

# Specialists Workshop on Advanced Human-Machine Systems Studies for Complex Energy Systems



Date : March 26 -27, 2024

Place: Research Institute of Advanced Energy Science, Kyoto University, Uji-shi,  
Kyoto-fu, Japan (Fifth Floor of the Main Building, Uji Campus, Room N571E) with  
Hybrid mode

Organized by: NPO Symbio Community Forum, Uji, Kyoto, Japan

with the support of the Joint Usage/Research Center for Zero Emission Research,  
Institute of Advanced Energy, Kyoto University

**General coordinators for the conference:**

General Chair: Prof. Hidekazu Yoshikawa (Symbio Community Forum)

Secretary: Mr. Kenji Yoshikawa (Symbio Community Forum)

Conference room manager: Ms. Mari Takatsuka (Institute of Advanced Energy, Kyoto  
University)

ZOOM Host: Mr. Junya Nitta (Symbio Community Forum)

**Program**

March 26, 2024

Opening address with introduction of on-site participants

by Prof. H. Yoshikawa 2:00 pm

**Session I How to organize the Review Guideline of Human Factors Engineering  
Program for NPP"**

Chaired by Prof. H. Yoshikawa (Symbio Community Forum)

I-1 Introductory review of the NUREG-0711 Rev. 3 and the relevant Guideline being  
under discussion in the Japan Electric Association

Hidekazu Yoshikawa (Symbio Community Forum: Kyoto University) 1.0 hours

I-2 IEC-60960 revision: Human factors issues in SPDS design in nuclear power plants

Wang Xiaoye (NPIC) Via internet 0.5 hours

I-3 Discussion 0.5 ours Chaired by Prof. H. Yoshikawa

Pause

**Session II An Active Learning Practice on Talent Cultivation on nuclear and energy sciences 4:00-5:00**

Chaired by Prof. H. Yoshikawa (Symbio Community Forum)

Welcome party 17:30 ~ Kihada Hall Obaku plaza Uji campus

March 27,2024

Start from 9:30 am

**Session III Researches for new methodologies for risk monitoring and performance evaluation for complex energy systems**

**Part 1: Chinese presentation 1.5 hours** Chaired by Prof. T. Matsuoka

III-1 Report of research project on the key technologies for intelligent risk-informed decision support system for nuclear safety and emergency response management with highlighting Upgrade of GO-FLOW for Success Path Planning and Exact Quantification Support

Jun Yang (South China University of Technology) 1.0 hours

III-2 Research progress on operational safety and risk monitoring & prediction of nuclear power plants

Sijuan Chen (Shenzhen University) Via internet 0.5 hours

Pause

**Part 2: Japanese Presentation** : “Research on diagnosis and reliability/availability analysis for complex energy system- A case study for Heliotron J device at IAE” Start from 11:00 am Chaired by Prof. Yang Jun

III-3 Introduction of Heliotron J facility and the scope of the case study

Hidekazu Yoshikawa (Kyoto University) (20 Min)

III-4 Degradation diagnosis of Heliotron components by higher harmonics diagnosis method

Junya Nitta( Arcadia Co.) and Prof. H. Yoshikawa (Symbio Community Forum) (30 Min.)

III-5 Reliability/Availability evaluation of Heliotron J by GO-FLOW

Takeshi Matsuoka (Utsunomiya University) (30 Min)

Lunch 12:30~ Lunch at Uji Campus Canteen

Adjourn