

Wednesday, May 18

10:00 - 11:00 Registration

Session I **Chairman: Jiří Pittner**

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| 11:00 | | Welcome address |
| 11:10 | Hiroshi Nakatsuji | Structure of the Exact Wave Function: Locality of the Scaling Operator |
| 11:40 | Petr Čársky | Prospects of Using Mixed Gaussian and Plane-Wave Basis Sets in Mainstream Quantum Chemistry |
| 12:10 | Jozef Noga | Orbital Optimized MBPT(2) via Non-Unitary Transformation |
| 12:40 | | Lunch |

Session II (Biomolecular systems) **Chairman: Zdeněk Havlas**

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| 14:00 | Pavel Hobza | Non-Covalent Interactions |
| 14:30 | Shigenori Tanaka | Large-Scale Ab Initio Simulations for Biomolecular Systems |
| 15:00 | Jan Řezáč | S66 - New Benchmark Dataset for Non-Covalent Interactions |
| 15:30 | Shigeki Yamamoto | Peptide Solution Structure based on Raman Optical Activity |
| 16:00 | | Coffee Break |

Session III (Excited States, Molecular Properties) **Chairman: Lubomír Rulíšek**

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| 16:20 | Shigeyoshi Sakaki | Theoretical Study of Dinuclear Transition Metal Complexes: Interesting Electronic Structures and Molecular Properties |
| 16:50 | Koji Ohta | Two-Photon Absorption Properties of Extended π -Conjugated Molecular Systems |

17:20 Jun-ya Hasegawa Excited States of Photo-Functional Proteins: SAC-CI Study

17:50 Young Investigator Award Lecture

18:30 – 19:30 Poster Session I

19:30 – 21:30 Welcome Reception

Thursday, May 19

Session IV (Relativistic Effects)

Chair: Hiroshi Nakatsuji

08:40 Vladimír Malkin Fully Relativistic Calculations of NMR and EPR Parameters

09:10 Ivan Černušák Heavy Iodine in Spotlight

09:40 Miroslav Medved' Second-Order NLO Responses of Halogenated (Poly)Acetylene

10:10 Mojmír Kývala Inverse Heavy-Atom Effect in Conjugated Carbenes, Silylenes, Aldehydes and Ketones

10:40 Coffee Break

Session V (Chemical Dynamics, Photodynamics)

Chair: Miroslav Urban

11:00 Hiroki Nakamura Nonadiabatic Chemical Dynamics: From Basic Theories to Applications

11:30 Vladimír Špirko Nonadiabatic Corrections

12:00 Petr Slavíček Ab Initio Photodynamics in Condensed Phase

12:30 Lunch

Session VI (Spectroscopy)

Chair: Takeshi Yanai

- 13:45 Masahiro Ehara Theoretical Spectroscopy on Photo-functional Molecules with SAC-CI
- 14:15 Štefan Matejčík Interpretation of Mass Spectroscopical Data Using Quantum Chemistry
- 14:45 Takamasa Momose Cold and Ultracold Molecules: Current Status and Future Perspectives
- 15:15 Lukáš Bučinský Relativistic Effects in Electron and Spin Densities
- 15:45 Coffee Break

Session VII (Solid State Chemistry, Surfaces, Functional Molecules)

Chair: Pavel Hobza

- 16:10 Yuriko Aoki Development of Highly Accurate Elongation Method to Large Systems and its Application to Functional Designs
- 16:40 Prokopis Andrikopoulos Examining the Role of Zeolitic Oxygens in N₂O Decomposition over Fe-ferrierite
- 17:10 Shinji Tsuneyuki Electronic Structure Calculation of Solids with a Similarity-Transformed Hamiltonian
- 17:40 – 19:00 Poster Session II
- 19:00 – 21:00 Conference Dinner

Friday, May 20

Session VIII (Methods, Fundamentals)

Chair: Jozef Noga

- 08:40 Takeshi Yanai Advanced Multireference Method for Molecular Quantum Electronic States
- 09:10 Ryoichi Fukuda Development and Applications of Direct SAC-CI Method
- 09:40 Hirohiko Kono Response of Molecules to External Fields: Analysis of Time-Dependent Natural Orbitals

10:10 Ondřej Demel Uncoupled Mukherjee's Multireference Coupled Cluster Method with Connected Triexcitations

10:40 Coffee Break

Session IX (Methods, Fundamentals)
Chair: Vladimír Kellö

11:00 Mitsutaka Okumura Theoretical investigation for Pseudo Degenerated Multi-electron Systems and Applications for Real Systems

11:30 Libor Veis Quantum Chemistry on Quantum Computers

12:00 Robert Ponec Splitting and/or Formation of Chemical Bonds. Insights from the Momentum Space

12:30 Lunch

Session X (Chemical Reactions)
Chair: Shigeyoshi Sakaki

13:45 Tibor András Rokob Disulfide Activation and Carbon-Sulfur Coupling via Copper(III): Intramolecular Disproportionation of Imine Disulfides

14:15 Tetsuya Taketsugu Extension of Ab initio Molecular Dynamics Approach to Excited-State Reactions and Tunneling Reactions

14:45 Koichi Ohno Automated Global Reaction Route Mapping on the Potential Energy Surface

15:15 Coffee Break

Session XI (Condensed Phase, Functional Materials)
Chairs: Jiří Pittner, Lubomír Rulíšek

15:35 Ondřej Maršálek Hydrogen Forms in Water by Proton Transfer to a Distorted Electron

16:05 Manabu Sugimoto Computational Informatics on Chemical Patterns in Functional Molecules: Toward an Understanding, Predictions, and Design

16:35 Concluding Remarks, Departure