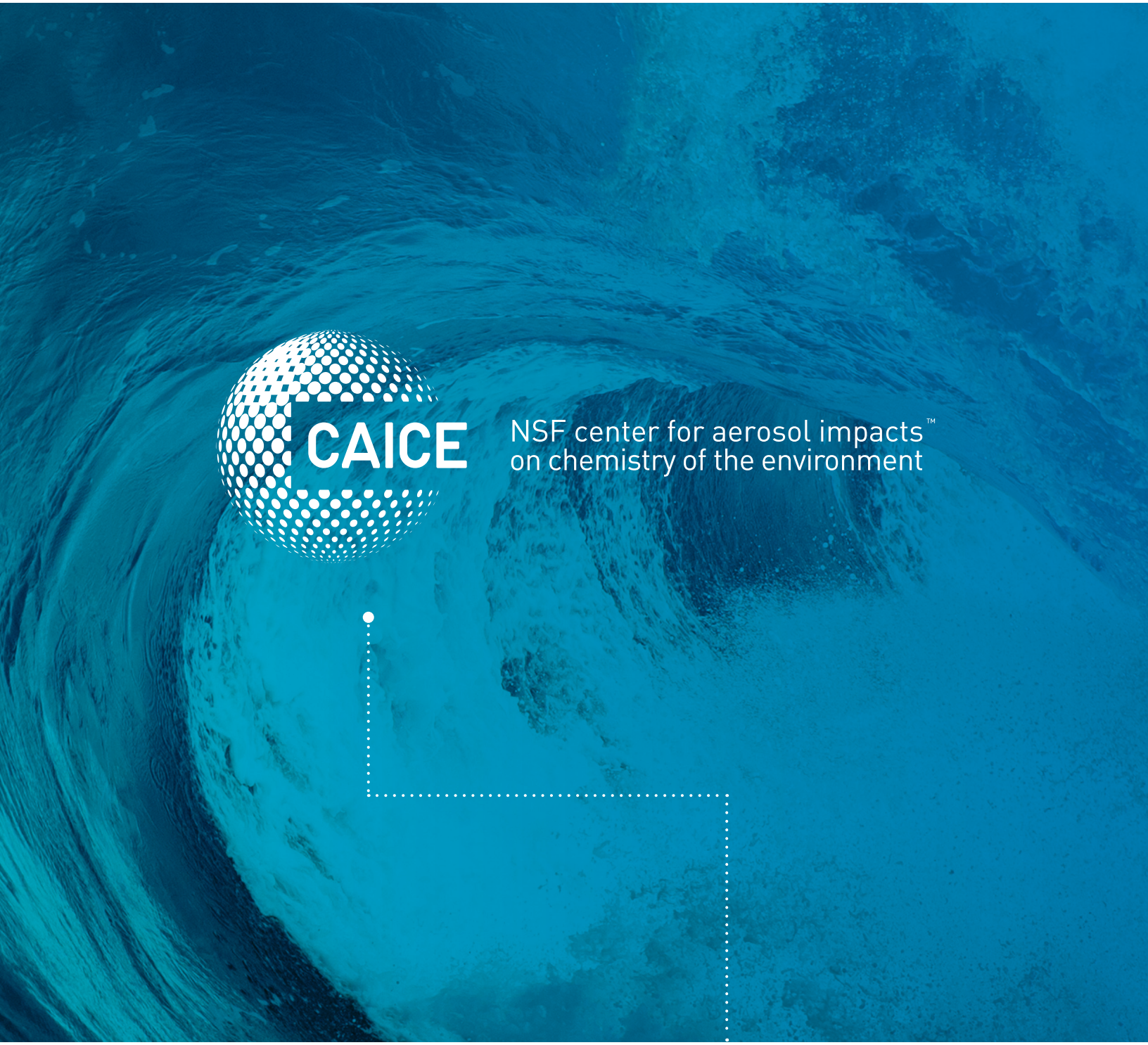

CAICE

NSF center for aerosol impacts™
on chemistry of the environment

CAICE Phase IIb Launch: The Next Five Years

UC San Diego

Scripps Institution of Oceanography

NSF

CAICE NSF center for aerosol impacts™ on chemistry of the environment

NOVEMBER 5, 2018: CAICE Phase IIb Launch: The Next Five Years

TIME	EVENT	SPEAKER	LOCATION
3:00 – 3:45 PM	CAICE Ocean-Atmosphere Facility Tour		Scripps Hydraulics Laboratory
4:00 - 4:10 PM	Welcome	Chancellor Pradeep K. Khosla	Scripps Seaside Forum
4:10 - 5:00 PM	Our Rapidly Changing Planet: How Can Humans Help Make Things Better?	Professor Mario J. Molina	Scripps Seaside Forum
5:00 - 8:00 PM	Poster Session, Outreach Demonstrations, Reception		Scripps Seaside Forum

PROFESSOR MARIO J. MOLINA was born in Mexico City in 1943. He holds a degree in Chemical Engineering (1965) from the Universidad Nacional Autónoma de México, a postgraduate degree (1967) from the University of Freiburg, Germany, and a Ph.D. in Physical Chemistry (1972) from the University of California, Berkeley.

He is a pioneer and one of the leading scientists in the world dedicated to atmospheric chemistry. He was a co-author with Frank Sherwood Rowland, of the 1974 original article predicting the depletion of the ozone layer as a direct consequence of the emissions of certain industrial gases, chlorofluorocarbons (CFCs), earning them the 1995 Nobel Prize in Chemistry. Likewise, his research and publications on the subject lead to the United Nations Montreal Protocol, the first international treaty that has faced with effectiveness an environmental problem of global scale and anthropogenic origin.

Professor Molina and his research team published a series of articles between 1976 and 1986 that identified the chemical properties of compounds that play an essential role in the breakdown of the stratospheric ozone layer. Subsequently, they demonstrated in a laboratory the existence of a new class of chemical reactions that occur in the surface of ice particles including those that are present in the atmosphere. They also proposed and demonstrated in the lab a new sequence of catalytic reactions that explain a major part of the destruction of the ozone in the polar stratosphere.

Professor Molina is a member of the National Academy of Sciences, and for eight years he was one of the 21 scientists that served on President Barack Obama´s Committee of Advisors on Science and Technology (PCAST); he also previously served on President Bill Clinton´s PCAST. For his contribution to science, he has received numerous awards including over 40 honorary degrees, the Tyler Prize for Environmental Achievement in 1983, the UNEP-Sasakawa Environment Prize in 1995, the 1995 Nobel Prize in Chemistry, the Presidential Medal of Freedom and the United Nations Champion of the Earth Award.

Currently, he is a professor at the University of California, San Diego (UC San Diego), with a joint appointment in the Department of Chemistry and Biochemistry and the Scripps Institution of Oceanography, one of the leading research institutions on phenomenon's associated with climate change. Professor Molina has been a lead scientific advisor for the Center for Aerosol Impacts on Chemistry of the Environment (CAICE) since its inception in 2011.

***Adapted from Centro Mario Molina*

CAICE Phase IIb Launch:
The Next Five Years

Scripps Seaside Forum
8610 Kennel Way
La Jolla, CA 92037
November 5, 2018

Posters

Authors

1	Bringing the Ocean and Atmosphere into the Laboratory	Chris Lee
2	Environmental and Complex Analysis Laboratory: Providing State-of-the-Art Tools for Understanding Complex Sea Spray Aerosol Chemistry	Neal Arakawa
3	A Computational Perspective on Air-Sea Interfaces	Abigail Dommer
4	The CAICE of the Missing $ClNO_2$ and Other Tales of Interfacial Exploration!	Joseph Gord
5	Microorganisms and Enzymes Shape Seawater and Sea Spray Aerosol Composition	Matthew Pendergraft
6	Shedding Light on the Chemistry of Marine Environments	Michael Alves
7	How Do Sea Spray Aerosols Lead to Cloud Formation?	Hansol Lee
8	Advancing Education, Outreach, and Diversity Through Center-Enabled Collaboration	Olivia Ryder
9	Early Detection of Predation of Algal Crops by Chemical Ionization Mass Spectrometry	Skip Pomeroy
10	Redox Landscape in Seawater and in Sea Spray Aerosol: Electrifying News!	Francesca Malfatti & Mitch Santander
11	Fluorescent Particle Variation Over the Course of a Phytoplankton Bloom	Brock Mitts & Mitch Santander
12	What's that Smell? Links Between Marine Reduced Sulfur Emissions and Secondary Aerosol Formation	Jon Sauer & Kathryn Mayer
13	Autoxidation of Dimethylsulfide-Derived Peroxy Radicals	Christopher Jernigan
14	Oxidized Organic Compounds in Atmospheric Particle Formation	Nanna Myllys
15	Plastics in Sea Spray Aerosol: Biotic and Abiotic Transformations and Kinetics of BPA in Water and Air	Samantha Kruse
16	Sea Spray Aerosol Composition and Ice Nucleation: Building Separation and Quantification Capabilities	Elias Hasenecz
17	Quantifying Organic Volume Fraction of Sea Spray Aerosol Model Systems Using Atomic Force Microscopy (AFM)	Chathuri Kaluarachchi
18	Probing Substrate Deposited Model System Particles and Sea Spray Aerosols Using AFM and AFM-IR Spectroscopy	Victor Or
19	Modeling and Microfluidic Measurements of Surface Tension and Phase Behavior of Aerosol Mimics	Shihao Liu & Priyatanu Roy
20	Using Ion Scattering to Measure Interfacial Depth Profiles of Ions in Glycerol	Xianyuan Zhao

Posters		Authors
21	Salting Up of Proteins at the Air/Water Interface	Yingmin Li
22	Sea Surface Microlayer Studies in Complex and Model Systems	Kimberly Carter, Mickey Rogers & Stephen Baumler
23	Determining Viability of Enzyme Lipase in Aerosols in the Presence of N_2O_5 Via Contained Electrospray Ionization Mass Spectrometry	Benjamin Burris & Mickey Rogers
24	Investigation Water Ordering and Ice Nucleation of Sea Spray Aerosols and Marine Relevant Systems	Liora Mael, Kim Carter, Maria Vasquez de Vazquez
25	Ice Nucleation Activity of Mixed Surfactant Films	Russell Perkins
26	Measuring the Water Diffusion Coefficinet in Single Model Sea Spray Aerosol Using an Electrodynamic Balance	Pyeongeun Kim
27	Is Dust Deposition a One-Way Process?	Gavin Cornwell
28	Zwitterionic DPPC Modulates Lipase Stability at Air/Salt Water Interfaces	Man Luo
29	Photoabsorption Spectra of Spectated Forms of Pyruvic Acid: Calculations for Isolated Species Compared with Experiments in Solution	Man Luo
30	Experimental and Theoretical Study of the Optical Properties of Benzoic Acid and Benzoate, for Understaing Complex Macromolecular Photosensitizers	Natalia Karimova
31	Photochemistry Initiated by Marine Chromophoric Dissolved Organic Matter	Sam Doyle
32	Photochemistry of HONO in Marine Relevant Environments	Michael Sullivan
33	Cluster Models for Interfacial Photochemistry: Pyruvic Acid and Beyond	Fabian Menges & Anton Lachowicz
34	A Surprising Role for Sulfate in the Formation of $ClNO_2$ at Aqueous Interfaces	Sean Staudt
35	Gearing Up for Next Generation Cluster Studies of Interfacial Chemistry: N_2O_5 and HOX	Sayoni Mitra
36	Reactive Collisions of N_2O_5 with Salty and Surfactant-Coated Water Microjets	Thomas Sobyra
37	Does N_2O_5 React at the Surface of Pure Water?	Estefania Rossich Molina
38	The Reactions of N_2O_5 and Seawater: An Ab Initio, Bottom Up Approach	Laura McCaslin
39	Developing a Reactive Force Field Using Machine Learning for the Decomposition of N_2O_5 in Bulk Water and at the Air-Water Interface	Mirza Galib
40	Machine Learning of Many-Body Potentials for Accurate Simulations of Atmopsherically Relevant Molecules in Aqueous Environment: N_2O_5 and HOX	Andy Goetz