

OHIO STATE UNIVERSITY INTERNATIONAL SYMPOSIUM ON MOLECULAR SPECTROSCOPY JUNE 21-25, 2004

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<http://molspect.chemistry.ohio-state.edu/symposium/>

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PLENARY SPEAKERS

Takayoshi Amano, Ibaraki University

Peter Bernath, University of Waterloo

Mark Johnson, Yale University

John Maier, University of Basel

Wim Ubachs, Vrije Universiteit

Andrey Vilesov, University of Southern California

Jun Ye, NIST/University of Colorado

SPECIAL SESSIONS

Several special mini-symposia are planned for this year's meeting. **Eric Herbst**, The Ohio State University, and **Lew Snyder**, University of Illinois, are organizing a mini-symposium, "Molecules and Star Formation", emphasizing the relevant spectroscopic observations and their ramifications. Invited speakers will include **Lew Snyder**, University of Illinois; **Cecilia Ceccarelli**, Laboratoire d'Astrophysique de Grenoble; **Paola Caselli**, Osservatorio Astrofisico di Arcetri; and **Geoffrey Blake**, California Institute of Technology. A second mini-symposium is being organized by **Peter Bernath**, University of Waterloo, and **Michel Vervloet**, Université du Paris Sud, on the subject of "Recent Developments in Fourier Transform Spectroscopy Techniques." Invited talks for this mini-symposium will be given by **Ken Kawaguchi**, Okayama University; **Michel Herman**, Université Libre de Bruxelles; and **Hank Revercomb**, University of Wisconsin. A third mini-symposium is being organized by **John Hepburn**, University of British Columbia, and **David Chandler**, Sandia National Labs, on "Photoionization/Photoelectron-Imaging." This mini-symposium will encompass various spectroscopic and related techniques utilizing detection of electrons. Invited speakers include **Dave Parker**, University of Nijmegen; **Andrei Sanov**, University of Arizona; and **Arthur Suits**, SUNY at Stony Brook. A session on theory is being organized by **Russell Pitzer** and **Anne McCoy**, Ohio State University, featuring an invited talk by **John Stanton**, University of Texas at Austin.

ELECTRONIC ACCESS

We encourage electronic communication with respect to the Symposium. These efforts are driven by our desire to provide the best service while minimizing costs. The place to learn Symposium details is our web site, <http://molspect.chemistry.ohio-state.edu/symposium/>. All the information in the flyer plus much more is available there. When the preliminary program (containing complete abstracts) is completed in early April, it will be immediately available at the web site, and you will be informed of its availability by email (for all on our email list). Monitor the web site for the latest information on presentation details, accommodations, etc. We strongly encourage electronic submission of abstracts, as we produce the abstract book electronically. Detailed instructions for electronic abstract submission (EAS) can be obtained by email (see overleaf) or from our web site. We will maintain a test service so that you can preview your abstract before you make a final submission. Our web site provides services, e.g., template, examples, help pages, etc, that make electronic abstract submission simple. The Symposium web site also maintains an archive from previous meetings. Presently all abstracts since the 50th meeting are available there. Many of the complete powerpoint presentations from last year's meeting are also available.

PRE-REGISTRATION AND ACCOMMODATIONS

In an effort to make it easy to pre-register, especially for those with currency exchange problems, we accept credit cards. You will be able to charge your entire pre-registration (conference and dorm) fee to your Visa or MasterCard credit card (see registration page). For those few not pre-registering, you will be able to charge your accommodations upon dorm check-in, and your Symposium registration fee at the Smith Lab registration desk. We encourage those for whom it does not represent a major inconvenience to continue to pay by check, as credit card use comes at a price to the Symposium. The dorm rooms have internet access freely available; persons with laptops who wish to stay in touch, should bring them. Internet connections for laptops, as well as OSU desktops, will again be available in Smith Lab for your use.

INSTRUCTIONS FOR ABSTRACT SUBMISSION

The abstract book will be printed directly from a computer file. All abstracts whether submitted electronically or on paper should have the style indicated below for uniform appearance in the abstract book. This appearance will be automatically created for abstracts submitted electronically but of course must be created by the author for paper abstracts. Abstracts on paper will be scanned and reproduced at approximately a 1:1 scale. The appropriate layout is indicated below.

THIS DIMENSION MUST BE PRESERVED FOR EVERY ABSTRACT	
----- 6.75 in. (=17.1 cm) -----	
THIS DIMENSION MUST NOT EXCEED 4.25 in. (=10.8 cm)	OBSERVATION AND ANALYSIS OF ION-PAIR TRANSITIONS OF I₂ COOLED IN A SUPERSONIC FREE-JET EXPANSION
	J. TELLINGHUISEN, Department of Chemistry, Vanderbilt University, Nashville, TN 37235; <u>X. ZHENG</u> , S. FEI, AND M.C. HEAVEN Department of Chemistry, Emory University, Atlanta, GA 30322.
	The A' state of I ₂ was observed for the first time in a free-jet expansion, where it was prepared by ArF laser excitation of I ₂ /Ar mixtures close to the nozzle ^a . Twenty-seven bands in the v'' = 0 progression of the D' - A' transition were studied by laser excitation spectroscopy, leading to the following improved constants (cm ⁻¹) for the A' and D' states: B ₀ ' = 0.028054, B _e ' = 0.020526, α _e ' = 5.3x10 ⁻⁵ , ω _e ' = 103.953, ω _e x _e ' = 0.2097, ω _e y _e ' = 2.687x10 ⁻⁴ .
	Many bands of the β - A transition have also been observed. These originate from A, v'' = 0, and terminate on levels with 25 ≤ v' ≤ 68 of the β state. Full analyses of both band systems will be presented.
	^a J. Tellinghuisen, S. Fei, X. Zheng, and M.C. Heaven, Chem. Phys. Lett. <u>176</u> , 373 (1991).
Scheduling information for Symposium office use only	
Time required: 15, 10, or 5 min.	
Number of recommended session category: _____	
Comment: Additional information about abstract, helpful for scheduling (optional)	
THIS SAMPLE ABSTRACT GIVES THE REQUIRED FORMAT. IT WILL BE AUTOMATICALLY GENERATED FOR ELECTRONIC SUBMISSION	PAPER ABSTRACTS WILL BE SCANNED ELECTRONICALLY. USE 10pt FONT SIZE OR EQUIVALENT

IMPORTANT POINTS TO NOTE

1. If submitting by the paper method, please send a total of **two** copies of each abstract, at least one of high quality for electronic reproduction.
2. Underline the name of the person presenting the paper.
3. Remember to indicate in the comment line if the speaker is to be considered for the Rao Prize (see overleaf for complete instructions).
4. **DEADLINE FOR RECEIPT OF ALL ABSTRACTS IS MARCH 1, 2004.**
5. For the time of your presentation, check the program, available by April 15 on our WWW site.

SESSION CATEGORIES*

- | | | |
|---------------------------------|---------------------------|---|
| 1. Theory | 5. Jet and Beam | 9. Mini-symposium: Recent Developments in FT |
| 2. Electronic (UV/VIS/NIR) | 6. Matrix/Condensed Phase | Techniques |
| 3. Infrared/Raman (Vibrational) | 7. Radicals and Ions | 10. Mini-symposium: Molecules and Star Formation |
| 4. Microwave (Rotational) | 8. Atmospheric Species | 11. Mini-symposium: Photoionization/Photoelectron-
Imaging |

**Please note that at the recommendation of the International Advisory Committee our session categories have been revised for this year.*

Registration

*Preregistration is highly encouraged with a special rate for those prepaying on or before **May 15, 2004.***

Registration Type **Prepaying** **After May 15** (circle one)

Regular*	\$100	\$125
Student*	\$ 35	\$ 50

*Please note that the registration fee includes the cost (students subsidized) of the picnic on Wednesday. Tickets for **accompanying persons** may be purchased for \$25 each.

Give name as you wish it to appear on your name tag.

Family Name First Name Middle (if you want it on name tag)

Department/Division

University/Organization (to appear on name tag) Street Address

City State/Country Zip Code

Electronic Communication:

Telephone // Fax

e-mail address (please write legibly)

Make checks (U.S. currency only payable through a US bank)

**payable to: International Symposium
 on Molecular Spectroscopy**

**Send to: Terry A. Miller
 International Symposium on Molecular Spectroscopy
 The Ohio State University
 120 W. 18th Ave.
 Columbus, OH 43210**

SPECIAL ANNOUNCEMENTS

ELECTRONIC ABSTRACT SUBMISSION (EAS)

To submit your abstract electronically, you must download the instructions. To accomplish this, do one of the following:

1. Access the Symposium World Wide Web site (URL--<http://molspect.chemistry.ohio-state.edu/symposium/>) and follow the menu to electronic abstract submission instructions, or
2. Anonymous logon to our FTP site, molspect.chemistry.ohio-state.edu and download the file `/symposium/submit`, or
3. Send an email to eas@molspect.chemistry.ohio-state.edu. The email should contain *only* the subject line: *EAS Instructions*.

When you have completed your electronic abstract, just email it to our test address for viewing or to the above email address for actual submission. Upon receipt, your document will be processed by a LaTeX-2e compiler and you will automatically receive an email reply indicating either a successful submission or a problem. If you submit electronically and you receive confirmation of a successful submission, you need do nothing more. Once you have successfully submitted your abstract, DO NOT resubmit it or a "revised" copy electronically. DO NOT send us an additional paper copy. Either action could result in your abstract being included twice in the program. **Please note** that we can only handle one format for electronic submission. LaTeX was chosen because of its support by several American professional societies and widespread use in the worldwide scientific community.

PLEASE HELP US KEEP THE MAILING LIST UPDATED!

Help us keep the mailing list current. If your address has changed, please let us know so that you can continue to receive Symposium notices. Persons interested in the Symposium, but not presently on the mailing list, may return this card to have their address added. [If outside the USA, check your postal regulations, the card may need to be returned in an envelope.]

It is very important for us to have your valid email address. If you did not receive the email version of this flyer in the first week of January, we do not have a working email address for you. If that is the case, please either mail in your address on the card or email us the information at mss@molspect.chemistry.ohio-state.edu.

SPONSORSHIP We are pleased to announce our anticipated sponsorship for the 59th Symposium. We anticipate that principal funding will come from the **Army Office of Research (ARO)**. We are most grateful to ARO for their support. We are also receiving support from **The Ohio State University** through the **Chemistry and Physics Departments**, and the **College of Mathematical and Physical Sciences**. We anticipate corporate and individual sponsorship as in the past. Among other things this support allows us to reduce the cost of the picnic for students and supports the coffee and doughnuts. We are pleased that the **Coblentz Society** will sponsor the reception before the picnic. We expect there will be the Journal of Molecular Spectroscopy Review Lecture in one of the mini-symposia. Our sponsors will have exhibits at the Symposium and we encourage you to visit their displays.

ADDITIONAL ANNOUNCEMENTS Information on Rao Prize nominations and last year's winners can be found on the back of this page, as well as other announcements.

- I wish to remain on the mailing list. Correct as indicated.
 Please add my name to the mailing list.

Print **clearly**.

_____ e-mail address

_____ phone

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_____ fax

ADDITIONAL ANNOUNCEMENTS

RAO PRIZE This year three Rao Prizes for the most outstanding student talks at the 2003 meeting will be presented. The winners are **Romey Heuff**, University of Victoria; **William McNavage**, University of Pennsylvania; and **Sergey Zalyubovsky**, Ohio State University. The Rao Prize was created by a group of spectroscopists who, as graduate students, benefitted from the emphasis on graduate student participation, which has been a unique characteristic of the Symposium. This coming June three more Rao Prizes will be awarded. In order to be eligible for the Rao Prize, a student must (i) *be primary author of the work being presented*; (ii) *be the actual presenter of the talk*; (iii) *never have competed for the Rao Prize prior to this year*; and (iv) *not have completed a Ph.D. thesis prior to March 1, 2004*. If a student wishes to compete for the Rao Prize, he or she should indicate this in the comment area of the abstract (due by March 1) for the talk they wish to be judged and send a letter from the research supervisor certifying that the student meets all four of the above requirements.

This certification letter may be a simple email message addressed to Terry A. Miller (mss@molspect.chemistry.ohio-state.edu). The letter should identify the talk abstract by its acceptance number (when available) which is furnished by return email to those submitting electronically. The letter of certification is not a nomination letter and will not be considered by the prize judges. Rao Prize winners and their co-authors are invited to submit to the Journal of Molecular Spectroscopy articles that are based on the research described in their talks. After passing the normal review process, each article will appear in the Journal with a caption identifying the paper with the talk that won the Rao Prize.

The award will be administered by a Prize Committee chaired by Brenda Winnewisser, Ohio State University, and comprised of Kevin Lehmann, Princeton University, and John Muentert, University of Rochester. Any questions or suggestions about the Prize should be addressed to the Committee. Anyone (especially post-docs) willing to serve on a panel of judges should contact Brenda Winnewisser (winnebp@mps.ohio-state.edu).

PICNIC The Symposium picnic will be held on Wednesday evening, June 23, at the Fawcett Center. The cost of the picnic is included in your registration (at below cost to students), so that all may attend the event. The Coblenz Society is the host for refreshments at 6:30pm before the picnic at 7:45pm at the Fawcett Center.

LIABILITY The Symposium fees DO NOT include provisions for the insurance of participants against personal injuries, sickness, theft or property damage. Participants and companions are advised to take whatever insurance they consider necessary. Neither the Symposium executive committee, its sponsors, nor individual committee members assume any responsibility for loss, injury, sickness, or damages to persons or belongings, however caused.