

The American Physical Society

DIVISION OF ELECTRON AND ATOMIC PHYSICS

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1984 III

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To MEMBERS OF THE DEAP from Kate Kirby

I. DEAP ELECTION RESULTS

Congratulations to William Wing of the University of Arizona on his election to a three-year term on the Executive Committee in the March 1984 DEAP election. Thanks go to all the Division Members who voted in this election.

II. REPORT ON THE 1984 DEAP MEETING IN STORRS, CONNECTICUT

Our annual meeting was held at the University of Connecticut May 30--June 1. Despite torrential rains and cool weather reminiscent of November, the meeting was a great success and our largest meeting to date. (Non-natives please note that the weather was extremely atypical.) The meeting statistics are: 550 registered participants, 330 contributed papers, 23 invited papers, and 375 people enjoyed steamed clams and lobsters at the DEAP banquet. We extend our thanks to Ed Pollack of the University of Connecticut who did an outstanding job as chairman of the local organizing committee. In connection with this meeting two highly successful workshops took place both before and after the DEAP. Dave Pritchard's Workshop on Controlling Atoms was held on May 28-29 and was attended by approximately 42 people. Ed Pollack and Arnold Russek organized a Workshop on Atom-Molecule Collisions attended by approximately 45 people on Saturday, June 2.

III. DEAP COMMITTEES FOR 1984/85

The membership of the various DEAP committees for 1984/85 has been finalized and is given below. In each case the name of the chairperson is underlined and his address is given in parentheses. This is to facilitate and encourage communication between Division members and these committees. We need your input!

- Executive Committee: Hugh Kelly (Department of Physics, University of Virginia, McCormick Road, Charlottesville, Virginia 22901), Ronald Stebbings (Vice-Chairperson), Bernd Crasemann (Divisional Councillor), Daniel Kleppner (Most Recent Past Chairperson), Kate Kirby (Secretary-Treasurer), Richard Freeman, Robert Compton, William Wing, C. Lewis Cocke, Walter Johnson
- Program Committee: Ronald Stebbings (Department of Space Physics & Astronomy, Rice University, Houston, Texas 77005), Ron Bieniek, Chris Bottcher, Steven Chu, Sheldon Datz, Dave Golden, Harvey Gould, Tom Gray, Ron Henry, Brant Johnson, Hugh Kelly, Peter Koch, Eugene Merzbacher, John Moseley, David Pritchard, Mike Raymer, John Risley, Barry Schneider, Anthony Starace, George Victor, Dave Wineland
- Nominating Committee: Stephen Shafroth (Physics Department, University of North Carolina, Chapel Hill, NC 27514), Bernd Crasemann, Joseph Dehmer, Robin Shakeshaft, Winthrop W. Smith
- Fellowship Committee: John Bjorkholm (Bell Labs, 4C-318, Holmdel, NJ 07733), Steven Manson, Patrick Richard, William Stwalley, Bernd Crasemann
- Publications Committee: David Golden (Department of Physics and Astronomy, University of Oklahoma, Norman, OK 73069), Joseph Callaway, Wayne Itano, Ronald Phaneuf

IV. DIVISIONAL COUNCILLOR'S REPORT

Bernd Crasemann, the DEAP Divisional Councillor, currently serves on the APS Executive Committee, the Committee on Committees, the Publications Committee, and the Fellowship Committee. He reports that, in general, the APS is strong and its activities are expanding. Items of interest to DEAP members from recent APS Council Meetings include the following:

- (1) The attractive financial position of the APS permits it to provide some special items to members, including free news bulletins via Telemail for a six-month period, a free copy of the AIP Physics/

Astronomy Directory, and a free 1984 Phys Rev/Phys Rev Lett Index to subscribers of Phys Rev Lett or at least one section of Phys Rev.

- (2) Lifetime memberships in APS are available at a cost of twelve times the yearly dues (currently \$360).
- (3) Procedures for arranging general APS meetings have been reviewed. A Program Committee will be established for each of the general APS meetings. The committees will be appointed by the President based on nominations from the Divisions. It was suggested that the Vice Chairperson of the DEAP serve as the member of the Program Committee of those general APS meetings in which the DEAP is involved. The new procedure should eliminate the schedule conflicts that arose in the past, in particular, conflicts between DEAP and DCP symposia at the March APS Meeting and between the DEAP and Division of Astrophysics symposia at the April APS Meeting.
- (4) The Division of Nuclear Physics has instituted a Dissertation Prize of \$2,000 to be awarded every other year. The prize is funded from surplus funds of the Division generated via exhibits at the annual meeting. The Division of Astrophysics has a similar prize, and the Division of Biological Physics is instituting a prize for young investigators. The DEAP is considering the advisability of establishing a dissertation/young investigator prize to stimulate the careers of promising young people in the field.
- (5) An industrial task force chaired by E. C. McIrvine (Xerox Corp., P.O. Box 1600, Stamford, CT 06904) will study whether the APS meets the needs of its members in industry. Members of the DEAP in industry are encouraged to express their concerns to McIrvine.
- (6) The task force on formation of a Division of Instrumentation chaired by Ivan Sellin recommended formation of an APS Topical Group. The formation of a Division will be considered later if warranted.
- (7) Representatives from other national physical societies will be invited to participate in the 1985 Spring APS Meeting in Washington.
- (8) Travel grants for foreign graduate students who do not receive U.S. funds (i.e., are not teaching or research assistants) are provided by the Institute of International Education; the APS will participate in the IIE Student Travel Program for the Plasma Physics Division Meeting this fall.

V. ACTIVITIES OF CAMS

The NAS/NRC Committee on Atomic and Molecular Science (CAMS), chaired by Frank Pipkin, has as its major concern the overview and general health of the field of atomic and molecular science in the United States. Members of CAMS come from both the physics and chemistry communities. CAMS meets twice a year at the National Academy of Sciences in Washington, D.C. and will combine its meetings with specialty workshops of interest to government agency representatives. The current activities include the following:

- (1) A number of CAMS members participated in the preparation of the report of the Panel on Atomic, Molecular, and Optical Physics of the Physics Survey (the "Brinkman Report").
- (2) Joe Macek is preparing a report on Opportunities in Atomic and Molecular Physics aimed at entry level people in the field, i.e., graduate students.
- (3) Sheldon Datz is preparing a Survey of Support for Atomic and Molecular Science in Western Europe and Japan, which will be published as an NRC report, probably in 1985.
- (4) Donald Shapero is updating the Directory of Atomic and Molecular Scientists originally prepared by Ben Bederson, Steve Smith, and Jean Gallagher.
- (5) Lloyd Armstrong has formed an NRC Panel to study the present situation in theoretical atomic, molecular, and optical sciences and to recommend future action.
- (6) Lloyd Armstrong is organizing a workshop to be held in conjunction with the November CAMS meeting, which will consider existing and needed facilities in atomic and molecular science. The workshop will be restricted to the role of synchrotrons and lasers in the production of VUV light, and will be designed to inform and educate members of CAMS and agency representatives.

VI. THEORETICAL ATOMIC AND MOLECULAR PHYSICS DISCUSSION GROUP

An informal workshop on "The Theoretical Atomic, Molecular, and Optical Physics Community in the Next Decade" was held in Storrs, Connecticut just before the annual DEAP meeting. The workshop, organized by Alex Dalgarno, Neal Lane, and Lloyd Armstrong, was attended by about 25 theorists. Among the subjects discussed were the present health of the field and ways in which the field could be strengthened.

All of the participants felt that the theoretical AMO community is facing very severe problems which must be addressed in a timely fashion if the field is to remain dynamic and productive. A number of interesting suggestions were made of ways in which the situation in the field could be improved, and working groups were set up to consider these suggestions further. The working groups and their Coordinators are:

- (1) An Institute for Theoretical AMO Physics--E. Merzbacher (U. of N.C.) What form might such an institute take, and how might it help the field?
- (2) Fellowships--A. Starace (U. of Neb.) Would a program of 5-year fellowships be useful in keeping young people in AMO theory, and in drawing young people from other fields into AMO theory?
- (3) Workshops--M. Mittleman (CCNY) It was felt that the potential of workshops to help motivate and focus the field was not being fully exploited. This group will try to stimulate efforts in this area.
- (4) An Extended Focus Workshop--N. Bardsley (U. of Pitt.) Could the attention of a large number of AMO theorists be brought to bear on a single major problem through a two or three year sequence of specialized meetings and workshops?
- (5) Institute for Theoretical Physics at Santa Barbara--J. Macek (U. of Neb.) It was felt that the AMO theory community should propose a program at Santa Barbara. This group will try to stimulate preparation of such a proposal.

Members of the community who did not attend this informal workshop are enthusiastically encouraged to join in the efforts of the working groups. Please contact the pertinent Coordinator(s).

A similar workshop is planned next year for the DEAP meeting in Norman, Oklahoma. For further details concerning both the Storrs and Norman workshops, contact Lloyd Armstrong, Dept. of Physics and Astronomy, Johns Hopkins University, Baltimore, MD 21218.

VII. CHINESE-AMERICAN SCHOLARS PROGRAM

The Chinese-American cooperative basic research program in atomic, molecular, and condensed matter physics is jointly administered by an American and a Chinese coordinating committee. A number of "mature" (i.e., aged 30-40) Chinese physicists are taking part in the program and have been placed in East Coast universities. The program appears to be working well. Ben Bederson, the DEAP representative on this committee, requests help in

finding host institutions on the East and West coasts willing to accept a Chinese scholar in the area of atomic physics. The cost is \$12,000 per year. Interested persons (especially those from West Coast universities) should write to Bederson (Department of Physics, New York University, 4 Washington Pl., New York, NY 10003) and should include a brief description of their research program and laboratory/computing facilities.

VIII. FUTURE DEAP MEETINGS

The 1985 Annual Meeting of the DEAP will be hosted by the University of Oklahoma in Norman, Oklahoma May 29-31, 1985. The local organizing committee is headed by Dave Golden and Tom Miller. The scientific sessions will be held on campus at the Oklahoma Center for Continuing Education and comfortable on-campus housing is available. Further details will be given in the next newsletter. Plans or ideas for possible workshops to take place before or after this meeting should be submitted to Dave Golden or Tom Miller (Department of Physics and Astronomy, University of Oklahoma, Norman, OK 73069).

The 1986 Annual Meeting will be held in Eugene, Oregon May 21-23, 1986. The Division of Chemical Physics will join with us in cosponsoring part of this meeting. Details will be announced later.

The Executive Committee voted to hold the 1987 Annual DEAP Meeting in Cambridge, Massachusetts, hosted by the Harvard-Smithsonian Center for Astrophysics. The dates have not yet been finalized.

IX. ANNOUNCEMENTS

Professor William A. Lester, Jr. of the University of California, Berkeley was advanced to APS Fellow in January 1984. His name was inadvertently left off the list of DEAP APS fellows in the March 1984 newsletter, because his nomination was handled through the Division of Chemical Physics.

Page charges for papers published after 1 January 1985 will be reduced from \$75 to \$45 for Physical Review A and from \$110 to \$75 for Physical Review Letters. The decrease in revenues will be compensated by a 20-30% increase in non-member subscription rates. There will be no increase in member subscription rates. It is anticipated that page charges for Physical Review A may be eliminated completely within 1-2 years.