

FINAL ANNOUNCEMENT

SCOPE

The Institute of Plasma Physics and Laser Microfusion (IPPLM, Poland) organizes the 17th Kudowa Summer School. The School will be held in Kudowa-Zdrój (Poland) from 3rd June to 7th June 2024.

The school aims to provide courses on various aspects of fusion energy, plasma experiments and technology for young scientists from different countries. Lectures will be conducted by specialists with superb qualifications.

All participants, both invited lecturers and students, are welcome to submit their papers which will be published in Conference Proceedings in a special issue of **Fusion Science and Technology** journal after the peer-review process. There is no cost for standard publication in this journal.

GENERAL INFORMATION

The registration should be done using the Kudowa Summer School website by 11th April 2024 at the latest. **The total fee**, which includes full board, lodging, lecture notes, social programme (welcome reception, excursion and official dinner) is **PLN 4000**.

The school fee should be paid by bank transfer to the following bank account:

Bank PEKAO S.A. Oddział Warszawa,
BIC code: PKOPPLPW, IBAN code:
PL 78 1240 6003 1111 0000 4944 6179,
Account Owner: IFPILM, Variable symbol: 17th Kudowa School

A copy of the money transfer should be sent by e-mail to:
kudowaschool@ifilm.pl.

Full details (fees, accommodation, programme) and registration form are available on:

kudowaschool.ipplm.pl/registration.

LIST OF INVITED SPEAKERS

- | | |
|---|--|
| ■ Birger Buttenschön
<i>MPI, Germany</i> | ■ Artur Malaquias
<i>IST, Portugal</i> |
| ■ Jakub Cikhardt
<i>IPP, Czech Republic</i> | ■ Daniele Margarone
<i>ELI, Czech Republic</i> |
| ■ Mattia Cipriani
<i>ENEA, Italy</i> | ■ Ryutaro Matsui
<i>KU, Japan</i> |
| ■ Tonny Donné
<i>EUROfusion, Germany</i> | ■ Didier Mazon
<i>CEA, France</i> |
| ■ Emilia Genangeli
<i>IPP Greifswald, Germany</i> | ■ Jef Ongena
<i>RMA, Belgium</i> |
| ■ Marcin Jakubowski
<i>IPP Greifswald, Germany</i> | ■ John Pasley
<i>University of York, UK</i> |
| ■ Axel Jardin
<i>IFJ PAN, Poland</i> | ■ Radomír Pánek
<i>IPP, Czech Republic</i> |
| ■ Yevgen Kazakov
<i>RMA, Belgium</i> | ■ Simon Pinches
<i>ITER, France</i> |
| ■ Agnieszka Kulińska
<i>IFJ PAN, Poland</i> | ■ João Jorge Santos
<i>CELIA, France</i> |
| ■ Sushil Kumar
<i>IPP, Czech Republic</i> | ■ Tuomas Tala
<i>VTT, Finland</i> |
| | ■ Thomas Trottenberg
<i>CAU, Germany</i> |
| | ■ Kevin Verhaegh
<i>UKAEA, UK</i> |
| | ■ Rosaria Villari
<i>ENEA, Italy</i> |
| | ■ Agnieszka Zaraś-Szydłowska
<i>IPPLM, Poland</i> |

TOPICS

- Basic plasma and fusion energy
- Tokamaks and stellarators
- Plasma focus and Z-pinches
- Plasma diagnostics and technology
- Space plasma and electric propulsion
- Laser plasma



IMPORTANT DATES

APR 11	Deadline for Registration
APR 15	Confirmation of Participation
APR 26	Deadline of fee payment
JUN 3	Start of the School

PRESENTATIONS

The plenary lectures given by well-known plasma physics scientists will be complemented with students' sessions. Students are encouraged to present 15 min. talks about their research activities.

Three best presentations will receive a very nice award!

ACCOMMODATION

The accommodation for the School's participants will be provided in the Villa Antica (29 Zdrojowa Str., Kudowa-Zdrój) as well as the Kudowa Hotel (16 Pogodna Str., Kudowa-Zdrój) where as the lectures will be held in the pillared hall of the Kudowa Hotel. Kudowa-Zdrój is a small resort city at the Polish-Czech border.

HOW TO REACH KUDOWA-ZDRÓJ

The nearest airports to Kudowa-Zdrój are located in Wrocław (Poland) and in Prague (Czech Republic). Below you will find some guidance on how to reach Kudowa-Zdrój.

FROM WROCLAW

 Buses depart from Wrocław (Dawida, Joannitów Str.):

- Beskid Przewozy
Mon. - Sat.: 6:00, 10:00, 11:10, 14:00, 17:30, 18:40
Sun.: not available


Buses depart from Wrocław Bus Station (Sucha Str.):

- Flixbus 12:20 (every day)
- PKS Polonus 15:55 (every day)

Travel time by bus: about 2h 45min.

- Hoper which departs from and to chosen points at 13:30 and 14:40.

Travel time: about 3h 15 min.


 If you plan to travel to Kudowa-Zdrój by train, please visit: kolejedolnoslaskie.pl/rozkłady-i-bilety

There are a few train connections from WROCLAW GŁÓWNY to KUDOWA-ZDRÓJ per day:

Mon. - Fri.: 6:11, 8:12, 12:08, 14:10, 17:44

Sat. - Sun.: 6:11, 8:03, 8:12, 12:08, 14:10, 17:44

Travel time by train: 2h 30 min. – 3h 30 min

 In order to reach Wrocław Railway/Bus station from the Wrocław airport please check: airport.wroclaw.pl.

We recommend taking bus 106 which goes to/from the Central Railway/Bus Station every day every 15 minutes. The entire journey takes approximately 40 minutes (depending on the traffic). Night bus line 206 operates on the same route through the airport.


FROM PRAGUE

 Buses depart from Wrocław (Dawida, Joannitów Str.):

The most convenient and direct connection from Prague (Central Bus Station Florenc, Praha ÚAN Florenc) to Kudowa-Zdrój is by Flixbus. Buses depart at 7:10, 12:50, 14:55. Travel time: 2h 50 min.

You can also travel by bus from station Florenc (metro line B) to NACHOD city. To find the best connection for you please visit the website www.florenc.cz.


We provide possible transfer from Náchod after prior arrangements.

 In order to reach Prague bus station Florenc from the airport please check

www.prg.aero/en/parking-transport/transport/public-transit

We recommend taking bus 100 that departs from Terminal 1 & 2, get off at the bus stop Zličín and take metro line B to the station Florenc or bus 59 to the bus stop Nádraží Veleslavín, take metro line A to the Můstek station, then switch to metro line B to Florenc station.

FROM KŁODZKO

 If you plan to travel to Kudowa-Zdrój by train, please check: kolejedolnoslaskie.pl/rozkłady-i-bilety

There are a few train connections from KŁODZKO to KUDOWA-ZDRÓJ per day:

Mon. - Fri.: 7:44, 10:07, 14:37, 16:03, 19:20

Sat. - Sun.: 7:44, 9:27, 10:24, 14:37, 16:03, 19:20

Travel time by train: 1h

 If you want to go by bus check e-podroznik website

PKS Kłodzko bus station, Plac Jedności square

Mon. - Fri.: 6:30, 8:10, 10:00, 11:20, 12:35, 14:40, 15:15, 17:00

Sat.: 8:10, 10:00, 12:35

PKS Polonus bus station: 17:35 (every day)

Beskid Przewozy Kościuszki Str. (market area)

Mon. - Sat.: 7:54, 11:54, 13:04, 15:54, 19:24, 20:34

Flixbus Kościuszki Str. (market area)

11:20, 14:00, 17:05 (every day)

SPONSORS:



J. ONGENA
DIRECTOR OF THE SCHOOL



AGENDA



SUNDAY JUNE 2

17:00 – 18:30 REGISTRATION /Villa Antica/

19:00 DINNER "ČESKÁ VEČĚŘE" /Villa Antica/

MONDAY JUNE 3

07:30 – 09:00 BREAKFAST /Villa Antica or Hotel Kudowa/

09:00 – 09:15 OPENING CEREMONY
J. Ongena (Director of the School) and
A. Jardin (Head of the Organizing Committee)

09:15 – 11:15 PLENARY SESSION
– M. KUBKOWSKA (Chairwoman)

09:15 J. ONGENA, Fusion, an important option for our future energy supply

09:55 T. DONNÉ, Progress in European fusion research

10:35 J. PASLEY, Radiation hydrodynamics and related high temperature phenomena

11:15 – 11:45 COFFEE BREAK

11:45 – 13:05 PLENARY SESSION – J. ONGENA (Chairman)

11:45 R. MATSUI, Interaction between high-intensity lasers and plasma

12:25 T. TALA, Particle Transport, Density Peaking and Isotope Scaling in Tokamak

13:05 GROUP PHOTO

14:00 – 15:00 LUNCH /Villa Antica/

15:30 – 16:35 PLENARY SESSION – J. PASLEY (Chairman)

15:30 Sponsor LTB

Student session

15:50 L. Cinnirella, Study of reionization issues in the diagnostic neutral beam for the RFX-mod2 experiment

16:05 Ł. Syrocki, W soft x-ray simulations of spectra registered on W7-X by the PHA system

16:20 M. Jagielski, Magnetic field effects at high X-ray energies in GEM detectors

16:35 – 17:05 COFFEE BREAK

17:05 – 18:05 PLENARY SESSION – A. JARDIN (Chairman)

Student session

17:05 J. Pilař, Thermal plasma and its application in chemistry of materials

17:20 Y. Martseniuk, Glow discharge cleaning on the Uragan-2M stellarator

17:35 D. Mazur, Analysis of triplet-bands of hydrogenic molecules present at the edge of the plasmas produced in magnetic-confinement fusion devices

17:50 J. Włodarczyk, Analysis of gamma spectrometry measurements for ITER samples and dosimetry foils irradiated in the JET long-term irradiation station (LTIS)

19:00 WELCOME RECEPTION (A feast in the atmosphere of the Polish People's Republic) /Villa Antica/

TUENSDAY JUNE 4

07:30 – 09:00 BREAKFAST /Villa Antica or Hotel Kudowa/

09:00 – 11:00 PLENARY SESSION – T. DONNÉ (Chairman)

09:00 A. MALAQUIAS, Progress on Diagnostic Integration in DEMO

09:40 D. MAZON, Application of GEM detectors for fusion research

10:20 S. PINCHES, Status of ITER diagnostics

11:00 – 11:30 COFFEE BREAK

11:30 – 13:30 PLENARY SESSION – R. MATSUI (Chairman)

11:30 R. VILLARI, Neutron diagnostics

12:10 A. JARDIN, X-ray tomography for impurity transport studies in tokamak plasmas

12:50 A. ZARAŚ-SZYDŁOWSKA, Optical methods for measuring laser-produced plasma parameters

14:00 – 15:00 LUNCH /Villa Antica/

15:30 – 16:45 PLENARY SESSION – M. CHERNYSHOVA (Chairwoman)

15:30 E. GENANGELI, Science is not the only challenge. EUROfusion administrative tools and processes

Student session

16:00 V. Juráš, Proton spectroscopy in plasma focus devices

16:15 J. Novotny, Gaseous hybrid X-pinch on a small dense plasma focus device

16:30 A. Jardin, Hall Effect Thruster and Pulsed Plasma Thruster: How do they work?

16:45 – 17:15 COFFEE BREAK

17:15 – 18:15 PLENARY SESSION – R. PÁNEK (Chairman)

Student session

17:15 P. Devi, Filter Stack Spectrometer for Laser-Plasma Experiment

17:30 S. Agarwal, Development of Scintillator Stack Spectrometer for Laser-Plasma Experiments at PALS

17:45 M. Majczyk, Investigation of low temperature plasmas formed by LPP EUV pulses: numerical simulations and processes analysis

18:00 A. Wojtusiak, Development of DiPOLE high energy, high pulse rate DPSSL technology for ICF

19:00 BARBECUE DINNER WITH MUSIC /Villa Antica/



WEDNESDAY JUNE 5

- 07:30 – 09:00 **BREAKFAST** /Villa Antica or Hotel Kudowa/
- 09:00 – 11:00 **PLENARY SESSION – T. TALA (Chairman)**
- 09:00 R. PÁNEK, Status of the COMPASS Upgrade tokamak
 - 09:40 Y. KAZAKOV, Synergistic fast-ion effects in magnetic fusion plasmas
 - 10:20 B. BUTTENSCHÖN, Impurity Spectroscopy in Wendelstein 7-X: From Measurement to Transport Investigations
- 11:00 – 11:30 **COFFEE BREAK**
- 11:30 – 13:30 **PLENARY SESSION – B. BUTTENSCHÖN (Chairman)**
- 11:30 M. JAKUBOWSKI, Development of long pulse scenario at Wendelstein 7-X
 - 12:10 Y. KAZAKOV, Overview of high performance DT experiments in JETILW
 - 12:50 K. VERHAEGH, Overview of MAST-U results
- 14:00 – 15:00 **LUNCH** /Villa Antica/
- 15:30 – 16:30 **PLENARY SESSION – A. ZARAŚ-SZYDŁOWSKA (Chairwoman)**
- Student session
 - 15:30 S. Thiede, Simulating anisotropic heat flow over broad temperature ranges in multi-layered divertors
 - 15:45 A. Menzel-Barbara, An engineering tool for the optimization of a tungsten-based divertor in Wendelstein 7-X with regards to leading edges
 - 16:00 L. Melaragni, Preliminary modelling of disruption plasma scenario in view of a Shattered Pellet Injection in DTT machine
 - 16:15 G. Pełka, A toy model for neutral particles
- 16:30 – 17:00 **COFFEE BREAK**
- 17:00 – 18:20 **PLENARY SESSION – M. JAKUBOWSKI (Chairman)**
- 17:00 Sponsor IRtech
 - Student session
 - 17:20 R. Mishra, Perpendicular plasma transport in the tokamak boundary region
 - 17:35 N. Grzybicka, TECXY simulations of the power exhaust in the multi-impurity plasma of DTT reactor
 - 17:50 M. Czarski, Study of leg lengths differences using TECXY code
 - 18:05 W. Gromelski, Calibration of the tungsten radiated power and concentration based on XUV quasi-continuum in JETILW
- 19:00 **BANQUET DINNER "AROUND THE WORLD"** /Villa Antica/

THURSDAY JUNE 6

- 07:30 – 09:00 **BREAKFAST** /Villa Antica or Hotel Kudowa/
- 09:00 – 10:20 **PLENARY SESSION – D. MAZON (Chairman)**
- 09:00 J. J. SANTOS, Experimental studies of extended-MHD effects and confinement properties of magnetized cylindrical implosions
 - 09:40 D. MARGARONNE, Laser Plasma based Nuclear Reactions and Applications
- 10:20 – 10:50 **COFFEE BREAK**
- 10:50 – 12:10 **PLENARY SESSION – J.J. SANTOS (Chairman)**
- 10:50 S. KUMAR, The experimental research carried out at the Prague Asterix Laser System (PALS)
 - 11:30 M. CIPRIANI, High-power laser interaction with low-Z porous materials
- 12:30 – 13:20 **LUNCH** /Villa Antica/
- 13:30 – 18:30 **EXCURSION**
- 19:00 **DINNER** /Trail of Vanishing Professions/

FRIDAY JUNE 7

- 07:30 – 09:00 **BREAKFAST** /Villa Antica or Hotel Kudowa/
- 09:00 – 11:00 **PLENARY SESSION – Y. KAZAKOV (Chairman)**
- 09:00 J. CIKHARDT, Neutron and x-ray emission in Z-pinch and dense plasma focus
 - 09:40 A. KULIŃSKA, Plasma focus Device and Fusion
 - 10:20 T. TROTTEBERG, Electric propulsion for spacecraft
- 11:00 – 11:30 **COFFEE BREAK**
- 11:30 – 12:30 **AWARDS CEREMONY AND CLOSING CEREMONY OF THE KUDOWA SUMMER SCHOOL – J. ONGENA AND A. JARDIN**
- 13:00 – 14:00 **LUNCH** /Villa Antica/