Dear Alumni and Friends— I cannot believe that it has been four years since I took over the Chair of the Department. It is with very mixed feelings that I end my term. I will miss the role of Chair. It has been a privilege and a pleasure to serve the wonderful students and dedicated faculty in the Biology Department at UMass Boston. It has been a time of major change for us, and that made the chairmanship lively and challenging. During my tenure as Chairman, we have hired a new Chancellor, Provost, and Dean. Our new Dean, Ken Sebens, who was the Director of environmental programs at the University of Maryland, is taking over a new College of Science and Mathematics, a split from our old College of Arts and Sciences model. Altogether, the new atmosphere promises to spotlight and support the sciences at UMass Boston. The College is being revitalized through new science initiatives and new young faculty with a focus on the biological sciences. For example, we have begun to develop a new “Environmental Genomics Laboratory” that will be fully equipped and staffed. So, I regret that I will not be in the forefront of the excitement.

However, I also end my term with the joyful anticipation of turning my full attention to my teaching and research. I do this with the reassurance of turning over the reins of the Department to the capable hands of Dr. Manickam Sugumaran.

In the last year, Dr. Jeff Dukes, a terrestrial ecologist from the Carnegie Institution at Stanford University, joined us. After many years of dedicated service to the Department, Mike Larson, the Biology Business Manager, and Mary Smith, who served in many capacities over the years, retired! We are not sure how we are going to function without them, but both of them are still helping us out as we move into a new era. We will miss Dr. Jeremy Hatch, who retired at the end of this semester after a long and productive career at UMass Boston. Hopefully, we can continue to offer courses in his specialties of ornithology and animal behavior. We are also sad to lose Dr. Joe Gindhart, our fly–guy cell biologist, who is leaving us to join the biology faculty at the University of Richmond. We wish them all the best.

While the Biology Department continues to grow and prosper, we also face difficult budgetary cutbacks again. However, your kind donations and support, especially to the Biology Enhancement Fund and the Lipke Biology Enhancement Fund have made a significant impact in our ability to provide a rich science experience for our students. As always, we are our proud of our alumni. We love to hear about where you are, what you are doing and your latest achievements. Please send us a letter or email to share your news with us and your fellow alumni in the Alumni Newsletter and the Alumni page on the Biology Department Web site.

We hope that you enjoy reading about our accomplishments and those of your fellow alumni. Please come and visit us and tour the new Campus Center (pictured on page 8). It is an architectural gem.
Farewells to...

Dr. Joseph Gindhart has accepted a position at Richmond College, an excellent undergraduate institution in Virginia, and will be leaving UMass Boston at the end of June. Dr. Gindhart is a cell biologist, who used microscopic, genetic and molecular techniques to study intracellular transport of organelles. During his period of a faculty member at UMass Boston, Dr. Gindhart received three major grants from the National Science Foundation, and was a co-author on a fourth major grant with Dr. Adan Colon-Carmona. Dr. Gindhart also played a leading role in the creation of the Ph. D. track in Molecular, Cellular and Organismal biology. Dr. Gindhart’s talents as an administrator, researcher and teacher will be missed, as will his sense of humor. (When a student who complained that his tests were too difficult, Dr. Gindhart replied, “tests are supposed to be hard; that is why they are called tests”.) The Biology Department has applied to recruit a replacement for Dr. Gindhart during the fall semester in 2004.

Michael Larson has retired after 30 years of loyal service to the Department, the College and the University. In his capacity as Department Business Manager, Mike has counseled at least nine Biology Department Chairs and for the last ten years he has also served as Special Assistant to the Dean of Sciences for budget management and planning. Many of you have interacted with Mike in your years as graduate assistantships, or student employees and together with faculty and staff know that he has been a focal point for the life of the department. His wise counsel has given the Biology Department a level of fiscal stability that has allowed for the growth of faculty research, the development of important academic programs and a sense of departmental pride. His service to the newly created Science Unit has likewise been invaluable. He brought to his collegiate tasks forward-looking thinking which, together with his experience and sound advice, have been instrumental in keeping the Sciences on a firm financial footing in difficult budget years and positioning them to achieve when opportunities arose. We thank him and wish him well in his retirement.

Diana Ruddy (B.S. (FINANC) 2004) Recently selected by the UMass Boston Accounting and Finance Department as its Outstanding Graduating Student. This award goes to the graduating student with the highest cumulative GPA, and is presented to her by the Boston Chapter of Financial Executives International. Diana will be leaving the Biology department to move to Arizona, with her husband Ben, to pursue a career in Real Estate Management. All the best them Both. Thanks for a great year.

Mary Smith retired this year after 26 years of outstanding work in the biology department as graduate student and staff member. In 1978, after serving in educational outreach for the Massachusetts Horticultural Society Mary came to UMB to work for a master’s degree with an emphasis on plant biology. She learned scanning electron microscopy for her research on the formation of silicates in plant cells and upon completion of her MS became the Biology Department SEM technician. Mary’s skills were sought for varied research projects by biology and archaeology faculty and she soon offered SEM training for graduate students. During this period she co-authored several research publications and reports on prehistoric plant remains. After acquiring skills in PCR she worked as a technical assistant, but soon was drafted to work with Charlie King in the department business office. In “retirement,” among a variety of activities Mary works part time making “barn calls” with a veterinarian, looks after her garden and assorted animals, and is active in various dog show competitions. Mary lives with her family and those quadrupeds in southeastern Massachusetts.

There is a lot to remember about our generous and stimulating colleague, Jeremy Hatch. The thread connecting all these memories is that Jeremy cared sincerely about how his students and colleagues thought – not just what we thought, but how we thought. Jeremy taught many of the “ecology” courses in the department including Ecology, Animal Behavior, Ornithology, Seabird Ecology and Advanced Ethology. He made significant and lasting changes in how the freshman biology labs are taught. He is also a renowned authority on seabirds and plans to continue his seabird research well into his retirement. Therefore, we wish a happy and productive retirement for Jeremy and we will miss him.
Alejandro Necochea, (B.S. 1998) will be graduating from Medical School soon, and writes to thank all the teachers who helped him over the years. He also wanted to let everyone know that the results of the residency match are in: he will be going to the Hospital of the University of Pennsylvania (Philadelphia), starting in June 2004. He will be a resident in the Internal Medicine Categorical Program, which is his first choice, and very glad he got it. He goes on to say, there he will be close to his girlfriend, who will be a graduate student at Princeton, and he will also have many good friends from Yale working at Penn or in Philly. He feels very fortunate. He invites everyone to please come and visit him there!

Jennifer Arnold, (Ph.D. 2002) recently wished us a Happy Holiday from Alabama. She is doing well and enjoying her Post-doctoral position in Alabama. She states, “Auburn is a great little town.” She started its first Irish dancing school and received tons of support from the community. She has been traveling a lot for work (back and forth to Alaska, but also Brazil, and Savannah), she was lucky enough to get to do some field work in the Arctic Circle this past summer. It was an amazing experience for her!

Katharine Starzel, (BS 2003) is on her way to Vet school at UC Davis. Beforing departing she will be working on the stats on the publication portion of the sea otter microflora, and to present a poster at Wildlife Disease Association in August. The publication will be submitted in the fall. She will also be taking an embryology class this summer. She states, “My life has become, literally, a sea of microbes.” We all wish you the best - good luck at UC Davis.

Craig McClain, (Ph.D. 2003) His post-doctoral position in Albuquerque, NM is fantastic. The research group he works with represent some of the world’s leading ecologists. His research is going great, two manuscripts have been published one in Evolution and one in Global Ecology and Biogeography. He’s waiting to hear about five more articles that were submitted. He recently took a trip to Hawaii for a research cruise on the deep sea around the equatorial Pacific. While there he did a little volcano exploring and scuba diving. He also has applied for a NASA grant to work on the “Global Carbon Cycle and the Deep Sea.” Very trendy science! His wife, Michelle is doing well. She started working for the Chamber of Commerce in the youth leadership division.

Paige Miller, (Ph.D. 2004) received 2 different fellowships - the UNCF/Merck Minority Postdoctoral Fellowship and the NSF Minority Postdoctoral Fellowship. She has accepted the NSF award. She will be going to UC Santa Barbara to work with Dr. Bill Rice on sex chromosome evolution in Drosophila.

Patricia Szczys (Ph.D 2004) accepted the Assistant Professor of Conservation Biology position at Eastern Connecticut State University. She will be teaching Introductory Biology, Population Biology, and developing a new course in Conservation Genetics. She will also supervise undergraduate research projects and have already begun collaborative efforts to study the population genetics and mating patterns of 5 species of migratory warblers that breed in Eastern Connecticut.
**Biology Grants and Research**

**Dr. Rachel Skvirsky** received a grant renewal from the National Science Foundation for Research Experience for Undergraduate for another 3 years. $360,000.

**Dr. Kleene** received a grant from the National Science Foundation, Control of mRNA Translation during Spermatogenesis, $381,000, March 1, 2004 to Feb 28, 2007. The objective of this proposal is to identify the mRNA sequences and protein factors that regulate the timing of translation of the Smcp mRNA in spermatogenic cells. The experimental approaches include transgenic animals and electrophoresis gel mobility shift assays.

**Desktop Genetics Lab**

“By firing up this free program, beginning biology students can run simple genetics experiments, and they’ll never have to swat an escaped fruit fly. Created by Brian White of the University of Massachusetts, Boston, and colleagues, the software simulates crosses between animals with particular characteristics. As in a real genetics lab, users design their own procedures, deciding how many matings will provide enough evidence to deduce how the trait is passed on. The exercises challenge students to recognize not only simple dominant traits but also more complex types of transmission, such as sex linkage and incomplete dominance. Although the problems illustrate real inheritance patterns, they use hypothetical traits, so students can’t track down the answers on the Web.”

**Greg Beck** received the University of Massachusetts Presidents Grant administered through the Commercial Ventures and Intellectual Properties Office for $10,000 for one year. Dr. Beck will utilize the money to further develop his patent application. His project: *The Blue Muscle: An Indicator of Pollution Using High Through-Put Antibody Arrays.*

**Biology Assistant Professor Adán Colón-Carmona, in collaboration with Assistant Professor Joe Gindhart** was awarded a three-year National Institutes of Health (NIH) AREA grant ($228,750) entitled “Arabidopsis Kinesins in Cell Division and Development”.

Assistant Professor **Adán Colón-Carmona** receives NSF grant. It is a collaborative grant with UC Riverside biologist Dr. Patricia Springer (the main PI). This research project focuses on “Assigning Functions to the Arabidopsis LBD-Family”. It was awarded from the NSF 2010 Project. In collaboration with Dr. Springer and the Museum of Science of Boston, he will be developing educational modules to be utilized in undergraduate and high school biology courses. These modules will incorporate undergraduate and high school students in genetic studies of the LBD gene family from the model organism Arabidopsis thaliana. In addition, this project will train high school teachers on the use of Arabidopsis as a teaching resource. This will be a $1,247,768 grant for the next 4-years.

**Dr. Rick Kesseli** CO-PI NSF grant. This collaborative multi-disciplinary research will develop resources for functional, comparative, and evolutionary genomics of the Compositae, particularly lettuce (*Lactuca sativa*) and sunflower (*Helianthus annuus*). Six domestication and ten escape and naturalization events are being investigated to elucidate the genetic bases and evolutionary forces underlying the evolution of crops and weeds. These data will build on the Compositae Genome Project (CGP, [http://compgenomics.ucdavis.edu](http://compgenomics.ucdavis.edu)) as well as capitalize on the wealth of knowledge being developed for *Arabidopsis* and other model species.
Professor Kamaljit S. Bawa, invited Professor Richard Frankham to speak to his Bio 639 Conservation Ecology Course. Richard is currently a visiting professor at Harvard University for the spring 2004 semester. He has published over 110 scientific papers and is senior author of *Introduction to Conservation Genetics*, the first textbook in conservation genetics. He was included in *Outstanding Scientists of the 21st Century*, 1st edition International Biographical Centre.

Dr. Alexia Pollack implements TriBeta Biological Honors Society. The Biology Department at UMass-Boston is the home of the newly formed Theta Omicron Chapter of Beta Beta Beta (TriBeta) Biological Honors Society. TriBeta is a national biological honors society founded in 1922, with over 430 chapters and more than 175,000 members. The goals of TriBeta are to promote interest in the biological sciences and to support and encourage student research. TriBeta hold national and regional conventions and publishes a journal, BIOS, in which undergraduates can publish their work. Chapters have regular meetings and organize activities in the spirit of the goals of TriBeta. The Theta Omicron chapter at UMass-Boston was installed in a ceremony on May 7, 2004 with the Northeast District Director of TriBeta, Dr. Annmarie Bettica, officiating. The charter members of the Theta Omicron chapter at UMass-Boston include twenty-four undergraduate Regular Members, eight undergraduate Associate Members and six Graduate Members. Officers of the Theta Omicron chapter are: Zachary Waldon, President; Joanna Scagliotti, Vice President; Kathleen Campbell, Treasurer; Kimberly Johnson, Secretary; Juliette Hannan, Historian. Dr. Alexia Pollack, Assistant Professor of Biology, the chapter advisor and was instrumental in working to establish the Theta Omicron chapter at UMass-Boston.

Ying Tan, Assistant Professor in Biology was invited to give a talk “Molecular Evolution of Color Vision in Primates” this past January 2004 at the Keystone Symposia on Molecular and Cellular Biology: Natural Variation and Quantitative Genetics in Model Organisms, held at Breckenridge, Colorado. She also chaired the session “Variation between Distant taxa” during the symposium.

Our Biology Seminar series, co-chair, Dr. Linda Huang, invited Dr. Nancy Hopkins of MIT, to give a seminar this past March 2004. Dr. Hopkins is widely recognized for leading the molecular developmental biologist use of the zebrafish model. She is also widely known for her contributions to women in science and her struggle to gain tenure at MIT. (see her article in *Nature*, “Women scientists unite to battle cowboy culture” www.nature.com, Vol 398/1 April 1999)

A recent book, *Biodiversity Conservation in Costa Rica: Learning the Lessons in a Seasonal Dry Forest*, published by the University of California Press, Berkeley, features two articles by Professor Kamal Bawa, one on the phenology and the pollination systems of tropical forest trees, and another on the impact of climate change on the reproductive biology of tropical trees. Also, Professor Bawa recently attended two workshops, organized by the Ford Foundation in India. One workshop dealt with the Mountain Systems, and the other with Conservation, Livelihoods, and Microenterprises. He was also appointed to serve on the Advisory Board of W.L. Brown Center for Plant Genetic Resources at the Missouri Botanical Garden, St. Louis, Missouri.
Frederick SaintOurs, M.S. Program UMASS, Boston, will teach a seminar for the Humboldt Field Research Institute “Dragonflies and Damselflies: Systematics and biomonitoring May 30-June 5. Which includes numerous surveys and workshops on aquatic macroinvertebrates for National Science Foundation and MA Natural Heritage Program.; developing image-based, web-accessible invertebrate identification tools for Electronic Field Guide project at University of Massachusetts Boston. The course emphasizes the collection and taxonomic study of larvae and adults; life-stages, morphology, behavior, temporal and geographical distribution, sampling and rearing techniques; reference specimens for comparative study; current regulations, references, and sampling techniques.

Katherine LaCommare, M.S. Program UMASS, Boston and Caryn Self-Sullivan, Texas A&M University received honors from Earthwatch’s Young Scientist for their contributions to manatee and dugong research, education, and conservation efforts around the world. The award, along with a check for $2500, was presented during the Annual Earthwatch PI Conference in Cambridge, Massachusetts, this past November 2003. Katie and Caryn are the Principal Investigators for the Earthwatch funded project, “Ecology and Behavior of Antillean Manatees in the Drowned Cayes, Belize.” (http://www.earthwatch.org/expeditions/lacommare.html)

Nicole Weber, Ph.D. Program UMASS, Boston recently attended the NAAEE Conference “Thinking Globally while Acting Culturally” where she found many of the topics closely related to her research in environmental education in both the rural and urban ecosystems. The information presented at this meeting allowed her to see a clear picture of what is currently going on in environmental education, both locally and internationally. She was able to discuss successful evaluation techniques with other researchers, and she is currently looking into how to implement into her own research.

Stephanie Wood, Ph.D Program UMASS, Boston, recently spent 2.5 weeks in Dr. Brad White’s lab at Trent University, Peterborough, Ontario Canada, working on gray seal stock structure in the NW Atlantic. Samples included in the analysis came from 2 of the 3 known breeding sites in the US: Muskeget (Mass.) & Green (Maine) Islands. Canadian researchers collected samples from the Gulf of St. Lawrence and Sable Island (2 major Canadian breeding areas). They also did some ancient DNA work on museum specimens. They deployed a satellite tag on a weaned gray seal pup capture in the mid-coast Maine area in February 2004. She is named “Solange” and her tracks can be seen on Whalenet: http://whale.wheelock.edu/whalenet-stuff/Stop39382/
Spring 2004 Undergraduate Honor’s Poster Session Hosted by the Biology Honor’s Committee. On May 25, 2004, seven Biology/Biochemistry graduating seniors participated in the Honor’s poster session. (Top L to R, Elena Zackorova, Dr. Shiaris; Dr. Warner, Dr. Hagar; Maureen Tilton, Tsering Gesar, Dr. White, Glen Banagura. Bottom L to R, Elena; Dr. Ebersole, Carol Stuart, Jen Crouse.


Biology Department Awards the Bettina Hall Harrison for exceptional undergraduate teaching and mentoring skills to Tsering Gesar and Elena Zakharova
Greetings from the new Chairman.
I want to thank Michael Shiaris for taking care of the department for the last four years and doing such an excellent job. We wish him all the best on his upcoming sabbatical. “Mike, I know it will be difficult to fill your shoes, but I will try my best.” - Manickam Sugumaran