In Conjunction with the American Chemical Society
Student Affiliates at the University of Pittsburgh

Volume 23, Issue 5 **February 7, 2014**

CHEM MAJOR NEWS

IMPORTANT DATES FOR REGISTRATION

February 17	Summer Term Registration (2147) begins for all degree students.
March 07	Last day to withdraw from an individual course for Spring Term (2144).
March 9-16	Spring Break!
March 21	Deadline for August 2014 (2147) graduation applications in 140 Thackeray Hall.
March 24	Fall Term (2151) registration begins and your on-line registration appointment will be sent to you based on credits earned.

Advisees who already have a permanent advisor should make their Summer registration appointments with their advisor on or after February 12th for Summer Term (2147).

Advisees who will be asked to select their permanent advisors (via an email to be sent February 3rd) should do that after February 10th. See Dr. George C. Bandik or Regina Mahouski in 107 Chevron Science Center.

New advisees who have declared chemistry as their major within A&S should make an appointment with Dr. George C. Bandik, Dr. Ericka Huston for Dr. Michelle Ward after February 10 for Summer Term (2147) and March 03 for Fall Term (2151) in 107 Chevron Science Center.

2013-2014 ACS-SA Officers and Staff

Olivia Goss-*Co-President*
James McKay-*Co-President*
Keith Carpenter-*Co-Vice-President*
Josh Casto-*Co-Vice-President*
Laura Grezzo-*Co-Secretary*
Amy Neuburger-*Co-Secretary*
Bret Boyle-*Co-Treasurer*
Bobby Kang-*Co-Treasurer*

Cyrus Ramavarapu-*Tech Team*
Ryan Begun-*Outreach Coordinator*
Matt Diamond-*Outreach Coordinator*
Kai Gronborg-*Senior Affairs Committee*
Kelsey Wiggins-*Senior Affairs Committee*
Aric Berning-*Newsletter Co-Editor*
Mark Mazza-*Newsletter Co-Editor*
Raissa Berry-*Green Chemistry Contributer*

Visit us at http://www.chem.pitt.edu/acs-sa/

Go For It!

Aric Berning, Co-Editor

In last month's edition of the newsletter, I wrote a quasi-advice column for anyone interested in undergraduate teaching. I've been asked to write a follow-up article this time around, so I decided to use this article to advertise a truly unique opportunity at Pitt for UTUs. That opportunity is the Chancellor's Undergraduate Teaching Fellowship, a semester-long program administered by the University Honors College (UHC).

In short, the fellowship is intended to give financial support to undergraduates who are working on teaching projects with faculty mentors. The Honors College website states that successful applicants to this fellowship have proposed projects that will result in an "enriched course," and that without the student-faculty project, "such enrichment would be impossible to achieve." While this task may seem daunting, you may be surprised at just how simple it can be to help "enrich a course." In return for your semester project, the Honors College awards an $800 stipend.

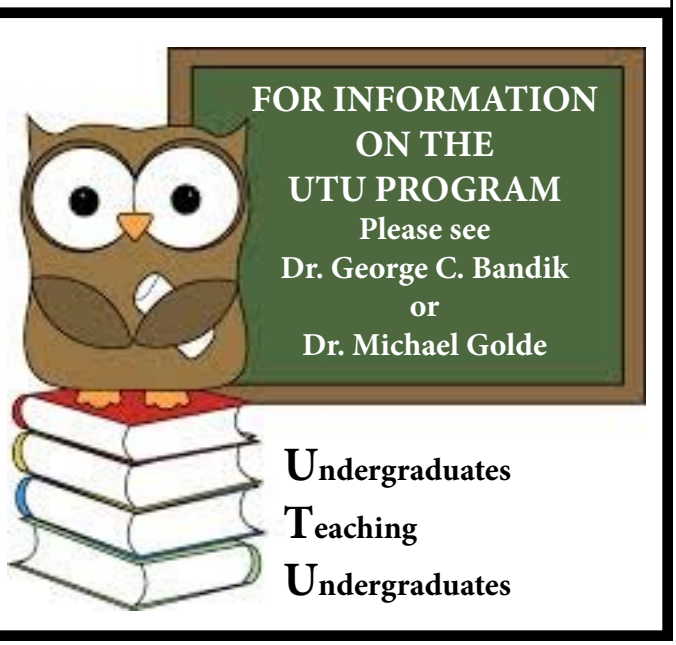
Last fall, I worked with Dr. George C. Bandik and successfully applied for a teaching fellowship. My project was the creation of additional resources to help students struggling in Organic Chemistry 1. To that end, I led an additional recitation session open to students that performed poorly on the first exams, with the goal of targeting specific topics that were giving them trouble. I also filmed and edited a small series of videos explaining some of the trickier conceptual topics in the course and maintained a simple course web site.

To say I enjoyed myself would be an understatement. Many of the students left the course with not only a solid grade, but also an appreciation for organic chemistry that I'm not sure they would have gotten otherwise. Knowing that I played a small part in that change is inspiring and remains a highlight of my college career. In fact, the experience has made me seriously consider pursuing a teaching career instead of medicine (the timing could have been better, of course, since I'm a few months away from graduating!). Even in the short term, the success of last semester has led to a great collaboration with Dr. Ericka Huston this term, with us implementing a similar project in her course.

Historically, students in our department have had success receiving these grants, yet few students seem aware the fellowship exists. Past chemistry projects have included targeted review sessions similar to my project, leading independent research groups in the Honors Organic Lab, and creating question banks for the Chemistry for the Health Related Professions class. And the grants aren't just limited to science courses—of the 14 fellows in my cohort, 5 were in disciplines outside of the hard sciences (science students do seem to take the bulk of the fellowships, possibly because science classes tend to rely more on UTUs than other fields).

In closing, if you are interested in stepping outside of the role of the "traditional" UTU and want to do something to improve a course for others, talk to your mentor and consider developing a small project. And then send in a quick application to the Honors College, because a little recognition for your hard work is never too much to ask. Best of all, any undergraduate is welcome to apply, regardless of how involved you've been (or haven't been) with the UHC in the past. I know that without the funding from the UHC (and the academic credits I got from the chemistry department) I wouldn't have had the time to really commit to my project, and the reward was so much better because of that commitment.

So, talk to your professors and go for it!



ACS-SA Spring Term Schedule
FEBRUARY

February

07 *Preparing for Saturday Science*
to be held on February 15, 2014

14 *Science Education at Pitt*
Norma McMichael, School of Education

21 *Spring Birthday Celebration*

28 *Meet Our New Faculty*
with Professor Kabirul Islam

Green Chemistry

by: Raissa Berry, Green Chemistry Contributor

S. 1009 – The Chemical Safety "Improvement" Act?

One of the most important concerns when working in the chemical industry is always the safety of those being exposed to the chemicals and their products. The safety of the scientists involved, the safety of the consumers, and the safety of the environment are all things that must be considered when creating laws and guidelines for safety assessments. And with the modern-day shift towards a greener chemistry, this concern for overall safety has only grown

Obviously Congress has some sort of act in place (specifically the Toxic Substances Control Act (TSCA) of 1976) outlining what is acceptable and what is not, or else we would all be in pretty bad shape. But while we are pointing out the obvious, the field of science is a constantly changing and progressing field…so shouldn't the laws that so greatly influence our safety also be constantly changing and progressing?

In May of 2013, legislators introduced a bill (S.1009) to modernize the TSCA. One of the main changes found in S.1009 is the responsibility the bill places on the Environmental Protection Agency (EPA) to consider industrial chemicals and evaluate their safety. This implemented change, according to the bill's supporters, appears to be a step in the right direction. With science changing so rapidly, why shouldn't we take more strides to protect those involved with its evolvement?

The answer, clearly, is that we should. However, as with any bill introduced to Congress, the provisions of the bill must be very clearly stated as to avoid misinterpretations. S.1009 is considered by many to be lacking specificity that could, and likely will be, easily targeted by companies to attack safety evaluations in the form of lawsuits. This ambiguity is especially seen in the way the bill requires the EPA to rely on "the best available science" to make their assessments.

Many are wondering just what is the "best available science'? And exactly how is the EPA supposed to make use of it? One of the main concerns is that because of this, companies will be able to pick and choose what information they release publicly regarding chemical safety. Information such as toxicity reports and sponsored tests performed by the company itself can be withheld, skewing the actual safety conclusions. Another concern is that with or without this information, the definition of the phrase "best available science" might narrow the available information to be considered so much that the EPA's final evaluation is questioned.

What does this mean for our overall safety? According to many law experts, it means nothing good. Wendy Wagner, a law professor, says that due to these obscurities, "manufacturers who discover that their chemicals are unduly toxic…could attempt to exclude these damaging studies by ensuring their research is not peer reviewed or publicly available."

Others, such as Andrew Rosenberg, director of the Union of Concerned Scientists' Center for Science and Democracy, have noted that the phrase actually digresses from current federal requirements that call for information that is used to create policies.

In the year 2014, the bill is expected to undergo great revision before progressing through the Senate. While considered to be a critical reform, as is, the bill has been said by Andrew Rosenberg to be, "great for law firms but it does nothing for chemical safety."

References:

http://www.bna.com/epa-official-says-n17179880177/http://www.braginfo.org/news/tsca-reform-legislation-predictions/C&EN: Chemical & Engineering News – "Call for 'Best' Science May be Toxic"

A Little Art History, Anyone?

Mark Mazza *– Co-Editor*

As midterms, research papers, and projects begin rolling in, I cannot help but find myself taking breaks from my studies to analyze and interpret some of the most beautiful pieces of poetry and art I have come across throughout my lifetime. For such reasoning, I would like to take this opportunity to analyze a piece of art that I fell in love with several years ago while strolling through the Carnegie Museum of Art. With this article, I intend not to make you fall in love with the painting, but more so to fall in love with the true beauty of analyzing and interpreting another man's gifted craft. Below is my sole interpretation of the presented painting. Upon the conclusion of reading this article, I challenge you to give your own interpretation of the painting. Remember, there is no such thing as a wrong interpretation. That is the beauty of art!

The depicted painting is Pascal-Aldolphe-Jean Dagnan-Bouveret's Christ and the Disciples at Emmaus. Within this masterpiece, Dagnan-Bouveret presents a view of ambiguity in which Christ is depicted as the center of life. With the eyes of all others focused solely upon this central figure, Christ appears as a representation of self-illuminating power. As Christ is positioned within the center of the painting, this power is distinguished not only by his axial position, but also by the lighting and contrasting colors of the work. The ambiguity of the work is created by its light source, which serves to balance a sense of realism versus mysticism.

In this large painting, which stands at a height of 78 inches and at a width of 110 ½ inches, the central figure of Christ, who is draped in all white clothing, aligned directly in the middle of the painting, and outlined by a bright light source, is most prominent. Christ, however, is not painted alone. The painting depicts six other characters, all of which have their eyes fixed upon Christ. Because of the many people portrayed and for its enormous size, the painting requires one to stand a few feet away when visually analyzing the facial visages and expressions of each of the characters. Because of the dominance of Christ, the others seem to fade away to the sides. Although the faces of these six characters are illuminated by the light source, only their side view and the direction in which they are looking can be observed by the spectator. Nonetheless, Christ is the

only figure who is fully illuminated by this light. As the remaining characters are analyzed, the contrasting colors of the painting come into play. Each of these six figures, four of which are kneeling down and praying towards Christ, is positioned on either side of the canvas, in which the darker colors of the work are painted. Such a contrasting color casts the others in a deep shadow.

In analyzing the work's visual components, Christ is viewed with an irradiating essence of supremacy. The light source within the painting, however, presents a sense of ambiguity in the way that the light appears to represent either a halo surrounding the head of Christ or the rising sun in the background. The ambiguity arises in the fact that if the light source were depicted as a halo, the others within the painting would be more illuminated. On the other hand, if the sun were rising behind the head of Christ, he would be backlit and appear as a dark shadow. As to whether the light source serves as a halo or the rising sun, self-interpretation lies solely within the eyes of the observer. With either interpretation, however, Christ is depicted as the center of the universe with all things fixated upon him. In creating this painting, Bouveret wanted to paint a very naturalistic portrait of Christ. As Christ and the others are wearing artifacts of clothing and are surrounded by realistic things such as plates, bowls, and table clothes, a sense of realism is created.

However, the difficulty that posed was trying to convey the presence of a halo over Christ. Because halos are considered unrealistic and not part of the everyday experience, the depiction of a halo would completely destroy that sense of realism that Bouveret had wished to attain. So, Bouveret chose to paint a light source surrounding the head of Christ as opposed to painting the traditional halo.

While further analyzing the contrasting colors, light illuminates most upon the faces of those who are kneeling on the ground. The character in the back right portion, the one who is neither kneeling nor has his hands crossed, is not as illuminated by the light as the other characters. Thus, his facial expression becomes rather difficult to read. One possible interpretation is that the self-illuminating light of Christ shines only upon those who show respect and homage to the central figure.

Overall, Christ is looked upon, both figuratively and literally, as a man of central dominance and power. Christ takes prominence over the other characters for he serves as the focal point of the work. As the eyes of the others are pointed in his direction and as the contrasting colors of the canvas draw him into the center, Christ appears to hold all the answers. He is religiously viewed as the center of life and existence. Ultimately, a sense of ambiguity lies within the positioning of the light source surrounding the head of Christ. Bouveret has chosen to allow the observer to analyze the painting in more than one way. Such a dynamic view creates a balance of order between realism and mysticism.

The next time you are at the Carnegie, taking a break from classes, I hope you will look at the great works of art with new-found vision. It is great to be able to use the right and left sides of your brain. Enjoy the term!

http://www.artmagick.com/pictures/picture.aspx?id=7519&name=christ-and-the-disciples-at-emmaus (painting)