Prague

September 2 – 6, 2019

15th International Workshop on Slow Positron Beam Techniques and Applications

Second circular

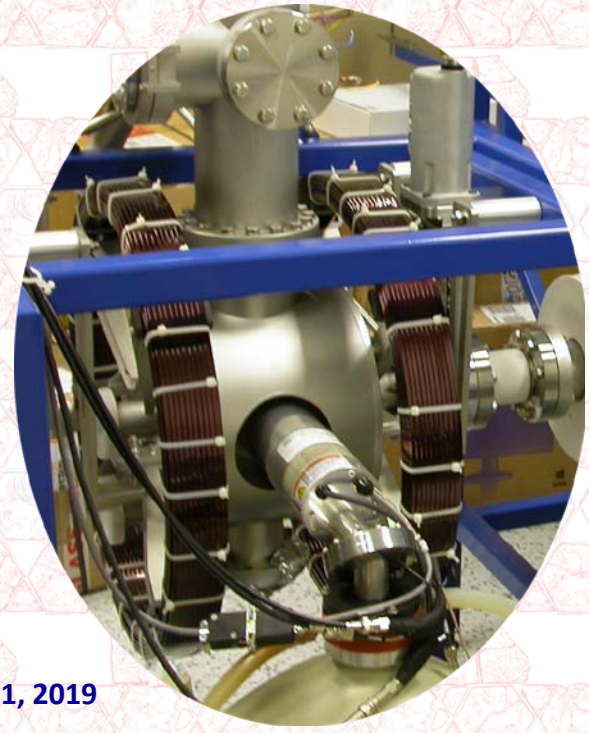
Web page: https://physics.mff.cuni.cz/kfnt/slopos/

Scope

SLOPOS is a well established international workshop dedicated to variable energy positron beams, related techniques and all aspects of surface science and defect studies using positron beams. The workshop has long term tradition and is being organized with period of three years at various places all over the World.

Main topics

- positron and positronium beams and related technologies
- pulsed beams and positron traps
- thin films and layered structures
- nano structures
- porous materials
- defect profiling in bulk and layered structures
- surfaces and interfaces
- positronium formation and emission
- positron interaction with atoms and molecules
- many positrons and anti-hydrogen
- theoretical calculations of positron parameters
- digital processing of positron annihilation data
- improvement of experimental techniques



Important dates

- final deadline for abstract submission: **July 31, 2019**
- deadline for standard rate payment of registration fee: **July 31, 2019**
- SLOPOS-15 conference: **September 2 – 6, 2019**
- deadline for paper submission for publication in proceedings (Acta Physica Polonica A): **September 20, 2019**

Abstract submission

Each participant is cordially invited to submit an abstract of intended contribution. Abstract should be prepared using a template provided at SLOPOS-15 web page https://physics.mff.cuni.cz/kfnt/slopos/?page=abstract and submitted by e-mail to the address slopos-15@mff.cuni.cz

Abstracts of all accepted contributions will be included in a printed Book of abstracts which will be distributed to all participants at the registration. Please note that due to production reasons **only abstracts received till July 31, 2019 can be included in the book abstracts.**

Registration

All participants of the conference should register using on-line form at the SLOPOS-15 web page
https://physics.mff.cuni.cz/kfnt/slopos/?page=registration
After registration you will get confirmation e-mail containing your SLOPOS-15 ID number and you will receive regular updates of your status by e-mail.

Registration fee

participant	early bird **till 31.5. 2019**	standard rate **till 31.7. 2019**	on site payment **2.9. 2019 at registration**
Regular	550 EUR	650 EUR	750 EUR
Student	450 EUR	550 EUR	650 EUR
Commercial	850 EUR	950 EUR	1050 EUR
Accompanying person	350 EUR	450 EUR	550 EUR

Registration fee includes
- admission to all sessions
- printed book of abstracts
- proceedings (electronic version and hardcopy)
- lunches & coffee breaks
- welcome reception on September 2, 2019
- excursions on September 3, 4 and 6, 2019
- conference dinner on September 5, 2019

Payment of the registration fee

Registration fee can be paid by **wire transfer** using the following banking data:
Account No.: 43-7309780297/0100
Account Name: Univerzita Karlova, Ovocny trh 5, Praha 1, VAT: CZ00216208
Bank Name: Komercni banka a.s.
Bank Address: Na Prikope 33 , 114 07 Praha 1
IBAN: CZ9301000000437309780297
BIC (SWIFT): KOMBCZPPXXX
Important notice: In order to indentify your payment please include the following information in the text field notice for recipient: your name, your SLOPOS ID number, abbreviation of your country and identification "SLOPOS", e.g. Jakub Cizek, 004, CZ, SLOPOS
Please ensure that transaction fees are paid by your side, i.e. nothing is subtracted from the transferred registration fee by banks.
Please sent us an announcement about your payment to the e-mail address slopos-15@mff.cuni.cz
You will get receipt when your payment is received (usually it takes several days).
If you did not receive receipt please send us confirmation of your payment. This enables the account department of our university to identify your payment.
On site payment is possible in cash (EUR) at the registration desk on September 2,2019

Scientific program

The workshop will consist of oral contributions (plenary, invited and regular) in 16 sessions and a poster session.
A computer with Microsoft Power Point and Adobe Acrobat reader will be available for presentations.
Time slots allocated for oral presentations:
- Plenary lecture: 40 min (35 min talks + 5 min for discussion)
- Invited talk: 30 min (25 min talks + 5 min for discussion)
- Regular talk: 20 min (15 min talks + 5 min for discussion)

All speakers are kindly asked to keep the speaking time.
Poster session will be held on Tuesday September 3, 2019 from 6 p.m. to 8 p.m.
Maximum Poster dimensions: width: 117 cm, height: 147 cm
The Best Poster Award will be assigned based on voting of participants during the poster session.

Plenary lectures

- **David Cassidy**, Colledge London, UK: *Recent experimental progress in positronium-laser physics*
- **Christoph Hugenschmidt**, Technische Universitat Munchen, Germany: *Determination of the Vacancy Formation Enthalpy Revisited by Temperature Dependent Doppler-Broadening Spectroscopy*
- **Yasuyuki Nagashima**, Tokyo University of Science, Japan: *Progress in the study of energy tunable Ps beams employing Ps^- photodetachment technique*
- **Clifford Surko**, University of California San Diego, USA: *New Physics with Positron Traps and Trap-Based Beams*
- **Alex Weiss**, The University of Texas at Arlington, USA: *Novel Positron Annihilation Based Surface Spectroscopies*

Invited talks

- **Marie-France Barthe**, CEMHTI CNRS, France: *Damage induced by irradiation in W and Deuterium trapping in vacancy defects probed by slow positrons*
- **Roberto Sennen Brusa**, University of Trento, Italy: *Open volumes structure and molecular transport in polymer and biopolymer nanocomposites*
- **Maik Butterling**, Helmholtz-Zentrum Dresden-Rossendorf, Germany: *Status of the Positron Sources at the Superconducting Electron LINAC ELBE*
- **Ruggero Caravita**, AEgIS collaboration, CERN, Switzerland: *Long-lived Positronium for pulsed antihydrogen production*
- **Catherine Corbel**, CEA, France: *Effect of Defect Production on Photoluminescence & Positron Trapping in He ion Implanted Methylammonium Lead Tri-Iodide Perovskite Layers*
- **Werner Egger**, Universitat der Bundeswehr Munchen, Germany: *The pulsed low energy positron system PLEPS: applications and new developments*
- **Stephan Eijt**, TU Delft, The Netherlands: *The role of vacancies and hydrogen in the photochromism of YO_xH_y thin films examined by in-situ Positron Annihilation Spectroscopy and μSR*
- **Mohamed Elsayed**, Martin-Luther-Universitat Halle-Wittenberg, Germany: *The influence of trace elements on formation of quenched-in vacancies in Al-alloys*
- **Rafael Ferragut**, Politecnico di Milano, Italy: *Antimatter wave interferometry. First observation*
- **Kenji Ito**, AIST, Japan: *Na-22 based low-energy AMOC measurements for chemical analysis of the free-volume holes in hydrocarbon-silica hybrid thin films*
- **Atsuo Kawasuso**, Nat. Inst. for Quantum and Radiological Sci.& Technol., Japan: *Positronium Formation at Metal, Semiconductor and Graphene Surfaces*
- **David Keeble**, University of Dundee, UK: *Variable energy positron annihilation lifetime spectroscopy studies of perovskite oxide electronic materials*
- **Jan Kuriplach**, Charles University, Prague, Czech Republic: *HfNbTaTiZr complex concentrated alloys, their microstructure and positron characteristics*
- **Maciej Oskar Liedke**, Helmholtz-Zentrum Dresden-Rossendorf, Germany: *Electrical field-controlled ON-OFF ferromagnetism in metal oxide films*
- **Laszlo Liszkay**, University Paris-Saclay, France: *The new positron beam line of the GBAR experiment at CERN*
- **Kelvin Lynn**, Washington State University, USA: *Positron Annihilation studies of in Various doped β-Ga_2O_3 Single Crystals with a Variable Energy Positron Beam*
- **Sebastiano Mariazzi**, University of Trento-TIFPA, Italy: *Techniques for production and detection of a 2^3S positronium beam*
- **Koji Michishio**, AIST, Japan: *Current status of the AIST slow positron facility*
- **Izumi Mochizuki**, Institute of Materials Structure Science, KEK, Japan: *Recent studies of Surface Structure Analysis with Total-Reflection High-Energy Positron Diffraction (TRHEPD) at Slow-Positron Facility, KEK*
- **Henk Schut**, TU Delft, The Netherlands: *The microstructural stability and defect evolution in ODS Eurofer studied by Electron Microscopy and Positron Annihilation Doppler Broadening*
- **Eve Stenson**, Max-Planck-Institute for Plasma Physics, Greifswald & Garching, Germany: *Positron-induced luminiscence*
- **Filip Tuomisto**, Aalto University, Finland: *Doppler broadening experiments (and calculations) in β-Ga_2O_3: vacancy defects, signal anisotropy, or both?*

- **Akira Uedono**, University of Tsukuba, Japan: *Annealing behaviours of open spaces in thin Al_2O_3 films deposited on semiconductors studied using monoenergetic positron beams*
- **Eric Voutier**, CNRS/IN2P3/IPNO Université Paris Sud & Paris Saclay, France: *Polarized positron beam developments*
- **Ken Wada**, Nat. Inst. for Quantum and Radiological Sci.& Technol., Japan: *A low-energy positron diffraction (LEPD) experiment station for a linac-based slow-positron beam*
- **Laurent Weber**, Teledyne SP Devices, Sweden

Conference venue

SLOPOS-15 will be held in the historical building of the Faculty of Mathematics and Physics, Charles University located in the centre of Prague at the Lesser Town square. The address of the building is

Malostranske namesti (Lesser Town Square) 2/25, 118 00 Praha 1, Czech Republic

GPS location: 50.0883461965, 14.4032037711

Conference building

The lecture room is located in the first floor. The building was built in the 17th century by the Society of Jesus in the baroque style and is located in the historical quarter of Prague called Lesser Town in a walking distance from the Prague Castle, Old Town and Charles bridge.

Proceedings

The proceedings of SLOPOS-15 will be published in a special volume of Acta Physica Polonica A (impact factor IF = 0.86). All conference papers will be peer reviewed. The instructions for manuscript preparation can be downloaded from the publisher's website http://www.ifpan.edu.pl/APP/guide.pdf
Filled and signed copyright form http://www.ifpan.edu.pl/APP/copyright_transfer_form.doc
is required to be submitted along with the manuscript.
The length of contributions to SLOPOS-15 proceedings is limited to **4 printed pages**.
Deadline for submission of manuscripts is **September 20, 2019.**

Social program

Monday September 2, 2019, 19:00-22:00
Welcome reception in the restaurant Profesní dům, which is located in the base floor of the conference building and excursion to the **St Wenceslas rotunda**, a Romanesque church originating from the early 11th century. The foundations of the rotunda are located in the basement of the conference venue and were re-discovered and renovated in 2016 after almost 400 years of forgetting. A lion tile from the Rotunda medieval floor is used in the SLOPOS-15 logo.

Tiles of the floor of St Wenceslas rotunda

Tuesday September 3, 2019, 20:00-22:00
Evening excursion to the Prague castle, Lesser Town, Kampa and the Charles bridge - the most important sightseeings in Prague. The guided tour will start after the poster session in front of the St. Nicolas Church located just beside the conference venue.

Prague's castle in late evening

Wednesday September 4, 2019, 13:30-22:00

Excursion to Kutná hora, an UNESCO heritage town located in the Central Bohemian region. The town was established in the beginning of 12th century with the settlement of Sedlec Abbey, the first Cistercian monastery in Bohemia. The development of Kutná Hora is connected with the exploitation of the silver mines. By 1260, German miners began to mine for silver in the mountain region, which they named Kuttenberg, and which was part of the monastery property. The territory greatly advanced due to the silver mines which gained importance during the economic boom of the 13th century.

St. Barabara's Church, Kutná Hora

The excursion includes visits of three most important heritages in Kutná Hora:

- St. Barabara's Church, a jewel of the late Gothic period
- Church of the Assumption of Our Lady and Saint John the Baptist, located in Sedlec and built around 1300 as one of the first High Gothic building in the Kingdom of Bohemia.
- Sedlec Ossuary, a small Roman Catholic chapel containing the skeletons of between 40,000 and 70,000 people, whose bones have been artistically arranged to form decorations and furnishings for the chapel.

A dinner will be provided in the restaurant Dačický located in the centre of Kutná Hora (18:30-20:30)

Thursday September 5, 2019, 19:00-23:00

Conference dinner in the aula of the House of Professed located in the conference venue, Malostranské náměstí (Lesser Town square) 2/25 Praha 1.

Aula of the House of Professed

Friday September 6, 2019, 15:00-20:00
Excursion to the laboratory of positron annihilation spectroscopy at The Charles University, Prague and Laboratories of tandetron accelerator, cyclotron and fast neutron sources at the Nuclear Physics Institute of the Czech Academy of Science located in Řež near Prague for participants who selected this option in the registration form. Transport of participants from the conference venue to the laboratories and back will be provided.
Please note that visitors of the facilities at the Nuclear Physics Institute (tandetron, cyclotron and neutron sources) have to register prior to visit. For this reason the participants who intend to join the laboratory tour are kindly asked to provide the following information required for your registration:
Name (as written on your passport):
Passport number (or ID card number for EU citizens):
Country:
Please send the data by e-mail to the address slopos-15@mff.cuni.cz till July 31, 2019. This allows us to arrange your registration.

SLOPOS-15 preliminary time table

	2.9. Monday	3.9. Tuesday	4.9. Wednesday	5.9 Thursday	6.9. Friday
7:00 – 7:30	*registration*				
7:30 – 8:00	*coffee,breakfast*				
8:00 – 8:30	opening	**session V** *Positron traps & scattering*	**session IX** *e^+ beams & techniques*	**session XI** *Defects in oxides & semiconductors*	**session XV** *Ps interaction with solids & ion implantation*
8:30 – 9:00	**session I** *Positron surface science*				
9:00 – 9:30					
9:30 – 10:00					
10:00 – 10:30					
10:30 – 11:00	*coffee break*	*coffee break*	*coffee break*	*coffee break*	*coffee break*
11:00 – 11:30	**session II** *Ps physics & Ps beams*	**session VI** *Antimatter & high energy physics*	**session X** *e^+ beams & techniques*	**session XII** *Defects in thin films*	**session XVI** radiation damage & ion implant.
11:30 – 12:00					
12:00 – 12:30					
12:30 – 13:00	*photo*				
13:00 – 13:30	*lunch*	*lunch*		*lunch*	*lunch*
13:30 – 14:00			*excursion to Kutná Hora (St. Barbora, Ossuary, Cathedral of Assumption of Our lady)*		
14:00 – 14:30	**session III** *Ps physics & Ps beams*	**session VII** *Positron physics & theory*		**session XIII** *Defects in metals*	closing
14:30 – 15:00					
15:00 – 15:30					*excursion to laboratories in Řež (Tandetron, Cyclotron) and Troja (Positron annihilation, Nuclear reactor)*
15:30 – 16:00					
16:00 – 16:30	*coffee break*	*coffee break*		*coffee break*	
16:30 – 17:00	**session IV** *Ps in solids & liquids*	**session VIII** *e^+ beams & techniques*	*lunch pack provided*	**session IX** *Defects in various solids*	
17:00 – 17:30					
17:30 – 18:00					
18:00 – 18:30		poster session			
18:30 – 19:00					
19:00 – 19:30	*welcome reception Excursion to rotunda*		*dinner on the way back in the restaurant Dačický*	*Banquet at the Assembly hall of the Lesser Town Palace*	
19:30 – 20:00					
20:00 – 20:30		*evening excursion to Prague's castle*			
20:30 – 21:00					
21:00 – 21:30					
21:30 – 22:00					

Travel & Accommodation

Prague can be reached easily by plane from all major European cities. There are also direct flights between Prague and some destinations in USA (New-York, Philadelphia), Canada (Montreal, Toronto), China (Beijing, Chengdu, Shanghai, Shenzhen, Xian), and South Korea (Seoul). The Vaclav Havel Prague Airport is situated in Ruzyně 12 km from the Prague city centre and can be easily reached by the public transport.

For transport inside Prague we recommend to use public transport, especially Prague's Metro network which is very fast and efficient. For detailed description of transportation in Prague please consult the SLOPOS-15 web page https://physics.mff.cuni.cz/kfnt/slopos/?page=travel

Prague has a plenty of accommodation options, many of them within a walking distance from the conference venue. We recommend using the booking.com server to book a hotel in Prague. Since September is very popular for visiting of Prague it is recommended to book accommodation as soon as possible. Please contact us via email slopos-15@mff.cuni.cz if you need any assistance with arrangement of accommodation.

Weather

Prague is situated in Central Europe that has a mild and continental climate. The weather is usually very nice in September. The average daytime temperatures are usually around 20°C.

Currency

The official currency is the Czech Crown (CZK). An approximate exchange rate is USD 1 = 22.8 CZK, EUR 1 = 25.5 CZK (July 2019). At arrival, it is possible to exchange currency at the airport before leaving the baggage drop area, but you will get much better rates in the city. In Prague, especially around tourist sights, there are plenty of exchange offices with very bad rates which also charge commission. Be sure to always ask the employee how much money you would get before you give them your money. It is better to exchange money in banks than in small exchange offices around tourist sights. One of the best places to exchange money is at the eXchange office located in the centre of the city is in Kaprova Street 14/13 (Metro line A, station Staromestska). The office is open till 20:00. Another option is to use regular ATMs which are located at the most of Metro stations.

Credit cards (Visa or Mastercard) are widely accepted in all supermarkets, hotels and also in most tourist places.

Passport and Visa

All participants entering the Czech Republic must have a valid passport. No visa is required from the citizens of most European countries. The organizing committee provide an invitation letter to the participants who ask for it in order to get visa to the Czech Republic.

Safety

Prague is very safe city in all its parts. The most common crimes in Prague are by far pick pocketing. Hence, it is recommended to keep an eye on your valuables.

Local Organizing Committee

Jakub Čížek
Ivan Procházka
Oksana Melikhova
Jan Kuriplach
František Lukáč
Petr Hruška
Tomáš Vlasák

International Advisory Committee

G. Amarendra (India)
M.-F. Barthe (France)
R.S. Brusa (Italy)
K. Lynn (USA)
H. Schut (The Netherlands)
R. Suzuki (Japan)
F. Tuomisto (Finland)
M. Fujinami (Japan)
R. Krause-Rehberg (Germany)
J. Sullivan (Australia)
D. Cassidy (UK)
C. Corbel (France)
C. Hugenschmidt (Germany)
A. Weiss (USA)

Correspondence

If you have any queries or requests please do not hesitate do contact SLOPOS-15 organizers by sending e-mail to the address slopos-15@mff.cuni.cz

We are looking forward to see you soon in Prague

Jakub Čížek
On the behalf of the SLOPOS-15 local organizing committee