US-Japan Joint Institute of Fusion Theory Workshop on “Multi-scale Simulations in Plasma Physics”

@ Inuyama International Sightseeing Center «FREUDE»

US-Japan Joint Institute of Fusion Theory (JIFT) Workshop on “Multi-scale Simulations in Plasma Physics” will be held on 11-12 January, 2019 at Inuyama International Sightseeing Center «FREUDE» jointly with Symposium on Hierarchy and Holism in Natural Sciences. We would like to invite you to participate in this workshop. An optional conference dinner will take place on Friday, 11 January 2019.
Contact e-mail address : jiftmultiscale@nifs.ac.jp

Presenters from United States

Dr. William Tsubasa Taitano (Los Alamos National Laboratory)
Dr. Lee Ricketson (Lawrence Livermore National Laboratory)
Dr. Alexander Tchekhovskoy (Northwestern University)
Prof. Bill Dorland (University of Maryland)
Dr. Luis Chacon (Los Alamos National Laboratory)

Presenters from Japan

Prof. Momoji Kubo (Tohoku University)
Prof. Hitoshi Washizu (University of Hyogo)
Dr. Atsushi Ito (National Institute for Fusion Science)
Dr. Tomohisa Kawashima (The National Astronomical Observatory of Japan)
Dr. Shinya Maeyama (Nagoya University)
Dr. Ryusuke Numata (University of Hyogo)
Mr. Tretler Rudolf (University of Electro-Communications)
Dr. Takashi Shiroto (Institute of Laser Engineering)
Prof. Yasushi Todo (National Institute for Fusion Science)
Dr. Masanori Nunami (National Institute for Fusion Science)
Dr. Kenji Imadera (Kyoto University)
Dr. Toseo Moritaka (National Institute for Fusion Science)
Friday, January 11th

9:00 AM: Welcome / Group photo

International Session 1  
Chair: Seiji Ishiguro (NIFS)

9:20: Bill Dorland (University of Maryland)  
“Gyrokinetic multiscale simulation”

10:00: Momoji Kubo (Tohoku University)  
“Multi-Physics Simulations on Materials Design by Superlarge-Scale Molecular Dynamics Method”

10:40: Break

International Session 2  
Chair: Shinji Saito (IMS)

11:00: Hitoshi Washizu (University of Hyogo)  
“Molecular simulations for electrolyte solutions in interface”

11:40: Atsushi Ito (National Institute for Fusion Science)  
“BCA-MD-KMC Multi-hybrid Simulation for Tungsten Nanostructure Formation under Helium Plasma Irradiation”

12:20-14:50: Lunch Break

International Session 3  
Chair: Bill Dorland (University of Maryland)

14:50: Tomohisa Kawashima (The National Astronomical Observatory of Japan)  
“PIC simulations of Mushroom instability in relativistic jets”

15:50: Shinya Maeyama (Nagoya University)  
“Multi-scale simulation of electron/ion-scale turbulence in Tokamak plasmas”

16.10: Break

16:30: Ryusuke Numata (University of Hyogo)  
“Plasma heating during turbulent kinetic magnetic reconnection”

17:10: Tretler Rudolf (University of Electro-Communications)  
“Plasma sheet thinning due to loss of the near-Earth magnetotail plasma”

17:50: Closing

19:00: Dinner (Place: Meitetsu Inuyama Hotel)
Saturday, January 12th

International Session 4
Chair: Ryusuke Numata (University of Hyogo)

9:10: Luis Chacon (Los Alamos National Laboratory)
“An implicit, multiscale, conservative hybrid kinetic-ion/fluid-electron algorithm for plasma simulation”

9:50: Takashi Shiroto (Institute of Laser Engineering)
“Structure-preserving schemes for high-energy-density plasmas”

10:30: Break

International Session 5
Chair: Luis Chacon (Los Alamos National Laboratory)

10:50: Lee Ricketson (Lawrence Livermore National Laboratory)
“An energy-conserving and asymptotic-preserving time integrator for implicit PIC simulations of magnetized plasmas”

11:30: Yasushi Todo (National Institute for Fusion Science)
“Recent progress of kinetic-MHD hybrid simulations”

12:10-14:00: Lunch Break

International Session 6
Chair: Tomo Tatsuno (University of Electro-Communications)

14:00: William Tsubasa Taitano (Los Alamos National Laboratory)
“Modern Multiscale Methods for the Vlasov-Fokker-Planck Equation”

14:40: Alexander Tchekhovskoy (Northwestern University)
“General relativistic MHD simulations of accretion disks and jets”

15:20: Break

International Session 7
Chair: Hideo Sugama (NIFS)

15:40: Masanori Nunami (National Institute for Fusion Science)
“Recent progress in turbulence simulation study on LHD plasma transport”

16:20: Kenji Imadera (Kyoto University)
“Global gyrokinetic electrostatic/electromagnetic GKNET simulation”

17:00: Toseo Moritaka (National Institute for Fusion Science)
“Development of a gyrokinetic PIC simulation code for whole device modeling of Stellarator”

17:50: Adjourn