



# Conference on Ion Chemistry and Mass Spectrometry

**2009 Conference on Ion Chemistry and Mass Spectrometry  
January 16–18, 2009  
UCLA Conference Center, Lake Arrowhead, California**

## **SCHEDULE OF PRESENTATIONS**

**Friday, January 16**

**3:30 PM CHECK-IN AND ROOM ASSIGNMENTS**

**5:30 – 6:30 SOCIAL HOUR**

**Poster presenters, please put your poster up during the welcome social.**

**6:30 - 7:30 DINNER**

**SESSION I      President: Manuel Manard**

**7:45 - 8:10** “Design of a New High Resolution Ion Mobility Mass Spectrometer and Application to Enkephalin Dimer Formation”, **Nicholas Dupuis**, Paul Kemper, Christian Bleiholder and Michael T. Bowers\*, *University of California, Santa Barbara, CA*.

**8:10 - 8:35** “Using Gas-Phase Ion Chemistry to Investigate Absolute Reduction Potentials and Electron Solvation in Aqueous Solution”, **William A. Donald**, Ryan D. Leib, Maria Demireva, M. Jeanette Aiken, and Evan R. Williams\*, *University of California, Berkeley, CA*.

**8:35 – 9:00** “Probing the Mechanism of Electron Capture and Electron Transfer Dissociation with Hydrogen Atom Scavengers and Tags with Variable Electron Affinity”, **Chang Ho Sohn**, Cheol K. Chung, Sheng Yin, Prasanna Ramachandran, Ivory Peng, Joseph A. Loo, and J. L. Beauchamp\*, *California Institute of Technology, Pasadena, CA*.

**9:00 – 11:00 POSTER SESSION, DRINKS, AND DISCUSSION****POSTER PRESENTATIONS**

1. “High-Throughput, High-Sensitivity Proteomics Platform for Improved Biomarker Discovery and Verification”, **Erin S. Baker**, Eric A. Livesay, Daniel J. Orton, William F. Danielson III, David C. Prior, Yehia M. Ibrahim, Ronald J. Moore, Keqi Tang, Ryan T. Kelly, Gordon A. Anderson, Mikhail E. Belov, and Richard D. Smith\*, *Pacific Northwest National Laboratory, Richland, WA.*
2. “Infrared Multiphoton Dissociation Action Spectroscopy of DNA Mononucleotides: Effects of Cationization on Gas Phase Conformation”, **Yuan-wei Nei**, Nuwan Hallowita, Jeffrey D. Steill, Jos Oomens, and Mary T. Rodgers\*, *Wayne State University, Detroit, MI.*
3. “Structures and Binding Energies of Noncovalent Complexes of Peptidomimetic Protonated Nitrogen Bases with 18-Crown-6”, Yu Chen and **Mary T. Rodgers\***, *Wayne State University, Detroit, MI.*
4. “Manipulating Small Droplets with Pulsed Electric Fields to Examine the Physical Properties and Chemical Reactivity of Gas-Liquid Interfaces”, **Evan L. Neidholdt** and J. L. Beauchamp\*, *California Institute of Technology, Pasadena, CA.*
5. “Surface-Induced Dissociation of Odd-Electron Peptide Ions”, **Julia Laskin\***, Zhibo Yang, Corey lam, and Ivan K. Chu, *Pacific Northwest National Laboratory, Richland, WA.*
6. “Tandem MS/MS Investigation of Positively and Negatively Charged Ions Generated by ESI from Tholin Samples: An Implication to Titan's Atmospheric Chemistry”, **Arpad Somogyi**, Roland Thissen, Veronique Vuitton, and Mark Smith\*, *University of Arizona, Tucson, AZ*
7. “Observing Radical Migration in Peptides Using Photodissociation and Ion-Molecule Reactions”, **Ben Moore**, Ryan Julian\*, Stephen Blanksby, and Tony Ly, *University of California, Riverside.*
8. “Conformational Effects of Small Molecule Binding to Alpha-Synuclein and its Disease-Related A30P and A53T Mutants”, **Anna Erickson**, Megan Grabenauer, Thomas Wyttenbach, Jay R. Winkler, Harry B. Gray, and Michael Bowers\* *University of California, Santa Barbara, CA.*
9. “Affinity Capture Mass Spectrometry: A Diagnostic for Bacterial Contamination”, **Erin M. Johnson**, Walther Ellis, Donna Wolk, and Vicki H. Wysocki\*, *University of Arizona, Tucson, AZ.*
10. “Native Mass Spectrometry as a Structural Probe for Soluble Guanylyl Cyclase”, **Anne E. Blackwell** and Vicki H. Wysocki\*, *University of Arizona, Tucson, AZ.*
11. “Electron Affinities of Chlorinated Hydrocarbons and Their Electron Capture Structures”, **L.D. Betowski\***, Mark Enlow, and D.H. Aue, *U. S. Environmental Protection Agency, Las Vegas, NV.*
12. “Using Intensity in Peptide Identification Algorithms”, **Wenzhou Li**, Jonathan Goya, and Vicki Wysocki\*, *University of Arizona, Tucson, AZ.*
13. “Mass-Balanced H/D-Isotope Dipeptide Tags for Simultaneous Peptide Sequencing and Proteon Quantitation”, Jongcheol Seo, Min-Soo Suh, Hye-Joo Yoon and **Seung Koo Shin\***, *Pohang University of Science and Technology, Pohang, South Korea.*

## POSTER PRESENTATIONS (continued)

14. "Mapping Iodination Sites in Whole Proteins by MALDI-MS for Potential Exploration of Solution Phase Protein Structure", **Qingyu Sun** and Ryan R. Julian\*, *University of California, Riverside, CA*.
15. "Reactions of Alpha Nucleophiles with Alkyl Halides", Stephanie M. Villano, Nicole Eyet, W. Carl Lineberger, and **Veronica M. Bierbaum\***, *University of Colorado, Boulder, CO*.
16. "Structures of Potassiated Aminocarboxylic Acids and Proline Derivatives by IMS/MS", **Bing Gao**, Thomas Wyttenbach, Miriam K. Drayss, Mathias Schäfe, and Michael T. Bowers\*, *University of California, Santa Barbara, CA*
17. "Where Does the Electron Go in Peptide Cation-Radicals?", **Frantisek Turecek\***, Changtong Hao, and Eva Fung, *University of Washington, Seattle, WA*.
18. "Cross Sectional Areas by Fourier Transform Ion Cyclotron resonance (CRAFTI): A New Method for Probing Ion Conformation", Fan Yang, Jacob Voelkel, and **David V. Dearden\***, *Brigham Young University, Provo, UT*.
19. "Mass Spectrometric Characterization of Monorhamnolipid Produced from *P. Aeruginosa* ATCC 9027 Complexes with  $Pb^{2+}$  and  $UO_2^{2+}$ ", **Tracey A. Veres**, Arpad Somogyi, and Jeanne E. Pemberton\*, *University of Arizona, Tucson, AZ*.

**Saturday, January 17**

**8:00 – 8:30 BREAKFAST**

**SESSION II      Presider: David V. Dearden**

**8:30 – 8:55** “Wet Grease: Hydration of Hydrophobic Groups Investigated with Infrared Photodissociation Spectroscopy and Theory”, **James S. Prell** and Evan R. Williams\*, *University of California, Berkeley, CA.*

**8:55 - 9:20** “IRMPD Spectroscopy of Sodiated and Protonated Diethyl and Triethyl Phosphate Esters”, **B. Scott Fales**, Nathaniel O. Fujamade, Chunhai Ruan, Jos Oomens, and M. T. Rodgers\*, *Wayne State University, Detroit, MI.*

**9:20 – 9:45** “Detecting Phosphorylation the Radical Way”, **Jolene K. Diedrich** and Ryan R. Julian\*, *University of California, Riverside, CA.*

**9:45 – 10:10** “Vibrational Spectroscopy of  $\text{Fe}^+(\text{CH}_4)_n$ ”, **Murat Citir** and Ricardo B. Metz\*, *University of Massachusetts, Amherst, MA.*

**10:10 – 10:25      BREAK**

**10:25 – 10:50** “The Effect of Calcium Ions and Peptide Ligands on the Stability of the Calmodulin Dumbbell Structure”, **Thomas Wyttenbach**, Megan Grabenauer, Konstantinos Thalassinou, James H. Scrivens, and Michael T. Bowers\*, *University of California, Santa Barbara, CA.*

**10:50 – 11:15** “The Development of Retrosynthetic Glycan Libraries to Profile and Classify the Human Serum N-Linked Glycome”, **Scott R. Kronewitter**, Hyun Joo An, Maria Lorna de Leoz, and Carlito B. Lebrilla\*, *University of California, Davis, CA.*

**11:15 – 11:40** “Ionic Reactions in Desorption Electrospray Ionization Mass Spectrometry”, **Hao Chen**,\* Zhixin Jessie Miao, and Yun Winnie Zhang, *Ohio University, Athens, OH.*

**11:40 – 12:05** “The Binding Parameter Model: A Quantitative Elucidation of the Fundamental Interactions that Determine the Strength and Specificity of Cation- $\pi$  Interactions”, **Nuwan Hallowita**, Ravi Amunugama, Chunhai Ruan, Esitima Udonkang, Cliff Frieler, and M. T. Rodgers\*, *Wayne State University, Detroit, MI.*

**12:05 – 2:10      LUNCH AND FREE TIME**

**2:10 – 2:30      CONFERENCE PHOTO**

**SESSION III      Presider: Nathan Dalleska**

**2:30 – 2:55** “Ab Initio Protein Folding Probed by All-Atom Molecular Dynamic Simulations with Replica Exchange Method”, **Chun Wu**, Nicholas F. Dupuis, Joan-Emma Shea, and Michael T. Bowers\*, *University of California, Santa Barbara, CA.*

**2:55 - 3:20** “All Roads Lead to Rome: Radical Migration Towards the Beta-Carbon Yields Dissociation of the Peptide Backbone at Tyrosine”, **Tony Ly** and Ryan R. Julian\*, *University of California, Riverside, CA.*

**3:20 – 3:45** “N-linked and Free Oligosaccharide Content of Human Milk”, **John Froehlich**, Eric Dodds, Richard Seipert, Larry Lerno, Mariana Barboza, and Carlito B. Lebrilla\*, *University of California, Davis, CA.*

**3:45 - 4:10** The Photoelectron Spectrum of  $\text{CCl}_2^-$ : The Convergence of Theory and Experiment After a Decade of Debate”, **Scott W. Wren**, Kristen M. Vogelhuber, Kent M. Ervin, and W. Carl Lineberger\*, *University of Colorado, Boulder, CO.*

**4:10 – 4:30 BREAK**

**4:30 – 4:55** “Discovery of Glycomic Markers for Cancer”, **Maria Lorna A. de Leoz**, Scott Kronewitter, Hyun Joo An, Jaehan Kim, Ruth Vinall, Suzanne Miyamoto, Larry Young, Ralph de Vere White, Kit S. Lam, and Carlito Lebrilla\*, *University of California, Davis, CA.*

**4:55 – 5:20** Investigating Low Barrier Hydrogen Bonds in Linear and Cyclic Diamines”, **Sevana Khodaghlian** and Thomas Morton\*, *University of California, Riverside, CA.*

**5:20 – 5:45** “The Effects of Rapid Analyte/Solvent Mixing for ESI MS of Peptides and Proteins”, **Ivory Peng**, Rachel Loo, and Joe Loo\*, *University of California, Los Angeles, CA.*

**5:45–6:10** “Formation and Growth of Complex Organics by Gas Phase and Intracluster Reactions”, Paul O. Momoh, Abdel-Rahman Soliman and **M. Samy El-Shall\*** *Virginia Commonwealth University, Richmond, VA.*

**6:30 - 8:00 DINNER**

**8:00 - 9:00 ?      SATURDAY EVENING**

**Presider:    Erin S. Baker**

# **Symposium and Celebration in Honor of**



## **Michael T. Bowers on the Occasion of his 70<sup>th</sup> Birthday!**

**9:00 - 12:00      PARTY**

**Sunday, January 18**

**8:00 – 9:00            BREAKFAST**

**SESSION IV            Presider: Hao Chen**

**9:00 – 9:25** “Structural Studies of Small Peptide Oligomers Using Ion Mobility Mass Spectrometry”, **Christian Bleiholder**, Nick Dupuis, Michael T. Bowers\*, *University of California, Santa Barbara, CA.*

**9:25 - 9:50** “Pulsed Q Dynamic Collision Induced Dissociation, a New Approach for Fast Fragmentation in the Quadrupole Ion Trap”, **Unige A. Laskay**, Shannon L. Cook, and Glen P. Jackson\*, *University of Arizona, Tucson, AZ.*

**9:50 – 10:15** “Increasing Charge While Preserving Noncovalent Protein Complexes for ESI-MS”, **Shirley H. Lomeli**, Sheng Yin, Rachel R. Ogorzalek Loo, and Joseph A. Loo\*, *University of California, Los Angeles, CA.*

**10:15 – 10:35 BREAK**

**10:35 – 11:00** “Radical Exchange Between Noncovalently Complexed Peptide Ions”, **Geoffrey K. Yeh**, Jolene K. Deidrich, Tony Ly, Claudia Meneses, and Ryan R. Julian\*, *University of California, Riverside, CA.*

**11:00 – 11:25** “Differentiating Diastereomeric Peptides by Mass Spectrometry”, **Aaron Moehlig** and Thomas H. Morton\*, *University of California, Riverside, CA.*

**11:25 - 11:50** “Applications of Large Peptide Clusters”, **Tawnya Flick**, William A. Donald, Ryan Leib, and Evan R. Williams\*, *University of California, Berkeley, CA.*

**11:50 - 12:00            CHECK OUT**

**12:00 - 1:00            LUNCH AND DEPART**

**List of Participants at the  
2009 Conference on Ion Chemistry and Mass Spectrometry  
January 16–18, 2009  
UCLA Conference Center, Lake Arrowhead, California**

Stan Anderson  
Department of Chemistry  
University of California  
Santa Barbara, CA 93106  
☎ (805) 893-2673  
FAX (805) 893-8703  
[anderso@westmont.edu](mailto:anderso@westmont.edu)

J. L. Beauchamp  
Department of Chemistry 127-72  
California Institute of Technology  
Pasadena, CA 91125  
☎ (626) 395-6525  
FAX (626) 568-8641  
[jlbechamp@caltech.edu](mailto:jlbechamp@caltech.edu)

Veronica M. Bierbaum  
Department of Chemistry  
215 UCB  
University of Colorado  
Boulder, CO 80309-0215  
☎ (303) 492-7081  
FAX (303) 492-5894  
[veronica.bierbaum@colorado.edu](mailto:veronica.bierbaum@colorado.edu)

Marilyn Bowers

Hao Chen  
Department of Chemistry  
136 Clippinger Laboratory  
Ohio University  
Athens, OH 45701  
☎ (740) 331-2302  
FAX (740) 597-3157  
[chenh2@ohio.edu](mailto:chenh2@ohio.edu)

Peter B. Armentrout  
315 S. 1400 E. RM Dock  
Department of Chemistry  
University of Utah  
Salt Lake City, UT 84112-0850  
☎ (801) 581-7885  
FAX (801) 581-8433  
[armentrout@chem.utah.edu](mailto:armentrout@chem.utah.edu)

Don Betowski  
U.S. EPA, NERL-ESD-ECB  
P.O. Box 93478  
U.S. Environmental Protection  
Agency  
Las Vegas, NV 89193-3478  
☎ (702) 798-2116  
FAX (702) 798-2142  
[betowski.don@epa.gov](mailto:betowski.don@epa.gov)

Anne Blackwell  
1306 E. University Blvd.  
Department of Chemistry  
University of Arizona  
Tucson, AZ 85721-0041  
☎ (520) 626-4659  
FAX (520) 621-8272  
[blackwae@email.arizona.edu](mailto:blackwae@email.arizona.edu)

Michael T. Bowers  
Department of Chemistry  
University of California  
Santa Barbara, CA 93106  
☎ (805) 893-2893  
FAX (805) 893-8703  
[bowers@chem.ucsb.edu](mailto:bowers@chem.ucsb.edu)

Murat Citir  
315 S. 1400 E. RM Dock  
Department of Chemistry  
University of Utah  
Salt Lake City, UT 84112-0850  
☎ (801) 581-7901  
FAX (801) 581-8433  
[mcitir@chem.utah.edu](mailto:mcitir@chem.utah.edu)

Erin Baker  
P. O. Box 999, MSIN K8-98  
Pacific Northwest National  
Laboratory  
Richland, WA 99354  
☎ (509) 371-6219  
FAX  
[erin.baker@pnl.gov](mailto:erin.baker@pnl.gov)

Ruth Betowski  
4290 Lucas Avenue  
Las Vegas, NV 89120  
☎ (702) 456-8165  
[betowski@egr.unlv.edu](mailto:betowski@egr.unlv.edu)

Christian Bleiholder  
Department of Chemistry  
University of California  
Santa Barbara, CA 93106-9510  
☎ (805) 893-2673  
FAX (805) 893-8703  
[cbleiholder@chem.ucsb.edu](mailto:cbleiholder@chem.ucsb.edu)

Erin Brocker  
Department of Chemistry  
University of California  
Santa Barbara, CA 93106-9510  
☎ (805) 893-2673  
FAX (805) 893-8703  
[ebrocker@chem.ucsb.edu](mailto:ebrocker@chem.ucsb.edu)

Nathan Dalleska  
138-78  
California Institute of Technology  
Pasadena, CA 91125  
☎ (626) 395-6299  
FAX (626) 568-2940  
[nathand@caltech.edu](mailto:nathand@caltech.edu)



David V. Dearden  
 Department of Chemistry and  
 Biochemistry  
 C100 Benson Science Building  
 Brigham Young University  
 Provo, UT 84602-5700  
 ☎ (801) 422-2355  
 FAX (801) 422-0153  
[david\\_dearden@byu.edu](mailto:david_dearden@byu.edu)

William A. Donald  
 Department of Chemistry  
 University of California  
 Berkeley, CA 94720  
 ☎ (510) 643-6240  
 FAX (510) 642-7714  
[wadonald@berkeley.edu](mailto:wadonald@berkeley.edu)

Anna Erickson  
 Department of Chemistry  
 University of California  
 Santa Barbara, CA 93106  
 ☎ (805) 893-2893  
 FAX (805) 893-8703  
[secunda7@yahoo.com](mailto:secunda7@yahoo.com)

Cliff Frierler  
 5101 Cass Avenue, 35 Chemistry  
 Department of Chemistry  
 Wayne State University  
 Detroit, MI 48202  
 ☎ (313) 577-2431  
 FAX (313) 577-8822  
[cfrierler@chem.wayne.edu](mailto:cfrierler@chem.wayne.edu)

Jean H. Futrell  
 Pacific Northwest National  
 Laboratory  
 P.O. Box 999  
 K9-95  
 Richland, WA 99352  
 ☎ (509) 372-4140  
 FAX (509) 375-6665  
[jean.futrell@pnl.gov](mailto:jean.futrell@pnl.gov)

Anne K. Graham

Maria Lorna A. deLeoz  
 Department of Chemistry  
 One Shields Avenue  
 University of California  
 Davis, CA 95616  
 ☎ (503) 752-5504  
 FAX (530) 752-8995  
[ladeleoz@ucdavis.edu](mailto:ladeleoz@ucdavis.edu)

Nicholas Dupuis  
 Department of Chemistry  
 University of California  
 Santa Barbara, CA 93106  
 ☎ (805) 893-2673  
 FAX (805) 893-8703  
[ndupuis@chem.ucsb.edu](mailto:ndupuis@chem.ucsb.edu)

Bryan Scott Fales  
 5101 Cass Avenue, 20 Chemistry  
 Department of Chemistry  
 Wayne State University  
 Detroit, MI 48202  
 ☎ (313) 577-0780  
 FAX (313) 577-8822  
[bsfales@chem.wayne.edu](mailto:bsfales@chem.wayne.edu)

Nicholas Frierler

Bing Gao  
 Department of Chemistry  
 University of California  
 Santa Barbara, CA 93106  
 ☎ (805) 893-2673  
 FAX (805) 893-8703  
[bgao@chem.ucsb.edu](mailto:bgao@chem.ucsb.edu)

Nuwan Hallowita  
 5101 Cass Avenue, 20 Chemistry  
 Department of Chemistry  
 Wayne State University  
 Detroit, MI 48202  
 ☎ (313) 577-0780  
 FAX (313) 577-8822  
[nuwan@chem.wayne.edu](mailto:nuwan@chem.wayne.edu)

Jolene Diedrich  
 501 Big Springs Road  
 Department of Chemistry  
 University of California  
 Riverside, CA 92507  
 ☎ (951) 827-3959  
 FAX (951) 827-4713  
[jdied001@ucr.edu](mailto:jdied001@ucr.edu)

Samy El-Shall  
 Department of Chemistry  
 1001 W. Main Street  
 Virginia Commonwealth  
 University  
 Richmond, VA 23284  
 ☎ (804) 828-3518  
 FAX (804) 828-8599  
[mshelshal@vcu.edu](mailto:mshelshal@vcu.edu)

Tawnya Flick  
 Department of Chemistry  
 University of California  
 Berkeley, CA 94720  
 ☎ (510) 643-6240  
 FAX (510) 642-7714  
[tflick@berkeley.edu](mailto:tflick@berkeley.edu)

John Froehlich  
 Department of Chemistry  
 One Shields Avenue  
 University of California  
 Davis, CA 95616  
 ☎ (530) 752-5504  
 FAX (530) 752-8995  
[jwfroehlich@ucdavis.edu](mailto:jwfroehlich@ucdavis.edu)

Megan Grabenauer  
 Department of Chemistry  
 University of California  
 Santa Barbara, CA 93106  
 ☎ (805) 893-2673  
 FAX (805) 893-8703  
[mgrabenauer@chem.ucsb.edu](mailto:mgrabenauer@chem.ucsb.edu)

Erin Johnson  
 1306 E. University Blvd.  
 Department of Chemistry  
 University of Arizona  
 Tucson, AZ 85721-0041  
 ☎ (520) 591-4659  
 FAX (520) 621-8407  
[erinj@email.arizona.edu](mailto:erinj@email.arizona.edu)

Ryan Julian  
501 Big Springs Road  
Department of Chemistry  
University of California  
Riverside, CA 92521-0403  
☎ (951) 827-3958  
FAX (951) 827-4713  
[ryan.julian@ucr.edu](mailto:ryan.julian@ucr.edu)

Scott Kronewitter  
Department of Chemistry  
One Shields Avenue  
University of California  
Davis, CA 95616  
☎ (530) 752-5504  
FAX (530) 752-8995  
[skronewitter@ucdavis.edu](mailto:skronewitter@ucdavis.edu)

Carlito B. Lebrilla  
Department of Chemistry  
One Shields Avenue  
University of California  
Davis, CA 95616  
☎ (530) 752-6364  
FAX (530) 752-8995  
[cblebrilla@ucdavis.edu](mailto:cblebrilla@ucdavis.edu)

Shirley H. Lomeli  
Department of Chemistry  
University of California  
607 Charles E. Young Dr. East  
Los Angeles, CA 90095  
☎ (310) 794-7308  
FAX (310) 206-4038  
[slomeli@chem.ucla.edu](mailto:slomeli@chem.ucla.edu)

Tony Ly  
501 Big Springs Rd  
Department of Chemistry  
University of California  
Riverside, CA 92507  
☎ (951) 827-3959  
FAX (951) 827-4713  
[tly003@ucr.edu](mailto:tly003@ucr.edu)

Benjamin Moore  
501 Big Springs Rd  
Department of Chemistry  
University of California  
Riverside, CA 92507  
☎ (949) 981-2661  
FAX (951) 827-4713  
[bmoor003@ucr.edu](mailto:bmoor003@ucr.edu)

Paul Kemper  
Department of Chemistry  
University of California  
Santa Barbara, CA 93106-9510  
☎ (805) 893-2673  
FAX (805) 893-8703  
[kemper@chem.ucsb.edu](mailto:kemper@chem.ucsb.edu)

Unige Laskay  
1306 E. University Blvd.  
Department of Chemistry  
University of Arizona  
Tucson, AZ 85721-0041  
☎ (520) 591-4659  
FAX (520) 621-8407  
[tcherny@email.arizona.edu](mailto:tcherny@email.arizona.edu)

Larry Lerno  
Department of Chemistry  
One Shields Avenue  
University of California  
Davis, CA 95616  
☎ (530) 752-5504  
FAX (530) 752-8995  
[lalerno@ucdavis.edu](mailto:lalerno@ucdavis.edu)

Joseph Loo  
Department of Chemistry  
University of California  
405 Hilgard Avenue, 402 MBI  
Los Angeles, CA 90095  
☎ (310) 794-7023  
FAX (310) 206-4038  
[JLoo@chem.ucla.edu](mailto:JLoo@chem.ucla.edu)

Manuel Manard  
National Security Technologies  
5520 Ekwil Street  
Santa Barbara, CA 93111  
☎ (805) 681-2121  
FAX (805) 964-3416  
[manardmj@nv.doe.gov](mailto:manardmj@nv.doe.gov)

Thomas H. Morton  
501 Big Springs Rd  
Department of Chemistry  
University of California  
Riverside, CA 92507  
☎ (951) 727-4735  
FAX (951) 827-4713  
[morton@ucr.edu](mailto:morton@ucr.edu)

Sevana Khodaghlian  
501 Big Springs Rd  
Department of Chemistry  
University of California  
Riverside, CA 92507  
☎ (951) 648-1056  
[morton@ucr.edu](mailto:morton@ucr.edu)

Julia Laskin  
Pacific Northwest National  
Laboratory  
P.O. Box 999  
K8-88  
Richland, WA 99352  
☎ (509) 371-6136  
FAX (509) 371-6139  
[julia.laskin@pnl.gov](mailto:julia.laskin@pnl.gov)

Wenzhou Li  
1306 E. University Blvd.  
Department of Chemistry  
University of Arizona  
Tucson, AZ 85721-0041  
☎ (520) 591-5671  
FAX (520) 621-8407  
[lwz@email.arizona.edu](mailto:lwz@email.arizona.edu)

Rachel Loo  
Department of Chemistry  
University of California  
405 Hilgard Avenue, 406 MBI  
Los Angeles, CA 90095  
☎ (310) 206-1484  
FAX (310) 206-4038  
[RLoo@mednet.ucla.edu](mailto:RLoo@mednet.ucla.edu)

Aaron Moehlig  
501 Big Springs Rd  
Department of Chemistry  
University of California  
Riverside, CA 92507  
☎ (951) 727-3657  
FAX (951) 827-4713  
[amoehlig@gmail.com](mailto:amoehlig@gmail.com)

Megan Murray  
Department of Chemistry  
University of California  
Santa Barbara, CA 93106  
☎ (805) 893-2673  
FAX (805) 893-8703  
[mmurray@chem.ucsb.edu](mailto:mmurray@chem.ucsb.edu)

Yuan-wei (David) Nei  
5101 Cass Avenue, 20 Chemistry  
Department of Chemistry  
Wayne State University  
Detroit, MI 48202  
☎ (313) 577-0780  
FAX (313) 577-8822  
[dnei@chem.wayne.edu](mailto:dnei@chem.wayne.edu)

James Prell  
Department of Chemistry  
University of California  
Berkeley, CA 94720  
☎ (510) 643-6240  
FAX (510) 642-7714  
[jsprell@berkeley.edu](mailto:jsprell@berkeley.edu)

Seung Koo Shin  
Department of Chemistry  
San 31 Hyojadong Namgu  
Pohang University of Science and  
Technology  
Pohang, South Korea  
☎ 82-54-279-2123  
FAX 82-54-279-3399  
[skshin@postech.ac.kr](mailto:skshin@postech.ac.kr)

Qingyu Sun  
501 W. Big Springs Rd  
Department of Chemistry  
University of California  
Riverside, CA 92507  
☎ (951) 827-3959  
FAX (951) 827-4713  
[qsun001@ucr.edu](mailto:qsun001@ucr.edu)

Tracey A. Veres  
1306 E. University Blvd.  
Department of Chemistry  
University of Arizona  
Tucson, AZ 85721-0041  
☎ (520) 626-8244  
FAX (520) 621-8272  
[tveres@email.arizona.edu](mailto:tveres@email.arizona.edu)

Scott Wren  
Department of Chemistry 440 UCB  
University of Colorado  
Boulder, CO 80309-0440  
☎ (303) 492-8617  
FAX (303) 492-8994  
[scott.wren@colorado.edu](mailto:scott.wren@colorado.edu)

Evan Neidholdt  
Department of Chemistry 127-72  
California Institute of Technology  
Pasadena, CA 91125  
☎ (626) 395-2779  
FAX (626) 568-8641  
[eln@caltech.edu](mailto:eln@caltech.edu)

Mary T. Rodgers  
5101 Cass Avenue, 33 Chemistry  
Department of Chemistry  
Wayne State University  
Detroit, MI 48202  
☎ (313) 577-2431  
FAX (313) 577-8822  
[mrodders@chem.wayne.edu](mailto:mrodders@chem.wayne.edu)

Changho Sohn  
Department of Chemistry 127-72  
California Institute of Technology  
Pasadena, CA 91125  
☎ (626) 395-6543  
FAX (626) 568-8641  
[sohn@caltech.edu](mailto:sohn@caltech.edu)

Frantisek Turecek  
Department of Chemistry  
University of Washington  
Bagley Hall Box 351700  
Seattle, WA 98195-2041  
☎ (206) 685-2041  
FAX (206)  
[turecek@chem.washington.edu](mailto:turecek@chem.washington.edu)

Richard Watts  
Department of Chemistry and  
Biochemistry  
University of California  
Santa Barbara, CA 93106-9510  
☎ (805) 893-5493  
FAX (908) 893-4120  
[watts@chem.ucsb.edu](mailto:watts@chem.ucsb.edu)

Chun Wu  
Department of Chemistry  
University of California  
Santa Barbara, CA 93106  
☎ (805) 893-2673  
FAX (805) 893-8703  
[koolben5@gmail.com](mailto:koolben5@gmail.com)

Ivory Peng  
Department of Chemistry  
University of California  
607 Charles E. Young Dr. East  
Los Angeles, CA 90095  
☎ (310) 794-7308  
FAX (310) 206-4038  
[xpeng@chem.ucla.edu](mailto:xpeng@chem.ucla.edu)

Pam Scotten  
Department of Chemistry  
University of California  
Santa Barbara, CA 93106-9510  
☎ (805) 893-2673  
FAX (805) 893-8703  
[kemper@chem.ucsb.edu](mailto:kemper@chem.ucsb.edu)

Arpad Somogyi  
1306 E. University Blvd.  
Department of Chemistry  
University of Arizona  
Tucson, AZ 85721-0041  
☎ (520) 626-7272  
FAX (520) 621-8272  
[asomogyi@u.arizona.edu](mailto:asomogyi@u.arizona.edu)

Petra van Koppen  
Department of Chemistry and  
Biochemistry  
University of California  
Santa Barbara, CA 93106-9510  
☎ (805) 893-5512  
FAX (908) 893-4120  
[vankoppen@chem.ucsb.edu](mailto:vankoppen@chem.ucsb.edu)

Evan R. Williams  
Department of Chemistry  
University of California  
Berkeley, CA 94720  
☎ (510) 643-7161  
FAX (510) 642-7714  
[williams@cchem.berkeley.edu](mailto:williams@cchem.berkeley.edu)

Thomas Wytttenbach  
Department of Chemistry  
University of California  
Santa Barbara, CA 93106  
☎ (805) 893-2673  
FAX (805) 893-8703  
[wyttenbach@chem.ucsb.edu](mailto:wyttenbach@chem.ucsb.edu)

Geoffrey Yeh  
501 W. Big Springs Rd.  
Department of Chemistry  
University of California  
Riverside, CA 92507  
☎ (951) 827-3959  
FAX (951) 827-4713  
[gyeh001@ucr.edu](mailto:gyeh001@ucr.edu)

Hye-Joo Yoon  
Department of Chemistry  
San 31 Hyojadong Namgu  
Pohang University of Science and  
Technology  
Pohang, South Korea  
☎ 82-54-279-2123  
FAX 82-54-279-3399  
[hjyoon@postech.ac.kr](mailto:hjyoon@postech.ac.kr)