

Program

Speakers

Titles

Welcome

Monday morning (20 September, 2021)

Opening

Welcome by Prof. Jean-Philippe Agresti, Dean of Law and Political Science, Aix Marseille University

Technical Presentations

Satoshi Hamaguchi (Osaka Univ., Japan)
Yuasuhiro Kuramitsu (Osaka Univ., Japan)
Tatsuya Yokoyama (Univ. of Tokyo, Japan)
Kai Schneider (Aix Marseille Univ., France)

Plasma processing and data science
Data driven optimizations on laser ion acceleration
Data-driven prediction of radiative collapse for avoidance in fusion plasmas
Wavelets and turbulence: coherent vorticity extraction and a wavelet-based CNN3d for superresolution of turbulent vorticity
Tomographic reconstruction of the tangential viewing image of the toroidal plasma -- Comparison of non-stationary Gaussian Process method and the orthogonal decomposition method with L1 regularization

Satoshi Odachi (NIFS, Japan)

Monday afternoon

Andrés de Bustos (CIEMAT, Spain)

Automatic identification of MHD modes in magnetic fluctuation spectrograms using deep learning techniques

Nathaniel Saura (Aix Marseille Univ., France)

Modeling of the Subgrid Stress Tensor in Homogeneous Isotropic Turbulence using 3D Convolutional Neural Network

Kenzo Imano (Osaka Univ., Japan)

Effects of transient loads to first wall armors

Abdulrahman Basher (Osaka Univ., Japan)

Mechanisms of Thermal Atomic Layer Etching (ALE) of Metal by β -diketones

Akito Ono (Osaka Univ., Japan)

Predicting the angular dependence of sputtering using machine learning

Yanick Marandet (Aix Marseille Univ., France)

Review of the French national fusion science program

Tuesday morning (21 September, 2021)

Lars Banko (Ruhr Univ. Bochum, Germany)

Variational autoencoders as visualisation and analysis tools for spectrum-like data.

Masayuki Yokoyama (NIFS, Japan)

Plausible exploitation of statistical approaches on fusion science

Makoto Sasaki (Nihon Univ., Japan)

Quantification and visualization of energy transfer among turbulent structures based on singular value decomposition

Kunihiro Kamataki (Kyushu Univ., Japan)

Predictive analytics in plasma process using machine learning tools and techniques

Tuesday afternoon

Jan Trieschmann (Brandenburg Univ. of Technology Cottbus-Senftenberg, Germany)

Machine learning sputtering models for linking surface and plasma simulations

Giuseppe A. Rattá (CIEMAT, Spain)

Disruption prediction strategy for mitigation, prevention and avoidance at JET using machine learning techniques

Lenka Zajickova (Masaryk Univ. Czech. Republic)

Self-organization phenomena in cold atmospheric pressure plasmas

Kentarō Sakai (Osaka Univ., Japan)

Collective Thomson scattering analysis with Markov chain Monte Carlo

Takumi Minami (Osaka Univ., Japan)

Development of real-time ion detection system using scintillators for laser-driven GeV energy ions

Wednesday morning (22 September, 2021)

Daiji Kato (NIFS, Japan)

Statistical properties of atomic structures of r-process elements

Jesus Vega (CIEMAT, Spain)

Disruption predictors in nuclear fusion by using machine learning methods: an overview

Sadruddin Benkadda (Aix Marseille Univ., France)

Physics Informed Artificial Intelligence

Andrea Rigoni (CNR ENEA INFN, Univ. di Padova, Italy)

Variational autoencoders for real-time diagnostic data integration

Masakazu Ichikawa (Osaka Univ., Japan)

Regression models of low-temperature plasma profiles

Koh Matsumoto (Osaka Univ., Japan)

Estimation of elemental composition of plasma by emission spectrum analysis using machine learning

Tomoya Taguchi (Osaka Univ., Japan)

Analysis of solid-state nuclear track detectors using machine learning

Closing remark

Sadruddin Benkadda (Aix Marseille Univ., France)