

Title	Presenting Author	Duration	Order	Start Time	End Time	Day/Date	Presenter Institutions	Chair
Opening Remarks	Fortenberry, Ryan	5						Fortenberry
Diffusion of atoms and molecules in interstellar and planetary ices	Vidali, Gianfranco	30	2	8:05 AM	8:35 AM	Thursday 12/16/2021	Syracuse University	Kaiser
Free electrons in amorphous water ice	Sander, Wolfram	30	3	8:35 AM	9:05 AM	Thursday 12/16/2021	Ruhr-Universitaet Bochum	
Energetic gas-surface interactions leading to molecular embedding, isotope dependent capture, and oxidative reactions in ice	Sibener, Steven	30	4	9:05 AM	9:35 AM	Thursday 12/16/2021	University of Chicago	
Cavity ring-down spectroscopy in uniform supersonic flows: A new tool for chemistry at low temperature	Suits, Arthur	30	5	9:35 AM	10:05 AM	Thursday 12/16/2021	Univ Missouri	
Intermission		10						
Electronic spectroscopy of molecular ions for astrochemical consideration	Campbell, Ewen	30	7	10:15 AM	10:45 AM	Thursday 12/16/2021	University of Edinburgh	
Challenges in astrochemistry: an integrated rotational spectroscopy – quantum chemistry strategy	Puzzarini, Cristina	30	8	10:45 AM	11:15 AM	Thursday 12/16/2021	University of Bologna	
Laboratory astrochemistry and the data revolution: Exploring discovery space with new analysis tools	McCarthy, Michael	30	9	11:15 AM	11:45 AM	Thursday 12/16/2021	Harvard-Smithsonian Center for Astrophysics	
Oxygen diffusion and recombination on amorphous solid water	Meuwly, Markus	15	10	11:45 AM	12:00 PM	Thursday 12/16/2021	University of Basel	
Hydrogen-atom abstraction reactions in solid para-hydrogen and their astronomical implications	Lee, Yuan-Pern	30	1	1:00 PM	1:30 PM	Thursday 12/16/2021	National Yang Ming Chiao Tung University; Academia Sinica	Bennett
Nuclear-spin conversion of molecular hydrogen physisorbed on cryogenic surface	Sugimoto, Toshiaki	30	2	1:30 PM	2:00 PM	Thursday 12/16/2021	Institute for Molecular Science	Fortenberry
Cryogenic storage-ring experiments on the collisions and radiative processes of interstellar molecules	Nakano, Yuji	30	3	2:00 PM	2:30 PM	Thursday 12/16/2021	Rikkyo University; RIKEN	
Development of apparatus for detecting trace adsorbates formed by chemical reaction on ice surface	Ishibashi, Atsuki	15	4	2:30 PM	2:45 PM	Thursday 12/16/2021	Hokkaido University	
The electronic spectrum of vanadium hydride	Varberg, Thomas	15	5	2:45 PM	3:00 PM	Thursday 12/16/2021	Macalester College	
Intermission		15						
Experimental studies on the surface reaction of atomic hydrogen with “exotic” molecules at low temperatures	Oba, Yasuhiro	30	7	3:15 PM	3:45 PM	Thursday 12/16/2021	Hokkaido University	
Low temperature kinetics of the OH + CO reaction	Okumura, Mitichio	30	8	3:45 PM	4:15 PM	Thursday 12/16/2021	California Institute of Technology	
An experimental study of cold ion-polar molecule reactions toward the application to astrochemistry	Okada, Kunihiro	30	9	4:15 PM	4:45 PM	Thursday 12/16/2021	Sophia University	
Detection of OH radical produced by photodissociation of H2O on water ice	Miyazaki, Ayame	15	10	4:45 PM	5:00 PM	Thursday 12/16/2021	Institute of Low Temperature Science, Hokkaido University	
Gas-phase chemistry in the interstellar medium: there is still much to learn	Balucani, Nadia	30	1	8:00 AM	8:30 AM	Friday 12/17/2021	University of Perugia	Kleimeier
Carbon dust and molecules in space: diversity or selectivity?	Pino, Thomas	30	2	8:30 AM	9:00 AM	Friday 12/17/2021	CNRS	Kaiser
Carbon isotopic fractionation in molecular clouds	Colzi, Laura	15	3	9:00 AM	9:15 AM	Friday 12/17/2021	Centro de Astrobiologia (CSIC-INTA); INAF-Osservatorio Astrofisico di Arcetri	
Collision coefficients for quantitative molecular assessments: uses, limits and perspectives	Wiesenfeld, Laurent	15	4	9:15 AM	9:30 AM	Friday 12/17/2021	CNRS/ U Paris-Saclay	
Preparation, characterization and storage of water vapours highly enriched in its ortho-H2O nuclear spin isomer.	Ayotte, Patrick	15	5	9:30 AM	9:45 AM	Friday 12/17/2021	Université de Sherbrooke	
Intermission		20						
On the importance of laboratory astrophysics and astrochemistry and interdisciplinary research: Two success stories	Sciamma-O'Brien, Ella	30	7	10:05 AM	10:35 AM	Friday 12/17/2021	NASA Ames Research Center	
Sources of phosphorus for life on earth and beyond	Abbott-Lyon, Heather	30	8	10:35 AM	11:05 AM	Friday 12/17/2021	Kennesaw State University	
Prebiotic precursors of the RNA-World in the interstellar medium: astronomical detections and (plausible?) formation routes	Rivilla, Victor	15	9	11:05 AM	11:20 AM	Friday 12/17/2021	Centro de Astrobiologia; Osservatorio Astrofisico di Arcetri (INAF)	
Titan in a jar: Structural studies of small organic molecules as models for minerals on titan, Saturn's moon	Runcevski, Tomce	15	10	11:20 AM	11:35 AM	Friday 12/17/2021	Southern Methodist University	
Nucleobase photochemistry in prebiotic planetary conditions	de Vries, Mattanjah	15	11	11:35 AM	11:50 AM	Friday 12/17/2021	UCSB	
Computing rovibrational, vibrational, and cascade emission spectra for comparison to astronomical observations	Lee, Timothy	30	1	1:00 PM	1:30 PM	Friday 12/17/2021	NASA Ames Research Center	DeYonker
Rovibrational quartic force fields of metal dicarbides and tricarbides	DeYonker, Nathan	30	2	1:30 PM	2:00 PM	Friday 12/17/2021	The University of Memphis	Fortenberry
Role of computational quantum chemistry in the search for outer space life	Zapata Trujillo, Juan	15	3	2:00 PM	2:15 PM	Friday 12/17/2021	University of New South Wales	
Machine learning for astrochemical discovery	Lee, Kin Long Kelvin	15	4	2:15 PM	2:30 PM	Friday 12/17/2021	Massachusetts Institute of Technology; Center for Astrophysics	Harvard & Smithsonian
Intermission		20						
Missing mechanisms in interstellar grain-surface and ice chemical models	Garrod, Robin	30	6	2:50 PM	3:20 PM	Friday 12/17/2021	University of Virginia	
Formation of carbonaceous materials in deep space	Mebel, Alexander	30	7	3:20 PM	3:50 PM	Friday 12/17/2021	Florida International University	
On the experimental and computational accuracy of band strengths of astrochemical species in the condensed phase	Bennett, Christopher	15	8	3:50 PM	4:05 PM	Friday 12/17/2021	University of Central Florida	
Astrochemistry does not (always) need carbon	Fortenberry, Ryan	15	9	4:05 PM	4:20 PM	Friday 12/17/2021	University of Mississippi	
Direct D atom incorporation in radicals at low temperature: an overlooked pathway to deuterium fractionation?	Suits, Arthur	15	10	4:20 PM	4:35 PM	Friday 12/17/2021	University of Missouri	
Chemists supporting astronomy: what are molecular spectroscopic line lists, how are they made and why are they crucial.	MCKEMMISH, Laura	30	1	6:00 PM	6:30 PM	Friday 12/17/2021	University of New South Wales	Goettl
On the spectra of comets	Schmidt, Timothy	15	2	6:30 PM	6:45 PM	Friday 12/17/2021	UNSW	Watanabe
Spectroscopic exploration of cyanide ices: a story of troublesome crystals	Ennis, Courtney	15	3	6:45 PM	7:00 PM	Friday 12/17/2021	University of Otago	
How accurate knowledge of photochemical reaction kinetics can better explain the formation of large organic complexes in Titan's atmosphere	Barua, Shiblee	15	4	7:00 PM	7:15 PM	Friday 12/17/2021	NASA Goddard Space Flight Center; Universities Space Research Association	
Intermission		20						
Hot nozzles and cold beams shed light on molecular growth processes and dynamics in astrochemical processes	Ahmed, Musahid	30	6	7:35 PM	8:05 PM	Friday 12/17/2021	Lawrence Berkeley Laboratory	
Reaction dynamics of silanethione (H2SiS) and the thiosilafornyl radical (HSiS) via crossed molecular beams	Goettl, Shane	15	7	8:05 PM	8:20 PM	Friday 12/17/2021	University of Hawai'i at Manoa	
Electrically excited states as formation pathway to complex organic molecules	Kleimeier, Nils Fabian	15	8	8:20 PM	8:35 PM	Friday 12/17/2021	University of Hawai'i at Manoa	
Formation, abundance distribution and evolution of complex organic molecules in starless/pre-stellar cores	Jimenez-Serra, Izaskun	15	9	8:35 PM	8:50 PM	Friday 12/17/2021	Astrobiology Center (CSIC/INTA)	