

# Conference Programme

## Sunday, August 26

- 10:00-15:00 Arriving of participants in Wrocław  
16:00 Departure to Wojanów  
18:30-21:00 Get together party

## Monday, August 27

- 8:00-9:00 Breakfast  
9:00-9:15 Conference Opening

### Morning Session 1, Chair: **M.A. Strzhemechny**

- 9:15-10:00 Mao H. *Electronic dynamics of hydrogen at megabar pressure*  
10:00-10:25 Vasiliev S. *Evidence for a solid-to-liquid transition of molecular hydrogen inside pores of solid neon below 1 K*  
10:25-10:50 Sheludiakov S. *Formation of a highly nuclear polarized state of H atoms embedded in solid H<sub>2</sub> films*  
10:50-11:10 Coffee break

### Morning Session 2, Chair: **M.A. Strzhemechny**

- 11:10-11:55 Silvera I. *Metallic hydrogen and deuterium: The Wigner Huntington and the liquid-liquid transitions*  
11:55-12:40 Goncharov A. *Metallization of hydrogen and superhydrides at high pressures*  
12:40-13:05 Yakub E. *The role of short- and long-range forces in formation of orientational structure of simple molecular crystals*  
13:05-14:15 Lunch

Afternoon Session 1, Chair: **I. Silvera**

14:15-15:00 Nellis W. *Dense quantum hydrogenous materials*

15:00-15:45 Monserrat B. *New structures of high pressure hydrogen*

15:45-16:10 Firlej L. *On the non-uniform density of gases confined in nanopores*

16:10-16:30 Coffee break

Afternoon Session 2, Chair: **I. Silvera**

16:30-17:15 Yoo Ch.-Sh. *Noble chemistry in dense quantum solid*

17:15-17:40 Iwasa I. *Internal structure of solid  $^4\text{He}$  observed by X-ray topography*

17:40-18:05 Yakub L. *Thermodynamic properties of  $\text{CH}_4$ ,  $\text{CCl}_4$  and  $\text{CF}_4$  on the melting line. Theory and computer simulation*

18:30-19:30 Dinner

20:00-21:00 Concert of a *A Quattrro* ensemble

**Tuesday, August 28**

8:00-9:00 Breakfast

Morning Session 3, Chair: **M.A. Ramos**

9:00-9:45 Anderson D. *Quantum diffusion of hydrogen atom defects in solid parahydrogen*

9:45-10:30 Gordon E. *Cryocrystals in the space: Low temperature evolution of interstellar dust*

10:30-10:55 Kuchta B. *Adsorption induced low temperature transformations of methane adsorbed in MOF-5*

10:55-11:15 Coffee break

Morning Session 4, Chair: **M.A. Ramos**

- 11:15-12:00 Nomura R. *Crystallization dynamics of  $^4\text{He}$  in aerogels*
- 12:00-12:45 Sauls J. *Is superfluid  $^3\text{He-A}$  the precursor to magnetically ordered solid  $^3\text{He}$ ?*
- 12:45-13:10 Martonak R. *Quantum and classical ripples in graphene*
- 13:00-13:15 Conference photo
- 13:15-14:15 Lunch

Afternoon Session 3, Chair: **S. Vasiliev**

- 14:15-15:00 Tse J. *In-situ low temperature and high pressure studies on the ice structure*
- 15:00-15:45 Strzhemechny M. *Heat capacity of molecular solids: special case of cryocrystals*
- 15:45-16:10 Krivchikov A. *Low-lying optic modes influence on low temperature heat capacity of molecular crystals*
- 16:10-16:30 Coffee break

Afternoon Session 4, Chair: **S. Vasiliev**

- 16:30-17:15 Soubiran F. *Ab initio study of Iron-Nickel alloys at high pressure*
- 17:15-17:40 Stachowiak P. *Scattering of phonons by palladium and silica nanoparticles embedded in solid nitrogen matrix*
- 17:40-18:05 Buchachenko A. *Computational study of the stable atomic trapping sites in Ar lattice*
- 18:30-19:30 Dinner
- 19:30-21:00 Poster session

**Wednesday, August 29**

8:00-9:00 Breakfast

9:30-17:00 Excursion

19:00-22:00 Conference dinner

**Thursday, August 30**

8:00-9:00 Breakfast

**Morning Session 5, Chair: R. Nomura**

9:00-9:45 Saunders J. *Evidence for a helium supersolid in two dimensions*

9:45-10:30 Fukuyama H. *Novel quantum phases of helium confined in two dimensions from quantum liquid-crystal to spin-liquid*

10:30-10:55 Efimov V. *Formation and decay of vortex system in superfluid helium*

10:55-11:15 Coffee break

**Morning Session 6, Chair: R. Nomura**

11:15-12:00 Boronat J. *Quantum behavior of defects in solid  $4\text{He}$*

12:00-12:45 Crepin-Gilbert C. *Molecules with intramolecular hydrogen bonds trapped in "classical" and "quantum" cryogenic matrices: spectroscopy and dynamics*

12:45-13:10 Savchenko E. *Emission spectroscopy of solid methane*

13:10-14:15 Lunch

Afternoon Session 5, Chair: **E.B. Gordon**

14:15-15:00 Kim E. *Reinvestigation of the rotation effect in solid  $4\text{He}$  with a rigid torsional oscillator*

15:00-15:45 Nomura T. *Solid oxygen in ultrahigh magnetic fields*

15:45-16:10 Fei Yen *Magnetic ordering of protons in hexamethylbenzene*

16:10-16:30 Coffee break

Afternoon Session 6, Chair: **E.B. Gordon**

16:30-17:15 Jug G. *The structure of amorphous solids as revealed by low temperature physics: bulk glasses and thin amorphous films*

17:15-18:00 Ramos M. *Low-temperature specific heat of low-molecular-weight glasses and glassy crystals*

18:30-19:30 Dinner

**Friday, August 31**

8:00-9:00 Breakfast

Morning Session 7, Chair: **B. Kuchta**

9:00-9:45 Rothard H. *Heavy ion irradiation of crystalline and amorphous astrophysical ices and biomolecules*

9:45-10:30 Amrit J. *Thermal interface resistance of classical solids with quantum fluids and crystals*

10:30-10:55 Lawson C. *Solid methane in radiation: neutron cryo-moderators and cometary cryo-volcanism*

10:55-11:15 Coffee break

Morning Session 8, Chair: **B. Kuchta**

11:15-11:40 Manzhelii E. *Phonon spectra and heat capacity of quasi-one-dimensional structures formed by rare gas atoms on the surface of nanotube bundles*

11:40-12:05 Nurmukan A. *IR-spectrometric investigations of methanol cryovacuum condensates*

12:05-12:30 Konstantinov V. *Search for the lower limit of thermal conductivity in multicomponent solutions of rare gas solids*

12:45-13:30 Lunch

13:45 Check out and departure to Wrocław