
NOTE NEW LOCATION!!

Action Packed Meeting: 3 Speakers

You won't want to miss this opportunity to see the Purdue
3D Visualization Live and in Person!

Waterborne Polyurethane Chemistry: Building Blocks, Applications, and Advantages

George E. Snow, Senior R & D Chemist, Lubrizol

Development of waterborne polyurethane chemistry began in the early 1960's. Over the decades, processes for making, and types of available raw materials have "evolved" and branched out, yielding a host of new and improved properties, which make them suitable for nearly any coating application imaginable. This talk will cover a brief historical summary of the industry, basic chemistry and raw materials, processes for manufacture, and some of the main applications where waterborne polyurethanes are used. Formulation for specific applications (including x-linking) and some "tips of the trade" will also be discussed.

NEW LOCATION

October 15, 2012

DIFFERENT LOCATION!!

Purdue University- Calumet
Campus

5:00 Sign In / Cocktails

5:45 Speakers

6:45 Dinner & Meeting

Convenient location for our
South Side Members!

See Page 3 for Directions

George E. Snow is a Graduate of Fitchburg State College (now University) with an MA and BS in Chemistry. He took Polymer Science classes at University of Lowell in MA and began his career with Sannacor Industries in 1988, which was eventually purchased by BF Goodrich. BF Goodrich spun off the chemicals division which then became Noveon, and Noveon was eventually purchased by the Lubrizol Corporation, now part of Berkshire Hathaway. He is a long-time member of the local Cleveland area coatings society and member of the American Chemical Society. He has been granted three patents, with several more pending. He has worked in polymer synthesis, applications, and physical testing for over 24 years. He enjoys coaching baseball and basketball, and singing and playing guitar in what little free time he has and will celebrate his 23 year wedding anniversary on October 15.

MOLECULAR MODELING AND VISUALIZATION TO GUIDE CATALYST DESIGN

Libbie S. W. Pelter, Associate Professor, Chemistry, Purdue University Calumet

The Nobel Prize for palladium catalyzed cross-coupling reactions awarded to Heck, Negishi, and Suzuki in 2010 highlights the importance of transition metal mediated catalysis as key methodologies for synthesis. Asymmetric homogeneous catalysis is an important extension of this area of catalysis and is becoming a central reaction strategy for the synthesis of chiral target compounds essential in the production of pharmaceuticals, agricultural, and specialty chemicals.

Even greater utilization of asymmetric catalysis will occur as these methods are shown to be competitive against alternative processes for producing a chiral target. Optimization of performance factors--such as activity, selectivity, productivity, and stability--will serve to further increase the utility of these catalysts. It is well established that catalyst and ligand structure significantly influence conversion, yield, and selectivity of chiral catalysts, but what configuration will work is often unpredictable. Currently, catalyst developers rely on time intensive experimentation methods to create and screen catalyst libraries which are evaluated through multiple test reactions.

Through the use of molecular modeling and visualization coupled with real experimentation this development can be significantly accelerated. In-silico investigations provide a means to gain a fundamental understanding of the control of enantioselectivity in a catalytic reaction. With this information, it is then possible to create a model transition-state structure and to design rational modifications of the catalyst to enhance desired selectivity and performance. In our work, we are investigating structures that are both modular and tunable in which simple structural modifications suggested by the in-silico modeling can be easily achieved by synthesis.

Libbie Pelter is an Associate Professor of Chemistry at Purdue University Calumet. She earned her Ph.D. at the University of California at Berkeley in organic chemistry. At Purdue University Calumet she teaches organic and inorganic chemistry and has taught courses in nanoscale science, organometallics, and catalysis.

Undergraduate research has been central to her professional activities. Over the past ten years she has mentored 30 students in undergraduate research projects. Half of these students have been Indiana-LSAMP grant recipients. Over 90% of these students have published in referred journals or presented results of their work at a national meeting and several have continued their education in graduate school. Many of these students have also been awarded prestigious competitive honors that have contributed to their success. For example, two students were invited to present their work at Posters on the Hill in Washington, D.C., one student was awarded a Sigma Xi Research Grant, three students were accepted into NSF funded summer REU programs at research universities, and recently a student was awarded a travel grant from the American Chemical Society to present his research at the national ACS meeting.

Her research interests include development and evaluation of transition metal catalysts useful in carbon-carbon bond forming reactions including reactions that utilize waste CO₂. She has also been investigating the use of nanomaterials in catalysis and organic synthesis using microwave heating.

Hyaluronic Acid *N*-Deacetylase Revealed

Maria O. Longas, Ph.D; Purdue University Calumet

Hyaluronic acid (HA) *N*-deacetylase, the enzyme that removes *N*-bonded acetyl ($-\text{COCH}_3$) groups from skin HA in the 7th decade of life, was discovered in my laboratory. Its specificity for *N*-bonded acetyl moieties of D-GlcNAc and D-GalNAc where C₁ is β -linked was also demonstrated in 2003. This work will present the experimental history leading to the partial characterization of HA *N*-deacetylase in skin homogenates of 76.5 ± 1.12 year-old subjects, using fractional precipitation with $(\text{NH}_4)_2\text{SO}_4$, and polyacrylamide gel electrophoresis, under denaturing and nondenaturing conditions in 1- and 2-dimensions.

Maria Longas received her Ph. D. in Organic Chemistry from New York University. After obtaining an MA in chemistry, she worked as a research assistant at New York University Medical Center from 1974–1978, while working on her Ph. D. at night and over the weekends.

Driving Directions Purdue University Calumet Center for Innovation through Visualization and Simulation

Powers Building (Room 123)
2200 169th Street, Hammond, IN 46323

From I-80/94 Westbound

- Take Indianapolis Boulevard. North (Exit 3)
- Turn Right onto 169th Street
- Turn Right into Purdue Calumet Parking Lot
- Enter Powers Building – Entrance M-3
- The CIVS Lab is located directly ahead in Room 123

From I-80/94 Eastbound

- Take Kennedy Ave. North (Exit 2)
- Turn Left onto 169th Street
- Turn Left into Purdue Calumet Parking Lot
- Enter Powers Building – Entrance M-3
- The CIVS Lab is located directly ahead in Room 123

Contact Information

- Phone: 219-989-2765
- E-Mail: civs@purduecal.edu
- Web: www.purduecal.edu/civs



BUILDING NAME LEGEND

① Edward D. Anderson Building	⑬ 169th Street Parking Garage
② Classroom Office Building	⑭ Gene Stratton Porter Hall
③ Andrey A. Petter Lab Building	⑮ University Police
④ Donald S. Powers Computer Education Building	⑯ University Services
⑤ Gyte Annex	⑰ Schneider Avenue Building
⑥ Millard E. Gyte Science Building	⑱ 1247 169th Street*
⑦ C.J. Lawshe Hall	⑲ Community Services Center
⑧ Charlotte R. Riley Child Center	
⑨ The Challenger Learning Center Napoleon Hill Foundation	
⑩ The University Village — Student Housing Phases and Phase II	
⑪ Fitness & Recreation Center	
⑫ Student Union & Library	

MERRILLVILLE LOCATIONS

- Academic Learning Center**
9900 Connecticut Drive, Merrillville
- Purdue Technology Center of Northwest Indiana*
9900 Connecticut Drive, Merrillville

*Determine an off-campus site.

PURDUE

UNIVERSITY

CALUMET

MAP LEGEND

- "Peregrine Path"
- Roads
- Sidewalks
- Open Parking
- Open Parking after 4:30 pm
- Staff Parking Only

TECHNICAL MEETINGS

FALL 2012:	WINTER / SPRING 2012:
<u>MONDAY SEPTEMBER 10</u> Greek Islands, Lombard, IL	<u>MONDAY JANUARY 14</u> Greek Islands, Lombard, IL
<u>MONDAY OCTOBER 15</u> Purdue University Calumet Hammond, IN	<u>MONDAY FEBRUARY 11</u> Greek Islands, Lombard, IL
<u>MONDAY NOVEMBER 12</u> Greek Islands, Lombard, IL	<u>MONDAY MARCH 11</u> Greek Islands, Lombard, IL
<i>NOTE: Meetings are on the 2nd Monday of the month.</i> TALKS BEGIN AT 5:45 PM (5PM SIGN IN)	<u>APRIL TBA</u>

GREEK ISLANDS: 300 East 22nd St, Lombard, IL 60148 (630) 932-4545
Located off I-88, Exit Highland Avenue North to 22nd Street



EVENTS

COATINGS TRENDS & TECHNOLOGIES Oak Brook IL	<u>TUES-WED. SEP 11-12, 2012</u>
CPCA/CSCT HOLIDAY PARTY Hyatt Hotel, Schaumburg IL	<u>FRIDAY, DECEMBER 7, 2012</u>
ANNUAL AWARDS DINNER Maggianos, Oak Brook IL	<u>May 2012, Date TBA</u>
GOLF OUTING St. Andrews, West Chicago IL	<u>MONDAY, JULY 22, 2013</u>

2012-2013 Officers

PRESIDENT

Michael Laing
MÜNZING
1720 W. Palamino Drive
Racine, WI 53402
(862) 202-1156
mlaing@munzing.us

VICE PRESIDENT

Frank Muchna
Specialty Chemical Sales
7 Polk Ct. Unit B
Streamwood, IL 60107
708.638.5903
fmuchna@
specialtychemicalsales.com

TREASURER

Burl Anderson
Sherwin Williams
549 East 115th St.
Chicago, IL 60628
773.821.3805
burl.a.anderson@
sherwin.com

MEMBERSHIP

Christopher Niblock
OMG Americas, Inc.
811 Sharon Dr.
Westlake, OH 44145
919.725.0434
chris.niblock@
na.omg.com

SECRETARY

Bruce Andreoni
Fitz Chem Corp
450 East Devon Ave.
Itasca, IL 60143
630-235-2164
Bandreoni@
fitzchem.com

AT LARGE

Guy Lopez
Chidley & Peto Co.
1500 West Shure Dr.
Arlington Heights, IL 60004
847.577.3800
guy@chidleyandpeto.com