


 PENNSTATE


# Undergraduate Newsletter

## The Department of Biochemistry and Molecular Biology

### *EDITORIAL*

### *DR. PHILIP MOHR*

#### **ON ADVISING**

Arguably, among the more important interactions that take place on a university campus are the face-to-face meetings between students and their faculty advisers. Advising sessions offer the opportunity to become familiar with and receive advice from a faculty member who has been assigned responsibility for the academic direction and well-being of the student. As in any relationship, there are responsibilities that both parties must assume if the interaction is to be stable and productive. **Are you aware of your responsibilities as an advisee?** Among many University policies is one that addresses the responsibilities of advisers and advisees. Although some students were introduced to their responsibilities when they entered the University, given the various locations and orientation activities that take place across the University system, it is possible some students may not have been so informed. For such students and for those who may have forgotten, listed here are advisee responsibilities stated in University policy 32-30. Advisees are to:

1. *Acquire the information needed to assume final responsibility for course scheduling, program planning, and the successful completion of all graduation requirements.*
2. *Seek the academic and career information needed to meet educational goals.*
3. *Become knowledgeable about the relevant policies, procedures, and rules of the university, college, and academic program.*

4. *Be prepared with accurate information and relevant materials when contacting the adviser.*

5. *Consult with the adviser at least once a semester to decide on courses, review the accuracy of the audit, check progress towards graduation, and discuss the suitability of other educational opportunities provided by the university.*

The Eberly College of Science is strongly committed to an effective advising program. The Department of Biochemistry and Molecular Biology has a two-tiered advising system consisting of Academic and Professional Advisers, with a backup in the Director for Undergraduate Programs' Office for emergency or especially difficult advising matters. In short, there can be little excuse for not receiving adequate and appropriate advice, **provided** students fulfill their five responsibilities as listed above. The College and Department are constantly trying to improve the advising system. Students are given the opportunity to evaluate their particular advising system through a new on-line questionnaire that is to be made available on a regular basis. The University, as a whole, is working on implementing a similar means of assessing advising. One final point to remember... Advising is both complex and personal and, as such, requires patience and understanding from both parties for a successful and productive relationship.

## Congratulations to student Fulbright grant winners -

Penn State has set a new record with 20 students receiving Fulbright grants to support post-baccalaureate activities in other nations of the world. The activities are diverse and range from basic research in the arts, humanities and sciences, to serving as teachers, to working on archeological excavations. The BMB Department was especially well represented among those students selected for awards. **Erin Criswell** (BMB '00) will be working on dengue virus at James Cook University in Queensland, Australia. **Elif Ince** (BMB '00) will be doing cancer research at the University of Ankara, Turkey. **Deborah Kubisiak** (BMB '00) will be doing research at the Max Planck Institute of Neurobiology in Munich, Germany. And, **Michael Stitzel** (BMB '00) will be doing *Drosophila* research at the University of Heidelberg in Germany. Best wishes for a productive year!

**And for those Seniors who would like to compete for Fulbrights to be awarded next spring, be aware that the deadline for submitting an application to the University's Office of Undergraduate Fellowships is September 10<sup>th</sup>. Contact Dr. Mary Gage in 11A Grange Building for more information.**

## ... and to Goldwater Scholarship winners -

Each year, the University is permitted to nominate up to four undergraduate students from its entire student body for Barry M. Goldwater Scholarships. The Goldwater Scholarships are designed to foster and encourage excellence in science, the natural sciences and mathematics, and to encourage outstanding students to pursue careers in those fields. The scholarships provide a maximum of \$7000 annually and cover eligible expenses for tuition, room and board, fees and books. This year, the BMB Department is proud to have Dominick Sudano (BMB '00) selected as one of the four Penn State students to receive a Goldwater Scholarship. Dominick is a Schreyer Scholar and works in the laboratory of Dr. Ola Sodiende.

## ... and to Brian Kelch -

Brian Kelch (BMB '99), who has already been named a National Science Foundation Fellowship winner, has now been selected as the recipient of one of 80 Howard Hughes Predoctoral Fellowships

awarded each year in the Biological Sciences. The Fellowship is worth up to \$16,000/year for up to 5 years of graduate study plus \$15,000 cost of education allowance at the chosen graduate institution, which in Brian's case is the University of California at San Francisco. While at Penn State, Brian did his undergraduate research in the laboratory of Dr. J. Martin Bollinger. His Schreyer Scholar's thesis was titled, *Chemical rescue of electron transfer in the R2 subunit of ribonucleotide reductase*. Exceptionally well done, Brian!!

... and to Ryan Draft -

Ryan Draft (BMB '02) has received one of five Andrew Mutch Scholarships awarded nationally by the St. Andrew's Society of Philadelphia to support his junior year of study at the University of Glasgow in Scotland. The award carries a stipend of \$12,000. Ryan is the first BMB student to win one of these scholarships. Best wishes for a year of rewarding study in Scotland, Ryan!

## BMB Welcomes Two Instructors

The BMB Department is pleased to announce the addition of Drs. Steven Keating and David Hulce as instructors to our faculty. Dr. Keating received his undergraduate degree in Microbiology from the University of Maryland and his Ph.D. in Entomology from Penn State where he worked with Dr. Jack Schultz on the susceptibility of gypsy moth larvae to the gypsy moth nuclear polyhedrosis virus. Dr. Keating comes to us with 11 years of teaching experience at St. Francis College in Loretto, PA. Dr. Keating has his office in 233 S. Frear and his telephone is 865-4533.

Dr. Hulce holds two undergraduate degrees from Towson State University in Maryland. His first degree is in Economics with a minor in Chemistry and his second degree is in Biology with minors in Mathematics and History. He received his Ph.D. in Molecular, Cellular and Developmental Biology from Iowa State. He has done postdoctoral work in the USDA-ARS, Pasture Research Laboratory here at University Park and has worked on a project to develop viral-resistant cacao trees in the laboratory of Dr. Mark Gultinan in the Horticulture Department at Penn State. Dr. Hulce has also held temporary teaching positions at Juniata College and Lock Haven University. Dr. Hulce will have his office in 203 S. Frear. His telephone number is 865-5712.

### Did You Know???

The BMB Department has a small computer laboratory in 122 S. Frear that holds 12 PC computers. The computers are linked to the University backbone, so they provide access to the Internet, and students can access their email from the lab. A number of useful software packages have been loaded on the lab server, including Adobe Photoshop 5.0, Adobe Illustrator 8.0, Adobe Pagemaker 6.5, Microsoft Office which includes Word, PowerPoint, Excel and Photo Editor among others, Visual Basic 5.0 and certain course software. We hope to add scanner and printer (for a fee!) functions in the near future.

The BMB Department also maintains a student study lounge in 116 S. Frear. While many students do know of the room's location, they do not appreciate the resources that can be found there. A filing cabinet full of graduate school catalogs is available (seniors – we can always use the catalogs from the graduate programs you were considering and no longer need) as are copies of the theses of previous Schreyer Scholar graduates. Older textbooks useful as references and back issues of *Morbidity and Mortality Report* produced by the Centers for Disease Control are stored on bookshelves in one corner of the room. **Check out these resources!**

### Juniors and Seniors – Take Note

Most of you are aware that the University changed its General Education requirements two years ago. Perhaps, the most notable change was the reduction by one credit in the Health and Physical Activity requirements. Many Juniors and Seniors have asked whether the new requirement applies to them. The answer is NO! Juniors and Seniors are still required to have 3 credits of physical activities (ESACT) and one credit of BBH/Kines/Nutrition designated as GHA.

**BMB majors are also reminded** that BMB 445W (3 cr) has been divided into two courses, BMB 445W (2 cr) and BMB 446 (1 cr). **Both courses are required for graduation in the BMB major.** Neither course is a prerequisite for

the other. BMB 446 is being offered this semester (FA00) only. BMB 445W will continue to be offered ONLY in spring semester. **PLAN YOUR SCHEDULES ACCORDINGLY.**

### Juniors in the Clinical laboratory Science Option – Take Note

The annual informational meeting for all Juniors who will be seeking a practicum position during their senior year will be held on September 11 at 7 p.m. in Room 114 S. Frear. Explanations on how a practicum is designed, how a student applies for a practicum and what the qualifications are for admission to a hospital school will be provided that evening. Be sure to put this event on your calendar.

### Farewell...

The BMB Department bid farewell to two of its faculty members over the summer. Dr. Wesley Hymer, whose most recent instructional responsibility was teaching BiSc 4, retired at the end of June. Through his research, Dr. Hymer was deeply involved in this country's space program and was instrumental in bringing the Pennsylvania Space Grant Consortium to Penn State. Many of you know that the office for the NASA grant program is housed in 101 S. Frear. While Dr. Hymer will no longer be teaching, he will maintain a laboratory and office in the Research Park on the east side of campus. Best wishes for an enjoyable retirement!

Dr. Kamal Rashid, who has held primary responsibility for the Department's Summer Symposium and Biotechnology Workshop series and who has taught the Biotechnology Freshman Seminar and the Animal Tissue Culture course for many years, has moved to Utah State University where he will be in charge of expanding that school's biotechnology program. Dr. Rashid enjoyed working with students, and his efforts on behalf of the Biotechnology major will be missed. We wish Dr. Rashid well in his new position.

## BMB and Microbiology Schreyer Scholars Collect Medals

At the annual Schreyer Scholars ceremony held at the end of spring semester in April, many BMB and Microbiology majors were honored with the scholar medal in recognition of having completed the rigorous requirements of the program, including the writing of a thesis based on original laboratory research. 20 BMB and Microbiology majors received their medallion at that ceremony. The names of the scholars and the titles of their theses are:

Name of Honors Student	Major	Thesis Advisor	Title of Honors Thesis	Degree Granted
Babiarz, Joshua E.	B M B	Dr. Babitzke	<i>trpE</i> Translational Control Requires a Higher Tryptophan Concentration Than What is Necessary for Transcription	May-00
Babu, Vinay G.	P M	Dr. Mastro	Attenuation of the <i>Bacillus subtilis trpEDCFBA Operon</i>	May-00
Baraniak, Andrew	B M B	Dr. Sodeinde	Quantification of Zinc in Lymphocyte Subpopulations	May-00
Cesaneck, Paul	P M	Dr. Thomas	The Role of mRNA Stability in the Regulation of Chloroplast Gene Expression	May-00
Criswell, Erin K.	B M B	Dr. Frisque	Characterization of Mutations in <sup>HEAVY</sup> -Spectrin Resulting from Imprecise Excision of the P Element in the <i>karst</i> <sup>01318</sup> Allele	May-00
Duan, Wei (Dennise)	B M B	Dr. Lai	A Comparison of DNA Replication Efficiencies of JC Virus Variants MAD1, MAD2, MAD3, and MAD4 and Related Chimeric Viruses	May-00
Holby, Rebecca	MICRB	Dr. Pugh	Investigations of Yan, a Repressor of Neuronal Differentiation in the <i>Drosophila</i> Compound Eye	May-00
Ince, Elif	B M B	Dr. Brenchley	Limited Proteolysis of TAF-172 and effects of upstream DNA on TAF-172 binding to TBP-DNA	May-00
Jones, Jeremy O.	MICRB	Dr. Frisque	Molecular and Biochemical Analyses of Novel - Galactosidases from Psychrophilic <i>Arthrobacter</i> Isolates	May-00
Kabeer, Sarfaraz N.	MICRB	Dr. Phillips	Alternative Splicing Patern of the JC Virus Early Messenger RNA	May-00
Kubisiak, Deborah L.	B M B	Dr. Christine Milcarek (U Pitt Sch. Of Med)/Dr. Gilmour	Growth Inhibition by Imidazolone Propionic Acid (IPA): Evidence for an Oxygen Dependent Mechanism	May-00
Lee, Na Young	B M B	Dr. Henderson	A Study of Growth Stage-Dependent Variations in the 64 kDa Subunit of Cleavage Stimulation Factor	May-00
Maag, David	B M B	Dr. Cameron	The Functional Interaction of Transcriptional Activator C/EBP With Coactivators Enhances Propagation of the Human Immunodeficiency Virus	May-00
Macfarlan, Todd S.	B M B	Dr. Gay	The Broad-Spectrum Antiviral Ribonucleoside, Ribavirin, is a RNA Virus Mutagen	May-00
Melkun, Edward T.	B M B	Dr. Paulson	The Asymmetric Distribution of Plasma Membrane Calcium ATPase and Sodium Calcium Exchanger in Bone Forming Cells	May-00
O'Connell, Bryan	B M B	Dr. Hardison	An Amino terminal Mutation of CDC25A Accelerates the G1/S Transition, Increases Phosphatase Activity, and Prematurely Activates Cyclin E-Dependent Kinases	May-00
Pathickal, Betsy	BIOL	Dr. Bollinger	The Affinity of CpG-Island DNA for Nucleosome Formation <i>In Vitro</i>	December-00
Stitzel, Michael L.	B M B	Dr. Reese	Chemical Rescue of Defective Electron Transfer Caused by Tryptophan-48 Substitutions in the R2 Subunit of Ribonucleotide Reductase	May-00
Tu, Alexander	B M B	Dr. Schlegel	Molecular and Genetic Analysis of <i>TSG6</i> : A Gene Required for Ultraviolet Irradiation Resistance in <i>Saccharomyces cerevisiae</i>	May-00
Wray, Lisa	B M B	Dr. Cox-Foster	RNA Interference to Knockout Aminophospholipid Translocase Function in <i>Caenorhabditis elegans</i>	December-00
			Vector Specificity of Aphids for Luteoviruses: Characterization of Putative Virus Receptors Using Anti-idiotypic Antibodies	

This publication is available in alternative media on request.

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