



## From the Desk of the Chair

**Greetings alumni and friends of the chemistry department.** A new academic year has begun, and I am delighted to report on a number of significant developments within the department and the university. Perhaps the most significant of these is the formation of DePaul University's tenth college, the College of Science and Health (CSH). Last spring, a proposal for a split from the College of Liberal Arts and Sciences was submitted to and swiftly approved by the faculty council. The new college is comprised of the departments of biology, chemistry, environmental science, health sciences, mathematics, nursing and psychology.

The formation of CSH was, in part, prompted by the development of a new Department of Health Sciences, which has also begun its inaugural year this autumn quarter. The new college office is housed on the fourth floor of McGowan South, construction of which was completed during summer 2011. Professor Jerry Cleland of the Psychology Department is serving as interim dean of CSH, and our own Rick Niedziela, Ph.D., accepted a position as associate dean of instruction. With Rick's shift in position, I have taken on the role of chair of the Department of Chemistry, and have appointed Lihua Jin, Ph.D. as Director of the graduate program, and Sandra Peszek, Ph.D., director of undergraduate studies. While Peszek has been with the department for several years, she has recently been hired on the tenure-track. We also welcome another new tenure-track faculty, medicinal chemist Caitlin Karver, Ph.D., who joins us from a post-doctoral appointment at Northeastern University in Boston. The department also congratulates Quinetta Shelby, Ph.D., on her promotion to associate professor with tenure. Ruben Parra, Ph.D., while still a faculty member of the department, has taken on an administrative role within the university as director of the office for teaching learning and assessment (TLA).

In addition to all of these developments in infrastructure and personnel, the department is also excited to be launching its new curriculum (both undergraduate and graduate) this autumn quarter. The newly streamlined curriculum offers all students the opportunity to earn an ACS-certified B.S. degree in chemistry and has been designed to make the combined B.S./M.S. degree more accessible. This is indeed an exciting time of change and growth at DePaul University, and we in the new College of Science and Health are especially charged by the opportunities for development and expansion that lie ahead. ●

Best regards,

MATTHEW R. DINTZNER, PH.D.  
ASSOCIATE PROFESSOR AND CHAIR

## Two tenure track assistant professors join the department

By: Lihua Jin

**Caitlin E. Karver, Ph.D.**, joined the department of chemistry in July 2011 as the department's first medicinal chemist. Karver received her B.S. in medicinal chemistry from the University of Buffalo in 2004. She earned her Ph.D. from the University of Southern California in 2009. Before coming to DePaul, she was a postdoctoral fellow at Northeastern University in the laboratory of Professor Michael P. Pollastri, where she developed a new medicinal chemistry program for neglected tropical diseases, using a target repurposing approach to develop and synthesize inhibitors of protozoan targets. Karver's research at DePaul will focus on developing chemical probes to study critical elements of signaling pathways involved in many diseases. Specifically, her focus will be on the design, synthesis and inhibition of peptide and small molecule diazeniumdiolates targeted towards caspase-1, which is involved in many inflammatory and autoimmune diseases. Inhibition of caspase-1 is a chemically and biochemically validated therapeutic approach for controlling inflammation. Among the variety of courses Karver will be teaching are medicinal chemistry, drugs and toxicology, and chemical biology, all brand new courses in the new chemistry curriculum that kicks in this fall. We are excited for the contributions Karver will be making to the department, most importantly, to the education of our students.

**Sandra Chimon-Peszek, Ph.D.**, has been a very active member on the faculty as a visiting assistant professor for two years before her appointment in July as a bioanalytical chemist. She received her Ph.D. in chemistry from the University of Illinois under the guidance of Yoshitaka Ishii, Ph.D., a leader in the world of solid state NMR spectroscopy. Chimon-Peszek so enjoyed her Ph.D. research that she continued the work with Ishii as a post-doctoral fellow. Her research focuses on identifying the various earlier structural stages of a shorter fragment of the Alzheimer's beta amyloid peptide on its pathway to fibril formation. Her final goal is to help identify a possible technique to bypass or slow down the effects of the neurodegeneration which is believed to be a result of the toxicity from the Alzheimer's beta amyloid peptide. Among the approaches Peszek uses are ATR-FTIR, UV/Vis, fluorescence, solid and solution state NMR, and neural cell toxicity measurements. Structural analysis utilizing various computational methods will also be used in conjunction with her findings in hope of someday finding a cure or at least a way to suppress Alzheimer's disease. Another focus of Peszek's research is the identification of various single point site mutations of the Alzheimer's beta amyloid peptide which target various geographical locations and ethnic backgrounds.

Peszek's lab is normally populated with at least a dozen undergraduate research students who proudly call themselves Peanuts (P-nuts). On the teaching side, Peszek has been one of the major contributors to our general chemistry curriculum. As a tenure track assistant professor, she will continue to teach general chemistry in addition to nutrition, super lab, analytical chemistry and advanced topics in analytical chemistry. Peszek's current departmental contributions include and are not limited to being the director of undergraduate studies, assisting in starting a neuroscience club/division, and starting a Sigma Xi research chapter for our university along with serving on various other committees. ●

## Alumni Feature

By: Matthew R. Dintzner

**I recently had the opportunity to interview Dr. Shannon McGinty, a 2007 graduate of DePaul University (B.S. chemistry/biochemistry, summa cum laude), who is currently a Resident at Beth Israel Deaconess Hospital in Boston, Mass.** Dr. McGinty completed medical school earlier this year at Washington University in St. Louis and has just begun her residency in internal medicine at Beth Israel, one of three hospitals associated with Harvard Medical School (the others are Massachusetts General Hospital and Brigham and Women's Hospital). She plans to finish her residency within three years and will then decide if she wants to pursue a fellowship or begin practicing in internal medicine.

I asked Shannon if she felt her undergraduate degree in chemistry from DePaul prepared her well for the rigors of medical school and she responded with an enthusiastic, "absolutely!" She felt that in learning chemistry she also learned how to think logically, solve problems, and mentally organize vast amounts of information without resorting to memorization. Clearly all of these skills have served her well. Dr. McGinty also commented that she felt lucky to be at DePaul when she was because she was part of a wonderful cohort of chemistry students who worked well together and have all gone on to do tremendous things since graduating. Her favorite class while at DePaul was physical chemistry with Niedziela ("I really miss the math and error propagation!" she says).

Her favorite part of medical school was clinical rotations, which gave her the opportunity to apply what she'd learned in her first two years of course work to real-life situations and patients. In fact, what she enjoys most about being a doctor is the interaction with patients, which is why she's chosen to pursue internal medicine.

In her limited free time, Dr. McGinty, who is originally from Ohio, enjoys exploring Boston, and says that at the end of the day she's just "excited to get a paycheck." ●

## Graduate Curriculum Revised

By: Matthew Dintzner

**After completely overhauling the undergraduate chemistry curriculum at DePaul, in response to the new ACS guidelines for earning an ACS-certified B.S. degree in chemistry, the department's Curriculum Committee set about to update and streamline the graduate curriculum.** Formerly, there were many and varied options for earning a graduate degree in chemistry. An informal audit showed that the curricula associated with each degree option were inconsistent and confusing for both students and faculty. In response to this, the Curriculum Committee pared down the degree options to two: (1) M.S. in chemistry with thesis; (2) M.S. in chemistry, non-thesis. The curriculum for both degree options, each of which requires the completion of 44 credit hours, consists of a common set of required core courses (32 credit hours). The remaining 12 credit hours are fulfilled by research and completion/defense of a thesis in the M.S. thesis option, or by course work within one of the following tracks for the non-thesis option: analytical/physical; biochemistry/medicinal; synthetic; polymers/coatings technology; standard. The non-thesis degree tracks dovetail with our new B.S. degree tracks, making it much more convenient and accessible for our undergraduate students to complete the combined B.S./M.S. degree in five years.

### New Chemistry Undergraduate Curriculum

Every now and then we all buy the latest version of a smart phone, only to keep up with the newest technology and advances that occur in our everyday lives. This is the same for learning, especially in our field of chemistry. As times change, demands for various educational backgrounds also change and as a result the curriculum must also change. This is one of the problems we faced with our old curriculum. We had several obsolete concentrations and also some illogical course numbering and noticed that the ACS-certified B.S. was prohibitively very demanding and had very few, if any, open electives. We are very proud to say that for the fall of 2011, we introduced a new curriculum which addresses various issues: 1) we meet the ACS guidelines for earning the ACS-certified B.S. which entails the introductory, foundation and in-depth courses; 2) this gives us an opportunity for us to streamline and renumber our courses; and 3) attract more majors by offering more specific and relevant degree tracks such as analytical/physical chemistry, biochem/medicinal chemistry, synthetic chemistry and the standard chemistry route. We are also very proud to offer a five-year B.S./M.S. program.

What should our current senior students do? Meet with an advisor to possibly discuss the course substitutions as a result of this new curriculum and also stick with the old curriculum. For our current student who are juniors and younger, you need to declare or re-declare your chemistry major as soon as possible to get on track with the new curriculum and also plan to meet with your advisor. If you do not have an advisor, stop by and see Professor Peszek, or Professor Dintzner, we are more than willing to answer any questions you may have. You can also find some detailed information on our new curriculum in the chemistry handbook which can be found on our website at [chemistry.depaul.edu/CHE\\_Handbook\\_2011-2012\\_Ver\\_1.5.pdf](http://chemistry.depaul.edu/CHE_Handbook_2011-2012_Ver_1.5.pdf). We look forward to a successful academic year. ●

## What are they doing now?

An update on professor emeritus Thomas J. Murphy, Ph.D.

By: Rick Niedziela

**A few weeks ago, I met with Thomas J. Murphy, who retired in 2004.** After working on his undergraduate degree in chemistry at the University of Notre Dame, Murphy earned a Ph.D. from Iowa State University. Professor Murphy started teaching at DePaul in 1968. Many of you, like me, will remember Professor Murphy most for his organic chemistry courses. He had many other interests and taught the department's environmental and water chemistry courses as well.

Professor Murphy's strong interest in the environment was embodied in his research, particularly his seminal work on identifying atmospheric sources as the principal contributors to elevated levels of PCBs and DDT in the Great Lakes. In 1986, a proposal by Professor Murphy and Robert Anderson from the Department of Biological Sciences led to the creation of the Environmental Science Program (ESP) that has grown to become the Department of Environmental Science and Environmental Studies today.

When I asked Professor Murphy about the biggest change he witnessed during his time at DePaul, he answered "Technology. In 1968, there were no computers. The first we had were 300 baud teletype machines tied to a mainframe." Murphy noted that the first true computer in the department was a Wang programmable calculator that had a whopping 12 kilobytes of actual core memory – little iron rings with crossed wires running through them. Over time, the department upgraded to an early multi-tasking computer and then on to personal computers. "When I did gas chromatography in those early days, I used a chart recorder" said Murphy. He then graduated to numerical integrators when they arrived on the market. Still, these devices are a far cry from how gas chromatography is done today. Professor Murphy continued "Analytical chemistry has also undergone enormous changes. Back then most analyses were wet chemistry tests on individual samples, with colorimetric detection. Quality assurance was very rudimentary; the read-out produced was the result you reported. No blanks, matrix blanks, standard additions, limits of detection, external standards, etc."

Professor Murphy told me an interesting story about how chemistry "catalyzed" the development of DePaul's renowned College of Computing and Digital Media. In the late 70's, chemistry bought computer science (then still part of the Department of Mathematical Sciences) its first computer. Until that time, the programming courses were taught strictly from a theoretical point of view. Neat!

Today, Professor Murphy remains quite active. "I am involved in water issues, the Chicago River, waste water treatment, some ecological restoration work, and energy efficiency" said Murphy. He has travelled to some exotic locations across the world including Siberia and Mongolia. In the latter, Professor Murphy participated in a population biology study of big horn sheep in the Gobi desert. I asked him what he misses at DePaul. He told me "The faculty and the students, but not the college meetings!"

I had a pleasant meeting with Professor Murphy. Although I do see him on campus occasionally, we had not had a chance to sit down and talk for a little while. I plan on continuing my somewhat irregular series of retired faculty interviews. If you are interested in a particular retired faculty member, please leave me a message at the department's general mailbox: [chemistry@che.depaul.edu](mailto:chemistry@che.depaul.edu). ●

# The Annual Chemistry Research and Awards Symposium

By: Carey Southern

On June 3, 2011, the Department of Chemistry held its annual research and awards symposium to celebrate the research and academic achievements of our students, as well as to acknowledge outstanding student service in the department. The symposium began with Professor Dintzner announcing the chosen recipients of the various awards granted by the Department of Chemistry for the 2010–2011 academic year. The award winners were:

## Senior Honors Convocation Award

Mark Aparece

## Merck Index Award

Nora O'Byrne

## Chemist of the Year Sponsored by the American Institute of Chemists Foundation

Stephanie Reeve

## Analytical Chemistry Award Sponsored by the American Chemical Society

Lauren Blanc

## Departmental Award for Outstanding Performance in Biochemistry

Steven Lance and Michael Kelliher

## ACS Division of Inorganic Chemistry Undergraduate Award in Inorganic Chemistry

Karla Arias

## POLYED Award for Outstanding Performance in Organic Chemistry

Dana Klug

## Departmental Award for Outstanding Performance in Organic Chemistry

Kelly Mueller and Amy Stern

## CRC Press General Chemistry Achievement Award

On-sequence: Christina Hazel, Lauren Macur-Brousil and Rebecca Commito;

Off-sequence: Nick Hawley, Ryan Kravetz and Matt Hartznell

Off-off-sequence: Alexandra Oleynichko and Sarah Zawadski

## Celeste Diener Memorial Award for Outstanding Graduate Assistant Performance

Kristy Streu and Natalie Rizzo

## Outstanding Undergraduate Assistant Awards

Karla Arias, Steven Lance, Michael Kelliher, Tiffany Powers and Stephanie Reeve

## Outstanding Laboratory Preparer

Tiffany Mark

With the distribution of awards completed, Dintzner moved on to announce the recipients of the various scholarships offered by the department on behalf of generous donors. In total, the Department of Chemistry was able to distribute \$14,700 in scholarships to our students. The scholarship recipients are:

## Ueberbacher Scholarship

Sean Crowe, Paulina Mlynarska, Kara Brasovan, Laura Ayento and Nathan Brown

## Department of Chemistry Scholarship

Art Ralko, Tempest Moore, Lorena Gomez, Kelli Peck, Laura Ayento, Mark Aparece, Anda Oprescu, Brittany Smith, Emily King and Luvleen Kaur

## Sanat K. Dhar Endowed Scholarship

Lauren Blanc

## Jonaitis Endowed Scholarship

Nora O'Byrne

## Soiya Endowed Scholarship

Kelly Mueller

## Sprovieri Endowed Scholarship

Samantha Sasnow

After the presentation of the awards and scholarships, two students gave presentations on the research projects they had worked on during the 2010–2011 academic year. The presenters and titles of their research talks are listed below.

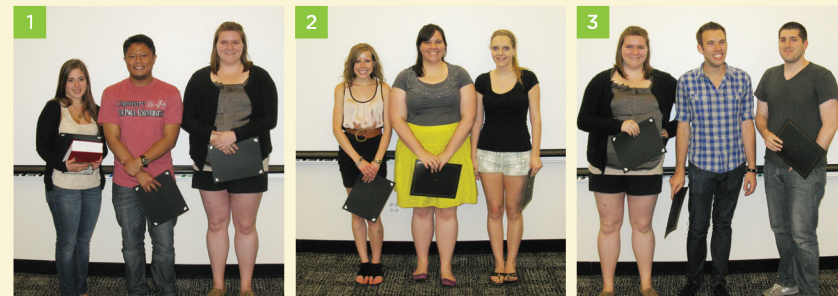
## Hsinwei Cindy Hsu (Parra, advisor)

“Substituent Effect on Intramolecular Hydrogen Bonding on Benzamide Molecule: A Closer Look at Geometry and Property of Molecule on the Intramolecular Hydrogen Bonding Strength”

## Forest Hynes (Chimon-Peszek, advisor)

“Spectral Analysis of the Single Point Mutation, Dutch (E22Q) Beta Amyloid Fragment Associated with Alzheimer's Disease”

The symposium was brought to a close by Mark Aparece and Stephanie Reeve of the Chemistry Club. Mark and Stephanie first showed a slide presentation of pictures from events during the year, including the periodic table cupcake sale and the Chemistry vs. Biology softball game (at which the Department of Chemistry was, unfortunately, trounced). Mark and Stephanie also presented faculty and staff members with tongue-in-cheek “awards” which were given in a spirit of fun and well-received by all.



1 Nora O'Byrne, Mark Aparece and Stephanie Reeve (l to r)

2 Amy Stern, Dana Klug and Kelly Mueller (l to r)

3 Stephanie Reeve, Steven Lance and Michael Kelliher (l to r)

## Summer 2011 Department of Chemistry Journal Club

By: Carey Southern

In the summer of 2011, the Department of Chemistry renewed its journal club, which began in the summer of 2010. Faculty members and students met once a week at lunchtime to discuss a paper from the literature. As indicated by the list of papers that appears below, topics discussed included: protein folding, the binding of dietary fibers to bile salts, protein misfolding, total synthesis and green chemistry. The tradition will continue in the summer of 2012. All new-comers are welcome.

### Carey Southern, Ph.D.

Rhoades, E.; Cohen, M.; Schuler, B.; Haran, G. "Two-State Folding Observed in Individual Protein Molecules," *J. Am. Chem. Soc.* (2004) 126, 14686-14687.

### Karla Arias (Jin group)

Lipman, E. A.; Schuler, B.; Bakajin, O.; Eaton, W. A. "Single-Molecule Measurements of Protein Folding Kinetics," *Science* (2003) 301, 1233-1235.

### Sean Reinsalu (Chimon-Peszek group)

Thongngam, M.; McClements, D. J. "Isothermal titration calorimetry study of the interactions between chitosan and a bile salt (sodium taurocholate)," *Food Hydrocolloids* (2005) 19, 813-819.

### Mark Aparece (Maresh group)

Ahmed, M.; Davis, J.; Aucoin, D.; Sato, T.; Ahuja, S.; Aimoto, S.; Elliott, J. I.; Van Nostrand, W. E.; Smith, S. O. "Structural conversion of neurotoxic amyloid<sub>1-42</sub> oligomers to fibrils," *Nature Struct. Mol. Biol.* (2010) 17, 561-567.

### Jared Isaacs and Jeni Sepe (Chimon-Peszek group)

Gong, J.; Lin, G.; Sun, W.; Li, C.; Yang, Z. "Total Synthesis of (3) Maoecrystal V," *J. Am. Chem. Soc.* (2010) 132, 16745-16746.

### Matthew Dintzner, Ph.D.

Baine, M.; Georgie, D. S.; Shiferraw, E. Z.; Nguyen, T. P. T.; Nogaj, L. A.; Moffet, D. A. "Inhibition of A<sub>42</sub> aggregation using peptides selected from combinatorial libraries," *J. Pept. Sci.* (2009) 15, 499-503.

### Matthew Dintzner, Ph.D.

Woodward, R. B. "A Total Synthesis of Colchicine," *Harvey Lect.* (1965) 59, 31-47.

### Neal Herink (Dintzner group)

Lipshutz, B. H.; Ghorai, S.; Abela, A. R.; Moser, R.; Nishikata, T.; Duplais, C.; Krasovskiy, A.; Gaston, R. D.; Gadwood, R. C. "TPGS-750-M: A Second-Generation Amphiphile for Metal-Catalyzed Cross-Couplings in Water at Room Temperature," *J. Org. Chem.* (2011) 76, 4379-4391.

### Irina Timoshevskaya and Kelly Mueller (Southern group)

Kaminski Schierle, G. S.; Bertocini, C. W.; Chan, F. T. S.; van der Goot, A. T.; Schwedler, S.; Skepper, J.; Schlachter, S.; van Ham, T.; Esposito, A.; Kumita, J. R.; Nollen, E. A.; Dobson, C. M.; Kaminski, C. F. "A FRET Sensor for Non-Invasive Imaging of Amyloid Formation in Vivo," *ChemPhysChem* (2011) 12, 673-680. ●

## Recent Surge in M.S. Students Completing Theses

By: Matthew R. Dintzner

The chemistry department has offered its terminal master's degree program for over fifty years, and it's evolved considerably over that time. The degree may be earned through coursework alone (non-thesis option) or through a combination of coursework and research with a faculty member (thesis option). During the 1990s the thesis option was popular but its popularity declined through the early-to-mid-2000s, during which time most of our students were part-timers (typically working full-time in local industries). In recent years, however, with an increasingly younger core faculty with active research agendas, there has been an upswing in the number of students completing graduate theses, with six completed in the last two years alone (2009-2011). In addition, we're seeing more and more of our undergraduate students complete the combined B.S./M.S. degrees with theses. Students who completed theses within the last three years are listed below.

### Emi Hanawa (advisor, Kharas)

"Synthesis and Analysis of Novel Copolymers of Alkyl Ring-substituted 2-Phenyl-1,1-dicyanoethylenes with 4-Fluorostyrene," (2009); Emi is now in a Ph.D. program at Seton Hall University in South Orange, N.J.

### Yawo Mondjinou (advisor, Dintzner)

"Montmorillonite Clay-catalyzed Reactions of Aldehydes," (2009); Yawo is now in a Ph.D. program at Purdue University in Lafayette, Ind.

### Katherine T. Flynn (advisor, Kharas)

"Synthesis and Characterization of Novel Copolymers of Dihalogen Ring-substituted-2-Phenyl-1,1-dicyanoethylenes with 4-Fluorostyrene," (2010); Katie is now in a Ph.D. program at Southern Illinois University.

### Xavier Udad (advisor, Peszek)

"Investigating the Process of Fibril Formation of the Iowa Mutant of the Alzheimer's Peptide," (2011); Xavier is now in a Ph.D. program at University of Wisconsin-Milwaukee.

### Kristina Streu (advisor, Parra)

"Positive and Negative Cooperativity in Polyols and Polyol-Containing Ketones," (2011); Kristy is now in a Ph.D. program at Boston College in Boston, Mass.

### Tom Speltz (advisor, Maresh)

"Precursor Directed Biosynthesis of "Non-Natural" Berberine and Galanthamine Analogues" (2011); Tom is now working as an adjunct faculty in the Department of Chemistry at DePaul University. ●

## Highlighting Undergraduate Research Experiences

From Chimon-Peszek's Research Group A.K.A. "The Pnuts"

**Alzheimer's disease has become a growing concern for numerous reasons, from the increase of our life expectancy to the fact that health care and financial situations can be somewhat of a struggle for the average person.**

As a result of this concern, research concerning Alzheimer's disease and other prions diseases has increased exponentially over the past couple of years. My research group focuses on Alzheimer's disease to attempt to better understand the effects of an earlier stage intermediate which is on its path to fibril formation, which was believed to be the cause of Alzheimer's disease. However, more and more evidence states otherwise. It is now believed that the soluble intermediates which are on the pathway to fibril formation are the toxic species of concern.

Both Sarah Zawadski and Sean Reinsalu were selected by the Alzheimer's Association to attend the International Conference on Alzheimer's Disease in Paris, France this summer for one week (along with Nadrine Omar and Xavier Udad). All expenses paid, in return for some volunteer hours. Via the AAIC website, it was stated, "At the Alzheimer's Association International Conference 2011 (AAIC) in Paris, France, more than 5,600 of the world's leading researchers gathered to review thousands of poster presentations and oral sessions—and learn from hundreds of preeminent plenary and symposia."

Sarah Zawadski shared with me that "I was very excited to be given the opportunity to attend the Alzheimer's Association International Conference and thought it was an incredible experience. Each day, hundreds of posters were set up throughout the Porte de Versailles Expo pavilions, and dozens of oral presentations were given on a variety of topics ranging from analysis of disease mechanisms to studies on the effects of Alzheimer's disease on patients' caregivers. As an ISTAART Travel Fellowship recipient, I was able to monitor and attend over 60 presentations that presented groundbreaking research on aspects of the disease that provided intriguing new approaches, as the international presenters' studies often used bioanalytical and psychological techniques that were much different than those utilized in research that we have been conducting. One of the most exciting oral presentations that I watched was on the structural transformations of the Arctic mutant's amyloid precursor protein (APP) molecules through the use of PIB-PET, FDB-PET, and MRI scans, which provided results on the pathological changes that our research group has been studying this year.

"Overall, I gained the most from being a poster presenter. It was an incredible feeling to be able to explain our research and approach to structural studies of the beta-amyloid peptide to my colleagues from countries from all over the world. Having other scientists listen to our ideas while both inquiring on how our bioanalytical techniques could help them with their research and sharing their thoughts on potential future studies that we could complete was truly exciting. It was amazing to be able to both explore Alzheimer's research being conducted within the pavilion walls and then step outside at the end of the day to explore the cultural riches of Paris. Not bad for my first international trip! It was truly an awe-inspiring experience that I won't soon forget," said Sarah.

Sean Reinsalu stated that "Overall I gained a lot of experience through this trip." If Sean had more time, this conference could be improved in a way so that he would be "able to view the presentations more." "There were two talks relating to the accumulation of beta-amyloid oligomers to the degeneration of neurological function within Alzheimer's patients," stated Sean, "together, these two talks really hit home what we have been working hard to accomplish in our lab. I actually felt that our research was taking the next step toward structural analysis of intermediate beta-sheet oligomers and could offer a lot to the future of Alzheimer's research. As for the rest of the presentations, most of the research pertained to APP and BASE-1. Furthermore, there were several talks pertaining to the metaphysics of Alzheimer's research and health risks for developing Alzheimer's disease. However, I wasn't able to watch that many of the presentations. I am very grateful for this experience."

My research group, the Pnuts, are looking forward to a few more international conference along with the local chapters, but this time they are all planning on applying for scholarships with minimal or no work required. It was an opportunity that both Sean and Sarah were glad to have experienced and they would do it again if given the opportunity. ●



- 1 Sean Reinsalu in front of his poster titled "ATR-IR and UV/Vis Studies of the Iowa Mutation Show an Increased Rate of Beta Sheet Formation"
- 2 Sarah Zawadski in front of her poster titled "The use of Melatonin to prevent the structural misfolding of the Alzheimer's disease Wild Type Peptide (Aβ22-35)"
- 3 The initial sign that Sean and Sarah have arrived to their first international conference.

