

Dr. Jennifer Stern, NASA, to Speak at November Dinner Meeting

Dr. Jennifer Stern, NASA, will be the featured speaker at the next CSW dinner meeting on November 8, 2012. Details about the meeting can be found on pages 2-3.

Dr. Jennifer (Jen) Stern is a Space Scientist at NASA Goddard Space Flight Center in the Planetary Environments Laboratory, specializing in studying the atmosphere and surface of Mars, and developing instruments to make geochemical measurements on planetary surfaces. She is a member of the science team for the Mars Science Laboratory Rover Curiosity, which landed in Gale Crater on Mars in August 2012. She is also a team member on the Sample Analysis at Mars (SAM) Instrument Suite, one of the 10 instruments on Curiosity, which uses mass and laser spectrometry to measure the chemical composition of the atmosphere and surface of Mars.



Dr. Stern has a BA in Geology-Biology from Brown University and a PhD in Geochemistry from Florida State University, where she developed analytical techniques for stable carbon and oxygen isotope and trace metal analysis of environmental waters. She decided to apply her interest in stable isotopes to astrobiology as a post-doctoral fellow at NASA Ames Research Center and NASA Goddard Space Flight Center, where she studied meteoritic organics and prebiotic organics formed under hydrothermal conditions.

Speaker Abstract: “Follow Your Curiosity – The Intersection of Chemistry and Geology in the Search for Habitable Environments on Mars”

On August 6, 1:32 a.m. EDT, the Mars Science Laboratory Rover Curiosity touched down in Gale Crater, making history as the largest and most capable rover to ever land on Mars. For two years, Curiosity will use its versatile payload to explore and assess Gale Crater as a potential habitat for life, past and present to answer the

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Deadlines Announced for Project SEED Mentors and Students

Those interested in mentoring a Project SEED student in 2013 should contact Project SEED coordinators Dr. Ajay Mallia (vajaymallia@gmail.com) or Dr. Walter Benson (wbenson270@aol.com). The deadline for Project SEED mentors to send their research proposals is January 30, 2013. Now is also the time for high school teachers and counselors to submit applications via email for potential 2013 Project SEED candidates. In order to be eligible to participate in Project SEED, students need to have completed a year of chemistry class by June 2012, and be able to prove economic disadvantage. For information on Project SEED and student eligibility, contact the SEED committee or visit the Project SEED website at www.acs.org/projectseed.

Mentors Wanted for U.S. National Chemistry Olympiad

College educators are invited to apply for a position as mentor for the U.S. National Chemistry Olympiad program. Duties during the three-year term include helping to conduct the two week national study camp for high school students held at the United States Air Force Academy located in Colorado in June of 2014, 2015 and 2016. Generally, in their second and third year, mentors accompany four U.S. student competitors to the International Chemistry Olympiad (IChO). During the competition, the mentors will serve as members of the IChO Jury. The 2015 and 2016 IChO events are scheduled to be held in Vietnam and Spain respectively. Most students at the study camp have completed Advanced Placement Chemistry or the

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THE CHEMICAL SOCIETY OF WASHINGTON PRESENTS: *1113th Dinner Meeting*

Thursday, November 8, 2012
NASA Goddard Space Flight Center
Barney & Bea Recreation Center
10000 Good Luck Road

Agenda

6:00 p.m. Socializing and Poster Session with CSW Travel Grant Awardees

Open Bar with beer, wine and soda
Meatballs, veggie & dip, potato chips and pretzels

7:00 p.m. Dinner

Prime Rib and Oven Baked Chicken, Baked Potatoes, Oven Roasted Vegetables, Tossed Salad, Rolls and Butter, Desserts, Coffee, Tea

8:00 p.m. 50-Year Member's Award Ceremony

8:20 p.m. Featured Speaker, Dr. Jennifer C. Stern, NASA

COST \$26.00 Members & guests, \$13 Students

Reservations: Make reservations by **Monday, November 5, 2012, 12:00 noon**, to the CSW office: csw@acs.org or 202-659-2650. Please designate the names in your party. The public is invited to attend. You may attend the talk only, but reservations are appreciated. **Those who make a reservation, but are unable to attend, should send a check for the cost of their meal to the CSW office.**

Please note: EVERYONE, including those attending only the awards ceremony and/or lecture, MUST make a reservation with the CSW office by the deadline so their names are on the security list. Unfortunately, no walk-ins will be permitted. Thank you for your understanding.

Directions: From I-95/495 (Washington Beltway) take Exit 22A to the Baltimore-Washington Parkway (toward Baltimore). From the Baltimore-Washington Parkway take the exit to Greenbelt Road (Route 193); this exit is just a short distance from the Beltway and is a right turn exit. Turn left at the traffic light onto Greenbelt Road. Drive past the Main Gate of Goddard Space Flight Center on the left and Shopping Center with K-Mart on the right. Go to the second traffic light which is at Good Luck Road. Turn left onto Good Luck Road. Go to the first traffic light on Good Luck Road (it has a left turn lane) and turn left into the gate (No. 13) for the Goddard Recreation Center (less than 0.5 mile from Greenbelt Road). The gate has the number 13 on it. There will be a security guard stationed just inside the gate who will check the names in your party against the attendance list.

Speaker Abstract, Continued from Page 1

question: could Mars have been capable of supporting life at some point in its history? To this end, Curiosity will characterize the biological potential, geological and geochemical history, the role of water, and the surface radiation environment of Gale Crater.

The Sample Analysis at Mars (SAM) Instrument Suite on Curiosity is central to understanding Gale Crater's potential for past and present habitability. SAM, developed at NASA Goddard Space Flight Center, consists of a quadrupole mass spectrometer (QMS), six gas chromatography (GC) columns, and a tunable laser spectrometer (TLS). SAM will inventory the chemical and isotopic composition of the atmosphere, surface regolith, and rocks comprising "Mt. Sharp," the 5 km high mound in the center of Gale Crater. While the primary goal of the SAM investigation is to perform a broad search for organic compounds and measure the isotopic composition of carbonaceous material on Mars, SAM will also

help constrain past environmental conditions on Mars by the identification of minerals and measurements of volatiles such as SO₂ and H₂O evolved from solid samples. The complexity of SAM is coupled with the versatility to perform a wide range of measurements on solid and gaseous samples, and to optimize measurements based on data returned from other instruments or SAM experiments performed earlier in the mission.

Though the capabilities of the Sample Analysis at Mars (SAM) instrument suite to detect trace amounts of organic carbon compounds are unprecedented, the search for reduced organic carbon on Mars is inextricably tied to: a) the potential for organic molecules to form in a given environment, and b) the preservation potential for organics in the environment from which we take a solid sample. Gale Crater, chosen from multiple candidate landing sites because of orbital detection of stratigraphic sequences of hydrated clays and

sulfates in the mound, may well offer the kind of geological environment that favored the formation and preservation of organics. These sedimentary rocks are thought to represent a period of global climate transition from a moderate pH lacustrine environment to an evaporitic environment, both of which could sequester organic carbon.

The first 90 sols of the Mars Curiosity mission have seen the use of all ten instruments on Curiosity, revealing new information regarding the composition of the atmosphere and radiation environment on Mars, as well as geological evidence for swiftly flowing water in this location on Mars in the past. Now, as we take our first scoop of solid sample for the first SAM analysis of Mars surface materials, we enter the next phase in our assessment of the geochemical history of Gale Crater, and take a step closer to answering the question of whether Mars could have ever supported life.

CSW to Honor 50-Year ACS Members at November Dinner Meeting

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Jane Sayer
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Vane G. Smith Jr.
William M. Tolles
Anne H. Turner
Patricia C. Vacca
Gideon M. Varga Jr.

Calendar of Events



November Dinner Meeting

November 8, 2012
NASA Goddard
Speaker: Dr. Jennifer C. Stern, NASA
Posters by 2012 CSW Travel Grant Awardees

Voting Deadline for CSW Election

November 15, 2012

December Dinner Meeting

December 12, 2012
Firestation 1 Restaurant, Silver Spring, MD

January Dinner Meeting

January 10, 2013
Marvel Hall, ACS Hach Building

Remembering Jim Zwolenik (1933-2012)

On Friday, October 5, 2012, James Zwolenik, age 79, died peacefully at his residence in Washington, DC. He is survived by his brother Edward and by his cousins Robert, Edissa, Clare, Bernadette and Christine.

Born in Cleveland, Ohio, Dr. Zwolenik graduated from Case Western Reserve, earned a Ph.D. in physical chemistry at Yale and was a postdoctoral fellow at Cambridge University. He worked at the Chevron research laboratories before beginning a long career with the National Science Foundation. In his last position, he was the Assistant Inspector General for Oversight. He was very active in the Washington, DC chapter of the American Chemical Society and was also elected to the Cosmos Club.

For more than 40 years, he remained an active parishioner at St. Stephen Martyr RC Church, where he dedicated his time to the liturgy, to students at George Washington University through the Knights of Columbus, and to numerous charitable works of the parish. He will be deeply missed by his many friends in the DC Metro area. A Memorial Mass will be held *[sic]* on Friday, October 19 at noon at St. Stephen's Church, 2436 Pennsylvania Ave, NW Washington, DC. In lieu of flowers, donations may be sent to the George Washington University Chapter of the Knights of Columbus (kofc@gwu.edu).

Courtesy of the Washington Post, published 10/17/2012

"Throughout his many years of service in CSW, James Zwolenik showed a particular devotion to educational activities, chairing the Education & Outreach Committee for several years. This dedication is perhaps best exemplified by his herculean efforts organizing three different community outreach symposia. In 2006, Jim saw an opportunity to use the growing popularity of CSI, NCIS, and similar TV shows as a teachable moment and convinced the CSW Board of Managers to support a one-day community symposium on the applications of chemistry in forensic science. Jim tackled the project with his usual vigor, obtaining financial support from ACS, and recruiting a first-rate roster of speakers, including forensic science faculty from local universities and personnel from forensic laboratories. He also took pains to ensure that the program would be interesting, comprehensible, and relevant to the widest possible range of attendees, from high school students to professional chemists. The resulting "Forensic Chemistry in Action" workshop was a success beyond anyone's expectations. Most of the over 100 attendees expressed enthusiasm on participant surveys, with one going so far as to say that this was the first time in twenty years that he was motivated to attend a CSW event!

Several of the participants commented that they would like to see CSW



Zwolenik, far left, at the CSW Career Symposium in 2011

do more of these workshops in the future. A mere 18 months later, in April 2007, Jim brought a similar workshop, this one focused on the applications of chemistry in toxicology, to fruition. As before, the program would not have been possible without his efforts to obtain funding, fine facilities, and excellent speakers. Again, attendance was excellent, with an audience ranging from high school students to retired chemists, and par-

...Continued on page 5



"I was truly saddened to learn about the death of Jim Zwolenik. Jim was a soft spoken gentleman, ever kind hearted, who went out of his way to assist all individuals who crossed his path with his sage advice and experience. Even in failing health, Jim continued to attend meetings, setting a quiet example for those that served with him.

I first met Jim nearly 4 years ago. Having just moved to the DC area, I was looking to become involved with The Chemical Society of Washington. Not only was I new to the area, I was new to participating with any type of organization outside of a laboratory. To my surprise, Jim called me up on the phone, explained the activities that CSW participated in, and personally invited me to a monthly dinner meeting.

But it didn't end there! When I actually attended the dinner meeting, Jim went out of his way to introduce me to nearly everyone in attendance. More than anything else, Jim's kindness that night was what brought me back to the next dinner meeting. From there I became more involved with CSW, volunteering at first and later joining the Board of Managers. This gave me the confidence to become involved with other groups, to where I am now serving on the Leadership Boards of two other organizations. And all of this would not have been possible if Jim had not first extended his hand to me in friendship and camaraderie.

Jim was a positive influence on my life and for that I am eternally grateful. It was an honor to know him and it is with regret that I say good-bye."

—Robert Wiacek, PhD, President, CSW

CSW Travel Awards Assist Local Students with ACS National Meeting Costs

The Chemical Society of Washington is pleased to announce a travel award to defray travel and or registration costs to a National ACS meeting. Eligible expenses can be meeting registration or travel expenses, such as registration, airfare and lodging. Applicants should submit the following by Midnight 1/4/2013 to CSW (email: CSW@acs.org):

1. A cover letter stating how and why attending this ACS meeting will promote his/her career;
2. The applicant's CV;
3. A letter of recommendation from the student's mentor explaining why the student deserves the award and how this will help his/her professional development;
4. An accepted abstract with proof of acceptance.

Within three weeks of returning from the ACS meeting, the awardees should submit receipts to the Treasurer for any or all of the eligible expenses described above, after which the Treasurer of the Chemical Society of Washington will issue a check to each of the awardees. After returning from the conference, awardees will be asked to present their posters at one of the upcoming CSW dinner meetings.

The award is not intended for post-doctoral fellows. There will be a maximum of 4 awards available for the 2013 National meeting in New Orleans. Each award will be for \$500 and award of this stipend will be based on the review of the above materials. The award is open to students who are graduate students in the jurisdiction of the Chemical Society of Washington.

Zwolenik, cont. from page 4

ticipants expressed enthusiasm about the program. Not willing to let us rest on our laurels, Jim began work on a third symposium, this one focused on careers in chemistry to be held in October 2010. Unfortunately, a major political rally was later scheduled for the same weekend as the symposium, and too few registrations were received to justify going forward with the program. Where many others might have called it a day and accepted failure, Jim pressed on and the symposium was rescheduled to April 2011. He even managed to retain almost the entire original panel of speakers. The program was again a success, with one attendee heard to comment that she wished ACS would do a similar workshop at national meetings. The success of these programs in the face of all adversity shows us the sort of dedicated leader we have lost with Jim's untimely passing. May he rest in peace."

—Jason Schaff, Alt. Councilor, CSW

The Retired Chemists Group
offers a social program of luncheons
and outings available to all.
csw.sites.acs.org/rcg.htm

Olympiad, cont. from page 1

equivalent; therefore instruction at the camp is well beyond the level of high school general chemistry courses. The curriculum also includes considerable laboratory work.

Successful applicants are expected to have background in one or more of the areas of organic, inorganic, analytical, physical, or biochemistry with classroom experience and should demonstrate involvement with students in special projects or activities. Applicants must be prepared to make a three-year term commitment as outlined above. ACS pays all expenses and travel costs, as well as an honorarium.

Interested individuals may obtain an application form at:

www.acs.org/olympiad, or by contacting Margaret Thatcher, Lead Program Associate, at 202-872-6328.

The **deadline** for completed applications is **January 26, 2013**. Applicants must also arrange to have *three letters of reference forwarded to Cecilia Hernandez by February 9, 2013* at the above address.

For more information, please call Cecilia Hernandez at (202) 872-6169.

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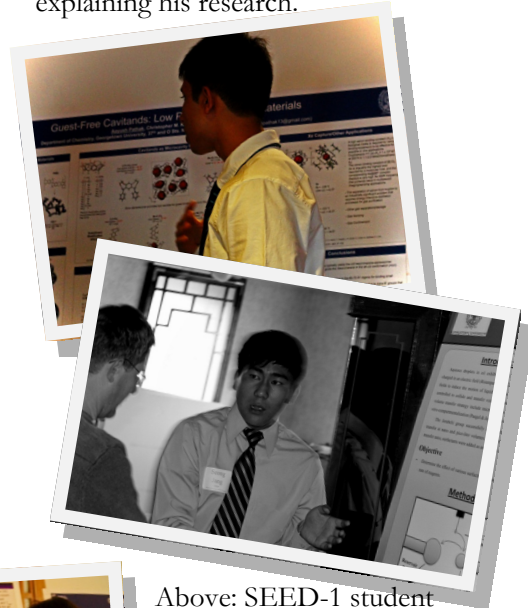


2012 Project SEED Poster Presentation Held at October Dinner Meeting

Contributed by Dr. Ajay Mallia and Dr. Walter Benson, Project SEED Co-coordinators

Since 1968, the ACS Project SEED program has provided economically disadvantaged high school Chemistry students with the opportunity to do hands-on scientific research with a mentor at a research institution. This year, the CSW Project SEED committee supported 9 talented high school students to work at research institutions such as FDA, University of Maryland, Georgetown University, and George Washington University during the summer. The eight selected first year SEED students received \$2,500 and one second year SEED student received \$3000 during the summer. The CSW Project SEED committee is happy to announce that all SEED fellows successfully completed their research work and all necessary requirements. To make all CSW members aware of the research achievements of the high school students, the Project SEED committee organized a poster presentation at the CSW monthly meeting held on October 11, 2012 at Far East restaurant, Rockville. This provided the students an opportunity to present and defend their research findings. The poster presentation was well attended by the students' parents and chemistry teachers, as well as their mentors and their spouses. The CSW Project SEED committee co-chair Dr. Walter Benson congratulated all the students for successfully completing their summer research projects and awarded a certificate of accomplishment to each of the SEED fellows and wished them a great future career in chemistry.

SEED-1 Student Aayush Pathak explaining his research.



Above: SEED-1 student Seong Jang explaining his poster.

Left: SEED-2 student Hyae-in Seo explaining her research at the meeting.



SEED coordinator Dr. Walter Benson with SEED-1 student Mujuni Millanga.



SEED mentor Professor Sadtchenko, with SEED-1 student Alejandra Torres



SEED students with their parents, mentors and teachers enjoying the meeting.

Project SEED Needs Your Support!

Project SEED cannot operate without the help from individuals and companies that support the Scientists-in-training. Are you interested in supporting Project SEED? This year we unfortunately turned away many applicants because of lack of funding. CSW has established the Noel Turner Memorial Fund to help support Project SEED. Your donation will be used for student stipends (\$2500 for the SEED-1 and \$3000 for the SEED-2 program). Your contribution is fully tax deductible. Contact the Project SEED coordinators or CSW (csw@acs.org, phone, 202-659-2650) for more information.

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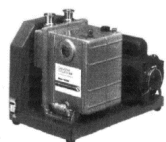
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- Hospitals for technical and research personnel

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- www.mboservices.net
- <http://membership.acs.org/W/WashDC/career.html>

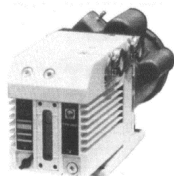


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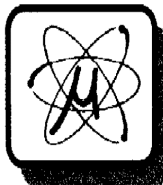
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