

Indiana Section of the Society for Applied Spectroscopy

November / December 2000 Newsletter

ISSAS 2000-2001 SEMINARS

The Indiana Section of the Society for Applied Spectroscopy 1999-2000 Seminar Series opened with a presentation by Dr. Shuming Nie of Indiana University, who presented his research on luminescent quantum dots for ultrasensitive biological detection and imaging. We would like to thank Dr. Nie and all who attended the seminar at Purdue University. The ISSAS officers would also like to express our sincere appreciation to Dr. Fred Lytle of Purdue University for his assistance in organizing the seminar presentation.

Our second speaker in the Indiana University – Purdue University exchange program will be Dr. Scott McLuckey of Purdue University. Dr. McLuckey will present his research on the reactions of macro-ions and their potential roles in Analytical Chemistry (please see the attached abstract). This seminar will be held in Bloomington at the Indiana University Chemistry Building (Room C001) at 6:00pm on Monday,

November 6, 1999. Dinner with Dr. McLuckey will be held after the meeting at Janko's Little Zagreb. If you are interested in attending the dinner following the meeting, please RSVP to Denise McClenathan (dmcclena@indiana.edu) by Thursday, November 2.

The next ISSAS seminar will be after the holidays. We are pleased to announce that Dr. David R. Walt will be at Indiana University in early February 2001. Dr. Walt is well known for his work in fiber optic sensing arrays. If you would like to read more about Dr. Walt's research, more information can be found on his website:

<http://ase.tufts.edu/chemistry/walt/index.htm>

Our spring seminar series will also feature this year's SAS National Tour Speaker. This speaker is a prominent member of the spectroscopy community, and will be announced early next year. This information will be posted both in the upcoming newsletter and on the ISSAS website.

SAS GOVERNING BOARD MEETING

2001 Governing Board Named:

The SAS Governing Board Meeting was held on Tuesday September 26, 2000 at the FACSS convention in Nashville, Tennessee. At this meeting, the national officers of the SAS were announced. The officers for the 2001 Governing Board are as follows:

Former President: Rina Dukor

President: Vassilis Gregoriou

President-Elect: Rachael Barbour

Secretary: Jon Carnahan

Governing Board Delegates:

Three-year Term:

Steven M. Barnett

John M. Chalmers –

International Delegate

Kathryn A. Lee

Cynthia Mahan

David S. Moore

Two-year Term:

Brian T. Buckley

Clara Craver

Rock Vitale

Wolfgang Kiefer

Don Pivonka

Delegates Elected By Section:

Doug Shrader

Truman Waugh

Eileen McClendon

Steve Bialkowski

Peter Griffiths

Proposed change in SAS Bylaws – Technical Sections:

At this meeting, the Governing Board also discussed a significant change in the constitutional bylaws of the SAS. Rina Dukor, SAS President, discussed the origin of the proposal for Technical Sections in her report:

“As the trend of declining membership continues from year to year, we could comfort ourselves by the thought that it happens in all Societies. But that is not true. For example, the Society for Mass Spectrometry is currently growing at a rate of over 10% per year. And the reason is simple. As mass spectrometry has grown in importance in the genomics and proteomics fields, the PRACTITIONERS of this technique are looking for a home where they can learn from the experts. We should try to keep this in mind since SAS is perceived as a Society for trained spectroscopists. But we are the Society for APPLIED Spectroscopy, and we should reach to scientists who are using spectroscopic techniques but do not necessarily have in-depth spectroscopic training.

In order to make membership in the Society more attractive, over the past few years we have had discussions in the Governing Board Meetings about offering our members a choice of belonging to a Technical Section. Not only will our current members benefit

from belonging to a smaller group interested in the same topic, but also we hope to interest non-members in SAS by providing a forum for their interests. We are making a proposal for a Constitutional Amendment at this time, the full language of which can be found in the Constitution and By-laws Committee Report.”

It is important to note that these changes in the Constitution must be approved by the members of the SAS before they can go into effect. We urge you to read more about the Technical Section proposal, and how it will act as an alternative to local section membership. Minutes and more information about the SAS Governing Board Meeting can be obtained at:

<http://www.sas.org/epstein/gb2000/GBminutes1.html>

THIS MONTH IN SPECTROSCOPY

Who discovered a ‘new kind of rays’ on November 8, 1895?

November, 8 1895: In a report published in *Nature*, W. C. Röntgen described the properties of a ‘new kind of ray.’ “For the sake of brevity,” Röntgen named this new ray as an “X-ray” (*Nature*, **53**, 274, 1896). To obtain these X-rays, Röntgen passed a discharge from a large induction coil through a vacuum

tube. When a paper coated on one side with barium platinocyanide was brought within two meters of the tube, the chemical lights up with a brilliant fluorescence whether the coated or non-coated side faced the tube. Because the cardboard could be penetrated by the rays emanating from this tube, Röntgen wanted to investigate other materials in a similar manner. Many materials used (wood, printer’s ink, a book of a thousand pages, water, hydrogen) did not stop these x-rays from illuminating the paper. It was found, however, the x-rays could not penetrate certain metals (0.2 mm thick platinum and 0.5 mm thick lead). Röntgen also found that these rays could be used to obtain “shadow pictures” of the bones of the hand, or a photograph of a compass card and needle completely enclosed in a metal case.

Spectroscopy Trivia:

In January of 1955, A. Walsh gave an early description of what instrumental technique?

The answer to this question can be found in next the addition of “This Month in Spectroscopy” or log on to the ISSAS trivia page at <http://www.indiana.edu/~issas/trivia.html>.

CONTACT INFORMATION

You may contact any of the ISSAS officers via phone (812) 855-7905, email (issas@indiana.edu), fax (812) 855-0958, or write to:

Society for Applied Spectroscopy -
Indiana Section
Department of Chemistry
Indiana University
Bloomington, Indiana 47405

ISSAS ONLINE

Please remember to check out our website! The ISSAS homepage will keep you updated on local section and national events as well as provide information about our corporate sponsors. Please visit our site at <http://www.indiana.edu/~issas>.

If you have a non-commercial spectroscopy related website that you would like us to link on our web page please contact Denise McClenathan at dmcclena@indiana.edu.

MEMBERSHIP RENEWAL

It's that time of the year again – time to renew your membership to the SAS! It is now possible to renew your membership online. Visit <http://www.s-a-s.org/membership.html> and renew your membership today!

NEW MEMBERSHIPS

Your local Indiana Section of the Society for Applied Spectroscopy is looking for new members. We invite you to recommend membership to any of your colleagues or students who you may feel would benefit from membership in such an organization. The fee for joining is very reasonable for both professionals and students alike. Membership also includes a subscription to the journal *Applied Spectroscopy*. For further information on ISSAS membership, please feel free to contact us or visit our website at <http://www.indiana.edu/~issas>.

SPONSORS

The Indiana Section of the Society for Applied Spectroscopy would like give a special thank you our corporate sponsors who make this newsletter and seminar series possible:

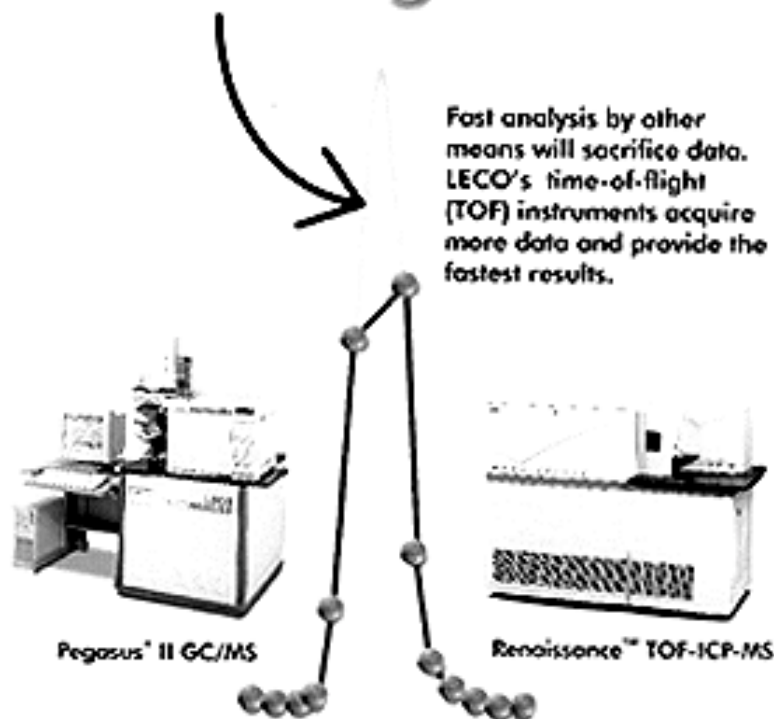
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**Post-Seminar Dinner with
Dr. Scott McLuckey**

Monday, November 6, 2000

Seminar

Chemistry Building, Rm C001
Indiana University
Bloomington, IN
6:00pm

Dinner

Janko's Little Zagreb
223 West Sixth Street
Bloomington, IN
7:30pm

For dinner, please RSVP to Denise McClenathan
(issas@indiana.edu or (812) 855-7905) by Thursday, November 2.

Indiana Section of the Society for Applied Spectroscopy
2000-2001 Seminar Series

**THE REACTIONS OF MACRO-IONS IN THE GAS-PHASE AND THEIR
POTENTIAL ROLES IN ANALYTICAL CHEMISTRY**

Scott McLuckey

Department of Chemistry, Purdue University
West Lafayette, Indiana 47907

<http://www.chem.purdue.edu/mcluckey/index.html>

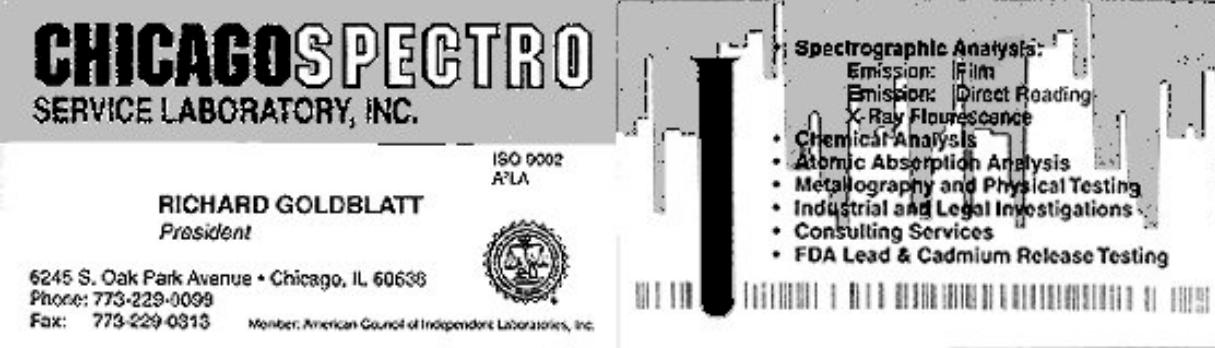
The formation, manipulation, and analysis of ions derived from macro-molecules present significant challenges and opportunities to analytical chemists. The ability to form gaseous ions from molecules ranging from synthetic polymers to proteins and DNA requires the development of new tools to maximize the range of information that can be obtained from the ions via mass spectrometry. This talk will summarize the development of new tools for characterizing gaseous macro-ions taking place at Purdue University and Oak Ridge National Laboratory using the quadrupole ion trap as the main tool for ion chemistry studies and mass analysis. In this presentation, emphasis will be placed on novel gas-phase ion chemistry and its potential role in addressing important analytical challenges. Particular emphasis will be placed on unimolecular dissociation and the reactions of oppositely-charged ions for charge state manipulation of ions derived from electrospray. Analytical challenges to which these chemistries have been applied included DNA sequencing and the rapid identification of proteins in complex mixtures.

6:00pm

Monday, November 6, 2000
Chemistry Building Room C001
Indiana University
Bloomington, IN

Biographical Sketch

Scott A. McLuckey received a Bachelor of Science degree in chemistry from Westminster College in New Wilmington, PA in 1978 and a Ph.D. in chemistry from Purdue University in West Lafayette, IN in 1982. He spent a year at the FOM Institute for Atomic and Molecular Physics in Amsterdam, The Netherlands on a post-doctoral appointment and joined Oak Ridge National Laboratory in late 1983 as a Wigner Fellow. He served as a research staff member until January of 1992 when he became Head of the Analytical Spectroscopy Section of the Chemical and Analytical Sciences Division. He served in that capacity, as well as acting leader of the Organic and Biological Mass Spectrometry Group, until late 1999. In January of 2000 he joined the Department of Chemistry at Purdue University as a professor in the analytical chemistry division. McLuckey's research interests are in the areas of gas-phase ion chemistry and instrumentation for organic and biological mass spectrometry.



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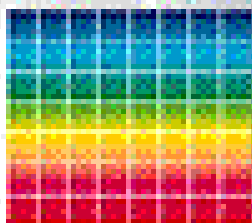
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