

# SAACS 2006-07 ANNUAL REPORT PICTURE FILE

## UNION UNIVERSITY

### JACKSON, TENNESSEE

JUNE 8, 2007

#### 1. ACS STUDENT AFFILIATES CHAPTER MEMBERS: Union University SAACS Chapter

Please list at least six of your Student Affiliates members and their ACS Student Affiliates numbers. You are encouraged to include a complete chapter roster, if possible. You may expand the table or upload a roster as an attachment to your report submission. Your chapter must have a least six national Student Affiliates in order to qualify for a chapter award or grants.

#### 2. COMMUNITY SERVICE: Union University SAACS Chapter

What types of community service or public outreach programs benefited audiences outside of your institution (excluding National Chemistry Week activities)? How did you promote the positive image of chemistry in your community? Did you administer a Community Interaction-Student Affiliates (CISA) Grant program or an Innovative Activities Grant (IAG) program relevant to this category? You may expand the table to accommodate more activities.



**Day of Remembrance Demonstrations at Bells Elementary School (11/08/2006)**



**Elementary Students Enjoy a Tasty Supper During the CISA Project (11/10/2006)**



**CISA Demonstrations in Progress (11/11/2006)**



**The Boy Scout Nuclear Merit Badge Workshop (03/17/2007)**

**3. NATIONAL CHEMISTRY WEEK/MOLE DAY/EARTH DAY: Union University  
SAACS Chapter**

What role did your chapter play in the promotion of National Chemistry Week, Mole Day, or Earth Day? How many persons were served during your activities? Include information on how you used the ACS Office of Community Activities, if applicable. You may expand the table to accommodate more activities.



**Presentation of the National Chemistry Week Proclamation (10/24/2006)**



**Nathan Eckley's Brown Bag Seminar Presentation (10/27/2006)**

#### A Special Word of Gratitude

The Department of Chemistry at Union University would like to express its sincere appreciation to the many chemically related industries, businesses and governmental agencies which have served as resources for students and faculty at Union University. In particular, gratitude is expressed to Dr. Mike Hayes for his generous support of undergraduate chemical research at Union University; to Kevin Hrebener for his encouragement and valuable consultation; to Mike Amicone for his gift of research chemicals; to Delta Faucet, Inc. for their provision of a research internship (2006); and to Dr. Matt Lansford and the Undergraduate Research Grant Program for support of our student research teams. We would also like to thank the administration of Union University for their continuing encouragement and support of undergraduate chemical research.

#### Union University CISA Grant

"Interactive Chemistry: The Classroom and Beyond!" is the ACS CISA grant-supported project that is being implemented in 2006-07. In an earlier competition for grant funding, the Union SAACS chapter became one of very few chapters nationwide to receive the maximum possible funding from the American Chemical Society. During the weekend of November 10-11, 2006, SAACS members will host a sleeper and interactive science demonstration day with elementary students from Lincoln Math and Science Magnet School. The science demonstrations will be conducted in collaboration with BIOME (Biologists in Observation of the Master's Earth) and SPS (Society of Physics Students), with the goal of helping students learn more about the major disciplines of science in an exciting and enjoyable atmosphere.

#### Outstanding Chapter Award

The Union University Student Affiliates Chapter of the American Chemical Society has been recognized with an Outstanding Chapter Award for the 2005-2006 academic year. This is the highest designation given to Student Affiliate Chapters by the ACS Committee on Education, and is highly competitive in nature. Also, for the same year, the Union SAACS chapter has been designated a Green Chemistry Chapter for its focus on safe and environmentally friendly projects. The chapter will be recognized with plaques commemorating these achievements at the 231<sup>st</sup> ACS National Meeting in Chicago, Illinois, March 25-29, 2007.

## NATIONAL CHEMISTRY WEEK



### SCHEDULE OF ACTIVITIES October 23rd-28th, 2006

Union University

Student Affiliate Chapter of the  
American Chemical Society  
and Department of Chemistry  
Jackson, Tennessee

## NCW Program (10/23/2006-10/27/2006)

#### Monday October 23rd, 2006

**October 23rd (10-23)** has been designated as National Mole Day. Chapter members are encouraged to call a friend or colleague at 6:02 A.M. on Monday, October 23rd and wish them a **HAPPY MOLE DAY!**

**Brown Bag Seminar** 12:00 P.M.  
Coburn Dining Hall 3

**Alydia Murray** "Development of the Lab Component for a Web-Based Non-Major College Chemistry Course"

**Allorie Smith** "Hydrogen Bonding in Highly Substituted Pyrroles"

**Crowning of Mole King and Queen** Coburn Dining Hall 3  
12:45 P.M.

**Molents** 12:50 P.M.

**Fire and Light<sup>®</sup> Demonstrations** 6:02 P.M.  
To promote the intriguing aspects of chemistry, as well as to involve the general student body in National Chemistry Week, chemical demonstrations will be performed by the faculty and students on the patio outside of the SUB building at 6:02 P.M.

#### Tuesday October 24th, 2006

**Brown Bag Seminar** 12:00 P.M.  
Coburn Dining Hall 3

**Rhett Barker** "Theoretical Structural and Electronic Analysis of 7-Coordinate and Octahedral Complexes Using GAMESS"

**Andrew McBride** "Spectral and Crystallographic Study of Seven-Coordinate Complexes"

**April Daigle** "Molecular Dynamic Studies of the Unusual Thresholds for the Reaction of *M*<sup>+</sup> and Isotopic H<sub>2</sub>"

**Keynote Seminar** "The Chemistry of Explosives" 6:00 P.M.  
Mr. Keith Butter Harvey Hall  
Chemistry Laboratory Supervisor  
American Ordnance LLC  
Milan, Tennessee

#### Wednesday October 25th, 2006

**Periodic Table of Cupcakes:** A giant Periodic Table of Cupcakes will be displayed (and eaten) beginning at 10:00 A.M. outside the Department of Chemistry Office Suite in the Penick Academic Center to encourage all students to celebrate National Chemistry Week.

**Brown Bag Seminar** 12:00 P.M.  
Coburn Dining Hall 3

**Sarah Conway** "Development of a Branched Chiral Selector Adsorbent with (S)-Naproxen termini"

**Wesley Hunter Stepp** "Development of a Branched Chiral Selector Stationary Phase with Vancomycin termini"

#### Thursday October 26th, 2006

**Brown Bag Seminar** 12:00 P.M.  
Coburn Dining Hall 3

**Kelly Tate** "The Bleaching Effects of Seven-Coordinate Compound Catalysts on Pterocyanol Chloride Dye"

**Reilly Eason** "Hydrogen Bonding Studies in Chemically Tuned Pyrroles"

**National Chemistry Week** UT Martin  
**KLACS Demonstration Night** 5:00-10:00 P.M.

SAACS students will be traveling to the University of Tennessee at Martin to attend the regular meeting of the Kentucky Lake Section of the American Chemical Society and to participate in demonstrations.

#### Friday October 27th, 2006

**Brown Bag Seminar** 12:00 P.M.  
Coburn Dining Hall 3

**Michelle Thornhill** "Hydrogen Bonding in Ortho-Substituted Benzenes"

**Nathan Eckley** "Depressor Reduction and the Creation of Instrumental Procedures to Test for Hydraulic Oil on Paris"

## NCW Program (10/23/2006-10/27/2006)

**SPEAKER:** Keith Butler  
Chemistry Laboratory Supervisor  
American Ordnance LLC.  
Milan, Tennessee



**TITLE:** *The Chemistry of Explosives*

#### **ABSTRACT**

Many different explosive compounds exist but not all have practical applications. To be suitable for military use the explosive material must meet certain characteristics. These characteristics and the historical development of non-nuclear military explosives will be discussed. Special emphasis will be given to chemical and physical properties and to the tests used to measure those properties. The military categorizes explosives based on their intended application. Functional ordnance utilizes an “explosive train” created from different classes of explosives. Examples of this and how modern ordnance performs will be demonstrated.

#### **BIOGRAPHY**

Mr. Butler received his B.S. in Chemistry from Union University in 1983 and his M.S. in Inorganic Chemistry from the University of Memphis in 1987. He is the Chief Chemist for the Milan Army Ammunition Plant (MLAAP) in Milan, Tennessee and is employed by the contracting operator American Ordnance, LLC. He has worked in this environment for 19 years performing acceptance testing on multiple components used to Load, Assemble, and Pack ammunition items for the US Army. He also performs environmental compliance monitoring for this EPA Superfund Site. He is a member of the installation spill response team and is a trained hazardous waste operator. He has also served as the MLAAP Chemical Hygiene Officer. As an adjunct professor of chemistry for Jackson State Community College Mr. Butler teaches introductory and freshman chemistry. He has published notes in the Journal of Chemical Education.

Mr. Butler sits on the Army’s Environmental Restoration Advisory Board for the Milan Army Ammunition Plant, twice serving as the community co-chair. He is active in the American Chemical Society and has been elected Chair-Elect for the Kentucky Lake section. He has been chosen to serve as the Industrial Advisor to the Union University SAACS. For many years Mr. Butler has served as a judge for the West Tennessee Regional Science Fair, an affiliate of the Intel International Science and Engineering Fair

**NCW Keynote Speaker (10/24/2006)**

#### 4. PLANNING/ATTENDING SCIENTIFIC MEETINGS: Union University SAACS Chapter

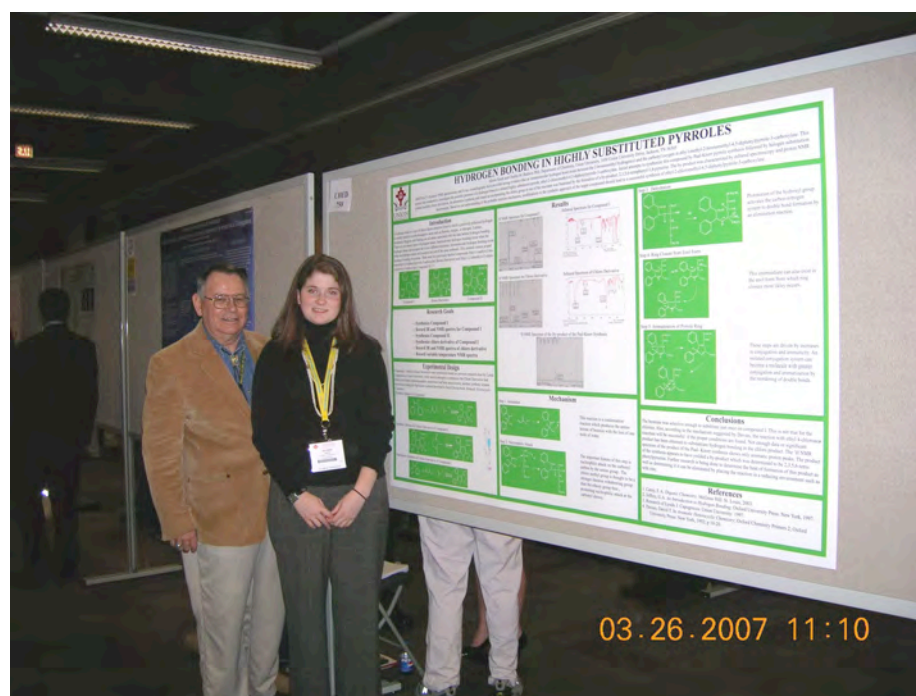
Please list any scientific meetings (national, regional, or local) that your chapter attended, planned, or hosted. Please note the professional organizations with which the events were affiliated, if applicable. In the summary box, include the names of students in your chapter who presented research or chapter-related posters at events that were attended by the chapter. Only chapter-related scientific meeting attendance should be listed, not individual student conference attendance. You may expand the table to accommodate more activities.



**Successful SAACS Chapter Poster at Chicago SCI-MIX Session (03/26/2007)**



**2005-06 Outstanding Chapter Award Presented by Dr. Etta Gravelly (03/25/2007)**



**Allorie Smith Presenting Her Undergraduate Research Poster (03/26/2007)**

5. **COMMUNICATION:** Union University SAACS Chapter

Briefly describe how your chapter communicated about its meetings and activities to chapter members and the general public. You should include information about your Web page, media coverage of events, flyers, e-mails, etc. Also discuss the effectiveness of your communication efforts. You may include up to two pieces of supporting documentation for this category with your report. Please label with the name of the activity.



SAACS Election Meeting Flyer (04/26/2007)

**SAACS Tree Identification  
Project Training**

Session with the Jackson Tree Board

***Time Change!!!***

Tuesday, March 20

5:30 PM in A-9

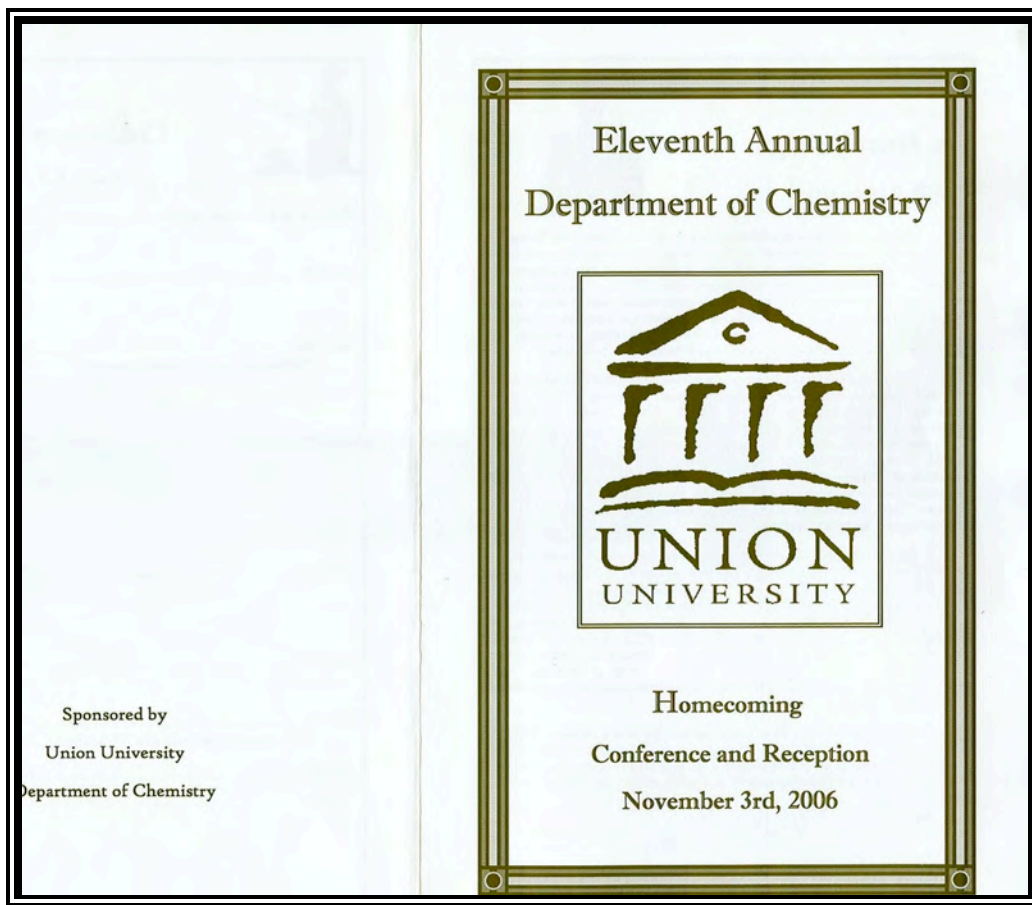
***PIZZA WILL BE PROVIDED!!!***



**Tree Identification Flyer (03/20/2007)**


6. **DEPARTMENT/COLLEGE SERVICE:** Union University SAACS Chapter

Did your chapter plan or participate in any departmental activities (e.g. tutoring programs, visiting with departmental speakers, career fairs, mock interview sessions, résumé reviews) or any campus-wide activities? You may expand the table to accommodate more activities.



**Homecoming Program Front and Back (11/03/2006)**

**Dr. Barry Jarnigan**




**1980 Alumnus**

Dr. Barry Jarnigan was born January 3, 1958 in Union City, Tennessee. After graduation from high school in Obion County, Tennessee, he continued his education at Union University where he earned a Bachelor of Science degree with a major in chemistry and a minor in biology in 1980. While at Union University, he was very active in the SAE fraternity, Student Government Association, and the intramural program while maintaining high academic standards. Barry was admitted to The University of Tennessee College of Medicine in August, 1980, where he earned the Doctor of Medicine degree conferred in June, 1984.

Dr. Jarnigan completed an internship in obstetrics and gynecology in 1985 at Naval Hospital, San Diego, California before completing in 1989 a 3-year residency at the prestigious National Naval Medical Center in Bethesda, Maryland. Dr. Jarnigan was commissioned in the U.S. Navy in 1981 and served on active duty from 1984 to 1991. Positions that Dr. Jarnigan held during his tenure in the U. S. Navy are General Medical Officer, Naval Hospital, San Diego; Instructor of Obstetrics and Gynecology at the Uniformed Services University of the Health Sciences; Instructor for the ATLS course at Port Sam Houston, San Antonio, Texas; and Director of Outpatient OB/GYN Services at National Naval Medical Center, Bethesda, Maryland.

In 1991, Dr. Jarnigan returned to West Tennessee as Assistant Professor at The University of Tennessee Family Medicine Center in Jackson, Tennessee. Over the next four years, Dr. Jarnigan served in the following roles: Director of Women's Services; Director, Fellowship for Women's Health Care Program; and Clinical Assistant Professor. In 1994, Dr. Jarnigan accepted a position with Vanderbilt University School of Medicine as Medical Director of the Vanderbilt Midwifery Program. Since 1996 to the present, Dr. Jarnigan has been a full-time Assistant Professor with the Vanderbilt University School of Medicine. He is active in medical research and has had numerous articles published in the refereed professional journals.

Dr. Jarnigan is married to Patty and has five lovely children: Christian, Lindsay, Sara, Halle, and Barry Jr. He is active in Bethlehem Methodist Church singing in the church choir and participating in a theatre group, the Bethelers Players; and somehow finds the time to be a youth sports coach in basketball and baseball.



**Conference Program**

Room A-7, 2:30 pm

Welcome and Announcements.....Dr. Sally Henrie  
Professor of Chemistry

2:30 PM ..... John Guthrie, PharmD  
Jackson Madison County  
General Hospital

2:45 PM..... Ruth Hall  
"Warming up to Thermodynamics."  
High School Chemistry  
Teacher,  
Cahokia, Illinois

3:00 PM..... Alumni Award  
Presented by:  
Dr. Charles Baldwin  
Hammons Professor of  
Chemistry and  
Pre-Medical Studies

3:15 PM..... Barry Jarnigan MD  
Assistant Professor  
Vanderbilt University  
School of Medicine

3:30 PM..... Reception, hor d'oeuvres  
and Fellowship

4:00 PM ..... Omar L. Hamada, MD  
"U.S. Special Operations in Afghanistan"  
Smyrna, Tennessee

4:15 PM..... Jeff Fletcher DDS  
Paris, Tennessee

**Homecoming Program Interior (11/03/2006)**



**The SAACS Booth (08/29/2006)**

**7. SPEAKERS/TOURS/FIELD TRIPS: Union University SAACS Chapter**

Please list the name and affiliation of each speaker and the title of his/her presentation. Please list the name and location of the companies, institutions, or organizations you visited for field trips or tours. Technical meeting and conference speakers should not be included here: please list those in the scientific meeting category. All green chemistry-related speakers should be reported in category 8. You may expand the table to accommodate more activities.



**Dr. Davis Presents Ethics Seminar (09/15/2006)**



**The Vanderbilt University Center for Molecular Toxicology Open House  
(10/07/2006)**

**8. GREEN CHEMISTRY (optional): Union University SAACS Chapter**

In order to be recognized as a Green Chemistry chapter, Student Affiliates chapters must engage in a least three different types of green chemistry activities during the academic year. Please reference the “Student Affiliates Chapter Report Review Criteria and Considerations” to help you craft this section. **NOTE: You can repeat activities in this section that you report in other categories (i.e. conferences, community outreach). This category will only be used to determine Green Chemistry chapter status. It will not be used to determine SA chapter award status.**



**SAACS Members Plant Trees Around Jackson (11/03/2006)**



**TSTA Chemistry Fun Day Demonstrations (11/17/2006)**



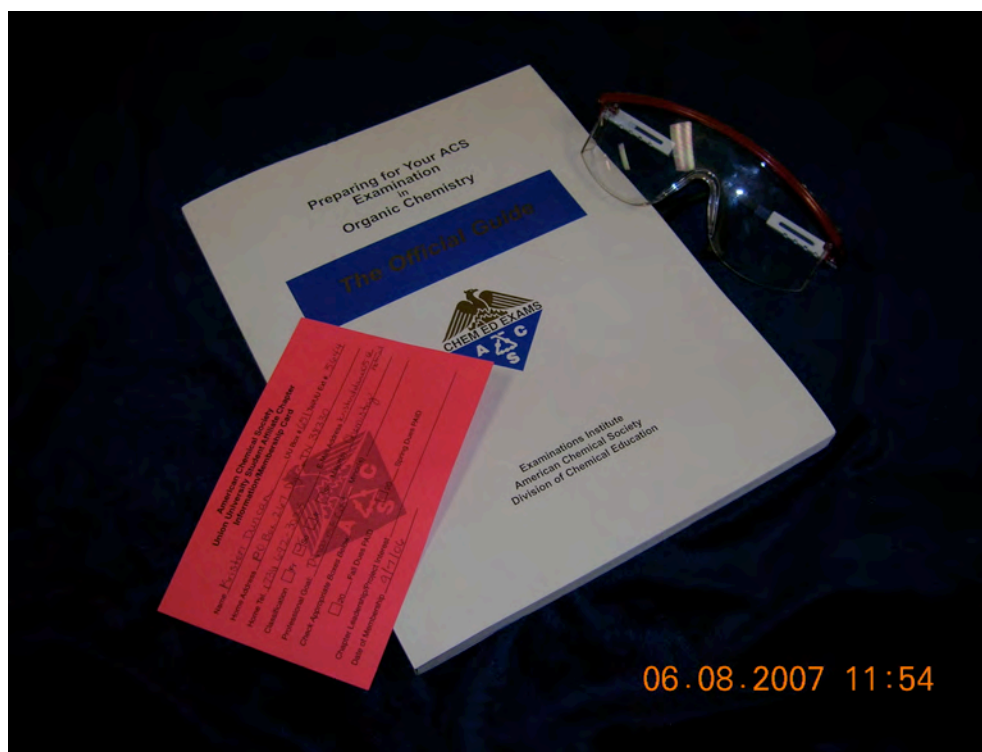
**Day of Remembrance Demonstrations at Bells Elementary School (11/8/2006)**



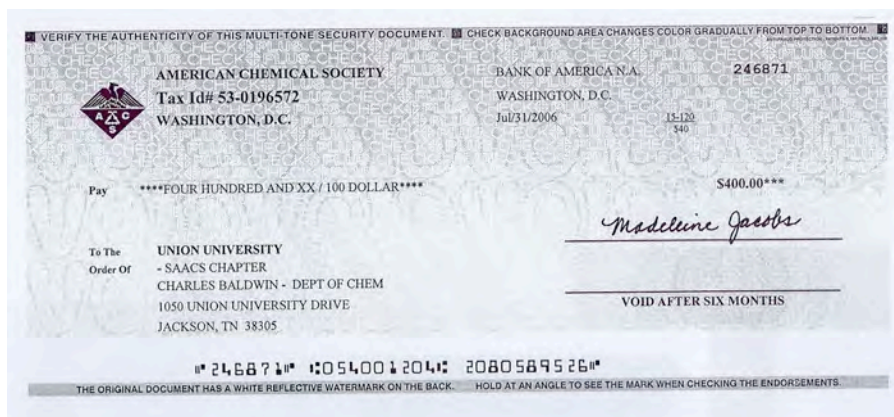
**Soil Demonstrations at Bells Elementary School (11/08/2006)**

## 9. FUNDING: Union University SAACS Chapter

Briefly describe any funding that was donated to your chapter (e.g., from the department), as well as any funds that were raised through various activities including proposal writing (IAG, CISA, NMTG, and SLPD grant funding should be included). In the description you should not only include the amount of money that was raised or donated, but also indicate how the funding was spent. You may include up to two pieces of supporting documentation for this category.



Safety Goggles, ACS Exam Study Guides, and Membership Card (06/08/2007)



American Chemical Society CISA Grant Check (08/22/2006)



## American Chemical Society

EDUCATION DIVISION  
Undergraduate Programs Office  
Alicia Chambers

1155 SIXTEENTH STREET, N.W.  
WASHINGTON, D.C. 20036  
Phone 202.872.6176  
Fax 202.833.7732  
Email: a\_chambers@acs.org

August 22, 2006

Dr. Charles Baldwin  
Union University  
Department of Chemistry  
1050 Union University Drive  
Jackson, TN 38305

Dear Dr. Baldwin:

Congratulations! The Union University American Chemical Society (ACS) Student Affiliates chapter has been awarded a Community Interactions-Student Affiliates (CISA) grant for the 2006-07 academic year.

The CISA program was designed to establish an on-going national framework for undergraduate science majors through which students are encouraged to volunteer in the hope of improving science education. Providing minorities an enriched science learning experience, as well as opportunities for undergraduates to enhance their skills as teachers and mentors, is a primary goal of this initiative. Through supporting programs and projects such as yours, together, we are on our way to achieving this goal!

A peer-review panel, which represents the Society Committee on Education, the Student Affiliates program governance and policy-making body, evaluated your chapter's proposal. In addition to making monetary recommendations, the peer-review panel provides general proposal writing tips and chapter-specific comments on each proposal. This summary has been included for your review.

The following items are also enclosed:

- a check, payable to your chapter, in the amount of \$400,
- a **mid-year progress report** form due **January 15, 2007**, and
- a **final report** form due **June 1, 2007**.

Finally, we appreciate your chapter's commitment to community service and public science education. We look forward to learning about the progress of your project through the mid-year and final reports. Please be advised that, if you chapter does not submit both a mid-year and final report, your chapter will not qualify for a future grant. If you have questions or need assistance, please feel free to contact me at the above telephone number and/or email address.

Sincerely,

Alicia J. Chambers  
Senior Education Associate

cc: A. Bennett

Enclosures (4)

**CISA Award Letter (08/22/2006)**

**10. SOCIAL FUNCTIONS: Union University SAACS Chapter**

Please list the social functions that were part of your yearly chapter activities. Social activities include events such as holiday or back-to-school parties; bowling or skating events; dances, banquets, etc. You may expand the table to accommodate more activities.



**Back to School Social (09/8/2006)**



**Pizza in the Pit Party (09/13/2006)**



**Liquid Nitrogen Ice Cream Social (09/1/2006)**



**Garfield Study Break (12/12/2006)**

## **11. CHAPTER BUSINESS MEETINGS: Union University SAACS Chapter**

Please list the executive committee and chapter business meetings that were held. In the purpose of meeting column, please list the major goals of the meeting—i.e., to elect of officers; to plan for the April outreach activity; to plan for the holiday party. You may expand the table to accommodate more meetings.



**SAACS 2007-08 Officer Installation (04/08/2007)**



**SAACS Chapter Meeting (11/09/2006)**

**12. LOCAL SECTION INTERACTION: Union University SAACS Chapter**

Briefly describe any interactions that you've had with your ACS Local Section. If you have not worked with your Local Section, please list the barriers that prevent these interactions. Also, please include any suggestions that might be passed along to ACS Local Sections that are looking for more ways to interact with Student Affiliates Chapters. **NOTE: This category will be used to increase Local Section and Student Affiliates Chapter interactions. It will not be used to determine SA chapter award status.**



**Union University SAACS Students with Dr. Sara Risch at Kentucky Lake ACS Section Meeting (02/18/2007)**



**Demonstration Night at Kentucky Lake ACS Section Meeting (10/26/2006)**

**13. OVERALL CHAPTER ASSESSMENT: Union University SAACS Chapter**

Using the questions listed below please provide an overall assessment of your chapter's activities for the 2006-2007 academic year. Assessments should cover the student and faculty perspective.

What were the major objectives of your chapter during 2006-07? In which areas did you succeed? How did your chapter members benefit from the activities in 2006-07? What problems did your chapter encounter during 2006-07 and how did your chapter deal with or resolve these problems?