

Members-at-Large NEWSLETTER

National Honor Society for Women in
Chemistry October 2003

Website

<http://www.iotasigmapi.info/>

Big news about the website. Jennifer Muzyka has been doing a great job as the Webmaster, and because she is a MAL she is willing to add a webpage for MALs. It's address is:

<http://www.iotasigmapi.info/MAL/>

I will have her post announcements, information about the MAL Award, and you will be able to download back issues of the MAL Newsletter. Let me know what other things you would like to see there.

Member Get-a-Member Campaign

As MALs, we have a policy in place for nominating new members. If you get two new members to join within a year, you are eligible for free merchandise from the supplies coordinator. National council lets you use the honor system so when you've found to tell the supplies coordinator and she will send you something. The new supplies coordinator is

QuynhGiao N. Nguyen

NASA John H. Glenn Research Center at Lewis Field
Mail Stop 106-1 Environmental Durability Branch
21000 Brookpark Road
Cleveland, Ohio 44135

Email: qnguyen@grc.nasa.gov

Look around you. Are there colleagues, subordinates, friends or students who qualify? Qualifications for membership can be found on our website mentioned above. Remember, *students don't need to be majoring in chemistry, but must have taken the minimum of chemistry courses (see the undergraduate qualifications). Professionals also just need to meet the minimum number of Chemistry credits, they don't need to be working as Chemists.* You can contact me for application forms. I look forward to seeing your nominations for new members.

MAL Jodye Selco Becomes National Editor

Jodye Selco, Director of the Center for Education and Equity in Mathematics, Science and Technology, California State Polytechnic University, Pomona, CA has agreed to join the National Council as Editor of the Iotan. She is happy to help out and hopes you will too. She requests that you send her articles, news, etc. for Iotan. Her address is:

Jodye Selco

CEEMaST

California State Polytechnic University

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MAL Listserv

Our listserv is up and running again. Not many folks have signed on. I've been posting ISP news and other items of interest to the listserv. It's not a noisy listserv if you are concerned about getting a lot of junk email.

To join the list serve, send a message to
listserv@ceemast.csupomona.edu

In the subject part of the message type:
ispmal.

You should receive a message beginning with

" This is an automated message:

You have been subscribed to the ispmal mailing list.

To send a message to the list send an e-mail to:

ispmal@ceemast.csupomona.edu

To unsubscribe, send a message to:

listserv@ceemast.csupomona.edu

with "unsubscribe ispmal" without quotes as the subject"

To send a message to the listserv email:

ispmal@ceemast.csupomona.edu

Questions for Thought & Response

This issue's question is submitted by
Alice Ottoboni.

Are People Taking Drugs for Cholesterol Getting Enough Coenzyme Q₁₀?

Coenzyme Q₁₀ (CoQ) is a biochemical that is vitally important in the energy production mechanism in all cells of the body. The heart has a greater requirement for CoQ because of the great energy demands placed on it. Chemically, CoQ is ubiquinone with a sidechain of 6 to 10 isoprenoid units (Figure 1). Its great value lies in the fact that it has three oxidation states.

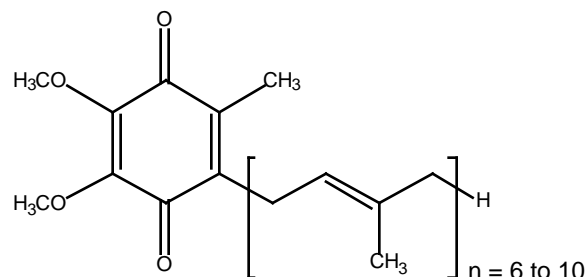


Figure 1: Coenzyme Q₁₀

Our bodies normally make all of the CoQ we require. In addition, small amounts of CoQ are present in all foods we eat; it is especially abundant in red muscle and organ meats.

As we age, our biosynthesis of CoQ gradually declines. It is estimated that CoQ synthesis begins to slow in our mid-20's. The earliest symptom of CoQ deficiency is generalized fatigue, with severe deficiency resulting in congestive heart failure (the heart being the most vulnerable to lack of CoQ).

Certain drug interventions, most notably the statin drugs that inhibit the synthesis of cholesterol, also inhibit the synthesis of CoQ.

The biochemical basis for this action is as follows: One of the earliest steps in the synthesis of cholesterol is the conversion of 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) to mevalonate by HMGCoA reductase. The statin drugs inhibit HMGCoA reductase that, in turn, reduces or stops production of mevalonate. Mevalonate is also happens to be a precursor of CoQ. Thus, statin drugs inhibit not only the synthesis of cholesterol, but also the synthesis of CoQ.

As with a natural deficiency of CoQ, one of the first symptoms of drug-induced CoQ deficiency is generalized fatigue. Also some people suffer disturbed sleep. Obviously, statin-induced CoQ deficiency also can ultimately lead to congestive heart failure.

Anyone on statin drugs should ask his/her cardiologist about CoQ supplementation. An excellent overview of the role of CoQ in cardiovascular diseases can be found at

<http://www.wcsi.unian.it/coenzymeQ/thefirst.html>.

Another good site is <http://www.thinco.org> This is the site of Uffe Ravneskov's Cholesterol Skeptics.

For biochemists interested in the mechanism of action of CoQ in the mitochondrial membrane see: Langsjoen, Peter H., and Alena M. Langsjoen. Coenzyme Q10 in cardiovascular disease with emphasis on heart failure and myocardial ischaemia. *The Asia Pacific Heart Journal*. 1998; 7(9): 160-168.

Alice Ottoboni

Chapter News

Tellurium Hosts Breakfast

The Tellurium chapter hosted the annual breakfast of the first year students and the Chemistry department of the University of Texas at Austin on Tuesday August 19th at 8am-9am in the Convocation Center. The chapter provided volunteers to bring food and drinks. Coffee was provided by the department. About 50 first year graduate students attended the event. They were all very excited to start classes and get to know each other. It was a nice welcoming for them.

General News

18th BCCE Hosted by Iowa State in Ames, Iowa July 18-22, 2004

The Biennial Conference on Chemical Education (BCCE) will have "Women in Chemistry" sessions (oral and poster) and that submissions are being solicited. The url for the conference is

<http://www.chem.iastate.edu/bcce/>

Loreal Supports Women in Science

On March 26th, L'Oréal USA announced its intent to expand the company's commitment to the for Women in Science program, by offering further support to women in pursuit of scientific careers, through the creation of a U.S. based Fellowship.

<http://www.loreal.com/loreal-women-in-science/index.html>

The L'ORÉAL-UNESCO for Women in Science US Fellowship will award five grants of \$20,000 each to third and fourth year graduate students and postdoctoral researchers who are pursuing studies and research in the Natural Sciences (biological and physical), Engineering, Computer Science and Mathematics.

Award: Five grants/stipends of \$20,000 will be offered for one-year terms only. Candidates will be permitted to attain matching grants or supplemental fellowship grants. The U.S. Fellowships may not be deferred nor renewed.

Eligibility Criteria: The US Fellowship program is opened only to women in their third or fourth year of graduate studies, enrolled in a doctoral program leading to a PhD or ScD, and postdoctoral researchers. Citizenship: Applicants must be United States citizens; plan to become citizens by the time the awards are announced; or are permanent resident aliens of the U.S. Graduate Study, Field and Degree: Fellowships will be awarded to applicants pursuing degrees or planning to engage in research studies in the Natural Sciences (biological and physical), Engineering, Computer Science and Mathematics. Graduate students and Postdoctoral applicants must be planning to pursue their field of study or advanced research at a non-profit institution in the United States.

http://www.lorealusa.com/fwis/2004fellowship_ap.p.pdf

Applications for 2004 fellowships must be submitted on or before November 1, 2003
http://www.lorealusa.com/fwis/fwis_home.aspx

2004 Toyota TAPESTRY Grants for Science Teachers

The Toyota TAPESTRY Grants for Teachers Program, administered by the National Science Teachers' Association (NSTA), is now accepting proposals. Fifty K-12 teachers will receive awards of up to \$10,000 and 20 will receive up to \$2,500 for innovative science project proposals in Literacy and Science Education, Environmental Science, or Physical Science Applications. The deadline for proposals is January 16, 2004. For more information, visit

<http://www.nsta.org/programs/tapestry> or contact tapestry@nsta.org.

Concerning Title IX

Articles have appeared in this Newsletter in the past concerning the issues of the under representation of women in science, particularly, the physical sciences in the past. Recently in *AWIS Magazine*, 32(2), 5, Catherine Jay Didion wrote an article about the impact of Title IX and its potential impact on science. She writes that Title IX is about equal access to education and training in all fields including science and engineering.

Title IX has historically been used to provide women equal opportunities in sports. Science policy advocate, Debra Rolison, of the Naval Research Laboratory, who spoke very eloquently at the Centennial Celebration in June of 2002, has written and spoken much about how Title IX can potentially impact women in science. She argues that Federal funds should be withheld from universities that don't increase their faculty hires to reflect the diversity of the pool of potential hires. Donna Nelson, a MAL member, has made several surveys that appeared in different issues of *AWIS Magazine*. Her surveys reflect the lack of diversity in the faculties of top research institutions.

Title IX is being threatened by significant changes proposed that would seriously weaken Title IX. The proposed change may reduce the opportunities for women and girls to play sports. This is happening at the same time that director of the National Science Foundation (NSF) is being asked to assess gender differences in the careers of science and engineering faculty and assess gender differences in the distribution of external Federal R&D funding. See the notice of the newly published report by NSF below. Also, to read more about these issues, check out the following websites.

Donna Nelson's website with her articles:

<http://cheminfo.chem.ou.edu/faculty/djn/diversity/top50.html>

The National coalition for Women and Girls in Education:

<http://savetitleix.com>

WNBA Petition

http://www.nba.com/wnba/title_IX_petition.jsp

NSF has just published its special report titled "Gender Differences in Careers of Academic Scientists and Engineers: A Literature Review." in July. The report reviewed literature on the careers of academic women scientists and engineers to examine how women fare in these disciplines as compared to their male colleagues. Included was information on early education, decisions to stay in these disciplines, and characteristics of careers for women in these disciplines. Findings include: academic women scientists and engineers have lower salaries, publish less frequently, and are less frequently promoted to higher academic ranks than their male colleagues. To view the report, visit

<http://www.nsf.gov/sbe/srs/nsf03322/start.htm>.

Another resource on these issues is the AWIS Statistics page

<http://www.awis.org/statistics/statistics.html>

Free Hubble's Universe CD-ROM

Box Turtle Software Company has announced its new interactive educational program, Hubble's Universe. The program uses math, science, and the Hubble telescope's latest discoveries to bring students and teachers up-to-date with the most recent discoveries about the universe. Hubble's Universe is one of many "freeware" software programs available on the Internet from Box

Turtle Software Company. Their free educational software programs have been used by millions of students and teachers in all 50 states and in over 40 countries. For more information on Hubble's Universe and other freeware programs, visit <http://pcsinspace.hst.nasa.gov>.

Member News

Karen Howard writes "Prior to beginning my graduate studies, I earned dual B.S. degrees in biology and secondary education from Penn State University. I then taught high school biology and chemistry for 12 years before resigning to enter graduate school as a chemist. The career change thus far has been a very positive experience. I earned the M.S. in chemistry in May 2003 from Youngstown State University (OH); my research project was "Validation of a Solid-Phase Microextraction/Gas Chromatographic Method for the Analysis of Trace Volatile Components in Chardonnay and Pinot Gris Wines." I have now begun the Ph.D. program at SUNY-Environmental Science and Forestry in Syracuse, NY. I was recently named a 2003 National Science Foundation Graduate Research Fellow. The award carries a \$27,500 stipend and \$10,500 cost-of-education allowance per year for three years. I enjoy spending time with my husband and daughter and hope to fully enjoy the recreational potential of the Adirondack region while living in upstate New York."

Coretta Fernandes Ngassa has received tenure at Lansing Community College, Chemistry Department.

Louise W. Faulker of Nashville TN died last April 15, 2002.

Katherine L. Seley writes: I recently moved my research group from Georgia Tech to the University of Maryland, Baltimore County. I'm getting married and my fiancé is Dr. Mike Radtke, the SRA for the Bioorganic Natural Products study section at NIH. In addition to the commotion of moving my group up here, combining two adult households, and planning a formal wedding two days after Thanksgiving, I'm also sending off my youngest daughter to college at Colorado State (zoology though, not chemistry unfortunately!). Hey, I figure I might as well get all of the major stress inducers over with at once, you know?!

Job Notices

Faculty Positions in Chemistry the University of North Dakota

The Department of Chemistry invites applications for two faculty positions for Fall 2004. The first is a tenure-track position in analytical chemistry. Rank is open. The successful candidate will establish an externally-funded independent research program in the department and with significant resources and collaboration from a co-located USDA human nutrition laboratory. Demonstrated expertise in stable

isotope tracer methodologies using molecular and/or isotope ratio mass spectrometry, and knowledge/interest in molecular mass spectrometry for small molecule/metabolic analysis, is desirable. The second is a tenure-track Assistant Professor position in analytical or organic chemistry. The candidate is expected to establish a vigorous independent program of externally-funded research and should be able to teach graduate and undergraduate courses. Candidates with research interests in method development for areas of biogeochemistry or catalysis are especially encouraged to apply. For both positions, a Ph.D. is required and postdoctoral experience preferred. Send resume, transcripts for all degrees, research plans, and three letters of recommendation to Dr. Mark Hoffmann, Chair; Department of Chemistry, Box 9024; University of North Dakota; Grand Forks, ND 58202, (701) 777-2741. Screening will begin November 15, 2003, and continue until the position is filled. Details of the department can be found at

<http://www.und.edu/dept/chem>. *The University of North Dakota is an equal opportunity/affirmative action employer.*

Joke of the Day

More on Why did the chicken cross the road?

Darwin: To escape selection pressure and create a new niche for itself.

Einstein: Did the chicken cross the freeway or did the freeway move under the chicken?

Avogadro: To try taking 6.022×10^{23} steps.

Thermodynamicist: To have an exothermic reaction.

Schrodinger: To truly be a function of alive and dead.

Mendeleev: To avoid being on the table.

Dynamicist: To determine its mean free path.

G. N. Lewis: To become a dot structure.

Kekule: To resonate with the traffic.

Madam Curie: To become radiant.

MAL Newsletter
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IOTA Sigma Pi
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