# **Conference Information**

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The Technical Program - See the colored pages

	Sunday	Monday	Tuesday	Wednesday	Thursday
			5:45 AM	6:30 AM	
Early Morning			Mole Breakfast	Fun Run	
)			ticket required		
8:00 AM		8:00 - 8:50 AM	8:00 - 9:05 AM	8:00 - 8:50 AM	
		Plenary Lecture	Plenary Lecture	Keynote Lectures	
		Loeb Theater	Loeb Theater	Fowler Hall	
Mornina		9:00 - 12:00 AM	9:15 - 12:15 AM	9:00 - 12:00 AM	8:00 - 11:00 AM
Saccione		W orkshops	Workshops	W orkshops	Workshops
		Symposia	Symposia	Symposia	Symposia
		12:00 - 12:45 PM	10:00 AM	12:00 - 12:45 PM	11:15 - 12:05 PM
		Chemistry Update	Exhibits open	Chemistry Update	Plenary Lecture
			12:00 - 12:45 PM		12:05 PM Closing
			Chemistry Update		Ceremonies
Lunch			12:30 AM - 1:30 PM	12:30 AM - 1:30 PM	
			Poster Sessions	Poster Session	
Afternoon	2:00 - 5:00 PM	1:00PM	1:15 PM - 5:00 PM	1:15 PM - 5:00 PM	
Saccione	W orkshops	Exhibits open	Demonstrations	Demonstrations	
000000	Symposia	1:15 - 2:05 PM	Workshops	W orkshops	
		Keynote Lectures	Symposia	Symposia	
		2:15 - 5:15 PM	5:00 PM	5:00 PM	
		Workshops	Exhibits close	Exhibits close	
		Symposia	5:00 - 5:45 PM	5:00 - 5:45 PM	
		5:00 - 5:45 PM	Chemistry Update	Chemistry Update	
		Chemistry Update			
Evening	7:00 PM	9:00 PM	7:00 - 8:00 PM	7:00 - 8:30 PM	
)	<b>Opening Ceremonies</b>	Exhibits close	Plenary Lecture	Plenary Demonstations	
	7:30 PM	6:30 - 9:00 PM	8:00 - 10:00 PM	8:30 PM -	
	Plenary Lecture	Poster Sessions / Social	Exhibits / Social	AI D. Hyde & the Key	
	8:30 PM			Tones	
	Ice Cream Social				

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### Welcome to the 19th BCCE at Purdue University

The Organizing Committee of the 19<sup>th</sup> BCCE is pleased to welcome you to the Conference. For the past year the Committee and members of Purdue's faculty and staff have worked to provide a wide variety of workshops, presentations, plenary speakers, keynote speakers, demonstrations, exhibits, posters, and social events – experiences that are rich in ideas and the opportunities to share them. We believe you can leave this conference with insights that will help your contributions to chemical education. This is a large meeting with a variety of concurrent activities, an indication of the increasing importance of the Biennial Conferences to the chemical education community

We believe the facilities at Purdue University will meet your needs and the needs of the conference. If you have questions or need assistance we will be available at the registration area on Sunday and in Room 213 in the Stewart Center during the remainder of the meeting. We hope you find the 19<sup>th</sup> BCCE an exciting and worthwhile meeting.

The 19<sup>th</sup> BCCE Organizing Committee

#### **General Chair**

#### **Bill Robinson**

Purdue University Department of Chemistry West Lafayette, IN 47907

#### **Program Co-Chairs**

#### **Mickey Sarquis**

Miami University-Middletown 4200 East University Blvd. Middletown, OH 45042

#### **Arlene Russell**

Univ. of California, Los Angeles Dept. of Chemistry & Biochemistry Los Angeles, CA 90095-1569

#### **General Papers Chair**

William Hunter Illinois State University 4160 Department of Chemistry Normal, IL 61790

#### 2 YC<sub>3</sub> Representative

### Jay Bardole

Vincennes University Department of Chemistry Vincennes, IN 47591

#### **Secondary High School Chair**

**Laura Slocum** University High School of Indiana 2825 West 116<sup>th</sup> Street Carmel, IN 46032

#### **Poster Chair**

#### Ann Culter University of Indianapolis Department of Chemistry 1400 East Hanna Avenue Indianapolis, IN 46227

#### Workshop Chair

**Jerry Sarquis** Miami University Department of Chemistry Oxford, OH 45056

#### Social & Family Programs Chair

Marcy Towns Purdue University Department of Chemistry 560 Oval Drive West Lafayette, IN 47907

#### **Demonstration Coordinators**

Kenneth Lyle Department of Chemistry Duke University Durham, NC 27708

#### **James Maynard**

University of Wisconsin-Madison Department of Chemistry 1101 University Ave. Madison, WI 57306

#### **Paul Smith**

Purdue University Department of Chemistry 560 Oval Drive West Lafayette, IN 47907

#### Fundraising

**George M. Bodner** Purdue University Department of Chemistry 560 Oval Drive West Lafayette, IN 47907

#### Exhibits & Ads

**George M. Bodner** Purdue University Department of Chemistry 560 Oval Drive West Lafayette, IN 47907

#### **Bill Bayley**

Purdue University Department of Chemistry 560 Oval Drive West Lafayette, IN 47907

#### Web Master

**John I. Gelder** Department of Chemistry Oklahoma State University Stillwater, OK 74078

#### **Computer Coordinator**

John Nash Purdue University Department of Chemistry 560 Oval Drive West Lafayette, IN 47907

#### **Facilities Manger**

Kurt Keyes Purdue University Department of Chemistry 560 Oval Drive West Lafayette, IN 47907

#### Treasurer

Anna M. Wilson Purdue University Department of Biochemistry 175 South University Street West Lafayette, IN 47907

#### **Conference Coordinator**

**Tom Robertson** Purdue University Conference Division 112 Memorial Mall West Lafayette, IN 47907

#### Consultants

Mary B. Nakhleh Purdue University Department of Chemistry 560 Oval Drive West Lafayette, IN 47907

#### Gabriela C. Weaver

Purdue University Department of Chemistry 560 Oval Drive West Lafayette, IN 47907

#### Assistant to the Chair

Susan Greer Purdue University Department of Chemistry 560 Oval Drive West Lafayette, IN 47907



#### 2006

**Division of Chemical Education, Inc.** 

AMERICAN CHEMICAL SOCIETY

Dear Division Members and Friends:

Chair LORETTA L. JONES University of Northern Colorado Dept. of Chemistry & Biochemistry Greeley, CO 80639 (970) 351-1443 loretta.jones@unco.edu

> **Chair-Elect** meet new friends and greet old ones. Congratulations to Bill Robinson, the 19<sup>th</sup> MELANIE M. COOPER BCCE General Chair, to Program Co-Chairs Mickey Sarquis, Arlene Russell, and **Clemson University** Department of Chemistry to all the members of the Program Committee on a job well done! Clemson, SC 29634-0973 (864) 656-2573

Immediate Past Chair MORTON Z. HOFFMAN **Boston University** Department of Chemistry Boston, MA 02215-2507 (617) 353-2494 hoffman@chem.bu.edu

cmelani@chemson.edu If this is your first time at the BCCE, welcome! The 19<sup>th</sup> BCCE will provide you an opportunity to become part of a growing community of chemical educators. The conference offers excellent opportunities for networking, so plan to attend the social events as well as the lectures and symposia. Of particular interest will be the Birds of a Feather sessions, which are informal groups of people interested in the same topic, and the Trading Post, which is how many of the materials will be distributed. In addition, be sure to visit the exhibits and participate in the

Welcome to the 19<sup>th</sup> Biennial Conference on Chemical Education. As you look

through the program book to plan your time you will find many options available to you. What makes the Biennial Conference on Chemical Education such a

valuable experience is not only the superb program but also the many chances to

Secretary DONALD WINK

University of Illinois-Chicago Department of Chemistry 845 West Taylor Street Chicago, IL 60607-7061 (312) 996-3161 dwink@uic.edu

ANNA M. WILSON Purdue University 175 South University St. West Lafavette, IN 47907-2063 (765) 494-1644 wilson@purdue.edu

Treasurer You will find that most of the committees of the Division of Chemical Education will be setting up posters outside the symposium rooms. Look for those posters, which describe the work of the committees, and note in the program the times at which the committees will be meeting. Unless otherwise stated, any meeting listed in the program is open to everyone and we welcome your participation.

If you have attended a previous BCCE, please consider yourself an ambassador

of the chemical education community. You will be able to greet many old friends,

but also be on the lookout for new ones and welcome people you may never have

The BCCE is rare in its focus on chemical education. It offers many growth Member-at-Large ARLENE A. RUSSELL opportunities and participation in a BCCE has been known to change lives. May Univ. of California, Los Angeles your life be changed for the better this week. Dept. of Chemistry & Biochemistry

Los Angeles, CA 90095-1569 (310) 825-7570 Sincerely, russell@chem.ucla.edu

workshops.

seen before.

Luctta Jones

Journal of Chemical Education JOHN W. MOORE, Editor Department of Chemistry Loretta L. Jones University of Wisconsin-Madison Madison, WI 53706-1396 American Chemical Society (608) 262-5154 jwmoore@chem.wisc.edu

Examinations Institute THOMAS A. HOLME, Director Dept. of Chemistry & Biochemistry University of Wisconsin-Milwaukee Milwaukee, WI 53201-0413 (414) 229-5680 tholme@uwm.edu Chair, Division of Chemical Education

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Department of Chemistry

July 28, 2006

Dear Participants of the 19<sup>th</sup> Biennial Conference on Chemical Education:

On behalf of the Chemistry Department at Purdue University, it is my privilege to welcome you to the 19<sup>th</sup> Biennial Conference on Chemical Education. The faculty, students and staff of the Chemistry Department are honored to host the BCCE this year. We are proud of our rich tradition in chemical education here at Purdue, which includes having the one of the first Ph.D. programs in chemical education, and are overseeing more than twenty-five students who are seeking graduate degrees in the field. More generally, our fifty faculty members have active research programs that span the broad range of chemistry, with interests in analytical chemistry, and physical chemistry. We are also key participants in the burgeoning interdisciplinary research efforts on campus, including those in the newly formed Discovery Park, located just on the west edge of campus.

We hope that you will take the time during your stay to visit our department, which is located in two adjacent buildings, the R.B. Wetherill Laboratory of Chemistry and the H.C. Brown Laboratory of Chemistry. We have arranged for various ways that you can meet us and learn more about us, including posters that describe research in the various groups in the Department and faculty presentations in the Chemistry Update sessions in the program. We also encourage you to poke around the Department a bit to talk individually with faculty and students in your areas of interest. Finally, I hope you will enjoy the refreshments provided by the Department at the Monday evening SciMix session in the Union Ballrooms and East Lounge.

We are pleased that you are attending this conference, and hope that you enjoy both the conference and the surroundings during your stay.

Sincerely,

Timithy S. Zwier

Timothy S. Zwier Professor and Head

560 Oval Drive ● West Lafayette, IN 47907-2084 (765) 494-5200 ● Fax: (765) 494-0239 ● www.chem.purdue.edu



COLLEGE OF SCIENCE

Jeffrey S. Vitter Frederick L. Hovde Dean

July 2006

Dear Colleagues:

On behalf of the College of Science, I'm delighted to welcome you to Purdue University for the 19<sup>th</sup> Biennial Conference on Chemical Education.

In the College of Science, we're committed to excellence in basic research that feeds innovation and education that builds the pipeline for future stars in science, engineering, and technology. The solid education, broad perspective, and critical thinking skills our students learn here will help them shine, no matter which career path they take.

I'm particularly proud of our excellent Chemical Education group—one of the few groups studying the factors that affect how students learn chemistry and how best to teach chemistry—and initiatives like the Center for Authentic Science Practice in Education (CASPiE), the collaborative effort designed to enhance undergraduate students' chemistry education with research experiences.

I wish you a productive and successful conference.

Sincerely,

Jeffrey S. Vitter



College of Science

Mathematical Sciences Building • 150 N. University Street • West Lafayette, IN 47907–2067 (765) 494–1730 • Fax: (765) 494–1736 • dean@science.purdue.edu • www.science.purdue.edu/dean

## PURDUE

OFFICE OF THE PRESIDENT

July 30, 2006

Dear Conference Participants,

On behalf of the entire Purdue family, I would like to welcome each of you to the 19th Biennial Conference on Chemical Education. I am proud that Purdue's Department of Chemistry is hosting this important event in partnership with the Division of Chemical Education of the American Chemical Society.

If you have not been to Purdue before, I hope you will find time to get to know our campus and surrounding community. You will discover that this is a very warm and welcoming place, with a variety of cultural and social activities and many pleasant and convenient outdoor areas that lend themselves to stimulating conversation or quiet reflection. Although the campus may seem quite large at first, pedestrians can move through and around it very easily. A simple navigation trick is to use the Purdue Bell Tower as a reference point.

I know that a great deal of planning has gone into making this conference a success, and I believe the work you will do here is extremely important not only for you and your students, but for our entire nation. Stimulating interest and developing proficiency in chemistry and the other sciences must be a priority if America is to remain a strong and prosperous nation. I urge you to focus some of your discussion on strategies for attracting more young Americans to the scientific disciplines that are the keys to our future progress.

Thank you for coming to Purdue, and I hope you have a highly successful conference!

Sincerely,

Jachne ( Stickle

Martin C. Jischke President

### **Sponsors of the Conference**

The Organizing Committee of the 19<sup>th</sup> Biennial Conference on Chemical Education is pleased to recognize the corporations, institutions, and societies who are supporting the Conference with their contributions.

#### **Platinum Sponsors**

Department of Chemistry, Purdue University Hach Foundation Hayden-McNeil Publishers Purdue University Local Section of the ACS

#### **Gold Sponsors**

McGraw-Hill Publishers Prentice-Hall Publishers Vernier Software and Technology

#### **Silver Sponsors**

College of Science, Purdue University Houghton-Mifflin Publishers John Wiley and Sons Publishers Journal of Chemical Education Measurenet Two-Year College Chemistry Consortium

In addition we wish to recognize the support of all of our participants. Without you, there would be no BCCE

### **Exhibitors**

American Chemical Society 1155 16th St. NW Washington, DC 20005

ACS Publications Office 1155 16th St. NW Washington, DC 20005

American Nuclear Society 555 N Kensington Ave La Grange Park, IL 60526

Anasazi Instruments, Inc. 4101 Cashard Ave, #103 Indianapolis, IN 46203

2008 BCCE - Indiana University Steven Wietstock 251 Nieuwland Science Hall Notre Dame, IN 46556

Benjamin Cummings 1301 Sansome St San Francisco, CA 94111

Brooks/Cole, Thomson 10 Davis Dr Belmont, CA 94002

Buck Scientific, Inc. 58 Fort Point Street East Norwalk, CT 06855

Carolina Biological Supply Company 2700 York Road Burlington, NC 27215

CEM Corporation 3100 Smith Farm Rd Matthews, NC 28104

Center for Chemistry Education / Terrific Science 4200 E University Blvd Middletown, OH 45042

Chem 13 News University of Waterloo Chemistry Dept Waterloo, ON N2L3G1 Canada ChemEd 07 1508 W Mullberry Denton, TX 76203

Chemical Heritage Foundation 315 Chestnut St. Philadelphia, PA 19106

The Chemical Educator 7154 West State St. #301 Boise, ID 83714

Educational Innovations, Inc. 362 Main Ave Norwalk, CT 06851

FizzBang Science 807 Murlay Dr Plain City, OH 43064

Flinn Scientific PO Box 219 Batavia, IL 60510

Hach Scientific Foundation 2114 North Lincoln Loveland, CO 80538

Holy Mol-e Chemistry 1780 Crystal Ridge Way Vista, CA 92081

Houghton Mifflin 222 Berkeley St Boston, MA 02116

Institute for Chemical Education UW-Madison Chemistry 1101 University Avenue Madison, WI 53706

Journal of Chemical Education UW-Madison Chemistry 1101 University Avenue Madison, WI 53706

Key Curriculum Press 1150 65th St. Emeryville, CA 94608 Latest Ideas Inc. P.O. Box 1506 Clemson, SC 29631

McGraw-Hill Higher Education Two Penn Plaza, 20th Floor New York, NY 10121-2298

Measurenet Technology 4242 Airport Rd Cincinnati, OH 45226

Merlot 1250 Bellflower Blvd Long Beach, CA 90840-0901

MicroLab, Inc. 1700 W. Koch Bozeman, MT 59715

Ocean Optics, Inc. 830 Douglas Ave Dunedin, FL 34698

PASCO Scientific 10101 Fotthills Blvd Roseville, CA 95747

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Peer-Led Team Learning/CASPIE 5500 N St Louis Ave Chicago, IL 60625

The Pogil Project Chemistry Department Franklin and Marshall College Lancaster, PA 17604

Prentice Hall c/o Pearson Education One Lake Street Upper Saddle River, NJ 07458 S17 Science Supplies and Services 216-333 Clark Ave West Thornhill, ON L3T1P3 Canada

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Wavefunction, Inc. 18401 Von Karman Ave. # 370 Irvine, CA 92612

Web Assign 940 Main Campus Dr. Suite 210 Raleigh, NC 27606

John Wiley and Sons 111 River St Hoboken, NJ 07030

### **Conference Information**

#### **Sources of Meeting Information**

Members of the BCCE Organizing Committee will be available at the Registration Area on Sunday and in Room 211 of the Stewart Center during the remainder of the Conference.

#### **Internet Access**

When you pick up your registration you can obtain a user name and password that will allow you to use any of the computers in Purdue's ITaP computer labs or to log on to Purdue's wireless network. Computer labs are located in the Stewart Center, the Wetherill Laboratory of Chemistry, and other campus locations. Most academic buildings and the lounges in Hillenbrand Hall have wireless access.

#### **Operating Hours Purdue Memorial Union**

	Monday - Friday	Saturday & Sunday
Purdue Memorial Union/STEW Buildings	5:30 am - 12:00 am	5:30 am - 1:00 am
Union Market	7:00 am - 2:00 pm	Closed
Villa Pizza	10:30 am - 9:00 pm	10:30 am - 9:00 pm
Pappy's Sweet Shop	10:00 am - 4:30 p.m.	7:00 a.m 2:30 p.m.
Sagamore Restaurant	6:30 am - 1:30 pm	6:30 am - 10:30 am
Oasis	8:00 am - 2:00 pm	Closed
Freshëns	11:00 am - 8:00 pm	2:30 am - 8:00 pm
Starbucks	7:30 a.m 2:30 p.m.	Closed
Amusement Games	7:00 am - 12:00 am	7:00 am - 12:00 am
<b>Recreation Center</b>	12:00 pm - 11:00 pm (Mon Thurs.) 12:00 pm - 12:00 am (Friday)	12:00 pm - 12:00 am (Saturday) 12:00 pm - 11:00 pm (Sunday)
Check Cashing	9:00 am - 4:00 pm	Closed
Stewart Center Newsstand	7:30 - am - 5:00 pm	10:00 am - 5:00 pm Closed (Sunday)
<b>Union Club &amp; Front Desk</b>	24 Hours	24 Hours

#### **Handouts of Talks**

Authors have been invited to provide a three-slide per page handout of their talk as a pdf file that can be printed. Registered participants have access to these files. The decision to make a handout available rests solely with the authors of the paper.

#### **Electronic Program Book**

A complete Program Book can be downloaded as pdf files from the BCCE website.

#### **Copy Services**

A copy center is available on the second floor of the Purdue Memorial Union and in the Chauncey Hill Mall

#### Americans with Disabilities Act

It is the responsibility of the individual to notify the 19<sup>th</sup> BCCE organizers in advance of any special needs. Purdue's conference staff will work with the BCCE organizers to assist in meeting the requirements of any participant in order to meet the conditions of the Americans with Disabilities Act.



### The 20<sup>th</sup> BCCE

July 27 – July 31, 2008

Indiana University, Bloomington, IN

http://bcce2008.indiana.edu

Steven Wietstock General Chair

Kate Reck & Regina Zibuck, Program Chairs

Stop by our booth in the exhibit area for more information, to contribute ideas, or to volunteer.

### **Meeting Facilities**

#### **Meeting Rooms**

The majority of the 19<sup>th</sup> BCCE will be held in Purdue's meeting complex – The Stewart Center and the Purdue Memorial Union. The Stewart Center includes the Loeb Theater, Fowler Hall and 20 meeting rooms. The center also features a computer laboratory that can be used by participants. The Purdue Memorial Union (PMU) is adjacent to Stewart Center and houses the Union Club Hotel and an array of dining facilities. Two ballrooms accommodate our 58 exhibitors and our refreshments. Poster sessions are adjacent to the exhibits or are upstairs from the exhibits. The PMU also provides a check cashing service and ATM's. Only 500 feet from Stewart Center are the Wetherill and Brown Laboratories of Chemistry, which will house demonstration sessions and the majority of laboratory and computer based workshops. A few workshops will be held in Stone Hall and Stanley Coulter Hall because of their special facilities. These halls are equally close to the conference complex. Additional computer labs can be found in the Wetherill building and Stanley Coulter Hall.



#### **BCCE Building Map and Room Abbreviations**

BRWN: Brown Laboratory of Chemistry LOEB: Loeb Theater (in Stewart Center) SC: Stanley Coulter Hall STON: Stone Hall FWLR Fowler Hall (in Stewart Center) PMU: Purdue memorial Union STEW: Stewart Center WTHR: Wetherill Laboratory of Chemistry

### **Getting Around**

#### Wabash Trolley Line

The Wabash Trolley Line is your free ride to hotels, restaurants, shops, cultural, arts and entertainment venues in downtown Lafayette-West Lafayette and at Purdue. The following Summer Schedule in effect May 8th through August 20th:

The Wabash Trolley Line operates every 15 minutes and follows the route indicated below.

7:32AM to 5:35PM Monday through Thursday 7:32AM to 9:20PM Friday 10:02AM to 4:53PM Saturday



#### **BCCE Shuttle**

The BCCE Shuttle will run between the Stewart Center during meal hours and after the evening sessions.



#### Taxis

Taxis do operate in West Lafayette and Lafayette, but the fleet is small.

#### -Meals

A number of very good food courts are available on campus. Inexpensive restaurants are located 2 - 4 blocks from the Memorial Union, Young Hall, and Hawkins Hall. The Purdue West Shopping Center contains three or four inexpensive restaurants within two blocks of Hillenbrand Hall. Several excellent restaurants are located in downtown Lafayette and can be reached by car or shuttle.

#### **Dining on campus**

**The Purdue Memorial Union** offers a variety of breakfast, lunch, and dinner selections, but check the schedule under Conference Information before you go.

- Union Market An array of specialty food stations featuring hot entrees, carved-toorder oven roasted specialties, Indian and Asian foods, grilled sandwiches, stir-fry selections, Sara Lee deli, homemade soups, salad bar, fresh baked breads, cookies and desserts.
- Freshens Pizza and bread sticks on the go, fast carryout service.
- Pappy's Sweet Shop Serves burgers, grilled sandwiches, fries, and assorted snacks.
- Villa Pizza Serves a variety of Italian foods
- Oasis Cafe Deli items
- Starbuck's Coffee Coffees and pastries
- Sagamore Restaurant On the second floor of the PMU; a slightly more upscale room for breakfast and/or lunch with table service.

**Earhart Dining Court** Those choosing the meal plan will have their meals at the award-winning food court in Earhart Hall, across the street from Hillenbrand Hall. Individual meals are also available but must be paid for with cash at the door.



#### **Dining in West Lafayette**

An area map follows.

#### **Chauncey Hill Mall and Northwestern**

Arby's Roast Beef 135 S. Chauncey Avenue, 765-743-6311

**Basil Thai** 135 S. Chauncey Avenue, 765-743-3330

**Blue Nile Mediterranean** 117 Northwestern Avenue, 765-743-9330

**Boiler Market** 320 W. State Street, 765-746-0161

**Brother's Bar & Grill** 306 W. State Street,765-746-1090

Cafe Royale 130 Northwestern,765-746-1000

Captain Gyros 132 Northwestern Avenue, 765-743-7170

**Carni's Big Top** 300 W. State Street, 765-746-3277

**The Chocolate Shop (Harry's)** 329 W. State Street, 765-743-1467

**Einstein's Bagels** 201-203 Northwestern Avenue 765-743-8988

**Fazoli's Italian Restaurant** 135 S. Chauncey Avenue 765-743-1379

**FuLam Chinese Restaurant** 135 S. Chauncey Avenue 765-743-0300

**Hotzy** 204 South Street, 765-743-3333

Jake's Roadhouse 135 S. Chauncey Avenue, 765-743-5253

**Jimmy John's Subs** 134 W. State Street, 765-743-8200 Khana Khazana Indian Grill 108 Northwestern Avenue, 765-743-1223 La Bamba Mexican Restaurant 134 State Street, 765-743-2311

Lovshack 311 W. State Street, 765-743-3700

Masala Kitchen 117 Northwestern Avenue, 765-743-5601

**Olive House** 200 South Street, 765-743-5649

**Panini Deli** 128 Pierce Street, 765-743-7907

**'The Parthenon Greek Meals** 135 S. Chauncey Avenue, 765-743-6778

'Pita Pit135 S. Chauncey Avenue,765-743-8743

Pizza Express 135 S. Chauncey Avenue, 765-743-3400

**Smoothie King** 300 W. State Street, 765-746-5464

**Taco Bell** 135 S. Chauncey Avenue, 765-743-4433

**Triple XXX** 2 N. Salisbury Street, 765-743-5373

Vienna Espresso Bar & Bakery 208 South Street, 765-743-4446

Village Coffee House 100 Northwestern Avenue, 765-743-5316

Wabash Yacht Club 135 S. Chauncey Avenue, 765-743-6075

#### Levee Plaza/Wabash Landing Area

**Bruno's Pizza and Italian Specialties** 212 Brown Street, 765-743-1668

**Buffalo Wild Wings** 360 Brown Street, 765-743-1188

**Bombay Indian Restaurant** 111 South River Road, Suite B, 765-746-2345

**China 1 Buffet** 132 Howard Street, 765-743-9988

**El Rodeo** 140 Howard Avenue, 765-743-6662

**Great American Grill** 256 E. State Street, (inside Hilton Garden Inn), 765-743-2100

Happy China 219 E. State Street, 765-743-1666

**Jersey Mike's Subs** 124 S. River Road, 765-743-1100

La Fiesta Express Burrito 138 S. River Road, 765-743-9899

Marco Pizza 227 State Street, Suite G, (River City Market), 765-746-1414

**McDonald's** 124 E. State Street, 765-743-6069 Moe's Southwest Grill 332 E. State Street, 765-743-5000

**Panera Bread** 328 E. State Street, 765-746-2400

Potbelly Sandwiches 111 S. River Road, 765-743-2993

Puccini's Restaurant 300 Brown Street, 765-746-5000

River Rock Grill 360 Brown Street, 765-743-0696

**Roly Poly** 340 E. State Street, 765-746-5500

Scotty's Brewhouse 352 E. State Street, 765-746-2113

Silver Dipper Ice Cream 201 E. State Street, 765-743-7511

**Snowbear Frozen Custard** 338 E. State Street, 765-746-2930

Sofra Turkish Cuisine 213 E. State Street, 765-743-2111

**Starbucks** 342 E. State Street, 765-746-1674

Wendys Old Fashioned Hamburgers 252 E. State Street, 765-743-5885

#### **Purdue West**

**Dairy Queen** 

Casablanca, Moroccan Cuisine

Papa John's

Seattle Beanery Subway Sandwiches & Salads



### **Family and Leisure Activities**

#### Tours

We have planned the following tours for participants, but note that one or more may be canceled if the demand is too low. Sign up for these tours on the registration forms or on the Conferences' web registration site. If a tour is cancelled, your fee will be refunded.

**The Children's Museum of Indianapolis.** The museum is the largest children's museum in the United States with a wide collection including ScienceWorks, in the Dow Science Center, a hands-on science gallery that encourages visitors to test scientific principles for themselves. If you don't have a child, borrow one, it is worth a visit. Sunday July 30, and Tuesday, August 1. Cost: \$28. Free infant below age 2

**The Indianapolis Zoo, Indiana State Museum, Eiteljorg Museum of American Indians and Western Art, and NCAA Hall of Champions.** The bus will stop at two locations, the zoo and the Museums/NCAA complex. All are in the White River State Park and are within walking distance The Circle Center Mall is within walking distance of the museums for those interested in shopping. Monday July 31, Wednesday, August 2. Cost: \$25 for transportation only. Admission fees are participants' responsibility.

Indianapolis Motor Speedway and Museum. Monday July 31 Cost \$23; Free under 5

#### **Local Sites of Interest**

The **Recreational Gymnasium** provides squash, racquetball, tennis, basketball, handball, weight lifting, exercise room, running tracks, volleyball, and a new aquatic center to conference attendees. For \$5.00 a day you can use any of the facilities. Hours are 6:30 AM –8:00 PM M-F, and 1:00-8:00 PM SS. See http://www.purdue.edu/recsports/

Two **18-hole golf courses** are available at Purdue. One was designed by Pete Dye. Just north of West Lafayette is Coyote Crossing, designed by Hale Irwin. See http://www.purdue.edu/Athletics/golf/

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West Lafayette's Happy Hollow Park provides a picnic area and playground equipment within a few miles of campus.

**Columbian Park**, in Lafayette, provides a zoo, picnic areas, rides, and playground equipment as well as a water park, Tropicanoe Cove.

**Imagination Station** is a hands-on, interactive science and space museum, a place for children and their families to explore the world of science, engineering and technology. See http://www.nlci.com/imagination/

**Christina and Company, Inc. Salon and Day Spa**. Need a manicure, a pedicure, or a massage? Consult Christina and Company's web page and choose how to spend the day. You can find prices for manicures and pedicures under "nail services." Massages are included under "spa services." Be sure to browse through the "gift packages." The "Calming Package" that includes a massage, manicure, and pedicure sounds like a winner! http://www.spasalon.com/christinaspa/index.htm

#### Tippecanoe County and the surrounding area

**Fort Ouiatenon** was established by the French in 1717 and is one of the earliest settlements in what was to become the State of Indiana. A replica blockhouse, built in 1930, is open to the public with interpretive exhibits which tell the story of the fort.

The **Tippecanoe Battlefield** marks the site of the November 7, 1811 Battle of Tippecanoe between the United States forces led by William Henry Harrison and representatives of Tecumseh's Native American confederation. A museum tells the story of the Battle, describes the early lifestyles in the area, explains, and gives information about the dynamic leads — Tecumseh, Harrison, and The Prophet. The Presidential Campaign of William Henry Harrison included the famous political slogan, "Tippecanoe and Tyler, Too!"

**Wolf Park**, one of the few research facilities of its kind, is dedicated to research on the gray wolf. A visitor's center allows year-round viewing. A herd of American Bison is kept at the park as part of an ongoing study of the interaction between bison and wolves. See http://www.wolfpark.org/

The **Wabash and Erie Canal** passed through Lafayette. A segment of the canal and an interpretative museum is located in Canal Park in Delphi, a 25-minute drive. See www.wabashanderiecanal.org

Canoe trips of various lengths are available on the Tippecanoe River and Sugar Creek.

**Prophetstown State Park**, located where the Tippecanoe River meets the Wabash River (right off I-65 about 10 miles north of ), provides camping, hiking, birding and biking. The park includes restored prairie and other habitats such as wetlands, wet slopes called *fens*, and open woodlands. Native American woodland culture and lifeways and American farming practices and farm lifestyles of the 1920s can be experienced through a unique partnership with the Museum at Prophetstown. Camping facilities include 55 full hookup sites and 55 sites with electricity. For reservations see http://www.in.gov/dnr/parklake/properties/park\_rates\_fees.html.







**Stewart Center Floor Plans** 



**Purdue Memorial Union Floor Plans** 



Wetherill and Brown Laboratories of Chemistry Floor Plan

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### **Conference Events**

#### Sunday, July 30

**Tour the Children's Museum of Indianapolis.** 9:00 AM – 5:15 PM, Depart Stewart Center

**Plenary Lecture: L1 High performance chemistry: Cars and beyond** 7:00 PM – 8:15 PM Loeb Theater

**2YC<sub>3</sub> – J. Chem. Ed. Ice Cream Social** 8:30 Academy park

#### Monday, July 31

**Tour the Indianapolis Zoo, Indiana State Museum, Eiteljorg Museum of American Indians and Western Art, and NCAA Hall of Champions.** 9:00 AM – 4:30 PM, Depart Stewart Center

**Indianapolis Motor Speedway and Museum** 8:30 AM – 1:30 PM, Depart Stewart Center

**Exhibits / Posters / Social** 6:30 PM – 9:00 PM Purdue Memorial Union See the exhibits and posters. Cash bar and refreshments

#### **Tuesday, August 1**

**Tour the Children's Museum of Indianapolis.** 9:00 AM – 5:15 PM, Depart Stewart Center

**Plenary Lecture: L4 The Secret Life of Food** 7:00 PM – 8:00 PM Loeb Theater

#### Exhibits / Posters / Social

8:00 PM – 10:00 PM Purdue Memorial Union Exhibits. Cash bar and refreshments

Wednesday, August 2

**Fun Run** 6:30 AM

**Tour the Indianapolis Zoo, Indiana State Museum, Eiteljorg Museum of American Indians and Western Art, and NCAA Hall of Champions.** 9:00 AM – 4:30 PM, Depart Stewart Center

**Plenary Lecture: L5 Creative demo tales from two continents** 7:00 PM – 8:30 PM WTHR 200

Al D. Hyde and the Key Tones 8:30 Purdue Memorial Union Ballroom

### **ACS Exam Institute Committee Meetings**

#### **Board of Trustees, ACS DivCHED Examinations Institute**

Saturday, 2:00 PM STEW 214D

#### **General Chemistry Committee**

Saturday 9:00 AM – 5:00 PM, Sunday, 9:00 AM – 12:00 PM STEW 218AB

#### **Inorganic Chemistry Committee**

Saturday 9:00 AM – 5:00 PM, Sunday, 9:00 AM – 12:00 PM STEW 218CD

#### DUCK

Saturday 9:00 AM – 5:00 PM, Sunday, 9:00 AM – 12:00 PM STEW 214B

#### **High School Exam Committee**

Saturday 9:00 AM – 5:00 PM, STEW 214A

#### **Biochemistry Committee**

Saturday 9:00 AM – 5:00 PM STEW 214C

#### Paired Question Second Semester Exam Committee

Sunday 9:00 AM – 12:00 PM STEW 214A

#### **Exam Institute Dinner**

Saturday evening at a site to be announced

### **Division of Chemical Education Committee Meetings**

Committees of the Division of Chemical Education have been invited to present posters describing their activities. These will be posted in the second and third floor corridors of the Stewart Center.

#### **Board of Trustees, ACS DivCHED Examinations Institute**

Saturday, 2:00 PM STEW 214D

#### **Biennial Conference Committee**

Sunday, 9:00 AM STEW 311

#### Committee on Computers in Chemical Education, closed meeting, lunch

Monday, 12:00 PM PMU 84 Buy lunch in the PMU Union Market and join the committee in the Brass Rail. The Brass Rail is a separate room inside PMU 84.

#### New Member Committee, lunch

Monday, 12:15 PM PMU 84 Buy lunch in the PMU Union Market and join the committee in Room 84.

#### Committee on Computers in Chemical Education, open meeting

Tuesday, 8:00 AM STEW 313

#### **Chem Ed Research Committee**

Tuesday, 7:00 PM STEW 306

#### **Regional Meetings Committee, lunch**

Wednesday, 12:15 PM PMU 84 Buy lunch in the PMU Union Market and join the committee in Room 84.

### **Birds of a Feather Sessions**

#### Lecture Demonstrators, breakfast

Monday, 7:30 AM PMU – Brass Rail Buy breakfast in the PMU Union Market and join the committee in the Brass Rail. The Brass Rail is a separate room inside PMU 84.

#### **Great Lakes Regional POGIL Network**

Tuesday, 8:00 AM STEW 214D

#### **Teaching Nanotechnology in the Non-majors Class**

Tuesday, 8:00 AM STEW 311

#### Lab Coordinators & Others Who Make Teaching Labs Happen, lunch

Tuesday, 12:15 PM PMU 84 Buy lunch in the PMU Union Market and join the group in Room 84.

#### **Teaching First-Year Chemistry to Less-prepared Students**

Wednesday, 12:30 PM STEW 311

#### **Getting Started Publishing in the Journal of Chemical Education**

Wednesday, 8:00 AM STEW 313

#### **Green Chemistry Educators**

Wednesday, 12:00 PM Site to be announced

### **Plenary and Keynote Lecturers**

Abstracts are available in the Technical Program in the colored pages.

#### Sunday, July 30 evening

**Plenary Lecture: L1 High performance chemistry: Cars and beyond** 7:00 PM – 8:15 PM Loeb Theater

**Timothy D Ruppel** completed undergraduate and graduate studies at Michigan State University in the dual fields of Criminal Justice and Chemistry, specializing in the area of Forensic Chemistry. He has worked as a law enforcement officer in several capacities including uniformed patrol, crime scene investigation, drug and narcotic investigations and laboratory analysis of physical evidence. In laboratory analysis of physical evidence he concentrated in the areas of drug identification and forensic toxicology using gas chromatography and mass spectrometry and specialized in an array of sample introduction techniques and method development for gas chromatography. Mr. Ruppel took his specialization to PerkinElmer Corporation, a leading instrument manufacturer of sample introduction techniques for gas chromatography. He has served at PerkinElmer for 20 years as a Senior Product Specialist in the areas of gas chromatography and mass spectrometry

**Joseph Turpin** is engaged in early phase process research and development, and the application of analytical technology in support of new drug development. His interests lie in laboratory information management, instrumental methods of analysis and laboratory automation. A native of Indiana, Mr. Turpin grew up with the roar and high technology of Indy car engines nearby, and served as a fuel analysis consultant for USAC and IRL for ten years.

#### Monday, July 31 morning

### **Plenary Lecture: L2 Does Chemical Education Research Have Answers to offer the Chemistry Community?**

8:00 AM - 8:50 AM Loeb Theater

**Diane M. Bunce** completed a BS in chemistry from Le Moyne College in Syracuse, NY, a Masters of Art in Teaching from Cornell University and a PhD in Chemical Education from the University of Maryland. Diane taught high school for six years and has been on the faculty at Catholic University since 1985. She currently serves as editor for the chemical education research feature for the Journal of Chemical Education. In 2000, Diane served as Chair of DivCHED and has been a member and Chair of the Chemical Education Research Committee of DivCHED (1997-1999). Her professional work has included curriculum development for the ACS textbooks ChemCom, Chemistry in Context, and Chemistry; chapters in Teaching Resources for the Chemistry Instructor, Survival Handbook for the New Chemistry Instructor, and Applying the National Standards to the Teaching of Chemistry; and research articles in the Journal of Chemical Education, Journal of Research in Science Education, and Chemical Educator. The main focus of her work has been student-centered learning whether the student is a high school or college student, high school or college teacher. Diane is also known for her love of Beatles music and as a teenager attended Beatles' concerts at Forest Hill, NY and Shea Stadium.

#### Monday, July 31 Afternoon

Keynote Lecture: K1 How To Get Students Actively Involved In Learning, Even If You Have 200 Of Them In The Class 1:15 PM – 2:05 PM STEW 302

Richard M. Felder is Hoechst Celanese Professor Emeritus of Chemical Engineering at North Carolina State University. He is coauthor of the text used in the introductory chemical engineering course by most American and many international chemical engineering departments and has over 200 papers on chemical process engineering and engineering education. Dr. Felder received his B.Ch.E. degree from the City College of New York and PhD. in chemical engineering from Princeton University. He worked for the Atomic Energy Research Establishment (Harwell, England) and Brookhaven National Laboratory before joining the NCSU faculty in 1969. His honors include the R.J. Reynolds Award for Excellence in Teaching, Research, and Extension; the AT&T Foundation Award for Excellence in Engineering Education; the Chemical Manufacturers Association National Catalyst Award; the ASEE Chester F. Carlson Award for innovation in engineering education; the AIChE Warren K. Lewis Award for contributions to Chemical Engineering Education; the ASEE Chemical Engineering Division Lifetime Achievement Award for Pedagogical Scholarship; and a number of national and regional awards for his publications on engineering education. Since 1991 he has co-directed the National Effective Teaching Institute under the auspices of the American Society for Engineering Education (ASEE)

**Keynote Lecture: K2 A Look at the 'drivers' of science education reform** 1:15 PM – 2:05 PM STEW 206

**Gerald Wheeler** is Executive Director of NSTA, the National Science Teachers Association. Previously, he was a Professor of Physics at Montana State University, Director of the MSU Science/Math Resource Center, Professor of Physics at Temple University, and Program Director for the American Association for the Advancement of Science (AAAS) in the area of Public Understanding of Science and Technology. Wheeler received his BS from Boston University with a major in science education and his PhD. at the State University of New York (SUNY) at Stony Brook in experimental nuclear physics. Between undergraduate and graduate school, he taught high school physics, chemistry and physical science. He is a former President of the American Association of Physics Teachers, a Fellow of the W.K. Kellogg Foundation and the AAAS. His numerous publications include books, articles, abstracts, and reviews. Most recently, he has been promoting telecomputer networks to bring resources to teachers and students.

#### Keynote Lecture: K3 Beginning Chemistry: Firing Their Imaginations

1:15 PM – 2:05 PM Loeb Theater

**Richard N. Zare** is the Marguerite Blake Wilbur Professor in Natural Science at Stanford University with an appointment in the Department of Chemistry and a courtesy appointment in the Department of Physics. He is a graduate of Harvard University, where he received his BA degree in chemistry and physics in 1961 and his PhD. in chemical physics in 1964. In 1965 he became an assistant professor at the Massachusetts Institute of Technology, but moved to JILA, University of Colorado at Boulder in 1966, remaining there until 1969 while holding joint appointments in the departments of chemistry, and physics and astrophysics. In 1969 he joined the Department of Chemistry at Columbia University as a full professor, becoming the Higgins Professor of Natural Science in 1975. In 1977 he moved to Stanford University. Professor Zare has taught freshman chemistry in one form or another every year he has been at Stanford, and he is very proud to have received the Allan V. Cox Medal for Faculty Excellence Fostering Undergraduate Research, Stanford University (1997), the Laurance and Naomi Carpenter Hoagland Prize for Excellence in Undergraduate Education, Stanford University (2003), and the ACS (Northeastern Section) James Flack Norris Award for Outstanding Achievement in the Teaching of Chemistry (2004).

#### Tuesday, August 1 morning

**Plenary Lecture: L3 Chemistry in the Public Eye, A shared presentation** 8:00 AM – 9:05 AM Loeb Theater

**Peter Atkins** was an undergraduate at the University of Leicester, and remained there for his PhD. He then went to UCLA as a Harkness Fellow and returned to Oxford in 1965, where he is now a professor of chemistry and Fellow of Lincoln College. His research was in the application of quantum mechanics to chemical problems, but with time he tunneled into the easier business of writing books, which now number more than 50. The best known of these is Physical Chemistry. Other textbooks include Inorganic Chemistry, Molecular Quantum Mechanics, and various flavors of general chemistry texts. He also writes books on science for the general public. Professor Atkins is deeply involved in a variety of international activities, including chairing the Committee on Chemistry Education of IUPAC, which has the task of improving chemical education worldwide, especially in developing countries, and encouraging and coordinating international efforts towards the public appreciation of chemistry. He is (in 2005) a member of the Councils of the Royal Society of Chemistry and of the Royal Institution of Great Britain, a member of the Bureau of IUPAC, and consultant to SOCED. **David Harpp** received a PhD. in Organic Chemistry from the University of North Carolina. After a post-doctorate appointment at Cornell, he joined the Chemistry Department of McGill University. David teaches a variety of Organic Chemistry courses and has published over 200 scientific articles mainly on organosulfur compounds. In 1999, he and two colleagues initiated the Office for Science and Society at McGill. This self-funded outreach endeavor provides a website http://www.oss.mcgill.ca , call-in capacities for questions, and lectures to groups and schools. David and his colleagues have created and taught four different World of Chemistry courses on the topics of Food, Drugs, Environment, and Technology, highly visual lectures showcase the ubiquitousness of chemistry in daily life. David has also developed a methodology entitled COOL (COursesOnLine) to make slide/audio lectures available to McGill students via the internet. He has won numerous awards for excellence in teaching chemistry and the promotion of science including the James Flack Norris Award, the Edward Leete Award and the Chemical Manufacturer's Award.

#### **Tuesday, August 1 evening**

**Plenary Lecture: L4 The Secret Life of Food** 7:00 PM – 8:00 PM Loeb Theater

**Shirley O. Corriher** has been a research biochemist, a working chef who fed 140 teen-age boys three meals/day for 10 years, and a consultant across the whole spectrum of the food industry. She teaches everyone from beginning cooks to top professionals and keeps audiences spellbound with her explanations of the chemistry of how food and recipes work. As a leading food writer, Shirley received the James Beard Award winner for Best Reference and Technique Book of 1997 for her book, Cook Wise. Included among her many awards are Best Cooking Teacher of the Year in Bon Appétit's "Best of the Best" Annual Food and Entertaining Awards and the prestigious Research Chefs' Holleman Award for outstanding achievement in technical communication. Shirley was a contributing editor and wrote a regular column for Fine Cooking for 10 years, and she continues to write a syndicated column in The Los Angeles Times Syndicate's Great Chefs Series. She is well-recognized from her TV appearances on many programs, including Good Eats and ABC's Jimmy Kimmel Live where Snoop Dogg was her fry chef!

#### Wednesday, August 2 morning

Keynote Lecture: K4 The challenge of interdisciplinary STEM service classes: How can physics, chemistry, math, and computer science support a redesigned biology curriculum? 8:00 AM - 8:50 AM STEW 306

**Edward F. Redish** received his undergraduate degree Magna Cum Laude from Princeton University and his PhD. in theoretical nuclear physics from MIT He has been at the University of Maryland ever since. Prof. Redish is a fellow of the American Physical Society, the AAAS, and the Washington Academy of Science. He has received the Robert A. Millikan Medal from the AAPT and other awards for his work in education from the Washington Academy of Science, the Maryland Association for Higher Education, Dickinson College, and Vanderbilt University. He was the US Representative to the International Commission on Physics Education from 1994-2002. He was the editor of the Physics Education Research Supplement / Section to the American Journal of Physics from its inception in 1999 to 2004. He is currently Chair of the American Physical Society's Committee on Education. He was founder and co-principal investigator of the Maryland University Project in Physics Education and Technology (M.U.P.P.E.T.) and Comprehensive Unified Physics Learning Environment (CUPLE). He is co-PI of the project studying the algebra-based introductory physics class entitled: Learning to Learn Science: Meta-learning in introductory physics for bioscience majors with David Hammer. Since 1982 he has been actively involved in the subject of physics education and his current research effort is devoted to student epistemologies and expectations and on student difficulties with the use of mathematics in physics.

**Keynote Lecture: K5 The Americans with Disabilities Act: What it really means for you** 8:00 AM – 8:50 AM STEW 302

**Heather Stout** is a certified rehabilitation counselor and trained mediator. She received a master's degree in rehabilitation counseling from the University of Illinois and serves as Associate Dean for Adaptive Programs and TAEVIS (Tactile Access to Education For Visually Impaired Students).

#### Wednesday, August 2 evening

**Plenary Lecture: L5 Creative demo tales from two continents** 7:00 PM – 8:30 PM WTHR 200

**Bob Becker** received a BA in Biology from Yale University in '83 and a Masters in Education from Washington University in '90. He taught for 6 years in Greenwich, Connecticut, with Ron Perkins as his mentor. He has taught Chemistry I and AP Chemistry at Kirkwood High School for the past 15 years. Bob has developed and published several unusual demonstrations and micro-scale lab experiments and is now a regular writer for CheMatters Magazine. He has two books of demonstrations and a videotape available from Flinn Scientific. From 2000 to 2003, he worked with Penney Sconzo and Ed Brogie on a Flinn Foundation traveling team, presenting week-long chemistry workshops around the country. He has conducted over 140 workshops and presentations across the US and Canada. His awards include a Chemical Manufacturers Association regional Catalyst Award in 1992, a local American Chemical Society (ACS) award in 1994, the Midwest regional ACS award in 1995, a Tandy Technology Scholar Award in 1996, and the ACS National Conant Award in 1997.

**Viktor Obendrauf** is a Lecturer at the University of Graz and head of the Austrian Microscale Center. As a leading proponent of microscale and green chemistry, Obendrauf's innovative experiments and demonstrations are well known in Europe. He has developed many low-cost experiments and demonstrations to improve chemical education at the high school and college levels and has given presentations and workshops on his work in many countries, including England, Israel, Russia, Sweden, Mexico, Canada, and the US Obendrauf's many awards include the Friedrich Stromeyer Preis and the Manfred und Wolfgang Flad Preis from the German Chemical Society. He is vice president of the Austrian Chemistry Teachers Association and the editor of the German chemistry journal, Praxis der Naturwissenschaften—Chemie in der Schule.

#### Thursday, August 3 morning

Plenary Lecture: L6 Chemistry Enterprise: Looking back at 2015 11:15 AM – 12:15 PM Loeb Theater

**Bill Carroll** holds a BA in Chemistry and Physics from DePauw University, Greencastle, IN, an MS from Tulane University in New Orleans, and a PhD. from Indiana University, Bloomington,

IN, both in Organic Chemistry. Bill started his industry career in 1978 and after a year with Rohm and Haas Company, Bristol, PA, moved to what is now known as Occidental Chemical Corporation. He is currently Vice President, Chlorovinyl Issues for OxyChem and works on public policy issues and communications related to chlorine and PVC. He is also Adjunct Professor of Chemistry at Indiana University, Bloomington, Indiana and teaches polymer chemistry there. Bill is Past-President (2005) of the American Chemical Society. He is a Fellow of the Royal Society of Chemistry, a member of the US National Committee for the International Union of Pure and Applied Chemistry, and a member of the Science Advisory Board for DePauw University.

### **Chemistry Update Speakers**

There were comments at the last BCCE that the program should include some technical sessions. Six of our faculty have volunteered to present sessions that present exciting new developments or introduce fascinating concepts. The topics will include advances in mass spectrometry, bioinorganic chemistry, molecular spectroscopy, chemical biology, nucleosynthesis and the origin of the elements, and medicinal chemistry.

Abstracts for Chemistry Updates are available in the Technical Program in the colored pages.

#### Monday, July 31

### **U1** Miniature and Ambient Mass Spectrometers: New Instruments, New Science 12:00 – 12:45 Fowler Hall

**R. Graham Cooks,** Henry B. Hass Distinguished Professor of Chemistry, Purdue University. B.S., 1961, M.S., 1963, Ph.D., 1965 University of Natal (South Africa); Ph.D. 1967 (Cambridge University). Alexander M. Cruickshank Lecturer, Gordon Research Conferences, 2005; Outstanding Commercialization Award for Purdue University Faculty, 2005; Fisher Award (ACS Award for Analytical Chemistry), 1997; Honorary Member, Ukrainian Chemical Society, 1995; Frank H. Field & Joe L. Franklin Award, (ACS Award for Mass Spectrometry), 1991; Thomson Medal, International Mass Spectrometry Society, 1985; ACS Analytical Division, Award in Chemical Instrumentation, 1984; Fulbright Fellow, University of Warwick, 1981

### U2 Biomaterials at the Beach: Metal-Protein Interactions in Mussel and Barnacle Adhesives

Fowler Hall, 5:00 PM - 5:45 PM

**Jonathan Wilker**, Associate Professor of Chemistry, Purdue University. B.S. 1991, University of Massachusetts, Amherst; Ph.D., 1996, Massachusetts Institute of Technology; Postdoctoral Scholar, 1996-1999, California Institute of Technology. One of the Ten Best Teachers in the College of Science, Purdue University, 2004; Alfred P. Sloan Research Fellow , 2002; Arnold and Mabel Beckman Foundation Young Investigator Award, 2001; National Science Foundation Faculty Early Career Development Award (CAREER), 2001.

#### Tuesday, August 1

U3 Spectroscopy in the Service of Dynamics: A look ahead at spectroscopy for the 21<sup>st</sup> century

5:00 PM - 5:45 PM Fowler Hall

**Brian Dian,** Assistant Professor of Chemistry, Purdue University. Ph.D., 2004, Purdue University, 2004 – 2006 Postdoctoral Fellow, University of Virginia. Brian is the newest member of the Department of Chemistry, having joined the faculty in July of 2006.

#### **Adventures in Chemical Biology**

Fowler Hall, 5:00 PM - 5:30 PM

**Jean Chmielewski,** Alice Watson Kramer Distinguished Professor of Chemistry, Purdue University. B.S., 1983, St. Joseph's University; Ph.D., 1988, Columbia University; NIH Postdoctoral Fellow, 1988-1990, Rockefeller University and University of California, Berkeley. ACS Cope Scholar Award, 2003; Agnes Fay Morgan Research Award, 2001; Alfred P. Sloan Fellow, 1996.

#### Wednesday, August 2

U5 Nucleosynthesis: Formation of the Chemical Elements

Fowler Hall, 12:00 PM - 12:45 PM

**Michael E. Lipschutz**, Professor of Chemistry, Purdue University. B.S., 1958, Pennsylvania State University; M.S., 1960, Ph.D., 1962, University of Chicago. COSPAR/SAFISY Panel of Space Science Experts, 1990; Commission 15, International Astronomical Union, 1988; Minor Planet 2641 Lipschutz named by International Astronomical Union, 1987; Outstanding Teacher, School of Science, 1984; Fulbright-Hays Fellow, 1971-72; Nininger Award, 1962

#### **U6 Bioactive Natural Products: How They Inspire Our Design Of Novel Molecular Probes** Fowler Hall, 5:00 PM - 5:45 PM

**Arun K. Ghosh**, Professor of Chemistry and Medicinal Chemistry, Purdue University. BSc (Honors), Calcutta University, 1978; MSc, Indian Institute of Technology, Kanpur, 1981; PhD, University of Pittsburgh, 1985; Postdoctoral Fellow, Harvard University, 1985-1988. Fellow of the American Association for the Advancement of Science, 2005; University Scholar, University of Illinois , 1998-2000; Research Fellow, Merck Research Laboratories, 1988-94; National Scholar, Government of India, 1976-1981