

DIVISION OF ATOMIC, MOLECULAR AND OPTICAL PHYSICS NEWSLETTER

A Division of The American Physical Society

March 2004

F. BARRY DUNNING, Chair
Dept. of Physics and Astronomy
Rice University MS 61
6100 Main Street
Houston, TX 77005-1892
Phone: (713) 348-3544
Fax: (713) 348-4150
fbd@rice.edu

JIM McGUIRE, Chair-Elect
Department of Physics
Tulane University
New Orleans, LA 70118-5698
Phone: (504) 862-5520
FAX: (504) 862-8702
mcquire@tulane.edu

CHARLES CLARK, Vice-Chair
Electron and Optical Physics Division
National Institute of Standards and Technology
B100 Radiation Physics Bldg.
100 Bureau Drive, Stop 8410
Gaithersburg, MD 20899-8410
Phone(301)975-3709
FAX: (301) 208-6937
charles.clark@nist.gov

LEW COCKE, Secretary/Treasurer
Physics Department
Kansas State University
Manhattan, KS 66506
Phone: (785) 532-1609
FAX: (785) 532-6806
cocke@phys.ksu.edu

INSIDE...

- [FROM THE CHAIR](#)
- [DAMOP/DAMP 2004](#)
- [REMINDER FOR STUDENTS \(AND THEIR PROFESSORS\)](#)
- [A \(GRIM\) VIEW FROM WASHINGTON](#)
- [NEW DAMOP/APS FELLOWS](#)
- [PRIZES AND AWARDS](#)
- [DOE ANNOUNCEMENT](#)
- [COMMITTEE ANNOUNCEMENTS](#)
 - Fellowship committee
 - Program committee
- [EDUCATION AND OUTREACH GRANTS](#)
- [NEW INTERNATIONALLY RECOMMENDED VALUES OF THE CONSTANTS](#)
- [ELECTRONIC ELECTIONS](#)

- [BIOGRAPHIES OF CANDIDATES](#)

FROM THE CHAIR

Barry Dunning

The arrangements for this year's joint DAMOP/DAMP meeting in Tucson are now complete thanks to the efforts of Pierre Meystre and the other members of the local organizing committee. The meeting runs from the evening of Tuesday, May 25 to 1:00 pm Saturday, May 29. The scientific program is in place and should be available on the web mid March. The quality and variety of the invited and contributed abstracts reflects the continuing strength and vitality of AMO physics. In all, 17 invited sessions are planned including the Plenary Prize Session on Wednesday morning and the Thesis Award and Undergraduate Research Sessions on Thursday morning. Thus far approximately 600 contributed abstracts have been received that will be presented in three poster and 21 contributed talk sessions. A public lecture will be presented by Eric Cornell Wednesday evening. Neal Lane will be the after dinner speaker Thursday evening. Following a tradition which started with the 1991 DAMOP meeting in Washington DC, a one-day student symposium will be held immediately prior to the meeting on the Tuesday.

The DAMOP Executive Committee will convene in Tucson. If you have any issues you feel should be discussed by the committee please bring them to my attention and I will place them on the agenda. DAMOP also has a variety of other important committees including the Fellowship Committee, the Nominating Committee, and the Program Committee. New appointments are made to these committees every year and nominations would be welcome. Service on these committees can be both rewarding and educational.

As outgoing chair I would like to thank Lew Cocke, Jim McGuire and Charles Clark for all their help and support during the past year. I would also like to acknowledge again all the hard work done by Pierre Meystre and the local organizing committee in planning the 2004 DAMOP/DAMP meeting.

I look forward to seeing many of you in Tucson for what promises to be an outstanding meeting.

DAMOP/DAMP 2004

Pierre Meystre, Local Chair

We are looking forward to welcome the AMO community to sunny Tucson this coming May 25-29 for what promises to be an exciting DAMOP/DAMP 2004 meeting. At this point, 64 invited papers and roughly 600 contributed papers have been submitted, covering all areas of AMO science and giving a vibrant testimony to the health, vigor, and excitement of our field.

In addition to traditional highlights such as the Thesis Award session and Undergraduate Research presentations, a Plenary Session will honor Bill McConkey, recipient of this year's Allis Prize, and Paul Julienne, recipient of this year's Davisson-Germer Prize. An invited session on Quantum Degenerate Systems will feature a talk by Tony Leggett, 2003 Physics Nobel Prize winner;

and Debbie Jin, who recently made news with her realization of a condensate of atomic Fermi pairs, will describe this recent work in the “Hot Topics” invited session.

Other topics highlighted in the total of 17 invited sessions will cover exciting new developments covering the broad spectrum of AMO science, from “Photon Interactions with Atoms, Ions and Molecules” to “Rydberg Atoms and Cold Plasmas;” from “Intense Fields and Attosecond Science” to “Highly Charged and Heavy Ions;” from “Quantum Information and Cavity QED” to “Dynamical Effects in Low Energy-Molecule Collisions;” from “Quantum Optics” to “Cold and Bose-Condensed Molecules;” and much, much more. Make it a point to attend the invited session on “Grand Challenges in AMO Science” scheduled for Saturday morning at 10:30, for a glimpse of things to come in our field. Needless to say, DAMOP/DAMP would be merely the shadow of itself without the contributed papers, about 600 of them this year divided roughly equally into 21 oral sessions and 3 poster sessions.

In addition, in what is now a well-established event, the conference will be preceded on Tuesday May 25 by a Student Symposium featuring tutorial lectures by Carl Caves, Paul Corkum, and Randy Hulet.

Eric Cornell, Nobel Prize Laureate 2001, will present an Evening Public Lecture on “Stone Cold Science: Things Get Weird Around Absolute Zero,” and the after-dinner speaker will be Neal Lane, former Director of NSF and former Director, White House Office of Science and Technology Policy.

Links to the details of the exciting scientific program of DAMOP/DAMP 2004, as well as to special events surrounding the meeting, can be found on the conference website, www.optics.arizona.edu/damop2004. This site also gives much information about travel, accommodations and activities in Southern Arizona. We encourage you to visit it often to check the latest news.

Just a few points worth remembering when preparing your trip:

Temperatures are expected to be in the 90s in late May, but this is, as they say, a dry heat, and it is therefore quite tolerable. The trick is to use lots of sun lotion and to drink plenty of water.

If your travel plans take you through Phoenix Sky Harbor, you may want to stop there and drive the 100 odd miles or take a shuttle down Interstate 10 to Tucson. This is about as fast as adding an extra leg from Phoenix to Tucson, and can be substantially cheaper.

If you come with your family, the conference hotel of choice is the Doubletree at Reid Park. Your kids are certain to enjoy the great pool in a resort-like setting, as well as the Municipal Zoo in neighboring Reid Park. There will be a free shuttle service from the Doubletree to the Marriott University Park, where the conference takes place.

Tucson eateries go from simple and inexpensive fast-food joints to world-class, extremely pricey restaurants. The choice is so vast as to make it impractical to provide you with a complete list. Follow the link to “Tucson” on our website for more (but still incomplete) restaurant information, as well as for other useful tips about Tucson.

One thing that you will not want to miss while attending the DAMOP/DAMP meeting is a tour of the amazing Steward Observatory Mirror Lab at the University of Arizona. It is necessary to register in advance for this tour, and places are limited. Please follow the appropriate link on our web page.

Tucson is surrounded by National Parks, National and State Monuments, desert mountain islands, historic towns and monuments, etc. It boasts over 300 days of sunshine a year, and is a true outdoors paradise. Further north, the Grand Canyon, Monument Valley, Sedona, and Petrified Forest National Park are extraordinary places to visit. So come to Tucson, enjoy some great physics, and then spend a few extra days falling in love with this unique place!

REMINDER FOR STUDENTS (AND THEIR PROFESSORS)

You have submitted your abstract and think you now just have to wait until a few weeks from the meeting to make travel and hotel arrangements. Right?

Wrong! Other deadlines are coming up SOON:

For requesting student travel support, deadline March 29, 2004. Go to

<http://www.aps.org/units/damop/student.cfm>

For registration for the student symposium and requesting financial support for that event, deadline March 26, 2004. Go to

<http://www.optics.arizona.edu/damop2004/tutorials-registration.htm>

Early registration ends April 12, and economy housing often fills up early. Go to

<http://www.aps.org/meet/DAMOP04/req.cfm>

A (GRIM) VIEW FROM WASHINGTON

Michael S. Lubell, APS Director of Public Affairs

It was common practice during the Clinton Administration for the Office of Science and Technology Policy to arrange a policy briefing in Washington on the first Monday in February when the President released his budget request for the next fiscal year. Not so for the Bush Administration – that is, until this year.

Why Jack Marburger, the President's Science Advisor and Director of OSTP, elected to break with this Administration's tradition is not clear. His decision couldn't have been driven by a desire to tell the science community that the budget outlook was rosy. It certainly isn't. In fact, the President's proposed spending plan – except for Defense and Homeland Security – is about as austere as it can get.

The folks at other end of Pennsylvania Avenue don't see it any differently. Key members of the House and Senate and almost any Capitol Hill staffer you can buttonhole all say that FY 2005 will be the worst year for civilian discretionary programs that they can remember. This, despite the fact that 2004 is an election year, and incumbents should have a strong impetus to spend on popular programs to help them at the polls in November.

The reason is simple: an anticipated budget deficit of about \$600 billion. The official projection is \$521 billion, but that doesn't count supplemental funds for cleaning up the mess in Iraq and Afghanistan, funds that the President has said he will ask for once the election is over.

And both numbers include the surplus generated by contributions to the Social Security Trust Fund, which only four years ago both political parties declared off limits by. Remember the “Social Security lock box” that featured so prominently in the 2000 presidential debates? No one even mentions it any more, because without counting those funds as part of general revenues, the federal deficit would be closer to three quarters of a trillion dollars. And that scares the hell even out of Keynesians.

With job creation stagnant, Democrats believe that they have an opportunity to retake the White House and perhaps the Senate, too. And they have been using the theme of irresponsible fiscal policy as part of their political message. They’ve gained so much traction with it that the GOP congressional leadership has responded by trimming back the presidential spending plans, particularly for non-defense programs.

That leaves science in a deep hole. President Bush requested an increase of about 2 percent for Math and Physical Sciences at NSF, a decrease of about 2 percent for the Office of Science at DOE and a major reduction of more than 10 percent for basic research at the Defense Department. Congress is likely change these numbers slightly, perhaps flat funding all research programs and then, if past years’ actions provide any guide, applying an across the board reduction to all discretionary civilian spending.

That scenario presumes appropriators will be able to get their spending bills passed with deep cuts in popular programs. And that’s rather doubtful. A more likely outcome, except for the Departments of Defense and Homeland Security, which will probably have monies appropriated this summer, is a continuing resolution that would carry through November and keep the rest of the government running at FY 2004 levels.

After the election, Congress would reconvene and take up the spending issues again. And depending on the outcome of the voting on November 2, the result would be either a 2000 page omnibus spending bill, which would receive little detailed scrutiny, or another CR that would carry through January until a new administration takes over and the 109th Congress convenes.

Many policy makers and budgeteers on Capitol Hill argue that science actually would be better served by a year-long CR, which would stave off cuts that otherwise would materialize in an appropriations bill. But CR’s are usually written with prohibitions on new starts. That would cause delays for projects such as ITER and SLAC’s Linear Collider Light Source, which are in the DOE FY 2005 pipeline, or Brookhaven’s RSVP, which is in the NSF pipeline. Any repair to the NIST laboratory budget, which was slashed in the FY 2004 omnibus bill, would also have to wait another year, probably causing staff reductions at one of the nation’s research premier facilities.

There is one bright spot. Science has a lot of good will on Capitol Hill, largely as the result of the lobbying activities of the last few years. Much more activity of that sort will be needed this year and in the coming years, as well, since the deficit projections for the next decade are rather grim unless the Bush tax cuts are rolled back. And it’s hard to see how that could happen any time soon.

Just to stay even, the science community will have to ratchet up its political

advocacy. Is that a challenge? You bet it is.

NEW DAMOP/APS FELLOWS

New DAMOP fellows elected in 2003

Reinhold Blumel

Wesleyan University

For outstanding research in classical and quantum chaos and its application in atomic and molecular physics.

John L. Bohn

University of Colorado

For seminal contributions to the theory of collisions of ultra-cold atoms and molecules relevant to experiments in photoassociation spectroscopy, quantum degenerate gases, and cold molecule trapping.

Juan Ignacio Cirac

Max Planck Institut fuer Quantenoptik

For outstanding contributions to quantum optics theory, in particular the problem of implementing quantum information with quantum optics and the theory of quantum degenerate atomic gases.

Christopher John Foot

Oxford University, United Kingdom

For seminal contributions to the practice of laser cooling of atoms, and the elucidation of rotational dynamics and excitation mechanisms in dilute Bose-Einstein condensates.

Eric A. Hessels

York University, Canada

For a wide range of high precision measurements to test fundamental interactions in atomic physics, especially fine structure splittings in helium.

Murray John Holland

University of Colorado

For seminal contributions to the theory of quantum degenerate atomic gases.

Paul Indelicato

Ecole Normale Superieure et Universite Pierre et Marie Curie

For his outstanding contributions both in new measurements and new theoretical methods to understand quantum electrodynamic (QED) and quantum chromodynamic (QCD) effects in atomic systems.

Deborah Shiu-Lan Jin

National Institute of Standards and Technology/JILA

For her innovative realization and exploration of a novel quantum system, the degenerate Fermi atomic gas.

Erwin David Poliakoff

Louisiana State University

For contribution to our understanding of molecular photoionization, and the development of methods to elucidate correlations between electronic and nuclear degrees of freedom.

Mara Goff Prentiss

Harvard University

For her pioneering work in manipulating matter with electromagnetic fields, including pioneering atom lithography and chip based atom optics.

Kenneth Joseph Schafer

Louisiana State University

In recognition of his many contributions to the advancement of the field of laser matter interactions through innovative, creative and extensive theoretical studies of the highest quality.

Reinhold Hans Schuch

Stockholm University

For seminal contributions to atomic collision physics including the development of ion storage rings.

Members of DAMOP elected to APS fellowship in 2003 by other APS units

Richard J. Anderson

National Science Foundation

For action as Head of the NSF Office of the Experimental Program to Stimulate Competitive Research which has resulted in significant increase in the academic research culture and competitiveness of many states. Nominated by: APS

Herbert J. Bernstein

Hampshire College

For his outstanding contributions to quantum interferometry and quantum theory including the fermion spinor-rotation experiment and entanglement concentration; and for innovations in teaching, outreach and service through ISIS institute. Nominated by: APS

Gary Dean Doolen

Los Alamos National Laboratory

For frontier computational research in fluid dynamics modeling, one-component plasmas, complex-rotation methods for atomic resonances, and laser-plasma interactions. Nominated by: Computational Physics

Allan Griffin

University of Toronto

For fundamental theoretical studies on Bose-Einstein condensation and the collective excitations in superfluid He4 and trapped atomic gases. Nominated by: DCMP (Condensed Matter)

Jack G. Hehn

American Institute of Physics

For his wide range of experience in physics and science education, curriculum development, implementing large-scale programs for AAPT and AIP, and administering educational programs for the National Science Foundation. Nominated by: Forum on Education

Robery C. Hilborn

Amherst College

For leadership in improving undergraduate physics education and uniting all

segments of the physics community in recognizing the importance of undergraduate physics programs. Nominated by: Forum on Education

Leo William Hollberg

National Institute of Standards and Technology

For seminal work in the development and application of ultra-stable diode lasers, especially as applied to spectroscopy and precision measurements. Nominated by: Fundamental Const. Topical Group

Edmund Gregory Myers

Florida State University

For developing innovative techniques for precision laser spectroscopy of helium-like ions and for application of atomic physics methods to nuclear physics. Nominated by: Fundamental Const. Topical Group

Jeffrey H. Shapiro

Massachusetts Institute of Technology

For pioneering contributions to the theory of the generation, detection, and applications of novel quantum states of light, particularly the squeezed states of light. Nominated by: Laser Science

Surendra P. Singh

University of Arkansas

For his original theoretical and experimental contributions to the understanding of quantum noise in lasers and nonlinear optical processes. Nominated by: Laser Science

Ram K. Tripathi

NASA Langley Research Center

For pioneering development of nuclear cross section models used around the world in a wide range of disciplines and applications including space missions and for outstanding contributions to the international physics community. Nominated by: Forum on International Physics

Lai-Sheng Wang

Washington State University

For his outstanding and innovative contributions to the study of atomic clusters and his pioneering work on multiply charged anions. Nominated by: Chemical Physics

Robert Oliver Watts

BHP Billiton Limited, Australia

For definitive theoretical and experimental work on the structure of liquids, clusters, and molecular complexes, and for outstanding management of research and development for the global resource industry. Nominated by: Chemical Physics

PRIZES AND AWARDS

PRIZES

Will Allis Prize

J. W. McConkey, University of Windsor, Canada

The prize was established in 1989 by contributions from American Telephone and Telegraph, General Electric, General Telephone and Electronics, International Business Machines, and Xerox Corporations in recognition of the outstanding contributions of Will Allis to the study of ionized gases. It is awarded biennially. Bill's citation reads "For his innovative experimental studies of electron collisions with atoms and molecules which have significantly advanced our understanding of collisional and radiative processes in ionized gases at the microscopic level."

Award for Outstanding Doctoral Thesis Research in Atomic, Molecular, or Optical Physics (2003)

Daniel Steck, Los Alamos National Laboratory

The award was established in 1992 by the Division of Atomic, Molecular and Optical Physics and is sponsored by members and friends of the Division of Atomic, Molecular and Optical Physics. It is awarded annually. Daniel's thesis was entitled "Quantum Chaos, Transport, and Decoherence in Atom Optics".

Davisson-Germer Prize in Atomic or Surface Physics

Paul Julienne, National Institute of Standards and Technology

The Prize was established in 1965 by AT&T Bell Laboratories (now Lucent Technologies) as a means of recognizing outstanding scientific work in America. It is awarded biennially by DAMOP and in alternate years by DCM. The citation reads "For his pioneering studies of the theory of ultracold atomic collisions, and its applications to precision metrology and quantum gas dynamics."

Earl K. Plyler Prize

Richard P. Van Duyne, Northwestern University

This prize was established in 1976 by the George E. Crouch Foundation and is awarded annually. The citation reads "For his trail blazing contributions in the fields of Surface Enhanced Raman Scattering and Nanoparticle Optics".

AWARDS

MacArthur Award to Jin

Deborah Jin was one of only 24 John D. and Catherine T. MacArthur Foundation Fellows for 2003. The headline in the New York Times was "24 Win MacArthur 'Genius Awards' of \$500,000." Each fellow receives this amount in "no strings attached" support over five years. The MacArthur Fellows Program is designed to emphasize the importance of the creative individual in society. Fellows are selected for the originality and creativity of their work and the potential to do more in the future. Jin was cited for her success in applying laser cooling and magnetic trapping techniques to explore the properties of super-cooled fermions and her work toward producing a degenerate Fermi gas. More information on the award and the Foundation are available at

<http://www.macfdn.org/programs/fel/announce.htm> . But you can't apply for it: you must be chosen. Congratulations Debbie!

Richtmeyer Memorial Lecture Award to Murnane

Margaret Murnane was awarded the Richtmeyer Memorial Lecture Award for 2003. (see <http://www.aapt.org/Grants/richtmyer.cfm>). This award, given in memory of Floyd K. Richtmyer, involves the presentation by the recipient of a major address at the AAPT Winter Meeting on a topic of current significance suitable for nonspecialists. A \$3000 award, travel expenses to the meeting, and a certificate are presented at the AAPT Winter Meeting. Established in 1941. Murnane spoke on "Can We Make Atoms Sing and Molecules Dance? Using Fast Light Pulses to Observe and Control Nature". Congratulations Margaret!

DOE ANNOUNCEMENT

Office of Basic Energy Sciences in DOE, BES AMO Program Manager Position.

The Office of Basic Energy Sciences in DOE has announced a job opening as the Federal Program Manager for the BES Atomic, Molecular and Optical Sciences Program. (Announcement Number PN-04-SC-14-302 for Position of Chemist, GS-1320-15). More information on this opportunity, which opened March 1, 2004 and closes on May 3, 2004, can be found in the Job Opportunities portion of the BES website: <http://www.sc.doe.gov/bes/BESjobs.html>. General information on the programs supported in BES, including the AMO Sciences Program can also be found at the BES website: <http://www.sc.doe.gov/bes/bes.html>.

COMMITTEE ANNOUNCEMENTS

Fellowship Committee

Don't forget - April 16 is the deadline for nominations for Fellowship of the American Physical Society to be submitted to DAMOP! Fellowship of the APS is a widely-recognized honor for those "who have contributed to the advancement of physics by independent, original research or who have rendered some other special service to the cause of the sciences." Election to Fellowship is limited to one-half of one percent of the membership of the APS each year. Please consider nominating a deserving DAMOP colleague for this honor. Nominations may be submitted online – see <http://www.aps.org/fellowship/fellinfo.cfm> for details.

Program Committee

In 2005, the invited DAMOP program will be based entirely upon nominations submitted by the membership. Please help the Program Committee construct a diverse and exciting program by sending in your suggestions. The most helpful nominations are those which propose full invited sessions, which may include up to five speakers, but nominations of individual invited speakers will also be considered. Please e-mail the completed form (see below) to mcquire@tulane.edu, with "Program suggestion" in the subject line. The deadline for submission is April 15. The members of the program committee for DAMOP 2005 can be found at <http://www.aps.org/units/damop/governance.cfm>.

Nomination Form

Nominator: Affiliation:
email: Telephone:

Topic of Invited Session (one paragraph):

Speaker: Affiliation:
Telephone: email:

Tentative title of presentation:

Tentative abstract or summary description of the work:

One recent publication:

(repeat as necessary - an invited session may include up to five invited speakers)

EDUCATION AND OUTREACH GRANTS

The APS Forum on Education Executive Board has made available a limited amount of financial support to encourage APS Units and Sections to actively engage in physics education and to address issues concerning the preparation of K-12 teachers. Joint activities with AAPT sections encouraged. It is not the Forum's intention to propose an agenda for such discussions. The agenda should reflect the priorities and issues of importance to the individual APS Units and Sections and to the members they serve. The APS Forum on Education is prepared to receive brief (approximately one page) proposals from APS members for Unit-sponsored activities to be held at Unit and Section meetings and at National APS meetings. The proposal should identify the topic and rationale for the activity, the meeting at which it will be offered, and the name of the person responsible for organizing the activity. The proposal should also include a statement of support from a Unit officer sponsoring the activity. In response to such proposals, the APS Forum on Education will provide grants of up to \$500 to support the efforts of Sections for activities consistent with these general objectives. The proposals should be sent to the Chair of the APS Forum on Education. The Forum's Chair, Program Committee Chair, and Treasurer will determine which proposals will be funded. While there is no deadline for proposals, currently available funds will support about 8 such proposals per year. In order to share their experiences, award recipients are asked to provide a brief summary of their activity for the Forum's newsletter. Proposals and questions should be addressed to the APS Forum on Education Chair. The 2003-04 Chair is Wolfgang Christian, wochrsitan@davidson.edu. The 2004-05 Chair is Gay Stewart, gstewart@comp.uark.edu.

NEW INTERNATIONALLY RECOMMENDED VALUES OF

THE CONSTANTS

The new self-consistent set of values of over 300 basic constants and conversion factors of physics and chemistry recommended by the Committee on Data for Science and Technology (CODATA) for international use is now available on the NIST Physics Laboratory Web site at <http://physics.nist.gov/constants>. The new values, named the 2002 set, is the result of the 2002 least-squares adjustment of the values of the constants carried out by Peter Mohr and Barry Taylor of the Physics Laboratory's Atomic Physics Division under the auspices of the CODATA Task Group on Fundamental Constants. The new, 2002 set of values, based on all the data available through 31 December 2002, replaces its immediate predecessor recommended four years earlier by CODATA, which resulted from the 1998 least-squares adjustment also carried out by Mohr and Taylor under Task Group auspices. It is expected that a lengthy paper that describes in detail the 2002 data and their analysis and which also gives the new values will be published in an archival journal in 2004. For further information, contact Peter Mohr, mohr@nist.gov, or Barry Taylor, barry.taylor@nist.gov.

ELECTRONIC ELECTIONS

Last year we used an early version of an electronic voting system. This year we have gone to the full system developed by the APS: a web based system which sends you a ballot tied to a personal URL which not only records your vote but also counts the votes automatically. This is a major improvement from the point of view of your secretary. The biographies of the candidates are included with the ballot; we also include them in this newsletter as a matter of record. If you do not have a working email, and the APS knows this, you have been sent a paper ballot. If you have a spam blocker which indicates a valid email address, but which bounces your ballot, the APS may NOT know this, and will think you received the ballot. You can request a paper ballot, but you have to know this is happening and notify me or the APS. Of course if you are electronically isolated from DAMOP you may not be reading any of what is being written here. If you know of a curmudgeonly colleague who might be disenfranchised by the electronic age, please ask that person to contact me. I still receive, and can send, normal mail. It does help us for members to have working email addresses which allow us to contact you quickly and easily.

Lew Cocke

BIOGRAPHIES OF CANDIDATES

FOR VICE CHAIR (will become Chair-Elect in 2005 and Chair in 2006)

GAY, TIMOTHY J.

B.S. 1975, California Institute of Technology; S.M. 1976, Ph.D. 1980, University of Chicago. Professor of Physics, 1993-present, Department of Physics and Astronomy, University of Nebraska; Professor, 1992-93, Associate Professor, 1989-92, Assistant Professor, 1984-89, Research Assistant Professor, 1983-84, Physics Department, University of Missouri-Rolla; Research Associate and Lecturer, 1982-1983, Research Staff Physicist and Lecturer, 1980-1982, Physics Department, Yale University; Graduate Laboratory Fellow, Physics Division, Argonne National Laboratory 1978 - 1980. APS Life Member and Fellow, 1994. APS/DAMOP SERVICE: Secretary/Treasurer, 1999-2002; Executive Committee, 1996-99; Co-Chair, Local Committee for 2005 Meeting; Exhibits

Coordinator, DAMOP/APS Centennial Meeting, Atlanta 1999; Undergraduate Research Prize Selection Committee, 1994; APS Centennial Speaker, 1998-99; Organizer of DAMOP Meeting Symposia in 1993, 1999. OTHER SERVICE: CAMOS, 2000-02; GEC Executive Committee 1997-2000; General Committee ICPEAC 2001-07; XI ISIAC Local Committee 1989; ISPCEAC International Scientific Committee, 2000-03; Member of Scientific Review Panels, ANL 2003, NSF 2002,2003; Chairman of Organizing Committee for the Conference on Two-Center Effects in Ion-Atom Collisions, 1993-94.

RESEARCH INTERESTS: Electron physics: polarized electron scattering by atoms and molecules; polarized electron source and polarimeter technology; Stern-Gerlach manipulation of electron beams; circular dichroism and chiral effects in atomic processes. Neutrino physics: direct mass measurement of the electron anti-neutrino; high-voltage metrology.

CANDIDATE'S STATEMENT. A significant fraction of the most exciting physics being done today is carried out by people in our Division. This work has important implications for areas represented by other Divisions of the APS. Indeed, many of our members belong to other Divisions as well. I would like to strengthen the ties we have with DCMP at the March Meeting, and revisit the issue of joint meetings with DLS, DCP, and the Precision Measurements and Few-Body Topical Groups. In addition, we must increase our already substantial efforts to make our meetings and activities as "student friendly" as possible, with special outreach to undergraduates. One example of how this could be done would be the formation of a DAMOP Speaker's Bureau. These people would travel the country, giving talks aimed at undergraduate audiences about the most recent exciting developments in AMO physics.

MEYSTRE, PIERRE

Physics Diploma (1971) and PhD (1974) Swiss Federal Institute of Technology, Lausanne Switzerland. Habilitation (Theoretical Physics), University of Munich, Germany, (1983). Regents Professor, University of Arizona, 2002-present, Chair of Quantum Optics, 1998-present; Professor of Optical Sciences and Physics, 1986-present; Staff Member, Max-Planck Institute for Quantum Optics, Garching, Germany, 1977-1986; Research Associate, University of Arizona, 1974-1977; Instructor, Swiss Federal Institute of Technology, 1971-1974. Fellow, American Physical Society and Optical Society of America; Humboldt Foundation Research Prize, 1995; R. W. Wood Prize, Optical Society of America, 2002.

SELECTED PROFESSIONAL ACTIVITIES: Member of the Board, Quantum Optics Division, German Physical Society, 1982-1986; DAMOP Publications Committee, 1992-1995; DAMOP Program Committee, 1996-1999; DAMOP Fellows Committee, 1997-1999 and 2003-2005; DAMOP Executive Committee, 2000-2003; DAMOP Annual Meeting Local Chair, 2004; NRC FAMOS Update Panel, 1999-2002; NRC Committee on Atomic, Molecular and Optical Science (CAMOS) 2001-2005, Chair (2002-2005); Advisory Board Member, Rochester Theory Center for Optical Science and Engineering, 1995-1998; Advisory Board Member, Harvard-Smithsonian Institute for Theoretical Atomic and Molecular Physics (ITAMP), 2000-2003; Oversight Committee Member, MIT-Harvard Center for Ultracold Atoms (CUA), 2001-2004; Advisory Board Member, Kavli Institute for Theoretical Physics (KITP), University of California Santa Barbara,

2002-2005; Editorial Board, Phys. Rev. A, 1992-1998; Editorial Advisor, AIP Atomic, Molecular and Optical Physics Reference Book; Editorial Board, Springer Series in Atomic, Molecular and Optical Physics, 1995-present; Editorial Board, Harcourt and Francis Series in Laser Science and Technology, 1998-present; Editorial Board, Laser Physics Letters, 2003-present.

RESEARCH INTERESTS: Theoretical AMO science, including statistical properties of radiation, laser theory, cavity QED, atom optics, Bose-Einstein condensation, quantum-degenerate Fermi systems.

POLICY STATEMENT: AMO science currently enjoys a central and leading role in the scientific enterprise, with considerable impact on and input from fields as varied as condensed-matter physics, high-energy physics, biophysics, computer science, nanotechnology, astrophysics, cosmology, and medicine. As DAMOP Chair, I would strive to further enhance the recognition of this exciting field at all levels, including university science faculties, graduate and undergraduate education, funding agencies, and outreach. We have a great story to tell, and we must make sure that it is heard.

FOR THE EXECUTIVE COMMITTEE

GOULD, PHILLIP L.

B.S. (Physics and Mathematics) Bates College, 1979; Ph.D. (Physics), MIT, 1986; Senior Technical Associate, Bell Telephone Laboratories, Holmdel, NJ, 1979-80; NRC Postdoctoral Fellow, National Bureau of Standards, Gaithersburg, MD, 1986-87; Assistant Professor, Associate Professor, and Professor of Physics, University of Connecticut, 1988-present; NSF Presidential Young Investigator (1988-93); Alfred P. Sloan Foundation Fellow (1990-92); APS Fellow, 1997; Editorial Committee, Conference on Precision Electromagnetic Measurements (1986); U.S. Editor for Progress in Quantum Electronics (1989-92); Program Committee, International Laser Science Conference (1987-90, 2000); Program Committee, Quantum Electronics and Laser Science Conference (1995, 1997); Vice-Chair (1995) and Chair (1997), Gordon Conference on Atomic Physics; ICPEAC General Committee, 1997-2001; Local Organizing Committee, 2000 DAMOP Meeting; NRC Committee on Atomic, Molecular, and Optical Science (CAMOS), 1996-99; APS Division of Laser Science Nominating Committee, 1997, 1998 (Chair), 1999; DAMOP Thesis Prize Committee (2002); DAMOP Nominating Committee, 2002 (Chair), 2003; Editorial Board, Physical Review A, 2003-present.

RESEARCH INTERESTS: Laser Cooling and Trapping; Cold Collisions; Photoassociative Spectroscopy; Ultracold Molecules; Rydberg Atoms; Quantum Optics; Atom Optics; Laser Spectroscopy.

JIN, DEBORAH S.

A.B. Princeton Univ. 1990; Ph.D. Univ. of Chicago 1995; NRC Research Associateship, NIST-JILA 1995-1997; NIST physicist 1997-present; JILA Fellow 1997-present; Adjoint Assistant Professor, Dept. of Physics, Univ. of Colorado, Boulder 1998-2004; Adjoint Associate Professor, Dept. of Physics, Univ. of Colorado, Boulder 2004-present; APS Fellow 2003-present; John D. and Catherine T. MacArthur Fellow 2004-present; National Academy of Sciences Award for Initiatives in Research 2002; Maria Goeppert-Mayer Award

2002; NIST's Samuel Wesley Stratton Award 2001; Presidential Early Career Award for Scientists and Engineers 2000.

SELECTED PROFESSIONAL ACTIVITIES: DAMOP Thesis Award Selection Committee 2001,2003-2004; Maria Goeppert-Mayer Award Selection Committee 2004.

RESEARCH INTERESTS: Quantum degenerate gases of atoms.

McCURDY, C. WILLIAM

B.S. 1967 Tulane, Ph. D. 1976 Caltech. Senior Scientist, Lawrence Berkeley National Laboratory, 1995-present. Professor of Applied Science, Department of Applied Science University of California, Davis, 1991-present. Adjunct Professor of Chemistry, Department of Chemistry, University of California, Berkeley, 1996-present. Associate Laboratory Director for Computing Sciences, Lawrence Berkeley Nat'l Lab, 1995-2003. Director, National Energy Research Supercomputer Center, Lawrence Livermore National Laboratory, 1991-1995. Assistant, Associate and Full Professor of Chemistry, Ohio State University, 1978-1991. DOE Basic Energy Sciences Advisory Committee (BESAC), 1998-present. Co-chair of the BESAC Subcommittee on Theory and Computation in Basic Energy Sciences, 2003 - present. Chair of Workshop on "Theory and Modeling in Nanoscience," San Francisco, 2002, conducted by BESAC. Chair of Steering Committee, National Science Foundation Report on Computational Physics, "Computational as a Tool for Discovery in Physics." 2001-2002. DOE Fusion Energy Sciences Advisory Committee (FESAC), 2000 - 2002. APS Few-Body Systems & Multiparticle Dynamics Topical Group Nominating Committee, 1997 - 1999. Committee on Atomic Molecular and Optical Sciences (CAMOS), National Research Council, 1994- 1997. Fellow of the American Physical Society, 1993. Ohio State University Distinguished Scholar Award , 1984. Alfred P. Sloan Research Fellow,1981-1983. Camille and Henry Dreyfus Teacher-Scholar Award, 1982.

RESEARCH INTERESTS: Electron-driven processes in physics and chemistry, electron initiated chemistry in plasmas and radiation damage, electronic collisions with atoms and molecules, electron and photon-impact ionization and multiple ionization, novel theoretical methods for collision problems. Co-chair of workshops on Fundamental Challenges in Electron-Driven Chemistry in 1998 and Electron-Driven Processes and Interactions with Molecules, Clusters, Surfaces and Interfaces in 2000.

PINDZOLA, MICHAEL S.

B.A., University of the South, 1970; Ph.D., University of Virginia, 1975; NRC Resident Research Associate at NASA GSFC, 1975-1977. Currently a Professor in the Department of Physics, Auburn University; a Consultant to Oak Ridge National Laboratory; a Fellow of the American Physical Society; a Fellow of the Institute of Physics (London); a Member of the Working Group for the EPSRC CCP; a Member of the Program Committee for the APS Topical Conference on Atomic Processes in Plasmas; a Member of the Advisory Board for Harvard's ITAMP; a Member of the Executive Committee for the Southeastern Laboratory Astrophysics Consortium; a Member of the Samford Society of Auburn University which provides funds for student scholarships in the arts, sciences, and engineering; and an Honorary Colonel in the Tennessee State Militia.

Currently my research interests in theoretical atomic and molecular physics are funded in part by DoE's Office of Fusion Energy Sciences, NSF's Theoretical Division, DoE's Office of Science's SciDAC Program, and NASA's APRA Program.

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