

NEWSLETTER

A Society for Applied Spectroscopy Affiliate

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Editors: Francis W. L. Esmonde-White and Karen A. Esmonde-White

Fall 2012

EDITOR'S COMMENTS

The spring and summer seasons have ushered in additions and changes to the Society. Newly elected board members began their term at Pittcon 2012. We are looking forward to an exciting new year! For the newsletter, we've started to publish an excerpt of the newsletter in Spectroscopy magazine and are reciprocating by including a couple of links in the Newsletter that we think will be of interest to members. We are pleased to see increased member contributions to the LinkedIn page and to the Newsletter. Thank you!

Courtesy of Rob McDowell of Kirkland, Washington (a former Coblentz president from 1987 to 1989), a list of the talks given by various award winners for most of the past 150 awards has been added to the web site! A tremendous effort went into compiling this list. This contribution is particularly exciting, as it gives a sense of not only to whom awards have historically been given, but also what types of research were considered award-worthy over the years. Rob was also responsible for assembling many of the older newsletters that were scanned and put online last fall. Thanks again Rob; your many continuing contributions to the Coblentz Society are very much appreciated!

On a personal note, we welcomed our daughter Daphne to the world in the spring. The past few months have brought much joy into our lives, but we haven't been very active in the Society lately as a result. We look forward to connecting with everyone again at the Society's meetings this fall and coming winter: SciX (September 30 – October 5, 2012), EAS (November 12–15, 2012), and Pittcon (March 17–21, 2013). Please stop by the Coblentz booth at these conferences to connect with fellow Coblentz members, meet new members such as Daphne, or seek advice from a veteran spectroscopist!

Your editors,
Francis and Karen Esmonde-White

PRESIDENT'S MESSAGE

In brief summary, the Coblentz Society is sound financially, active in many areas, has a large body of able volunteers, has a stable or slightly growing membership, good relationships with the SAS and FACSS organizations, and good relations with our four main conferences, Pittcon, SciX, the Eastern Analytical Symposium (EAS), and the Ohio State University International Symposium on Molecular Spectroscopy. We are a volunteer society whose members contribute their time, money, and mental services because of their love

for vibrational spectroscopy. At our annual members meeting at Pittcon 2012, I counted 87 active volunteers across our various committees and boards.

There have been a few notable changes in Society leadership: Andy Sommer departed the Treasurer's post to be replaced by Mary Carrabba; Rohit Bhargava and Gloria Story departed the Board to be replaced by Christina Young and Francis Esmonde-White; and Jim Rydzak became President Elect. I offer my appreciation to the service of these and the many other volunteers who have contributed their time to expand the Society's reach and make sure the trains run on schedule.

The active membership of the Society stands above 500. As a result, our potential to impact the field of vibrational spectroscopy far exceeds our modest budget. Speaking of which, our assets at the end of 2011 after closing the books on that year were \$402,587, mostly in an investment account. Over 15 years, including 2 recessions, the value of that account has increased by an average of 6.3% each year, which I consider quite remarkable. We will now begin drawing on that investment as needed to support our awards. The total cost of all our awards each year amounts to ~1.7% of the value of the investments, so the Society balance should continue to grow at a steady rate.

Our approved budget for 2012 projected an income of \$31,280 from a combination of dues, database licensing income, FACSS disbursement income, Pittcon, sponsors, sales, and endowment support for awards. Against that income, expenses are projected to be \$27,785, for a budget surplus of \$3,495. We hope to use that excess to move forward with activities promoting vibrational spectroscopy.

Among the many things that happened during the past year, there are a few notable events and activities.

We created a merchandise committee to provide items for our booth and website. Their first item was a stylish, professional-looking polo shirt with the Coblentz logo on it. Another new item is currently being selected, which will show up at SciX—drop by the booth and see! The purpose of the merchandise committee is to make it possible for members to identify with the Society, and also to promote awareness of the Society when people are walking around meetings with our logos. The committee is also providing the ribbons worn by Board members and Officers of the Society at meetings, as well as stickers for member badges.

We created a nominations committee to coordinate advertising for all our awards. As a result of the work of that committee, the Coblentz award returned from its hiatus last year when there were insufficient nominations. The Nominations Committee has experienced some growing pains—I think the level of work is greater than most people



Howard Mark (left) presenting the 2012 Williams-Wright award to Richard Crocombe (right).

realized at the outset. People who work on that committee for the Society are putting in a lot of effort, and I hope members will remember that when elections for the Board come around. The Committee is not yet functioning perfectly, but it's shown flashes of what it can do when everyone is pulling together. I'd like to particularly thank Jon Scaffidi for stepping in when needed.

We created a committee to develop an educational program for the Society in the area of vibrational spectroscopy, and also to act on any other educational opportunities as they arise. This committee has already got plans for several activities, including serving as a clearing house for documents and webinars, working to connect us better to the major instrument vendors, and also developing materials using the Coblenz database for graduate education.

We modified the bylaws to indemnify officers and agents of the society when they are acting in the interests of the Society. We approved acquisition of Directors and Officers insurance for the Society to protect its resources.

Also during the past year, we created a Database Study Group with broad scope to think about the technical life of the Society. This Study Group consisted of Curt Marcott (chair), Bruce Chase, Larry Nafie, and John Reffner, who are among the most distinguished members of the Coblenz Society. Their recommendation was that the Society



From left: Howard Mark, Michael Burka, Richard Crocombe, Arn Adams, David Drapcho, and Larry McDermott at the 2012 Williams-Wright award session at Pittcon.



From left: John Conboy, Larry Nafie, Henry Bujis, Paul Farnsworth, Joel Harris, Peter Griffiths, and Rina Dukor.

reassert itself in the area of science, beginning with updating our outdated spectral class descriptions and standards for vibrational spectroscopy.

As a result of the Study Group recommendation, the Board approved creation of a Science Team authorized for five years as a semi-autonomous unit to prioritize and tackle questions of science. The Team will provide annual reporting, will receive budgetary support from the Society, and will have authority to create any subgroups necessary to the job. The Coblenz Science Team was created in Spring 2012 and includes among its members James de Haseth, Peter Griffiths, and Bruce Chase.

In Summer, 2011, we conducted a Member Study to learn more about the needs of our members. As a result of comments in our member study, the Board also approved creation of a Certification Study Group to investigate broadly into matters largely pertaining to support of members and potential members seeking recognition of their skill and knowledge of vibrational spectroscopy. This new Study Group is still being formed at this writing.

The Society, together with SAS and ISA, supported an invited lecture at ICORS 2012 in Bangalore and advertised at a booth there.

Also with SAS, Coblenz is organizing a fund-raising luncheon at SciX to support the Lippincott and Fateley Award endowments. The Lippincott endowment has decreased in recent years, while the Fateley endowment is still being formed. These are worthy causes for your lunch money, and I sincerely hope you will join us for the meal. Details about the luncheon can be found on our website, including who will be speaking during lunch.

SAS has been very supportive of the Society, and I'd like to take a moment to thank Curt Marcott, Mary Kate Donais, and Bonnie Saylor for agreeing to store the Coblenz Deskbooks at the SAS office, agreeing to handle shipment of these as needed, and for storing and shipping the Coblenz Booth to various conferences. Terry Miller at Ohio State University has also been very supportive, and we appreciate his agreement to store another Coblenz booth for use at the OSU International Symposium on Molecular Spectroscopy each June.

As always, award presentations are important events for the Society. At Pittcon 2012 we recognized Prof. Joel Harris with the ABB Bomem Michelson Award. Dr. Richard Crocombe was recognized with the Williams-Wright Award at the same meeting. The Coblenz Award was presented to Professor Greg Engel of the University of Chicago at the OSU Symposium in June for his

groundbreaking work on new approaches to observe, measure, and control excited-state reactivity.

Professor Duncan Graham will receive the Craver Award at SciX for his pioneering work in surface-enhanced Raman spectroscopy.

Also at the Annual Members Meeting, we recognized two new Honorary Members: David M. Haaland, and Laurence A. Nafie. Dr. Haaland and Professor Nafie will be recognized during the SAS reception at SciX on Wednesday evening.

We also recognized winners of the 2012 Coblenz Student Awards during our Annual Members Meeting at Pittcon: Eduardo Berrios, University of Illinois at Urbana Champaign; Marleen Kerssens, Rutherford Appleton Laboratories; Rajesh Morampudi, Cleveland State University; Jonathan Schaefer, University of Utah; Andreas Wilk, University of Ulm; and Sarah Zhou, University of Missouri, Kansas City.

A number of these recipients will present posters at SciX 2012 during the Sunday evening poster session. In addition, the third Fateley Student Award will be presented to Sarah Zhou at SciX 2012, and she will present her award talk in the student awards session at the meeting.

On a strategic front, we separated award-related duties from other duties of the President and have given them to the Past-President – starting with myself, when my time as President expires. This is intended to give the President freedom to think about strategic directions for the Society without the constant need to deal with issues related to awards (other than presenting them).

Shortly after I became President, the Board created a Historical Instrumentation Committee charged with identifying instruments inside and outside collections and helping to conserve them and see them displayed. This committee got off to a false start last year and is currently being reassembled. The truth of the matter is that any working committee takes effort, and many of our volunteer members are grossly overcommitted. It brings up an important matter that I'd like to address.

It is a fact of life that any committee, chair or officer – even a President – can go dormant, at least for a time. In cases like that, it is important that every member know certain fundamental things about the Society. First, there is no grand plan for the Society, and no vibrational spectroscopy “elite” that guides it. Everyone on the Board is elected by you, and we listen to your comments. Every member of each committee is responsible for making sure the committee is doing its job, from the chair down to the newest member. Every member should make it their duty to step forward when something needs doing.

We're a volunteer Society, and scientists join it because they want to make a difference, not because they want someone to do a service for them. When I look at our membership list, I see a list of hundreds of scientists that want the chance to make an impact. I wish I had the energy to activate each and every one of our members, because I know society at large (and our Society in particular) would benefit from their involvement.

If I haven't contacted you to ask you to do something for the Society, I apologize. Like most people, when I need to appoint someone, I look first to people I know personally. That is not fair to the many I don't know, and I hope that you will feel free to contact me and volunteer for something. We're always in need. Your service would be valuable. Don't say to yourself “They don't need me, they have so many others” or “There's someone better to do this than me”. If you ask to get more involved, I will find a way.

On a final note, I attended the OSU International Symposium on Molecular Spectroscopy for the first time this past June. Terry Miller and his associates at the OSU meeting have been very friendly to the

Society, and I appreciate their support. This meeting is where the Coblenz Society began in 1954, but in the intervening decades the Society has spent most of its energy in analytical spectroscopy, while the Symposium is dominated by physical spectroscopy. I've heard talk of severing the relationship between the Society and this significant meeting. With the one-year hiatus in the Coblenz Award last year, long our major contribution to the program at OSU, I think there was a question about how seriously the Society takes its commitment to the Symposium.

Having never been to the Symposium myself, I really wanted to see it in person. Presenting the Coblenz Award to Greg Engel gave me the chance to spend a week there in the company of Prof. Jon Scaffidi, who helped me man our booth. We picked up a number of new members during the meeting, about as many as we would normally get during a week at Pittcon – and that's saying something, since Pittcon is about 50 times larger in attendance. Attending the Symposium can be very inexpensive in terms of lodging and registration compared to many of the larger science meetings, so it's a great meeting for students to attend, especially if they can drive to the meeting. So here's my take on the relationship between Coblenz and the OSU International Symposium on Molecular Spectroscopy:

The Coblenz mission statement doesn't include the words “analytical” or “physical”. We should be paying attention to both areas, and we've been doing a poor job in the physical area. We support the OSU meeting with an award and with money – we help support the “beer bash” at the meeting. But I personally think we could do something more supportive of the scientific content of the meeting with our money, and I think it's counterproductive for our name to be associated with the Budweiser truck at the meeting (no offense meant to Budweiser). On the other side of the equation, except for ACS – a connection that many chemists of all stripes share – the physical molecular spectroscopy community doesn't really have a professional society through which the members can establish standards and norms, or promote education, etc. There's no question that the majority of work being reported at the Symposium is vibrational in nature, or closely related to vibrational spectroscopy, and I think a more productive relationship can be built from where we are. But we're not going to build a stronger presence at the Symposium using members who would be much happier attending an analytical conference. Instead, we have to grow the membership inside the physical spectroscopy community.

Best regards to all of you,
Micky

COBLENTZ SOCIETY MEMBERSHIP REPORT

Mark A. Druy, July 19, 2012

The membership database now stands at 1270. This reflects additions to the database via the NY Art Conservation Society at EAS, the student memberships from WITEC at FACSS, new members that come from our affiliation with IR Courses and the Ohio State Symposium.

The following table reflects our active dues paying members:

Dues Paid Thru	Total – 7/2012
2013 or greater	117
2012	234
2011	163
2010	236
< 2009	520

Our active membership stands at 514, which is up from the spring report.

We have instituted a “Google Check-Out” on-line payment system on our new Web site at <http://www.coblentz.org/Membership/membership-dues-payment>. This makes it easier for our international members and non-SAS members to renew their commitment.

Mark Drury
Physical Sciences Inc.
20 New England Business Center
Andover, MA 01810

IN MEMORIAM: BERNHARD SCHRADER (1931–2012)

The topic of Bernd Schrader’s Ph.D. thesis ‘Simple set-up for recording Raman spectra of solids’ forms the basis of his life’s work, which can be summarized:

- Bernhard was a preeminent Raman spectroscopist, although this would just represent the central part of his vast research productivity.
- Students need to know that instruments should never be black boxes – what happens inside the box, to the most basic details, is most important.
- Simple experimental arrangements are most appealing and publications should always be “high signal to noise” with little embellishment.

Bernd worked on his thesis at a time when it was hard to believe that Raman spectroscopy would find applications in routine analysis, even though he showed the potential. Later he ventured to construct a laser to replace the mercury arc as a source, reduced the size of the spectrometer, and discussed the most unusual yet efficient sample optics adapted to specific tasks. For the reticence under which Raman spectroscopy endured (at least until the 1990s), he blamed the unnecessary long ‘parallel beams’ and eventually contributed to launch NIR-FT Raman spectrometers. At the same time, he worked with other methods of molecular spectroscopy, particularly with infrared spectroscopy, where he also addressed special techniques such as ATR and rotatory dispersion. In most cases such developments were initiated by the interest in real-world challenges such as the continuous testing of waste water, the analysis of aerosol particles, the demonstration of the cleanliness of re-usable bottles, non-invasive medical diagnosis, non-destructive analysis of plants, and in-field studies.

Born in Quedlinburg, a magnificent small city of great history in the center of Germany, he carried out his studies including his thesis in Berlin with a flock of similarly bright and keen mates who still are good friends of his. He joined the Institute of Spectrochemistry (ISAS) in Dortmund in 1968. Shortly thereafter, he became Professor of Physical Chemistry, Organic Chemistry and eventually Theoretical Chemistry (1976 University of Essen). He spent sabbaticals at Florida State University (Tallahassee, FL), the IBM Research Institute (San Jose, CA), and the Weizmann Institute of Science (Rehovot, Israel). Each time he returned with a pile of ideas for new projects. His versatility is based on his widespread interest on how everything works, and, as a consequence, he has liked to teach principles of chemistry to non-chemistry students attracting their interest with generally relevant problems. Bernd Schrader retired in 1996 even though the term ‘retire’ is misleading: he converted the cellar of his private house into a laboratory suite with so-called ‘old’ instruments which nonetheless are at their best performance levels since these are not “black boxes” to Bernd Schrader. He was not only full of new ideas related to instrumentation and application of Raman spectroscopy

and neighboring methods, but also enthusiastic about photographing a solar eclipse, painting picture postcards etc. He was almost always active and engaged in something, often at night—his famous “siesta” was sacred.

His scientific work approaches 300 papers and several books and even a film visualizing molecular vibrations and illustrating these complex processes. The handbook “Infrared and Raman Spectroscopy” he edited is well accepted and the “Raman/Infrared Atlas of Organic Compounds” has become an indispensable tool to many analytically working spectroscopists. Bernd Schrader supervised 63 doctoral theses and hosted 5 Humboldt Scholars. As presents for his 70th birthday he asked his students and scientific guests to send a short report on their life after their time with him: in spite of the limitation to one page each, a volume resulted which is comparable to an elaborate thesis reflecting impressively both Bernd Schrader’s scientific influence as well as his personality.

Bernd Schrader was active for scientific journals such as the *Journal of Raman Spectroscopy*, *Applied Spectroscopy*, and the *Journal of Molecular Structure*. He served on boards such as the IUPAC Commission, EUCMOS, and of professional bodies in Germany. He guided for several periods the juries of the Bunsen-Kirchhoff Prize and of the Océ-van-der-Grinden Environmental Award. Besides the numerous training courses and national meetings that he organized, he chaired the European Congress on Molecular Spectroscopy in Essen in 1994. He has been honored with distinctions from Bulgaria, Austria, Norway, the Czech Republic, Turkey, and Germany.

A particular concern to Bernd Schrader was contact to East German and East European colleagues. He took every chance to promote their research, to meet them and to facilitate their traveling. Many of them (and others also) stayed in the Schrader house enjoying not only family accommodation but also the always-friendly care and the inspiring atmosphere created by both Bernd and his wife Christa.

Bernhard leaves behind his wife Christa, children Prof. Dr. Wolfgang Schrader (wife Dr. Betina Gruner-Schrader), Dr. Christine Schrader (husband Dr. Andreas Müller), and Dr. Jochen Schrader (wife Marleine Boueiz) and grandchildren Julian, Johannes, Matthias, Nicolas, Peter, Viola, and Leo.

Memorial contributions can be made to the Deutsche Stiftung Denkmalschutz, Stichwort B. Schrader, Dresdner Bank BLZ 370 800 40 Account# 263667004.

Submitted by David Moore (moored@lanl.gov)

Shock & Detonation Physics, Los Alamos National Lab

EXCERPTS FROM SPECTROSCOPY MAGAZINE

At FACSS 2011, we had the opportunity to talk with Laura Bush from *Spectroscopy* magazine and we talked about the possibility of publishing excerpts of the Coblentz Newsletter in *Spectroscopy*. After a discussion with Micky Myrick we decided that publishing a short overview of the Coblentz Newsletter in *Spectroscopy* would be beneficial to the Society. In turn, we will point members to items published in *Spectroscopy* that we believe are of interest to readers. Included in this Newsletter are: a series of interviews with Coblentz-sponsored award winners, and the product review written by Coblentz member (and *Spectroscopy* columnist) Howard Mark.

Enjoy!

Karen and Francis Esmonde-White

Award Winner Interviews. *Spectroscopy* magazine is interviewing the winners of awards presented at SciX (previously known as the FACSS meeting). The second of these interviews was with Duncan Graham, the 2012 winner of the Coblentz Society’s Craver Award.

The interviews are available online as audio podcasts at <http://www.spectroscopyonline.com/podcasts>.

Spectroscopy Reviews New Products Introduced at Pittcon 2012, Capturing Trends. Do you wonder if you missed some great new spectroscopy product when you toured the aisles at Pittcon? Fear no more. In the May 2012 issue of *Spectroscopy*, columnist and Coblentz member Howard Mark covered it all. His comprehensive article includes comments about the trends in each category, plus a new reader-friendly table format that lets you quickly see what's new in each of 12 categories: Accessories, Atomic spectroscopy, Components, Imaging, Mass spectrometry, Mid-IR (FT-IR), NIR, Raman, Software, Terahertz, UV-visible, and "Other". Appendixes at the end of the online article provide more detail. <http://www.spectroscopyonline.com/pittcon2012>.

COBLENTZ LINKEDIN GROUP

If you have not already joined, we encourage all members to join the Coblentz LinkedIn group! It is a vibrant, useful tool where members can share professional news, articles of interest, or ask questions. We also solicit nominations for Coblentz-sponsored awards and encourage members to submit items for the Newsletter. In just this past month (July 2012), there have been announcements about the Raman program at SciX conference, IR courses, and a call for nominations for the Craver Award. We hope to see you online!

Your editors,

Karen and Francis Esmonde-White

2012 COBLENTZ STUDENT AWARDEES

We would like to congratulate the awardees of the 2012 Coblentz student awards, which will be presented at SciX in Kansas City, MO. Biographies for the award winners follow here, except for the final awardee (also the William G. Fateley student award winner) whose information follows in the next section.

Eduardo Berrios was born in Santiago, Chile. He did his undergraduate studies at the University of Chile from 2002 to 2007, where he obtained his bachelor degree in chemistry and also his professional degree as chemist. His graduation thesis was titled *Effect of the presence of sucrose monoesters on the membrane of DPPC liposomes*. In 2007 he was awarded with a Fulbright-CONICYT scholarship to pursue a doctoral degree in The United States of America. Since January 2009, he has been researching in Martin Gruebele's group in The University of Illinois at Urbana-Champaign. There his research involves the study of molecular vibrations and its application in quantum computing theoretically and experimentally.

Marleen Kerssens is currently pursuing her PhD in the Biophotonics Research Unit, Gloucestershire Hospitals, NHS Foundation Trust, under the supervision of Professor Nick Stone and Professor Pavel Matousek. Her research explores the relationship between breast calcification and cancer diagnosis. By utilizing deep-Raman techniques and FTIR molecular and structural information on calcifications and surrounding tissue interfaces is provided which can advance both diagnostics and clinical scientific understanding of the processes involved. Previously, she obtained a BSc and MSc from VU University, Amsterdam, The Netherlands.

Rajesh Morampudi completed his Bachelor of Science in Pharmaceutical Science degree from the College of Pharmacy in 2008 at Andhra University, Andhra Pradesh, India. As an undergraduate student, Rajesh performed research to evaluate the nootropic effects of Quercetin in normal and diabetic rats and later investigated the solubility and dissolution rate of Nimesulide by complexation with β -cyclodextrin. In August 2008, Rajesh was accepted into the PhD

program in bioanalytical and clinical chemistry at Cleveland State University in Cleveland, Ohio. As part of his dissertation research, Rajesh has developed a new high resolution optical disperser based on a virtually imaged phased array for Raman and Brillouin line scan imaging of polymer bone implant materials. The new imaging device will be used to non-invasively characterize electromechanical implant properties during periods of bone cell culture and will help establish cell response to electromechanical stress.

Jonathan Schaefer is a chemistry doctoral student in the analytical division at the University of Utah in Joel M. Harris's research group. His work focuses on structural and chemical changes in single vesicle lipid bilayers. In order to study individual vesicles, he uses a single-objective optical trap to immobilize the vesicle at the focus of an excitation laser beam. Raman scattered light from the optically trapped vesicle is collected back through the objective and focused through a confocal aperture, isolating a ~ 1.5 fL detection volume around the vesicle. Jon has used Raman spectroscopy to study the polymerization kinetics and thermochromic phase transitions of individual diacytlenic phospholipid vesicles, research that was published in the *Journal of Raman Spectroscopy*. His more recent research efforts have focused on measuring temperature-controlled release from individual phospholipid vesicles found in formulations used in chemotherapy treatments. Results from the temperature-controlled release study were presented at FACCS in October, 2011 and are currently being written up for publication.

Andreas Wilk was born in Augsburg, Bavaria, Germany in 1980. He performed his undergraduate studies at the University of Ulm, Baden-Württemberg, Germany, and has received his Diploma degree in Chemistry in 2008. Having joined Prof. Dr. Boris Mizaikoff's research group in the same year, he is currently pursuing his PhD in Analytical Chemistry with focus on next-generation gas sensors operating in the mid-infrared (3–12 μm) spectral regime. His research involves the development of spectrally resolved simulation schemes of entire mid-infrared sensor platforms including modeling the spectral response to virtual analytes with particular interest in applications for enclosed space monitoring and breath diagnostics. The experimental studies are focused on the development, fabrication, and characterization of innovative substrate-integrated hollow waveguides, which have been established during an ongoing collaborative work with the Lawrence Livermore National Laboratory (LLNL, Livermore, CA, USA). To date, he is author of two peer-reviewed research publications and one book chapter with four manuscripts currently in preparation, and is co-author on one filed patent. He has contributed to international scientific conferences with three posters (EURO-ANALYSIS 2009, EUROPTRODE 2010) and one oral presentation (FACSS 2011).

Xiaohua (Sarah) Zhou is a winner of both the 2012 Coblentz Student Award and the 2012 Fateley Student Award. Her biography and photo are provided in the next section.

2012 William G. Fateley Student Award: Xiaohua (Sarah) Zhou is completing her Ph.D. degree in Chemistry at the University of Missouri-Kansas City with Dr. James R. Durig. Her research is focused on understanding the structural properties and dynamics of quasi-linear molecules with a special emphasis on molecules containing the isocyanate moiety. The research is conducted by utilizing infrared, Raman, and microwave spectroscopy along with theoretical investigation. She has published 14 peer-reviewed papers and is expected to have five more prior to her graduation in May 2013. During her graduate studies, she worked as a research assistant in the University of Kansas Medical Center carrying out research on the molecular and thermodynamic mechanism of allosteric regulations by utilizing Hydrogen/Deuterium Exchange Mass Spectrometry. Xiaohua

has received several awards which include the Gates Millennium Scholars-Asian & Pacific Islander American Scholarship fund, the Outstanding Merit Award from the UMKC Women's Council and first place for her poster presentation at FACSS 2011.



Coblentz Student Award and William G. Fateley Student Award winner Xiaohua (Sarah) Zhou.

CALL FOR NOMINATIONS FOR COBLENTZ SOCIETY AWARDS

In the spirit of rewarding excellence, we would like to take this opportunity to encourage you to nominate qualified candidates for the Society's awards. Coblentz honors individuals at all ages and experience levels, ranging from student awards to honorary memberships. Nomination information, requirements for each of the Society's awards, and online nomination forms can be found on the Coblentz Society's website (www.coblentz.org). The awards are a great way to recognize scientific achievements or service to the society. We encourage all members to take a look at the awards and consider nominating your fellow spectroscopist!

Your editors,

Francis and Karen Esmonde-White

Bomem-Michelson Award. This award is dedicated to the memory of Professor A.E. Michelson, developer of the Michelson interferometer. ABB sponsors the award to honor scientists who have advanced the technique(s) of vibrational, molecular, Raman, or electronic spectroscopy. Contributions may be theoretical, experimental, or both. The recipient must be actively working and may be associated with the academic, industrial, government, or private sector. The awardee must be at least 37 years of age. The award consists of a crystal symbol of the Bomem-Michelson award and an honorarium. In order to ensure that the award is based on an independent evaluation of the candidate's achievements, the selection is made by a committee chosen by the Coblentz Society. The award is presented each year at the Pittsburgh Conference. The ABB sponsored Bomem-Michelson Award Symposium is held in honor of the awardee and immediately follows the presentation.

Previous recipients of the Bomem-Michelson Award are: Thomas G. Spiro (1987), Carl Linberger (1988), Richard J. Saykally (1989), William Klemperer (1990), Alan Pine (1991), Jyrki Kauppinen (1992), Jack L. Koenig (1993), Herbert L. Strauss (1994), Terry Miller (1995), Ira Levin (1996), William H. Woodruff (1997), Bruce Chase (1998), Sandy Asher (1999), John F. Rabolt (2000), Larry Nafie (2001), Dan Neumark (2002), Peter Griffiths (2003), Dave Haaland (2004), Paul Bohn (2005), Robert W. Field (2006), David Bocian (2007), Geraldine Richmond (2008), Martin Quack (2009), Richard Van Duyne (2010), and Isao Noda (2011).

Detailed nomination instructions including deadlines are available on the Coblentz web site at www.coblentz.org/awards/the-bomem-michelson-award. Note that the nomination period has been extended, and will close June 30th 2012.

Coblentz Award. The Coblentz Award is normally presented annually to an outstanding young molecular spectroscopist under the age of 36. The Award is presented and the Coblentz Award Lecture is delivered each June at the Ohio State University International Symposium on Molecular Spectroscopy (molspect.mps.ohio-state.edu/symposium/). The candidate must be under the age of 36 on January 1 of the year of the award.

Previous recipients of this award are: John Overend (1964), William Fateley/Robert Snyder (1965), Edwin Becker (1966), Peter Krueger (1967), Jon Hougen (1968), James Durig (1969), Guiseppi Zerbi (1970), Clive Perry (1971), George Leroi (1972), C. Bradley Moore (1973), C.K.N. Patel (1974), Bernard J. Bulkin (1975), Geoffrey Ozin/George Thomas, Jr. (1976), Peter Griffiths (1977), Lester Andrews (1978), Lionel Carreira (1979), Richard Van Duyne (1980), Laurence Nafie (1981), Christopher Patterson (1982), Dave Cameron (1983), Steve Leone (1984), John Rabolt/Graham Fleming (1985), Joel Harris (1986), Alan Campion (1987), Keith Nelson (1988), Geri Richmond (1989), Hai-Lung Dai (1990), Paul Bohn (1991), Tom Rizzo (1992), Peter Felker (1993), Paul Alivisatos (1994), David J. Rakestraw (1995), Xiaoliang Sunney Xie (1996), Mounji Bawendi (1997), Pat Treado (1998), Brooks Pate (1999), Martin Gruebele (2000), Stacey Bent (2001), Andrei Tokmakoff (2002), Andrea Callegari (2003), Sergey Nizkorodov (2005), Michael Strano (2006), Martin Zanni (2007), Xiaowei Zhuang (2008), Benjamin McCall (2009), and Timothy Schmidt (2010). No award was presented in 2011.

Detailed nomination instructions including deadlines are available on the Coblentz web site at www.coblentz.org/awards/the-coblentz-award.

Coblentz Student Award. The Coblentz Society has for many years encouraged young scientists to pursue studies in spectroscopy by seeking nominations of outstanding students for the Coblentz Student Awards. The awardees receive a copy of the Society's Deskbook, a certificate, and a year's membership in the Society. Their names and the names of their faculty advisors will appear in the Society's Newsletter published in Applied Spectroscopy.

The awardees for 2010 were: Ram Bhatta, Department of Chemistry, University of Akron, Professor David S. Perry; Praveen-kumar Boopalachandran, Department of Chemistry, Texas A&M University, Prof. Jaan Laane; Bryon Herbert, Department of Chemistry and Biochemistry, University of Delaware, Professor Karl S. Booksh; Yuliya Luzinova, Department of Chemistry and Biochemistry, Georgia Institute of Technology, Professor Boris Mizaikoff; and Hajime Okajima, Department of Chemistry, the University of Tokyo, Professor Hiro-o Hamaguchi.

The awardees for 2011 were: Rohith Reddy, Univ. of Illinois at Urbana-Champaign, Professor Rohit Bhargava; Nathaniel R. Gomer, Univ. of South Carolina, Professor S. Michael Angel; Esther J. Ocola, Texas A&M University, Professor Jaan Laane; Savitha S. Panikar, University of Missouri – Kansas City, Professor James Durig; Megan R. Pearl, University of South Carolina, Professor Michael Myrick.

Detailed nomination instructions including deadlines are available on the Coblentz web site at www.coblentz.org/awards/coblentz-student-awards.

Clara Craver Award. The Craver Award is presented annually to recognize young spectroscopists for efforts in applied analytical vibrational spectroscopy. Nominations for the Craver Award are being accepted through August 30, 2012. Candidates must be under the age

of 45 on January 1 of the year of the award. The candidate's work may include any aspect of infrared (NIR, MIR, or Far), and/or THz, and/or Raman spectroscopy in applied analytical vibrational spectroscopy. The nominees may come from an academic, government lab, or industrial backgrounds. Nominations for the 2013 Craver Award must include a detailed description of the nominee's accomplishments, a curriculum vitae or resume, and minimum of three supporting letters. Nominations close on August 30, 2012. Files of candidates will be kept active for 3 years or until the age of eligibility is exceeded. Annual updates of candidate files are encouraged and will be solicited from the nomination source by the award's committee chair.

Previous recipients of the award are: Katherine A. Bakeev (2007), John Conboy (2008), Takeshi Hasegawa (2009), Boris Mizaikoff (2010), Michael W. George (2011), and Duncan Graham (2012). The award carries with it a \$1000 honorarium, a plaque, plus a \$500 travel allowance. Files of candidates will be kept active until the age of eligibility is exceeded. Annual updates of candidate files are encouraged and will be solicited from the nomination source by the award's committee chair.

The awardee will also be offered a 25-minute plenary lecture during the SciX meeting, at which the award will be presented. Further, a separate half-day award symposium honoring the award recipient and highlighting the interests of the awardee will also occur at the same conference. Detailed nomination instructions including deadlines are available on the Coblenz web site at www.coblentz.org/awards/the-craver-award.

William G. Fateley Student Award. In 2010, a new student award in the name of William G. Fateley was created by the family and former group members of Bill Fateley, in conjunction with the Coblenz Society and the Society for Applied Spectroscopy. Winners of the Coblenz Student Award receive a copy of the Society's Deskbook, a certificate, and a year's membership in the Society. Their names and the names of their faculty advisors will appear in the Society's Newsletter published in *Applied Spectroscopy*. Winners of the William G. Fateley Student Award also receive a \$1000 prize and are asked to speak in the Student Awards Session at FACSS or another appropriate location.

The recipient of the inaugural 2010 Fateley Student Award was Ali Eftekhari-Bafrooei. The recipient of the 2011 William G. Fateley Student Award was Rohith Reddy of the University of Illinois at Urbana-Champaign, working with Professor Rohit Bhargava.

Detailed nomination instructions including deadlines are available on the Coblenz web site at www.coblentz.org/awards/william-g-fateley-student-award. Note that the Fateley student awardee is selected from the top three candidates who receive the Coblenz student awards, requiring that the students be nominated for the Coblenz student award prior to consideration for the Fateley student award.

Ellis R. Lippincott Award. The Ellis R. Lippincott Award is presented annually to an outstanding vibrational spectroscopist. It is co-sponsored by the Coblenz Society, the Society for Applied Spectroscopy, and the Optical Society of America. The award is presented in memory of Professor Ellis R. Lippincott to scientists who have made significant contributions to vibrational spectroscopy as judged by their influence on other scientists. It is awarded annually at an appropriate scientific meeting. The award consists of the medal and travel allowances to the meeting. The awardee will present an address related to contributions for which he/she is being honored. In addition, there may be a symposium of talks by invited speakers.

Recipients of the medal must have made significant contributions to vibrational spectroscopy as judged by their influence on other scientists. Because innovation was a hallmark of the work of Ellis

R. Lippincott, this quality in the contributions of the candidates will be carefully appraised. The contributions may be theoretical, experimental, or both, and may have been made in the course of applied as well as basic research. No restriction is placed on the citizenship or national origin of candidates. A candidate need not be a member of any of the sponsoring societies. The award will not be made posthumously unless an awardee should die after the procedure of selection has been completed.

Nominations should contain the name and affiliation of the nominee and sufficient background information to justify the nomination. A nominator is expected to believe sufficiently strongly in the quality of the work of his or her candidate to provide evidence of that belief. No restriction is placed on who may nominate, and all nominations received by the committee prior to October 1st, 2012 in any year will be considered for the award to be presented in the fall of the following year. Files of nominees will be kept active for three years, after which the nominee must be renominated with an updated file or the file will be closed. Nominations for the Ellis R. Lippincott Award are accepted from January 1st through October 1st, 2012.

Previous recipients include: Richard G. Lord (1976), Lionel Bellamy (1977), Bryce Crawford, Jr. (1978), E. Bright Wilson (1979), George C. Pimentel (1980), Ian Mills (1981), Michel Delhay (1982), John Overend (1983), Jon T. Hougen (1984), Ira W. Levin (1985), Wolfgang Kaiser (1986), C. Bradley Moore (1987), Andreas C. Albrecht (1988), Marilyn E. Jacox (1989), Robert W. Fields (1990), Richard J. Saykally (1992), John F. Rabolt (1993), Herbert L. Strauss (1994), Giacinto Scoles (1995), Giuseppe Zerbi (1996), Robin Hochstrasser (1997), Takeshi Oka (1998), Mitsuo Tasumi (1999), Donald Levy (2000), Lester Andrews (2001), Sandford Asher (2002), Shaul Mukamel (2003), Richard Mathies (2004), Jaan Laane (2005), Hai-Lung Dai (2006), Jonathan Tennyson (2007), Richard Van Duyne (2008), Michael Fayer (2009), Martin Moskovits (2010), and Isao Noda (2011).

Detailed nomination instructions including deadlines are available on the Coblenz web site at www.coblentz.org/awards/the-lippincott-award.

Williams-Wright Award. This award is presented annually at the Pittsburgh Conference to an industrial spectroscopist who has made significant contribution to vibrational spectroscopy while working in industry. The Williams-Wright Award Symposium is held in honor of the awardee and immediately follows the presentation. The work may include infrared and/or Raman spectroscopy and instrumental development, as well as theory and applications of vibrational spectroscopy. Government labs are not considered industry in this definition. No restrictions are placed on the selection of the awardee because of age, sex, or nationality, but the awardee must still be working at the time the award is presented. The award consists of a framed certificate and an honorarium. In order to ensure that the award is based on an independent evaluation of the candidate's achievements, the selection is made by a committee chosen by the Coblenz Society.

Previous recipients of the Williams-Wright Award are: Norman Wright (1978), Norman Colthup (1979), Jeannette Grasselli (1980), Paul Wilks/James Harrick (1981), Robert Hannah (1982), Harry Willis (1983), Robert Jakobsen (1984), Clara D. Craver/Richard A. Nyquist (1985), Abe Savitzky/Joseph J. Barret (1986), A. Lee Smith (1987), Darwin L. Wood (1988), D. Bruce Chase (1989), John F. Rabolt (1990), Robert J. Obremski (1991), Timothy Harris (1992), Curtis Marcott (1993), John M. Chalmers (1994), Michael R. Philpott (1995), Bob Messerschmidt (1996), Michael J. Pelletier (1997), Henry Buijs (1998), Don Kuehl (1999), John Reffner (2000), Raul Curbelo (2001), Isao Noda (2002), Neil Everall (2003),

Neil Lewis (2004), Fran Adar (2005), Harry Owen (2006), Michael Carrabba (2007), Rina Dukor (2008), Jerome J. Workman (2009), Patrick Treado (2010), Howard Mark (2011), and Richard Crocombe (2012).

Detailed nomination instructions including deadlines are available on the Coblenz web site at www.coblenz.org/awards/the-williams-wright-award.

William G. Fateley Student Award: A Special Call for Contributions. The family and former group members of William G. Fateley, in conjunction with the Coblenz Society and the Society for Applied Spectroscopy, created an endowment supporting a student award in his honor in 2010.

A lasting component of Bill's legacy was his encouragement for students to attend professional conferences and meet their peers. He made it a goal to introduce young scientists to the "people" in the field and to get them personally involved. Fostering this interaction was important to Bill; perhaps as much as it was for the science. His efforts included sending his students to many international conferences. If need be, he even went as far as to bring the social interaction center (disguised as a mobile spectroscopy lab) directly to the conference. Bill's commitment to encouraging students to attend conferences, meet and interact with their colleagues and contribute to the field of spectroscopy, has produced a whole new generation of spectroscopists. These actions have enriched the groups and societies that Bill championed so strongly and this is the legacy that we hope to continue with the establishment of this award.

The inaugural award was presented during the two special sessions at FACSS 2010 honoring Bill Fateley. These sessions consisted of a mixture of presentations from Bill's colleagues and former group members. The William G. Fateley Student Award is being administered by the Coblenz Society. The Society is currently accepting contributions to the initial endowment of the Fateley award. Please consider contributing to the formation of this award, and continuing the positive impact Bill Fateley had on the spectroscopic community.

Due to his worldwide impact on the field of spectroscopy, tax deductible donations to the award fund are encouraged from all of "Wild" Bill's friends, colleagues and professional societies. Funds may be sent to:

"The Coblenz Society / The William G. Fateley Award",
acct: 469576552
JPMorgan Chase Bank
243 E Main Street
Ashland, OR 97520

For those who prefer to send a check, please mark it as a contribution to the William G. Fateley Award and send it to the treasurer of the Coblenz Society.

SOCIETY ANNOUNCEMENTS

Membership. Anyone wishing to join the Society may do so by submitting an application at the Coblenz web site (www.coblenz.org/Membership) or by contacting Dr. Mark Druy, Coblenz Society Membership Chairman, Physical Sciences, Inc., 20 New England Business Center, Andover, MA 01810. Phone: (978) 738-8195, Fax: (978) 689-3232, e-mail: druy@psicorp.com. Dues can also be paid online at the Coblenz web site (<http://www.coblenz.org/payments>). Coblenz society memberships can also be obtained in tandem with Society for Applied Spectroscopy memberships through the SAS web site (www.s-a-s.org). We also welcome suggestions for Honorary memberships in the Society.

Board Meeting. The Coblenz Society Board will hold its semi-annual meeting at the 2012 PittCon conference. Please consult the Coblenz LinkedIn site for further information. Any article of business that you want the Board members to consider must be sent in writing to Michael Myrick, Coblenz Society President (see address at end of newsletter), prior to the conference.

COBLENTZ SOCIETY BOARD

Linda Kidder
Malvern Instruments Inc.
7221 Lee Deforest Drive, Suite 300
Columbia, MD 21046
phone: (410) 953-6166
email: linda.kidder@malvern.com
Term Expires March 2013

Brandy Smith-Goettler
Merck and Co., Inc.
WP78-110
P. O. Box 4
West Point, PA 19486-0004
phone: (215) 652-5487
email: brandyemichelle_smithgoettler@merck.com
Term Expires March 2013

Christian Pellerin
University of Montreal
Department of Chemistry
CP 6128, Succ. Centre-ville
Montréal, QC, H3C 3J7
phone: (514) 340-5762
fax: (514) 340-5290
email: c.pellerin@umontreal.ca
Term Expires March 2014

Luisa T.M. Profeta
Midwest Research Institute
425 Volker Boulevard
Kansas City, MO 64110-2299
phone: 816-753-7600 × 1372
fax: 816-531-0315
email: lprofeta@mriresearch.org
Term Expires March 2014

Karl Booksh
University of Delaware
Department of Chemistry and Biochemistry
Lammot du Pont Laboratory
Newark, DE 19716
Tel: (302) 831-2561
email: kbooksh@udel.edu
Term Expires March 2015

Heather Brooke
Merck & Co., Inc.
556 Morris Avenue
S7-D3-3500B
Summit, NJ 07901
Tel: (908) 473-5533
email: hbrookechem@gmail.com
Term Expires March 2015

Francis W.L. Esmonde-White
University of Michigan,
Department of Chemistry
930 North University Ave., Room 4638
Ann Arbor, MI 48109
phone: (734) 531-9153
email: francis@esmonde-white.com
Term Expires March 2016

Christina R. Young
U.S. Food and Drug Administration
9200 Corporate Blvd.
Rockville, MD 20850
email: christina.young@fda.hhs.gov
Term Expires March 2016

COBLENTZ SOCIETY OFFICERS

President

Michael Myrick
University of South Carolina
Department of Chemistry
631 Sumter Street
Columbia, SC 29208
phone: (803) 777-6018
email: myrick@sc.edu

President-Elect

Jim Rydzak
GlaxoSmithKline
709 Swedeland Road MS UW2940
King of Prussia, PA 19406-0390
phone: (610) 270-5242
email: James.W.Rydzak@gsk.com

Secretary

Richard Crocombe
Thermo Fisher Scientific
900 Middlesex Turnpike, Building 8
Billerica, MA 01821 USA
phone: (978) 215 1419
email: richard.crocombe@thermofisher.com

Treasurer

Mary W. Carrabba
Southern Oregon University,
Science 258
1250 Siskiyou Blvd.
Ashland, OR 97520
phone: (541) 552-6405
fax: (541) 552-6415
email: carrabbam@sou.edu

Newsletter Editors

Francis W.L. Esmonde-White
University of Michigan,
Department of Chemistry
930 North University Ave., Room 4638
Ann Arbor, MI 48109
phone: (734) 531-9153
email: francis@esmonde-white.com

Karen A. Esmonde-White
University of Michigan Medical School
Department of Internal Medicine, Rheumatology Division
1150 West Medical Center Drive MSRB II Room 3554
Ann Arbor, MI, 48109
phone: (734) 531-9154
email: karen@esmonde-white.com