

CSB/SJU BIOLOGY DEPARTMENT NEWSLETTER

Volume 3 Number 2
September 27, 1999

1. Message from the Chair

Last week was terrible – I had a nasty respiratory virus of some sort. Fortunately, by the end of the week I was feeling great and had a great weekend listening to zydeco music and “leaf peeping”. It appears as though the fall colors are nearly at their prime. If you’re interested in why this phenomenon occurs you can check out the article I wrote and posted in my web site (http://www.employees.csbsju.edu/ssaupe/essays/fall_colors.htm).

Last week we had a terrific visit by Dr. Tony Mahowald from the University of Chicago. He gave us a very intimate and detailed seminar on the origin and evolution of the germ line. The attendance at the seminar was fantastic – Dr. Webster counted 70 people. Perhaps what I remember most about Dr. Mahowald’s visit is some of the advice he gave to students considering graduate school. He said that to be competitive at elite institutions like the University of Chicago, a student needs to present ample evidence of research experience - both on and off-campus. He strongly recommended summer research programs like the one at the University of Minnesota. (As an aside – we also offer a summer research program).

Dr. Mahowald also said that a student serious about graduate school, especially in his area of developmental biology, should definitely plan to take 4 semesters of chemistry, 2 semesters of physics and it would be nice to have both calculus and stats.

Have a great week and I encourage you to send contributions for the next newsletter.

2. Student News:

Alumni Gifts - The Biology Department was very grateful to receive donations from two alumnae, Colleen Corrigan and Mary Suzanne Mack ('95). Their donations were used to purchase books for the developing herbarium library. We thank them for their kind generosity.

Marcus Tanabe ('98) – is enrolled in Dental School at UM.

3. Faculty News:

Dr. Charles Rodell gave a presentation for the CSB/SJU Learning Enhancement Service's Roundtable series in September.

Dr. James Poff and his wife, Christine, become first-time grandparents on Saturday, September 25th. Their daughter Julie had a girl, Samantha Sage Quick. Dr. Poff reports that mom and baby are doing great. Congratulations!

4. Curriculum News

The Biology Department has been invited by the Howard Hughes Medical Institutes to submit a grant request. It is quite an honor to receive this invitation and we are hopeful that they will look favorably on the grant that is being prepared by Dr.'s Reagan, Mitchell and Campos to increase

the visibility of molecular biology on campus.

5. Biology Club News:

The Biology Club is having their first meeting on Tuesday, September 28. Check signs in the hallway for more details or contact Kari Recker, co-president. The Biology Club is planning lots of exciting events including the annual Brat Sale fundraiser before the Homecoming Football game and a Halloween Science event for elementary school kids.

A note from Keri Recker: "Taste of Saints- is Saturday, Oct 2nd, from 10-12 pm between the Quad and the Old Gym of St. John's. Set up will begin between 9 and 9:30. We will be doing the usual brat sale and will need volunteers to grill, etc. If you can come, that would be great. The first club meeting is Tuesday the 28th. If you have any questions or ideas, feel free to contact me. Thanks."

6. Calendar of Events:

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| Sept 28 | Biology Club Meeting |
| Sept 29 | "Molecular Mechanisms that Control Cell Shape in Yeast"; Dr. Alan Myers; Iowa State University; Dept. of Biochemistry & Biophysics; 4:30 p.m. ASC 142. Dr. Myers will meet with interested students at 4:00 p.m. ASC 142. |
| Oct 2 | Taste of Saints – Biology Club |
| Oct 12 | Six Billion People Day |
| Oct 14 | "What Medicine has to Offer/Not Offer in the Next 50 Years" - Dr. Philip Hessburg, President Detroit Institute of Ophthalmology – ASC; 4:30 pm |
| Oct 15 | "Everything has not been Invented" - Dr. Philip Hessburg, President Detroit Institute of Ophthalmology – ASC; 4:30 pm |
| Nov 11 | "Microbial Magic: The Production of New Drugs by Combinatorial Biology"; Dr. David Sherman, University of Minnesota; Department of Microbiology |
| Dec 2 | "The South African Study Abroad Program 1999: What Really Went On?" Dr. Stephen G. Saupé; College of St. Benedict/St. John's University; Biology Department; SC 325; 4:00 pm |

7. Internships/Scholarships/Jobs

***Career Web Sites** – Mary Harlander-Locke sent the following list of career-oriented web sites for those who are vet-oriented. She hasn't checked them out (nor I) but they sound interesting. If anyone has any reports, let us know so we can publish it in the next newsletter.

<http://www.furman.edu/~snyder/careers/careerlist.html> - 200+ sites related to careers for biology majors; and <http://www.erols.com/mandtj/behavior/behavior.html> - links to lots of good resources, including places that train companion animals, etc.

***Biology Department Job Page** - Don't about this great resource that you can link to it from the biology department home page or go directly to

<http://www.users.csbsju.edu/~biology/biojobs.html>.

***The CSB/SJU Pre-Med. Web Page** -<http://www.users.csbsju.edu/~premed/>.

8. Seminars/Lectures/Symposia:

There are some great seminars coming in the next few months (see Calendar of Events). Mark your calendars now.

CHEMISTRY DEPARTMENT SEMINAR - Alan Myers; Iowa State University; Dept. of Biochemistry & Biophysics; "Molecular Mechanisms that Control Cell Shape in Yeast"; Wednesday, September 29, 1999; 4:30 p.m. ASC 142. Dr. Myers will meet with interested students at 4:00 p.m. ? ASC 142.

9. Miscellaneous

Minnesota Mycological Society Meets at St. John's - In July, the Minnesota Mycological Society used the Biology Department as a home base for their annual summer foray. About 40 mushroom lovers visited campus to collect and identify our fungus flora. In all, they identified about 140 species. Among the activities of the group were evening presentations on fungi, including one by Dr. Saupe concerning "Biology of Resurrection: Life after Death in the Fungi" that featured some of his research on anhydrobiosis in mushrooms. Foray leaders included Dr. Thomas Volk from the University of Wisconsin. Father Paul provided a tour of the prairie and wetlands. In contrast to most people who visit our prairie, this group was on its hands and knees ogling fungi and were more excited to find an inky cap mushroom growing in the prairie garden than to check out the Rattlesnake master and other cool plants.

MCAT Exam 1999 – Summary from *The Princeton Review*.

Overall, the April 1999 exam offered no surprises and was comparable in difficulty to AAMC's MCAT Practice Test IV, but, as usual, different forms had varying difficulty levels for the subtests. We identified six test series-G, H, K, M, P, S- with several forms in each. Although most of the passages were reported as new the course materials contained a number of passages and questions which helped to provide valuable practice for, and confidence with, those that appeared on the actual MCAT.

Verbal Reasoning: All forms contained nine passages, with source credits collected all at the end of the booklet. Topics included poetry and language, politics (foreign and domestic), literary criticism, drama criticism, science and society, archaeology, sociology, and even the sounds of the Aurora Borealis. There were many questions of the strengthen/weaken, support/challenge, agree/refute variety, as well as many that asked for specifics from the passage or to consider how the author would respond to new information. Inference questions and main-idea questions were also popular. Passage length was consistent with that in Practice Test IV (60-70 lines).

Physical Sciences: Everyone noted that the breakdown of passages favored G-Chem over Physics: either 6 G-Chem and 5 Physics or, in a few cases, 7 G-Chem and 4 Physics. Most (but certainly not all) of the General Chemistry passages were reported as straightforward, with graphs and tables of data that often provided the answers without scrutinizing the passage text, although reading the passages which centered on an experiment was particularly helpful. Redox and electrochemistry were most popular once again, with periodic trends and acid/base titrations not far behind. The most popular Physics topics were E&M, waves, and nuclear reactions. As usual, there were many conceptual questions. However, with calm and confidence and a mastery of the fundamentals - and checking back to the equations in the passage or the data in the graphs - the questions could be successfully attacked. As usual, the percentage of questions requiring mathematical calculation was low (less than 20%), but there were many reports of logarithms and trig. The freestanding questions were usually regarded as straightforward.

Writing Sample: As promised, the two Writing Sample items came from the list published by the AAMC in their 1999 MCAT Announcement (the MCAT

Registration booklet). The first item on Saturday's MCAT is the first prompt listed on page 48 of the Announcement, and the second item is the fourth prompt listed on page 49. Essay Topic #1 "Technology may be increasing faster than our ability to use it wisely." Essay Topic #2: "Once a democracy elects its leaders, citizens should be able to trust those leaders to decide what is best for the country."

Biological Sciences: The split between Bio and O-Chem favored Biology, With the most common breakdown being 7 Bio passages and 4 O-Chem passages (although there were a few reports of 6 Bio and 5 O-Chem). The freestanding questions also leaned more toward Biology than O-Chem and offered no surprises. The BioSci section of this April's MCAT was generally regarded as comparable to Practice Test IV. Here, the practice gained from the diagnostics and the passages in the Science Workbook and Compendium (especially Compendium passage 5!) were especially helpful. Physiology and genetics were most popular in Bio this administration, and the Bio passages tended to be more experiment-based than descriptive. O-Chem was reported as intimidating. Electrophilic addition and substitution, as well as nomenclature and steric considerations, were common topics. Passages often presented lots of structures and mechanistic steps.

10. Joke of the week: *(thanks to Josh Barnd for submitting this gem)*

There is a priest who has a church in a small town on the banks of a beautiful little river. One Spring the river floods and the church is starting to become engulfed in the muddy water of the river. The people have started to evacuate the town, but the priest stays in his church. The town's people think he is nuts but he tells them "God will provide." Well the waters get so high that the priest is stranded on the roof. One of the town's people rows past him in a boat and says to the priest "Father get in the boat and I will take you to safety." The priest denies and tells him that "God will provide." Next, one of the firemen comes in a boat and tells the father to get in the boat and he will save him. The priest again denies and tells him that "God will provide." The fireman leaves. The flood gets so high that the priest is clinging to the cross at the top of the steeple. The National Guard pulls up in a boat and they tell him to get in. He denies and tells them that "God will provide." Well sad to say the priest dies. He goes to heaven and St. Peter tells him that the Big Guy is waiting to talk to him. The priest goes enters thinking that God is going to reward him for his tremendous faith. God is sitting there and says to the priest, "What were you thinking I sent three boats!!"

11. Frequently Asked Questions: **Is it acceptable to take pre-requisite courses for Medical School during the summer?** Dr. Manuel Campos provides the following answer – "Both Mayo and UM-Duluth stated that preq. work done over the summer (in an accredited four year college) would be acceptable as long as the student didn't have a history of doing this in an attempt to "juice up" the GPA. Furthermore both stated that the real test of mastery of the material would be the MCAT, and special attention would be paid to scores in those portions of the test that included material covered in those summer courses. [However], Dr. Dungy at the U of M – TC...view[s] the matter ... different[ly] -- in her words "the Admissions Committee does not look favorably on this, especially if the MCATS are low and the application is weak".

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