

International Symposium on Quantum Frontiers

April 27th (Thu), 2023

#201 Seminar Room, Chemistry East Building

Department of Chemistry, School of Science, the University of Tokyo

Program

- 9:50 – 9:55 **Opening Remarks**
Kaoru Yamanouchi
- Session I Electronic structure and population transfer**
Chairperson: Takanori Nishi
- 9:55 – 10:20 Tsuyoshi Kato (UTokyo)
“A bound of the rung toward an exact KS potential”
- 10:20 – 10:45 Erik Lötstedt (UTokyo)
“Theoretical simulation of strong-field excitation of N_2^+ in 400 and 800 nm laser fields”
- 10:45 – 11:00 Megumi Takahashi (UTokyo)
“Electronic structure calculations of I_3^- and I_5^- ”
- Session II Theoretical spectroscopy**
Chairperson: Kaoru Yamanouchi
- 11:00 – 12:00 Tamás Szidarovszky (Eötvös Loránd University)
“An efficient and flexible approach for computing rovibrational polaritons from first principles” ~ Department Seminar “Zasshikai” ~
- Lunch Break**
- Session III Air lasing**
Chairperson: Tsuyoshi Kato
- 13:00 – 14:00 Huailiang Xu (Jilin University)
“The advance in air lasing: a long-term collaboration between JLU and Todai”
~ Department Seminar “Zasshikai” ~
- Session IV Advanced lasers and applications**
Chairperson: Erik Lötstedt
- 14:00 – 14:25 Reza Amani (UTokyo)
“Development of a high-average-power Erbium-Ytterbium-doped fiber laser system”

14:25 – 14:40	Tomoya Yamauchi (UTokyo) <i>“Oscillation of N_2^+ lasing intensity amplified by off-resonant seed pulses”</i>
14:40 – 15:05	Toshiaki Ando (UTokyo) <i>“Strong-field ultrahigh-resolution Fourier-transform spectroscopy: Fundamental vibrational frequency of H_2”</i>
Coffee Break and Group Photo	
Session V	Quantum computing 1
	Chairperson: Kaoru Yamanouchi
15:30 – 15:55	Nozomi Takagi (DIC Corporation) <i>“What is DIC? – Our R&D activity”</i>
15:55 – 16:20	Yoshinori Ato (DIC Corporation) <i>“Quantum computing of molecular orbitals of linear polyenes and its application to probing qubit performance”</i>
16:20 – 16:45	Takanori Nishi (UTokyo) <i>“Simulation of a spin-boson model on a noisy quantum computer”</i>
Coffee Break	
Session VI	Quantum computing 2
	Chairperson: Erik Lötstedt
17:00 – 17:15	Ryuhei Yoshida (UTokyo) <i>“Quantum computing of π-conjugated and hetero-π-conjugated molecules with error mitigation methods”</i>
17:15 – 17:30	Kotomi Tobinaga (UTokyo) <i>“Quantum computing of light-induced rotational wave-packet dynamics”</i>
17:30 – 17:45	Kazuki Tsuoka (UTokyo) <i>“Real-space quantum dynamics simulation for NISQ devices”</i>
17:45 – 17:50	Closing Remarks Kaoru Yamanouchi
18:00 – 19:00	Reception