

NASA Laboratory Astrophysics Workshop
NASA-Ames Research Center
Moffett Field, CA, USA
1 - 3 May 2002

Preliminary Agenda

Wednesday May 1, 2002

- 08:30 Registration & Check-in
09:00 Welcoming Remarks (SOC/LOC)
09:05 Welcome (NASA Ames)
09:15 NASA HQ/OSS (Workshop goals & objectives)
09:30 Introductory Talk: Martin Harwit, *Current and Future Space Missions. Great Questions of the Next Decade in Connection with Laboratory Astrophysics*

Atomic Astrophysics I

- 10:00 S. Kahn (invited), *High Energy Astrophysics: X-Ray Spectroscopy and Atomic Data*
10:35 E. Takacs, *Spectroscopy of Trapped Ions with a Microcalorimeter on the NIST Electron Beam Ion Trap*
10:55 D.W. Savin, *Ion Storage Ring Measurements of Low Temperature Dielectronic Recombination Rate Coefficients for Modeling X-Ray Photoionized Cosmic Plasmas*
11:15 Coffee Break
11:45 G.J. Ferland, *Laboratory Astrophysics' Needs for Understanding Photoionized Plasmas*
12:05 R.F. Heeter, *Benchmarking Accretion Disk Models Using Photoionized Laboratory Plasmas*

12:25 LUNCH

Atomic Astrophysics II

- 14:00 C. Sneden (invited), *Atomic Data and Stellar Chemical Compositions*
14:35 A. Chutjian, *Measurement of Absolute Excitation Cross Sections in Highly-Charged Ions Using Electron Energy Loss and Merged Beams*
14:55 A. Glassgold, *Microscopic Processes in X-Ray Modulated Star Formation*

Molecular Astrophysics – Small Molecules

- 15:15 E. Bergin (invited), *Missing Pieces In Our Understanding of Astrochemistry: the Answers are in the Lab*
15:50 Coffee Break
16:15 L. Ziurys, *Submillimeter Spectroscopy of Astrophysically Important Metal-Containing Molecules*

- 16:35 C.A. Gottlieb, *Precise Laboratory Measurements of Line Frequencies Useful to Studies of Star and Planet formation*
- 16:55 J.C. Pearson, *High-Resolution Photoionization and Photoelectron Studies: Laboratory Astrophysics Needs of the Herschel Space Observatory*
- 17:15 Poster Session & Reception
- 19:30 Adjourn Day 01

Thursday May 2, 2002

- 08:30 M. Jura, *SIRTF: Goals and Requirements*
- 08:50 T. Greene, *The SOFIA Mission and Laboratory Astrophysics Synergies*

Molecular Astrophysics - Large Molecules

- 09:10 L.B. d'Hendecourt (invited), *The PAH Hypothesis: A Dream or a Nightmare for Astrophysicists?*
- 09:45 L.J. Allamandola, *Infrared Emission from Interstellar PAHs, New Probes of the Interstellar Medium*
- 10:05 R.J. Saykally, *Molecular Carbon in the Galaxy: New Laboratory and Observational Studies*
- 10:25 E. Herbst, *The Submillimeter-Wave Spectra of Interstellar Molecules*
- 10:45 Coffee Break

Dust & Ices in Astrophysics

- 11:05 Th. Henning (invited), *Nanoparticles in Space and the Laboratory*
- 11:40 M.P. Collings, *Laboratory Surface Science: the Key to the Gas-Grain Interaction*
- 12:00 J.A. Nuth III, *Condensation Processes in Astrophysical Environments: the Composition and Structure of Cometary Grains*
- 12:20 J.P. Dworkin, *The Laboratory Production of Complex Organic Molecules in Simulated Interstellar Ices*

- 12:40 LUNCH

Solar System

- 14:00 D. Cruikshank (invited), *A Solar System Perspective on Laboratory Astrophysics*
- 14:35 T. Roush, *Cryogenic Titan Tholins*
- 14:55 P. Beiersdorfer, *Laboratory Studies of the X-Ray Emission Generated by the Interaction of Solar Wind Heavy Ions with Comets*
- 15:15 P.C. Cosby, *Experimental Measurements of Dissociative Recombination Relevant to Planetary Atmospheres*
- 15:35 Coffee Break
- 16:00 Report Talk: T. Snow, *HST Science Legacy*
- 16:20 Report Talk: K. Kirby, *ICAMDATA & APiP*
- 16:40 Discussion to prepare for Friday Break-out sessions
- 17:00 Poster Session & Reception
- 19:30 Adjourn Day 02

Friday May 3, 2002

- 09:00 Break-out sessions* (Co-chaired by SOC members)
Atomic Astrophysics Sub-Group
Molecular Astrophysics Sub-Group
Dust & Ices in Astrophysics Sub-Group
Solar System Sub-Group
- 12:00 LUNCH
- 13:30 Atomic Astrophysics Summary Talk
13:45 Molecular Astrophysics Summary Talk
14:00 Dust & Ices in Astrophysics Summary Talk
14:15 Solar System Summary Talk
14:30 Plenary discussion
15:00 Adjourn Plenary session
- 15:30 SOC/Executive session
(Generate draft of recommendations)
- 17:30 Adjourn Workshop

* All attendees are strongly encouraged to participate in the break-out groups and following plenary discussion to contribute to the development of a list of recommendations to NASA Headquarters on topics and issues related to the current status and future of the NASA Laboratory Astrophysics Research program. --