

The American Physical Society

Division of Electron and Atomic Physics

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TO MEMBERS OF THE DEAP from Pat Dehmer

I. REPORT OF THE NOMINATING COMMITTEE

The Nominating Committee, appointed by Bernd Crasemann, consists of Neal Lane (Chairperson), Richard Deslattes, Walter Johnson, and Ivan Sellin. At a meeting on 21 April 1981, the Committee decided on the following slate of candidates for the September elections:

Chairperson	Alexander Dalgarno	(1 year)
Vice-Chairperson	Daniel Kleppner	(1 year)
Secretary-Treasurer	Patricia Dehmer	(1 year)
Executive Committee Member	C. Lewis Cocke Richard Freeman Stephen Lundeen	(one to be elected for a three-year term)

Under the Bylaws, additional nominations for any of the above offices by members of the DEAP will be reconized and included on the ballot if the nomination is supported in writing by five percent (10%) of the members. Such nominations, duly signed, must reach me no later than 11 September 1981. In the absence of a contest for any given office, the nominee will be declared elected. Ballots for contested offices will be mailed in September.

The remainder of the Executive Committee is as follows: Bernd Crasemann is currently Chairperson and will remain on the Committee for one more year as Most Recent Past Chairperson, replacing Eugene Rudd. Ivan Sellin will serve on the Committee as Division Councillor until 1/83. The elected Committee members are Hugh Kelly (until 12/81), Winthrop Smith (until 5/83), and Thomas Gallagher (until 5/84). Serving one-year terms appointed by the Chairperson are John Park and Richard Pratt.

II. REPORT OF THE DIVISION COUNCILLOR

Ivan Sellin reports the following news from the APS Council Meeting held in April 1981 at the Spring APS Meeting.

1. A constitutional requirement that the number of Councillors-at-Large balance the number of Division Councillors will result in an additional election for a new Councillor-at-Large position to balance the addition of the Councillor for the new Division of History of Physics. Division members are urged to recommend prospective nominees for this as well as all other APS offices and committees to the APS Nominating Committee. This year's Chairman is Raymond L. Orbach, Department of Physics, University of California, Los Alamos CA 90024. Eugen Merzbacher, Department of Physics, University of North Carolina, Chapel Hill NC 27514, is presently a member of the APS Nominating Committee.

2. Division Councillors have been requested to sample Division membership opinion about new subjects to include in the various sections of the Physical Review. For example, are new sections needed covering subject matter not now included? Where should biophysics papers be published? Such questions are particularly pertinent for Physical Review A, whose coverage is more inclusively defined than that of several of the other sections. Members of DEAP are requested to write Ivan Sellin, ORNL, P. O. Box X, Oak Ridge TN 37830 to provide suggestions and opinions.

3. A second subject on which community opinion is desired was put forward by the Councillor for the Forum on Physics and Society. The Forum leadership is urging the creation of a Washington office to aid the APS in federal relations activities.

4. While booking of the 1982 Spring Meeting at the usual Washington site, the Shoreham Hotel, seems assured at this time, there is a likelihood that the Spring Meeting will be moved elsewhere in 1983 and beyond, as the Shoreham is scheduled to be converted to a condominium. Community opinion is requested regarding the desirability of another Washington site versus a site in another city, such as Baltimore, where this year's Spring Meeting was held.

III. REPORT OF THE FELLOWSHIP COMMITTEE

The DEAP Fellowship Committee for 1981 consists of S. B. Crampton, Alan Gallagher, Ronald Henry, Hugh Kelly (Chairperson), Ivan Sellin, and Aaron Temkin. Nominations supported by two APS members may be sent through regular APS channels or directly to Hugh Kelly at the Department of Physics, University of Virginia, Charlottesville VA 22901. The form for Fellowship nomination may be obtained from W. W. Havens, Jr., Executive Secretary of the APS, 335 East 45th Street, New York NY 10017.

Congratulations go to the following DEAP members who were advanced to Fellow in 1980: Daniel Albritton, Lloyd Armstrong, H. Gordon Berry, Howard C. Bryant, Robert J. Celotta, Yau-Wa Chan, C. Lewis Cocke, Alexander Dalgarno, Joseph L. Dehmer, Richard J. Drachman, Thomas F. Gallagher, Larkin Kerwin, Yong-Ki Kim, Roman Laubert, David W. Norcross, Robert T. Poe, William P. Reinhardt, Anthony F. Starace, and R. J. Von Gutfeld.

IV. REPORT OF THE APS PUBLICATIONS COMMITTEE

The APS Publications Committee met in March and April 1981. The following news items are of particular interest.

1. Changes in Physical Review Letters. The previously announced changes in policy as detailed in Editor-in-Chief Lazarus's editorial published in Phys. Rev. Lett. 45, 1605 (1980) were discussed again. While there were differing opinions within the Committee on the necessity for the changes in criteria, there was general agreement that: (1) a change in the present plan to modify the criteria would be undesirable; (2) the PRL editors should be persuaded to go slowly on implementing the changes and try to avoid an apparent discontinuity; and (3) the PRL editors should try to address the perceptions of various segments of the community that their papers have been treated differently. Views of the DEAP membership on this matter may be sent to me, since I presently serve as a member of the APS Publications Committee.
2. Short Papers Section in the Physical Review. The Physical Review now has a short papers section which includes Brief Reports and Rapid Communications. Brief Reports are intended for communication of completed research with no follow-up publication. Rapid Communications are intended for accelerated publication of results of experimental or theoretical research which are of specialized interest to the readers of a particular Physical Review journal. Over 100 Rapid Communications have been accepted to date, and publication times average $1\frac{1}{2}$ to $2\frac{1}{2}$ months from the time of acceptance.
3. Increase in Non-member Subscription Prices. The most recent Treasurer's Report indicates that the APS publications are now expected to run at a deficit of \$675,000 in FY 1981, due primarily to inflationary rises in the costs of publishing. In order to reduce the deficit and to enable the journals to be self-supporting in FY 1982, the Publications Committee has voted to recommend a 50% increase in non-member subscription prices for calendar year 1982 for all of the APS publications.

V. REPORT OF THE DEAP PUBLICATIONS COMMITTEE

The newly formed DEAP Publications Committee consists of John E. Bjorkholm, C. Lewis Cocke, Edward S. Fry, Thomas A. Green, Eugene Merzbacher (Chairperson), Marvin Mittelman, and David Pritchard. The chief function of this Committee will be to advise the Executive Committee on various policy matters related to APS publications.

VI. THIRTEENTH ANNUAL DEAP MEETING IN NEW YORK CITY

In celebration of New York University's 150th birthday, the Thirteenth Annual Meeting of the Division of Electron and Atomic Physics will be held in New York, New York, 3-5 December 1981 (Thursday through Saturday). The scientific program will consist of contributed and invited papers, and symposia. The Department of Physics of New York University will act as host, with the organizing committee consisting of Benjamin Bederson and Henry Stroke. The local committee comprises Denise Caldwell (Yale), Philip Eisner (Exxon Research), Alvin Halpern (Brooklyn College), William Happer (Princeton), Sven Hartmann (Columbia), Keith Jones (Brookhaven), Paul Liao (Bell Labs., Holmdel), Michael Lubell (City College,

CUNY), Harold Metcalf (SUNY, Stony Brook), Olav Redi (NYU), Norman Tolk (Bell Labs., Murray Hill), Paul Vincent (Rutgers), Jim Wynne (IBM, Yorktown). They are responsible for arranging the visits to their institutions, as detailed below.

The scientific sessions will be held at the Roosevelt Hotel, Madison Avenue at 45th Street, except that the Thursday afternoon sessions will be held at New York University. All DEAP members and their families who plan to attend should fill out the form included with this Newsletter and return it to H. H. Stroke. The local committee will handle the hotel registrations. If timely, these will be at the Roosevelt Hotel where 250 rooms have been set aside. Otherwise, comparable accommodations will be sought. Please do not send money for hotel accommodations. The hotel will confirm the reservations directly to the DEAP members. Details of travel instructions to the Roosevelt Hotel from New York City airports and train stations are published in the May/June issue of the Bulletin of the American Physical Society.

Registration will take place in the Oval Suite of the Roosevelt Hotel from 5 to 9 p.m. on Wednesday, 2 December. On the other days, registration will start at 8 a.m. in the Terrace Suite Foyer. On Wednesday evening from 7 to 9 p.m. there will be an informal reception in the Oval Room.

Visits to laboratories will be arranged for Wednesday. Interested DEAP members should fill out the form included with this Newsletter and return it by 9 November to H. H. Stroke. This will allow the individual laboratories to plan the visits and to send back travel instructions directly to the DEAP members. Prior approval and indication of citizenship are required in some of the organizations. Visits will be possible to Bell Telephone Laboratories (Holmdel: VUV picosecond, Raman spectroscopy; Murray Hill: electron-molecule collisions, quantum interference in heavy particle collisions, multiphoton ionization, laser induced orientation, integrated circuit processing, surface and condensed matter studies); Brookhaven National Laboratory (accelerator-based atomic and molecular physics - tour of van de Graaff facility and National Synchrotron Light Source); Brooklyn College, CUNY (Dynamitron accelerator and solid state-solar energy research laboratories, Bremstrahlung, trace analysis, materials research); City College, CUNY (picosecond laser, resonance Raman studies of biological chromophores, laser atomic beam interactions, electron-atom scattering, polarization studies in electron-atom collisions); Columbia University (optical coherent transient experiments in solids and atomic vapors); Exxon Research and Engineering (laser chemistry, surface science, charge injection into insulating fluids, electrical breakdown); IBM Thomas J. Watson Research Center (laser spectroscopy, ion beam physics, atomic and molecular collision phenomena); NYU (electron-atom collisions, atomic and molecular polarizabilities, studies of interaction between intense electromagnetic fields and plasmas, laser and magneto optic hfs and isotope shift studies, solar spectroscopy, positron laboratory, accelerator facility for high energy atomic collisions, atomic fluorescence yields, muonic isomer shifts); Princeton University (laser spectroscopy, magnetic resonance, parity violations, acousto-optic spectroscopy); Rutgers (tandem accelerator facility including laser spectroscopy, inner shell ionization, hyperfine interactions studies); SUNY - Stony Brook (laser

spectroscopy laboratory); Yale University (general open house including all atomic physics experiments in Gibbs Laboratories, the new laser laboratory, and selected experiments in the Department of Engineering and Applied Science).

On Thursday afternoon, 3 December, the scientific sessions will take place at New York University, following an official welcome in the Eisner and Lubin Auditorium on the occasion of the NYU sesquicentennial. At 6 p.m. there will be a reception with cash bar preceding the traditional conference dinner. On Saturday evening, 5 December, to conclude the meeting, there will be a Chinese Banquet at 7 p.m. As seating may be limited, please order your tickets early.

Preregistration will greatly facilitate the planning and functioning of the meeting. The registration fee will be \$40.00 up to 9 November and \$45.00 thereafter. The fee for unsupported students and unemployed members is \$3.00. Please use the preregistration form provided in this Newsletter and indicate whether you will attend the conference dinner and/or the Chinese Banquet. Checks for registration, conference dinner, and Chinese Banquet should be made payable to "DEAP--New York."

Abstracts for contributed papers (one original and two duplicates) in Bulletin format should be sent to the Chairman of the Program Committee, Professor Alexander Dalgarno, Center for Astrophysics, 60 Garden Street, Cambridge MA 02138. These abstracts must be received by 4 September 1981. Overhead projectors will be provided as a matter of course, and 2 x 2 inch slide projectors should be avoided. However, if they are needed, this information should be attached to the abstracts at the time of submission. Authors are also requested to indicate on one corner of the abstract form whether they prefer a poster session, an oral presentation, or have no preference. Members are requested to submit only one abstract with the same first author, as we are unlikely to have space for supplementary sessions. Several abstracts may be submitted by the same person, provided that the first author is different on each abstract.

VII. FUTURE DEAP MEETINGS

1. The 14th Annual DEAP Meeting will be held in Boulder CO, on Wednesday through Friday, 23-25 May 1983. David Norcross is head of the local organizing committee.
2. The 15th Annual DEAP Meeting will be held in Storrs CT, on Monday through Wednesday, 28-30 May 1984, with the University of Connecticut acting as host.
3. Tentatively, the 17th Annual DEAP Meeting will be held in Eugene OR, in May 1986, with the University of Oregon acting as host. The site for the 1985 meeting has not yet been decided.

VIII. REPORT OF THE WORKSHOP ON ACCELERATOR-BASED ATOMIC AND MOLECULAR SCIENCE

A workshop on accelerator-based atomic and molecular science was held on 27-30 July 1980 in New London NH. The report of this workshop, organized by the Panel on Accelerator-Based Atomic and Molecular Physics under the auspices

of the Committee on Atomic and Molecular Science, NAS-NRC, and chaired by the present chairperson of DEAP, Bernd Crasemann, is now complete. The aim of last summer's workshop, supported by DOE and NSF, was to spell out so far as possible a consensus of researchers in the subfield on the ramifications of the use of accelerators for basic research and applications in atomic and molecular science. Both experiments and theory are discussed. General policy recommendations on facilities, manpower, and funding are made. The final report was edited and assembled by Walter Meyerhof of Stanford University. Participants and principal investigators on the mailing list should receive the report by mail in the next month or so. A small number of additional copies will be available on request, while they last, by writing Winthrop Smith, Workshop Coordinator, at Physics Department U-46, University of Connecticut, Storrs CT 06268.

IX. AN INVITATION FROM THE
NAS-NRC COMMITTEE ON ATOMIC AND MOLECULAR SCIENCE

Ivan Sellin, Chairman of the Committee on Atomic and Molecular Science, has sent the following announcement. Further details may be obtained by contacting him at ORNL, P. O. Box X, Oak Ridge TN 37830 [(615) 574-4793].

Many of you will recall the challenges to our community laid down at the 1980 DEAP business meeting by Richard Deslattes, current director of the Physics Division of the National Science Foundation. Among the challenges:

1. That previous "commendable" efforts toward field definition - e.g., the CAMS survey project and accelerator studies - be augmented;
2. That "communicable paradigms of core intellectual goals" be sought and articulated in an atmosphere of heightened self-appraisal;
3. That a better perspective of our field be provided to other subdisciplines of physics and physical science to help establish a balance among subdisciplines; and
4. That better methods of making common cause with our intellectual neighbors in science be devised.

Steve Lundeen, chairman of the 1981 Gordon Conference on Atomic Physics, has offered our community an opportunity to discuss how these challenges might best be met. A discussion session will be held immediately following the evening scientific sessions on Tuesday, 7 July, at the Brewster Academy in Wolfeboro NH. All DEAP members and others who plan to attend the Gordon Conference are urged to contribute their ideas at this session. Please remember that attendance at a Gordon Conference requires advance application, details of which are available from Steve Lundeen, Lyman Laboratory, Harvard University, Cambridge MA 02138.

Bernd Crasemann has generously agreed to lead the discussion. CAMS is tentatively planning to organize a summer study in 1982 devoted to fashioning a response to these challenges.

X. VITAE OF NOMINEES

COCKE, C. LEWIS, 40, BS 1962, Haverford College, PhD 1967, California Institute of Technology. NSF Postdoctoral Fellow, 1967-68, Research Associate, 1968-69, IRN, Strassbourg, France. Assistant Professor, 1969-74, Associate Professor 1974-79, Professor, 1979- , Kansas State University. Visiting Research Associate, California Institute of Technology, Summer 1972, Guest Professor, University Aarhus, Denmark, 1977-78. Ion-atom collisions with highly charged projectiles, inner-shell electron capture and ionization, lifetimes and X-ray spectroscopy of highly ionized few-electron systems.

DALGARNO, ALEXANDER, 53, BSc 1947, PhD 1951, University College, London. Assistant Lecturer, Lecturer, Reader and Professor at The Queen's University of Belfast, 1951-1967. Phillips Professor of Astronomy, Harvard University, 1967- . Senior Research Scientist, Smithsonian Astrophysical Observatory, 1967- . Director, Harvard College Observatory, 1971-73. Associate Director, Center for Astrophysics, 1973-80. Chairman, Department of Astronomy, 1971-76. Various committees. Theoretical study of atomic and molecular processes with particular reference to atmospheric physics, astrophysics, and laboratory plasmas.

DEHMER, PATRICIA M., 35, BS 1967, University of Illinois, PhD 1972, University of Chicago. Postdoctoral Research Associate, 1972-75, Assistant Chemist, 1975-78, Chemist, 1978- , Argonne National Laboratory. DEAP Executive Committee, 1979, DEAP Program Committee, 1980, APS Publications Committee, 1980- , DEAP Secretary-Treasurer, 1981- . Photoabsorption and photoionization mass spectrometry, photoelectron spectrometry, VUV spectroscopy of van der Waals molecules, clustering and nucleation phenomena, laser-induced fluorescence and multiphoton ionization, molecular beam scattering.

FREEMAN, RICHARD R., 36, BS 1967, University of Washington, AM 1968, PhD 1973, Harvard University. Staff Physicist, Research Laboratory of Electronics, Massachusetts Institute of Technology, 1973-74, Instructor of Physics, Massachusetts Institute of Technology, 1974-76. Member of Technical Staff, Bell Laboratories, 1976- . DEAP Program Committee, 1977, Program Committee, Gordon Conference on Atomic Physics, 1981, Co-chairman, OSA Topical Meeting on Laser Techniques for Spectroscopy in the Extreme Ultraviolet, 1982. Laser spectroscopy, nonlinear optics, development of laser techniques for VUV coherent light production, atomic beams, investigations of highly excited states of atoms and molecules.

KLEPPNER, DANIEL, 48, BA 1953, Williams College, BA 1955, Cambridge University, PhD 1959, Harvard University. Fulbright Fellow, Cambridge University 1953-55, NSF Postdoctoral Fellow, Harvard University, 1959-60. A. E. Sloan Fellow, 1962-66, Assistant Professor, 1962-66, Harvard University. Associate Professor, 1966-73, Professor, 1974- , Massachusetts Institute of Technology. Head, Division of Atomic, Plasma, and Condensed Matter Physics, Department of Physics, Massachusetts Institute of Technology, 1976-79. Fellow APS and AAAS. Editorial Board, Review of Scientific Instruments, 1965-68, Committee on Fundamental Constants, NRC, 1970-79, Chairman, 1974-79, Committee on Atomic and

Molecular Science, NRC, 1973-76, 1981- , Co-chairman, 7th International Conference on Atomic Physics, 1980. Atomic structure, laser spectroscopy, atom-field interactions, precision measurements and fundamental constants, radiative interactions.

LUNDEEN, STEPHEN R., 33, BS 1969, Trinity College, MA 1970, PhD 1975, Harvard University. Lecturer in Physics 1975, Assistant Professor 1975-1980, Associate Professor 1980- , Harvard University. Chairman 1981 Gordon Conference on Atomic Physics. Precision fine structure measurements in one and two electron atoms, charge exchange collisions, Rydberg atoms.