

Newsletter #3

University of Wisconsin-Milwaukee

Winter 2002

Highlights from the New Chair

I have the baton Professor Dennis Bennett passed to me in August and have managed not to drop it so far even though it may have slipped or disappeared under a pile of papers on my desk from time to time. We owe Professor Bennett thanks for an important job done well. We also need to thank our outgoing Assistant Chair, Professor Tom Holme. Our new Assistant Chair is Professor Kristene Surerus and we are happy to be working together. And speaking of new, we have a new Dean of the College of Letters and Science, Professor Richard Meadows. Professor Meadows is a home-grown UWMer from the Department of Economics. We are very excited because Economics at UWM has a strong tradition of effective leadership at essentially all levels on our Campus.

Congratulations Distinguished Professors!

Dr. James M. Cook and Dr. David H. Petering were recently named Distinguished Professors.

Dr. Cook received his BS in Chemistry with Honors from West Virginia University and his PhD in Organic Chemistry from University of Michigan. His postdoc University of British Columbia.

Dr. Petering received his BS in Chemistry from Wabash College and his PhD in Biological Chemistry from University of Michigan. He did his postdoc work at Northwestern before joining UWM.

I want to share some good news for all of us. Our enrollments have increased — always encouraging — and at the same time ACT scores of incoming students have increased faster than the number of students, so we are getting not only more but more better students (I've always wanted to use 'more better' legitimately!). Right now, incoming students to Letters and Science have on average an ACT score almost one point above the Wisconsin average. And of course we say with pride that Wisconsin students rank very well nationally. We tip our hats to the College Office for sharing this data with us.

Second, we now have a Biochemistry major. This means we are more than ever able to focus good old fashioned chemistry on some of the outstanding problems of our society. A big tip of the hat to Professor Graham Moran for marching through all the committees and offices that accompany any new program.

Speaking of new programs, the College has been granted a new program for the PhD in history. Even though many of these poor souls probably won't take Physical Organic Chemistry, they will make UWM a better campus. Congratulations to our Colleagues!

And speaking of competition — although I wasn't — most if not all of you are quite familiar with our Department's ability to compete for research funding and the kinds of students we need to do it before graduating them to a place in the next generation of our planet's citizen scientists. All of your help makes a tremendous contribution to our



efforts and our ultimate legacy. Thanks and thanks again.

Finally, our outgoing Assistant Chair has beaten off outside competition to bring the ACS Exams Institute to UWM. Professor Holme is now the Director of this Institute and is now locked away securely with all exams in a vault that would discourage the (Jesse) James gang. Maybe I exaggerate, but I invite any of you to visit and see if you recognize the old second floor stockroom and P-Chem laboratory.

Here's a trivia question: Which member of the UWM Chemistry Department belongs to a society whose membership includes Sherlock Holmes? Super trivia: What is the society? Answers are inside!

I'd like to close with something special. Thanks to all of you. We're proud of you and we're better off because you were here.

Walter B. England

Faculty Spotlight: Dr. James M. Cook

Researchers Find Better Drug for Treating Alcoholism

Written by Laura L. Hunt

Researchers at UWM and Indiana University-Purdue University Indianapolis (IUPUI) have discovered a new treatment for alcoholism that may end problem drinking while also lessening the anxiety that is a common symptom of alcohol use and withdrawal.

The treatment, developed by James Cook, a chemistry professor at UWM, and biologist Harry June, a professor at IUPUI, also exhibits none of the side effects of medications for alcoholism or anxiety currently on the market.

Cook and June have received a five-year, \$1.2 million grant from the National Institutes of Health (NIH) to study the brain mechanisms that control alcohol cravings and the evaluation of new drugs to reduce drinking.

Currently, drugs used to treat alcoholism, such as Naltrexone, don't address patients' accompanying anxiety or depression. For that, they also have to take an anxiolytic (anti-anxiety medication), the most widely used being benzodiazepines – Valium and Xanax.

Benzodiazepines are habit-forming and have other side effects like drowsiness and muscle weakness. Naltrexone has its own undesirable side effects, ranging from nausea to headaches. The side effects are so invasive that many alcoholics trying to recover simply stop taking them, leaving them susceptible to their addiction. "With this new treatment, we have a built-in anti-anxiety component, and it is a treatment that may stop people from drinking," said June.



Graduate Student Wendy Yin and Dr. Cook

June, an expert in the neurobiological mechanisms of alcohol addiction, read about Cook's research on identifying the sedative effects of benzodiazepines and contacted him about contributing to a project on alcoholism.

Their discovery was tested successfully on rats bred with alcoholic tendencies. The compound interacts with certain neurotransmitters in the brain to block the euphoric effects of alcohol, ease anxiety, and inhibit sedation. It affects the same neurotransmitter site in the brain as Valium, but in a different fashion, Cook said.

"It has a fairly mild anxiolytic activity," he says. "And that's good, because if it were potent people would become addicted to it – sort of what happens with methadone use to treat heroin addiction."

Members of Cook's laboratory also study compounds that affect memory, and have collaborated with more than 20 pharmacologists during the last

five years in search of non-sedating anti-anxiety agents and safer anticonvulsants.

Indiana University's Advanced Research and Technology Institute (ARTI) and the University of Wisconsin Alumni Research Foundation have applied for patent protection of the treatment. The discovery is now being marketed to pharmaceutical companies for human trials.

About 62 million people worldwide suffer from alcoholism, the World Health Organization estimates. In the United States alone, alcoholism affects about 15 million people, with the economic cost of the disease estimated at \$185 billion.

This article was originally published in the UWM Report on September 2002, it can also be viewed at: http://www.uwm.edu/News/report/02.09/05_Alcohol.html

Alumni News

After 22 years in R&D with Monsanto Company, **Patrick Kinlen** (BS '71) joined Crosslink as director of R&D. In addition to developing new electroluminescent display products, Crosslink is also developing conductive polymer coatings as "smart" anti-corrosion coatings for aluminum.

Chris Whitehurst (MS '01) and his wife Jane are proud parents of Watson Siegel Whitehurst. Watson was born on July 8, 2002 and already has his own website at <http://www4.ncsu.edu:8030/~cbwhite/>.

Upcoming Events

April 2003
Science Bag Lecture Series
Dennis Bennett
"Energy: Use It and Lose It"
April 4, 11, 18, 25 - 8:00 p.m.
April 13 - 2 p.m.
Physics Building, Room 137

April 2003
Student Awards Day

Faculty and Staff News

Greg Fueger, the Chemistry Department Business Administrator, retired on October 24th after many years of service. On October 25th, he became a new grandfather to Kaitlyn Mae Fueger.

Dr. Gregory P. Mullen, 42, died August 10, 2002. At the time of his death, he was an Associate Professor in the Department of Biochemistry at the University of Connecticut Health Center. He is survived by his wife, parents, and three children. Donations may be contributed to the Mullen's Children Fund, c/o Mary Mullen, 25 Sherwood Road, West Hartford, CT 06117.

Emeritus Professor **Dr. George Sosnovsky** has been admitted by

Welcome to the ACS Exams Institute

The Examinations Institute of the Division of Chemical Education has moved its office and changed Directors. The new Director, Dr. Thomas Holme, is a Professor of Chemistry and the Director of General Chemistry. He received his PhD from Rice University in 1987 and has been on the faculty at UWM for 8 years. The Associate Director of the Institute is Dr. Joseph Bariyanga. Dr. Bariyanga is a native of Rwanda and is a Visiting Assistant Professor in Chemistry at UWM.

Currently 45 different exams at the college and high school level are offered through the Institute. National norms for these exams are calculated and published so educators can reliably compare the performance of their students to these national norms. All exams are produced by committees of volunteers. A typical general chemistry exam takes two years and 4-5 meetings of the committee to develop. Many volunteers describe their experience on the committee as a significant learning opportunity.

In addition to examinations, test-item banks, drawn from former exams and trial exam questions that are not

included in the final version can be purchased. A packet for assessment of small-scale laboratory experiments is also available.

Recently, student study guides have been produced and are popular items. The study guides can be purchased at a reduced price by Student Affiliates groups to be used in fundraising activities for their clubs. Currently study guides have been produced for general chemistry and organic chemistry.

More information about the Institute can be found at its web site at www.uwm.edu/Dept/chemexams. The site includes information about materials available and their cost, the history of the institute, national norms of exams that are available and volunteer opportunities.

Thank you for your contributions!

DONATIONS OF \$100-\$499

Patrick Kinlen of Fenton, Missouri.
Eric Cox* of Groton, Connecticut.

* Funds matched by employer

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