

# THE OCTAGON



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Lehigh Valley Section of the American Chemical Society

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## *Fall Meeting Announcement:*

### *796<sup>th</sup> LVACS Meeting:*

*in conjunction with the*

*DaVinci Science Center, Allentown, PA*

**Watch for details on the web later this summer  
and in your September issue of the Octagon**



## *Winners of 2006-2007 LVACS Undergraduate Awards*

Albright College - Sherri Young (chemistry) and  
Cheok Hin Lei (biochemistry)  
Cedar Crest College - Tova A. Samuels  
DeSales University - Justin R. Sparks  
East Stroudsburg University - Jillian E. Smith,  
Kutztown University - Chris McCarty  
Lafayette College - Frank Cortazar (chemistry)  
and Eugene LaBuz (chemical engineering),  
Lehigh University - Sarah Horvat  
Moravian College - Peter Slivka  
Muhlenberg College - Peter Palomaki

***Congratulations!***

## *LVACS Officers - 2007*

**Chair:** Paul Bouis

**[pbmbi@rcn.com](mailto:pbmbi@rcn.com)**

**Chair Elect:** Julie Ealy

Penn State University Lehigh Valley

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**Immediate Past Chair:** T. Michelle Jones-Wilson

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Bangor PA

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East Stroudsburg, PA 18301

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**Octagon Editor & Webmaster:**

T. Michelle Jones-Wilson (see above)

## **Meeting Minutes**

### **January:**

The 792<sup>nd</sup> meeting of the Lehigh Valley section of the American Chemical Society was called to order on January 25, 2007 by Treasurer John Freeman at 7:13 pm. The meeting was held at Muhlenberg College.

Carol Libby of Moravian College promoted the Poster Session to be held April 24, 2007 at her institution. She also mentioned that there will be an interesting February 6 on Nova: "Forgotten Genius Percy Julian".

John Freeman discussed the Organic Chemistry Scholarship competition to be held this semester. Details are available on the chapter website and in the Octagon. Lafayette College has had a great run at producing winners of this award. It will be interesting to see if someone can break their dominance.

Treasurer's report - John Freeman: Balance \$5872. \$2800 encumbered for a fall event.

Pam Kistler informed everyone that the next meeting in February will be held at Cedar Crest College.

Dr. Marion Smith of Muhlenberg College introduced the speaker for the evening, Philip B. Henderson of Air Products. His presentation was entitled "Ionic Liquids – Beyond the Green". A detailed abstract of his talk can be found in the Octagon. He also encouraged everyone of the need for Innovation and commented on the excellent collaboration currently occurring in the field of Ionic Liquids.

The meeting was adjourned following the presentation at 8:20 pm.

### **February:**

The 793<sup>rd</sup> meeting of the Lehigh Valley Section of the American Chemical Society was held on February 27, 2007 at Cedar Crest College. Chair Paul Bouis called the meeting to order at 7:30 pm. He began the meeting with a poem in tribute to Dorothy Blaney, Cedar Crest College President from 1989-2006 who passed away this past year.

The current Officers of the LVACS for 2007 were introduced:

Chair: Paul Bouis

Immediate Past Chair and Alternate Councilor:

T. Michelle Jones-Wilson

Chair Elect: Julie Ealy

Treasurer: John Freeman

Secretary: Chester Crane

Councilor: Carol Baker Libby

Councilor: Pamela D. Kistler

Alternate Councilor: Roger Egolf

Minutes from the November meeting were approved by the section as published in The Octagon. If there are any members

who are not receiving The Octagon, please inform the editor, Michelle Jones-Wilson.

Treasurer's Report: We are solvent.

Organic Scholarship: John Freeman described the details of the award:

The Lehigh Valley Section of the American Chemical Society's Scholarship for Organic Chemistry Competition takes place on Saturday April 28, at Moravian College Bethlehem, PA, Collier Hall of Science - Dana Lecture Hall 9:00AM-10:30AM. (<http://www.moravian.edu/campusMaps/northBuildings/collier.htm>.)

The competition entails taking the ACS Organic Chemistry Examination (50%), a letter of recommendation from the student's organic chemistry professor (10%), and an essay on a topic in organic chemistry (40%). The value of the scholarship is \$1000. Additionally the top essay will receive \$100. Details for the letter and the essay follow below. The student should be below the junior level currently enrolled in organic chemistry attending college at an institution in the section. The student also must be a chemistry biochemistry or chemical engineering major. Students should indicate their interest in the scholarship in advance to John Freeman at 522 Raub St Easton PA 18042 , [jcf2@rcn.com](mailto:jcf2@rcn.com)

Letters of Recommendation: When writing a letter of recommendation on behalf of a student who is applying for Lehigh Valley ACS Scholarship, please speak to the student's skills in lecture and laboratory from Organic Chemistry I and Organic Chemistry II. In addition to performance on written exams and a course grade for Organic Chemistry I, it would be helpful to comment on the student's proficiency in organic lab and his or her participation in recitations. We would also like, if possible, the letter to address the students' quantitative skills by commenting on their performance in quantitative analysis or its local equivalent. Please place your letter of recommendation in a sealed plain envelope and place your signature over the seal. The student will be required to bring the sealed letter to the ACS Organic Chemistry Standardized Exam on April 29, 2005.

Essays: The student should choose a molecule, a group of molecules or a process in organic chemistry including its synthesis or structural elucidation for a molecule or a representative molecule of a group or a number of examples and mechanism for a process. Judicious use of structures is expected. The essay should address the impact of the molecule or process on society, and the student's personal interest in the process or molecule. The essay should run approximately 3 pages + a quarter page of text not including figures in times new roman 12 point font or equivalent with 1 inch margins on all sides. The students name a brief title and page number should appear in the header of each page.

An additional page with references should be included. References should be presented as end notes according to the style of the Journal of Biological Chemistry.

(See <http://www.jbc.org/misc/ifora.shtml> ).

The essay will be rated on:

! 20% - Ease of reading, including grammar, spelling, and logical flow of the material.

! 40% - Appropriate depth of coverage on the development of the molecule.

! 30% - Appropriate depth of coverage on the impact on society and student's interest.

! 10% - Appropriate use of references.

! 5% - Adherence to the formatting rules provided.

Carol Baker Libby described the details of the Undergraduate Research Poster Session coming up in April 24, 2007 at Moravian College from 5:00-6:15 PM, receding the 795th meeting of the Lehigh Valley Section of the ACS. Who may participate? Undergraduates attending a college or university within the Lehigh Valley section of the ACS. Research may have been done at the student's home institution with a chemistry or chemical engineering faculty member or during a summer research experience elsewhere.

To participate: Submit an abstract by April 16, 2007, as a Microsoft Word attachment to an email to [clibby@cs.moravian.edu](mailto:clibby@cs.moravian.edu). Please indicate "LVACS Poster Session" in the subject line of your email header.

One poster session participant will be chosen to receive a \$250 award to support travel to present research at a national or regional ACS or AIChE meeting.

The next meeting will be held at DeSales University on March 23, 2007. It will be High School Teacher's Night.

Professor John Griswold introduced the speaker for the evening, Dr. Thomas Brettell. His talk for the evening was entitled "Measuring Alcohol in Blood and Breath for Forensic Purposes - A Historical Perspective". A detailed abstract appeared in The Octagon.

The meeting was adjourned following the presentation.

### **March:**

The meeting was called to order at 7:40. Dr. Rodger Berg of DeSales University welcomed the Section to the meeting. The 22 High School Teachers in attendance were recognized for their work with applause from the membership.

Treasurer's report - John Freeman: The section is currently in the red after the free meals.

The minutes from the November meeting were approved as published in the Octagon.

The undergraduate poster session for the next meeting was discussed. Details are available on the website and in the Octagon.

The Organic Scholarship competition was also discussed. Details are available on the website and in the Octagon.

Finally, Dr. Marion Smith of Muhlenberg College promoted the Chemistry Olympiad. This is a competition for the High School Chemistry students in the area. For more details, email her at [msmith@muhlenberg.edu](mailto:msmith@muhlenberg.edu).

Following the dinner, Dr. Fran Mayville introduced the speaker for the evening, Gerard D. Caprio. His talk was entitled "A Killer Presentation: Forensics Utilizing Chemistry and Mitochondrial DNA Biology". The current issue of the Octagon contains an abstract of his talk. The meeting was adjourned at the conclusion of the presentation.

### **April**

The 795<sup>th</sup> meeting of the Lehigh Valley section of the American Chemical Society was called to order at 7:34 on April 24, 2007 by Chair Paul Bouis. Carol Libby of Moravian College presented the travel award for the evening's poster session to Angela Bollinger. The Section thanked all of the contributing scientists for the Poster Session presentations.

Treasurer's report - John Freeman: There is currently \$14,000 in the bank. The meeting tonight cost \$3000, and a meeting next year will also cost \$3000.

Paul Bouis presented the winners of the Lehigh Valley ACS Awards for the current academic year. Each winner received a personalized Merck Index. Each student was introduced by a faculty member from the participating institution. A list of the award winners follows.

#### **LVACS Awards - 2007**

Albright College - Sherri Young (chemistry) and Cheok Hin Lei (biochemistry), Cedar Crest College - Tova A. Samuels, DeSales University - Justin R. Sparks, East Stroudsburg University - Ms. Jillian E. Smith, Kutztown University - Chris McCarty, Lafayette College - Frank Cortazar (chemistry) and Eugene LaBuz (chemical engineering), Lehigh University - Sarah Horvat, Moravian College - Peter Slivka, Muhlenberg College - Peter Palomaki

The presentation for the evening was entitled "Drug Discovery: A Life in a Day". Les McQuire of Novartis discussed the path from drug discovery to market, and provided career development advice to the scientists in the audience. Following the presentation, the meeting was adjourned at 8:44.

### **May**

The 796<sup>th</sup> meeting of the Lehigh Valley section of the American Chemical Society was mostly held in a social atmosphere at Barley Creek Brewing Company. The meeting was called to order on Tuesday, May 15, 2007 by

Chair Paul Bouis with the slogan “Better Living Through Chemistry!!.” Everyone was welcomed to a “Celebration of the Suds”.

Treasurer's report - John Freeman: Everything seems ok. There is a detailed budget in the Octagon.

The Brewmaster and owner of Barley Creek discussed the beer making process. Barley Creek has won 7 awards for their products in the past 11 years. A very informative and informal presentation was given with many questions and answers from the group.

Jim Vasta of Lafayette College was introduced as the winner of this year's Organic Chemistry Scholarship. This year there was a tie for the best essay between Jim and another student who will be presented with an award at the next meeting in September.

The meeting was adjourned following the award presentation. A fabulous dinner and wonderful beer were enjoyed by all on a lovely spring evening on the back deck of the restaurant.

Respectfully submitted,  
Chester Crane,  
Secretary LVACS

### ***From The Chair***

My latest reign as section chair is half over. President Bush's term is also half over although some might want to see him replaced like me in January. I knew we were in trouble in Iraq when Colin Powell got confused into telling us that a vehicle intended for dispersing isocyanate based pesticides was evidence that Saddam Hussein had weapons of mass destruction. The general public is so non-scientific these days it sure makes it easy for our elected officials to use pseudo science to convince us they are serving in our best interest. Which reminds me that we have yet to have a speaker at our local section meetings to talk about global warming. Surely we have a knowledgeable scientist in our midst who could help us decipher the issues during one of the fall meetings, and is not an Al Gore disciple. I hate it when people all of a sudden find religion

The May celebration meeting held at Bradley Creek Brewery was, you know, awesome, although the attendance did not reflect it. Our Organic Chemistry scholarship award winner was present and very thankful for the stipend, and the free beer. Attendance at meetings in general was up and the High School Teachers night held in the, you know, awesome, new facility at DeSales University was especially well attended by the local high school chemistry teachers. The other well attended meeting was the Poster Session/Student Awards night held at Moravian College. The posters get better each year(I

can tell that from the fact that I understand less of them), and the award winners are very deserving.

It looks like we will NOT have a summer picnic this year although the previous one's were well attended and a lot of fun. It is just that everyone has so much to do that organizing “another” summer picnic does not make the “to do” list. Perhaps next year someone will have the energy to lead us to the “picnic land”.

Which reminds me that we will once again be looking for candidates for section officers. We are especially desperate for a couple of candidates from the industrial sector to run for Chair-Elect. But even if you are not interested in chairing the section there are other opportunities to support your section. I do have a call in to the many candidates hoping to replace Mr. Bush since there are obviously a lot of folks with way too much time on their hands who might be interested in being President of our section. Ok so we have go from chair to president, I can live with that.

Julie Ealy from Penn State Lehigh Valley will be putting together the fall meeting schedule which traditionally starts at Lafayette College in late September. Have a great summer and “See You in September.”

Your Favorite Chair  
Paul A Bouis

### ***This Month in Chemical History***

*Harold Goldwhite, California State Univ. Los Angeles  
hgoldwh@calstatela.edu*

*Prepared for SCALACS, the Journal of the Southern California, Orange County, and San Gorgonio Sections of the American Chemical Society*

In a previous column I outlined the chemical career of the great 19th . Century French chemist, Marcelin Berthelot, whose name I unexpectedly encountered while reading a biography of the French woman novelist George Sand. If Berthelot had contributed nothing beyond his work in organic and physical chemistry we would remember and honor his name and work. But in a full life – he lived to be nearly eighty – he was involved in public life, and also made important contributions to the history of chemistry.

Berthelot became a public figure in France during the siege of Paris in 1870. His expertise in chemistry led to his appointment as President of the Scientific Committee of National Defense and, like his great predecessor Lavoisier at the time of the French Revolution, he helped improve the manufacture of explosives to be used in the French army. He was appointed as Inspector of Higher Education in 1876 and was then elected a Permanent Senator in 1881. He was appointed to his first Cabinet Post in 1886 as Minister of Public Instruction. His own background led him to an appreciation of the value of scientific education and he

encouraged the incorporation of scientific subjects into the standard classical and liberal arts curriculum. He was not enthusiastic about “technical education” isolated from the broader curriculum, but he did support evening schools in a wide range of subjects for workers. In 1895 he was persuaded to become Minister for Foreign Affairs in the cabinet of M. Bourgeois. Although the task was not to his taste he did negotiate a tricky Anglo-French treaty settling the status and boundaries of the territory then known as Siam, a buffer between the French colony of Indo-China and the English colony of Burma. Soon after the treaty was signed Berthelot resigned this position.

During a visit to Egypt in 1869 his hosts showed him a range of papyri, many in old Greek, which described ancient preparations that could be categorized as early chemistry and alchemy. They caught his interest, perhaps because of his early training in classic Greek and Latin, and he enlisted the aid of several colleagues including Ruelle, Duval, and Houdas to translate and publish an extensive collection of manuscripts covering practical chemistry and alchemy as reflected in early work by Greek and Arabic alchemists, and by medieval alchemists. These translations are still among the best sources for our knowledge of these periods in the early history of chemistry. The Leiden Papyrus is perhaps the best known of these. It was compiled about 300 A.D. and is probably based on an earlier collection dating to about 30 B.C. It contains many recipes for producing what we would call fake gold and gems, but one must understand that criteria and tests for purity were quite primitive in those times.

Berthelot’s wife was literally blown into his arms. Sophie Niaudet was crossing the Pont Neuf in Paris during a wind storm when a particularly strong gust, catching her long skirt and large hat, unbalanced her and Marcelin was in the right place to catch her. It turned out that their families were well acquainted. They were married in 1861 and stayed happily married for over forty years. They died on the same day within an hour of each other, and were given the honor of a double state burial in the Pantheon.

#### ***A Note of Thanks:***

Dear Chester and all other ACS officers,

I would like to once again thank you for your generosity, and the opportunity to compete for the organic chemistry scholarship. The award will certainly be put to good use. I look forward to joining the ACS very soon so that I can give back to the organization that has given aid to me.

With great thanks,  
Jim Vasta

### ***ChemShorts for Kids: Homemade Floam***

*Reprinted with permission from Dr. Kathleen A. Carrado, Chicago Local Section.*

*An archive of previously published ChemShorts is available at: <http://membership.acs.org/C/Chicago/home.html>*

Please note: All chemicals and experiments can entail an element of risk, and no experiments should be performed without proper adult supervision.

The Elementary Education Committee of the ACS Chicago Section presents this column. They hope that it will reach young children and help increase their science literacy. Please share with children and local teachers.

Kids, what is like slime with polystyrene beads in it that can be molded into shapes? It’s a really fun toy called Floam™. You can sculpt with this colorful goop or use it to coat other objects. You can store it to reuse it or allow it to dry, if you want permanent creations. It’s a lot of fun, but not always easy to locate. So, you can make a type of ‘Floam’ yourself. Like slime, it is generally safe, though anything containing food coloring can stain surfaces (don’t eat it though, because polystyrene beads simply aren’t food!).

Here is what to do:

1. Dissolve 2 tsp. borax completely in 1/2 cup water. (If you want slimier, more flexible ‘Floam’, then try 1 tsp. borax instead)
2. In a separate container, mix 1/4 cup white glue and 1/4 cup water. Stir in food coloring.
3. Pour the glue solution and about 1 1/3 cup of polystyrene beads into a Ziploc® plastic bag. Add borax solution and knead it until it’s well mixed. Use 1 tbsp. of the borax solution for a very fluid Floam, 3 tbsp for average Floam, and the entire amount for stiff Floam.
4. To keep your Floam, store it in a sealed bag in the refrigerator (this discourages mold). Otherwise, you can allow it to dry into whatever shape you chose.

#### **How it works:**

Borax reacts to crosslink the polyvinyl acetate molecules in the glue. This forms a flexible polymer.

#### **Tips:**

1. If you use a 4% solution of polyvinyl alcohol instead of glue, you will get a more transparent product that will hold shapes better.
2. Polystyrene beads can be found at craft stores (e.g., JoAnn Fabrics), usually as fillers for bean bags or dolls. Or, for more hands on fun, you can grind Styrofoam™ cups using a cheese grater.

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**Reference:**

Anne Marie Helmenstine’s “About Chemistry” at <http://chemistry.about.com/od/chemistryhowtoguide/ht/floam.htm>

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## ***UNDERGRADUATE RESEARCH POSTER SESSION***

**The Lehigh Valley Section of The American Chemical Society**

**Moravian College - April 24, 2007**

Twenty four posters were presented at the poster session at Moravian College. This event continues to grow every year. It gives us the opportunity to showcase our talented undergraduates and the research they accomplish at our area universities. Congratulations to all presenters. Poster titles and authors follow. Complete abstracts can be found at [www.esu.edu/lvac](http://www.esu.edu/lvac).

### **1. SYNTHESIS OF IONIC LIQUIDS AND THEIR USE AS REPLACEMENT SOLVENTS IN OXIDATION REACTIONS.**

Michael Allen, Justin Sparks and Francis C. Mayville, Jr., Department of Natural Sciences, DeSales University, 2755 Station Avenue, Center Valley, PA 18034, Fax 610-282-0525, [francis.mayville@desales.edu](mailto:francis.mayville@desales.edu).

### **2. PRESUMPTIVE AND CONFIRMATORY IDENTIFICATION OF 1,2-TRIAZOLO-BENZODIAZEPINES**

Erika L. Asselin<sup>1</sup>, Thomas A. Brettell, Ph.D.<sup>1</sup>, and Donna Mohr, Ph.D.<sup>2</sup>

1 – Cedar Crest College, Department of Chemical and Physical Sciences, 100 College Dr, Allentown, PA 18104

2 – Lehigh University, Department of Engineering, Dean of Graduate Studies, 27 Memorial Drive West, Bethlehem, PA 18015

### **3. IDENTIFYING THE BINDING REGION FOR THE CRY1A TOXIN ON THE BT-R1 RECEPTOR PROTEIN**

Lindy Carpenter<sup>1</sup>, Laura Rose-Young<sup>2</sup>, Lee Bulla<sup>2</sup>, Matthew Junker<sup>1</sup>

1 Department of Physical Sciences, Kutztown University

2 Department of Molecular and Cell Biology, University of Texas at Dallas

### **4. INVESTIGATION OF THE EFFECT THAT DIFFERENT DRYING METHODS HAVE ON THE MECHANISM OF THEOPHYLLINE RELEASE FROM MICROCRYSTALLINE CELLULOSE BEADS (PART II).**

Angela Bollinger, Rebecca Swoyer and Francis C. Mayville, Jr., Department of Natural Sciences, DeSales University, 2755 Station Avenue, Center Valley, PA 18034, Fax 610-282-0525, [francis.mayville@desales.edu](mailto:francis.mayville@desales.edu).

### **5. A ONE-POT APPROACH TO THE SYNTHESIS OF 2,4-DISUBSTITUTED FURANS**

Matthew Coughlin, William H. Miles. Lafayette College, Easton PA, 18042

### **6. CONTENT VERSUS LABEL CLAIMS IN DIFFERENT COMMERCIAL TABLET BRANDS OF MELATONIN**

Lisa Karwacki and Dr. Thomas Brettell. Cedar Crest College, Department of Chemical and Physical Sciences, 100 College Dr. , Allentown, PA 18104

### **7. SYNTHESIS OF A SELENOCYANATE DERIVATIVE OF COLCHICINE**

Abigail Cokely and Dr. Marianne Staretz, Department of Chemical and Physical Sciences

Cedar Crest College, Allentown, PA 18104

### **8. BLOODSTAIN DNA TRANSFER DETECTED ON WASHED FABRICS WITH THE USE OF REAL-TIME PCR**

Michelle Dawes and Lawrence Quarino, Ph.D, D-ABC, Department of Chemistry and Physical Sciences, Cedar Crest College, 100 College Dr. Allentown, Pa 18104

### **9. BIOAVAILABILITY OF HEAVY METALS IN THE REMEDIATED AND CONTAMINATED SOILS FROM THE PALMERTON ZINC PILE SUPERFUND SITE**

Alina Ebling ([aebli153@kutztown.edu](mailto:aebli153@kutztown.edu)) and Venera Jouraeva ([jouraeva@kutztown.edu](mailto:jouraeva@kutztown.edu)), Department of Physical Sciences, Kutztown University, 15200 Kutztown Rd., Kutztown University, Kutztown, PA 19530

### **10. DNA BINDING PROPERTIES OF ANTI-TUMOR DIRHODIUM COMPOUNDS**

Debra Evans, Drs. Shari and Stephen Dunham. Chemistry Department, Moravian College, Bethlehem, PA 18018.

### **11. TESTING THE APOPTOSIS PROMOTING ABILITY OF THE PROTEIN GRIM**

Marcela Ferreira and Matthew Junker, Department of Physical Sciences,

Kutztown University, Kutztown, PA 19530

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## **12. METHOD DEVELOPMENT FOR SELENIUM DETERMINATION IN BIOLOGICAL SAMPLES**

Lisa Morkowchuk (Shari U. Dunham and Stephen U. Dunham) Department of Chemistry, Moravian College, 1200 Main St. Bethlehem PA, 18018

## **13. CONTROLLING PROTEIN ASSOCIATION BY FUSION TO A DNA-BINDING DOMAIN OF THE YEAST TRANSCRIPTION FACTOR HAPI**

Kevin Frey, and Matthew Junker. Department of Physical Sciences, Kutztown University of Pennsylvania. Kutztown PA, 19530

## **14. THE EFFECTS OF DATE RAPE DRUGS ON BEVERAGES AND THE DETECTION OF GAMMA-HYDROXYBUTYRIC ACID THROUGH THE USE OF A RAPID COLORIMETRIC TEST**

Kimberly Michalik<sup>1</sup>, Thomas Brettell, Ph.D.<sup>1</sup>, and Donna Mohr, Ph.D.<sup>2</sup>, <sup>1</sup>Cedar Crest College Department of Chemical and Physical Sciences, Allentown, PA 18104 and <sup>2</sup>Lehigh University Department of Graduate Admissions, Bethlehem, PA 18015

## **15. INVESTIGATING THE EFFECT OF CARBON NANOTUBES ON THE OLIGOMERIC STRUCTURE OF PROTEIN USING ATOMIC FORCE MICROSCOPY**

Sandra Rodriguez, Tina H. Huang, Department of Chemistry, Lafayette College, Easton, PA 18042

## **16. CHARACTERIZATION OF DNA ADDUCTS FORMED BY DIRHODIUM (II, II) CARBOXYLATES**

Valerie Phillips, Shari U. Dunham, Stephen U. Dunham

Department of Chemistry, Moravian College, 1200 Main St. Bethlehem, PA 18018

## **17. ANALYSIS AND PREPARATION OF SUNSCREEN ACTIVE INGREDIENTS**

Tova Samuels and John Griswold, PhD, Department of Chemical and Physical Sciences, Cedar Crest College, Allentown, PA 18104

## **18. THE REARRANGEMENT OF HETEROCYCLIC IMINES**

Sherri Young, Albright College, 13th and Bern St, Reading, PA 19604, Dr. Ned Heindel, Lehigh University, 6 East Packer Avenue, Bethlehem, PA 18015, and Dr. Robert Rapp, Lehigh University, 6 East Packer Avenue, Bethlehem, PA 18015

## **19. ENTHALPY CHANGE FOR THE CHEMILUMINESCENT OXIDATION OF LUMINOL**

Joshua Beri (Carl Salter) Department of Chemistry, Moravian College, Bethlehem, PA 18018.

## **20. COMPARISON OF TWO BLUE LIGHT PHOTORECEPTORS: DNA PHOTOLYASE AND CRYPTOCHROME**

Brad Wertheim\*, Frank Cortazar\*, Hans Schelvis#, and Yvonne Gindt\*

\*Department of Chemistry, Lafayette College, Easton, PA 18042

#Department of Chemistry, New York University, New York 10012

## **21. CONTENT VERSUS LABEL CLAIMS IN DIFFERENT COMMERCIAL TABLET BRANDS OF MELATONIN**

Lisa Karwacki and Dr. Thomas Brettell. Cedar Crest College, Department of Chemical and Physical Sciences, 100 College Dr., Allentown, PA 18104

## **22. ION RATIOS AS A MEANS TO DEFINE MINIMUM MATCH CRITERIA BETWEEN SPECTRA**

Bridget A. Szala<sup>1</sup> and Lori Titus<sup>2</sup>, M.S.

<sup>1</sup>Department of Chemical and Physical Sciences, Cedar Crest College, Allentown, PA 18104;

<sup>2</sup>Anne Arundel County Police Department Crime Laboratory, Millersville, MD 21108

## **23. Electrokinetic Properties and Aggregation Kinetics of Cerium Oxide Nanoparticles: An Intercomparison across Particle Size**

Katherine Buettner, Steven E. Mylon, Department of Chemistry, Lafayette College, Easton, PA 18042

## **24. PREPARATION AND PROPERTIES OF DEET ANALOGS**

Chanel Davis, Cedar Crest College, Allentown, Pennsylvania

### ***Take Note: Chemistry Olympiad News***

About 20 students from 4 high schools braved the bad weather conditions and took the local Chemistry Olympiad exam on March 17th. Of these 4 qualified for the National exam, and ultimately two students from Emmaus HS took the National exam on April 27: they were Sonya Snyder and Caroline Hsu. *Congratulations!*

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## *News from National*

### **Chemistry in the Community, New Digital Talking Book**

In collaboration with gh, LLC, (an assistive technology company) the American Chemical Society has converted its high school chemistry textbook *Chemistry in the Community* into a digital talking book (DTB) format. This will be the first digital talking chemistry textbook on the market and is designed to help students who are blind or visual impaired study chemistry along with their sighted peers. *Chemistry in the Community, DTB* will also be a powerful tool for students who have reading difficulties or for whom English is a second language.

Converting a high school chemistry textbook into a DTB presented interesting challenges for ACS Education Division and gh staff, as chemistry textbooks contain unique features which must be accurately represented in the digital reading of the text. For example, the pictorial nature of a chemistry textbook (illustrations, figures, tables, graphs, molecular models, formulas and equations) makes the use of a "text only" access method ineffective. In order to make a chemistry text actually usable, the essential graphics need to be communicated so they can be understood by a student who is blind or visually impaired.

A careful review of the initial drafts of the product revealed the nuances of reading dimensional analysis, stock method naming, ionic charges, and catalyzed reactions. These items were addressed along with the other graphic elements to create a product that is now ready for field tests.

ACS is currently looking for interested teachers and students to help with this phase of the project. Teachers of blind and visual impaired students will be asked to use the DTB in their classrooms during the spring and early summer and to provide valuable input on the usability and effectiveness of the product. Student input regarding usability will also be solicited. The final digital talking book is expected to be released in the fall following the completion of the field tests. If you are interested in field testing this exciting new product please contact [chemcom@acs.org](mailto:chemcom@acs.org).

### **Academic Employment Initiative Poster Session Planned for Boston**

Will your department be hiring new faculty this year? If so, plan to attend the Academic Employment Initiative (AEI) to meet with potential new faculty candidates at the Sci-Mix poster session held at the Boston ACS National Meeting, Monday evening, August 20, from 8–10 PM.

At the Fall 2007 ACS meeting in Boston, candidates seeking faculty positions will use the AEI Poster Session at Sci-Mix to present posters about their current research,

which will expand on their research interests, teaching philosophy, and experience. Faculty recruiters are invited to take advantage of this opportunity to meet as many candidates as possible.

Brief biographical sketches of each of this year's candidates with links to their abstracts will be available at the beginning of July at [chemistry.org/aei.html](http://chemistry.org/aei.html). Further information can be found at that website or by writing to [GradEd@acs.org](mailto:GradEd@acs.org).

### **Funds Available for Collaborative Career Development Activities**

Proposals are being sought for Equipping the 2015 Chemical Technology Workforce mini-grants. Up to \$500 will be awarded to collaborative activities that support technician education and career development.

Recognizing a need to support chemical technicians in the rapidly evolving chemical enterprise, several ACS units joined together in 2006 to start Equipping the 2015 Chemical Technology Workforce. The initiative kicked off at the 232nd ACS National Meeting with a Presidential Event highlighting its goals:

1. Raise awareness of the changing needs of chemical technicians
2. Highlight opportunities for industry, academia, professional societies, and the community to collaborate on meeting those needs
3. Increase involvement of technicians in the American Chemical Society

The winners of the first round of mini-grants, awarded in Spring 2007, are collaborating with industry, academia, and ACS local sections on such activities as chemical technology career fairs for high school students, discussion panels on employability skills for technicians, and technical programming at regional and national meetings on the vital role technicians play in the chemical enterprise.

Equally compelling proposals are being sought for a second round of mini-grants to be awarded in October 2007.

To qualify for a mini-grant, activities must involve one or more sectors of the chemical enterprise (industry, academia, etc.) and be completed by the summer of 2008. Activities must also support one or more of the goals of Equipping the 2015 Chemical Technology Workforce. Proposals must be received by 26 September 2007.

To learn more about Equipping the 2015 Chemical Technology Workforce and the mini-grants, to get ideas for activities, or to gather information about the chemical technology profession in today's marketplace, please visit [www.ChemTechLinks.org](http://www.ChemTechLinks.org) and click on "Equipping the 2015 Chemical Technology Workforce," or email [ChemTechLinks@acs.org](mailto:ChemTechLinks@acs.org).