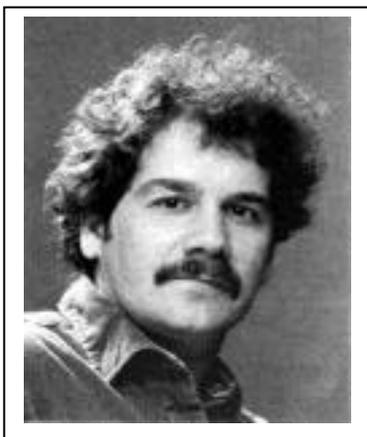


PENNSTATE



Undergraduate Newsletter

The Department of Biochemistry and Molecular Biology



Guest Editorial

Dr. Richard Frisque

Professor of Molecular Virology

ACADEMIC INTEGRITY

The Penn State community is poised to respond to what it perceives is an escalating challenge to academic integrity, a cornerstone of the University. The accumulated weight of academic dishonesty in our classrooms and laboratories has forced the pendulum to once again reverse its course as inappropriate actions of some individuals have necessitated the implementation of new rules and regulations for all of us. Although the Faculty Senate is the official Penn State body proposing these new initiatives, the student body has also been vocal in its call for changes to counter the erosion of academic integrity.

Our Faculty Senate has defined academic integrity as "the pursuit of scholarly activity in an open, honest and responsible manner. It is a basic guiding principle for all academic activity at Penn State University, and all members of the University community are

expected to act in accordance with this principle." In contrast, academic dishonesty occurs when an individual "engages in, or tolerates acts of falsification, misrepresentation or deception." This description closely parallels the terms used by most universities to define scientific misconduct in research laboratories.

It is reasonable to ask which factors have triggered this renewed interest in the longstanding conflict between academic integrity and dishonesty. Has classroom deception become more prevalent? Those answering in the affirmative often cite anecdotal evidence; now more persuasive evidence is available.

The recent Penn State Pulse Survey reports that nearly 15% of students have admitted to cheating and 40% to receiving "outside help" on their assignments. Still, one cannot conclude

from these findings that the problem of academic dishonesty has become more acute, only that a significant problem does exist. A second question to arise from the present debate asks why the students have rallied behind a call for action against cheating. Are their concerns about an uneven academic playing field generating doubts about their ability to compete successfully in the classroom and in the job market if they are the only ones playing fair? Or could it be that students (and faculty and staff) have finally become so incensed with colleagues who decide it is OK to steal from the University community, that they are saying enough is enough? Have we finally been jarred back to the reality that cheating in the classroom is simply the taking of something without paying the asking price?

At this point in the discussion one could present a long list of negative outcomes resulting from classroom and laboratory dishonesty. This list would include losses that affect our entire community, not just the guilty party. Perhaps the most tragic of these losses is that of trust. Learning takes place in a collaborative environment that nurtures the search for knowledge, for truth. This environment is rooted in trust - we rely upon the vast stores of information gathered by those who came before, and we depend upon those who share our present discovery journey. When trust is lost, not only is the joy of learning destroyed, the student-mentor relationship is severely damaged. And while time may eventually restore much of what has been lost, broken trust may be the last to be repaired.

I applaud Penn State's attempts to affirm academic integrity and to address academic dishonesty. Yet, the imposition of new rules designed to curb classroom cheating is a reactionary response. As members of an educational institution, I hope we will continue to seek ways to respond proactively to assaults on academic integrity. One such response is to place a greater emphasis on the teaching of ethics. My own experience teaching graduate and undergraduate courses with an ethics component has convinced me there is a need and a desire on the part of students to expand such offerings. In support of this conviction I conclude with just two of the many comments my students have made to me regarding the teaching of ethics in the sciences. From a senior in MICRB 411, "I'm graduating this semester with a B.S. in microbiology and this is the first time we have discussed ethics in class." And from an anonymous student in BMB/MICRB 480 "While I enjoyed the 40' lectures on the tumor viruses and oncogenes, I feel that our two ethics discussions likely provided information that will prove more valuable overall to my scientific career." Thanks ... I think.

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Changes in Curriculum

Recently, the University Faculty Senate's Committee on Curricular Affairs approved several proposals that modify the graduation requirements for BMB and Micrb majors. These changes affect only students who entered the University in the Fall of 1999 or later. However, since the new check-sheets reflecting these changes have become available, many upperclassmen are now aware of the revisions and are questioning whether they also apply to them. To clarify that point, the general policy of the University states that changes in curricula apply to the first entering class following approval of the changes. While approved changes for individual **courses** also take effect in the semester following Senate approval, they will impact the curriculum of any student subsequently taking the modified courses. All that being said, the following changes apply to the class of students indicated:

First year BMB majors only:

1. List A and List B electives have now been combined into a single list (**List A**) from which 10 credits must be selected.
2. The General Education requirement in the Health and Physical Activity category has been reduced to 3 credits – with any combination of Esact or Health Sciences being acceptable. **NOTE:** During the phase-in period, any combination of GHS, GPE or GHA (the new designation) courses will be acceptable to fulfill this requirement.
3. Due to credit changes in several courses in other disciplines, the number of electives under List C has changed slightly from 6-8 cr to 8-9 cr.
4. List B is now the Mathematical Science Electives list.
5. The First Year Seminar, PSU 016 (1 cr) replaces BMB 010 (1 cr).
6. The General Education requirement for 3 credits of DIVERSITY FOCUSED (DF) course work has been renamed Intercultural & International Competence (IIC).

BMB majors who entered the University before Fall 99:

1. Starting FA 00, BMB 445W will be split into two courses. BMB 445W will now be a 2 credit course and the new BMB 446 will be a non-writing intensive course for 1 credit. Since BMB 445W has long been a requirement for the major, both of the revised courses will be requirements for the BMB major. See the heading of CHANGES IN COURSE OFFERINGS for more information about these two courses.

First Year Microbiology Majors:

1. The number of credits required in the category of 400-level laboratory courses has been reduced from 4 to 3 credits.
2. The General Education requirement in the Health and Physical Activity category has been reduced to 3 credits – with any combination of Esact or Health Sciences being acceptable. **NOTE:** During the phase-in period, any combination of GHS, GPE or GHA (the new designation) courses will be acceptable to fulfill this requirement.
3. Because of changes 1 and 2, the number of electives in category 4 on the checksheet has been modified from 7-9 credits to 9-11 credits.
4. The General Education requirement for 3 credits of DIVERSITY FOCUSED (DF) course work has been renamed Intercultural & International Competence (IIC).

Microbiology Majors who entered the University before Fall 99:

1. Starting FA 00, BMB 445W will be split into two courses. BMB 445W will now be a 2 credit course and the new BMB 446 will be a non-writing intensive course for 1 credit. Since BMB 445W has long been listed in the advanced laboratory electives category, both of the revised courses will now be acceptable as advanced laboratory electives for the major. See the heading of CHANGES IN COURSE OFFERINGS for more information about these courses.

First Year Biotechnology Majors:

1. The General Education requirement in the Health and Physical Activity category has been reduced to 3 credits – with any combination of Esact or Health Sciences being acceptable.

NOTE: During the phase-in period, any combination of GHS, GPE or GHA (the new designation) courses will be acceptable to fulfill this requirement.

2. Due to credit changes in several courses in other disciplines, the number of electives in category 4 on the checksheet has changed from 12-15 cr to 14-16 cr.

3. Biotc 001 (1 cr) has been replaced with PSU 016 (1 cr).

4. The General Education requirement for 3 credits of DIVERSITY FOCUSED (DF) course work has been renamed Intercultural & International Competence (IIC).

Biotechnology Majors who entered the University before FA 99:

1. No changes in curriculum

Changes in Course Offerings

BMB 445W: As mentioned under Changes in Curriculum, BMB 445W, Laboratory in Molecular Genetics, which has been a 3-credit course since its inception, will now be divided into two parts. BMB 445W (2 cr) will continue as a writing-intensive course and will focus on *in vitro* molecular genetics. Some of the experiments in 445W include PCR, Southern blots, and sequencing of a gene. BMB 446 (1 cr) will emphasize *in vivo* techniques of genetic analysis and will NOT be writing-intensive. Experiments in 446 include conjugation and genetic mapping, transduction for strain

construction, and use of a Mu replicon for *in vivo* cloning. In addition to this separation of topics, it will also be possible to offer each course in a slightly different format and, importantly, in different semesters of the academic year. Thus, **BMB 446 will be offered only in Fall Semesters**, and **BMB 445W will be offered only in Spring Semesters**. Consequently, all BMB majors intending to graduate in SP01 and who were also planning to take BMB 445W in SP01, must schedule BMB 446 NEXT SEMESTER (FA00), because both courses are required for graduation.

For Microbiology majors, either or both courses will serve as acceptable 400-level laboratory electives.

MICRB 410: A change of a different kind will affect Micrb 410, Principles of Immunology. Next year, for the first time, Micrb 410 will be offered in both Fall and Spring semesters. Thanks to the recent addition of Dr. Avery August to the V Sc Department and as an adjunct faculty member in BMB, it will be possible to offer Principles of Immunology in Fall semester, taught by Dr. August, **and** in Spring semester, taught by Dr. Andrea Mastro. This addition will make the scheduling of courses a little easier for many students.

Reminder...

This fall, Drs. Gary Perdew and John Vanden Heuvel will again be offering the special topics course Molecular and Cellular Toxicology, which will be cross-listed as BMB and V Sc 497A. Dr. Perdew provided this description of the course.

Molecular and Cellular Toxicology is designed to provide a mechanistic understanding of how drugs and chemicals result in toxicity. The effects of chemicals at the cellular and molecular level are stressed.

Studies on mechanisms of toxicity influence a wide spectrum of toxicological interests from the basic to more applied. Elucidation of how chemicals work at the cellular and molecular level helps the physiologist or biochemist obtain a

better grasp of normal processes. Principles of toxicology are integrated with knowledge of biochemistry, physiology and molecular biology to help the student better understand normal as well as abnormal cell biology.

BMB 497A may be used as a List B elective (requires a petition) in the BMB curriculum. BMB/VSc 497A will be offered MWF 12:20-1:10 in 105 Wartik.

ANOTHER REMINDER...

The Physics Department will be offering Phys 203/204 for the last time this summer. If you are a BMB major and have completed Phys 201 and 202, you may wish to avail yourself of this last opportunity to complete the physics series that is being phased out. If you are unable to take Phys 203/204, you will be required to take Phys 213 AND 214 in its place. Plan ahead!

MEET DR. AVERY AUGUST

Dr. Avery August has recently been elected to adjunct graduate faculty status in the BMB Department. Dr. August received his B.S. and M.S. degrees from California State University, Los Angeles. He received his Ph.D. in Immunology from Cornell University in 1994. He has had post-doctoral experience in Molecular Oncology at Rockefeller University and has worked at The R.W. Johnson Pharmaceutical Research Institute on immunology drug discovery. We are pleased that Dr. August will be teaching Micrb 410, Principles of Immunology, this coming fall. (See CHANGES IN COURSE OFFERINGS for more information.) He also accepts BMB departmental majors into his lab as undergraduate research students. Dr. August's office is in 115 Henning Building.

WELCOME, MICHAEL TROYAN

The newest member of the team of BMB Department instructors is Michael B. Troyan. Mr. Troyan assumed teaching duties at the beginning of Spring semester. He received his B.S. degree in Microbiology from our Department in 1992, and his M.S. in Physiology, also from Penn State, in 1995. Presently, he is teaching Micrb 106, BiSc 002 and BiSc 004. He has his office in 203 S. Frear. Look for Mr. Troyan to make his presence felt in other departmental course offerings this summer and next fall.

CONGRATULATIONS!!

The Department of Biochemistry and Molecular Biology held a luncheon on October 20th to recognize the recipients of undergraduate departmental awards and scholarships for 1999-2000. The recipients and the awards each received are as follows:

*Erin Criswell - Arthur K. Anderson
Memorial Award*

*Dennise Duan - Heather L. Rayle Award
Courtney Giles- Ruth Ott Award*

*Christopher Hamm - Joseph A. Miller
Scholarship in Science*

*Kasey Holsinger - Richard L. Maginnis
Memorial Award*

*Sarfaraz Kabeer - Daniel R. Tershak
Memorial Scholarship*

*Todd Macfarland - Kevin Daniel Gimore
Memorial Grant-Aid Fund*

*Lisa Anne Mead - Ruth Ott Award
Douglas Miller - Charles R. Gerth*

*Scholarship
Jennifer Rittenhouse - Eisenhower
Memorial Award*

*Douglas Sheridan - Irving & Jeanne Atlas
Scholarship in Biochemistry*

Lisa Shollenberger - Ruth Ott Award

CO-OP FOR SPRING 2000

The following students are currently enrolled in Co-op assignments for this semester. If you would like more information about participating in a co-op, please contact Mary Jane Wronski at 863-2638 or Susan Knell or Cindye Rudy at 865-5000.

Danone International Brands, Inc.:
Becky Reviello

Hercules, Inc.:
Corey Sagenich

McNeil Consumer Healthcare:
Adam Kinyon, Genna Lutz

National Institutes of Health:
Dominick Sudano

Penn State University:
David Maag

SmithKline Beecham Pharmaceuticals:
Corey Bender, Matthew Bobiak, Lakina Campbell, Ryan Cirz, Roger Counts, Douglas Digirolamo, Bridget Dobo, Susan Gruver, Scott Jarvis, Jermiah Mitchell, Georgina Paulazzo, Joseph Renda, David Riches, Bonnie Sceurman, Claude Shelton, Jennifer Smith, Kyle Souza, Tim Stewart, Morgan Zittle

Walter Reed Army Institute of Research:
Melissa Baker

FOR MORE INFORMATION ON BIOCHEMISTRY & MOLECULAR BIOLOGY AT PENN STATE, PLEASE VISIT OUR WEB SITE AT:

[HTTP://WWW.BMB.PSU.EDU](http://www.bmb.psu.edu)

The Department of Biochemistry and Molecular Biology
announces
The Russell Marker Lectures in Genetic Engineering

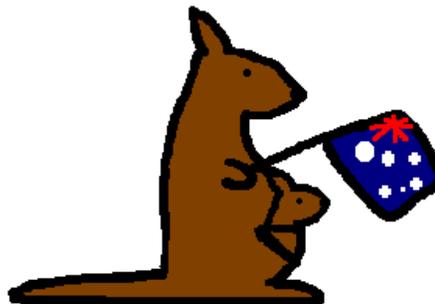
"New Theories in Cancer Research" Dr. Harold Varmus

Professor and Chief Executive Officer
Memorial Sloan Kettering Cancer Center
Nobel Laureate in Medicine or Physiology, 1989

April 3 and 4, 2000

Monday, April 3, 2000, 7:30 PM, HUB Auditorium
"Genes and Cancer"

Tuesday, April 4, 2000, 4:00 PM, 101 Thomas Building
"Mouse Model of Human Cancer"



GOING 'DOWN UNDER'

The BMB Department just received word that Erin Criswell (BMB 99) has been selected as the recipient of a Fulbright Award. Only 14 U.S. students are selected each year to study in the nation of Australia. Erin is one of two students from Penn State who will be spending a year of post-baccalaureate study in Australia as Fulbright scholars. As many readers already know, Erin has served as the president of the Biochemistry Society for the last two years. Best wishes for an enjoyable and productive year in the land of koalas and 'roos.

This publication is available in alternative media on request.

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