

# International Workshop on Extreme Plasma Physics: Fusion of Magnetically Confined Plasmas with Lasers

**Date:** August 30 - 31, 2023  
**Place:** 402 meeting room, National Institute for Fusion Science  
**Zoom:** **Contact us if you participate online**  
**Contact:** Kentaro Sakai (sakai.kentaro@nifs.ac.jp, NIFS)

## Agenda

### Day 1: August 30

- 14:00 Opening: Ryo Yasuhara (NIFS)
- 14:10 Introduction: Yasuhiro Kuramitsu (Osaka University)
- 14:20 “Intermediate shocks: a review” Tohru Hada (Kyushu University) **Tutorial**
- 15:00 “Experimental investigation on intermediate shocks in magnetically confined plasmas with lasers”  
Kentaro Sakai (NIFS)
- 15:20 “Introduction of linear plasma device TPD-II (NIFS facility)” Yuki Hayashi (NIFS)
- 15:30 “Introduction of HYPER-I (NIFS facility)” Shinji Yoshimura (NIFS)
- 15:40 [Break](#)
- 16:00 “Applications of machine learning in plasma science” Nathaniel Saura (Aix Marseille University)
- 16:20 “Multi-scale deep learning for estimating horizontal velocity fields on the solar surface”  
Ryohtaroh T. Ishikawa (NIFS)
- 16:40 “Resolution of physics informed neural network” Naoki Watamura (Osaka University)
- 17:00 “Advancements in neural network techniques for electric and magnetic field reconstruction”  
Chun-Sung Jao (National Cheng Kung University)
- 17:20 “Reconstruction of MHD structures from observation data by using physics informed neural networks”  
Shogo Isayama (Kyushu University)
- 17:40 Discussions
- 18:00 Closing Remarks: Ryo Yasuhara (NIFS)

### Day 2: August 31

10:00 - 12:00 NIFS tour

