

Program of JSST2021

Wednesday, 1 September

Opening Ceremony
9:30–9:45, Hall A

Plenary Talk 1 (Numerical Simulation and Visual Analytics of Nonlinear Problems)
9:45–10:45, Hall A

Chair: Satoshi Tanaka (Ritsumeikan University)

(Plenary) Understanding system dynamics by combining data-driven analysis and information visualization,

Prof. Hiroaki Natsukawa (Kyoto University)

10:45–11:00 Group Photo

Symposium 1 on Numerical Simulation and Visual Analytics of Nonlinear Problems

Session 01, Invited and Tutorial Talks, 11:00–12:00, Hall A

Chair: Atsushi Kamitani (Yamagata University), Hiroto Tadano (University of Tsukuba)

1. (Invited) Computation of singular values for generalized tensor sum,
Prof. Tomohiro Sogabe (Nagoya University)
2. (Tutorial) A Numerical Study of Parallel Variants of GPBiCG Method with Stabilization Strategy for Solving Linear Equations,
Prof. Kuniyoshi Abe (Gifu Shotoku Gakuen University)

OS8: Numerical Harmonic Analysis and Signal Processing

Session 05, 11:00–12:20, Hall B

Chair: Kensuke Fujinoki (Tokai University)

1. Feature Extraction of Distorted Sound Waveforms and Estimation of Distortion Effects and Their Settings,
Taiga Ishida, Toshio Suzuki and Emiko Ishiwata
2. A digital image watermarking based on high-frequency components with additive low-frequency of the dual-tree complex discrete wavelet transform,
Masayuki Shimoshimbara and Teruya Minamoto
3. Detection of maliciously image blurred portions using dyadic wavelet transform,
Takaki Hiramatsu and Teruya Minamoto
4. Feature Extraction Method for Detecting Early Stage Colorectal Cancer from Endoscopic Images Using Dual-Tree Complex Wavelet Packet Transform,
Daigo Takano and Teruya Minamoto

OS3+OS9: Complex and Ultimate Systems(OS3), Complex Networks and Complex Systems(OS9)

Session 08, 11:00–12:00, Hall C

Chair: Atsushi Tanaka (Yamagata University)

1. Computation of Compressive Flow in Pulsed Focusing Engine (Fugine) Set in Shock Tube,
Daiki Okada, Hiroki Kijima, Tomotaka Kobayashi and Ken Naitoh
2. Computations on high efficiencies of pulsed focusing engine for rocket,
Tomotaka Kobayashi, Hayato Suzuki, Hiroki Kijima and Ken Naitoh
3. A simple model of on--demand transporter,
Yuhei Okubo, Takashi Shimada and Toru Ohira

OS2: Simulation Technology in Origami

Session 12, 11:00–12:00, Hall D

Chair: Yang Yang (Meiji University)

1. Numerical evaluation on the out-of-plane properties of bio-inspired honeycomb cores with extra hollows,
Mudong Li, Sachiko Ishida and Kazuya Saito
2. Sound Insulation Simulations focusing on Height of Origami Core,
Aya Abe and Ichiro Hagiwara
3. Application to anti-vibration table of two-layered origami structures,
Yingxue Bai and Sachiko Ishida

OS7: Advanced Numerical Analysis and Software Technology

Session 16, 11:00–12:00, Hall E

Chair: Akihiro Kudo (National Institute of Technology, Tomakomai College)

1. Application of Ordinary State-based Peridynamics in Bimaterial Modeling,
Huy Anh Nguyen, Hanlin Wang and Satoyuki Tanaka
2. Accurate and Fast Electrostatic Field Analysis with Unstructured Numerical Human Body Model Using Parallel Geometric Multi-Grid Method,
Masamune Nomura and Amane Takei
3. High Performance Implementation of Skyline Solver for Many Core Environment,
Hiroshi Kawai

12:20–13:30 Lunch Break

13:30–14:15 Corporate Seminar 1, Hall A

Differential equations and machine learning/neural networks

Koji Maruyama (Wolfram Research)

14:15–14:30 Break

Symposium 1 on Numerical Simulation and Visual Analytics of Nonlinear Problems

Session 02, 14:30–15:30, Hall A

Chair: Soichiro Ikuno (Tokyo University of Technology)

1. High-Performance Solver for EFG-Type Saddle-Point Problem: Improved Variable-Reduction Method,
Atsushi Kamitani, Teruo Takayama and Ayumu Saitoh
2. Parallel implementation of the approach for solving saddle point problems using block structure,
Hiroto Tadano
3. A Parallelization Strategy for Incomplete Decomposition-based Preconditioning for Solving Linear Systems,
Taiga Yamashita, Taku Itoh and Hiroto Tadano

OS8: Numerical Harmonic Analysis and Signal Processing

Session 06, 14:30–15:30, Hall B

Chair: Toshio Suzuki (Tokyo University of Science)

1. An analysis of electrocardiograms through the wavelet transform with pseudo differential operator like operators,
Masudur Rahman, Minoru Yoshida, Toshinao Kagawa, Shuji Kawasaki, Shunya Nagai, Hidetoshi Oya, Yumi Yahagi and Takayuki Okai
2. Application of Wavelet-Taylor-Galerkin method to the 1D Euler equations,
Kyosuke Yamamoto and Taishi Matsuura
3. Wavelet Galerkin method for three-dimensional boundary value problems with MPC technique,
Satoyuki Tanaka, Thin Thin Htut, Hanlin Wang and Hiroshi Okada

OS3+OS9: Complex and Ultimate Systems (OS3), Complex Networks and Complex Systems (OS9)

Session 09, 14:30–15:30, Hall C

Chair: Ken Naitoh (Waseda University)

1. Driving forces for structural transitions in atomic clusters in collective eigen-time-delay coordinates,
Yusuke Ogasawara and Tomohiro Yanao
2. Multiagent simulation of infectious propagation of COVID-19,
Atsushi Tanaka and Jin Suzuki
3. A prediction algorithm of drosophila lifespan toward high-throughput screening in genetic research,
Masaya Hata, Ki-Hyeong Seong and Siu Kang

OS2: Simulation Technology in Origami

Session 13, 14:30–15:30, Hall D

Chair: Sachiko Ishida (Meiji University)

1. New semi origami structure for collision energy absorption and its manufacturing method,
Yang Yang and Ichiro Hagiwara
2. Development of a Pattern for Continuous Manufacturing of Complex 3D Shapes with Kirigami HoneyCombs,

Luis Diago, Junichi Shinoda and Ichiro Hagiwara

3. 3D structural form creation of earwig fan using the algorithmic design tool,
Kazuya Saito and Chisaki Kitajima

OS7: Advanced Numerical Analysis and Software Technology

Session 17, 14:30–15:30, Hall E

Chair: Hiroshi Kawai (Toyo University)

1. Performance evaluation of wave-sound analysis code: ADVENTURE_Sound,
Akihiro Kudo and Amane Takei
2. Development of Huge-Scale Microwave analysis code: ADVENTURE_Fullwave,
Amane Takei
3. Heat Transfer Analysis with Uncertainty Using Non-Statistical Uncertainty Quantification Method and Parallelized Heat Transfer Analysis Tool,
Sota Goto, Amane Takei, Shigeki Kaneko and Shinobu Yoshimura

15:30–15:45 Break

Symposium 1 on Numerical Simulation and Visual Analytics of Nonlinear Problems

Session 03, 15:45–16:45, Hall A

Chair: Taku Itoh (Nihon University)

1. Photonic Crystal Frequency Demultiplexer Design for Electromagnetic Wave using FDTD and MEMD,
Ran Dong, Daisuke Shigeta, Yoshihisa Fujita and Soichiro Ikuno
2. Numerical Investigation on Superconducting Linear Acceleration System: Shape Optimization of Current Distribution in Electromagnet,
Teruou Takayama, Takazumi Yamaguchi, Ayumu Saitoh and Atsushi Kamitani
3. Three-Dimensional Analysis of Magnetic Shielding Current in High-Temperature Superconducting Tape,
Takazumi Yamaguchi, Hiroaki Ohtani, Shinsuke Satake and Nagato Yanagi

OS8: Numerical Harmonic Analysis and Signal Processing

Session 07, 15:45–16:45, Hall B

Chair: Toshinao Kagawa (Kanagawa University)

1. Some suitable settings for Haar-like four-point orthogonal transform,
Kensuke Fujinoki and Yuji Senda
2. Estimation method for scale-shift relationship between two speech signals based on Fourier-Mellin transform,
Akira Morimoto, Ryuichi Ashino and Takeshi Mandai
3. Some properties of fractional wavelet transform,
Mawardi Bahri and Ryuichi Ashino

OS3+OS9: Complex and Ultimate Systems (OS3), Complex Networks and Complex Systems (OS9)

Session 10, 15:45–16:45, Hall C

Chair: Toru Ohira (Nagoya University)

1. A Study on Tracking Individual Pedestrian Trajectories in a Walking Crowd Using Openpose,
Minagi Miyokawa and Hideo Miyachi
2. Transient Trajectories on Chaotic and Random Neural Network (CRNN),
Hitoaki Yoshida, Takeshi Murakami, Zhongda Liu and Satoshi Kawamura
3. Performance evaluation of collaboration networks by simulations of interacting discovery processes,
Tetsuo Imai

OS6: Multi Dimensional Communication Networks

Session 14, 15:45–16:45, Hall D

Chair: Kenichi Ito (Niigata Institute of Technology)

1. Analysis of information floating at an intersection considering traffic lights,
Kazuyuki Miyakita, Naoyuki Karasawa, Hiroshi Tamura and Keisuke Nakano
2. Effects of human body shadowing and entering and leaving of mobile nodes on information floating in a one-dimensional street,
Naoyuki Karasawa, Kazuyuki Miyakita, Hiroshi Tamura and Keisuke Nakano
3. On the edge Grundy number and the number of vertices in grid graphs,
Hiroshi Tamura and Keisuke Nakano

OS11: Simulation in Nuclear Fusion

Session 18, 15:45–16:45, Hall E

Chair: Seiki Saito (Yamagata University)

1. Simulation of GAMMA 10/PDX plasmas by a plasma fluid model based on the anisotropic ion pressure (AIP model),
Satoshi Togo, Naomichi Ezumi, Mizuki Sakamoto, Md. Shahinul Islam, Tsukasa Sugiyama, Kousuke Takanashi, Tomonori Takizuka and Kenzo Imano
2. Detached helium plasma simulation with collisional-radiative model,
Hirohiko Tanaka, Isaya Saeki, Noriyasu Ohno, Shin Kajita, Taichi Ido, Hiroki Natsume, Akiyoshi Hatayama, Kazuo Hoshino, Keiji Sawada and Motoshi Goto
3. Development of the efficient electrostatic plasma particle simulation code for the study of fusion boundary layer plasmas,
Hiroki Hasegawa and Seiji Ishiguro

16:45–17:00 Break

Symposium 1 on Numerical Simulation and Visual Analytics of Nonlinear Problems

Session 04, 17:00–18:00, Hall A

Chair: Teruo Takayama (Yamagata University)

1. Improved linear notch mechanics based on congruent condition of stress distribution for all notched materials,
Wataru Fujisaki, Ryunosuke Sakamoto and Yuto Shikata
2. Fully explicit computational method for gas-solid two-phase flow with large temperature variation,
Daisuke Toriu and Satoru Ushijima
3. Radiation field analysis using deep learning algorithms,
Katsuhiko Yamaguchi, Masaharu Matsumoto, Yuto Kondo, Kenji Suzuki and Jun Kinugawa

Symposium 2 on Analysis of Optical Vortex Field and Applications

Session 11, 17:00–18:00, Hall C

Chair: Toru Tsujimura (National Institute for Fusion Science)

1. Laguerre-Gaussian beam formation by spatiotemporal coherent motion of electrons,
Shin Kubo, Yuki Goto, Toru Ii Tsujimura and Toru Kobayashi
2. Application of optical vortex to laser-induced fluorescence velocimetry of ions in a plasma,
Shinji Yoshimura, Kenichiro Terasaka and Mitsutoshi Aramaki
3. FDTD analysis of propagation of millimeter wave vortex in magnetized cold-plasma,
Kazuki Chiba and Hideki Kawaguchi

OS6: Multi Dimensional Communication Networks

Session 15, 17:00–17:40, Hall D

Chair: Naoyuki Karasawa (Kaishi Professional University)

1. Various characteristic evaluation on magnetically-coupled intra-body communication using three-dimensional finite element modeling of a human upper-body,
Kenichi Ito
2. Excitation of Metal Plate Using Folded Dipole Antenna,
Takumi Nishime, Hiroshi Hashiguchi, Naobumi Michishita and Hisashi Morishita

OS11: Simulation in Nuclear Fusion

Session 19, 17:00–17:40, Hall E

Chair: Yoshihide Shibata (National Institute of Technology, Gifu college)

1. Development of hydrogen recycling model on carbon divertor by molecular dynamics simulation,
Yuki Kojima, Hiroaki Nakamura, Keiji Sawada, Gakushi Kawamura, Masahiro Kobayashi, Masahiro Hasuo, Masato Iida, Mayuko Miura and Seiki Saito
2. Investigation of hydrogen recycling process on tungsten divertor,
Seiki Saito, Mayuko Miura, Hiroaki Nakamura, Keiji Sawada, Gakushi Kawamura, Masahiro Kobayashi and Masahiro Hasuo

[Thursday, 2 September](#)

Plenary Talk 2 (Analysis of Optical Vortex Field and Applications)

9:00–10:00, Hall A

Chair: Satoshi Tanaka (Osaka Prefecture University)

(Plenary) Interaction of optical vortex and matter systems: from microscopic to macroscopic regimes and linkage between them,

Prof. Hajime Ishihara (Osaka University)

10:00–10:15 Break

Symposium 1 on Numerical Simulation and Visual Analytics of Nonlinear Problems

Session 20, 10:15–11:15, Hall A

Chair: Koji Koyamada (Kyoto University)

1. Improvement of Visibility in Feature Emphasis Visualization of 3D Measured Point Cloud,
Mizuki Katahira, Kyoko Hasegawa, Liang Li and Satoshi Tanaka
2. Improving Depth Perception of Transparent Objects in Stereoscopic Vision using Ambient Occlusion,
Kota Kataoka, Yuishi Sakano, Naohisa Sakamoto, Kyoko Hasegawa, Liang Li and Satoshi Tanaka
3. Adaptive Opacity Control using Implicit Function for Visualizing Large-Scale 3D Measurement Point Clouds,
Masaya Kishimoto, Motoaki Adachi, Kyoko Hasegawa, Liang Li and Satoshi Tanaka

Symposium 2 on Analysis of Optical Vortex Field and Applications

Session 22, Invited Talks, 10:15–11:15, Hall B

Chair: Hideki Kawaguchi (Muroran Institute of Technology)

1. (Invited) Generation of X-ray vortices by Bragg reflection from crystals and microscopy to diagnose topological charge distribution,
Prof. Yoshiki Kohmura (RIKEN SPring-8 Center)
2. (Invited) Propagation properties of optical vortex in magnetized plasma,
Dr. Toru Tsujimura (National Institute for Fusion Science)

Symposium 3 on Advanced Concept and Methodology in Bioscience

Session 24, 10:15–11:15, Hall C

Chair: Susumu Fujiwara (Kyoto Institute of Technology)

1. Possibility of Visualisation of electrostatic potential by electron microscopy,
Takuo Yasunaga and Yasuhisa Honda
2. Linear response theory applied to molecular dynamics simulations,
Kazumi Omata, Ryuta Kawanami, Hiroaki Nakamura and Susumu Fujiwara
3. Molecular simulations on dynamics of lipid bilayers and water molecules,
Yuji Higuchi, Hiroaki Ito, Naofumi Shimokawa, Yuta Asano, Takuya Kuwahara and Mafumi Hishida

OS11: Simulation in Nuclear Fusion

Session 26, 10:15–11:15, Hall D

Chair: Hiroki Hasegawa (National Institute for Fusion Science)

1. Molecular Dynamics Simulation on Hydrogen Isotope Molecules Emitted from Amorphous Carbon,
Hiroaki Nakamura, Seiki Saito, Keiji Sawada, Masahiro Kobayashi and Masahiro Hasuo
2. Studies on ion heating through the merging of spherical tokamaks by means of particle simulations,
Shunsuke Usami, Ritoku Horiuchi, Toseo Moritaka and Yasushi Ono
3. Visualization analysis of intersection points of energetic tritons and plasma facing wall in LHD by virtual-reality system,
Hiroaki Ohtani, Suguru Masuzaki, Kunihiro Ogawa and Seiji Ishiguro

OS1: Verified Numerical Computations

Session 28, 10:15–11:15, Hall E

Chair: Katsuhisa Ozaki (Shibaura Institute of Technology)

1. Constructive a priori error estimates for Poisson's equation with discontinuous coefficients,
Kazuaki Tanaka and Mitsuhiro T. Nakao
2. Numerical verification for positive solutions of the Hénon equation on bounded domains,
Taisei Asai, Kazuaki Tanaka and Shin'ichi Oishi
3. Acceleration of Error-Free Transformation of Matrix Multiplication using GPU Tensor Cores,
Katsuhisa Ozaki, Daichi Mukunoki and Takeshi Ogita

11:15–11:30 Break

Symposium 1 on Numerical Simulation and Visual Analytics of Nonlinear Problems

Session 21, 11:30–12:30, Hall A

Chair: Ran Dong (Tokyo University of Technology)

1. Generation of Implicit Surface Based on Isoparametric Elements,
Taku Itoh
2. A Study for Recognizing and Simulating Deliberate Emotional Expressions in Japanese Utterance,
Chihiro Asada, Yuichi Tamura, Ryo Nagata and Katsunari Sato
3. Continuous collision avoidance model between pedestrians,
Kotori Tsutsumi, Yuichi Tamura and Katsunari Sato

Symposium 2 on Analysis of Optical Vortex Field and Applications

Session 23, 11:30–12:10, Hall B

Chair: Masahiro Katoh (Hiroshima University)

1. Creation of hexagonal close-packed photonic-ring with optical vortex,
Kanta Takahashi, Haruki Kawaguchi, Kei Umesato, Yoshihiko Arita, Keisaku Yamane, Ryuji Morita, Ken-ichi Yuyama, Satayuki Kawano, Katsuhiko Miyamoto and Takashige Omatsu
2. Quantum interference of spontaneous optical vortex photon emission in a cylindrical waveguide,
Satoshi Tanaka, Kazuki Kanki, Yuki Goto, Shin Kubo and Tomio Petrosky

Symposium 3 on Advanced Concept and Methodology in Bioscience

Session 25, 11:30–12:30, Hall C

Chair: Takahiro Kenmotsu (Doshisha University)

1. Numerical Simulation and Experiments of Intermittent Camphor Boats,
Takatoshi Ichino
2. Particle layer effect of liquid marble on Belousov–Zhabotinsky reaction,
Yasunao Okamoto, Jun'ya Tanoue, Daigo Yamamoto and Akihisa Shioi
3. Numerical calculation for near-wall accumulation of swimming microorganism,
Takuya Ohmura, Yukinori Nishigami and Masatoshi Ichikawa

OS10: Computational Electromagnetics and Its Applications

Session 27, 11:30–12:30, Hall D

Chair: Kota Watanabe (Muroran Institute of Technology)

1. Analysis of Foreign Object Detection for Wireless power transfer Using Differential Coils,
Yunyi Gong, Yoshitsugu Otomo and Hajime Igarashi
2. On Equivalent Circuit Representation of Transformer Considering Eddy Currents,
Qiao Liu, Yoshitsugu Otomo and Hajime Igarashi
3. Numerical Optical Modeling of Nanostructures using Fractal Dimension,
Yoshihisa Fujita, Hiroaki Nakamura, Soichiro Ikuno and Susumu Nakata

OS1: Verified Numerical Computations

Session 29, 11:30–12:30, Hall E

Chair: Kazuaki Tanaka (Waseda University)

1. Preconditioner for Ill-conditioned Tall and Skinny Matrices,
Atsushi Minamihata, Katsuhisa Ozaki, Takeshi Ogita and Shin'ichi Oishi
2. Verified Numerical Computations for a Standard Eigenvalue Problem Without Directed Rounding,
Takeshi Terao, Katsuhisa Ozaki, Takeshi Ogita and Toshiyuki Imamura
3. Acceleration of Iterative Refinement for Symmetric Eigenvalue Decomposition,
Yuki Uchino, Katsuhisa Ozaki and Takeshi Ogita

12:30–13:30 Lunch Break

13:30–14:15 Corporate Seminar 2, Hall A

The Trends of Latest Personal Supercomputer: Performance and App Support Status

Keiou Nishimura and Rika Yamashita (Visual Technology)

14:15–14:30 Break

Plenary Talk 3 (Advanced Concept and Methodology in Bioscience)

14:30–15:00, Hall A

Chair: Takahiro Kenmotsu (Doshisha University)

(Plenary) The mechanical genome,

Prof. Helmut Schiessel (Technical University Dresden)

15:00–15:05 Announcement about JSST2022, Hall A

15:05–15:15 Break

Shotgun Presentation, 15:15–16:15, Hall A

16:15–16:30 Break

Student Session, 16:30–18:00, Remo

Chair: Hiroshi Tamura (Chuo University) and Yoshihide Shibata (National Institute of Technology, Gifu college)

(Please refer to the [correspondence table](#) to see the table number in Remo.)

- P01. Defect Detection by Simulation and Machine Learning,
Yu Shirafuji and Tomonori Yamada
- P02. Short-term prediction using RBF network with coordinate transformation,
Kohei Saito and Satoshi Kitayama
- P03. Discrimination of Japanese drum player using machine learning,
Kanako TOYODA and Hiroshi TAMURA
- P04. Perception of Direction of Moving Sounds. -Study on Adaptive Method-,
Tetsu Takizawa and Akihiro Kudo
- P05. A Method for setting up Servers for Edge Computing in Fifth-Generation Mobile Communication Systems,
Ryota EHARA and Hiroshi TAMURA
- P06. Solving Sudoku with Graph Convolutional Networks,
Koichiro Ishii and Hiroshi Tamura
- P07. On delivery methods using UAV in hilly and mountainous areas,
Yuto MASHIKO and Hiroshi TAMURA
- P08. Development of visualization system for radiation by mixed reality technology,
Masato Iida, Sotaro Kudo, Rika Kawahara, Katsuhiko Yamaguchi and Seiki Saito
- P09. Computation of Micro-particles and Fluid Flow through Porous Structure,
Nobuyuki Hirooka and Satoru Ushijima
- P10. UAV assisted Survivor Search Scheme with Survivor Density Distribution Prediction,
Chen Haosong, Kazutoshi Yoshii and Shigeru Shimamoto
- P11. Elastodynamic analysis of elastic wave scattering using coupling method of CQBEM and FEM,
Haruhiko Takeda and Takahiro Saitoh
- P12. Particle-scale FSI computation for internal fluidization in gravel-particle bed by upward water jet,
S. Ushijima, J. Ohno, D. Toriu and Y. Ueno

- P13. Embodiment Design of Biped Robot for Walking on Rough Ground,
Kakeru Yokoyama, Van-Tinh Nguyen and Hiroshi Hasegawa
- P14. Effect of Adsorption and Reactive Behavior of Water Vapor in Reactive Magnetron Sputtering Simulations using Berg's Model,
Allen Vincent B. Catapang and Motoi Wada
- P15. Target ionization and surface damage models of graphite via nanosecond pulse irradiation,
James Edward Hernandez, Kengo Moribayashi, James Koga and Motoi Wada
- P16. Analysis of the space charge effect in an ion mobility spectrometer,
Keith Neelson M. Penado, James Edward A. Hernandez, Allen Vincent B. Catapang and Motoi Wada
- P17. Molecular Dynamics Simulation of Clustered DNA Damage Composed of Apurinic/Apyrimidinic Sites,
Kazushi Terakawa, Kawanami Ryuta, Haolun Li, Susumu Fujiwara, Tomoko Mizuguchi, Yoshiteru Yonetani and Hiroaki Nakamura
- P18. Consideration of environment-friendly manufacturing in China,
ZHOU PEIHAN, Hitoshi Sugimoto and Akira Otsuka
- P19. The study on effects of wireless standards on dense Wi-Fi environments with NS3,
Hiroshi Iwata and Sakie Horiuchi
- P20. Computational method for interactions between deformable objects and fluid flows using immersed boundary method and mass spring model,
Niku Guinea, Daisuke Toriu and Satoru Ushijima
- P21. Simulation of elastic waves in micropolar bimetals using 2-D M-EFIT,
Yusuke Suzuki and Takahiro Saitoh
- P25. Molecular Dynamics Study of Water Dynamics in Zwitterionic Polymer Brush-Water Interface,
Yuya Fujinaga, Susumu Fujiwara and Tomoko Mizuguchi
- P26. Development for High-Speed of High-Frequency Electromagnetic Fields Solver: ADVENTURE_FullWave,
Kento Ohnaka and Amane Takei
- P27. Development and application for wave-sound field Solver: ADVENTURE_Sound,
Ryo Yoshidome and Amane Takei
- P28. Molecular dynamics simulation and numeric calculation of a damaged polyethylene assuming tritium substitution and decay,
Ryuta Kawanami, Susumu Fujiwara, Hiroaki Nakamura and Kazumi Omata
- P29. Magnetization process analysis of magnetic material with void defect,
Yasuyuki Igarashi and Katsuhiko Yamaguchi
- P30. Mechanical properties of hydrogen embrittled austenitic stainless steel,
Keisuke Uchida and Katsuhiko Yamaguchi
- P31. Simulation for estimation of radiation source distribution measured by NaI(Tl) scintillation detector,
Sota Suga, Haruka Yamazaki and Katsuhiko Yamaguchi
- P32. Simulation of thermoluminescence measurement of structural materials,
Misaki Uesugi, Tsugiko Takase and Katsuhiko Yamaguchi
- P33. Study for Development and application of Nonsteady High-Frequency Electromagnetic Field

method,

Souta Nishimura and Amane Takei

- P34. Localization phenomenon of large and small particles by congestion degree and boundary conditions: Cell model experiment on cm scale,

Maho Kuroda, Satoshi Takatori, Chwen-Yang Shew, Takahiro Kenmotsu and Kenichi Yoshikawa

- P35. Sightseeing Guidance System to Maximize Satisfaction Using Real-Time Spot Information,

Yuya Sato, Yoko Nakajima and Hirotoshi Honma

- P36. Evaluation of solvent-accessible surface area of back-bone hydrogen in telomeric DNA for studying tritium resistance of DNA,

Yohei Tsuchida, Seiki Saito, Hiroaki Nakamura, Yoshiteru Yonetani and Susumu Fujiwara

- P37. Smart Diagnosis on Disease State based on Characteristic Cracking Pattern by Stretching Response of Tissue Slice,

Tagami Yukiho, Satoshi Takatori, Takahiro Kenmotsu and Kenichi Yoshikawa

Friday, 3 September

Plenary Talk 4 and Invited Talk 4 (Advanced Concept and Methodology in Bioscience)

9:00–10:00, Hall A

Chair: Susumu Fujiwara (Kyoto Institute of Technology)

(Plenary) Cooperation of Real-World Modeling with Simulation toward the Problem “What is Life?”,

Prof. Kenichi Yoshikawa (Doshisha University)

(Invited) Water on the DNA surface: microscopic insight from molecular dynamics simulations,

Prof. Yoshiteru Yonetani (National Institute for Quantum and Radiological Science and Technology)

10:00–10:15 Break

OS4: Design and Simulations for System Integration

Session 30, 10:15–11:15, Hall A

Chair: Shunsuke Nansai (Tokyo Denki University)

1. Development of an optimal routing system for traveling among farm fields,
Takuma Nemoto, Naoki Niitsuma and Norihiro Kamamichi
2. Elbow Joint Angle Estimation Method Using 1D-CNN with Quantized EMG Generated by SR and multi-sensor,
Daichi Kashimoto and Teruyoshi Sadahiro
3. Elbow Joint Angle Estimation from Smoothed EMG Using Summing Network and Multi-sensor,
Naoki Ikeda and Teruyoshi Sadahiro

RS

Session 33, 10:15–11:15, Hall B

Chair: Nobuaki Ohno (University of Hyogo)

1. Simulation of Team Cooperation Considering Team Cognition – Effect of Mutual Beliefs on Team Performance,
Sumie Cho, Taro Kanno, Daichi Mitsuhashi and Kazuo Furuta
2. Agent-based simulation of consumer panic buying: feasible measures for mitigating its effect,
Sotaro Kawanishi, Rithika Dulam, Kazuo Furuta and Taro Kanno
3. Comprehending and mitigating the implications of consumer panic buying,
Rithika Dulam, Kazuo Furuta and Taro Kanno

Symposium 3 on Advanced Concept and Methodology in Bioscience

Session 36, Tutorial Talks, 10:15–11:05, Hall C

Chair: Katsuhiko Yamaguchi (Fukushima University)

1. (Tutorial) Visualization of dose rate distribution around Fukushima Daiichi Nuclear Power Plant using artificial neural networks,
Dr. Miyuki Sasaki (Japan Atomic Energy Agency)

2. Estimation of distribution of Uranium as shielding body using machine learning,
Haruka Yamazaki, Yuto Kondo and Katsuhiko Yamaguchi

OS10: Computational Electromagnetics and Its Applications

Session 39, 10:15–11:15, Hall D

Chair: Hajime Igarashi (Hokkaido University)

1. Application of Multilayered Division Method to Scattering by Slanted Gratings,
Hideaki Wakabayashi, Masamitsu Asai and Jiro Yamakita
2. On the regular tetrahedral layout of helices for a quasi-isotropic chiral particle,
Masamitsu Asai, Hideaki Wakabayashi and Jiro Yamakita
3. An investigation of deflated ICCG method for finite element analysis of eddy current problem,
Kota Watanabe and Wataru Kotani

OS5: Coupled-Simulation and Co-Simulation

Session 42, 10:15–11:15, Hall E

Chair: Daisuke Ishihara (Kyushu Institute of Technology)

1. Eulerian coupling simulation method for dynamics of air and shock-absorbing structure,
Ryohei Katsumata, Koji Nishiguchi, Tokimasa Shimada, Hiroya Hoshiba and Junji Kato
2. Coupled analysis for active control and energy harvesting from flow-induced vibration,
Shigeki Kaneko and Shinobu Yoshimura
3. Finite element approach to fluid-structure interaction with contact,
Tomohiro Sawada and Junichi Matsumoto

11:15–11:30 Break

OS4: Design and Simulations for System Integration

Session 31, 11:30–12:10, Hall A

Chair: Masami Iwase (Tokyo Denki University)

1. Locomotion Control of Snake-like Robot utilizing Friction Forces: Feasibility Verification via Two Wheeled Robot,
Shunsuke Nansai and Hiroshi Itoh
2. Degradation diagnosis of Lithium-ion batteries considering operation temperature,
Yuuki Odagaki, Kosuke Toda, Norihiro Kamamichi, Masami Iwase and Yasuyuki Satoh

RS

Session 34, 11:30–12:10, Hall B

Chair: Hiroto Tadano (University of Tsukuba)

1. Analysis of electrostatically induced current in humans when in contact with a stepladder under power transmission lines,
Yuta Ishida and Shoji Hamada
2. Effects of the number of observations on 4D-Var data assimilation: preliminary experiments,
Yasuyoshi Horibata

Symposium 3 on Advanced Concept and Methodology in Bioscience

Session 37, 11:30–12:30, Hall C

Chair: Takahiro Kenmotsu (Doshisha University)

1. Rate of double strand breaks of genome-sized DNA in tritiated water: dependence on tritium concentration, water temperature, and DNA concentration,
Yuji Hatano, Hiroto Shimoyachi, Tatsya Asano, Takahiro Kenmotsu, Takuro Wada, Yasuhisa Oya, Hiroaki Nakamura and Susumu Fujiwara
2. Tritium-induced damage on polymers and biopolymers: Molecular dynamics simulations and theoretical calculations,
Susumu Fujiwara, Haolun Li, Ryuta Kawanami, Kazushi Terakawa, Tomoko Mizuguchi, Hiroaki Nakamura, Yoshiteru Yonetani, Kazumi Omata, Seiki Saito, Takuo Yasunaga, Ayako Nakata, Tsuyoshi Miyazaki, Takao Otsuka, Takahiro Kenmotsu, Yuji Hatano and Shinji Saito
3. Effect of tritium beta decay in deoxy-D-ribose on duplex of telomeric DNA,
Kento Ishiguro, Hiroaki Nakamura, Takuo Yasunaga, Susumu Fujiwara, Tomoko Mizuguchi, Ayako Nakata, Tsuyoshi Miyazaki, Takahiro Kenmotsu, Yuji Hatano, Shinji Saito and Yoshiteru Yonetani

OS10: Computational Electromagnetics and Its Applications

Session 40, 11:30–12:30, Hall D

Chair: Hideki Kawaguchi (Muroran Institute of Technology)

1. Examination of Coil Resistance Measurement during Wireless Power Transfer and Comparison with Finite Element Analysis,
Daigo Yonetsu, Yuji Nakano and Naoya Hamano
2. Study on Parallel Coupled Analysis of High-Frequency Electromagnetic Field and Heat Conduction Problems of Numerical Human Body Model,
Shin-ichiro Sugimoto, Amane Takei and Masao Ogino
3. Analysis of electrostatically induced short-circuit current in a human body on a 500 kV transmission tower,
Shoji Hamada

OS5: Coupled-Simulation and Co-Simulation

Session 43, 11:30–12:30, Hall E

Chair: Tomohiro Sawada (National Institute of Advanced Industrial Science and Technology)

1. Comparative Study of Strongly Coupled Fluid and Structure Systems With Computational Control,
Vinay Shankar and Daisuke Ishihara
2. Passive motions and aerodynamic performance of insect's flapping wings simulated using the pixel wing model and the strong coupling method,
Minato Onishi and Daisuke Ishihara
3. Comparative study on partitioned iterative algorithms for coupled multiple phenomena in piezoelectric energy harvesters,
Naoto Takayama, Daisuke Ishihara, Prakasha Ramegowda and Shunsuke Nozaki

12:30–13:30 Lunch Break

OS4: Design and Simulations for System Integration

Session 32, 13:30–14:10, Hall A

Chair: Takuma Nemoto (Tokyo Denki University)

1. Simulation of Cable-Laying Snake-like Robot Locomotion on Cable Rack,
Hayato Nagae, Junta Takarabe, Kouji Uchiyama, Masami Iwase and Yasuyuki Satoh
2. Path tracking flight of engine-driven multicopter for forest inventory,
Yuto Terada, Kazuya Sato, Naoki Masuda, Masami Iwase and Yasuyuki Sato

Symposium 2 on Analysis of Optical Vortex Field and Applications

Session 35, 13:30–14:10, Hall B

Chair: Hideki Kawaguchi (Muroran Institute of Technology)

1. Angular momentum of electromagnetic wave radiated from a relativistic electron moving on a spiral orbit,
Elham Salehi
2. Structure formation of chiral needle by modeled force fields with helical phase using molecular dynamics simulation,
Shu Habu and Hiroaki Nakamura

Symposium 3 on Advanced Concept and Methodology in Bioscience

Session 38, 13:30–14:10, Hall C

Chair: Katsuhiko Yamaguchi (Fukushima University)

1. The study on the stability of DNA structure by steered molecular dynamics simulations,
Tomoko Mizuguchi, Naoto Fukushima, Takashi Aoki, Masato Hashimoto and Susumu Fujiwara
2. Reactive molecular dynamics study on damaged polyethylene after hydrogen abstraction by radiation,
Haolun Li, Susumu Fujiwara, Hiroaki Nakamura, Tomoko Mizuguchi, Ayako Nakata, Tsuyoshi Miyazaki, Shinji Saito and Wataru Sakai

OS10: Computational Electromagnetics and Its Applications

Session 41, 13:30–14:10, Hall D

Chair: Yoshihisa Fujita (Ritsumeikan University)

1. Comparison of beam-wall interaction models using boundary element method,
Kazuhiro Fujita
2. Design study of BiCG-Stab matrix solver circuit for FIT scheme based on dataflow architecture,
Chenxu Wang, Seiya Ota and Hideki Kawaguchi

OS5: Coupled-Simulation and Co-Simulation

Session 44, 13:30–14:10, Hall E

Chair: Koji Nishiguchi (Nagoya University)

1. Importance of 3-D piezoelectric coupled analysis in evaluation of thin piezoelectric bimorph deformation,
Shoichi Aikawa, Daisuke Ishihara, Naoki Iwamaru and Prakasha Ramegowda
2. Comparative study on linear and quadratic solid direct-piezoelectric solvers with shell inverse-piezoelectric solver to analyze a thin piezoelectric bimorph device,
Prakasha Chigahalli Ramegowda and Daisuke Ishihara

14:10–14:30 Break

Closing Ceremony

14:30–15:00, Hall A