

DIVISION OF ATOMIC, MOLECULAR AND OPTICAL PHYSICS NEWSLETTER

A Division of The American Physical Society

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INSIDE...

- [1998 DAMOP/DAMP Meeting](#)
- [Student Travel Support](#)
- [Conference Experience for Undergraduates](#)
- [News From TAMOC](#)
- [New APS Fellows](#)
- [Candidates for Office](#)

1997 NOBEL PRIZE IN PHYSICS -- WE CONGRATULATE:

STEVE CHU,
BILL PHILLIPS
CLAUDE COHEN-TANNOUJJI

WINNERS OF THE 1997 NOBEL PRIZE IN PHYSICS FOR
THEIR WORK IN AMO SCIENCE.

1998 Davisson-Germer and Will Allis Prize winners Announced!

We congratulate Sheldon Datz and Ray Flannery who were named winners of the 1998 Davisson-Germer and Will Allis Prizes, respectively. Each prize consists of a \$5,000 honorarium and a

certificate citing the contributions of the recipient.

The **Davisson-Germer Prize** recognizes and encourages outstanding work in atomic or surface physics. Sheldon Datz is cited "for his broad contributions that have provided new understanding of the dynamics of atomic interactions with ions, electrons and photons at energies ranging from a fraction of a milli-electron volt to many trillion electron volts."

The **Will Allis Prize** recognizes and encourages outstanding research into the microscopic or macroscopic behavior of ionized gases. Ray Flannery is cited "for advancing the understanding of recombination processes, in particular for developing a microscopic theory of three-body recombination; and for his novel applications of classical and quantum mechanical methods to the dynamics of atomic, molecular, and ionic systems."

Election of Officers

We are grateful to this year's nominating committee, chaired by Keith MacAdam who have worked to assemble an outstanding slate of candidates for DAMOP offices. A brief biographical sketch for each candidate is included on [pages 6 and 7](#). Please take the time to mark and return the enclosed ballot by April 1. Your input is important!

Message From the Chair

Kate Kirby

The announcement on Wednesday morning, 15 October 1997, that the Swedish Academy of Sciences had selected three DAMOP members: Steven Chu (Stanford), William Phillips (NIST) and Claude Cohen-Tannoudji (Ecole Normale Supérieure, Paris) as recipients of the 1997 Nobel Prize in Physics, was thrilling to all of us in the DAMOP community. The prize gives well-deserved recognition to three exceptionally talented individuals who have shown outstanding intellectual leadership in the area of laser cooling and trapping of atoms.

In addition, the Nobel Prize brings considerable attention to an exciting area of research which continues to grow and flourish, with valuable contributions being made by a number of DAMOP members and their groups. The profile of Atomic, Molecular and Optical Science, as a discipline within the field of Physics, has been raised significantly, and the AMO community, itself, should derive considerable benefit from this. For instance, in the future it may be easier to make the case for new departmental appointments in AMO Physics, or to attract the most able graduate students to AMO research, or to find opportunities to increase the funding base for AMO programs.

Thus we have plenty of reasons to rejoice in the 1997 Nobel Physics Prize selection and to celebrate this at the 1998 DAMOP Annual Meeting in a plenary session (see the following announcement). Both personally, and on behalf of the DAMOP community, I extend heartfelt congratulations to Steve, Bill and Claude.

NOBEL PRIZE PLENARY SESSION AT DAMOP/DAMP

In order to honor the 1997 Physics Nobel Prize winners and to give the

AMO Physics community an opportunity to celebrate with them, a Plenary Session will take place on Saturday morning, May 30, 1998 at the DAMOP Annual meeting, featuring talks by Professor Steven Chu and Dr. William Phillips. The speakers will give a reprise of their talks in Stockholm and the session will be followed by a reception and buffet lunch. Professor Claude Cohen-Tannoudji is unfortunately not able to participate due to a prior speaking commitment.

1998 DAMOP/DAMP MEETING

The 29th DAMOP Meeting, joint with the Division of Atomic and Molecular Physics of the Canadian Association of Physicists, will be held at the Sweeney Convention Center in downtown Santa Fe, New Mexico, Wednesday through Saturday, 27-30 May 1998, continuing the four-day format started in 1996. A welcoming reception will be held on the evening of Tuesday, May 26 at the nearby Palace of the Governors on the Plaza from 6:00 to 9:00 p.m. Information concerning the conference, local accommodations, abstract submission and travel is available at the conference web site <http://t4.lanl.gov/DAMOP/DAMOP.cfm>. Important deadlines are summarized below.

February 6-Deadline for abstract submission.

April 13-Deadline for early registration.

April 24-Deadline for special hotel rates.

A copy of the preregistration form is included with this newsletter. The program will include a special Nobel Prize Plenary Session, Award sessions, an AMO Thesis Award Symposium, and Invited Symposia. The latter are listed below together with the invited speakers.

Macroscopic Quantum States: BEC and Atom Lasers

L. Hau, E. Timmermans, M. Holland, H.-J. Miesner

Quantum State Manipulation and Control

S. Haroche, D. Wineland, C. Stroud, and I. Walmsley

Electronic Spectroscopy of Real and Artificial Atoms and Molecules

P. Bucksbaum, M. Bawendi, F. Merkt, and R. Westervelt

New Results in Electron and Positron Collision Physics

T. Walker, A. Pradhan, D. Madison, and T. Stein

"Hot" Research with Cold Atoms and Molecules

S. Kulin, P. Jessen, J. Doyle, and R. Forrey

Atomic Manipulation

J. Gimzewski, J. McClelland, D. Anderson, and C. Reinhold

Recent Advances in Atomic and Molecular Astrophysics

P. Stancil, L. Ziurys, M. McCarthy, and J. Kohl

Industrial Applications of AMO Physics

J. Plummer, A. Tasch, M. Kushner, and W. Porod

New Results in Ion-Atom Collisions

J. Geddes, C. Havener, M. Prior, and I. Ben-Itzhak

Optical Techniques in Molecular Biology

K. Visscher, C. Bustamante, R. Keller, and W. Webb

X-Ray AMO Physics

D. Eder, E. Kanter, J. Nordgren, and P. Langhoff

Coherent Control of Atomic and Molecular Processes

R. Gordon, L. DiMauro, D. Reitze, and K. Wilson

Spin Polarized Noble Gases: Physics and Applications

G. Cates, R. Walsworth, G. Tastevin, and J. Yarger

Multiphoton Processes

P. Agostini and P. Lambropoulos

Molecular Dissociation

P. Cosby, J. W. McConkey, and L. Collins

DAMOP Student Travel Support

Limited travel support is available to assist students attending the 1998 DAMOP Meeting in Santa Fe. Students should complete the electronic form on the DAMOP homepage (www.t4.lanl.gov/DAMOP/students.cfm) before March 15, 1998.

Conference Experience for Undergraduates (May 26-June 4, 1998)

...Lee Collins

In lieu of our usual Los Alamos Summer School in AMO Physics, we plan a two-week program, aimed principally at undergraduates, centered on the 1998 DAMOP Conference in Santa Fe. As in the past, both the Los Alamos National Laboratory and the University of New Mexico will sponsor the program. We plan to guide a select group of students through a scientific conference experience. The first-week activities occur in conjunction with the DAMOP conference and will involve pre-meeting introductions to hot topics at the conference, mentoring and reports during the meeting, and follow-up sessions. The students will attend the full conference but will have guidance from mentors throughout the proceedings. In the second week, the program moves to Los Alamos with an expanded set of lectures and discussion sessions based on the conference topics as well as a mini-course with hands-on experience in parallel computing. The program complements

the standard Research Experience for Undergraduates program of the National Science Foundation by adding a conference component. Students will receive 1 hour of university credit for completing the session.

The program is open to undergraduates and first-year graduate students, enrolled in universities and colleges within the United States. Special consideration will be given to the following three groups:

1. Undergraduate students who plan to attend a regular REU program in the Summer of 1998. We shall work very closely with the REU sites to coordinate schedules, transportation, and expenses. Students interested in this option should apply to BOTH programs. The student must not have obtained a bachelor's or higher degree by the start of the REU program.
2. Students who have completed an REU program in a previous year. Open to all undergraduates and to those that have graduated within the past year.
3. Students participating in the Undergraduate Research Session of the DAMOP meeting. For further information on this program, please contact Prof. Don Madison directly at madison@umr.edu

Requirements: Completion of courses in classical mechanics, E&M, and calculus as well as experience in a high-level programming language such as C or FORTRAN. Instruction in quantum mechanics and differential equations is recommended.

Tentative Deadline: March 1, 1998

For further information as well as application forms, see our Web page at <http://t4.lanl.gov/CEU/CEU.html> or contact: Dr. Lee A. Collins, Group T-4 MS B212, Los Alamos National Laboratory, Los Alamos, NM 87545, voice: (505) 667-2100, Fax: (505) 665-6229, e-mail: lac@lanl.gov; or Prof. Howard Bryant, Department of Physics and Astronomy, University of New Mexico, Albuquerque, NM 87131, voice: (505) 277-3044, Fax: (505) 277-1520, e-mail: hzero@unm.edu.

NEWS FROM TAMOC

The Theoretical Atomic, Molecular and Optical Physics Community (TAMOC) will hold its annual meeting in conjunction with the DAMOP conference of the APS in Sante Fe (May 27-30, 1998). The meeting is planned for Thursday evening, May 28. The tentative agenda is as follows:

1. A review from representatives of grant agencies,
2. A review of the activities in AMO theory centers,
3. A panel discussion on the future of TAMOC,
4. An open forum for discussion and comments.

If there are any other issues that TAMOC participants would like to see raised at the meeting, please contact the officers, at the e-mail addresses given below.

The TAMOC Web Page is in the process of being revised and updated. The new address is <http://cfa-www.harvard.edu/~mcavagne/tamoc>. Comments and suggestions as to how we may improve the utility of the

Web page would be both timely and welcome.

We are also in the process of updating our email distribution list. If you would like to be added to the list, please let us know.

We look forward to hearing from you. See you in Sante Fe! Klaus Bartschat, Chair, kb001r@acad.drake.edu; MichaelCavagnero, Secretary mcavagnero@cfa.harvard.edu.

Congratulations to New APS Fellows!

We are proud to announce and to congratulate the following persons who were nominated for Fellowship in the American Physical Society by DAMOP in 1997 and subsequently elected. Certificates will be presented at the 1998 DAMOP meeting in Santa Fe in May.

- **ABERG, Teijo E. W.** , Helsinki U. of Technology
For seminal work and many contributions to the understanding of radiationless transitions and the development of a unified theory of atomic excitation and de-excitation processes.
- **DUNFORD, Robert Walter** , Argonne National Laboratory
For extensive experimental studies in fundamental atomic physics, especially in characterizing the properties of few-electron heavy-ion systems, thereby adding significantly to the understanding of relativistic quantum mechanics and QED.
- **FRY, Edward S.** , Texas A&M University
For new optical probes and effects ranging from the foundations of quantum mechanics to ocean optics and lasing without inversion.
- **HO, Yew Kam Eugene** , Academia Sinica (Taiwan)
For seminal contributions to the understanding of atomic resonances in two-electron systems, with and without the presence of electric field, through high precision applications of the complex coordinate rotation method.
- **KANTER, Elliot Paul** , Argonne National Laboratory
For innovative studies of molecular structure and dynamics and contributions to the development of Coulomb Explosion Imaging as a quantitative technique.
- **L'HUILLIER, Anne** , Lund University
For pioneering the understanding and development of high-order harmonic generation by short laser pulses in atomic gases.
- **MANDICH, Mary** , Bell Laboratories
For the development and application of unique molecular beam and spectroscopic tools for the study of the electronic properties and chemistry of clusters.
- **POLLACK, Edward** , University of Connecticut
For pioneering work in keV energy ion-molecule and atom-molecule collisions leading to a better understanding of electron capture and electronic and vibro-rotationally inelastic interactions.
- **RAIZEN, Mark G.** , University of Texas-Austin
For outstanding contributions to our understanding of quantum effects in optics, especially at the quantum-classical interface.
- **SUZOR-WEINER, Annick** , Universite Paris-Sud
For her pioneering development of the theory of dissociative

recombination, and for many other contributions to atomic and molecular physics which have stimulated significant theoretical and experimental studies.

- **THOMAS, John Edward** , Duke University
For fundamental studies of collisions in atomic vapors using methods of laser spectroscopy and for suboptical wavelength position measurements and atom imaging.

and through the Forum on International Physics

- **BELL, Kenneth Lloyd** , Queen's University
For his fundamental and enduring contributions to the theory of electron collisions with atoms and ions, photoionization and photodetachment, and to atomic structure with particular emphasis on transition probabilities.
- **PENDRILL, Ann-Marie Martensson** , Chalmers University of Technology
For her contributions to the development and use of atomic many-body methods to explore relativistic effects and parity non-conservation in heavy atoms.

Related Future Meetings

- The Center for Advanced Studies at the University of New Mexico will host the Second Annual Workshop on "Quantum Control of Atomic Motion," June 1-2, 1998. Topics include: quantum state preparation and manipulation of trapped ions and atoms, quantum computing with atoms and ions, coherent control of chemical reactions, atomic transport in optical lattices, coherent atom-optics, and coherent control of Bose-Einstein condensates

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- The 16th International Conference on Atomic Physics (ICAP) will be held at the University of Windsor, August 3 - 7, 1998. The conference will feature an outstanding program of invited papers covering the properties of atoms and their interactions with light. Especially important are the remarkable advances in lasers and laser techniques for precision measurement, the cooling and trapping of atoms, atom optics, and the use of these techniques for both fundamental measurements and technological applications. The Conference will feature a special Nobel Symposium on Cooling and Trapping. There will also be poster

sessions for contributed papers.

Registration will initially be open to all interested persons up to the early registration date of March 1, 1998. After that, registration will be subject to availability of space. Registration can now be done on-line, and further information obtained from the web site: <http://icap.cs.uwindsor.ca> Alternately, send a request for a hard copy of the registration form and other literature to icap@uwindsor.ca, Gordon Drake, Chair, ICAP Local Organizing Committee, Department of Physics, University of Windsor, Windsor, Ontario N9B 3P4, CANADA.

- The Sixth European Conference on Atomic and Molecular Physics (ECAMP VI) organized by the Atomic and Molecular Physics Division of the European Physical Society will be held July 14-18 in Siena, Italy. The Conference topics include atomic and molecular spectroscopy, and the interactions between ions, atoms, molecules electrons, positrons and photons. Symposia on synchrotron radiation and femto-second laser spectroscopy will be included. For more information see the conference homepage at <http://www.unisi.it/fisica/ecamp98/welcome.cfm>
- The International Colloquium on Atomic Spectra and Oscillator Strengths (ASOS 6) will be held August 9-13, 1998 at the University of Victoria, British Columbia. This conference will feature significant advances in atomic structure calculations, in high precision laser spectroscopy, in atomic lifetime measurements, in oscillator strength measurements and related topics. Also, current spectroscopic data needs for specific astrophysical and laboratory plasma applications will be discussed. For further information contact the conference website at <http://www.uvcs.uvic.ca/conference/ASOS6> or contact Pat McGuire, Conference Coordinator, Division of Continuing Studies, University of Victoria, Box 3030, Victoria, British Columbia, V8W 3N6 Canada, Phone: (250) 721-8746; FAX: (250) 721-8774; e-mail: pmcguire@uvic.ca
- The 12th International Conference on Vacuum Ultraviolet Radiation Physics VUV XII will be held August 3-7, 1998 in the Hyatt Union Square Hotel, San Francisco, CA. Inquiries and requests to be included on the mailing list should be sent to Elizabeth Saucier, VUV 12 Conference Administrator, E. O. Lawrence Berkeley National Laboratory, MS 80-101, Berkeley, CA 94720; e-mail: yuv12@lbl.gov. The Conference web page address is <http://www.als.lbl.gov/als/vuv12/>. Detailed questions can be addressed to the Chair of the Local Committee, Fred Schlachter, (510) 486-4892, e-mail, Fred.Schlachter@LBL.GOV.
- The Fifteenth International Conference on the Application of Accelerators in Research and Industry will be held November 5-7, 1998 at the University of North Texas, Denton, TX. The purpose of the conference is to review research and the wealth of industrial applications that are in progress with accelerators throughout the world. For further information contact Dr. Jerome L. Duggan (Co-Chairman) or Barbie Stippec (Administrative Assistant), University of North Texas, Department of Physics, P. O. Box 305370, Denton, TX 76203-5730; Phone: (940) 565-3252, Fax (940) 565-2227, e-mail: stippec@unt.edu.

- The Gordon Research Conference on Multiphoton Processes will be held at Tilton School (a new location) in Tilton, New Hampshire on June 14-19, 1998. The traditional themes of this conference include: atoms and molecules in high fields, coherent control of quantum dynamics, multi- and multiple-photon spectroscopy, photoionization and Rydberg dynamics, and multi- and multiple-photon molecular dissociation. The conference e-mail address is MPGordon@spaniel.llnl.gov. For further information consult the web page at www-phys.llnl.gov/Multiphoton98.
- The Sixth Brijuni International Conference on Interdisciplinary Topics in Chemistry and Physics "End of Century State of Science" will be held at Brijuni (Brioni) Island, Croatia on 7-11 September 1998. The purpose of the conference is to review the areas of science which contributed most to shaping human knowledge in the 20th century. Topics to be covered include: ultracold collisions and BEC, the early universe, complexity of biological systems, molecules in space, molecules, clusters and beyond, and radiation-matter interactions. More information about the conference can be obtained from <http://www.irb.hr/~dbosanac> or from Danko Bosanac, R. Boskovic Institute, 10001 Zagreb, Croatia; e-mail: dbosanac@faust.irb.hr.

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

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Election of Divisional Officers: Candidates for Office

Candidates for Vice-Chair:

The vice-chair takes over as chair of the Fellowship Committee after the 1998 DAMOP Meeting, becomes Chair-Elect after the 1999 Meeting and serves as the Chair of the Program Committee, and then becomes Chair after the 2000 DAMOP Meeting for the year preceding the 2001 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 May 1998.

DANIEL J. LARSON. B.A., St. Olaf College, 1966;[HdCR] Ph.D., Harvard University, 1971; Assistant and Associate Professor of Physics, Harvard U., 1970-1978; Associate Professor/ Professor, University of Virginia, 1978-1996; Maxine S. and Jesse W. Beams Professor of Physics, U. of Virginia, 1996-present; Associate Dean

of the Faculty of Arts and Sciences, 1989-1991; Chair, Department of Physics, U. of Virginia, 1991-1997; Visiting Scientist, National Bureau of Standards, Boulder 1985-1986; Visiting Professor, Chalmers University, Gothenburg, Sweden, 1986; Visiting Scientist, Laboratoire Aim, Cotton, Orsay, France, 1991; Fellow, American Physical Society; Member, Optical Society of America; Committee on Atomic, Molecular, and Optical Sciences (CAMOS), National Research Council, 1987-1995 (Vice Chair, 91-92; Chair, 92-94; Past Chair, 94-95); NRC Panel on Future Opportunities in Atomic, Molecular and Optical Sciences (FAMOS), 1991-1993; AMO Sciences Assessment Panel, Commission on Physical Sciences, Mathematics, and Applications, NRC, 1993; Department of Energy Review Committees: Argonne (1988), Kansas State (1989), Oak Ridge (Chair, 1990); AMOP Program review, National Science Foundation, 1996; DAMOP Program Committee, 1985-1988; DAMOP Divisional Councilor, APS Council, 1991-1994; APS Executive Board, 1993-1994; APS Nominating Committees: DAMOP (1991-1994), Laser Science Topical Group (1992-1994), Topical Group on Precision Measurements (1993-1994); APS Committee on Minorities, 1992-1994; APS Committee on Committees, 1993-1994 (Chair, 1994); APS Task Force on Forums (Chair), 1995; APS Bouchet-Rainwater Award Committee, 1994-1995 (Chair, 1995); Davisson-Germer Prize Committee, 1995-1997.

RESEARCH INTERESTS: Negative ions; Photodetachment structure and dynamics; optical and microwave spectroscopy; precision measurements; atomic and molecular structure and interactions in strong fields; optical control of chemical processes.

JIM MCGUIRE. Murchison-Mallory Professor, Tulane University. DAMOP Secretary-Treasurer 1990-3; DAMOP Program Committee, 1988-93; DAMOP Committee to Establish APS Award for Outstanding Ph.D. Thesis, 1991-2; DAMOP Executive Committee, 1990-3; DAMOP Selection Committee for Best Undergraduate Research, 1997; TAMOC Secretary, 1987-90; APS Topical Group on Few Body Systems and Multiparticle Dynamics Executive Committee, 1996-8, Nominating Committee, 1991; APS Forum on Physics and Society Program Committee, 1996-8; AAPT Committee on Graduate Education, 1993-6; DOE Panel on Future of AMO Theory, 1997; Chair, DOE Review Panel for Oak Ridge National Laboratory, 1994; NSF Panel for Postdoctoral and Junior Investigator Research and JSPS Fellowships, 1994; Chair, Overview Report on AMO Theory for the National Academy of Sciences, 1985; APS Fellow, 1985-; Alexander von Humboldt Award, 1997-8; ICPEAC Secretary, 1995-, General Committee, 1985-9, Executive Committee, 1995-; Editor, Encyclopedia of Physics, 1992-6; Co-Organizer, Workshop on Manifestations of Electron Correlation, Harvard University, 1997; Co-Chair, Conference on Raman Emission by X-rays, 1995; National Research Council of the National Academy of Sciences Super-Committee for AMO Sciences, 1992; Panel for Preview of the NC Star Storage Ring, 1993; Organizing Committee AMO Workshop at Santa Barbara National Theory Institute, 1991; Organizing Committee, Workshop on Atomic

Physics at High Brilliance Synchrotron Light Sources, Argonne National Laboratory, 1994; Local Committee, International Conference on Theoretical Chemical Physics, 1996; United States Coordinator, Monbuscho International Research Program (Japan), 1994; International Co-Chair, ISIAC, 1989, 91; Member Am. Chem. Soc., 1989- ; William L. Stamey Teaching Award, 1990; B.S., Rensselaer, 1964; Ph.D. Northeastern, 1969; previous faculty appointments at Texas A&M, 1969-72 and Kansas State University, 1972-91; 180 publications in atomic, optical and molecular physics; 2 books in AMO physics.

RESEARCH INTERESTS: Interactions of photons and charged particles with many electron systems.

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 1998 DAMOP Meeting.

JIM FEAGIN. Professor, Department of Physics, California State University-Fullerton. B.S. Physics, Georgia Tech, 1973; Ph.D. Physics, University of North Carolina-Chapel Hill, 1979; Physics Instructor, Georgia Tech, 1980; Humboldt Fellow, Freiburg University, Germany, 1981-82; PostDoc, University of Nebraska, 1983-84; Associate Professor, Cal State Fullerton, 1984-88; Professor, Cal State Fullerton, 1989-present; Visiting Professor of Physics, Freiburg University, Germany, 1990-91. Active in physics education and curriculum reform. Participated in the Introductory University Physics Project, 1993-95. Published textbook, Quantum Mechanics with Mathematica, Springer, 1994.

RESEARCH INTERESTS: Theoretical studies of few-body Coulomb dynamics.

RANDALL G. HULET. Professor of Physics, Rice University. B.S., Stanford University 1978; Ph.D., M.I.T. 1984; National Research Council Post-Doctoral Fellow, N.I.S.T., Boulder, 1985-87; Assistant Professor, 1987-91, Associate Professor, 1991-1996, Professor, 1996-present, Rice University; Visiting Professor, Institut d'Optique, Orsay, France, April 1996. Alfred P. Sloan Fellow, 1988-91; NSF Presidential Young Investigator, 1989-94; A.P.S. I. I. Rabi Prize, 1995; fellow of the A.P.S., 1996; fellow of the A.A.A.S., 1997. Review of Scientific Instruments, editorial board, 1996-present; Co-editor of Experimental Methods in the Physical Sciences, Vols 29A-C, 1994-97; QELS program sub-committees; APS DAMOP program committee, 1997-98.

RESEARCH INTERESTS: Experimental atomic physics; laser cooling and trapping of atoms; quantum degenerate atomic gases; photoassociation spectroscopy of ultracold atoms.

CAROL E. TANNER. Associate Professor, Department of Physics, University of Notre Dame. B. S. Physics, University of Illinois-Urbana 1980, M.A. Physics, Berkeley 1982, Ph.D. Berkeley 1985. Research Associate JILA 1985-1988; NRC Research

Associate NIST, 1988-1990; Clare Booth Luce Assistant Professorship, Department of Physics, University of Notre Dame, 1990-1996; Associate Professor, 1996-, Member, Executive Committee, APS Topical Group on Precision Measurements and Fundamental Constants 1994-1997. Chair, Committee on Educational Activities, " APS Topical Group on Precision Measurements and Fundamental Constants 1995-1997. Member, Fellowship Committee, APS Topical Group on Precision Measurements and Fundamental Constants 1996-1997, Member, DAMOP Thesis Prize Committee 1996-1998.

RESEARCH INTERESTS: Atomic structure; laser spectroscopy of atomic systems; precision measurements of atomic lifetimes, transition amplitudes, and hyperfine structure; forbidden transitions; atomic parity nonconservation.

BERNARD ZYGELMAN. B.S. Physics, City College of New York, 1975; Ph.D. Physics, City University of New York 1983; Postdoctoral Fellow in the Harvard College Observatory 1983-1986; Research Associate in the Harvard College Observatory 1983-1990; Visiting Scientist, Institute for Theoretical Physics, UC Santa Barbara 1990; Assistant Professor of Physics, University of Nevada, Las Vegas 1990-1994; Associate Professor of Physics, University of Nevada, Las Vegas 1994-present; Member, American Physical Society.

RESEARCH INTERESTS: Theoretical and computational Atomic and Molecular Physics; charge exchange collisions, proton and electron impact excitation of multicharged ions, fine and hyperfine changing collisions among atoms, radiative association and three-body recombination, relativistic structure and QED effects in high-Z ions, effective gauge fields and geometric phases. Physics education and computers in the classroom.