

The American Physical Society

DIVISION OF ATOMIC, MOLECULAR, AND OPTICAL PHYSICS

WALTER R. JOHNSON, Chairperson
DEPARTMENT OF PHYSICS
NOTRE DAME UNIVERSITY
NOTRE DAME, INDIANA 46556
(219)239-6651

GORDON H. DUNN, Vice-Chairperson
JILA-BOX 440
UNIVERSITY OF COLORADO
BOULDER, COLORADO 80309
(303) 492-7824

WINTHROP W. SMITH, Secy.-Treas.
PHYSICS DEPARTMENT, U-46
UNIVERSITY OF CONNECTICUT
STORRS, CONNECTICUT 06268
(203)486-3573

November-December, 1988

To: Members of the Division of Atomic, Molecular, and Optical Physics
from Win Smith.

I. 1989 ANNUAL MEETING OF THE DIVISION OF ATOMIC, MOLECULAR AND OPTICAL PHYSICS: Windsor, Ontario CANADA 17-19 May, 1989

Instructions regarding submission of abstracts of contributed papers:

The deadline for submission of abstracts of contributed papers for this meeting is February 1, 1989. This is about the same time as last year for a somewhat later meeting date in order to permit more lead time for printing of the abstracts in the APS Bulletin. Abstracts should be sent in standard APS Bulletin format to the Secretary-Treasurer of the Division, Prof. Winthrop Smith, Physics Dept., University of Connecticut, Storrs, CT 06268 by this date. Please indicate on your abstract whether you prefer a poster or a standard session for your paper. Properly received abstracts will be acknowledged by postcard after sorting into sessions. Please note the following:

(1) For the standard APS Bulletin format for your abstract see Bull. Am. Phys. Soc. 31, 1802 (1986) or a later edition of the Bulletin. Make sure your abstract is the correct SIZE so that it is ready to photocopying AS IS!

(2) Please include an appropriate PACS number on your abstract. These will be used as an aid in sorting into sessions. (Phys. Rev. Letters publishes the PACS classification numbers periodically.)

(3) BE SURE TO SIGN YOUR ABSTRACT.

(4) Submit the original (for forwarding to APS) and two extra copies of each abstract.

(5) Mail your abstract early to be sure it arrives by the Feb. 1 deadline date.

(6) Abstracts received after the deadline date will be forwarded to the chairperson of the local organizing committee and will be included in the program of the meeting as long as space permits. HOWEVER, postdeadline abstracts will NOT be published in the APS Bulletin.

This year, the annual DAMOP meeting will be held jointly with the Division of Atomic and Molecular Physics (DAMP) of the Canadian Association of Physicists (CAP) on the campus of the University of Windsor, in Ontario, Canada near Detroit, Michigan. The Physics Department at the University of Windsor will act as local host. Further details about the arrangements, scientific and social programs are given under V. on page 3 of this newsletter. A preregistration form for the Windsor meeting is enclosed with this newsletter for your convenience.

II. 1988 ELECTION RESULTS

For those who haven't yet heard, Gordon Dunn of JILA/NBS was elected Vice-Chairperson of the Division and David Pritchard of MIT is the newly elected member of the Executive Committee (three year term). Thanks go to all five people who agreed to stand for Divisional office in a vigorously contested election last spring. Walter Johnson of Notre Dame University has assumed the role of Chairperson of the Division and I will continue for another year as your Secretary-Treasurer.

III. AMO PHYSICS DIVISION COMMITTEES FOR 1988-89

The name of the chairperson of each committee is underlined. You are strongly encouraged to communicate your needs and suggestions to these committees to help the Division to function smoothly. We need and want your help! **Please send suggestions for future nominations for Division office or nominations for new APS Fellows in the AMO field to the chairs of the appropriate committees.**

Executive Committee: Walter R. Johnson (Physics Dept., Notre Dame University), Gordon H. Dunn (JILA, Univ. of Colorado), Winthrop Smith, Carl Lineberger (past Chairperson), Alexander Dalgarno, David Pritchard, Robert Freund, Patricia Dehmer, Roberta Saxon and R.A. Phaneuf.

Program Committee: Gordon Dunn (JILA, University of Colorado), Dana Anderson, James Bayfield, Howard Bryant, John Delos, Barry Dunning, Andrew Hazi, John Hutchinson, Larry Hunter, Jeff Kimble, Vincent McKoy, Jim McGuire, Ron Phaneuf, Jim Samson, Ivan Sellin, Linda Young.

Nominating Committee: William J. Childs (Physics Division, Argonne National Laboratory, Argonne, IL 60439), Tu-Nan Chang, Alex Dalgarno, Jim Samson, Winthrop Smith (ex-officio).

Fellowship Committee: Eugene Rudd (Behlen Laboratory of Physics, University of Nebraska, Lincoln, NE 68588), Alex Dalgarno, Tom Gallagher and Steve Manson.

Members of the Publications Committee and Public Education Committees will be announced in the next Newsletter.

IV. SESSIONS OUR DIVISION IS SPONSORING AT THE 1989 SPRING MEETING OF THE APS, May 1-4, IN BALTIMORE

Although the Division will have a separate Annual Meeting this year at Windsor, we are sponsoring the following scientific sessions at the APS General Meeting to be held at the Baltimore Convention Center. See a future APS Bulletin for details.

1. Matter-Antimatter collisions (tentative), organizer: A.S. Schlachter (LBL, Berkeley).
2. Chaos in Atomic Physics, organizer: I.A. Sellin (Univ. of Tennessee, Knoxville).
3. Atoms in Intense Laser Fields, organizer: D. Larson (Univ. of Virginia, Charlottesville).

U. SCIENTIFIC PROGRAM AND REGISTRATION INFORMATION FOR THE TWENTIETH ANNUAL MEETING OF THE DIVISION OF AMO PHYSICS, WINDSOR, ONTARIO, CANADA, 17-19 MAY, 1989

The following symposia of invited papers were recommended by the DAMOP Program Committee at its meeting on April 17, 1988 and are being organized by the Division members indicated in parentheses:

1. The Theoretical Atomic Physics Program at ITP (P. Mohr).
2. Joint Symposium with the Div. of Chemical Physics: Clusters (V. McKoy and W.C. Lineberger).
3. Molecular Spectroscopy (L. Krause and J.W. McConkey): speakers are B. Stoicheff, W.C. Stwalley and R.A. McKellar.
4. Correlations in Atomic Scattering/ Atomic Ionization and Photoionization/ Fast Ions in Matter (J. McGuire, J. Samson, H. Bryant).
5. Hot Topics in Optics (D.Z. Anderson).
6. Low-Energy Multiply-Charged Ions/ Precision Spectroscopy of Highly-Charged Ions (L. Young and I.A. Sellin).

The plenary session speaker on Wednesday morning will be Prof. J. Polanyi of the University of Toronto.

The Twentieth Annual Meeting of the Atomic, Molecular and Optical Physics Division will be held jointly with the Canadian Division of Atomic and Molecular Physics at the University of Windsor on May 17-19, 1989. Because of the close overlap of interests, the programs of the two Divisions will be fully integrated into a single meeting. Further details will appear in the APS *Bulletin* before the meeting.

Windsor can best be reached from locations within the U.S. via the Detroit Metropolitan Airport. A frequent shuttle bus runs from there to the Renaissance Center in downtown Detroit. This connects with a "Tunnel bus" which crosses the border into downtown Windsor. A short walk from there will take participants to their hotels, or a taxi ride to the University campus. A less frequent Chatham Coach Lines bus connects directly with the Hilton International Hotel in Windsor for a fare of \$13 Canadian. It leaves the airport at 12:00 noon, 2:30 P.M., 5:00 P.M. and 8:30 P.M. Alternatively, a taxi can be taken from the airport to Windsor for approximately \$38 U.S. Canadian currency can be obtained at a favorable rate of exchange near the Tunnel bus stop on the U.S. side. For travel by car, the Ambassador Bridge across the Detroit River into Windsor can be reached directly from Highways I 75 and I 94.

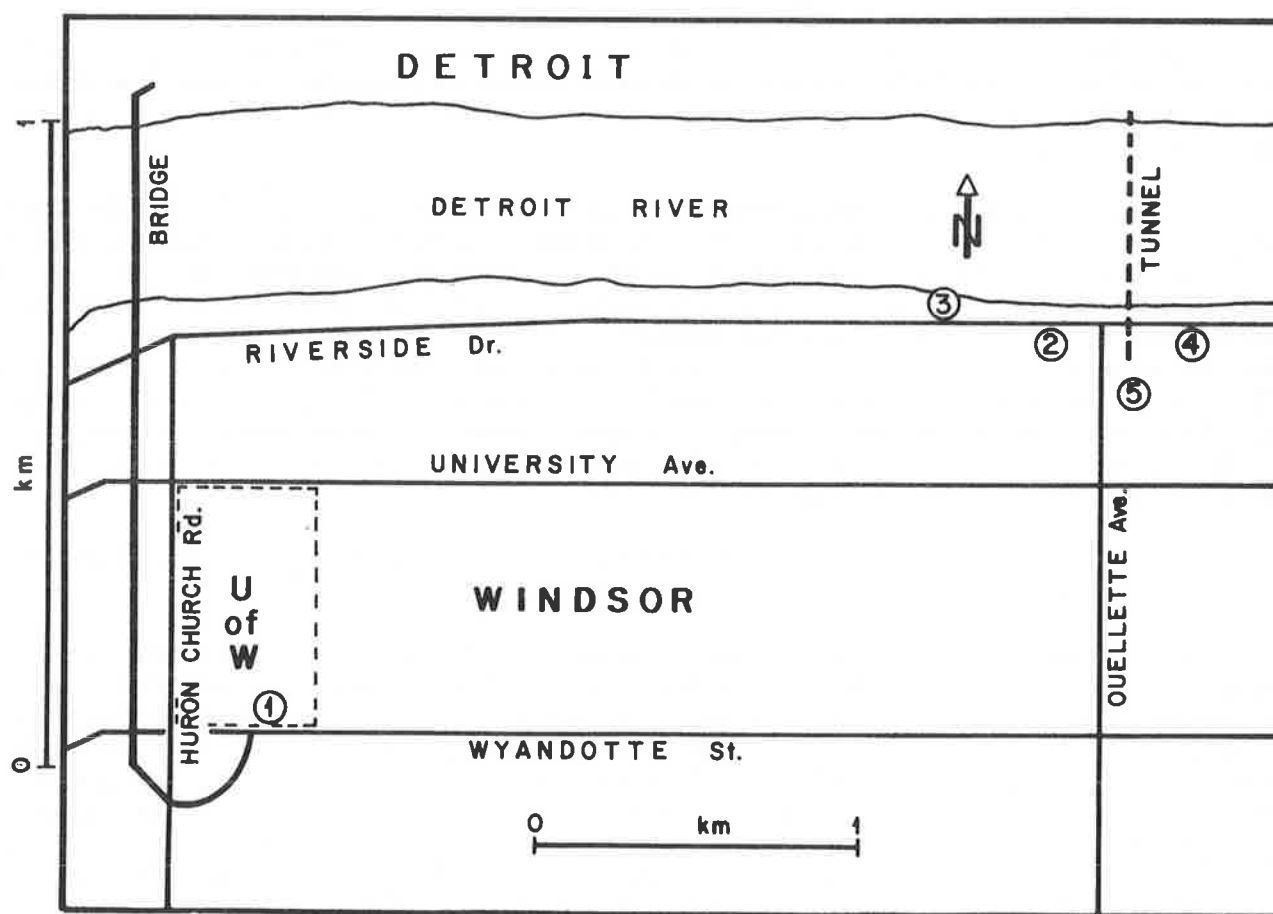
Participants who are visiting in the United States on a temporary visa should ensure that their visas will allow them to return after crossing into Canada.

In addition to the scientific program, there will be a reception and registration on the evening of Tues. May 16, a boat ride on the Detroit River on May 17, and a Conference banquet and concert on May 18. The registration fee includes the cost of the banquet. Although Windsor has many fine restaurants, the capacity within easy walking distance of the University is somewhat restricted. Participants are therefore urged to purchase the package of three on-campus lunches for May 17, 18 and 19 (see preregistration form). Additional lunch tickets will not be available during the Conference. There will be a program of excursions to points of local interest for accompanying persons. Also, an excursion to the Shakespearean Theater in Stratford, Ontario will be arranged for Sat. May 20 following the conference if there is sufficient interest. Details of the Theater program and prices are not yet available.

A preregistration form and map of Windsor showing the location of hotels is included with this news letter. Participants are urged to make hotel reservations before April 18, 1989 directly with the hotel of their choice. A regular bus service runs along University Ave. (see map) between the downtown hotel area and the University campus. On-campus dormitory accommodation is also available on a first-come first-served basis (see preregistration form).

HOTEL	TELEPHONE	RATES (Can. \$)		Map Ref. #
		Single	Double	
Hilton International 277 Riverside Dr. W. Windsor, Ont. N9A 5K4	(800)268-9275 (Can.) (800)445-8667 (U.S.)	\$97.	\$97.	2
Holiday Inn 480 Riverside Dr. W. Windsor, Ont. N9A 5K6	(800)465-4329	\$58.	\$68.	3
Relax Plaza 33 Riverside Dr. E. Windsor, Ont. N9A 2S4	(800)661-9563	\$54.	\$58.	4
Inn General 430 Ouellette Ave. Windsor, Ont. N9A 1B2	(800)265-4817	\$52.	\$52.	5

Ask for the AMO Physics Conference rates. Reservations must be made before April 18, 1989.



VI. REPORT ON THE 1988 AMO PHYSICS DIVISION MEETING IN BALTIMORE

The Nineteenth Annual Meeting of the Division was held as an integral part of the Spring general meeting of the APS at the Baltimore Convention Center in Baltimore, MD. Although we do not have separate registration figures for DAMOP members, total attendance was up significantly compared with the previous Spring APS meeting. As can be seen from the April 1988 Bulletin of the APS, there were **20** invited papers sponsored by the Division in addition to the **18** jointly sponsored with other divisions. There were **466** contributed papers from our Division published in the Bulletin, plus a number of postdeadline papers.

DAMOP sponsored a Sunday evening reception at the Hyatt Regency Hotel near the Convention Center the night before the meeting which was enjoyed by many members of our Division as well as a number of members of other divisions. On Tuesday evening, a special Cocktail Buffet/Excursion Tour was held at the Walters Art Gallery in Baltimore. A trio from the Peabody School of Music plus good food added to the pleasant atmosphere. Sara Torrence of NBS deserves the credit for making these events a memorable experience.

At the Business Meeting, Secretary-Treasurer Win Smith reported that the Division now has **3686** members as of Feb., 1988, representing an increase of approximately 300 over last year. The treasury, which started the year (July 1, 1987) with an official balance of \$12,931.35, with certain income items not then posted, now has an estimated balance of \$27,000 as of June 30. This is due in large part to the revenue from the well-attended 1987 Annual Meeting in Cambridge, Mass. less the not yet final expenses for the 1988 Baltimore meeting. The Baltimore meeting is running a deficit on the social events subject to a final decision of APS on what fraction to the increased income from registration receipts to allot to our Division. Outgoing Chairperson Carl Lineberger awarded APS Fellowship Certificates to several members of the Division, as listed in the December 1987 DAMOP Newsletter. Dick Pratt presented an NSF Rotator's report and Rolf Sinclair reported further on the Atomic, Molecular and Plasma Physics program at NSF (see below). Mike Lubell reported on the activities of CAMOS (notice below). There was a lengthy discussion, led by Carl Lineberger of the impact on our annual meetings of the addition of "optical physics" to the name of our Division. Should our annual meetings add more invited paper sessions and perhaps last longer? What are the consequences of this year's experiment of holding our annual meeting as an integral part of a general APS meeting? To what extent should we continue this practice in the future? The Division executive committee recommended we consider meeting with the APS again, possibly every third or fourth year. These topics are part of a general debate going on within APS on the structure of meetings as a whole. The Division officers would welcome the suggestions/comments of members on these points for our guidance.

The "local committee" responsibilities for this meeting were shared between Sara Torrence and Karl Kessler of NBS (now the NIST), the APS meetings staff including especially Jim Spellos, Michael Scanlan and Edith Stehr, plus Carl Lineberger, Walter Johnson and Win Smith representing the Division. We are grateful to all these people as well as to those who organized and chaired our sessions at this meeting for their efforts.

VII. SITE SELECTIONS FOR FUTURE DIVISIONAL ANNUAL MEETINGS

The 1990 Annual Meeting was accepted by the executive committee of the Division, on the recommendation of the site selection committee, for the Monterey Peninsula in northern California, with the Lawrence Livermore National Laboratory as local hosts. Norman Bardsley is coordinating the arrangements. See the July, 1987 Newsletter and forthcoming announcements

for more details. The site selection committee currently has in hand an invitation from Argonne National Laboratory to host the 1991 meeting and is presently considering whether or not to hold the 1992 meeting again as part of the APS Spring Meeting.

VIII. NEWS FROM NSF

Rolf Sinclair and Dick Pratt reported at the Business Meeting in April. The AMPP Program represented an approximately constant fraction of the Physics Division budget since 1975, also representing fairly level support in constant dollars at a 10% deflation factor over this period. Although the President's budget request to Congress this year called for an increase, the actual appropriation and money set aside for special purposes will apparently leave the Program with a net cut in support for individual research grants for FY 89. Sinclair has pointed out that some atomic physics is supported by other NSF programs and a substantial fraction by other agencies under various mission-oriented programs. Overall, this year looks like a difficult one for researchers seeking support in basic atomic and molecular physics. A bright spot is that this year there were 12 Presidential Young Investigator awards in physics, of which 4 were in experimental AMO physics.

IX. FORTHCOMING MEETING: Gordon Conference

The 1989 Gordon Conference on Atomic Physics

The 1989 Gordon Conference on Atomic Physics will take place July 3-7 at Brewster Academy, Wolfboro, New Hampshire. The program is being formed and tentatively will include sessions on tests of fundamental symmetries, multiply-excited states, high field ionization, laser cooling and trapping, fundamental atom/radiation interactions, wavefunction alignment and control, and order and disorder in Rydberg atom diamagnetism. There will be 9 sessions (morning and evening for 4-1/2 days) with about 25 talks. In addition, we will encourage and accomodate 2 poster sessions. For suggestions/information, please contact:

Dave Wineland, Chairman
Div. 524.11
National Bureau of Standards
Boulder, CO 80303
(303) 497-5286

Bill Cooke, Vice-Chairman
Dept. of Physics 0484
Univ. of Southern Calif.
Los Angeles, CA 90089
(213) 743-6211

X. OTHER ANNOUNCEMENTS

NSF has funded one of several proposals for a center for theoretical Atomic Physics. As of November 1, an Institute for Theoretical Atomic Physics has been created at the Harvard-Smithsonian Center for Astrophysics. The Institute was created in order to address the critical shortage of theorists in atomic and molecular physics at major universities throughout the U.S. and will be a joint undertaking with substantive contributions from both Harvard University and the Smithsonian Institution. The goals of the Institute are:

- to attract and train graduate students of the highest quality in theoretical AM physics;
- to maintain an active visitors' program to bring senior researchers together for varying lengths of time for scientific collaboration;
- to establish a strong post-doctoral fellowship program as a source of potential University faculty.

The theoretical atomic and molecular physics community is invited to participate in this Institute through the various programs: as a long-term or short-term senior scientific visitor, as a post-doctoral fellow, or as a predoctoral student from another University. For more information please write to Ms. Valerie B. Sorenson, MS 14, Institute for Theoretical AMP, Center for Astrophysics, 60 Garden St., Cambridge, MA 02138.

A newsletter representing interests and plans of the theoretical AMO physics community (TAMOC) is now being published. A recent edition reported the results of the APS Jobs Survey (Jacobs survey) giving statistics for the supply of candidates in academic positions. Of seven major physics subfields the survey indicated an "abundant" number of elementary particle theorists on one end of the scale vs. "inadequate" numbers of AMO physicists (expt. & theory) and experimental condensed matter physicists at the other end of the scale. For information on TAMOC, write Jim McGuire at Physics Dept., Kansas State Univ., Manhattan, KS 66506.

NBS Fiscal Year 1990 Precision Measurement Grants:

Applications are being solicited for two new NBS Precision Measurement Grants to be awarded beginning 1 October 1989. Each grant is in the amount of \$30,000 per year, renewable for up to two additional years, for a total of \$90,000. NBS (now NIST) sponsors these grants to encourage research in U.S. colleges and universities in the field of precision measurement and fundamental constants and to foster contacts between NBS scientists and those researchers in the U.S. academic community who are actively engaged in such work. Candidates' pre-proposal summaries and biographical information must reach NBS by 1 February 1989 to be considered for the FY 90 awards. For more information contact Barry N. Taylor, Chairman, NBS Precision Measurement Grants Committee, National Bureau of Standards, Building 220, Room B258, Gaithersbury, MD 20899 [Phone (301) 975-4220].

CAMOS: The NRC Committee on Atomic, Molecular and Optical Sciences (CAMOS) needs to find several new members each year. If you would be interested in serving on CAMOS, or know someone you would like to see representing your interests on CAMOS, please get in touch with the chair of the nominating committee, Lloyd Armstrong, no later than December 15, 1988 (i.e. immediately). His address is: Lloyd Armstrong, Dean, School of Arts and Sciences, 137 Merryman Hall, Johns Hopkins University, Baltimore, MD 21218.

XI. NEW APS FELLOWS

Congratulations are extended to the following Division members who were elected to Fellowship in the American Physical Society during the past year:

David C. Cartwright	Harvey A. Gould
Peter J. Chantry	Andrew Hazi
William E. Cooke	Daniel J. Larson
Sumner P. Davis	Frederick H. Mies
John B. Delos	Thomas N. Rescigno
William M. Fairbank	Malvin C. Teich
Albert L. Ford	Per Goran Wendin
James B. Gerardo	John Weiner
Franco A. Gianturco	
Richard A. Gottscho	

Certificates of Fellowship will be awarded to these people at the May 1989 Divisional Meeting in Windsor, Ontario.

.....

The American Physical Society
Div. of Atomic, Molecular,
and Optical Physics
335 East 45th Street
New York, New York 10017

FIRST CLASS MAIL
U.S. POSTAGE
PAID
Hicksville, N.Y.
Permit No. 294

MSM939746 250025 0689 B E 6
WINTHROP W SMITH
PHYS DEPT U-46
UNIV OF CONNECTICUT
STORRS CT 06268