DIVISION OF ATOMIC, MOLECULAR AND OPTICAL PHYSICS NEWSLETTER

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INSIDE...

1997 BROIDA AND RABI PRIZE WINNERS ANNOUNCED!

We congratulate William Happer, and Eric Cornell and Wolfgang Ketterle, who were named winners of the 1997 H. P. Broida and I. I. Rabi Prizes, respectively, by the American Physical Society. Each prize consists of an honorarium and a certificate citing the contributions of the recipient.

The Broida Prize, which was first awarded in 1980, recognizes and enhances outstanding experimental advancements in the fields of atomic and molecular spectroscopy and chemical physics. Bill Happer, the Eugene Higgins Professor of Physics at Princeton, is cited "for his pioneering contributions to atomic and chemical physics, in particular for his development of optical pumping and laser-polarized noble gases whose uses include nuclear targets and magnetic resonance imaging."

The Rabi Prize, endowed in 1989, recognizes and encourages outstanding research in Atomic, Molecular and Optical Physics. It is given to scientists who have held the Ph.D. 10 years or less. Eric Cornell, staff scientist with the National Institute of Standards and Technology, is cited "for achieving Bose-Einstein condensation of an atomic gas, for creating techniques for studying the Bose condensate, and for measuring the physical properties of the weakly interacting atomic Bose gas." Wolfgang Ketterle, an assistant professor of Physics at MIT, is cited "for achieving Bose-Einstein condensation of an atomic gas, for creating techniques for studying the Bose condensate, and for measuring the physical properties of the weakly interacting atomic Bose gas."

ELECTION OF OFFICERS

We are grateful to this year's nominating committee, chaired by Ron Phaneuf, who have worked hard to assemble an outstanding slate of candidates for DAMOP offices for 1997-98. A brief biographical sketch for each candidate is included on pages 8 and 9. Please take the time to mark and return the enclosed ballot by March 1. Your input is

important!

EXTRA, EXTRA!

Mark your calendars. DAMOP/DLS Capitol Hill Reception planned for Wednesday, April 16 from 5:00 to 7:00 pm. Briefings by Executive Branch officials, Wednesday morning; by Members of Congress, Wednesday afternoon. Congressional Visits scheduled for Thursday. Be there if you care! Updates will follow electronically.

MESSAGE FROM THE CHAIR

Gordon Drake

Membership Drive

What does DAMOP do for you? In addition to organizing a large and successful annual meeting, DAMOP is the principal body responsible for representing the interests of the atomic, molecular, and optical physics research community to both government and the various funding agencies. The recently published book "Atomic, Molecular and Optical Science: An Investment in the Future" produced by our FAMOS Panel is a fine example. Free copies were provided to all our members. The next project will be an attention-getting brochure suitable for distribution to Members of Congress and the media (see below).

DAMOP also represents the interests of its members to the APS Council. However, our current membership of 2259 is down from the 2568 members we had last year. We are now at the critical 6% threshold where we will lose one of our two members on the APS Council, together with entitlements to elect new Fellows to the Society.

To reverse this trend, I would like to ask each of our members to find one colleague who is not a member and urge him or her to join. Student members are particularly valued. The annual fee of $6 is one of the best investments you could possible make.

DAMOP is the oldest division of the APS, and it remains one of the strongest and most active. Please help to keep it that way.

Promotional Pictures Needed

Our man in Washington, Mike Lubell, has initiated a project to produce a promotional brochure suitable for distribution to Members of Congress and the media to convey the excitement of physics, its impact on technological innovation, and its relationship to other scientific fields. Part of this will use the laser to illustrate the development of a single technology from its basic research origins to its commercial applications.

The successful completion of this project requires our help in making suggestions for the discovery part, insights into the impact of lasers on AMO Physics (a huge subject!) and help in finding suitable pictures to illustrate both.

If you have suitable pictures that dramatically illustrate some aspect of lasers or laser technology, please let me know, or send me a copy, together with a brief description. Any other comments you have would be much appreciated.

FUNDING POSSIBILITIES AT THE NSF!!

Two funding programs at the National Science Foundation offer opportunities of interest, and use, to DAMOP members. Details are available on the NSF web site; specific questions should be addressed to the AMOP program officer at: dcaldwel@ nsf.gov.

1. Major Research Infrastructure (MRI) Program

http://www.nsf.gov:80/od/osti/mri/mritoc.cfm

This is the successor to the Academic Research Infrastructure (ARI) program. It offers opportunities for groups of investigators to gain access to new technology through recapitalization of laboratories. Research requests that require major state-of-the-art computing hardware are also allowed. Funding designated by the Foundation for this activity is outside the normal program allocations and may be used for MRI awards only. The Physics Division may have as much as $3M available for competition.

Proposal Deadline: February 20, 1997.

2. Grant Opportunities for Academic Liaison with Industry (GOALI)

http:/www.nsf.gov:80/od/lpa/news/publicat/nsf95138/chap10.cfm#12

This program is designed to synergize university-industry partnerships by making funds available to support research collaborations between scientists in industry, faculty in academe, and students. The ways in which the interaction can be configured are numerous and reflect the establishment of a real two-way process by which both the academic and the industrial partners contribute to, and gain from the interaction. Support is available for faculty to spend time in industry, industrial scientists to supervise students, students to work on research projects of interest to industrial partners, among other options.

It is important that the DAMOP community compete for both MRI and GOALI funding because

the funds are additional and do not come from existing AMOP Programs,

by competing for MRI support it sends the message that AMO science is in need of new instrumentation,

by pursuing GOALI monies we demonstrate that AMO Science has much to offer to developing technology.

RESEARCH CORPORATION ANNOUNCES NEW AWARDS PROGRAM

Research Corporation, a foundation for the advancement of science and technology, is establishing a new grants program entitled Research Innovation Awards, targeted at beginning faculty in physics, astronomy and chemistry in doctoral degree granting departments. Awards will be in amounts up to $35,000.

For over forty years, Research Corporation was a major source of startup funds for faculty in doctoral degree granting institutions, but a number of circumstances led to the suspension of that program in 1987. The announcement of the Research Innovation Awards marks the renewal of the foundation's commitment to the support of young physical scientists in research universities at a time when federal support for research is declining.

The deadline for receipt of proposals for the 1997 competition is May 1. Faculty members whose first tenure track appointment began no earlier than 1996 are eligible to apply.

Research Corporation sponsors three other programs for research by physical science faculty :

Cottrell Scholars Awards are for faculty in their third year who are committed to excellence in both teaching and research. Awards are in the amount of $50,000.

Research Opportunity Awards assist mid-career faculty to establish or initiate research following a period without funding.

Cottrell College Science Awards fund faculty research with undergraduates in predominantly undergraduate college and university departments.

Information on Research Corporation programs is available at their web site located at http://www.rescorp.org. Correspondence should be addressed to Research Corporation, Science Advancement Programs, 101 N. Wilmot Road, Suite 250, Tucson, AZ 85711.

DAMOP STUDENT TRAVEL SUPPORT

Limited travel support is available to assist students attending the 1997 DAMOP Meeting in Washington, DC. Students should complete the attached form and return it before March 1, 1997.

ICPEAC TRAVEL SUPPORT FOR YOUNG SCIENTISTS

It is hoped that some support may be available for travel to the XXth International Conference on the Physics of Electronic and Atomic Collisions (ICPEAC) in Vienna, Austria, July 23-29, 1997. Support is limited to those U.S. scientists who are students or hold postdoctoral level positions in an academic, governmental, or indus trial institution. Awards will be based on the anticipated contribution by the individual to the success of the conference. Support will be up to $500 per award. Funds for up to 15 such awards have been requested. Applications are available from Jim McGuire via mcguire@mcguire.phy. tulane.edu.

NSF RESEARCH EXPERIENCES FOR UNDERGRADUATES PROGRAM

The NSF provides a number of opportunities for undergraduates to join research projects each summer. This allows

students to experience first-hand how basic research is done, and to contribute to this. The principal support by NSF of such activities is through the Research Experiences for Undergraduates Program. REU "Sites" are established in all fields of science, mathematics, and engineering. Each Site usually operates for about ten weeks in the summer, and consists of a group of ten or so undergraduates, who work in the research programs of the host institution. Students are in general accepted from throughout the country most come from schools other than the host institution. Each student is assigned to a specific research project, where he/she works closely with the faculty, post-docs, and graduate students. In addition, seminars, lunch meetings, and social functions are organized to facilitate interaction between the undergraduates. Students are granted stipends, and in some cases assistance with housing and travel. Women and members of under-represented minorities, and those with disabilities or special needs, are particularly urged to apply. The complete list of these Sites can be obtained at http://www.nsf.gov/ftp/ MPS/letters/reulist.txt.

The NSF Divisions of Physics, Materials Research, and Astronomical Sciences support a total of over 100 such Sites each summer. Most of these Sites cover a broad range of physics-related subjects, and each Site usually includes research topics typical of several APS Divisions. The following Sites have major components in Atomic, Molecular, Optical, and Chemical physics:

University of Colorado/JILA
Kansas State University
National Institute of Standards and Technology-Gaithersburg
University of New Mexico-Los Alamos
Rice University
SRI International

If you are aware of any undergraduates interested in obtaining research experience, alert them to this program.

Rolf M. Sinclair
Program Director for Special Programs
Division of Physics
National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230 rsinclai@nsf.gov

FRANCIS M. PIPKIN AWARD

The Topical Group on Precision Measurements and Fundamental Constants is raising funds to establish an APS Award in memory of Frank Pipkin, a long-time DAMOP member and former DAMOP Chair, who died suddenly in 1992. The award would honor work in precision measurements by young scientists in any area of physics. Recently, a group of Frank's former Harvard colleagues pledged to match ongoing additional contribu tions to this effort received prior to May 1, 1997 up to a total of $7000. Perhaps not by coincidence, $14,000 is approximately the amount that still remains to be raised in order to establish this Award permanently, so if the matching fund drive reaches its goal, the Pipkin Award will become a reality. This is an excellent opportunity for DAMOP members who support the establishment of a Frank Pipkin Award to contribute. Questions or comments about the award may be addressed to Steve Lundeen, Dept. of Physics, Colorado State University, Ft. Collins, CO 80523 or (lundeen@lamar. colostate.edu). Contribution checks should be made payable to the "American Physical Society, F. M. Pipkin Award," and to insure proper credit towards the matching fund drive, they should be sent to Steve Lundeen at the address

listed above.

RELATED FUTURE MEETINGS

The XX International Conference on the Physics of Electronic and Atomic Collisions (ICPEAC) will take place 23-29 July 1997 in Vienna, Austria.

The Second Announcement is now available at the Conference homepage at http://www.iap.tuwien.ac.at/icpeac 97/ or contact Prof. H. P. Winter, Institut f r Allgemeine Physik, T. U. Wien, A-1040 Wien, Austria, e-mail: ICPEAC97 @iap.tuwien.ac.at.

A Workshop on Nonneutral Plasmas in Traps will be held on the University of Colorado campus in Boulder, Colorado from July 29-August 1, 1997. The purpose of the workshop is to provide an opportunity for the exchange of results and scientific information between the diverse areas of plasma physics, atomic physics, and chemistry which use charged particle traps. For further information consult the conference homepage at http://www.bldrdoc.gov/timefreq/seminar/plasma.html or contact John Bollinger, NIST, 325 Broadway, Boulder, CO 80303, e-mail: john.bollinger@nist.gov.

The second International Symposium on Symmetries in Subatomic Physics will be held June 25-28, 1997, University of Washington, Seattle, WA. Contact Ernest Henley, Physics, Box 351560, University of Washington, Seattle, WA 98195-1560; e-mail: henley@phys.washington.edu, or see: http://www.phys.washington. edu/?henley/symmetries.

There will be a number of invited talks on atomic physics.

The 1997 International Conference on Strongly Coupled Coulomb Systems (formerly the International Conference on Strongly Coupled Plasmas) will be held on the campus of Boston College, MA, from Sunday, August 3 to Sunday, August 10, 1977. The conference includes discussion of many physical systems and theoretical approaches of interest to AMO scientists.

If you would like to be included in the mailing list for this conference, e-mail your postal address to SCCS @BC.EDU, or write to: SCCS '97, Department of Physics, Boston College, Chestnut Hill, MA 02167-3811. Also, see the conference web page at http://ph99.bc.edu/ conference/

The chair of the organizing committee is Gabor J. Kalman, Department of Physics, Boston College.

NEWSLETTER INPUT

If you have any information, ideas, announcements, etc. that are of general interest to DAMOP members, please send them to me at any time.

Barry Dunning
e-mail: fbd@rice.edu
FAX: (713) 285-5143

CONGRATULATIONS TO NEW APS FELLOWS!

We are proud to announce and to congratulate the following DAMOP members who were elected to fellowship in the American Physical Society in 1996. Certificates will be presented at the 1997 DAMOP meeting in Washington in April.

Band, Yehuda Benzion
Ben Gurion University
For his many contributions to our understanding of the response of atoms and molecules to light, especially for the fundamental theory of molecular photodissociation and for collisions of ultra cold atoms.

BECKER, Uwe Eugen
Institut der Max-Planck Gesellschaf
For seminal contributions to atomic and molecular photoionization studies, which have helped to develop our understanding of correlation processes particularly near threshold.

BURNETT, Keith
Oxford University
For seminal theoretical and experimental work on interrogation and manipulation of atomic collisions by light, and their application to quantum optics, strong-field physics, and Bose-Einstein condensation.

CHENG, Kwok-Tsang
Lawrence Livermore National Laboratory
For important contributions to the theory of atomic structure and dynamics, particularly to the understanding of relativistic and quantum-electrodynamic effects in highly charged ions.

CISNEROS, Carmen
Instituto de Fisica
For her contributions to the field of molecular-ion collisional dissociation, particularly in fundamental hydrogenic systems, and for her efforts in international science and the development of AMO physics in Mexico.

DiMAURO, Louis Franklin
Brookhaven National Laboratory
For developing and utilizing high repetition rate, short pulse lasers for pioneering studies which have greatly advanced the fundamental understanding of multiphoton processes in atoms and molecules.

DuBOIS, Robert Dean
Pacific Northwest Laboratory
For contributions to heavy-particle collision physics, especially the innovative use of coincidence techniques to elucidate the influence of projectile electrons on impact ionization and separate target and projectile ionization.

GALLAGHER, Jean Weil
National Institute of Standards & Technology
For outstanding leadership and work in compiling and evaluating numeric data in atomic, molecular and optical physics.

GRAHAM, William George
Queen's University

For significant contributions towards the measurement of atomic collision processes, particularly recombination, in nuclear fusion plasmas, and to the understanding of atomic collision processes in low-temperature plasmas.

JUDGE, Darrell Lynn
University of Southern California
For his pioneering work on the fundamental properties of atoms and molecules using selected monochromatic photon excitation and dispersed fluorescence, and their applications in space physics.

KOHL, John L.
Harvard-Smithsonian Center for Astrophysics
For benchmark laboratory measurements of atomic parameters of exceptional quality and for conception, development and scientific application of a revolutionary, ultraviolet coronagraph for solar spectroscopy.

MEYSTRE, Pierre
University of Arizona
For seminal contributions to the theory of single-atom interactions with quantized radiation, and particularly for the first theory of micromaser action.

PRADHAN, Anil Kumar
Ohio State University
For outstanding contributions to the theory of electron-impact excitation of atoms and ions providing accurate and important atomic data, and for the application of that data to the study of fusion, solar and astrophysical plasmas.

NEWS FROM TAMOC

The next meeting of the Theoretical Atomic, Molecular, and Optical Community (TAMOC) will be held at the annual DAMOP meeting in Washington, DC (18-21 April 1997). The highlight of this meeting will be a "Forum on Federal Funding for AMO Physics" which will be organized by Mike Lubell. At the forum, presentations will be made by policy makers from Congress and the Administration. Mike provides the following overview for the forum:

> The bipartisan commitment to balance the federal budget by 2002, in the absence of an agreement on reducing the growth of entitlements, is placing extraordinary pressure on discretionary programs. As a result, the next five years promise to be difficult ones for science and many other worthy activities that fall within the discretionary budget. Policy makers from Congress and the Administration will discuss funding prospects for science and offer their views on the changes that lie ahead.

This Forum promises to be as interesting as the recent Forums on Jobs and Funding held the previous two years. All members of DAMOP are welcome and are encouraged to attend.

CALL FOR NOMINATIONS

We would also like to issue a call for nominations for the offices of chair and secretary of TAMOC. Don Madison and I are grateful for the support we have received from the community during the past two and half years, and feel that it is time to give a new team the opportunity to serve TAMOC and present new ideas for its activities. Therefore,

please send nominations for these two offices to me by electronic mail (schultz@ornl.gov) or by FAX (423-574-4745). A slate of candidates will be proposed at DAMOP and votes accepted there and subsequently by electronic mail.

As always, please see the TAMOC World Wide Web page (http://www-cfadc.phy.ornl.gov/ tamoc/tamoc.cfm) for job and meeting announcements and links to related sites. Additions to these postings are welcome at any time. Please send them by electronic mail either already in HTML or as plain ASCII text.

David R. Schultz, secretary (schultzd@ornl.gov)
Don H. Madison, chair (madison@physics.umr.edu)

1997 DAMOP MEETING

The 28th Annual Meeting of DAMOP will be held in conjunction with the Joint APS/AAPT meeting in Washington, DC, 18-21 April 1997. Registration, housing and travel information was published in the November and December APS Meeting News. Copies of the pre-registration and housing forms are attached. A list of invited symposia is included below.

New Developments in Ion-Atom Collisions Experiments
Organizer and Chair: C. D. Lin

Steve Leone, *Reactive and inelastic collisions of vibrationally excited ions at thermal energy*
Keith MacAdam, *Direction-of-approach collision experiments and the dynamical insights they yield*
C. L. Cocke, *Recoil-ion and electron momentum imaging in low energy ion-atom collisions*
Rami Ali, *Attempts toward a deeper understanding of multi-electron processes in slow highly charged ion-atom collisions*

Atoms and Molecules in Strong Laser Fields
Organizer: L. D. Van Woerkom
Chair: Ken Schafer

W. T. Hill, *Correlated dissociative ionization in intense laser fields*
H. Sakai, *Deflection of neutral molecules with intense laser fields*
L. D. Van Woerkom, *Multiphoton ionization with high harmonics*
T. Ditmire, *High energy explosion of super-heated atomic clusters*

Coherence properties of atomic fields
Organizer and Chair: Pierre Meystre

Mark Kasevich, *Atom pair statistics*
Yvan Castin, *Nonlinear dynamics of atomic wavepackets in traps*
Li You, *Properties of trapped condensates*
Murray Holland, *The atom laser*

Recent Advances in Electron Scattering
Organizer: Don Madison/Bill McConkey
Chair: Don Madison

Klaus Bartschat, *Recent progress in the theory of electron-atom collisions*

Tim Gay, *New sources of polarized electrons and what they are good for*
Erich Weigold, *e-2e collisions with incident polarized electrons*
Peter Zetner, *Electron scattering from laser-excited, closed-shell atoms*

AMO Physics Applied to Low Temperature Plasmas
Organizer and Chair: Kurt H. Becker

Jaime de Urquijo, *Transport and ion molecule reactions in methane, hydrogen, and SF_6*
Gregory Hebner, *Atomic and molecular spectroscopy of microelectronic processing plasmas*
Richard J. Van Brunt, *Ion transport and ion processes at high E/N in Townsend discharges*
Amy Wendt, *Plasma chemistry and plasma processing*

100 Years of Electron Physics

Program to be announced.

New Challenges in Precision Atomic Physics
Organizer: Stephen R. Lundeen
Chair: Richard Holt

Gerald Gabrielse, *Can we again measure the fine structure constant from atomic fine structure?*
Chris Oates, *New methods in precision lifetime determinations*
Dan Heinzen, *Precise atomic lifetime and interactions from photoassociation experiments*
Paul Julienne, *Photoassociation spectroscopy: Progress in theory for a new precision measurement tool*

New Phenomena in Atomic Photoionization
Organizer: Dennis Lindle
Chair: Carmen Cisneros

Tom Morgan, *Highly excited states in Li and Li^+*
Kwong T. Chung, *Studies of highly excited states of the Li atom using a saddle-point method*
Oliver Hemmers, *Non-dipole effects in atoms and molecules*
John Cooper, *Theory of non-dipole effects in photo-electron angular distributions*

Electron Scattering at Designer Atoms and Nanostructures
Organizer: F. Meyer
Chair: John Delos

Michael Crommie, *Observing quantum interference in atomic-scale structures*
Eric Heller, *Multiple scattering theory of quantum corrals and beyond*
Charles Marcus, *Conductance fluctuations through billiards*
Joachim Burgdrfer, *Classical-quantum correspondence in ballistic quantum transport*

Recent Developments in Ion-Surface Interaction Physics
Organizer and Chair: Fred W. Meyer

Martin Stockli, *Electron capture, sputtering, and electron emission by highly charged ions interacting with solid surfaces*
Q. (Frank) Yan, *Neutralization of slow singly and multiply charged ions during grazing interactions with metals and insulators*
J. Wayne Rabalais, *Scattering and recoiling imaging spectrometry (SARIS) for surface composition, structure, and dynamics*
Dennis C. Jacobs, *Reactive scattering of state-selected molecular ions on surfaces*

Recent Progress in Electron-Ion Collisions
Organizer: Ronald Phaneuf
Chair: Donald C. Griffin

Francis Robicheaux, *Friction and correlation during electron-ion scattering*
Mark E. Bannister, *Near-threshold excitation experiments using a merged-beams energy-loss technique*
Nada Djuric, *Electron-impact cross section measurements for production of light fragment ions from electron-impact dissociative excitation of molecular ions*
Lars Andersen, *Electron-ion interactions in storage rings*

Few- and Many-Body Effects in Atomic Systems
Organizer and Chair: Jim McGuire

Eugene Stanley, *Long-range correlation and scale invariance in complex systems*
Andre Mysyrowicz, *BEC in dense low-temperature biexcitons*
Wuchun Wu, *How do two electrons talk to each other in atomic collisions?*
A. Ravi P. Rau, *Saddle dynamics in few-body potentials*

Fundamental Physics with Storage Rings and Traps
Organizers: Henry Stroke/Michael Strayer
Chair: Guy Savard

Jurgen Kluge, *Precision measurements at the interface of nuclear and atomic physics*
Sheldon Datz, *Atomic physics with heavy ion storage rings*
H. O. Meyer, *Fundamental nuclear physics measurements with storage rings*
Gene Sprouse, *Laser trapping of radioactive Francium*

Atomic Physics at Synchrotron Light Sources
Organizer: William B. Herrmannsfeldt
Chair: Fred W. Meyer

Ben Feinberg, *Performance and capabilities of the advanced light source*
Arthur Bienenstock, *The linear coherent light source: An X-ray free electron laser*
Fred S. Schlachter, *Atomic physics with ultrahigh resolution using synchrotron radiation*
C. -Y. Ng, *Progress on high-resolution photoionization and photoelectron research at the ALS chemical dynamics beamline*

1997 ELECTION OF DIVISIONAL OFFICERS

Candidates for Vice-Chair:
The vice-chair takes over as chair of the Fellowship Committee after the 1997 DAMOP Meeting, becomes Chair-Elect after the 1998 Meeting (serving as chair of the Program Committee at the 1999 DAMOP Meeting), and then becomes DAMOP Chair for the year preceding the 2000 Meeting. The Chair presides over Executive Committee meetings, appoints committees and serves as spokesperson for the Division. The total term of office for this position is therefore three years, beginning in April 1997.

LUNDEEN, STEPHEN R. B.S. Trinity College (CT) 1969; Ph.D. Harvard University 1975; Assistant Professor of Physics, Harvard Univ. 1975-1980; Associate Professor of Physics, Harvard Univ. 1980-1983: Alston Burr Senior

Tutor, Harvard Univ. 1979-1983; Associate Professor of Physics, Univ. of Notre Dame 1983-1988; Professor of Physics, Univ. of Notre Dame 1989-1993; Professor of Physics, Colorado State Univ. 1993-present; JILA Visiting Fellow 1988-1989; Visiting Professor Kansas State University summer 1994; Fellow, American Physical Society; Member, Optical Society of America; DAMOP: Vice Chair I. I. Rabi Prize Committee 1996, Executive Committee 1986-87, Program Committee 1982-83, Precision Measurements and Fundamental Constants Topical Group: Vice Chair 1996-97; Chairman 1981 Gordon Conference on Atomic Physics; Member AMOS Panel on the Future of Atomic, Molecular, and Optical Sciences. **RESEARCH INTERESTS.** Precision laser and microwave spectroscopy, QED effects in light atoms and molecules, Rydberg states of light atoms and molecules, collisions involving Rydberg atoms. High-L Rydberg state spectroscopy.

RICHARD, PATRICK. B.S., 1961, University of Southwestern Louisiana; Ph.D., 1964, Florida State University; Research Assistant Professor, 1965-68, Department of Physics, University of Washington; Assistant Professor, 1968-70, Associate Professor, 1970-72, Department of Physics, University of Texas-Austin; Professor, 1972-88, University Distinguished Professor, 1988-92, Cortelyou-Rust Distinguished Professor, 1992-present, Department of Physics, Kansas State University. Principal Investigator, 1979-present, DOE operating grant for J. R. Macdonald Laboratory, Director of J. R. Macdonald Laboratory, 1983-present, Kansas State University. Advisory Committee to the Dean, KSU College of Arts and Sciences, 1990-92; Guest Professor 1984, University of Frankfurt, Germany, and Curie Institute, Paris, France. Distinguished Graduate Faculty Award, 1985, Kansas State University. APS, member 1964-, Fellow 1974-; DAMOP, member 1969-, Fellowship Committee Member 1983-86, Chair 1986-89; National Academy of Science Ad Hoc Panel on Heavy-Ion Facilities, 1973-74; National Academy of Science Panel on Accelerator-Related Atomic and Molecular Physics Research, 1980; Facilities Panel of Committee on Atomic & Molecular Physics Research, 1980; Facilities Panel of Committee on Atomic & Molecular Science (CAMS), 1984-85; Board of Editors, Physical Review A, 1980-83. Department of Energy Review Panel, Brookhaven National Laboratory, 1987; Users Group Charter Committee 1975-76, executive committee of users group (1976), executive committee 1977-78, National Holifield Heavy-Ion Accelerator Facility, Oak Ridge National Lab; Panel on Accelerator-Related Atomic and Molecular Physics Research, 980-82; Organizer of U.S./Japan Cooperative Science Seminar, 1982-83, NSF; Organizer of Seminar at Stanford University on Atomic Physics of Highly Charged Ions 1985; Co-Organizer of VIth International Conference on the Physics of Highly-Charged Ions, 1992, KSU. **RESEARCH INTERESTS:** Collision dynamics of highly-charged ion-atom systems. Electron emission in ion-atom collisions and techniques for obtaining double and single differential e-ion cross sections from ion-atom cross sections.

Candidates for Executive Committee:
The Executive Committee is the governing body of our Division and advises the Chair and other officers of DAMOP. Elected members-at-large will serve three-year terms beginning immediately after the 1997 DAMOP Meeting.

COLLINS, LEE A. B.A. 1970, M.S. 1973, Ph.D. 1975, Rice University; Postdoctoral Fellow: JILA, 1975-1977, LANL, 1977-1979; Visiting Scientist, Daresbury National Laboratory (England), 1979; Staff Scientist, Los Alamos National Laboratory, 1979-present. Fellow American Physical Society (DAMOP, DCOMP, FPS, FED, FHP); Editorial Board: Physical Review A, 1992-1994; PACS Working Group, 1994; Associate Editor, Physical Review A, 1994-present; Specialist Editor, Computer Physics Communications, 1983-1991; Director, Los Alamos Summer School in AMO Physics, 1992-present; Adj. Professor, University of New Mexico, 1992-present; Local Organizing Committee DAMOP-1998. **RESEARCH INTERESTS:** Electron collisions; atoms and scattering in intense fields; time-dependent quantum mechanical processes; coherent control; atomic and molecular processes in dense plasmas; quantum molecular dynamics simulations of materials at high compression; photoionization of atoms and molecules; computational physics; line broadening.

DUNFORD, ROBERT W. B.S.E. (Science Engineering), 1969; Ph.D. (Physics), 1978; University of Michigan. Instructor, 1978-80; Assistant Professor, 1980-86; Department of Physics, Princeton University. Physicist, 1986-present, Physics Division, Argonne National Laboratory. Visiting Scientist, GSI, Darmstadt, Germany, 1996. Horace H. Rackham Predoctoral Fellow, University of Michigan, 1977; Exceptional Performance Award, Argonne National Laboratory, 1991. Co-organizer: Workshop on Polarized 3He Beams and Targets (Princeton, NJ 1984); Workshop on Opportunities for Atomic Physics using Slow, Highly-Charged Ions, (Argonne 1987). Local organizing

committees: Symposium on Spectroscopy and Highly Charged Ions (Lisle, IL 1987); DAMOP Meeting (Chicago 1992); International Conference on the Physics of Highly Charged Ions (Manhattan, KS 1992). Member, DOE Panel for Future Opportunities in Atomic and Molecular Science, 1989. Executive Committee, Topical Group on Precision Measurements and Fundamental Constants, 1992-95; Co-organizer of young scientists travel support program, 1995-96. **RESEARCH INTERESTS:** Precision measurements, spectroscopy of highly charged ions, forbidden transitions, tests of relativistic quantum mechanics and quantum electrodynamics, atomic parity nonconservation, interface between atomic and nuclear physics.

RESCIGNO, THOMAS N. B.A. (summa cum laude) Chemical Physics, Columbia University, 1969; M.A. Chemistry, Harvard University, 1971; Ph.D. Chemical Physics, Harvard University, 1973. Postdoctoral Fellow, California Institute of Technology, 1973-75; Staff Physicist, Lawrence Livermore National Laboratory, 1975-79; Leader, Theoretical Atomic and Molecular Physics Group, Lawrence Livermore National Laboratory, 1979-86; Senior Scientist, Lawrence Livermore National Laboratory, 1986-present; Guest Investigator, Lawrence Berkeley National Laboratory, 1996-present. Visiting Scientist , Los Alamos National Laboratory, 1987, 1991; Guest Lecturer, Summer School in Atomic and Molecular Physics, University of New Mexico, 1993, 1994. National Science Foundation Energy Fellowship, 1975; Fellow, American Physical Society, 1988. Professional Service: Co-Chairman, International Symposium on Electron- and Photon-Molecule Collisions (Asilomar, CA 1978); Member, DAMOP Program Committee, 1986; Member, National Research Council Panel on Undergraduate Fellowships, 1989-92; Local Chairman, APS Division of Atomic, Molecular and Optical Physics Meeting (Monterey, CA 1990); Member, NSF Advisory Panel, Harvard Institute for Theoretical Atomic and Molecular Physics, 1993; Chairman, ICPEAC Satellite Symposium on Electron-Molecule Collisions and Swarms (Berkeley, CA 1995); Member, Editorial Board, Physical Review A, 1995-present. **RESEARCH INTERESTS:** Theory of low and intermediate energy electron-atom and electron-molecule collisions; atomic and molecular photoionization; analyticity and resonance phenomena; atomic and molecular electronic structure theory; many-body theory.

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