

3rd International Conference on
Atomic and Molecular Data and Their Applications
Gatlinburg, Tennessee, April 24-27, 2002

ICAMDATA Meeting location: Park Vista Resort Hotel, Tennessee Ballroom 3

Tuesday, April 23, 2002

7:00 – 8:00pm ICAMDATA International Advisory Board and International Program Committee Meeting

Wednesday, April 24, 2002

7:00 – 8:15 Breakfast, Park Vista Resort Hotel, Tennessee Ballroom Foyer

Plenary Lecture I

8:30 – 9:15 **Hans Griem**, *University of Maryland*
“Atomic Processes in Plasmas - An Overview”

9:15 – 9:30 Break

Databases I

9:30 – 10:00 **James Olthoff**, *National Institute of Standards and Technology*
“Database of Electron Interaction Data for Plasma Processing Gases”

10:00 – 10:30 **Anatoly Faenov**, *Multicharged Ions Spectra Data Center of VNIIFTRI, Mendeleevo, Moscow region*
“Spectr-W³ Online Database on Atomic Properties of Atoms and Ions”

Applications I: Lighting

10:30 – 11:00 **Matthias Born**, *Philips Research Laboratory, Germany*
“Physical Aspects of Mercury-free High Pressure Discharge Lamps”

11:00 – 11:30 **Graeme Lister**, *Osram-Sylvania, Inc.*
“The Physics of Fluorescent Lamps: Do We Understand the Atomic Processes?”

11:30 – 1:00 Lunch, Park Vista Resort Hotel, Tennessee Ballroom 1,2

Atomic and Molecular Physics I: Electrons

1:00 – 1:30 **Klaus Bartschat**, *Drake University*
“Benchmark Calculations for Electron Collisions with Complex Atoms”

1:30 – 2:00 **Alfred Mueller**, *University of Giessen, Germany*
“Experimental Data on Electron-Ion Collisions”

2:00 – 2:30 **Brendan McLaughlin**, *The Queen’s University of Belfast*
“Electron Molecule Collisions”

2:30 – 2:45 Break

Panel I: Quickly Generating Databases

2:45 – 3:45 **Mark Kushner**, Kurt Becker, and Carl Winstead

4:30 – 7:00 Aquarium of the Smokies (Buses depart hotel 4:30, 4:45; depart Aquarium 6:30, 6:45)

7:00 – 8:30 Banquet, Park Vista Resort Hotel, Tennessee Ballroom 1,2

Thursday, April 25, 2002

7:00 – 8:15 Breakfast, Park Vista Resort Hotel, Tennessee Ballroom Foyer

Plenary Lecture II

8:30 – 9:15 **John Rumble**, *National Institute of Standards and Technology*
“Data in Modern Science: New Methods for Scientific Discovery”
9:15 – 9:30 Break

Databases II

9:30 – 10:00 **Roberto Celiberto**, *University of Bari, Italy*
“Cross Section Data for Hydrogen Plasma Applications”
10:00 – 10:30 **Predrag Krstic**, *Oak Ridge National Laboratory*
“Atomic and Molecular Databases for Fusion Divertor Plasma”
10:30 – 10:45 Break

Applications II: Etching, Plasma Displays, Plasma Processing

10:45 – 11:15 **P. Fauchais**, *University of Limoges, France*
“Atomic and Molecular Data Needs in Thermal Plasmas”
11:15 – 11:45 **Khaled Hassouni**, *University of Paris-Nord, France*
“Modeling of Moderate Pressure Microwave Plasmas Used for Diamond Deposition. Collisional Data Required for Process Simulation”
11:45 – 1:00 Lunch, Park Vista Resort Hotel, Tennessee Ballroom 2

Applications II (Contd.)

1:00 – 1:30 **Seiji Samukawa**, *Institute of Fluid Science, Tohoku University, Japan*
“Control of Reactive Species in Plasma Etching Processes”
1:30 – 2:00 **Keizo Suzuki**, *University of Giessen, Germany*
“Ultraviolet Production Efficiency of AC-PDPs and Ways to Increase It”

Atomic and Molecular Physics II: Spectroscopy and Applications III: Astrophysics

2:00 – 2:30 **Sveneric Johansson**, *Lund Observatory, Sweden*
“The Lund Atomic Astrophysics Program: Experimental Atomic Data for Astrophysics and Other Applications”
2:30 – 2:45 Break
2:45 – 3:15 **Phillip Stancil**, *The University of Georgia*
“Charge Transfer Data Needs for Cometary X-ray Emission Modeling”

Panel II: Data Evaluation and the Data Producer/User Interface

3:15 – 4:15 **Wolfgang Wiese**, John Hogan, Graeme Lister, Izumi Murakami, P. Palmeri, and David Schultz

DINNER OPEN (on your own)

Friday, April 26, 2002

7:00 – 8:15 Breakfast, Park Vista Resort Hotel, Tennessee Ballroom Foyer

Atomic and Molecular Physics III: Electrons

- 8:30 – 9:00 **Hiroshi Tanaka**, *Sophia University, Japan*
“Electron Collision Data for Polyatomic Molecules in Plasma Processing and Environmental Processes”
- 9:00 – 9:30 **Robert Lucchese**, *Texas A&M University*
“Electron-molecule collisions in the Static-Exchange Correlation-Polarization Approximation”
- 9:30 – 10:00 **Carl Winstead**, *California Institute of Technology*
“Developing Cross Section Sets for Fluorocarbon Etchants”
- 10:00 – 10:15 Break

Applications IV: Fusion

- 10:15 – 10:45 **Hiroataka Kubo**, *Japan Atomic Energy Research Institute (JAERI)*
“Atomic and Molecular Processes for Heat and Particle Control in Tokamaks”
- 10:45 – 11:15 **Phil West**, *General Atomics*
“Atomic Physics Processes Important to the Understanding of the Scrape-Off Layer of Tokamaks”

Applications V: Radiation Physics

- 11:15 – 11:45 **Paul Bergstrom**, *National Institute of Standards and Technology*
“The Use of Atomic Data in Applications Involving Ionizing Radiation”
- 11:45 – 1:00 Lunch, Park Vista Resort Hotel, Tennessee Ballroom 3

Applications V (Contd.)

- 1:00 – 1:30 **Hooshang Nikjoo**, *Medical Research Council, U.K.*
“Application of Track Structure in Radiation Biophysics and Dosimetry”
- 1:30 – 2:00 **Larry Toburen**, *East Carolina University*
“Laboratory Data Needs and Applications for Assessing Radiation Effects in Biological Materials”

Applications VI: Atmospheres

- 2:00 – 2:30 **Stephane Pasquiers**, *University of Paris, France*
“Atmospheric Pollutant Removal by Non-thermal Plasmas: Basic Data Needs for Understanding and Optimization of the Process”
- 2:30 – 2:45 Break

Panel III: Database Access through the Web

- 2:45 – 3:45 **Robert Clark**, Denis Humbert, and Yuri Ralchenko
- 4:00 – 6:00 Posters, Park Vista Resort Hotel, Tennessee Ballroom 2
- 6:30 – 7:30 Dinner, Park Vista Resort Hotel, Tennessee Ballroom 3

Saturday, April 27, 2002

7:00 – 8:15 Breakfast, Park Vista Resort Hotel, Tennessee Ballroom Foyer

Business Meeting

8:30 – 9:00 **Ratko Janev**, ICAMDATA Chair

Atomic and Molecular Physics IV: Spectroscopy

9:00 – 9:30 **Zenonas Rudzikas**, State Institute of Theoretical Physics and Astronomy, Lithuania
“Theoretical Atomic Data: Universality and Precision”

Applications VII: Astrophysics

9:30 – 10:00 **Rami Doron**, *Naval Research Laboratory*
“The Effect of High-lying Configurations and Ionization and Recombination Processes on Atomic Models Relevant to Spectroscopic Analyses of Solar and Stellar Coronal Spectra”

10:00 – 10:15 Break

10:15 – 10:45 **Lucy Ziurys**, *University of Arizona*
“Interstellar Molecules: Data Needs for an Expanding Discipline”

10:45 – 11:15 **Robert Kurucz**, *Harvard-Smithsonian Center for Astrophysics*
“Atomic and Molecular Data Needs for Astrophysics”

11:15 Closing remarks

11:15 – 1:00 Lunch, Park Vista Resort Hotel, Garden View C, D, E