

American Chemical Society

Form: Part II - Annual Narrative Report

Organization: Michigan State University

Year: 2009

A. Activities

Please describe and rank up to ten of your section's activities during 2009. Provide (a) the title of the activity, (b) a one paragraph description of the activity, and (c) an indication if this activity was new in 2009. If you wish to provide details beyond these paragraphs, please do so in Appendix 1.

Activity #1

a) Title: Chemistry Day

On Saturday, October 10, 2009, the MSU Local Section of the ACS celebrated National Chemistry Week (NCW) with our 23rd annual Chemistry Day event. This year, 900 people visited Chemistry Day at Impression 5 Science Center! Among those in attendance were Boy and Girl Scouts who earned a participation patch for completing nine special activities, many of which related to the theme of the day, Chemistry - It's Elemental. Thanks to a generous donation from Emergent BioSolutions, admission to Impression 5 was free! Emergent BioSolutions also gave every child in attendance a pair of safety glasses! The MSU Local Section gave everyone who attended Chemistry Day an NCW activity newspaper (Celebrating Chemistry), a Hooray for Chemistry bag, a NCW sticker, a Proud to be a Chemist temporary tattoo, and a NCW helium balloon. In addition to the regular exhibits at Impression 5, tables of hands-on activities and chemical demonstrations were presented by students from the Department of Chemistry at MSU, the MSU Soil and Plant Nutrient Lab, the National Superconducting Cyclotron Laboratory (NSCL) at MSU, MSU student organizations: ACS Younger Chemists Committee, NOBCChE (National Organization of Black Chemists and Chemical Engineers), Science Theatre, Alpha Chi Sigma (chemistry fraternity), Omega Chi Epsilon (chemical engineering honorary); and students from Olivet College and Eaton Rapids High School. Many of the activities and demonstrations showcased the elements! Activities included the determination of iron in cereal, the iodine clock reaction, flame tests for different elements, soil testing to monitor phosphorus movement from soil to groundwater, and an element matching game!

Description
(Please limit

b) to one paragraph):

c) This activity was new in 2009

Activity #2

a) Title Women in Chemistry

Women in Chemistry (WiC) continues to be successful in increasing the involvement of students in the organization, and WiC in the community. WiC's outreach program continues to focus on encouraging and sustaining the interest of young people in the sciences. Activities included presenting three hands-on demonstrations at the 2009 Science Fun Day in East Lansing. WiC also organized several activities which offered a supportive environment within the community and to increase participation. WiC members again participated in the American Cancer Society's Making Strides Against Breast Cancer walk.

Description
(Please limit

b) to one paragraph):

c) This activity was new in 2009

Activity #3

a) Title K-12 Teacher Support Group Meetings

Established in 2008, the local area K-12 teachers support group continued to hold monthly meetings throughout 2009. The aim of these meetings is to promote regular networking, resource sharing and professional development opportunities for local section area chemistry teachers. Activities of the group are defined by the needs of the attending teachers and may include: Topical Discussions, Practice Sharing, Demonstrations, Laboratory and Benchmark Assignment Development, Standards Based Curriculum, Assessment Tools, Use of Technology in Instruction, Guest Speakers, Workshops and Continuing Education opportunities. Attendees bring copies of their favorite lab experiments, demonstrations, and lesson ideas to share among group members. The monthly meetings were well attended by chemistry teachers from local area schools (Sexton, East Lansing, Okemos, St. Johns, Williamston, DeWitt, and Perry High Schools and Mount Hope Elementary School), as well as by members of the Department of Chemistry. Guest presentations were given in 2009 by faculty from Albion Collage and from the MSU Cyclotron laboratory.

Description
(Please limit

b) to one paragraph):

c) This activity was new in 2009

Activity #4

a) Title: Midwestern Univ. Anal. Chem. Conf.

The ACS MSU local section sponsored an oral session at the 2009 Midwestern Universities Analytical Chemistry Conference (MUACC09), hosted by the MSU Department of Chemistry and held from December 3rd - 5th, 2009 at Michigan State University. MUACC, held annually since 1946, offers a chance for those interested in research, teaching, and service in the broad context of analytical chemistry to gather to exchange ideas, to strengthen the common threads that bind and define analytical chemistry, and to report on cutting-edge work in progress that is helping to shape the dynamic landscape of measurement science in the Midwest. This years conference was attended by 117 faculty, post doc s and graduate students from 32 undergraduate and graduate degree granting universities throughout 10 states of the midwest.

Description
(Please limit

b) to one paragraph):

c) This activity was new in 2009

Activity #5

a) Title: Chemistry Olympiad

The MSU Local Section competition was held on Friday, March 13th in the Department of Chemistry at MSU. A total of 39 students from the following high schools participated: East Lansing, Grand Ledge, Holt, Okemos, Owasso, and Perry. The event was coordinated by MSU Professor Merlin Bruening. The day began with a two hour written examination. This was followed by a Chemical Demonstration Show and an awards ceremony. The student with the highest score on the exam was John Norwood from East Lansing High School. He received a cash award of \$50 from the local section. Franklin Lui from Okemos High School finished in second place and Eleanor Melfi from East Lansing High School came in third. They each received a cash award of \$25.

Description
(Please limit

b) to one paragraph):

c) This activity was new in 2009

Activity #6

a) Title: Undergraduate Awards

The following undergraduate students were recognized for their outstanding achievement in chemistry programs/courses by the MSU local section of the ACS. These students received certificates and monetary awards.

Outstanding Graduating Chemistry Major Awards

Michigan State University: Mr. Eric Wolf (BS major)
&
Mr. Matthew Singh (BA major)
Olivet College: Ms. Katelyn Misko

Michigan State University Outstanding Undergraduate Awards:

Freshman Chemistry: Mr. Joshua Schackmann and Mr. John Matthew Franklin
Freshman Honors Chemistry: Mr. Nolan Shepherd

Organic Chemistry: Mr. Robert Hasselbeck and Mr. Joseph Nettleman

Physical Chemistry: Mr. Jason Weerawat and Mr. Ryan Reynolds

Analytical Chemistry: Ms. Hazel Atienza and Ms. Laura Pressprich

Description Inorganic Chemistry: Mr. Matthew Mangliers

(Please limit

b) to one paragraph):

c) This activity was new in 2009

Activity #7

a) Title: Travel Grants

The MSU Local section has limited funds available to provide travel support to chemical research/educational conferences. Travel grants up to \$250.00 may be awarded to individuals who are members of the MSU Local Section or the local K-12 science education community who have a paper accepted at a conference sanctioned by the American Chemical Society. The application must be received at least one month before the conference. Applications will be reviewed by the MSU Local Section Executive Committee and the support decision will be delivered to the applicant by the Chair. Only those who have never received a local section travel grant in the past are eligible. Interested persons should fill out the on-line application. Contact a Local Section board member if you have questions or need more information.

MSU Department of Chemistry graduate students Mr. Paul Wrzesinski, Ms. Parul Jain, Ms. Amber Hupp, Mr. Chris Hupp, Ms. Thu Nguyen, and Ms. Karrie Manes received travel grants from the MSU local section to present their research at spring 2009 meetings.

Description:
(Please limit to

b) one paragraph):

c) This activity was new in 2009

Activity #8

a) Title: YCC

Our group managed to double our membership in the last year along with participating in several events. We took on activities including visits from local high schools to get hands on experience in our analytical and physical labs. We also participated in science Olympiad and Chemistry Day. Both activities promote chemistry involvement to children of many ages. We also hosted social events to promote engagement from our current department staff and incoming students. The game night we hosted which brought together a number of students from various backgrounds. We also hosted a welcome breakfast for the incoming graduate students which was the primary reason we doubled our membership. Finally we continued our efforts to participate in charity projects. This was accomplished through continuing the food drive we hosted the previous year. This year we expanded to include our nuclear chemists and raised an estimated \$1,250 worth of donations, which surpassed the previous total.

Description:

(Please limit to

b) one paragraph):

c) This activity was new in 2009

Activity #9

a) Title: Project SEED

PROJECT SEED AT MSU, SUMMER 2009

Team: Professors Babak Borhan, Robert Maleczka, James Jackson, James Geiger, Merlin Bruening and Greg Baker, and graduate assistant Mercy Anyika

Project SEED was started by the American Chemical Society in 1968 to provide a summer research experience in chemistry or a related field to economically disadvantaged high school students. Students are placed in academic, industrial, and government laboratories for eight to ten weeks during the summer to participate in hands-on research. Professor Babak Borhan, assisted by graduate student Mercy Anyika was in charge of recruiting and mentoring students. Letters of invitation were sent out to local high school science teachers with significant populations of economically disadvantaged students since the ACS requires the family income of each participating student to be no more than 200% of the Federal Poverty Guidelines for his/her family size. Teachers with interested students responded and

were sent an application designed by the MSU team. Each application required a resume, a statement of interest, and a letter of recommendation from a science teacher. This encouraged the students to highlight their talents as well as taught them important business skills for requesting recommendation letters and submitting applications.

Dr. Borhan enlisted the help of Professors Robert Maleczka, James Jackson, James Geiger, Merlin Bruening and Greg Baker to host Project SEED students. Each professor was responsible for designing a research experiment suitable for a short-term project. The six projects of the summer included the crystallization studies of SNAPc 190, 50 and 43 subunits, synthesis of tripodal hosts for stereochemical determination of chiral organic molecules, making mixtures of methylphenanthrenes for hydrogen storage, making nylon membranes of PSS and PEI for the filtration of positive and negatively charged particles from water, and the synthesis of 3KPZS pheromone. Two students from Jackson High School, two from East Lansing High School, one from Meridian High School and one from Everett High School were chosen to participate in this program. Each Summer I student received \$2,800 and Summer II students received \$3,300 for the eight-week session. Funding was generously provided by the MSU Office of the Provost, the College of Natural Science, Department of Chemistry, and The Vice President s Office for research. All of the students were very excited about the opportunity to participate in this program, which began with a meeting to introduce them to each other and to their respective professors. Weekly meetings were held to allow the students to present their research as well as ask questions about various scientific issues, including working with graduate students and using laboratory equipment. At each meeting, Professor Borhan and Ms. Anyika covered different topics in organic chemistry to help the students better understand their research and how it related to larger projects or industrial research. In addition, the SEED students were required to turn in a weekly report detailing the

progress they had made during the week. Project SEED students were responsible for maintaining a lab notebook and following appropriate laboratory safety procedures, as well as understanding their project and the chemistry it involved. Each student had taken at least one chemistry class, but high school students generally have very little knowledge of organic chemistry, so it became the responsibility of the professors and their research assistants to ensure that the students had the necessary skills and knowledge to undertake their individual research projects. At the end of the summer, all of the Project SEED students were required to present their research in the form a formal paper of their research accomplishments from the summer. This helped develop their scientific writing skills and ensured they understood the research they had performed. Project SEED mentors are also encouraged to support their students with college and career counseling.

All six of the student participants enjoyed their experience. Two of them have been accepted back next year as Summer II students. All of the students expressed interest in pursuing further studies in science. The program will be maintained in the summer of 2010. As always, we work hard to target local schools, and have developed a network of teachers to promote this program with the students they

Description: feel would benefit most from this unique experience.

b) one paragraph):

c) This activity was new in 2009

Activity #10

a) Title: Organic Mechanism Club

The Organic Mechanism Club is an informal group of students and faculty who meet weekly to discuss questions. This same group will also go over current and historic literature and present problem sets. We will also invite the author of each month's cumulative exam to join us and discuss their test. The "Mechanism Club" also gives students a chance to create their own problem sets and lead discussions over their answers.

Description:

(Please limit to

b) one paragraph):

c) This activity was new in 2009

B. Summary - Overall Section Activities

Please summarize in *1,000 words or less*, the activities of the section in 2009 which have not been already described. Outstanding events should be described in some detail and appropriate attachments included in Appendix 3. Programs described here may be featured in publications produced by the ACS Membership Division and/or at the Local Section Leaders Conferences.

C. Local Section and Chair Goals

2009 Goal Attainment. The Local Section Activities Committee strongly encourages local section planning. As a result, the 2010 local section annual report should follow-up on the attainment of goals. Please list the goals you set at the beginning of your term for your

1. section and yourself, and report on the attainment of the goals.

a) Local Section Goals and Assessment:

1. To enhance the professional development of our section members.
2. To encourage and inspire young students to pursue careers in the natural sciences, especially chemistry.
3. To provide a mechanism for informing/educating the general public on chemical issues.
4. To initiate a mentoring program to expand our outreach activities and support of minority students.

b) 2009 Chair's Goals and Assessment:

In the past year, we aided many students financially in attending a National ACS Meeting. In addition, we supported the WiC, Younger Chemists Committee and Organic Chemistry Club in their activities.

We issued a broad call for both volunteers at National Chemistry Week and participation in Chemistry Olympiad.

We also continued our High School Teachers support group meeting, holding one meeting per month during the fall and spring semesters. These meetings were well attended and we have started to include guest speakers, who have been well-received by our teachers.

2010 Goals. (This section should be completed by the 2010 local section chair.) Please list below at least three goals that you and your local section plan to accomplish during your term as local section chair.

a) 2010 Local Section Goals (Include at least three goals):

1. To enhance the professional development of our section members.
2. To encourage and inspire young students to pursue careers in the natural sciences, especially chemistry.
3. To provide a mechanism for informing/educating the general public on chemical issues.
4. To initiate a mentoring program to expand our outreach activities and support of minority students.

b) 2010 Chair's Goals:

1. Continue to provide financial support for the broad range of outstanding activities currently promoted by the section.
2. Increase involvement of schools and the local section membership with National Chemistry Week and other activities which inform/educate the general public on chemistry-related issues

D. Suggestions/Concerns

List any suggestions you have for the Local Section Activities Committee (LSAC). How can LSAC specifically help your section?