

2nd Workshop on Harsh-Environment Mass Spectrometry
March 18-21, 2001, St. Petersburg, Florida

Sunday - March 18

7:00 PM Welcome reception at The Pier Aquarium

Monday - March 19

8:00 AM Continental Breakfast

8:30 AM Technical Session I

8:30 AM Welcoming, Peter Betzer, Tim Short

9:00 AM **"Mass Spectrometers for In-Situ Planetary Exploration"**
Pat Beauchamp, Jet Propulsion Laboratory, Pasadena, CA

9:30 AM **"A small multiple reflectron time-of-flight mass spectrometer (MR-TOF-MS) for in-situ investigations"**
A. Casares and H. Wollnik, Justus-Liebig University, Giessen, Germany; F. Goesmann, A. Kholomeev, R. Roll, and H. Rosenbauer, Max-Planck Institute fuer Aeronomie (MPIE), Katlenburg-Lindau, Germany

10:00 AM **Coffee break**

10:30 AM **"In-situ Laser TOF MS on Planets and Small Bodies"**
Will Brinckerhoff, Applied Physics Laboratory, The Johns Hopkins University, Laurel, MD

11:00 AM **"A Fully Redundant On-Line Mass Spectrometric System for the Space Shuttle Used to Monitor Cyogenic Fuel Leaks"**
T. P. Griffin, G. R. Naylor and W. D. Haskell, Dynacs Inc., Kennedy Space Center, FL; G. S. Breznik and C. A. Mizell, NASA Kennedy Space Center, FL

11:30 AM Lunch on your own

1:30 PM Technical Session II

1:30 PM **"A Miniaturized Cylindrical Ion Trap Mass Spectrometer"**
Garth E. Patterson and R. Graham Cooks, Purdue University, West Lafayette, IN

2:00 PM **"Recent Developments in Micro Ion Trap Mass Spectrometry"**
Jeremy Moxom, William B. Whitten, Peter T. A. Reilly and J. Michael Ramsey, Oak Ridge National Laboratory, Oak Ridge, TN

2:30 PM **"Miniature TOF Mass Spectrometer using a Flexible Circuitboard Reflectron"**
Tim Cornish, Applied Physics Laboratory, The Johns Hopkins University, Laurel, MD

3:00 PM Afternoon break

3:30 PM Poster Session

"Compact and Rugged Multipurpose TOF"
M. Gonin, K. Fuhrer, and J.A. Schultz, Ionwerks, Inc., Houston, TX

"Development of a Low Cost Miniature Mass Spectrometer"
Henry W. Rohrs, Rajiv S. Chhatwal, W. Ronald Gentry and Philip S. Berger, Mass Sensors, Inc., St. Louis, MO

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“Project NEREUS: Construction of a practical autonomous underwater gas analyzer”
R. Camilli and H. F. Hemond, Massachusetts Institute of Technology, Cambridge, Ma.

“Remotely Operated Mass Spectrometers: Adaptive Search Platforms for Field Chemical Profiling”

D. P. Fries, R. T. Short, G. Kibelka, M. L. Kerr, J. Patten and L. Langebrake, The University of South Florida, St. Petersburg, FL

5:00 PM Evening on your own

Tuesday - March 20

8:00 AM Continental Breakfast & Vendor Exposition

Corporate sponsors:

Varian, Inc.

Ionwerks, Inc.

Detector Technology, Inc.

Unaxis USA, Inc.

9:30 AM Technical Session III

9:30 AM **"Disaster Management Using Mobile Mass Spectrometers"**

Gerhard Matz, Technical University of Hamburg-Harburg, Hamburg, Germany

10:00 AM **“Direct Sampling Mass Spectrometry in Atmospheric Chemistry”**

Dennis Barket, Jr., Julia Hurst, Amanda Grannas, Christophe Guimbaud and Paul Shepson,, Purdue University, West Lafayette, IN

10:30 AM **"MS for Trace Explosives Detection in Aviation Security"**

R. T. Chamberlain, Richard Lareau FAA/Wm. J. Hughes Tech. Ctr., Atlantic City, NJ, Karl Hanold, Jack Syagen, Syagen Technology, Inc., Tustin, CA, Kevin Linker, Chuck Rhykerd, Frank Bouchier, Sandia National Laboratory, Albuquerque, NM

11:00 AM **“Volcanic Monitoring using Field-Portable Mass Spectrometers: Towards On-Site and Real Time Gas Analysis at Fumaroles”**

Jorge A. Diaz, Universidad de Costa Rica

11:30 AM Lunch on your own

2:00 PM Technical Session IV

2:00 PM **“Project NEREUS: Concepts and principles for in-situ MS”**

H. F. Hemond and R. Camilli, Massachusetts Institute of Technology, Cambridge, MA

2:30 PM **“Development of an Underwater Mass Spectrometer for Dissolved Gases, Solutes, and Large Organic Compounds”**

Gary M. McMurtry, SOEST, University of Hawaii, Honolulu, Hawaii; Steven J. Smith, Jet Propulsion Laboratory/California Institute of Technology, Pasadena, CA

3:00 PM Afternoon break

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- 3:30 PM **“Applications of in-water mass spectrometry for detection of volatile organic compounds and dissolved gases”**
R. T. Short, D. P. Fries, G. Kibelka, M. L. Kerr, S. K. Toler, P. G. Wenner and R. H. Byrne, The University of South Florida, St. Petersburg, FL
- 4:00 PM **“Polymeric Membrane Chlorocarbon Permeabilities Determined by Membrane Introduction Mass Spectrometry (MIMS)”**
Mark L. Stone, Idaho National Engineering and Environmental Laboratory/Bechtel, Idaho Falls, ID
- 4:30 PM **“Solid phase microextraction as a method for sampling with analysis by gas chromatography/mass spectrometry in the field”**
LCDR Gary Hook and LCDR Phil Smith, Uniformed Services University of the Health Sciences, Bethesda, MD; Kenneth Williams and Michael Sheely, U.S. Army Center for Health Promotion and Preventive Medicine, Edgewood, MD
- 6:30 PM Conference Dinner at the Florida International Museum**

Wednesday - March 21

- 8:00 AM Continental Breakfast**
- 8:30 AM Technical Session V**
- 8:30 AM **“Tiny Time-of-Flight (TOF) Mass Spectrometer for Biodetection”**
Wayne Bryden, Applied Physics Laboratory, The Johns Hopkins University, Laurel, MD
- 9:00 AM **“Biological applications on a miniaturized delayed extraction TOF mass spectrometer”**
M. C. Prieto, V. Kovtoun, and R. J. Cotter, The Johns Hopkins University, Baltimore, MD
- 9:30 AM Coffee break**
- 10:00 AM **“The Portable Horiba-Kore Mass Spectrometer MS-200”**
Frank Nuber, Dr. Steve Mullock and Clive Corlett, Kore Technology Ltd., Cambridge, England
- 10:30 AM **“Progress Toward Highly Miniaturized Vacuum Pumps”**
Dean Wiberg, Beverly Eyre, Kirill Shcheglov, Victor White and Vachik Garkanian, Jet Propulsion Laboratory, Pasadena, CA
- 11:00 AM Closing remarks, David Fries
- 11:30 AM Lunch**
Guest Speaker: Science at Disney
- 2:00 PM Informal tour at the Center for Ocean Technology**