

22nd Informal Symposium on Kinetics and Photochemical Processes in the Atmosphere (2005)

February 14, 2005, 7:45 AM – 7:00 PM
Beckman Center of the National Academies of Sciences and Engineering
University of California at Irvine

Sponsored by:

APEP: Advanced Power and Energy Program (at UCI)
AirUCI Environmental Molecular Science Institute (supported by NSF)
California Air Resources Board
The Henry Samueli School of Engineering
National Science Foundation's Atmospheric Sciences Program

PROGRAM

REGISTRATION & BREAKFAST

7:45-8:30 Arrival, Registration, Breakfast, and Poster Set-Up
8:30-8:40 Welcome and Opening Remarks

SESSION I

8:40-9:10 Invited Talk by Barbara Finlayson-Pitts: "Reactions at Interfaces: The Next Frontier in Atmospheric Chemistry?"
9:10-10:30 Poster Summaries and Viewing: Posters 1-11

SESSION II

10:30-11:00 Invited Talk by Scott Samuelsen: "The Emergence of Fuel Cells in Response to Atmospheric Chemistry"
11:00-12:10 Poster Summaries and Viewing: Posters 12-25

LUNCH

12:10-1:20

SESSION III

1:20-1:50 Invited Talk by David Cocker: "Evaluations of secondary of organic aerosol processes using the new UCR chamber"
1:50-3:10 Poster Summaries and Viewing: Posters 26-40

SESSION IV

3:10-3:40 Invited Talk by Veronica Vaida: "Atmospheric photochemistry with visible solar radiation"
3:40-5:00 Poster Summaries and Viewing: Posters 41-50
5:00-5:10 Concluding Remarks

DINNER

5:10-7:00 Dinner (for those who stay); poster removal

LIST OF POSTERS (Asterisks labels the presenting author; S = session number)

S	Pst. #	Poster/talk title	Authors	Presenter
1	1	Development of Laser Ionization/Mass Spectrometry for Studying Atmospheric Radicals	Chris Fernandez*, Guy Dadson, Liana Gonzalez, and Scott Hewitt	Chris Fernandez
1	2	Significance of the Urban Canopy for Atmospheric Chemistry	Hurlock*, S., Geyer, A., and Stutz, J.	Steve Hurlock
1	3	Interface reactions on NaCl and NaBr aerosols: Influence on molecular halogen production	Jennie Thomas*, Angel Jimenez-Aranda*, Donald Dabdub, and Barbara Finlayson-Pitts	Jennie Thomas
1	4	Halate-Halide Reactions in Thin Film Water	John Newberg* and John Hemminger	John Newberg
1	5	Atmospheric Oxidants at the Air/Water Interface: Accommodation and Solvation of OH and O ₃	John Vieceli*, Martina Roeselova, Nicholas Potter, Liem X. Dang, Bruce C. Garrett, and Douglas J. Tobias	John Vieceli
1	6	Kinetics of Chlorine Atom Reactions with Chlorotoluenes	Rosa Aguilera*, Julie Lee, Gayathri Nagasundaram, and Scott Hewitt	Rosa Aguilera
1	7	Chemistry and Photochemistry of NO _y in Thin Water Films Using a Newly Designed Apparatus	Kevin Ramazan*, Lisa Wingen, and Barbara Finlayson-Pitts	Kevin Ramazan
1	8	Preliminary results on a study of acetone--sulfuric acid--water ion clusters	Raffaella D'Auria* and Richard P. Turco	Raffaella D'Auria
1	9	Heterogeneous Formation of Nitrous Acid in Urban Areas	Trick*, S., Geyer, A., Hurlock, S., and Stutz, J.	Sebastian Trick
1	10	An FTIR study of SO ₂ uptake and oxidation on OH radical processed sea-salt components: Implications for sulfur accumulation in sea-salt aerosol	William Robertson*, Huda Shaka, and Barbara Finlayson-Pitts	William Robertson
1	11	Real-time monitoring of ozonolysis of unsaturated SAMs using ATR-FTIR: Kinetics, mechanisms and atmospheric implications	Yael Dubowski, John Vieceli, Douglas Tobias, Anthony Gomez, Ao Lin, Sergey Nizkorodov, Rachele Smalley, Theresa McIntire* and Barbara Finlayson-Pitts	Theresa McIntire
2	12	Biomass Burning Influences on Atmospheric Composition During INTEX-NA	Alan Kwan*, John Crouse, Paul Wennberg	Alan Kwan
2	13	Approximation of Hydroxyl Concentrations in the Summer Snowpack at Summit, Greenland	Andreas Beyersdorf*, Nicola Blake, Aaron Swanson, Simone Meinardi, Jack Dibb, Steve Sjostedt, Dave Tanner, Greg Huey, Donald Blake, and F. S. Rowland	Andreas Beyersdorf
2	14	Hydrocarbon Distributions in US Cities	Angela Baker*, Andreas Beyersdorf, Lambert Doezema, Aaron Katzenstein, Simone Meinardi, Donald Blake, and F. S. Rowland	Angela Baker
2	15	Volatile Organic compounds in Chinese urban areas	Barbara Barletta*, Simone Meinardi, F. Sherwood Rowland, Chuen-Yu Chan, Xinming Wang, Shichun Zou, Lo Yin Chan, Donald R. Blake	Barbara Barletta
2	16	Simultaneous Measurements of Vertical Columns and Boundary Layer Concentrations of NO ₃ at Table Mountain	Chen*, C., Lawrence, L., Cageao, R., Sander, S., and Stutz, J.	Claudine Chen

2	17	Specific Characterization of Benzo[a]pyrene Diones Using LC/MS/MS	Exequiel Tostado, Noe Ramos, and Krishna Foster	Exequiel Tostado
2	18	Ambient Monitoring of NO ₂ by Cavity Ringdown Spectroscopy	James Hargrove*, Liming Wang, Mark Muyskens, Karen Muyskens, and Jingsong Zhang	James Hargrove
2	19	Air quality modeling: what do numbers really mean?	Marc Carreras*, Marco Rodriguez, Jack Brouwer, Scott Samuelsen and Donald Dabdub	Marc Carreras
2	20	Monitoring Urban Aerosols for Hydroperoxides	Mo Arellanes* and Suzanne E. Paulson	Mo Arellanes
2	21	Field measurements of quinone mass loadings in ambient particulate matter	Myeong Chung*, Rick Lazaro, Joscelyn Jackson, Dianne Lim, and Alam Hasson	Myeong Chung
2	22	Violation of NAAQS levels for ozone in indoor environments by several "air purifiers" sold in US	Nicole Britigan* and Sergey Nizkorodov	Nicole Britigan
2	23	Validation of Multi-Axis DOAS Measurements of Tropospheric NO ₂ and HCHO	Pikelnaya*, O., Hurlock, S., Trick, S., and Stutz J.	Olga Pikelnaya
2	24	Atmospheric column abundances retrieved from ground-based near-infrared solar spectra in Park Falls, Wisconsin	R. Washenfelder*, G. Toon, J.-F. Blavier, Z. Yang, P.O. Wennberg	Rebecca Washenfelder
2	25	Vertical Profiles of Nocturnal O ₃ -NO _x Chemistry in the Urban Boundary Layer - Field Observations in Phoenix and Corresponding Model Studies	Wang*, S., Trick, S., and Stutz, J	Shuhui Wang
3	26	Peroxy Radical Kinetics Studied by Infrared Kinetic Spectroscopy: HO ₂ + EtO ₂	A. Noell*, L. S. Alconcel, D. J. Robichaud, M. Okumura, S. P. Sander	Aaron Noell
3	27	Temperature Dependent Kinetic Study of the Reactions of Atomic Chlorine with Several VOCs at 260 - 340 K	Ali Pirasteh* and Zhuangjie Li	Ali Pirasteh
3	28	Kinetics and Products of the OH Radical-Initiated Reaction of 3-Methyl-2-butenal	Ernesto C. Tuazon*, Sara M. Aschmann, Noriko Nishino, Janet Arey and Roger Atkinson	Noriko Nishino
3	29	Kinetics of Chlorine Atom Reactions with Naphthalene and 1-Methylnaphthalene	Gabriel Aleman*, Cara Malolepsy, Claudia Quant, Xingyu Peng, and Scott Hewitt	Gabriel Aleman
3	30	Kinetics of the ClOOCl + OH Reaction	Jaron C. Hansen*, Stanley P. Sander, Randall R. Friedl	Jaron C. Hansen
3	31	Experimental and Theoretical Study on Isoprene Oxidation Initiated by Hydroxyl Radicals	Jiho Park*, Simon W. North	Jiho Park
3	32	Contributions of organic peroxides to secondary aerosol formed from reactions of monoterpenes with ozone.	Kenneth Docherty*, Wilbur Wu, Yong Bin Lim, and Paul Ziemann	Kenneth Docherty
3	33	A Kinetic and Product Study of the Cl + HO ₂ reaction	Kevin Hickson* and Leon Keyser	Kevin Hickson
3	34	The influence of Ammonia on Secondary Organic Aerosol Formation	Kwangsam Na*, Cameron Switzer and David Cocker	Kwangsam Na
3	35	Reactions of Chlorine Atoms with a Series of Aromatic Hydrocarbons	Lin Wang*, Janet Arey and Roger Atkinson	Lin Wang
3	36	Chamber studies of secondary organic aerosol formation by glyoxal polymerization	Nga Lee Ng*, Jesse H. Kroll, Shane M. Murphy, Varuntida Varutbangkul, Song Gao, Richard C. Flagan, and John H. Seinfeld	Nga Lee Ng

3	37	A Kinetic Study of the Rate Constants for the Gas Phase Reaction of the 1,3-Butadiene with OH Radical Over the Temperature Range 240-340 K Using Relative Rate/Discharge Fast Flow/Mass Spectrometer Technique	Phu Nguyen* and Zhuangjie Li	Phu Nguyen
3	38	A Kinetic Study of the Reaction of Atomic Chlorine with Octanal, Nonanal, and Decanal from 253 - 330 K Using the Relative Rate/Discharge Fast Flow/Mass Spectrometer Method	Rick Stody* and Zhuangjie Li	Rick Stody
3	40	Products and mechanism of secondary organic aerosol formation from reactions of linear alkanes with OH radicals in the presence of NOx	Yong Bin Lim* and Paul Ziemann	Yong Bin Lim
4	39	Effects of Ammonia on the Reactions of Nitrogen Dioxide in Water Vapor	Bob Zhang* and Fu-Ming Tao	Bob Zhang
4	41	Cavity Ringdown measurement of the photolysis initiated OH+NO2 reaction	Andrew K. Mollner*, Lin Feng, Da Lin, Stanley P. Sander, and Mitchio Okumura	Andrew Mollner
4	42	Photolysis of model aged organic aerosols	Anthony Gomez*, Maggie Walser, Nicole Britigan, Jiho Park, Ao Lin, Sergey Nizkorodov	Anthony Gomez
4	43	Theoretical Study of Hydrogen-Bonded Complexes of Chlorophenols with Water or Ammonia: Correlations and Predictions of pKa Values	Jun Han*, Richard L. Deming, and Fu-Ming Tao	Jun Han
4	44	Near-UV Photolysis Cross Section of CH3OOH and HMHP Determined via Action Spectroscopy	Coleen Roehl*, J. L. Fry, Z. Marka, and P. O. Wennberg	Coleen Roehl
4	45	Development of a triple-quadrupole chemical-ionization mass spectrometry (TQCIMS) system for in-situ atmospheric sampling	D. C. McCabe*, J. D. Crouse, A. J. Kwan, and P. O. Wennberg	David McCabe
4	46	Vibrational Spectroscopy of cis-cis HOONO: Role of Torsion-Stretch Coupling and Quantum Yield	Juliane L. Fry*, Anne B. McCoy, Joseph S. Francisco, Andrew K. Mollner, Paul Wennberg, and Mitchio Okumura	Juliane Fry
4	47	Stable and Dissociative Photodetachment Studies of the Allyl Alkoxide Anion CH2=CHCH2O- and the CH2=CHCHOH- Carbanion	M. Shane Bowen*, Kevin T. Early, Daniel C. Luhrs and Robert E. Continetti	Kevin T. Early
4	48	Initial Studies of Nitrate Photochemistry at Surfaces	Michael Ezell, Michael Brown* and Barbara Finlayson-Pitts	Michael Brown
4	49	Kinetic study of the reaction OH + NO2 + M under tropospheric condition	Sivakumaran Valluvadasan*, Daniel B. Milligan, William J. Bloss, and Stanley P. Sander	Sivakumaran Valluvadasan
4	50	Investigating the effects of Microwave heating and vaporization on atmospheric aerosol particles	Stephen Mang*, Ao Lin and Sergey Nizkorodov	Stephen Mang

LIST OF ATTENDEES

(Sorted by affiliation)

Affiliation	Name	
Cal State Fresno	Myeong Chung	
Cal State Fullerton	Ali Pirasteh	
	Cara Malolepsy	
	Chris Fernandez	
	Eric Courter	
	Fu-Ming Tao	
	Gabriel Aleman	
	Javier Morales	
	Julie Lee	
	Jun Han	
	Lan Dang	
	Lauren Brandt	
	Lin Ma	
	Lois Sicking	
	Maria de Leon	
	Phu Nguyen	
	Rick Stoodly	
	Rosa Aguilera	
	Sumitpal Singh	
	Sumitpal Singh	
	Zhuangjie Li	
	Bob Zhang	
Cal State LA	Candie Bautista	
	Dominique Rosete	
	Exequiel Tostado	
	Krishna Foster	
	Marco Orozco	
	Monica McDowell	
	Noe Ramos	
	Stacie Dahl	
Caltech	Aaron Noell	
	Alan Kwan	
	Andrew Mollner	
	Armin Sorooshian	
	Christopher Boxe	
	Coleen Roehl	
	Daven Henze	
	David McCabe	
	David Robichaud	
	Jesse Kroll	
	John Crounse	
	John Seinfeld	
	Juliane Fry	
	Kana Takematsu	
	Laurence Yeung	
	Lin Feng	
	Marcelo I. Guzman	
	Mitchio Okumura	
	Nga Lee Ng	
	Rebecca Washenfelder	
	Shane Murphy	
	Yael Yavin	
	Yang Zhonghua	
	CARB	Dongmin Luo
		Eileen McCauley
William Vance		
CU-Boulder	Veronica Vaida	
JPL	Claudine Chen	
	Jaron Hansen	

	Katharine Moore	
	Kevin Hickson	
	Ming-Taun Leu	
	Randall Friedl	
	Richard Cageao	
	Sivakumaran Valluvadasan	
	Stanley Sander	
	William B. DeMore	
	Kyle Bayes	
	SCAQMD	Aaron Katzenstein
		Heather Farr
		Jason Low
		John McLaughlin
		Laura Julius
Lyovit Usares		
Paul Williamson		
Steve Barbosa		
UCI		Ahmad Alshawa
		Andreas Beyersdorf
	Angel Jimenez-Aranda	
	Angela Baker	
	Anthony Gomez	
	Ao Lin	
	Barbara Barletta	
	Barbara Finlayson-Pitts	
	Brian Novak	
	Christopher Knox	
	Donald Blake	
	Donald Dabdub	
	Doug Tobias	
	Gloria Liu	
	Huda Shaka	
	James Pitts	
	Jennie Thomas	
	Jennifer McAdam	
	Jiho Park	
	Jing Leng	
	John Newberg	
	John Vieceli	
	Juno Hsu	
	Karen Callahan	
	Kevin Ramazan	
	Lisa Wingen	
	Marc Carreras	
	Matthew A. Brown	
Melissa Yang		
Michael Brown		
Michael Prather		
Mike Ezell		
Nicole Britigan		
Paul Morrow		
Nissenson		
Sarah E. Bortz		
Satish Vutukuru		
Scott Samuelsen		
Sergey Nizkorodov		
Simone Meinardi		
Stephanie Rachelle Smalley		
Stephen Mang		

	Theresa McIntire
	Vera Grigoryeva
	Wei Luo
	William Robertson
	Xiang Pan
UCLA	Jochen Stutz
	Laura Lawrence
	Mo Arellanes
	Olga Pikelnaya
	Raffaella D'Auria
	Sebastian Trick
	Shuhui Wang
	Steve Hurlock
Suzanne Paulson	
UCR	Bethany Warren
	Chen Song
	David Cocker
	Ernesto Tuazon
	Irina Malkina
	James Hargrove
	James White
	Janet Arey
	Jingsong Zhang
	Katie Gallagher
	Kenneth Docherty
	Kevin Weber
	Kwangsam Na
	Lin Wang
	Nicholas Potter
	Noriko Nishino
	Paul Ziemann
	Quentin Malloy
	Roger Atkinson
	Sara Aschmann
Sulekha Chattopadhyay	
William P. L. Carter	
Yong Bin Lim	
UCSD	Dominic Graziani
	John Savee
	Kevin T. Early
	M. Shane Bowen
	Silvia De Dea
Zhou Lu	
USC	Amy Moskun
	Joelle Underwood

NOTES (22nd Informal Symposium on Kinetics and Photochemical Processes in the Atmosphere)

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