Technology, Aichi, Japan

***27P-070** **Role of ANT1 in proton transport: New insights into the mechanism of fatty acid anion sliding at the protein-lipid interface**
Sanja Vojvodić, Juergen Kreiter, Mario Vazdar, Elena E. Pohl
Physiology and Biophysics, University of Veterinary Medicine, Vienna, Austria

***27P-071** **Cryo-EM Structural Analysis of Enterococcus hirae V-ATPase with Improved Resolution**
Yuan-E Lee, Raymond Burton-Smith, Akihiro Otomo, Takeshi Murata, Ryota Iino, Kazuyoshi Murata
ExCELLS/NIPS, Okazaki, Japan

***27P-072** **Solid-state NMR analysis of wild-type and mutant Schizorhodopsin proteins**
Akito Kitaguchi, Seiya Tajima, Toshio Nagashima, Toshio Yamazaki, Hideki Kandori, Keiichi Inoue, Izuru Kawamura
Yokohama National University, Japan

***27P-073** **Zn2+ Ion Transportation Mechanisms of TRPC6 Channels: All-Atom Molecular Dynamics Simulation**
Sirin Sittiwanichai, Kowit Hengphasatporn, Yasuteru Shigeta
Center for Computational Sciences, University of Tsukuba, 1-1-1 Tennodai, Tsukuba, Ibaraki, 305-8577, Japan

***27P-074** **Structural Basis for Signaling and Drug-Induced Activation of the Trk Receptors**
Erik Kot, Sergey Goncharuk, Ekaterina Vasilieva, Alexandra Shabalkina, María Franco, Ekaterina Lyukmanova, Alexander Arseniev, Andrea Benito-Martínez, Mario Costa, Antonino Cattaneo, Marcal Vilar, Konstantin Mineev
Shenzhen MSU-BIT University, Shenzhen, China

27P-075 **New Lipid-Bilayer Nanodiscs for Membrane-Protein Biophysics**
Sandro Keller, David Glueck, Lena Bauernhofer, Loretta Eggenreich, Carolyn Vargas
Biophysics, Institute of Molecular Biosciences (IMB), University of Graz, Austria

27P-076 **Coupling of ATP reactions with allocrite transport in heme ABC transporter; BhuUV-T, revealed by time-resolved spectroscopy.**
Tetsunari Kimura, Ayaka Naka, Akiho Hara, Yasuhiro Kobori, Yoshitsugu Shiro, Hiroshi Sugimoto
Kobe University, Graduate School of Science, Department of Chemistry/Kobe University, Molecular Photoscience Research Center

27P-077 **Understanding the Structure and Receptor Selectivity of Histamine H4 Receptor**
Dohyun Im, Jun-ichi Kishikawa, Yuki Shiimura, Yukihiko Sugita, Takeshi Noda, Takayuki Kato, Hidetsugu Asada, So Iwata
Department of Cell Biology, Graduate School of Medicine, Kyoto University, Kyoto, Japan

27P-078 **Generation of human TMEM16F-specific affibodies**
Eunyoung Kim, Jinho Bang, Ji Hye Sung, Jonghwan Lee, Sunghyun Kim, Byoung-Cheol Lee
Korea Brain Research Institute, Neurovascular Unit Research Group, Daegu 41068, Korea

Poster Sessions

DNA & DNA binding proteins

***27P-079** **High-speed AFM analysis of effects of drugs on the dynamic DNA morphologies interacting with MDP1, dormancy induction protein of Mycobacterium tuberculosis**

Kaho Nakamoto, Rei Moriya, Kenichi Umeda, Akihito Nishiyama, Sohkichi Matsumoto, Noriyuki Kodera
Grad. Sch. Math. & Phys., Kanazawa Univ.

***27P-080** **Single-molecule imaging of MDP1, dormancy induction protein of Mycobacterium tuberculosis, with high-speed AFM**

Yuna Goto, Kaho Nakamoto, Kenichi Umeda, Akihito Nishiyama, Sohkichi Matsumoto, Noriyuki Kodera
Grad. Sch. Math. & Phys., Kanazawa Univ.

***27P-081** **Template-free oligonucleotide synthesis by Terminal Deoxynucleotidyl Transferase in a microreactor array**

Yusuke Miyata, Hiroshi Ueno, Hiroyuki Noji
Department of Applied Chemistry, School of Engineering, The University of Tokyo

27P-082 **Phosphorylation and histone peptides reduce main- but not side-chain dynamics of N-terminal intrinsically disordered region of HP1 during phase separation, as studied by conventional and TOAC spin labels**

Isao Suetake, Toshiki Takei, Tomoaki Sugishiata, Shun Ito, Kazunobu Sato, Yuichi Mishima, Kohei Muraoka, Toru Kawakami, Yoh Matsuki, Toshimichi Fujiwara, Takeji Takui, Makoto Miyata, Hironobu Hojo, Toshiaki Arata
Inst. Protein Res., Osaka Univ., Japan/Grad. Sch. Sci., Osaka Metropolitan Univ., Japan

RNA & RNA binding proteins

27P-083 **Short repeat RNA suppresses aggregation of ALS-causative protein TDP-43 and its 25 kDa carboxy-terminal fragment**

Ai Fujimoto, Akira Kitamura
Graduate school of Life Science, Hokkaido University, Hokkaido, Japan

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DNA/RNA nanotechnology

***27P-084** **How to engineer a fast-moving DNA-nanoparticle motor with long run length and high unidirectionality?**
Takanori Harashima, Akihiro Otomo, Ryota Iino
Institute for Molecular Science, National Institutes of Natural Sciences/Graduate Institute for Advanced Studies, SOKENDAI

***27P-085** **Timing-controlled dynamics of DNA droplet-based artificial cell**
Tomoya Maruyama, Masahiro Takinoue
Department of Life Science and Technology, Tokyo Institute of Technology, Japan

***27P-086** **Regulation of molecular distribution in lipid vesicles based on artificial DNA cortex**
Takuro Yoshinaga, Koki Shibata, Yusuke Sato
Department of Intelligent Systems Engineering, Kyushu Institute of Technology, Japan

***27P-087** **Mechanical properties of artificial cells with DNA cytoskeleton**
Kazutoshi Masuda, Miho Yanagisawa
Graduate School of Arts & Science, The University of Tokyo, Tokyo, Japan

***27P-088** **Lipid nanoparticle fusion with a phospholipid membrane**
Jan Šimek, Nestor Mora, Radek Šachl
J. Heyrovsky Institute of Physical Chemistry

***27P-089** **Spontaneous film-like DNA structure formation at the oil-air interface**
Daichi Tominaga, Shogo Hamada, Yusuke Sato
Department of Intelligent Systems Engineering, Kyushu Institute of Technology, Japan

Nucleic acid: Others

***27P-090** **The effect of Temperature and Pressure on the structural transition from the quadruplex to random coil of VEGF**
Hiroto Yamasaki, Toshiki Nakao, Minoru Kato
Ritsumeikan University

27P-091 **Modelling complex and large RNA structures to advance RNA biology and therapeutics**
Naoto Hori, James A. Robins, Huong T. Vu
School of Pharmacy, University of Nottingham

Poster Sessions

Chromatin & Chromosomes

***27P-092** **DNA Unwinding analysis of N-terminal tailless nucleosomes using nanopore measurements**

Satoshi Ogihara, Hikaru Nozawa, Takumi Oishi, Munetaka Akatsu, Hitoshi Kurumizaka, Sotaro Uemura
Department of Biological Sciences, Graduate School of Science, The University of Tokyo

27P-093 **Effect of RNA expression on chromatin phase separation : Molecular Dynamics simulation**

Shaya Shiraishi, Yuuki Norizoe, Takuya Saito, Takahiro Sakaue
Department of Physical Sciences, Aoyama Gakuin University

Electronic

***27P-095** **Electrochemical activity of catalytic amyloids: self-assembly of (XH)4 peptides and hemin on graphite electrodes**

Marie Sugiyama, Luo Wei, Ayhan Yurtsever, Takeshi Fukuma, Yuhei Hayamizu
Tokyo Institute of Technology, Tokyo, Japan

Water & Hydration & Electrolyte

***27P-096** **Prediction of hydration structures over membrane proteins using deep learning in combination with the emprical hydration distribution**

Kochi Sato, Mao Oide, Masayoshi Nakasako
Department of Physics, Keio University, Kanagawa, Japan/SPring-8 Center, RIKEN, Hyogo, Japan/SPRING, Japan Science and Technology Agency, Tokyo, Japan

27P-097 **Hydration and Fluctuation Dynamics of a Membrane Transport Protein-Glucose Complex**

Tatsuki Kawauchi, Tomohiko Hayashi, Mitsunori Ikeguchi
Graduate School of Science and Technology, Niigata University

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Molecular genetics & Gene expression

27P-098 **Nine-banded armadillo transcriptome and chromatin accessibility at single-cell reveal persistent identity signatures in concordance with cell population variations**

Risa Karakida Kawaguchi, Sara Ballouz, Maria T Pena, Leon French, Frank M. Knight, Linda B. Adams, Jesse Gillis

Center for iPS Cell Research and Application, Kyoto University/Cold Spring Harbor Laboratory

Morphogenesis and Development

***27P-099** **Deep learning approach to investigate tissue hydraulics during ovarian follicle development.**

Jake Turley, Kim Whye Leong, Chii Jou Chan

Mechanobiology Institute, National University of Singapore

Muscle

27P-100 **Morphological discrimination of isolated sarcoplasmic reticulum vesicles in different Ca2+ concentrations using deep learning**

Katsuya Saito, Kenji Etchuya, Jun Nakamura, Chikara Sato, Makiko Suwa

Biological Science Course, Graduate School of Science and Engineering, Aoyama Gakuin University, Kanagawa, Japan

Molecular motor

***27P-101** **Microscopic Choreography: Unraveling Molecular Properties of Cytoplasmic Dynein Shaping Collective Motion of Microtubules in vitro**

Yosuke Harada, Kazuhiro Oiwa

Department of Life Science, Graduate School of Science, University of Hyogo, Hyogo, Japan/Advanced ICT Research Institute, National Institute of Information and Communications Technology, Hyogo, Japan

***27P-102** **Biochemical Characterization of C. elegans Kinesin Bmk-1**

Toru Kurosaka, Shunsuke Kumagai, Fofou Yonta Tostani, Shinsaku Maruta

Department of Biosciences, Graduate School of Science and Engineering Soka University, Hachioji, Tokyo JAPAN

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***27P-103** **Rejuvenating actin filaments: Direct observation of nucleotide exchange in actin filaments enhanced by myosin II**
Kenta Toshino, Taro QP Uyeda
Dept. Pure & Appl. Physics, Grad. Sch. Adv. Sci. & Eng., Waseda Univ.

***27P-104** **Molecular dynamics observation of rotational motion in the stator unit of the flagellar motor**
Takumi Matsumoto, Yukinari Kamiyama, Mitsunori Takano
Dept. of Pure & Appl. Phys., Grad. Sch. of Adv. Sci. and Eng., Waseda Univ., Tokyo, Japan

***27P-105** **Negative differential resistance of bio-molecular motor F1-ATPase**
Haruto Kimura, Shoichi Toyabe, Yohei Nakayama
Department of Applied Physics, Graduate School of Engineering, Tohoku University

27P-106 **V-ATPase rotation probed by Janus nanoparticle**
Akihiro Otomo, Jared Wiemann, Swagata Bhattacharyya, Yan Yu, Ryota Iino
Institute for Molecular Science, National Institutes of Natural Sciences, Okazaki, Japan/Graduate Institute for Advanced Studies, SOKENDAI, Hayama, Japan

27P-107 **Detecting conformations of F1-ATPase to elucidate the rotation mechanism**
Kenta Suga, Fumika Ogura, Hiroki Yamashita, Hiroki Kaizu, Ayari Tagawa, Mitsuhiro Sugawa, Nobukiyo Tanaka, Tomoko Masaike
Department of Applied Biological Science, Faculty of Science and Technology, Tokyo University of Science, Japan

27P-108 **Cooperation among c-subunits of FoF1-ATP synthase in rotation-coupled proton translocation by hetero-mutated c-ring**
Noriyo Mitome, Shintaroh Kubo, Sumie Ohta, Hikaru Takashima, Yuto Shigefuji, Toru Niina, Shoji Takada
Faculty of Education, Tokoha University

27P-109 **DNA Hybridization kinetics in Active Matter self-assembly**
Mst Rubaya Rahsid, Yamashina Takefumi, Kawamata Ibuki, Marie Tani, Masatoshi Ichikawa, Akira Kakugo
Department of Physics, Kyoto University, Japan

Single Molecule Biophysics

***27P-110** **Microsecond single molecule dynamics measurement of SARS-CoV-2 Spike protein using Diffracted X-ray Tracking**
Daisuke Sasaki, Tatsuya Arai, Hiroshi Sekiguchi, Kazuhiro Mio, Yuji Sasaki
Graduate School of Frontier Sciences, The University of Tokyo

***27P-111** **REGULATORY MECHANISMS OF KINESIN FUNCTION AT VARYING PH**
Suvranta Tripathy, Fawaz Baig, Hassan Bazzi
University of Michigan Dearborn

***27P-112** **Impact of mutations on cadherin 23 functions and leads to hearing-loss disease**
Gaurav Kumar Bhati, Surbhi Garg, Pritam Saha, Sabyasachi Rakshit
Department of Chemical sciences, Indian Institute of Science Education and Research Mohali, India

***27P-113** **Direct observation of a single DNA molecule responding for the AC electric field and different physical environment.**
Yunosuke Fuji, Shin Tkano, Takuma Yoshinaga, Yuuta Moriyama, Toshiyuki Mitsui
Grad. Sch. of Sci. and Eng. Aoyama Gakuin Univ.

***27P-114** **Photothermal assisted ultra-low concentration detection using nanopore sensing**
Hirohito Yamazaki, Kota Kaito
Top Runner Incubation Center for Academia-Industry Fusion, Nagaoka University of Technology, Nagaoka/Department of Mechanical Engineering, Nagaoka University of Technology

27P-115 **Single-molecule analysis of the behavioral dynamics of EGFR cancer mutants with resistance to anticancer drugs**
Michio Hiroshima, Masahiro Ueda
Osaka University/RIKEN BDR

27P-116 **Mechanistic insight into the mechanical unfolding of integral membrane proteins**
Hao Yu
Huazhong University of Science and Technology

Poster Sessions

Cell biology: Adhesion

27P-117 **Study of adhesion factor in Acanthamoeba bunch formation caused by Hokutovirus infection**

Yuto Shimada, Masaharu Takemura, Kazuyoshi Murata
Exploratory Research Center on Life and Living Systems, National Institutes of Natural Sciences

Cell biology: Motility

***27P-118** **The mechanical properties of fibroblasts in co-culture system**

Arata Nagai, Kaito Kojima, Hiromu Kuwabara, Yuuta Moriyama, Toshiyuki Mitsui
Grad. Sch. of Sci. and Eng. Aoyama Gakuin Univ.

***27P-119** **Mechanism of bacterial actin driven motility reconstituted in a minimal synthetic bacterium**

Hana Kiyama, Shigeyuki Kakizawa, Daichi Takahashi, Makoto Miyata
Graduate School of Science, Osaka Metropolitan University, Osaka, Japan

***27P-120** **Light-Induced Control of Archaellum Rotation in Haloacterium salinarum**

Ishii Kazuki, Ayaka Ihara, Daisuke Nakane, Takayuki Nishizaka
Gakushuin University

***27P-121** **Haloplasma motility reconstituted in a minimal synthetic bacterium, JCVI-syn3B**

Mone Mimura, Hana Kiyama, Shingo Kato, Yuya Sasajima, Atsuko Uenoyama, Shigeyuki Kakizawa, André Antunes, Tomoko Miyata, Fumiaki Makino, Keiichi Namba, Makoto Miyata
Grad. Sch. Sci., Osaka Metropolitan Univ., Japan

***27P-122** **Gliding machinery of Mycoplasma mobile observed by electron cryotomography**

Minoru Fukushima, Tomoko Miyata, Takuma Toyonaga, Keiichi Namba, Makoto Miyata
Grad. Sch. Sci., Osaka Metropolitan Univ., Osaka, Japan

***27P-123** **Rapid response of bacterial motility with pressure change**

Seiichiro Kinoshita, Masayoshi Nishiyama
Grad.Sch.Sci. and Eng., Kindai Univ.

***27P-124** **Visualization and analysis of MreBs driving Spiroplasma motility in minimal synthetic bacterium**
Yoshiki Tanaka, Hana Kiyama, Takuma Toyonaga, Makoto Miyata
Grad. Sch. Sci., Osaka Metro Univ.

***27P-125** **In vitro analysis of the bacterial actin MreB molecule that gives swimming motility to the minimal synthetic bacterium JCVI-syn3B.**
Satoshi Kanamori, Daichi Takahashi, Yuhei Tahara, Hana Kiyama, Makoto Miyata
Graduate School of Science, Osaka Metropolitan University

27P-126 **CryoEM structures of the growing end of the bacterial flagellar hook.**
Haruto Takeuchi, Sae Hashimoto, Tomoko Miyata, Fumiaki Makino, Keiichi Namba, Norihiro Takekawa, Katsumi Imada
Dept. of Macromol. Sci., Grad. Sch. of Sci., Osaka Univ.

27P-127 **Activation of the PomA/B flagellar stator by a site-specific chemical modification in the plug segment**
Hiroaki Koiwa, Akihiro Otomo, Yuki Tajimi, Tatsuro Nishikino, Michio Homma, Takayuki Uchihashi, Ryota Iino, Seiji Kojima
Department of Biological Science, Graduate School of Science, Nagoya University

27P-128 **Analysis of the Virio alginolyticus lateral flagellar motor genes, lafT and lafU**
Kazuki Yokoyama, Norihiro Takekawa, Seiji Kojima
Department of biological science, Graduate school of Science, Nagoya University

27P-129 **Structural change of ATPase ring complex of the flagellar type III export apparatus revealed by cryoEM analysis and high-speed AFM**
Norihiro Takekawa, Asako Usui, Yuki Tajimi, Miki Kinoshita, Tohru Minamino, Takayuki Uchihashi, Katsumi Imada
Dept. of Macromol. Sci., Grad. Sch. of Sci., Osaka Univ.

Cell biology: Cytoskeleton & Membrane skeleton

***27P-130** **Cryo-ET of vertebrate cilia revealed that Calaxin stabilizes the docking of outer arm dyneins onto ciliary doublet microtubule**
Hiroshi Yamaguchi, Motohiro Morikawa, Masahide Kikkawa
Department of Cell Biology & Anatomy, Grad. Sch. Med., The University of Tokyo, Tokyo, Japan

Poster Sessions

***27P-131** **Capping and severing mechanisms of Cytochalasin D to actin filament by TIRF observation**
Takahiro Mitani, Shuichi Takeda, Ikuko Fujiwara, Hajime Honda
Dep. of Material Sci. and Bioeng., Nagaoka Univ. of Tech., Niigata, Japan.

***27P-132** **Physically specific domain at the plasma membrane induced by transmembrane phospholipid movement during myoblast cytokinesis**
Akira Murakami, Kotaro Hirano, Junya Sano, Kohki Okabe, Yuji Hara
School of Pharmaceutical Sciences, University of Shizuoka

***27P-133** **Elucidating the Role of Spiroplasma fibril protein using synthetic bacterium, JCVI syn3**
Ali Ahsan, Hana Kiyama, Makoto Miyata
Osaka Metropolitan University, Graduate School of Science

27P-134 **Domain characterization of Archaea gelsolin for inhibiting actin polymerization by TIRF and crystal structure observations**
Horyo Mizuki, Shuichi Takeda, Robert Robinson, Ikuko Fujiwara
Materials Sciences and Bioengineering, Nagaoka University of Technology

27P-135 **Thermodynamic Analysis of Cofilin–F-actin Interaction**
Hideyuki Komatsu, Nayu Itou, Sinobu Sato, Shigeori Takenaka
Department of Bioscience and Bioinformatics, Kyushu Institute of Technology

27P-136 **The phase separation of EB and TEN2 promotes inhibitory synapse formation**
Sotaro Ichinose, Hirohide Iwasaki
Department of Anatomy, Gunma University Graduate School of Medicine, Gunma, Japan

Cell biology: Signal transduction & Cell membrane

***27P-137** **Aquaporin-3 and aquaporin-5 differentially modulate cell stiffness and cell-cell adhesion and promote cell migration**
Catarina Pimpão, Filomena A. Carvalho, Inês V. da Silva, Nuno C. Santos, Graça Soveral
Research Institute for Medicines (iMed.ULisboa), Faculty of Pharmacy, Universidade de Lisboa, 1649-003 Lisbon, Portugal/Department of Pharmaceutical Sciences and Medicines, Faculty of Pharmacy, Universidade de Lisboa, 1649-003 Lisbon, Portugal

***27P-138** **Aquaporin-3 is involved in inflammasome activation contributing to the settings of inflammatory response in THP-1 cells**
Inês V. da Silva, Angela Casini, Pablo Pelegrin, Graça Soveral
Research Institute for Medicines (iMed.ULisboa), Faculty of Pharmacy, Universidade de Lisboa, 1649-003 Lisboa, Portugal

***27P-139** **Positive feedback regulation of excitable Ras by RasGEFX for spontaneous signal generation in cell migration**
Koji Iwamoto, Satomi Matsuoka, Masahiro Ueda
Grad. Sch. Sci., Osaka Univ, Osaka, Japan

27P-140 **Phosphatidylserine enhances membrane localization and lateral diffusion of active form of Ras for excitability**
Satomi Matsuoka, Da Young Shin, Michio Hiroshima, Hiroaki Takagi, Masahiro Ueda
Graduate School of Frontier Biosciences, Osaka University/Graduate School of Science, Osaka University/Center for Biosystems Dynamics Research, RIKEN

Biological & Artificial membrane: Structure & Property

***27P-141** **Nanofluidic model cell membrane platform for molecular analysis of membrane-bound proteins**
Yu Yoshimura, Nanami Nagatsuka, Ryota Komatsu, Shin-ichi Yusa, Kenichi Morigaki
Graduate School of Agricultural Science, Kobe Univ, Hyogo, Japan

***27P-142** **Integrated model membrane arrays generated by self-spreading of lipid bilayers**
Masako Fujii, Kenichi Morigaki
Grad. of Agri. Sci., Kobe Univ., Hyogo, Japan.

***27P-143** **Field model for multistate lateral diffusion of various transmembrane proteins observed in living Dictyostelium cells**
Kazutoshi Takebayashi, Yoichiro Kamimura, Masahiro Ueda
Center for Biosystems Dynamics Research (BDR), RIKEN

***27P-144** **Membrane shapes, liquid-liquid interfaces, and elastocapillarity**
Lukas Hauer, Katharina Sporbeck, Amir H. Bahrami, Roland L. Knorr
Humboldt-Universitaet zu Berlin, Berlin, Germany

Poster Sessions

27P-145 **Study on the mechanism of double cooperative effect of antimicrobial peptide LL-37 with HNP1 by leakage assay**
Yuta Sekiya, Kaori Sugihara
The University of Tokyo, Institute of Industrial Science

27P-146 **Induction of Apoptosis by Ceramide Derivatives and Its Potential Mechanisms through Domain Formation**
Nobuaki Matsumori, Koya Tsujimura, Miho Yakabe, Hideaki Kano
Kyushu University

27P-147 **Structural effects of Cholesterol, Lanosterol, and Oxysterol on Model Biomembranes**
Ayumi Okayama, Tatsuya Hoshino, Kohei Wada, Takahashi Hiroshi
Biophysics Laboratory, Division of Pure and Applied Science, Gunma University, Maebashi, Japan

Biological & Artificial membrane: Dynamics

***27P-148** **Generation of autonomous rotors**
Veerpal Kaur, Charu Taneja, Subha shree, Abhishek Chaudhuri, Sabyasachi Rakshit
Veerpal Kaur, Department of Chemical Sciences, Indian Institute of Science Education and Research Mohali, Mohali, Punjab, India

***27P-149** **Molecular dynamics investigation of the dynamical response of the interfacial waters near DPPC bilayer to Hyaluronic acid**
Anirban Paul, Jaydeb Chakrabarti
S. N. Bose National Centre for Basic Sciences, Kolkata, India

***27P-150** **Optical Trapping of Membrane Proteins on the Supported Lipid Bilayers**
Yasushi Tanimoto, Shunya Moriyama, Kyoko Masui, Chie Hosokawa
Graduate School of Science, Osaka Metropolitan University

27P-151 **Structurally Stable Phospholipid Membrane Tube Developed by Self-assembly of Peptide Receptors**
Noriyuki Uchida, Ryu Ishizaka, Anju Kawakita, Masaki Okumura, Takahiro Muraoka
Tokyo University of Agriculture and Technology

Biological & Artificial membrane: Transport & Signal transduction

27P-153 **Reconstituting G protein-coupled receptors into a supported lipid bilayer using meta-stable peptide nanodiscs**
Fumio Hayashi, Masato Koezuka, Kenich Morigaki
Grad Sch Sci, Kobe University

Membraneless Organella, autophage, Liquid-liquid phase separation

***27P-155** **TMAO and urea effects on liquid-liquid phase separation of fused in sarcoma**
Keiji Kitamura, Ayano Ohshima, Fuka Sasaki, Yutaro Shiramasa, Soichiro Kitazawa, Ryo Kitahara
Graduate School of Pharmacy, Ritsumeikan University, Shiga, Japan

***27P-156** **Coarse-Grained Molecular Dynamics Study of Coacervate Formation using Elastin-like Polypeptides with Varying Hydrophobicity**
Haruto Takegahara, Yasunori Okamoto, Kenichi Funamoto, Takuya Mabuchi
Graduate School of Biomedical Engineering, Tohoku University

***27P-157** **Raman spectroscopic study of liquid-liquid phase separation in Lysozyme/Ovalbumin mixture system**
Taiga Sano, Toshiki Nakao, Minoru Kato
Ritsumeikan University

27P-158 **Liquid-liquid phase separation of the P53 core domain**
Amanda Santos Palma, Carlos Henrique Inácio Ramos, Leandro Ramos Souza Barbosa
University of São Paulo, São Paulo, Brazil

27P-159 **Theoretical studies of protein accumulation during mitosis with Flory-Huggins free energy**
Yuuki Karube, Yuuki Norizoe, Takuya Saito, Takahiro Sakaue
Department of Physical Sciences, Aoyama Gakuin University

Poster Sessions

27P-160 **Quantitative Analytical Method Based on Machine Learning by Classification of Condensate Forming Cells by Glycolytic Enzymes in Saccharomyces cerevisiae**

Natsuko Miura, Ryuta Saito, Yuki Yoshimura, Kohei Tanaka, Michihiko Kataoka

Graduate School of Agriculture, Osaka Metropolitan University/Graduate School of Life and Environmental Sciences, Osaka Prefecture University

Neuroscience & Sensory systems

***27P-161** **Controlling Tau Aggregation Using Light-Induced Cellular Models of Tau Oligomers**

Tomoya Uchida, Naoki Kato, Shigeo Sakuragi, Akito Hattori, Yoshiyuki Soeda, Hideaki Yoshimura, Akihiko Takashima, Hiroko Bannai

Waseda University, School of Advanced Science and Engineering, Tokyo, Japan

27P-162 **Specification of Smallest Neural Cell Colony Size for Measurement of Firing or Burst Firing**

Takumi Yamaguchi, Kentaro Kito, Masahito Hayashi, Tomoyuki Kaneko

LaRC, Dept. Frontier Biosci., Hosei Univ., Tokyo, Japan

Neuronal circuit & Information processing

27P-164 **Classifying Dynamics of Ising Interaction Networks by Structure of Traffic Diagrams**

Yoshiaki Horiike, Shin Fujishiro, Masaki Sasai

Department of Applied Physics, Nagoya University, Nagoya, Japan/Department of Neuroscience, University of Copenhagen, Copenhagen, Denmark

Behavior

***27P-165** **Quantitative Description and Investigation into the Mechanism of Gravitactic Swimming Behavior in Coral Larvae**

Asuka Takeda-Sakazume, Junko Honjo, Kanae Matsushima, Sachia Sasano, Yuuko Wada, Minori Oshima, Shoji A. Baba, Kei Yura, Yoshihiro Mogami, Masayuki Hatta

Graduate School of Humanities and Sciences, Ochanomizu University, Tokyo, Japan/ Faculty of Core Research Natural Sciences Division, Ochanomizu University, Tokyo, Japan

Photobiology: Vision & Photoreception

***27P-166** **The structural dynamics study of green-cone pigment by using spectroscpies**
Mizusa Kani, Sayaka Ohashi, Takuma Sasaki, Hiroo Imai, Hideki Kandori, Kota Katayama
Grad. Sch. Eng., Nagoya Inst. Tech., Aichi, Japan

***27P-167** **FTIR study of mutants of primate red and green pigments**
Sayaka Ohashi, Hiroo Imai, Hideki Kandori, Kota Katayama
Grad. Sch. Eng., Nagoya Inst. Tech., Aichi, Japan

***27P-168** **Activation mechanism of light-sensitive Gs protein-coupled receptor, jellyfish rhodopsin**
Shino Inukai, Mitsumasa Koyanagi, Akihisa Terakita, Hideki Kandori, Kota Katayama
Graduate School of Engineering, Nagoya Institute of Technology.

***27P-169** **Spectroscopic analysis of the photoreaction of TAT rhodopsin in the presence of calcium ion**
Teppei Sugimoto, Kota Katayama, Hideki Kandori
Graduate School of Engineering, Nagoya Institute of Technology, Japan,

27P-170 **Free energy profile analysis of natural anion channelrhodopsin GtACR1 in each state of the photocycle**
Takafumi Shikakura, Cheng Cheng, Shigehiko Hayashi
Graduate School of Science, Kyoto University, Kyoto, Japan

27P-171 **Production of a light-driven Cl--dependent Na+ pump: Implications for the binding and transport of distinctive ions**
Manami Hashimoto, Kano Suzuki, Marie Kurihara, Taiki Nakamura, Keiichi Kojima, Susumu Yoshizawa, Yasuhisa Mizutani, Takeshi Murata, Yuki Sudo
Grad. Sch., Med. Dent, and Pharm. Sci., Okayama Univ., Okayama, Japan.

Poster Sessions

Photobiology: Photosynthesis

***27P-172** **Light factor-dependent Growth of Yellow Chlamydomonas**
Okviyoandra Akhyar, Soichiro Seki, Kazuhiro Yoshida, Chiyo Takagi, Yasuhiro Kamei, Ritsuko Fujii
Research Center for Artificial Photosynthesis (ReCAP), Osaka Metropolitan University, Japan

***27P-173** **Robustness of photosynthetic light-harvesting antenna chlorosome against structural heterogeneity**
Shun Arai, Tomomi Inagaki, Jiro Harada, Chihiro Azai, Toru Kondo
Tokyo Institute of Technology

***27P-174** **Energy Transfer Pathway in Chlorophyll-f Containing Photosystem I Revealed by Single-Molecule Spectroscopy**
Rin Taniguchi, Toshiyuki Shinoda, Tatsuya Tomo, Ye Shen, Yutaka Shibata
Department of Chemistry, Tohoku University, Miyagi, Japan,

27P-175 **Post-translational conversion of amino acids in the O2-evolving complex of photosystem II: Formation of carboxylate ligands from aliphatic amino acids**
Hatsune Mizue, Takehiro Suzuki, Takumi Matsubara, Tomomi Kitajima-Ihara, Minako Hirano, Yuichiro Shimada, Yuki Kato, Naoshi Dohmae, Takumi Noguchi
Department of Physics, Graduate School of Science, Nagoya University

27P-176 **Modification of chlorophyll pigments in photosynthetic light-harvesting proteins**
Yoshitaka Saga, Shota Kawato, Kohei Hamanishi, Moe Sumura
Kindai University

Photobiology: Optogenetics & Optical control

***27P-177** **Effect of photoactivated adenylyl cyclase expression in Salmonella**
Keisuke Sakai, Yusuke V. Morimoto
Graduate School of Computer Science and Systems Engineering, Kyushu Institute of Technology, Fukuoka, Japan

***27P-178** **Novel Optogenetic Strategy for Regulating Insulin Signaling in the Deep Tissues of Living Mice**
Qi Dong, Mizuki Endo, Takeaki Ozawa
The University of Tokyo

27P-179 **Relationship between Responsiveness of Cardiomyocytes Stimulated by Laser Irradiation and Cell Population Status**
Takaaki Nishikawa, Furuie Yasumasa, Kentaro Kito, Masahito Hayasi, Tomoyuki Kaneko
LaRC, Dept. Frontier Biosci., Hosei Univ., Tokyo, Japan

27P-180 **The "fifth" color switch of microbial rhodopsin**
Rei Abe-Yoshizumi, Hideki Kandori
Grad. Sch. of Eng., Nagoya Inst. of Tech.

Radiobiology & Active oxygen

27P-181 **Cell-killing caused by direct and indirect actions of high-LET particles in Boron Neutron Capture Therapy (BNCT)**
Ryoichi Hirayama, Yu Sanada, Akiko Uzawa, Yoshitaka Matsumoto, Atsushi Ito, Shin-ichiro Masunaga, Hiroki Tanaka, Yoshinori Sakurai, Minoru Suzuki, Sumitaka Hasegawa
Institute for Quantum Medical Science, National Institutes for Quantum Science and Technology

Origin of life & Evolution

***27P-182** **Droplets in PEG / salt solution as primitive compartments at the origin of life**
Yota Tabata, Masahito Hayashi, Tomoyuki Kaneko
LaRC, FB, Grad. Sch. Sci. & Eng., Hosei Univ., Tokyo, Japan

***27P-183** **Adaptive Laboratory Evolution of Minimal Genome Bacterium to Low Temperature**
Masaki Mizutani, Minoru Moriyama, Ryuichi Koga, Takema Fukatsu, Shigeyuki Kakizawa
Bioproduction Research Institute, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan

Poster Sessions

***27P-184** **Stability, structure, and interactions of prebiotic fatty acid membranes**
Taren Elizabeth Buddle Ginter, Akiko Baba, Masayuki Imai, Maikel Rheinstädter, Kosuke Fujishima
Earth-Life Science Institute, Tokyo Institute of Technology, Tokyo, Japan/School of Life Science and Technology, Tokyo Institute of Technology, Tokyo, Japan

Synthetic biology & Artificial cells

***27P-185** **Induction of Dynamic Formation of ATPS-based membrane-less Artificial Cell Compartment by Thermal Control**
Mirai Sasaki, Yoshihiro Minagawa, Hiroyuki Noji
Department of Applied Chemistry, The University of Tokyo, Tokyo, Japan

***27P-186** **Microtubule/kinesin complexes spontaneously emerge vortices in cell-sized droplet generated by water/water phase separation**
Hiroki Sakuta, Naoki Nakatani, Takayuki Torisawa, Yutaka Sumino, Kanta Tsumoto, Kazuhiro Oiwa, Kenichi Yoshikawa
Universal Biology Institute, University of Tokyo/Graduate School of Arts and Sciences, University of Tokyo

***27P-187** **Regulation of Stochastic Cell Re-differentiation Ratio of Genetic Toggle Switch with Minute Expression Balancing Control of Repressor Proteins**
Sota Okuda, Kohei Uetsuka, Masaki Takeda, Daisuke Kiga
School of Electrical Engineering and Bioscience, Department of Advanced Science and Engineering, Waseda University, Tokyo, Japan

***27P-188** **Zombie cells produced from the minimal synthetic bacterium JCVI-syn3B**
Nanase Oda, Hana Kiyama, Makoto Miyata
Graduate School Science, Osaka Metropolitan University, Japan

***27P-189** **Large coiled-coil protein of Mycoplasma pneumoniae induces morphological changes in a minimal synthetic bacterium by inhibiting septum formation**
Muhammad Algiffari, Hana Klyama, Daisuke Nakane, Tsuyoshi Kenri, Makoto Miyata
Graduate School of Science, Osaka Metropolitan University, Osaka, Japan

27P-190 **Efficient Proliferation of Synthetic Minimal Cells with Low Energy Costs**

Ken Takagi, Minoru Kurisu, Toshihiro Kawakatsu, Masayuki Imai
Department of Physics, Tohoku University, Sendai, Japan

Computational biology: Bioinformatics

***27P-191** **Elucidation of mechanistic details of copper chaperoning to Superoxide Dismutase (SOD) using a novel free-energy computation technique and cross-validated with Molecular Dynamics Simulations**

Sharayu Umakant Ghodeswar, Debashree Bandyopadhyay
Birla Institute of Technology and Science, Pilani - Hyderabad Campus, Telangana, India

27P-192 **Computational analysis of OPRD1-OPRM1 heterodimer ligands**

Ryota Takishima, Aoi Fukushima, Wataru Nemoto
Grad. Sci. & Eng., Tokyo Denki Univ., Saitama, Japan

Computational biology: Molecular simulation

***27P-193** **A Gradient-Based Approach for Optimizing Molecular Structures using Atomic Force Microscopy Images and Normal Mode Analysis**

Xuan Wu, Osamu Miyashita, Florence Tama
Department of Physics, Nagoya University

***27P-194** **PINning down the elevator-type mechanism of auxin transport**

Lorena Zuzic, Bjørn Panyella Pedersen, Birgit Schiøtt
Department of Chemistry, Aarhus University, Aarhus, Denmark

***27P-195** **The Effect of Tricaprylin Surface on The Lid Region Dynamics of Candida antarctica Lipase B**

Tegar Nurwahyu Wijaya, Akio Kitao
School of Life Science and Technology, Tokyo Institute of Technology, Tokyo, Japan/ Department of Chemistry, Universitas Pertamina, Jakarta, Indonesia

Poster Sessions

***27P-196** **Development of drug discovery platform technology based on a generalized-ensemble simulation method -Evaluation of SARS CoV-2 PLpro candidate inhibitors-**

Masashi Muramoto, Suzuka Saitou, Simon Hikiri, Junichi Higo, Takuya Takahashi
Graduate School of Life Sciences, Ritsumeikan University, Kusatsu, Japan.

***27P-197** **Unraveling the Catalytic Mechanism of EPS1 in Salicylic Acid Biosynthesis Using Computational Modeling**

Tianjie Li, Yi Wang
The Chinese University of Hong Kong

***27P-198** **Complementary Analysis between 4D Crystallography and Extensive MD Simulation Captures Transient IF1-Ribosome Dynamics in Translation Initiation**

Shun Yokoi, Ilkin Yapici, E. Han Dao, Ebru Destan, Esra Ayan, Alaleh Shafei, Fatma Betul Ertem, Cahine Kulakman, Merve Yilmaz, Bilge Tosun, Halilibrahim Ciftci, Abdullah Kepceoglu, Jerome Johnson, Omur Guven, Ali Ergul, Brandon Hayes, Yashas Rao, Christopher Kupitz, Frederic P. Poitevin, Mengling Liang, Mark S. Hunter, Pohl Milon, Raymond G. Sierra, Ayori Mitsutake, Soichi Wakatsuki, Hasan DeMirci
Department of Physics, School of Science and Technology, Meiji University, Kanagawa Japan/Biological Sciences Division, SLAC National Accelerator Laboratory, CA, USA/ Department of Structural Biology, Stanford University, CA, USA

***27P-199** **The Regulatory Role of p53 C-Terminal Domain Acetylation in Modulating the Dynamics of SIR2's NAD+ Binding Pocket**

Zhen Bai, Tatsuhiro Kimizono, Akio Kitao
Tokyo Institute of Technology

***27P-200** **An Open Source de novo Drug Design Workflow with Active Learning and Enamine REAL**

Ben Cree
Newcastle University

***27P-201** **Studying the role of protonation in the (de)activation mechanism of class A GPCRs**

João Vitorino, Carlos Barreto, Irina Moreira, Miguel Machuqueiro
BioISI: Biosystems and Integrative Sciences Institute, Faculdade de Ciências, Universidade de Lisboa, Portugal

***27P-202** **Molecular Dynamics simulation of the complex of the multiple distinctive structurral regions in the WNV envelope and human monoclonal antibody.**
Masahito Yoshikawa, Hideyuki Masaki, Ryuuichi Kato, Tatsuhiko Ozawa, Naoyuki Miyashita
Department of Biological System Engineering, Graduate School of Biology-Oriented Science and Technology, KINDAI University

***27P-203** **Identifying and Characterizing Ligands for Mutant p53 as Potential Breast Cancer Therapy**
Rifqa Fikriya Rahasri, Kazutomo Kawaguchi, Hidemi Nagao
Kanazawa University

***27P-204** **Molecular Docking, Molecular Dynamics, And MM-PBSA Analysis of Quinolone Antibiotics Againts FmtA of Staphylococcus aureus**
Citra Hasanah, Hidemi Nagao, Kazutomo Kawaguchi
Graduate School of Natural Science and Technology, Kanazawa University

***27P-205** **Computational analysis on binding structure of limonin to a bitter taste receptor TAS2R38**
Masamune Kashihara, Daiki Hayashi, Shigenori Tanaka, Yoshiko Aihara
Graduate School of Agricultural Science, Kobe University, Kobe, Japan

27P-206 **Molecular Dynamics Study of the Unfolding Processes of Proteins with Highly Similar Native Structure**
Souta Kadowaki, Takashi Yoshidome
Department of Applied Physics, Graduate School of Engineering, Tohoku University, Japan

27P-207 **Dynamic structure analysis of superoxide dismutase 1 protein upon Cys111 oxidation using molecular dynamics simulation**
Yuta Hori, Ayaka Sato, Kowit Hengphasatporn, Yasuteru Shigeta
Center for Computational Sciences, University of Tsukuba

27P-208 **Investigation of the effect of the 2-OH group of in Arabidopsis thaliana ceramide on plant cell membranes using MD simulation**
Tsujii Keigo, Minoru Nagano, Simon Hikiri, Takuya Takahashi
Graduate School of Life Sciences, Ritsumeikan University, Kusatsu, Japan

Poster Sessions

27P-209 **Dynamin-1 membrane tubule constriction mechanism revealed by coarse-grained MD simulations**
MD. Iqbal Iqbal Mahmood, Shintaroh Kubo, Kei-ichi Okazaki
Research Center for Computational Science, Institute for Molecular Science, National Institutes of Natural Sciences, Okazaki, 444-8585, Japan.

27P-210 **Heterogeneous organization in phase-separated transcription factors: Residue-revel molecular simulations**
Azuki Mizutani, Cheng Tan, Yuji Sugita, Shoji Takada
Grad. Sch. Of Science, Kyoto Univ., Kyoto, Japan

27P-211 **Molecular dynamics simulation of the PWW domain of LEDGF protein and histone tail H3K36**
Hinako Suzuki, Itoh Satoru, Hisashi Okumura
Shinshu University/Institute for Molecular Science

27P-212 **MD-based in silico screening using supercomputer Fugaku**
Tomoya Nabetani, Toru Ekimoto, Tsutomu Yamane, Mitsunori Ikeguchi
Graduate School of Medical Life Science, Yokohama City University

27P-213 **Effects of sodium ions on conformational changes of the adenosine A2A receptor by molecular simulations**
Akihiro Arisawa, Ayori Mitsutake
Meiji University,School of Science and Technology

27P-214 **Optimal transport maps for targeted free energy estimation**
Tsuyoshi Kawai, Yasuhiro Matsunaga
Graduate School of Science and Engineering, Saitama University, Saitama, Japan

27P-215 **Surface oleophilicity induced by UV-hydroxylation of titanium**
Gehoon Chung, Wonjoon Moon, Byeong-Min Lee, Shin Hye Chung
Seoul National University School of Dentistry/Seoul National University Dental Research Institute

Computational biology: Biological modeling and simulation

***27P-216** **Looking for non-opioid analgesics using stochastic titration CpHMD with AMBER14SB**
João G. N. Sequeira, Adrian E. Roitberg, Miguel Machuqueiro
BioISI: Biosystems and Integrative Sciences Institute, 1749-016 Lisboa, Portugal

Thursday, June 27

***27P-217** **Prediction of cross-fitness for adaptive evolution to different environmental conditions: Consequence of phenotypic dimensional reduction.**
Takuya Sato, Chikara Furusawa, Kunihiko Kaneko
BDR, RIKEN

***27P-218** **Theoretical model of cell shape control by cytoskeleton**
Vivek Semwal, Biplab Bhattacherjee, Michiko Takeda, Yu-Chiun Wang, Tatsuo Shibata
Laboratory for Physical Biology, RIKEN Center for Biosystems Dynamics Research, Kobe, Japan

***27P-219** **Universally conserved Mg-pinch motif in NTP processing enzymes**
Balint Dudas, Denes Berta, Edina Rosta
Department of Physics and Astronomy, University College London (UCL), United Kingdom

***27P-220** **A binding site for phosphoinositide modulation of voltage gated sodium channels described by multiscale simulations**
Yiechang Lin, Elaine Tao, James Champion, Ben Corry
Australian National University

27P-221 **Development of an Efficient Estimation Method for Maximum Tolerated Dose by Reinforcement Learning**
Ryosuke Takami, Koji Tabata, Yayoi Wada, Masahiro Sonoshita, Tamiki Komatsuzaki
Research Institute for Electronic Science, Hokkaido University, Sapporo, Japan/ Institute for Chemical Reaction Design and Discovery (WPI-ICReDD), Hokkaido University, Sapporo, Japan/The Institute of Scientific and Industrial Research, Osaka University /Institute for Open and Transdisciplinary Research Initiatives, Osaka University

***27P-222** **Study of the Allosteric Mechanism of Human Mitochondrial Phenylalanyl-tRNA Synthetase by Transfer Entropy via an Improved Gaussian Network Model and Co-evolution Analyses**
Zhongjie Han, Chunhua Li
Center for Quantitative Biology, Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China/Peking-Tsinghua Center for Life Sciences, Academy for Advanced Interdisciplinary Studies, Peking University, Beijing, China/Faculty of Environmental and Life Sciences, Beijing University of Technology, Beijing, China

Poster Sessions

27P-223 **Nucleosome-resolution modeling and simulation of singlegene level chromatin organization mechanisms**
Gu Chenyang, Shoji Takada, Giovanni Brandani
Grad. Sch. Sci., Kyoto university, Kyoto, Japan

27P-224 **Allosteric drugs: new principles and design approaches**
Wei-Ven Tee, Igor N Berezovsky
Bioinformatics Institute (BII), Agency for Science, Technology and Research (A*STAR), 30 Biopolis Street, #07-01, Matrix, Singapore 138671/Department of Biological Sciences (DBS), National University of Singapore (NUS), 8 Medical Drive, 117579, Singapore

27P-225 **Study of Liquid–liquid Phase Separation of Tau fragment K18 via Coarse-grained Simulation**
Zhuqing Zhang, Qinglin Yan
College of Life Sciences, University of Chinese Academy of Sciences, Beijing 100049, China

27P-226 **Design principles of microtubule-associated proteins: exploring the role of lever arms and linker regions under directional loads**
Ilya B. Kovalenko, Vladimir A. Fedorov, Ekaterina G. Kholina, Philipp S. Orekhov, Egor M. Pozdnyakov, Fazoil I. Ataullakhanov, Nikita Gudimchuk
Lomonosov Moscow State University, Moscow, Russia/Center for Theoretical Problems of Physico-Chemical Pharmacology, Russian Academy of Sciences, Moscow, Russia

Computational biology: machine learning for molecules or cell systems

***27P-227** **A Machine Learning Approach to Classify Force Curves of Nuclear Elasticity Measurements.**
MD Fahim Newaz
Division of Nano Life Science, Kanazawa University, Kanazawa 920-1192, Japan

***27P-228** **Development of an Efficient Estimation Method for Maximum Tolerated Dose by Reinforcement Learning**
Ryosuke Takami, Koji Tabata, Yayoi Wada, Masahiro Sonoshita, Tamiki Komatsuzaki
Research Institute for Electronic Science, Hokkaido University, Sapporo, Japan

***27P-229** **RVINN: Inference of gene regulation dynamics in the mRNA life cycle using Physics-Informed Neural Networks**
Osamu Muto, Zhongliang Guo, Rui Yamaguchi
Nagoya University/Aichi Cancer Center Research Institute

Mathematical & Theoretical biology

***27P-230** **Active thermodynamic force drives mitochondrial equidistant distribution in axons**
Masashi K. Kajita, Yoshiyuki Konishi, Tetsuhiro Hatakeyama
Department of Applied Chemistry and Biotechnology, Faculty of Engineering, University of Fukui, Fukui, Japan

***27P-231** **Global propagation of single-gene deletion effects through stoichiometry conservation relations**
Genta Chiba, Ken-ichiro Kamei F., Arisa Oda, Kunihiro Ohta, Yuichi Wakamoto
Grad. Sch. Arts and Sci. Univ. Tokyo, Tokyo, Japan

***27P-232** **Pattern propagation driven by surface curvature**
Ryosuke Nishide, Shuji Ishihara
The University of Tokyo

27P-233 **Entangled gene regulatory networks with cooperative expression endow responses to unforeseen environmental changes**
Masayo Inoue
Graduate School of Engineering, Kyushu Institute of Technology

Nonequilibrium state & Biological rhythm

***27P-234** **Exploring dense active dynamics in suspension of ciliate Tetrahymena based on all cell tracking**
Kohei Okuyama, Masatoshi Ichikawa
Department of Physics, Kyoto University

27P-235 **Emergence of spontaneous oscillations in a liquid film of bacterial swimmers**
Lei-Han Tang
Hong Kong Baptist University, Hong Kong, China

Poster Sessions

Measurements

***27P-236** **Single EVs detection and analysis using a glass nanopore**
Izumi Shibayama, Kohei Hayashi, Ryuji Kawano
Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology

***27P-237** **Ultra-low-noise and wide-bandwidth current detection for enhanced scanning ion conductance imaging rate in scanning ion conductance microscopy**
Shoma Kamei, Shinji Watanabe
Division of Nano Life Science, Graduate School of Frontier Science Initiative, Kanazawa University

27P-238 **Aptamer-based AI-driven nanopore measurement for the simultaneous detection of biomarkers for the cancer diagnosis**
Ryo Akita, Lysenko Artem, Shunsuke Ono, Hikaru Nozawa, Tatsuhiko Tsunoda, Sotaro Uemura
Graduate School of Science, The University of Tokyo

27P-239 **Analysis of the conformational dynamics of oligosaccharides using ion mobility spectrometry**
Hao Feng, Takumi Yamaguchi
School of Materials Science, Japan Advanced Institute of Science and Technology

Bioimaging

***27P-240** **A bright and highly-response Ca2+ biosensor based on mScarlet: Progress toward fluorescence lifetime imaging**
Shosei Imai, Ryan Fink, Takuya Terai, Olivia A. Masseck, Robert E. Campbell
Department of Chemistry, Graduate School of Science, The University of Tokyo, Tokyo, Japan.

***27P-241** **Hydroxyquinoline-derived Multifunctional Small Molecule Turn-On Fluorescent Probe as a Theranostic Agent for Alzheimer's Disease**
Priyam Ghosh, Parameswar Iyer
Department of Chemistry, Indian Institute of Technology Guwahati, Guwahati, Assam 781039, India

***27P-242** **Precision-enhanced 1,000-fold faster 3D quantum thermometry in vivo**

Yurina Nakane, Haruka Maeoka, Ryuki Imamura, Ryuji Igarashi, Shin Usuki, Takuma Sugi

Program of Biomedical Science, Graduate School of Integrated Sciences for Life, Hiroshima University, Japan

***27P-243** **Elucidation of neuronal differentiation mechanisms by thermal signaling through control of intracellular local temperature**

Shunsuke Chuma, Kohki Okabe, Yoshie Harada

Department of Biological Sciences, Graduate School of Science, Osaka University, Osaka, Japan, /Institute for Protein Research, Osaka University, Osaka, Japan

***27P-244** **Imaging and modeling of glycolytic oscillations**

Saaya Hario, Shosei Imai, Yudai Iyoda, Hikaru Sugimoto, Takuya Terai, Shinya Kuroda, Robert E. Campbell

Department of Chemistry, Graduate School of Science, The University of Tokyo, Tokyo, Japan

***27P-245** **Development of selective plane activation structured illumination microscopy**

Kenta Temma, Ryosuke Oketani, Toshiki Kubo, Kazuki Bando, Shunsuke Maeda, Kazunori Sugiura, Tomoki Matsuda, Rainer Heintzmann, Tatsuya Kaminishi, Koki Fukuda, Maho Hamasaki, Takeharu Nagai, Katsumasa Fujita

Department of Applied Physics, Osaka Univeristy/AIST Advanced Photo-BIO OIL, AIST-Osaka University/Institute for Open and Transdisciplinary Research Initiatives, Osaka University

***27P-246** **High-speed, high-resolution computational phase microscopy visualizing organelles**

Yugo Inutsuka, Yasushi Okada

The University of Tokyo/RIKEN

27P-247 **Extraction of dependent spatial or spectral features from different disease states in Raman images**

Ryoya Kondo, Yuta Mizuno, Jean-Emmanuel Clement, Kentaro Mochizuki, Katsumasa Fujita, Yoshinori Harada

Grad. Sch. Chem. Sci. Eng., Hokkaido Univ.

Poster Sessions

***27P-248** **Quantification of Spatial and Spectral Information Dependent on Measurement Methods and Disease States in Raman Images**
Ryoya Kondo, Yuta Mizuno, Jean-Emmanuel Clement, Kentaro Mochizuki, katsumasa Fujita, Yoshinori Harada, Tamiki Komatsuzaki
Grad. Sch. Chem. Sci. Eng., Hokkaido Univ.

27P-249 **Simultaneous measurement of average size and number of biomolecular condensates using spatial image correlation spectroscopy (SICS)**
Yuta Hamada, Akita Kitamura
Graduate School of Life Science, Hokkaido University, Sapporo, Japan

27P-250 **Imaging of Biomolecules by Constant Thermal Fluctuation Mode Atomic Force Microscopy**
Daisuke Yamamoto
Faculty of Science, Fukuoka University

27P-251 **Development of small nanodiamonds that can be observed by optically detected magnetic resonance inside cells.**
Hirotaka Okita, Shingo Sotoma, Yuki S Kato, Yukiho Shimazaki, Hiroshi Abe, Seiichi Saiki, Madoka Suzuki, Yoshie Harada
Institute for Protein Research Osaka University

27P-252 **Volumetric imaging of micrometer-scale cellular dynamics in centimeter-scale multicellular systems**
Taro Ichimura, Taishi Kakizuka, Keiko Itano, Kaoru Seiriki, Hitoshi Hashimoto, Yuki Sato, Hiroya Itoga, Shuichi Onami, Takeharu Nagai
Institute for Open and Transdisciplinary Research Initiatives, Osaka University, Japan

27P-253 **Multi-color fluorescence lifetime biosensors for quantifying Ca2+, ATP, and GTP/GDP ratio in live cells**
Cong Quang Vu
WPI-NanoLSI, Kanazawa University

Bioengineering

***27P-254** **Cell-free synthesis of hydrophobic peptides that form nanopores in bilayer lipid membranes**

Shoko Fujita, Izuru Kawamura, Ryuji Kawano
Department of Biotechnology and Life Science, Tokyo University of Agriculture and Technology, Tokyo, Japan

27P-255 **Morphological Difference in Hydrogel Induced Cancer Stem Cell in Synovial Sarcoma Model Cells**

Zannatul Ferdous, Jean-Emmanuel Clément, Jian Ping Gong, Shinya Tanaka, Masumi Tsuda, Tamiki Komatsuzaki
Institute for Chemical Reaction, Design and Discovery (WPI-ICReDD), Hokkaido University

***27P-256** **Novel approach for anticancer peptides carried by nanoparticles**

Roberta Moisa
Horia Hulubei National Institute for Physics and Nuclear Engineering

***27P-257** **Stereo 3D reconstruction of a dragonfly flapping motion and its quantification using fine grid spotlight**

Natsuki Yamamoto
Akita Prefectural University

27P-258 **Microscopic toxicity assay of human organoids in microfluidic devices advanced by quantum beam technologies**

Kotaro Oyama, Tomoko G Oyama, Hiroki Hamaguchi, Yusuke Kimura, Atsushi Kimura, Kimio Yoshimura, Masaaki Omichi, Yuuji Ueki, Akihiro Hiroki, Hiroyuki Hoshina, Yasuhiro Oshima, Michiyo Suzuki, Shinichiro Mori, Noriaki Seko, Noriko Ishioka, Mitsumasa Taguchi
Takasaki Institute for Advanced Quantum Science, National Institutes for Quantum Science and Technology, Gunma, Japan

Crystal growth & Crystallization technique

***27P-259** **High-Speed AFM investigation of structured fats' crystallization dynamics**

Anis Chikhoune, Jan Kyselka, Djamel Eddine Chafai
Équipe PVNTA, Laboratoire ALIMENTS, École Supérieure des Sciences de l'Aliment et des Industries Agroalimentaires (ESSAIA), Avenue Ahmed Hamidouche Route de Beaulieu, El Harrach 16200, Alger, Algeria

Poster Sessions

27P-260 **Advancing Structural Biology: Innovations and Applications of In Vivo Macromolecular Crystallography at Nagoya University**

Etsuko Tokunaga, Swagatha Ghosh, Hiroki Onoda, Yasufumi Umena, Leonard M.G. Chavas

NUSR, Nagoya Univ., Aichi, Japan/Dept. of Appl. Phys., Grad. Sch. of Eng., Nagoya Univ., Aichi, Japan

Virus structure, function, SARS-CoV-2

***27P-261** **Cryo-EM structure of infectious and non-infectious Human Astrovirus and insights into its maturation process**

Kentaro Hiraka, Raymond Burton-Smith, Chihong Song, Kana Miyamoto, Kei Haga, Reiko Todaka, Kazuhiko Katayama, Kazuyoshi Murata

National Institute for Physiological Sciences, National Institutes of Natural Sciences/ Exploratory Research Center on Life and Living Systems (ExCELLS), National Institutes of Natural Sciences

***27P-262** **Structural basis for antiviral activity of a nucleoside analogue targeting dengue virus RNA-dependent RNA polymerase**

Shiori Ito, Shunsuke Kita, Kentaro Uemura, Yuki Iwama, Takashi Tadokoro, Hirofumi Sawa, Akihiko Sato, Akira Matsuda, Katsumi Maenaka

Facul. Pharm. Sci., Hokkaido Univ., Japan

27P-263 **DEVELOPING BROAD SPECTRUM ANTIVIRALS: PEPTIDE-PORPHYRIN CONJUGATES ACTION, FROM MOLECULAR SCALE TO IN VIVO**

Miguel A. R. B. Castanho

IMM, Instituto de Medicina Molecular, Lisbon, Portugal

27P-264 **Conformational dynamics of SARS-CoV-2 spike protein investigated by single molecule fluorescence spectroscopy**

Yuji Itoh, Taisei Mori, Tateki Suzuki, Takao Hashiguchi, Satoshi Takahashi

IMRAM, Tohoku Univ., Miyagi, Japan/Grad. Sch. Life Sci., Tohoku Univ., Miyagi, Japan

Mechanosensing and Mechanobiology, Biological Temperature

***27P-265** **Investigation of the mechanism of neurite outgrowth using nuclear heating**

Yukiho Shimazaki, Shunsuke Chuma, Kohki Okabe, Yoshie Harada
Department of Biological Sciences, Graduate School of Science, Osaka University, Osaka, Japan/Institute for Protein Research, Osaka University, Osaka, Japan

***27P-266** **Small-molecule FLIM sensors for visualization of temperature in calcium cycling of sarcoplasmic reticulum**

Takeru Yamazaki, Kayoko Nomura, Toshiko Yamazawa, Satoshi Arai
WPI Nano Life Science Institute (WPI-NanoLSI), Kanazawa Univ., Ishikawa, Japan

27P-267 **Differential roles of a periplasmic tension sensor and a cytoplasmic one in the channel opening of MscL**

Takeshi Nomura, Yasuyuki Sawada, Masahiro Sokabe
School of Human Science and Environment, University of Hyogo, Hyogo, Japan

Biophysics of disease

***27P-268** **Tau Inclusions in Soma Induce Neuronal Death in Human iPSC-derived Neurons**

Naoki Kato, Sumihiro Maeda, Hideyuki Okano, Hiroko Bannai
School of Advanced Science and Engineering, Waseda University

***27P-269** **Reversible tangle formation of Alzheimer's disease-fold Tau filaments by conformational changes of the fuzzy coat region**

Shingo Tamai, Takashi Nomura, Ryohei Kojima, John Burke, Atsushi Yamagata, Mikako Shirouzu, Takeshi Fukuma, Motomasa Tanaka
Lab. for Protein Conformation Diseases, RIKEN CBS/Biomedical Sciences & Engineering Track, Tokyo Medical and Dental University

27P-270 **Lead and Mercury poisoning promote cardiac dysfunction in isolated hearts affecting cardiac ion channels and intracellular calcium homeostasis.**

Gonzalo R. Ferreira, Romina Cardozo, Axel Santander, Luisina Chavarria, Santiago Sastre, Milagros Benitez, Nicolas Mujica, Lucia Dominguez, Garth Lamb Nicolson
Laboratory of Ion channels, Biological Membranes and Cell Signaling. Department of Biophysics. Facultad de Medicina. Montevideo. Universidad de la Republica. Uruguay.

Poster Sessions

Miscellaneous topics

***27P-271** **Novel antibacterial agents to treat Multidrug resistant bacteria causing wound infections in diabetic patients**

Mithali Raj Marla, Shailaja Raj Marla, Maria shajan
Kamineni Institute of Medical Sciences

27P-272 **An Interactive 3-D Graph Tool to Visualize Electromagnetic Waves on Web Browsers for Physics Education**

Satoshi Yamaguchi, Masayuki Irisa
Comp. Sci. and Sys. Eng., Kyushu Inst. Tech., Japan