

# Symposium Program

## 35th International Symposium on Free Radicals (ISFR 35) (September 15-20, 2019; Hangzhou, China)

### Sunday, September 15

13:00-19:00 Arriving and Registration  
19:00-21:00 Reception

### Monday, September 16

08:20-08:30 Opening and Award Ceremony

#### Session I Reaction Dynamics (I) (Session Chair: Piergiorgio Casavecchia)

08:30-09:10 S-1 Xingan Wang High resolution crossed molecular beams experiments using the velocity map ion imaging technique  
09:10-09:50 S-2 Astrid Bergeat Isotope effects in ozone: the O + O<sub>2</sub> exchange reaction  
09:50-10:10 T-1 Hongwei Li Roaming-mediated intersystem crossing in the exit channel of bimolecular reactions

10:10-10:40 Tea Break (Conference Photo)

#### Session II Reaction Dynamics (II) (Session Chair: Jim Jr-Min Lin)

10:40-11:20 S-3 Donghui Zhang Accurate potential energy surfaces and quantum dynamics for polyatomic chemical reactions  
11:20-11:40 T-2 Piergiorgio Casavecchia Reaction dynamics of O(<sup>3</sup>P) with 1-butene and 1,2-butadiene  
11:40-12:00 T-3 György Lendvai Theoretical studies of the dynamics of the O' + O<sub>2</sub> → O'O + O and the HO + HI → H<sub>2</sub>O + I reactions

12:00-18:00 Lunch + Free Time

18:00-19:30 Dinner

**Session III Condensed Phase and Poster Session A  
(Session Chair: Gary Douberly)**

19:30–20:10	<b>S-4</b>	Toshinori Suzuki	Ultrafast photoelectron spectroscopy of solvated electrons
20:10–20:40	<b>1-min poster talk A</b>		
20:40–23:00	<b>Poster session A</b>		

**Tuesday, September 17**

**Session IV Photodissociation (Session Chair: Toshinori Suzuki)**

08:30–09:10	<b>S-5</b>	Hanna Reisler	Two- and three-body fragmentation in the UV photodissociation of pyruvic acid
09:10–09:50	<b>S-6</b>	Kaijun Yuan	VUV photochemistry of water molecules
09:50–10:10	<b>T-4</b>	Luis Banares	Site-specific hydrogen-atom elimination in photoexcited ethyl radical

10:10–10:40 **Tea Break**

**Session V Atmospheric Chemistry (I) (Session Chair: Jingsong Zhang)**

10:40–11:20	<b>S-7</b>	Dwayne Heard	Atmospheric chemistry of free radicals in China
11:20–11:40	<b>T-5</b>	Christa Fittschen	ROOOH: a source of interference for OH measurements in low NO environments?
11:40–12:00	<b>T-6</b>	Scott Kable	Photo-induced thermal reaction of aldehydes produces

12:00–18:00 **Lunch + Free Time**

18:00–19:30 **Dinner**

**Session VI Spectroscopy and Dynamics (I) (Session Chair: Lily Zu)**

19:30–20:10	<b>S-8</b>	Hongmei Su	Time-resolved spectroscopy studies of radical intermediates in DNA oxidative damage: Structure dependent pathways
20:10–20:30	<b>T-7</b>	Mattanjah S. de Vries	Competition between proton transfer and electron transfer mediates free radical formation in Art
20:30–20:50	<b>T-8</b>	Terry A. Miller	Calculation and visualization of vibronic eigenfunctions in the vicinity of conical intersections

20:50–21:10	<b>T-9</b>	Neil Reilly	Identifying an unknown isomer of C <sub>7</sub> H <sub>7</sub> observed in jet-cooled hydrocarbon discharge
21:10–21:30	<b>T-10</b>	Ge Sun	Ultraviolet photodissociation of the thiomethoxy radical (CH <sub>3</sub> S) via the $\tilde{B}^2A_2$ state

### Wednesday, September 18

#### Session VII Chemical Kinetics and Applications (Session Chair: Christa Fittschen)

08:30–09:10	<b>S-9</b>	Craig Taatjes	Kinetics of radicals and reactive non-radicals
09:10–09:50	<b>S-10</b>	Gustavo Garcia	Synchrotron based photoelectron spectroscopy of radicals produced in a continuous flow-tube reactor
09:50–10:10	<b>T-11</b>	Hemberger Patrick	Unravelling reaction mechanisms in catalysis by detection of reactive intermediates

10:10–10:40 **Tea Break**

#### Session VIII Spectroscopy and Dynamics (II) (Session Chair: Lauri Halonen)

10:40–11:20	<b>S-11</b>	H. Floyd Davis	Photochemistry and reaction dynamics of polyatomic free radicals
11:20–11:40	<b>T-12</b>	Gary E. Douberly	Infrared spectroscopy of alkyl radicals in helium droplets and solid para-hydrogen
11:40–12:00	<b>T-13</b>	Xiaoqing Zeng	Heterocumulenic radicals consisting of bent pseudohalogen NSO

12:00–18:00 **Lunch + Excursion**

18:00–21:30 **Banquet**

## Thursday, September 19

### Session IX Surfaces (Session Chair: H. Floyd Davis)

- 08:30–09:10 **S-12** Alec M. Wodtke Vibrational energy pooling studied by mid-infrared laser induced fluorescence with a superconducting nanowire single photon detector
- 09:10–09:50 **S-13** Michael Ashfold The many roles of free radicals in diamond chemical vapor deposition
- 09:50–10:30 **S-14** Tetsuya Hama Cold surface chemistry of atoms and radicals on interstellar dust

10:30–11:00 **Tea Break**

### Session X Spectroscopy and Dynamics (III) (Session Chair: Samuel Abrash)

- 11:00–11:40 **S-15** Shuiming Hu Fano resonance revealed in Doppler-free ro-vibrational spectroscopy of HD
- 11:40–12:00 **T-14** Jens-Uwe Grabow Fine and hyperfine structure of  $^{173}\text{YbF}$  and YbOH

12:00–18:00 **Lunch + Free Time**

18:00–19:30 **Dinner**

### Session XI Reaction Dynamics (III) and Poster Session B (Session Chair: Michael Ashfold)

- 19:30–20:10 **S-16** Hua Guo Non-adiabatic dynamics in photodissociation
- 20:10–20:40 **1-min poster talk B** 1-min poster talk B
- 20:40–23:00 **Poster session B** Poster session B

## Friday, September 20

### Session XII Atmospheric Chemistry (II) (Session Chair: Scott Kable)

- 08:30–09:10 **S-17** Mitchio Okumura Studies of atmospheric reactions by mid-infrared frequency comb spectroscopy
- 09:10–09:30 **T-15** Jim Jr-Min Lin Kinetics of Criegee intermediates - Synergy of water and ammonia hydrogen bonding
- 09:30–09:50 **T-16** Jari Peltola Reaction kinetic studies of the smallest stabilized Criegee intermediate: CH<sub>2</sub>OO unimolecular decomposition and bimolecular reaction with formic acid as function of temperature and pressure
- 09:50–10:10 **T-17** Lavinia Constantina Onel Direct measurements of the Criegee intermediates CH<sub>2</sub>OO and CH<sub>3</sub>CHOO using time-resolved broadband UV absorption spectroscopy

### 10:10–10:40 Tea Break (Best Poster Awards)

### Session XIII Reaction Dynamics (IV) (Session Chair: Luis Banares)

- 10:40–11:00 **T-18** Chunlei Xiao Probing geometric phase effect in H + HD → H<sub>2</sub> + D via energy dependent state specific DCS oscillations and rotational state distribution
- 11:00–11:20 **T-19** Shanxi Tian Ion-molecule charge-exchange reactions between Ar<sup>+</sup> and small molecules
- 11:20–12:00 **S-18** Richard Thomas Merged beams mutual neutralization reactions studied at the DESIREE facility

### 12:00–18:00 Lunch + Departure