



Center for Research on Innovative Simulation Software

[Research and Development of Advanced Simulation used in Industry]

<http://www.ciss.iis.u-tokyo.ac.jp/english/>

Aiming at Innovation in MO-NO-ZU-KU-RI

Advanced simulation software drastically changes engineering

For developing leading-edge technologies to simulate all processes from material development to disposal and meeting the demands of building a sustainable society, Center for Research on Innovative Simulation Software (CISS) is reconstructing and dramatically strengthening core competencies in dynamics and developing fundamental technologies that are implemented to advanced simulation software. We aim at

- ◆ Conducting world-leading advanced research on hyper-large-scale simulation software
- ◆ Strengthening the educational foundation to educate how to make and use hyper-simulation software for industrial application
- ◆ Putting R&D results in common industrial use to enhance global competitiveness of domestic engineering

Director of Center		Deputy Director of Center												
HASEGAWA, Yosuke Professor	UMENO, Yoshitaka Professor	YOSHIKAWA, Nobuhiro Professor	HAMBA, Fujihiko Professor*	OSHIMA, Marie Professor*	SATO, Fumitoshi Professor	MIZOGUCHI, Teruyasu Professor*	INOUE, Junya Professor*	OOKA, Ryoza Professor*	FURUKAWA, Akira Associate Prof.*	TOCHIGI, Eita Associate Prof.*	KIKUMOTO, Hideki Associate Prof.*	SCIAZKO, Anna Lecturer*		

* Cooperative members

Introduction of the Research

Development of Cutting-edge Simulation Software Packages

Building New Discipline of Integrated Mechanics

Function of Materials

N. Yoshikawa
Optimum Design Search of high pressure hydrogen tank by machine learning

T. Mizoguchi
Wave function at the bottom of the conduction band of MgO

Y. Umemo
Deformation of Polycarbonate by Coarse-Grained Particle Model Simulation

J. Inoue
Data-driven approach to understand and predict steel microstructures and their properties

Probability and Quantum Computational Science

F. Sato
Highest occupied molecular orbital of insulin drawn by cloud-like model

A. Furukawa
particle configurations of glass-forming liquids under shear flow

Fluid and Thermal Physics

F. Hamba
Contours of kinetic energy of turbulent diffusion in rotating system

Y. Hasegawa
Instantaneous turbulent flow over a flat plate under optimal control for heat transfer enhancement and friction drag suppression

M. Oshima
Comparison of Hemodynamic Parameters Before and After Surgery

R. Ooka
Analyses of flowfield in and around building using Lattice Boltzmann Method

H. Kikumoto
Identification of pollutant sources in an urban space by applying turbulence and statistical analysis

A. Sciazko
Understanding degradation in the microstructures of electrochemical devices using machine learning

