2011 – 2012 Annual Report  
Department of Biological Sciences  
June 30, 2012

EXECUTIVE SUMMARY

There were a number of notable positives for the department in FY12. New research funding continued to be strong, with eight new major grants from federal agencies, including NSF, NIH, and DARPA, and one from the American Heart Association and notification of several more new grants to start in 2012. Publications were also again very strong, with more than 100 articles and book chapters authored by members of the faculty and their students and postdocs, and there were 88 invitations to give seminars at other institutions and to speak at national and international conferences. Members of the microbiology group organized and chaired the annual meeting of the Virginia Branch of the American Society for Microbiology Conference on campus in the fall. The department also continued to make substantial and high-quality contributions to undergraduate teaching and advising, despite the ongoing high majors:faculty ratio (currently 45:1) and large service teaching load; this included development of a number of new courses, including at the graduate level. A number of students (12 Ph.D. and 6 M.S.) successfully defended their theses and dissertations in the past year. Faculty and staff were recognized with numerous national and local awards, as detailed below, including the prestigious A.T. Winfree Prize, given by the Society for Mathematical Biology this year to University Distinguished Professor, John Tyson, a Wine Award for Teaching Excellence to Professor Jack Webster, and the university’s 2012 Graduate Teaching Assistant Excellence Award to Ph.D. student, Stephanie Voshell. In addition, Biological Sciences majors, Carly Stephens and Kayvon Izadpanah (dual major in Biochemistry), were named the university’s 2012 Undergraduate Woman and Man of the Year.

With regard to department infrastructure, the institution of lab fees for our freshman courses marked the start of much-needed relief to an operating budget that had seen growing, and unsustainable, pressures from our laboratory courses, which serve upwards of 4500 undergraduates each year. We welcomed a new Graduate Program Director, Jeff Walters, who is already leading a number of improvements in that area, including more efficient management and equitable resource distribution in that area. We gained two new tenure-track assistant professors through the dual career retention program, Bryan Brown (formerly of Clemson) in freshwater ecology, and Adi Livnat (Berkeley) in evolutionary biology. The department recruited four new tenure-track assistant professors to the main campus this year. Joel McGlothlin (UVA) in Molecular Ecology and Mike Strickland (Yale) in Microbial Ecosystems Ecology, will join us in August of 2012; Kendra Sewall (Duke) in the college’s new Neuroscience program, will arrive in January 2013; and Cayelan Carey (Cornell) in Freshwater Ecosystems Ecology, will join the department in August, 2013, after a one-year postdoc at the University of Wisconsin. We also welcomed a new member of the VTCRI faculty, Greg Valdez, in May 2012 as a tenure-track assistant professor in the department.

A number of efforts are underway to enhance the research, teaching, and administrative facilities in Derring Hall, which opened in 1969. These will include renovation of space for new research laboratory and animal facilities on the 2nd, 3rd, and 4th floors for the four new EEB faculty. We have also given up research space on the 5th floor of Derring Hall for renovation into new teaching laboratories for the college’s ISC program that will also benefit the department’s laboratory teaching programs. Funding has been approved for the much-needed renovation of two of the four freshman teaching laboratories on the first floor, the need for which has been underscored by improvements in equipment and lab exercises facilitated by lab fees; it is anticipated that the remaining two labs will be renovated in 2013-2014. Finally, we have made improvements to the appearance of the administrative offices and main conference room in Derring Hall to enhance the department’s overall image.

The department does face challenges posed by being spread across five physically-separate locations on campus (seven counting the VTCRI and VBI). The department also continues to struggle with an unsustainable majors-to-faculty ratio, currently at 45:1, and increasing pressures to teach courses for other majors, both existing and proposed, so that we are at capacity for both the personnel and facilities required to meet these needs. Hiring in 2012 finally began to outpace retirements and grow the department toward a short-term goal of 50 tenured/tenure-track
faculty. The department also continues to emphasize collegiality and a willingness to work with other units to achieve common goals as its most important strengths. We are a stable department in terms of leadership, having had just nine heads in our almost 120-year history. As attested to by an internal audit conducted during FY11, we are also a very well-run operation, with two talented Associate Heads directing the undergraduate programs and overseeing department facilities, as well as a highly-committed Graduate Director, an award-winning undergraduate advising program, an extremely effective business office, skilled IT and instrument/facilities support, and a well-run front office that ensures that personnel appointments, PR, and many other aspects of our complex department are handled efficiently. With these many strengths we are uniquely positioned to help lead the growing prominence of life sciences teaching and research at Virginia Tech.

**LEARNING: UNDERGRADUATE**

**Faculty and departmental teaching and advising awards in FY12:**

- Lisa Belden was recognized with a COS Certificate of Teaching Excellence.
- Jack Webster was recognized with a COS Certificate of Teaching Excellence and the 2012 William E. Wine Award for Teaching Excellence.
- Emeritus Professor George Simmons was recognized as the Most Influential Professor by the Class of 2012, the third time he has received this award in four years.
- Jill Sible received the department’s Outstanding Undergraduate Advising Award in spring 2012.
- Jeff Walters received the department’s Outstanding Graduate Advising Award in spring 2012.
- Dana Hawley and Tad Seyler received the department’s Outstanding Teaching Awards in spring 2012.
- Ann Stevens was the CIDER Teacher of the Week in December 2011.
- Mike Rosenzweig, advanced instructor and biological science outreach coordinator, and a team consisting of Lisa Belden, Christie Gray, Dana Hawley, Ignacio Moore, Jill Sible, Ann Stevens, Richard Walker, and Brenda Winkel, won the Most Engaged Department of 2011 Award for continued efforts to expand opportunities for students to participate in community service experiences.
- Karen Fraley was recognized for her outstanding contributions to undergraduate advising by being named the VT Staff Employee of the Week in June 2012; she was also nominated by the department for 2012 President’s Award for Excellence.

**Undergraduate student achievements and awards in FY12:**

**Awards:**

- Carly Stephens (Biological Sciences) was named Virginia Tech’s Undergraduate Woman of the Year for 2012.
- Kayvon Izadpanah (Biological Sciences, Biochemistry) was named Virginia Tech’s Undergraduate Man of the Year for 2012.
- Julia Button, Katrina Loncar, Grace Mullholland, and Aaron Wilson were named 2012 College of Science Dean’s Roundtable Scholars.
- Brittany Gianetti was recognized with the 2012 Biological Sciences Outstanding Senior Award.
- Shannon Karinshak (Opell lab) was recognized as the 2012 Biological Sciences Outstanding Senior Researcher.
Grants and scholarships:

- **Charles Baker** (Biological Sciences, Mathematics, Physics) was awarded a **Barry M. Goldwater Scholarship** for 2011-2012.
- **Alyssa Hosey** (Hilu lab) received an **ACC Undergraduate Research Scholars Award** for a project entitled “Genome Size and Chromosome Duplication.”
- **Jens Hamann** (Finkielstein lab) received **Sigma Xi Grant-in-Aid** and **American Association for Molecular Biology Awards**.
- **Brittany Ralph** (Finkielstein lab) was the recipient of a **McNair Scholarship**.
- **David Kruchko** (Stevens lab), **Brittany Gianetti** (Melville lab), and **Zach Upchurch** (Finkielstein lab) were awarded **Fralin Summer Undergraduate Research Fellowships** (SURFs) for summer 2011.

Grants in undergraduate teaching and learning in FY12:

- Course-based Undergraduate Research Experiences Network (CUREnet). PI: Erin Dolan, University of Georgia; Dorothea Tholl is a faculty participant. Funded by the NSF-DBI Research Coordination Network, $497,556.

Notable events of programs related to undergraduate education:

- **Dana Hawley** worked with Mike Rosenzweig to incorporate service-learning into the **BIOL 4404 Ornithology** course. Students worked in groups to design fun educational programs about birds that they implemented on weekends at the **Price House Nature Center** in downtown Blacksburg. The students then presented their projects to their classmates and wrote papers about their experiences. Overall, the students who participated got a lot out of the experience and enjoyed the opportunity to connect their understanding of science to something in the “real world.” Because of the initial success, this service learning experience is being expanded in 2012.
- **John Tyson** worked with Michel Pleimling (Physics) to offer the **Integrated Science Course** for the first time in Fall 2011. This new course attempts to teach the fundamental principles of chemistry, biology, physics and mathematical sciences in an integrated fashion and in an active learning environment. The lecture section is 6 credits per semester for 4 semesters and is accompanied by a 2 credit laboratory course each semester that is organized by Tim Long (Chemistry) and taught by two postdocs (Adam Smith and Harumi Shimada-Beltran).
- Several faculty worked on curriculum development for the new COS undergraduate majors: **John Tyson** (chair), **Rick Jensen**, **Iulia Lazar**, **Liwu Li**, and **Jianhua Xing** for **Systems Biology**; **Carla Finkielstein** for **Nanoscience**, including developing a course proposal for **NANO 4314 Nanomedicine**; and **Ignacio Moore** for **Neuroscience**.
- **Ann Stevens** and **Katie Rodgers** made the first major revision of the lab manual for **BIOL 2614 General Microbiology Laboratory** in some 20 years, which included rewriting the text, developing new exercises, and incorporating numerous new illustrations. The final copy was produced in collaboration with Hayden-McNeil Publishing, Plymouth, MI, and used for the first time in Fall 2011.
- **Richard Walker** coordinated **BIOL 2984 S-STEM Biotechnology Seminar** in Fall 2011, a weekly seminar for eight students awarded scholarships as part of NSF-funded grant: “Preparing Economically Challenged Students for Careers in Biotechnology” (to **Sible, Walker** and Sanders). In Fall 2011 students were introduced to biotechnology careers, applying for graduate school, and research in biotechnology through selected research seminars on campus.
- **Ann Stevens** is leading a collaborative project involving faculty at Virginia Tech and the University of Maryland to develop new tools to **assess student learning** and use their findings to enhance teaching in the microbiology curriculum.
• **Joe Falkinham** worked with Tim Howland (COS), Webster Santos (CHEM) to offer a new course in entrepreneurship entitled, *Drugs, Bugs, and Entrepreneurs* that is part of the developing Program in Entrepreneurship between the Colleges of Science and Business. The course was taught in spring 2012 to 12 students from different departments in the College of Science.

• **Joe Falkinham** chaired the *Bringing Science to Market (BS2M) Program*, a new initiative of the College of Science to provide entrepreneurial training to Virginia Tech undergraduates. It sits between the STEM program and the Georgetown-VT MS graduate program in Biomedical Technology Development and Management (BTDM). He is working with Tim Howland to organize that program and recruit an Advisory Panel of Entrepreneurs.

**Examples of international experiences for undergraduate students in FY12:**

See study abroad programs, below.

**LEARNING: GRADUATE**

**Graduate student achievements and awards in FY12:**

**College, University, and national awards and recognition:**

• **Ivan Tavassoly** (Tyson) was the university’s 2012 Outstanding Interdisciplinary Doctoral Student.

• **Stephanie Voshell** (Hilu) received the university’s 2012 Graduate Teaching Assistant Excellence Award as well as the Biological Sciences Graduate Student Teaching Award.

• **Sharmistha Mitra** (Capelluto) was the 2012 College of Science Dean’s Roundtable "Make a Difference" Graduate Scholar.

• **Adam Altrichter** (Barrett) was recognized as the 2012 College of Science Outstanding Master’s Student.

• **Bin He** (Cimini) won the American Society for Cell Biology’s 2012 “Cell Dance” contest, outreach category.

• **Julie Castner’s** (Moore) paper in the American Naturalist was featured in the *New York Times* and *Roanoke Times*.

• **Yan Fu** (Xing) was featured in the student spotlight of the *Biophysical Society newsletter* in February 2012.

• **Bianca Baker** (Li) and **Zhe Bao** (Nilsen) were selected to be 2011-2012 Diversity Scholars by the Graduate School.

• **Amanda Rumore** (Lawrence) was selected to give the student remarks at the graduate commencement ceremony in spring 2012.

**Fellowships/scholarships:**

• **Julie Castner** (Moore) was supported on a Smithsonian Predoctoral Fellowship and spent most of the year in Washington, D.C.

• **Bonnie Fairbanks** (Hawley) received a 2011-2012 Philanthropic Educational Organization Scholar Award

• **Linda Villa** (Finkielstein) was awarded a MAOP Graduate Scholarship

• **Matthew Becker** (Belden), **Xing Jing** (Schubot), **Robert Northington** (Webster), and **William Silkworth** (Cimini) were supported on 2010 Graduate Fellowships (fall 2011 or spring 2012)
• Zhe Bao (Nilsen) and Sarah Foltz (Moore) received new or continuing ICTAS Doctoral Scholar Awards

Awards for oral and poster presentations:

• Cory Bernhards (Schubot) won the Best Poster Award at the 2011 American Society for Microbiology Virginia Branch Meeting in November 2011.

• Revathy Ramachandran (Stevens) was recognized with the Best Oral Presentation award at the 9th Annual Biological Sciences Research Day in February 2012; Beth Cheever (Webster), Xiaohua Hu (Kuhn), and Sharmistha Mitra (Capelluto) were also featured speakers.

• James Skelton (Brown lab), Bianca Baker (Li lab), Brad Howard (Lawrence lab), and Bin He (Cimini lab) won Best Poster prizes at the 9th Annual Biological Sciences Research Day in February 2012.

• Matthew Becker (Belden), Bonnie Fairbanks (Hawley), Alison L. Kernell (Stevens), Lukas Landler (Phillips), Jenifer Walke (Belden), Kevin Geyer (Barrett), Liu Hualan (Melville), and Bao Zhe (Nilsen) were awarded grants from the GSA’s Graduate Research Development Program in Fall 2011.

• Reza Sohrabi (Tholl) was awarded the best student oral presentation at the Virginia Tech Molecular Plant Sciences Mini-Symposium, spring 2012.

• Bin He (Cimini) and Josh Nicholson (Cimini) won the first and third place poster awards at the inaugural HNFE/ILSB poster symposium in spring 2012.

• Nimisha Khaduja (Kuhn) won the first place poster award at the Graduate Student Assembly’s Annual Research Symposium in spring 2012.

Grants and travel awards (graduate and postdoctoral):

• Reza Sohrabi (Tholl) was awarded Molecular Plant Sciences Collaborative Research Grants for $2500 in spring 2011 and $4500 in fall 2011 and a Travel Grant to the 22nd International Conference on Arabidopsis Research, held in Madison, WI in June 2011.

• Adam Altrichter (Barrett) was awarded a travel grant from the Scientific Committee on Antarctic Research to attend the International Polar Year meeting in Montreal, CA.

• Joshua Nicholson, a graduate student in the Cimini Lab, received a $250 travel grant from the GSA to attend the American Society for Cell Biology Annual Meeting in Denver, CO in December 2011

• Tetsuya Gotoh, a postdoc in the Finkielstein Lab, received a $300 ASCB Postdoctoral Travel Award to attend the American Society for Cell Biology Annual Meeting in Denver, CO in December 2011.

Graduate Students defending in FY12:

• Gaurav Dogra (Scharf), M.S., “Studies on the role of CheS in Sinorhizobium meliloti chemotaxis”

• Trevor Giaros (Li), Ph.D., “Molecular mechanisms covering persistent induction of pro-inflammatory genes by lipopolysaccharides”

• Jung Hyun Huh (Tholl), Ph.D., “Biochemical, molecular and functional analysis of volatile terpene formation in Arabidopsis roots”

• Sunny Crawley (Hilu), Ph.D., “Rethinking phylogenetics using Caryophyllales (angiosperms), matK gene and trnK intron as experimental platform”

• Jared Geissinger (Stevens), M.S., “Structure-function analysis of the EsaR N-terminal domain”

• Elizabeth Langer (Phillips), M.S., “Mercury’s effects on feather color and fitness of eastern bluebirds”
• Er**in Ragheb** (Walters), Ph.D., “Intrabrood dominance hierarchies in juvenile Red-Cockaded Woodpeckers: the role of early social environment on post-fledging survival and natal dispersal”

• Lor**na Ringwood** (Li), Ph.D., “A mechanism to differentiate acute and chronic inflammation”

• Ad**am Altrichter** (Barrett), M.S., “Landscape history and contemporary environmental drivers of microbial community”

• Bet**h Cheever** (Webster), Ph.D., “Microbial and metazoan effects on nutrient dynamics during leaf decomposition in streams”

• Jul**ie Danner** (Moore), Ph.D., “The role of cultural divergence in reproductive isolation in a tropical bird, the rufous-collared sparrow (Zonotrichia capensis)”

• Xiaoshan Jia**n (Xing), M.S., “A strategy to study pathway cross-talks of cells under repetitive exposure to stimuli”

• Am**anda Rumore** (Lawrence), Ph.D., “Characterizing the role of Alternaria alternata in the pathogenesis of allergic airway disorders”

• Milagros Tenga** (Lazar), Ph.D., “Proteomic map of ER+ breast cancer cell cycle”

• Rebecca Stewart** (Webster), M.S., “Land cover influences on stream nitrogen dynamics during storms”

• Ray DANNER (Walters), Ph.D., “The effects of limited winter food availability on the population dynamics, energy reserves, and feather molt of the Swamp Sparrow”

• Prashanthi Vallabhaneni** (Winkel), M.S., “Metabolomic approaches to understanding the auxin and ethylene response in Arabidopsis roots”

• Will Silkworth** (Cimini), Ph.D., “The effect of spindle geometry on the establishment of merotelic kinetochore attachment and chromosome mis-segregation”

**Grants related to graduate education (e.g., IGERTS) in FY12:**

• Multi-STEPS IGERT, continuing in its second year: Jeff Kuhn, co-PI; Cimini, Lazar, Winkel, Xing, and Yang participating faculty; Elan Dalton (Socha/Moore) graduate fellow.

• EIGER IGERT, completed in May 2012: Brenda Winkel, co-PI.

• NSF Doctoral Dissertation Improvement Awards: Kevin Geyer (Barrett) and Jeff Norman (Barrett)

**Notable events or programs related to graduate recruitment and/or education in FY12:**

• Lisa Belden developed a new course, BIOL 5174 GS: Work/Life Balance in Academia, a graduate seminar designed to give students skills that will help them to define and achieve their personal and professional goals throughout their careers. Topics included goal setting, priorities, university policies relating to work/life balance, dual-career issues, negotiation, leadership skills, negotiation and time management with a variety of readings. Presentations included guest speakers and invited panelists. Students kept a journal to help them reflect on the topics over the course of the semester, and an effort was made to give them concrete skill sets.

• Ignacio Moore taught a special graduate course on Hormones and Animal Social Behavior that was based on the recently published textbook.

• Ignacio Moore coordinated BIOL 5174: Introduction to Graduate Studies in Biological Sciences for the third time, an increasingly popular and important course for our students. Guest speakers introduce new graduate students to a variety of topics, from laboratory safety to tips for effective interaction with their advisor.
• **Erik Nilsen** taught **BIOL 5314G Advanced Plant Ecology** for the first time. The course went well and resulted in invitations to participate in three graduate advisory committees.

• **Jianhua Xing** offered a new course, **BIOL 6984 Topics in Computational Cell Biology**.

• **Joe Falkinham** taught **Human Genetics** at the Virginia Tech-Carilion School of Medicine, which he is using to develop an undergraduate course on this topic that will be offered for the first time in fall 2012.

• **Brenda Winkel** developed a new course, **BIOL5984: Seminars Across the Sciences**, inspired by the EIGER IGERT program, in which students and instructors routinely explored the cultures of other disciplines. This course aims to address the limitations of conventional seminar courses with mandated attendance and regular meeting times by allowing graduate students to design a customized seminar schedule by selecting from presentations in approved series and colloquia, as well as faculty interview seminars, across the campus. Enrollment in fall 2011 semester was eight students, in the spring it was up to 17.

### Examples of international experiences for graduate students and postdoctorals:

• **Bonnie Fairbanks** (Hawley Lab) recently completed two years of research on disease ecology in banded mongooses in Chobe, Botswana. Bonnie’s international experience was funded by a Fulbright Fellowship (2010-2011) and a 2011-2012 Philanthropic Educational Organization Scholar Award. In addition to her research, Bonnie was involved in community outreach through the NGO Centre for Conservation of African Resources: Animals, Communities, and Land Use (CARACAL), and assisted Birdlife Botswana with bird population monitoring projects and fund raising.

• **Milagros Tenga**, a graduate student in the Lazar Lab, participated in GRAD 5954 - Study Abroad - PFP: Global Perspectives Program (May 20-31). The program participants visited universities in Switzerland, Italy and France and participated in a Global Summit at Villa Maderni in Riva San Vitale with participants from University of Basel and Lund University. The experience culminated with a Global Graduate Education Seminar focused on access to and within higher education at the Swiss Embassy in Washington, DC on June 15th, 2012.

• **Eric Sokol**, a postdoc in the Barrett Lab, participated in three months of training in spring 2012 with collaborators at the University of Waikato in Hamilton, New Zealand. In June 2012, he participated in an NSF funded, interdisciplinary workshop to plan the next deep field camp in the Transantarctic Mountains (the website for the meeting is [www.tamcamp.org](http://www.tamcamp.org)), where he serves as a representative of the interests of biologists in the planning process, where the groups involved range from geophysicists, geologists, climatologists, atmospheric scientists, glaciologists, and other logistics specialists.

### Any additional examples that address goals in Virginia Tech’s “Plan for a New Horizon”:

Ways in which computational science and skills for managing and analyzing complex data sets are integrated across a wide range of disciplines:

**John Tyson** (Biological Sciences) and Bill Baumann (Electrical and Computer Engineering) lead the mathematical modeling component of an NIH-sponsored Center for Cancer Systems Biology headquartered at the Georgetown University School of Medicine. Tyson and Baumann, along with a cadre of graduate students and postdocs, are building computational models of the molecular regulatory systems that determine cell growth, proliferation and stress responses in breast epithelial cells. Their models are being used to understand how normal epithelial cells respond to estrogen signaling and how breast cancer cells respond to anti-estrogen therapies. Of special interest are pathways by which cancer cells develop resistance to hormone therapy. Accurate computational models are essential to interpreting the complex data sets generated at Georgetown’s Lombardi Cancer Center and at similar institutions around the world.
Quality and availability of academic advising from orientation through graduation:

**Undergraduate:** The department has established a highly-effective undergraduate advising office, directed by Associate Head Richard Walker, and further staffed by Advanced Instructor, Jack Evans, and two staff members, Karen Fraley and Angela Mathias. This group provides walk-in assistance to our ~1700 majors, M-F, 8 AM to 4 PM, throughout the year. All Biological Sciences faculty and some contract instructors are assigned 10-30 upper classmen as regular advisees. We also have a group of Freshman Advisors, faculty who are assigned 25-50 freshmen each year, with whom they meet one-on-one and as a group at various times during the academic year. Many Freshman Advisors retain their advisees though graduation and each typically serve as advisor for >100 majors at any one time. Several faculty serve as Career Advisors on topics ranging from employment to graduate and professional schools. The advising office also leads the department’s summer orientation activities and plans and coordinates our graduation exercises, which fill Burruss Hall to capacity each May.

**Graduate:** Our graduate program is managed by our Graduate Director, Professor Jeff Walters, and long-time Graduate Coordinator, Sue Rasmussen. Together they manage student applications, admissions, annual GTA and GRA contracts, the students’ e-portofolio files, and the annual reviews by the Graduate Review Committee. Ms. Rasmussen also provides expert advice on policies and procedures and helps student process paperwork, from the plan of study to the ETD. We also maintain a departmental Graduate Policies and Procedures handbook that is updated on a regular basis, meet with new students during orientation week, and have begun offering a new course (see above) to introduce new students to the department and a wide range of topics related to graduate studies.

**DISCOVERY**

**Faculty awards/honors (e.g., NSF CAREER awards, Humboldt Fellowships) in FY12:**

- University Distinguished Professor **John Tyson** was awarded the prestigious **A.T. Winfree Prize** by the Society for Mathematical Biology, June 2011.
- **Fred Benfield** received the **Distinguished Service Award** from the Society for Freshwater Science (formally NABS)
- **Lisa Belden** was appointed a **Research Associate at Smithsonian Tropical Research Institute** (Panama).
- **Carla Finkielstein** was recognized with a **Karin Decker Doss Scholarship Award** for breast cancer advocacy.
- **Daniel Capelluto** received a **2011 Carl Storm Underrepresented Minority Fellowship** and a **2012 Biophysical Society Minority Travel Award**.
- **Dorothea Tholl** and **Deborah Kelly** were recognized as **Virginia Tech Scholars of the Week** in fall 2011.
- **Dana Hawley** and **Jianhua Xing** received the department’s **Outstanding Research Awards** in spring 2011.

**New research awards (CY11; not including faculty programs at VBI or VTCRI):**

- **U.S. Fish & Wildlife Service**, “The ecological role of freshwater mussel beds in providing critical habitat to endangered species and maintaining ecosystem function.” Pl: **Fred Benfield**; co-Pls: Katherine Gatenby and Mark Ford. Budget: **$75,000**. Award Period: 01/11-12/13.
- **National Science Foundation** (1027284), “Increased Connectivity in a Polar Desert Resulting from Climate Warming: The McMurdo Dry Valleys LTER Program.” PI: D. M. McKnight, University of Colorado. Total Award: $5,640,000; sub-award to **Jeb Barrett**: $275,376. Award Period: 03/11 – 02/17.


- **Techulon Inc.**, “Therapeutic Target and Intervention of Chronic Inflammatory Diseases.” PI: **Liwu Li**. Budget: $51,000. Award Period: 05/11-0512.


- **Virginia Uranium Inc.**, “Macroinvertebrate monitoring program in streams at the Coles Hill site.” PI: **Fred Benfield**. Budget: $46,775. Award Period: 12/11-12/12.


**New research awards (partial for CY12; not including faculty programs at VBI or VTCRI):**


- **National Science Foundation** (COLLABORATIVE RESEARCH), “The role of glucocorticoids in mediating life history tradeoffs.” PI: **Frances Bonier** (research scientist in Moore lab); co-PI: **Ignacio Moore**. Budget: $705,000. Award Period: 6/12-05/16.

- **National Institutes of Health** (R21), “Regulation of the *P. aeruginosa* Type III secretion system by the multifaceted transcription factor ExsD.” PI: **Florian Schubot**. Budget: $396,000. Award Period: 06/12-05/14.

Number of manuscripts, number of books, and book chapters (CY11):

Biological Sciences faculty were authors of 104 journal articles and five book chapters and authored two books and two published laboratory manuals. Journal articles and reviews included the following:


**Number of presentations; notable invited lectures (CY11):**

Biological Sciences faculty presented **88 invited lectures** and many more conference posters during 2011, both in the U.S. and abroad. Notable talks included the following:

- **John Tyson** gave his Winfree Prize Lecture at the European Conference on Mathematical and Theoretical Biology, Krakow, Poland, 07/11.
- **Lisa Belden** gave two talks different Smithsonian venues, the Smithsonian Conservation Biology Institute and the Smithsonian Tropical Research Institute, Panamá.
- Assistant Professor **Daniela Cimini** gave talks the Mayo Clinic and at the University of Porto, Portugal.
- **Joe Falkingham** had an impressive five invited talks in 2011, at the National Institutes of Health; University of Paris; Lankenau Institute for Medical Research, Philadelphia; University of Colorado Medical Center; and National Jewish Hospital, Denver.
- **Carla Finkielstein** was an invited speaker at the meeting of the Sociedad Argentina de Investigaciones Clinicas, in Mar del Plata, Argentina.
- Assistant Professor **Dana Hawley** had three invited seminars in 2011, at Ferrum College, Auburn University, and the University of Richmond, as well as an invited symposium talk at the Society of Integrative and Comparative Biology meeting in Salt Lake City, UT.
- **Khidir Hili** gave a talk at the Nanjing Institute of Geology and Paleontology, Chinese Academy of Sciences, Nanjing, China.
- Assistant Professor **Debbie Kelly** gave talks at the New England Structural Biology Symposium, Bentley University; the KashA Award Ceremony at Institute of Molecular Biophysics, Florida State University; and the Imaging in Immunology Workshop at the University of Alabama.
- Assistant Professor **Jeff Kuhn** gave an invited seminar at the University of North Carolina.
- **Chris Lawrence** was invited to speak at the DOE-JGI Dothideomycete Comparative Genomics Workshop, Fungal Genetics Conference, Pacific Grove, CA.
- **Iulia Lazar** spoke at the 36th International Symposium on High Performance Liquid Phase Separations and Related Techniques (HPLC 2011), Budapest, Hungary.
- **Liwu Li** gave guest lectures at Tzu-Chi University Medical School and at the National Defense Medical Center in Taiwan and at National Sun Yat-Sen University, GuangZhou, China; he also gave invited talks at the International Cytokine Society Meeting on IL-1 in Tampa, FL, the FASEB Annual Meeting in Washington D.C., and the World Congress on Immunodiseases and Therapy in GuangZhou, China.
- **Steve Melville** gave invited talks at the FASEB Summer Research Conference: “Microbial Pathogenesis: Mechanisms of Infectious Disease” in Snowmass Village, Colorado and at the 7th International Meeting on the Molecular Biology and Pathogenesis of the Clostridia (Clospath), Iowa State University.
- **Ignacio Moore** gave invited seminars at the University of Virginia and Lehigh University and was an invited speaker at the 7th International Symposium on Amphibian and Reptilian Endocrinology and Neurobiology in Ann Arbor, MI.
- **John Phillips** was an Invited speaker at the Spin Chemistry Meeting in Leiden, The Netherlands and gave a plenary talk at the 33rd Annual Meeting of the Bioelectromagnetics Society in Halifax, Canada.
- **David Popham** spoke at the West Coast Bacterial Physiologists Conference at Asilomar, CA.
- **Birgit Scharf** gave invited talks at the University of Tennessee, the Max Planck Institute for Molecular Physiology in Dortmund, Germany, and the Ruhr-University Bochum, Germany.
- **Florian Schubot** gave a seminar at the Macromolecular Crystallography Lab, National Cancer Institute, Frederick, MD.
• **Ann Stevens** gave invited talks at Virginia State University, Petersburg, VA and Bowdoin College, Brunswick, ME.

• **Dorothea Tholl** gave a seminar at Iowa State University and invited talks at the Terpnet 10th International Meeting in Kalmar, Sweden and at the 28th Mid-Atlantic Plant Molecular Biology Society Conference in Laurel, MD.

• In addition to his Winfree Prize Lecture, **John Tyson** also presented seminars at the Sloan-Kettering Research Institute and at Yale University and invited talks at the Conference on Structure and Dynamics of Cellular Regulatory Networks in Les Treilles, France.

• **Jeff Walters** presented a symposium talk at the Ecological Society of America meeting in Austin, TX.

• **Brenda Winkel** spoke in the University of Nebraska Biotechnology/Life Sciences Seminar Series and gave a keynote presentation at the 2011 International Workshop on Anthocyanins in Charlotte, NC.

• **Assistant Professor Jianhua Xing** gave invited seminars at Iowa State University, the NIH National Heart, Lung, and Blood Institute and the NIH Laboratory of Cell Biology.

• **Zhaomin Yang** was an invited speaker at the Gordon Conference on Signal Transduction in Microorganisms, held in Ventura, CA.

**Links and support from university’s research investment institutes (ICTAS, VTCRI, VBI, Fralin, VTTI, ISCE, ICAT) in FY12:**


**Fralin Life Sciences Institute,** “Revealing the nature of chemoreceptors that mediate positive chemotaxis of *Sinorhizobium meliloti* towards plant-host signals.” Pl: Birgit Scharf. Budget: $10,000.


**Post-doctoral fellows in STEM-H research areas in FY12:**

1. James Adelman (Hawley) 10. Jignesh Parmar (Tyson)
2. Francis Bonier (Moore) 11. Emanuele Roscioli (Cimini)
3. Maria Caballer (Finkielstein) 12. Eric Sokol (Barrett)
4. Hui Deng (Li) 13. Anael Verdugo (Tyson)
5. Tetsuya Gotoh (Finkielstein) 14. Ping Wang (Xing)
6. Sherry Hildreth (Winkel) 15. Qiang Wang (Tholl)
7. Myra Hughey (Belden) 16. Shuyan Xiao (Capelluto)
8. Pavel Kraykovskiy (Tyson) 17. Sara Zeigler (Walters)
9. Cihan Oguz (Tyson)

**Examples of links with National Capitol Region for research into issues of security and resiliency:**

N/A.
Examples of partnerships with external collaborators that have enabled VT to compete more effectively for external funding:

Professor David Popham is helping coordinate an effort to explore opportunities for research proposals with Novozymes BioAG, an international biotechnology company with a major research facility located in Salem, VA. This effort is in conjunction with Tim Howland (COS), Sean Semones (Director of R&D for Novozymes who earned a Ph.D. in our department in 1999), and seven other Biological Sciences faculty.

ENGAGEMENT

Faculty service (editorships, NSF/NIH program managers or panel members, leadership positions in professional societies) in CY11:

Federal Review Panels:

David Popham participated in the National Academy of Science/National Research Council’s Committee on Review of the Scientific Approaches used during the FBI’s Investigation of the 2001 Bacillus anthracis Mailings.

Jeff Walters participated in two major conservation initiatives, as a member of the National Research Council Committee on Independent Scientific Review of Everglades Restoration Progress and the USFWS Guam Micronesian Kingfishers Recovery Committee.

Grant Review Panels:

Lisa Belden served on the NSF DEB grant review panel in fall 2011.

Daniel Capelluto served on the American Heart Association, Basic Cell-Protein & Crystallography 2 grant review panel in spring 2011.

Carla Finkielstein served on an NSF MCB grant review panel.

Dana Hawley served on the NSF IOS (Symbiosis, Defense, and Self-Recognition) grant review panel in spring 2011.

Liwu Li was a member of the College of Distinguished CSR Reviewers, NIH and served on the American Heart Association Immunology Review Panel. He was also a panel member for 3/2011 NIH study section ZRG1-F07-E-(20) Immunology Fellowships, 4/2011 Reviewer, NIH study section ZAI1-QV-I-(S1) NIAID Research Program Project Review Panel, 7/2011 NIH study section ZRG1-F07-E-(20) Immunology Fellowships, and 7/2011 NIH study section Immunology Area Grant Review Panel.

John Phillips served on the NSF IOS (Behavior Systems Cluster) grant review panel in fall 2011.

David Popham served on the NIH Infectious Disease Microbiology study section.

Ann Stevens served on the NSF MCB grant review panel in fall 2011.
Brenda Winkel served on the NSF MCB (Metabolism and Bacterial Communities Program) grant review panel in spring 2011.

Editorships:

Fred Benfield: Editorial Board and Book Review Editor, *Journal of the North American Benthological Society*

Daniela Cimini: Editorial Board, *PLoS ONE*


Dana Hawley: Associate Editor, *Functional Ecology*


Debbie Kelly: Senior Editorial Board, *Computational and Structural Biotechnology*

Liwu Li: Editorial Board, *Inflammation Research*

Ignacio Moore: Associate Editor, *General and Comparative Endocrinology*

Brent Opell: Editorial Board, *Journal of Arachnology*

David Popham: Editorial Boards, *Journal of Bacteriology* and *Molecular Microbiology*

Bruce Turner: Associate Editor and the Technical Editor of the *Journal of the American Killifish Association*


Jack Webster: Editorial Board, *Freshwater Biology*

Jeff Walters: Consulting Editor, *Wildlife Monographs*; Guest Editor for *Southeastern Naturalist*

Advisory Boards:

Jeb Barrett: Executive Committee, McMurdо Long Term Ecological Research Project

Fred Benfield: USEPA Science Advisory Board, Ecological Processes and Effects Committee; USEPA Science Advisory Board, Scientific & Technical Achievement Awards Committee; USEPA Member of Technical Qualifications Board for the National Center for Environmental Assessment; Voting Committee Member of Joint Task Force, Standard Methods for the Examination of Water and Waste Water, US Public Health Service; Academic Advisory Committee, Virginia Department of Environmental Quality

Carla Finkielstein: Board of Directors and Scientific Advisory Board, VA Breast Cancer Foundation

Roderick Jensen: US-FDA sponsored Sequencing Quality Control (SEQC) Project

Liwu Li: Board of Director, Inflammation Research Association

Dorothea Tholl: Advisory Board Member of the journal, New Phytologist
John Tyson: Scientific Advisory Board, Computational Systems Biology Institute, Trento, Italy
Jack Webster: Advisory Committee, Coweeta Long-Term Ecosystem Research Project Science

Conference Directors/Session Chairs:

Stephen Melville: co-Chair, Mid-Atlantic Microbial Pathogenesis Meeting for 2011 (~180 participants).

Ann Stevens (organizing committee chair) and Stephen Melville, David Popham, Birgit Scharf, and Florian Schubot (co-chairs): VT Organizing Committee for the annual meeting of the Virginia Branch of the American Society for Microbiology (11/10; more than 170 attendees from over 20 schools).

Daniel Capelluto: Chair, Session on Structural Biology, Biochemistry and Biophysics, Virginia Academy of Science’s 89th Annual Meeting (2011).

Liu Li: session co-Chair at the World Congress on Immunodiseases and Therapy in GuangZhou, China

Brenda Winkel: Chair, Integrating Metabolism and Cell Biology Session, Gordon Conference on Plant Metabolic Engineering, Waterville, NH, 07/11.

Other:

Carla Finkielstein: External Review Panel, Department of Cancer Biology, Wake Forest University.

Examples of economic development (e.g., industrial partnerships, patents) in CY11:

Patents Issued


Patent Applications Filed

USPTO Provisional Patent Application, Allergen Entry Therapeutic Technology, March 16, 2011. Inventors: Christopher Lawrence, Brett Tyler, Amanda Rumore, Shiv Kale

Study Abroad programs (FY12):

- Lori Blanc, Research Scientist in Biological Sciences, helped coordinate the study abroad program, BIOL 3954 Hokies Abroad: Australia, in summer 2011, which was led by Robert Wright, adjunct instructor in the department. She also once again led the study abroad course, BIOL 3954 Hokies Abroad: Antarctica, in fall 2011. These courses focus on the complex interdisciplinary topic of sustaining humans and the environment and are open to all majors. The Antarctica course is a collaborative effort between Virginia Tech, Oregon State University, State University of New York, American Universities International Programs, University of Canterbury, New Zealand, and Gateway Antarctica: Centre for Antarctic Studies.
and Research. This course explores Antarctica – its history, geology, climate, and marine and terrestrial biology. Special attention is given to contemporary legal, psychological, and anthropological aspects of human activity in the region, conservation of ecosystems, and sustainable use of natural resources. Students attend weekly online lectures (delivered by faculty at OSU and the Antarctic Research Center in Christchurch, New Zealand) and prepare an independent study essay in their area of interest. They then participate in a two-week field study during winter break that consists of three days in Tierra del Fuego, Argentina, and 11 days aboard an expedition cruise ship to the Antarctic Peninsula, with the chance to see penguins, whales, and icebergs.

- **Ignacio Moore** and William Hopkins (FIW) led the study abroad course **BIOL/FIW 3954 Tropical Biology and Conservation in Ecuador** during Summer I 2012. This was preceded by a 2 credit course in spring 2012 in which students learn about current topics in tropical biology, conservation, indigenous cultures and their customs, the politics of Ecuador and the role of oil in its economy, read current newspapers of Ecuador, and learned some of the major groups of plants and animals. They wrote a proposal for a research project they planned to address on the trip and also had an assignment that enhanced their photographic skills. During the 4 credit course, they traveled to Ecuador for approximately 2.5 weeks in which they visited Páramo, a high-altitude environment above the tree-line, went over the Andean pass at 14,000 ft, spent two nights at Termas Papallacta, stayed at the Yanayacu biological station to study the montane cloud forest on the Eastern slope of the Andes, traveled to the base of the Sumaco Volcano, and then to a remote biological station in the lowlands of the Amazon Basin that is among the most biodiverse areas on earth. Students are required to keep a notebook on their observations and thoughts as well as a photographic essay.

![BIOL 3954 Hokies Abroad: Antarctica](image1)

![BIOL/FIW 3954 Tropical Biology and Conservation in Ecuador](image2)

**PK-12 STEM programs in CY11:**

- **Jeb Barrett:** Contributed to web-blog aimed at elementary and middle school children in rural Virginia and inner-city Detroit, MI
  (http://biologistsinantarctica.blogspot.com/p/aboutbiologists.html)

- **Lisa Belden:** KidsTech University presentation on “Virginia Amphibians and Amphibian Population Declines”
Jack Evans: Presentation to KIPPS Elementary School third graders on “Mimicry and Camouflage”

Dana Hawley: Twenty-two undergraduate students from the Ornithology class in Spring 2011 shared their knowledge of birds with local children through a diversity of creative activities. Many of the resources developed by the students (aka a birding coloring book, a back-pack with binoculars and a local bird guide) are now permanent outreach activities at the Price House Nature Center in Blacksburg. Five graduate students in the Infectious Disease Ecology course developed K-12 lesson plans on some aspect of disease as part of her CAREER education plan. One of her collaborators in Science Education, Jessica Stephenson, worked with the students to guide them in the best practices for designing an inquiry-based lesson that, importantly, also matches the SOL requirements for Virginia classrooms. The students did an outstanding job designing a range of fun and educational activities including a variant on “sharks and minnows” that involves disease transmission of pathogens with different life histories, a flu “bingo” board that illustrates the incredible diversity of influenza variants circulating in nature, and a research tool kit that high school students can use to independently explore current issues in infectious disease such as the decline of amphibians from the Bd fungus.

John Phillips: Mentored a New Jersey student with a high school science project.

Mike Rosenzweig: SEEDS in collaboration with the Town of Blacksburg and the Biological Sciences Outreach Program (SOuP) is now in year three of operating a nature and education center with exhibits in Blacksburg’s Historic Price House. The SEEDS non-profit will operate and manage the center activities. SOuP is a partner in the project and has supplied exhibit materials, a liaison to the VT campus, and undergraduate student volunteers. Mike also funds one Biological Sciences Undergraduate Intern for the summer. The Center for Student Engagement and Community Partnerships (CSECP) will highlight this project as a host site for undergraduate and graduate student learners and scholars. Highlights of this partnership is a VT student volunteer who successfully competed for a $500 CSECP grant and the $5,000 Engaged Department Award. Dr. Rosenzweig continues working with Ashleigh Utzinger, 4th grade teacher at Harding Elementary School along with Dr. Phyllis Newbill, outreach coordinator for the VT Center for Performing Arts. They are in the process of producing S.O.L. correlations for the center’s exhibits and permanent programs as well as developing new programs for the preK-2 age range.

Florian Schubot: Visited grades 1-3 at Tall Oaks Montessori School to introduce basic concepts of microbiology. This activity was supported by the Microbiology Club.

Florian Schubot: Initiated a collaboration with James Garst, a teacher at Salem High School, aimed at developing a teaching module that introduces complex concepts of protein/structure function relationships to advanced biology students.

Ann Stevens and Birgit Scharf: Co-advised VT Microbiology Club in its educational outreach efforts to prepare supplies, give demonstrations/displays, or lead hands-on activities:
- Loaned club microscopes to 5th grade science teacher at Gilbert Linkous Elementary
- Provided supplies to Florian Schubot for Tall Oaks Montessori School grades 1-3
- Provided supplies to Cheryl Nelson’s 4th grade class at Newington Forest Elementary School
o Provided demonstration/display at Annual Science Fair grades K-5 (3/11), >70 students and families, Gilbert Linkous Elementary School
o provided demonstration/display (3/11), ~300 students and families, Kids’ Tech University,
o Provided supplies to Blacksburg Middle School student, Charlotte Canon, for science project
o Providing hands-on activities for ~60 3rd graders, Riverlawn Elementary School in Pulaski County, VA,

Ann Stevens (Chair) and Tad Seyler (co-chair): Gilbert Linkous Elementary School Science Fair

Dorothea Tholl: Presented a lecture and gave a lab tour to students from the Roanoke Valley Governor’s School

Dorothea Tholl: Conducted an undergraduate research lab module on the subject of plant defense and the role of plant specialized metabolism with instructor, Dr. Mike Wolyniak, and students of his Biology lab class at Hampden-Sydney College as part of her NSF-funded project and Erin Dolan’s PREPu (Partnership for Research and Education in Plants – undergraduate extension, VT) program.

Examples of Community and Student Engagement (CY11):

Lisa Belden: Presented research overview of parasite and muskrat research at the Virginia Trappers Association meeting

Carla Finkielstein: Organizer, Breast Cancer Advocates Visit to VT

Carla Finkielstein: Speaker, American Heart Foundation fundraising event, Roanoke, VA

Dana Hawley: Research was featured on WVTF / Radio IQ in a 60-second “Info Spot”, National Public Radio, and in Science Magazine’s “ScienceShot.”

Mike Rosenzweig: Served on the Blacksburg Town Environmental Advisory Committee. Co-lead a town/gown/community project called “Blacksburg Freshwater Heritage” which is implementing the education programs related to the TMDL plan to restore Stroubles Creek and Cedar Run, as well as to maintain or improve water quality of other Town streams.

Jeff Walters: Presented a talk to the local Master Naturalists Society

International collaborations and programs (include description along with region and country) in CY11:

Daniela Cimini collaborates with Juraj Gregan (University of Vienna) and Iva M. Tolic-Norrelykke (Max Plank Institute of Molecular Cell Biology and Genetics, Dresden, Germany) through a Human Frontier Science Program grant to study, “Molecular architecture and mechanical properties of the kinetochore: a biophysical approach.”

John Tyson maintains an active collaboration with Bela Novak, Professor of Systems Biology at Oxford University in England. Dr. Tyson spends one month per year in Oxford. In 2011 their collaboration resulted in a PNAS article on the molecular basis of irreversibility at the
mitotic checkpoint—a mechanism that ensures the accurate segregation of replicated chromosomes to daughter cells at division.

Any additional examples that address goals in Virginia Tech’s “Plan for a New Horizon”:

N/A

Diversity

Noteable activities by students, faculty, and/or staff activities promoting diversity in CY11:

Art Buikema was recertified as a Safe Zone provider in Derring Hall.

David Popham: Made two presentations in support of the NSF-REU “Microbiology in the Post Genome Era” summer program, which brings many students from underrepresented groups to campus, one on his research and one on “How to Apply to Graduate School.”

David Popham: As chair of the Interdepartmental Microbiology Graduate Program, has made efforts to enhance recruitment of applicants from under-represented groups in the sciences. With the assistance of the IMSD program, the IMGP has recruited four students from underrepresented groups in the past four years.

Jeb Barrett: Co-Hosted (with Professor Megan Doney, New River Community College) Professor Lawrence Amposa, an environmental scientist from Sunyani Polytechnic University, Sunyani, Ghana for two weeks in October 2011 as part of an international exchange with Sunyani Polytechnic University.

Jack Evans: Speaker for Success in the College Classroom, VT-AMP.

Diversity awards and honors (e.g., MAOP scholarships; McNair Scholars) in CY11:

Lisa Belden: mentored a diverse group of undergraduates in research each semester, and recruited two students from the MAOP program to work in her lab over the summer as NSF-REU sponsored students.

Daniela Cimini: Mentored of VT-PREP student Erica Arroyo, August 2010 – July 2011, now in graduate program at UCLA; mentored MAOP summer student Alyssa Osimani, summer 2011; mentored VT-PREP student, Snider Desir, August 2011 – July 2012; research mentor for three female undergraduate students in spring 2011, two in fall 2011, and one in spring 2012; research mentor for two female graduate students (one completed in May 2011); research mentor for one Pacific Islander undergraduate student, fall 2010 – present, and one Hispanic undergraduate student, fall 2011 – present.

Jack Evans: Mentored several MAOP undergraduate students.

Carla Finkielstein: Hosted International Training Program visitors, David Enriquez, high school student from Argentina, and facilitated the exchange of high school students, Harsh Patolia and Karen Parker, from Roanoke/Blacksburg to Argentina; served as panelist for VT-AMP.
**Dana Hawley:** Led class for first-year Biological Sciences students on “Dealing with Stress and Frustration;” helped with recruiting for VT PREP program; worked with diversity committee to establish the inaugural MLK seminar in the EEB seminar series.

**Khidir Hilu:** Mentored MAOP summer student, Brittany Houston, who continues to work in his lab, a graduate student from Egypt, an undergraduate student of Indian heritage, and a postdoc of Nepalese heritage; member of the executive committee of NISA, an organization that includes 22 selected Iraqi expatriate scientists who are actively connected with officials in various Iraqi ministries and universities; contributed materials toward a successful proposal to the UNESCO for the advancement of education in Iraq; member of Biology Committee for the Iraqi attaché in Washington D.C. to help improve biological sciences research and teaching in Iraqi universities.

**Chris Lawrence:** Mentored Chris Coke, African American undergraduate from Oakland University, Microbiology summer REU program; advisor for Tristan Hayes (African American IMSD Fellow, NIH graduate training program), Shernita Lee (African American GBCB Ph.D. student), Yared Kidane (African American GBCB Ph.D. student), and assisted/Advised Kevin Muite (African American undergraduate) in applying and being accepted into both Mayo Graduate School, Rochester, MN and University of Chicago, Medical School Graduate Program.

**Liwu Li:** Advisor for IMSD scholar, Bianca Baker, and PREP scholar, Alwya Ahmed.

**Stephen Melville:** Advised several minority and female undergrad students, most from his Pathogenic Bacteriology class, on how to pursue careers in medicine and other professional fields. Hosted an undergraduate research student, Keith Miller, in the VT NSF REU summer research program.

**Erik Nilsen:** Mentored Kwabena Owusu-Boateng in his efforts to attain summer internships and a postgraduate training program; Mentored Melanie Taylor in her efforts to attain summer internship training and graduate school admission.

**John Phillips:** Advised VT Prep student, Kristen Davis.

**David Popham:** Directed research efforts of MAOP and IMSD fellow, Crist Cuffee

**Catherine Sarmadi:** Organized a workshop as part of the C-Tech2 – Computers and Technology Summer Camp, a program that promotes women in science and engineering.

**Birgit Scharf:** Served as research mentor to one African American student from MAOP over the summer, as research mentor to one African American student from the NSF-REU summer program, and as research mentor to six female undergrads in laboratory.

**Ann Stevens:** Mentored Melanie Reyes, a hispanic female and visiting summer REU student from the Univ. of Puerto Rico during the summer of 2011.

**Dorothea Tholl:** Met with William Lewis (VP for Diversity and Inclusion) and COS, Biology, and Psychology Diversity Committee members to discuss a white paper for diversity educational initiatives; participated in organizing the departmental international potluck; organized (together with Anne McNabb, Dale Robinson – Conflict and Resolution Program, Human Resources, and Ennis McCreery, Ombudsperson, Graduate School) a Biology grad and faculty
session on strategies for effective interactions; conducted a student, faculty and staff survey on interests in additional sessions on effective interactions; worked with the committee on improving the departmental diversity web-site; supervised an African American undergraduate researcher, Titi-Mary Omotade, fall 2011.

**John Tyson:** Maintains a large and diverse research group, whose members include Chinese, Indian, Mexican, Turkish, Thai, male and female scientists, and uses a variety of strategies to foster an atmosphere of mutual respect and cooperation, including lunch discussion sessions.

**Richard Walker:** Mentored S-STEM freshmen as part of the National Science Foundation S-STEM grant, “Preparing Economically Challenged Students for Careers in Biotechnology” Jill Sible (PI), Richard Walker and Karen Eley Sanders (co-PIs).

**Jeff Walters:** Supervised two minority Ph.D. students and co-advised a third.

**Zhaomin Yang:** Advisor for Regina Wallace, African American Ph.D. student.
I. **Budget trends (past nine years)**

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<td>208 base allocations</td>
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<tr>
<td>Faculty salary</td>
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<td>3,035,261</td>
<td>3,032,734</td>
<td>3,456,068</td>
<td>3,520,986</td>
<td>3,518,485</td>
<td>3,299,568</td>
<td>3,168,681</td>
<td>3,358,979</td>
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<td>Staff salary</td>
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<td>567,867</td>
<td>581,541</td>
<td>606,014</td>
<td>628,680</td>
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<td>602,731</td>
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<td>GTAs</td>
<td>446,301</td>
<td>456,793</td>
<td>554,371</td>
<td>594,379</td>
<td>618,051</td>
<td>632,772</td>
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<tr>
<td>Operating</td>
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<td>392,946</td>
<td>421,946</td>
<td>422,946</td>
<td>422,946</td>
<td>341,651</td>
<td>342,520</td>
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<td>TOTAL</td>
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<td>4,452,867</td>
<td>4,590,592</td>
<td>5,079,407</td>
<td>5,190,663</td>
<td>5,181,557</td>
<td>4,918,551</td>
<td>4,746,705</td>
<td>4,937,003</td>
</tr>
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</table>

| Changes in base from previous year | -119,000 | +127,359 | +137,725 | +488,815 | +111,256 | -9,106  | -263,006 | -171,846 | +190,298 |

| Enrollment support | 62,000  | 86,812 | 98,230  | 238,345  | 226,418  | 333,469  | 378,267  | 397,844  | 400,619  |
| ASO hire behinds   | -       | -      | -       | -        | -        | -        | -        | 65,000   | 65,000   |
| Summer teaching funds | 72,100 | 65,900 | 80,300  | 94,418   | 116,343  | 147,697  | 148,576  | 168,167  | 200,658  |
| Lab Fees           | -       | -      | -       | -        | -        | -        | -        | 169,000  | 169,000  |
| VTCRI faculty return | -      | -      | -       | -        | -        | -        | -        | 25,480   | 89,180   |
| SCHEV equipment    | 260,800 | 202,458| 200,870 | 240,872  | 251,747  | 235,220  | 253,222  | 180,000  | 187,000  |

1. includes T&R, AP, and contract instructors
2. conversion of two staff to AP
3. Freshman labs only; $65 per student per course.
II. **Trends in FTE faculty positions in the department since FY02 (data from VT Institutional Research)**

<table>
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<tr>
<th>Type of Appointment</th>
<th>Fall 2001</th>
<th>Fall 2002</th>
<th>Fall 2003</th>
<th>Fall 2004</th>
<th>Fall 2005</th>
<th>Fall 2006</th>
<th>Fall 2007</th>
<th>Fall 2008</th>
<th>Fall 2009</th>
<th>Fall 2010</th>
<th>Fall 2011</th>
<th>NOTES</th>
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<td>Tenured Instructional Faculty1</td>
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<td>29</td>
<td>28</td>
<td>29</td>
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<td>31</td>
<td>28</td>
<td>25</td>
<td>25</td>
<td>22</td>
<td>24</td>
<td>These two categories make up “tenure-track” below</td>
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<td>Tenure-Track Instructional Faculty</td>
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<td>6</td>
<td>5</td>
<td>5</td>
<td>8</td>
<td>11</td>
<td>12</td>
<td>12</td>
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<tr>
<td>Non-Tenure Track Instructional Faculty</td>
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<td>5</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
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<td>Full-time instructors</td>
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<td>Research Faculty</td>
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<td>7</td>
<td>9</td>
<td>12</td>
<td>18</td>
<td>21</td>
<td>16</td>
<td>20</td>
<td>20</td>
<td>18</td>
<td>9</td>
<td>16 Mostly postdocs</td>
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<td>P-14 Faculty, 9A-9B only</td>
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<td>6</td>
<td>5</td>
<td>7</td>
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<td>9</td>
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<td>7</td>
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<td>4</td>
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<td>Part-time instructors</td>
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<td>Professional Faculty without Tenure</td>
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<td>Lead lab teaching staff converted to faculty lines</td>
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<td>Grad/Sr Grad Teaching Assistants</td>
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<td>46</td>
<td>43</td>
<td>39</td>
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<td>Grad/Sr Grad Research Assistants</td>
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<td><strong>GRAND TOTAL</strong></td>
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<td>Tenure-Track Faculty1</td>
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<td><strong>TOTAL FACULTY</strong></td>
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<td>GRA+GTA</td>
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<td>72</td>
<td>83</td>
<td>85</td>
<td>85</td>
<td>79</td>
<td>79</td>
<td>*includes VTCRI professors, but not administrative faculty or UDP</td>
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</table>
III. Undergraduate Majors in Biological Sciences: Enrollment Trends

<table>
<thead>
<tr>
<th></th>
<th>Fall 02</th>
<th>Fall 03</th>
<th>Fall 04</th>
<th>Fall 05</th>
<th>Fall 06</th>
<th>Fall 07</th>
<th>Fall 08</th>
<th>Fall 09</th>
<th>Fall 10</th>
<th>Fall 11</th>
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<tbody>
<tr>
<td>Primary Majors</td>
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<td>1217</td>
<td>1297</td>
<td>1295</td>
<td>1312</td>
<td>1366</td>
<td>1453</td>
<td>1498</td>
<td>1602</td>
<td>1571</td>
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<tr>
<td>Secondary Majors</td>
<td>24</td>
<td>43</td>
<td>73</td>
<td>58</td>
<td>65</td>
<td>59</td>
<td>51</td>
<td>56</td>
<td>52</td>
<td>65</td>
</tr>
<tr>
<td>Total</td>
<td>1073</td>
<td>1260</td>
<td>1370</td>
<td>1353</td>
<td>1377</td>
<td>1425</td>
<td>1504</td>
<td>1554</td>
<td>1654</td>
<td>1636</td>
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<tr>
<td>Freshmen</td>
<td>341</td>
<td>334</td>
<td>327</td>
<td>347</td>
<td>324</td>
<td>382</td>
<td>342</td>
<td>428</td>
<td>443</td>
<td></td>
</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>07-08</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>08-09</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>09-10</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10-11</td>
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<td></td>
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<td></td>
<td></td>
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<td>11-12</td>
</tr>
<tr>
<td>Graduates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>318</td>
<td>288</td>
<td>351</td>
<td>380</td>
<td>397</td>
<td></td>
<td></td>
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</table>

IV. Undergraduate students graduating with honors in FY12

<table>
<thead>
<tr>
<th></th>
<th>Dec 2011</th>
<th>May 2012</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total graduates</td>
<td>72</td>
<td>325</td>
<td>397</td>
</tr>
<tr>
<td>Magna cum laude</td>
<td>4</td>
<td>52</td>
<td>56</td>
</tr>
<tr>
<td>Summa cum laude</td>
<td>5</td>
<td>45</td>
<td>49</td>
</tr>
<tr>
<td>Cum laude</td>
<td>12</td>
<td>43</td>
<td>55</td>
</tr>
<tr>
<td>Commonwealth scholars</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>In honors</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Health scholars</td>
<td>0</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Honors scholars</td>
<td>1</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>Honors baccalaureate</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
V. **Summary of graduate student enrollment, types of support, graduate stipend payroll, and number of postdocs for FY04 through FY12**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PhD students enrolled</strong></td>
<td>37</td>
<td>46</td>
<td>52</td>
<td>65</td>
<td>69</td>
<td>71</td>
<td>70</td>
<td>64</td>
</tr>
<tr>
<td><strong>PhD students in other programs</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>10</td>
<td>10</td>
<td>11</td>
<td>21</td>
</tr>
<tr>
<td><strong>MS students enrolled</strong></td>
<td>40</td>
<td>26</td>
<td>21</td>
<td>15</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total students enrolled</strong></td>
<td>77</td>
<td>72</td>
<td>73</td>
<td>80</td>
<td>91</td>
<td>84</td>
<td>94</td>
<td>88</td>
</tr>
<tr>
<td><strong>PhD/MS ratio</strong></td>
<td>0.93</td>
<td>1.8</td>
<td>2.5</td>
<td>4.3</td>
<td>6.6</td>
<td>6.2</td>
<td>6.2</td>
<td>7.1</td>
</tr>
<tr>
<td><strong>Fellowships</strong></td>
<td></td>
<td>13</td>
<td>19</td>
<td>17</td>
<td>17</td>
<td>15</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td><strong>Funded GRAs</strong></td>
<td>27</td>
<td>32</td>
<td>17</td>
<td>24</td>
<td>17</td>
<td>35</td>
<td>28</td>
<td>36.5</td>
</tr>
<tr>
<td><strong>Funded GTAs</strong></td>
<td>46.7</td>
<td>39</td>
<td>41</td>
<td>37</td>
<td>46</td>
<td>46</td>
<td>46</td>
<td>48</td>
</tr>
<tr>
<td><strong>Active students not funded</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td><strong>(GRA+fellow)/GTA ratio</strong></td>
<td>0.58</td>
<td>0.82</td>
<td>0.76</td>
<td>1.16</td>
<td>1.35</td>
<td>1.24</td>
<td>0.93</td>
<td>0.97</td>
</tr>
<tr>
<td><strong>Fellowship payroll</strong></td>
<td></td>
<td>$231,133</td>
<td>$372,438</td>
<td>$419,105</td>
<td>$306,319</td>
<td>$97,255</td>
<td>$130,231</td>
<td></td>
</tr>
<tr>
<td><strong>GRA stipend payroll</strong></td>
<td>$571,061</td>
<td>$614,801</td>
<td>$413,812</td>
<td>$643,863</td>
<td>$510,227</td>
<td>$690,005</td>
<td>$791,075</td>
<td>$663,393</td>
</tr>
<tr>
<td><strong>GTA stipend payroll</strong></td>
<td>$583,192</td>
<td>$528,485</td>
<td>$567,415</td>
<td>$617,790</td>
<td>$738,201</td>
<td>$765,056</td>
<td>$779,023</td>
<td>$766,967</td>
</tr>
<tr>
<td><strong>Total Payroll</strong></td>
<td>$1,154,253</td>
<td>$1,143,286</td>
<td>$1,212,360</td>
<td>$1,634,091</td>
<td>$1,667,533</td>
<td>$1,761,380</td>
<td>$1,667,353</td>
<td>$1,560,591</td>
</tr>
<tr>
<td><strong>Full-time postdocs</strong></td>
<td>10</td>
<td>17</td>
<td>25</td>
<td>25</td>
<td>21</td>
<td>15</td>
<td>17</td>
<td>17</td>
</tr>
</tbody>
</table>

1.Snapshot taken in spring of academic year
2. An increasing number of students advised by Biological Sciences faculty are enrolled in other programs, particularly in Genetics, Bioinformatics and Computational Biology (GBCB), but also in other departmental programs including Chemistry, Computer Science, Physics, Psychology, and Engineering Science and Mechanics.
3. Fellowships include the PhD 2010, Cunningham, Maly, Paterson, Cairns, Fralin Life Sciences Institute, MAOP, IMSD, and ICTAS, and IGERT Fellowships.
4. Does not include a small number of students on international fellowships or funded on non-departmental accounting codes.
5. Stipends are generally for the academic year only; a small number of students (5-10) are supported on summer teaching funds, the remainder on grants. This number also includes a few students from other life science departments occasionally funded to meet critical teaching on short notice.

N/A = data not available
VI. Number of Graduate Degrees Awarded in Biological Sciences starting in FY04

<table>
<thead>
<tr>
<th>Degree</th>
<th>03-04</th>
<th>04-05</th>
<th>05-06</th>
<th>06-07</th>
<th>07-08</th>
<th>08-09</th>
<th>09-10</th>
<th>10-11</th>
<th>11-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.S.</td>
<td>7</td>
<td>9</td>
<td>8</td>
<td>10</td>
<td>7</td>
<td>11</td>
<td>4</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>5</td>
<td>8</td>
<td>8</td>
<td>4</td>
<td>3</td>
<td>10</td>
<td>9</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Total:</td>
<td>12</td>
<td>17</td>
<td>16</td>
<td>14</td>
<td>10</td>
<td>21</td>
<td>13</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

VII. Graduate student recruitment into Biological Sciences (includes CDB students starting in 07-08; does not include small numbers of transfers from other recruitment programs)

<table>
<thead>
<tr>
<th>Class1</th>
<th>No. Applicants</th>
<th>% Accepted</th>
<th>% of Accepted Enrolled</th>
<th>No. Enrolled</th>
<th>GRE Verbal2</th>
<th>GRE Quantitative2</th>
<th>GRE Total2</th>
<th>GPA2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>125</td>
<td>46%</td>
<td>14%</td>
<td>8</td>
<td>530</td>
<td>650</td>
<td>1180</td>
<td>3.1</td>
</tr>
<tr>
<td>1992</td>
<td>114</td>
<td>26%</td>
<td>11%</td>
<td>3</td>
<td>566</td>
<td>654</td>
<td>1220</td>
<td>3.5</td>
</tr>
<tr>
<td>1993</td>
<td>99</td>
<td>32%</td>
<td>22%</td>
<td>7</td>
<td>539</td>
<td>640</td>
<td>1179</td>
<td>3.5</td>
</tr>
<tr>
<td>1994</td>
<td>108</td>
<td>56%</td>
<td>66%</td>
<td>40</td>
<td>550</td>
<td>605</td>
<td>1155</td>
<td>3.45</td>
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<tr>
<td>1995</td>
<td>154</td>
<td>28%</td>
<td>72%</td>
<td>31</td>
<td>582</td>
<td>626</td>
<td>1208</td>
<td>3.59</td>
</tr>
<tr>
<td>1996</td>
<td>121</td>
<td>24%</td>
<td>59%</td>
<td>17</td>
<td>591</td>
<td>670</td>
<td>1261</td>
<td>3.66</td>
</tr>
<tr>
<td>1997</td>
<td>113</td>
<td>25%</td>
<td>68%</td>
<td>19</td>
<td>517</td>
<td>601</td>
<td>1118</td>
<td>3.43</td>
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<tr>
<td>1998</td>
<td>93</td>
<td>31%</td>
<td>69%</td>
<td>20</td>
<td>502</td>
<td>635</td>
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<td>1999</td>
<td>102</td>
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<td>54%</td>
<td>14</td>
<td>538</td>
<td>636</td>
<td>1164</td>
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<tr>
<td>2000</td>
<td>98</td>
<td>33%</td>
<td>73%</td>
<td>24</td>
<td>540</td>
<td>637</td>
<td>1177</td>
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<tr>
<td>2001</td>
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<td>32%</td>
<td>90%</td>
<td>27</td>
<td>505</td>
<td>639</td>
<td>1144</td>
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<tr>
<td>2002</td>
<td>115</td>
<td>25%</td>
<td>59%</td>
<td>17</td>
<td>522</td>
<td>671</td>
<td>1193</td>
<td>3.39</td>
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<tr>
<td>2003</td>
<td>113</td>
<td>31%</td>
<td>69%</td>
<td>24</td>
<td>490</td>
<td>625</td>
<td>1115</td>
<td>3.42</td>
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<td>2004</td>
<td>79</td>
<td>20%</td>
<td>80%</td>
<td>13</td>
<td>547</td>
<td>652</td>
<td>1199</td>
<td>3.50</td>
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<tr>
<td>2005</td>
<td>105</td>
<td>20%</td>
<td>76%</td>
<td>16</td>
<td>540</td>
<td>634</td>
<td>1174</td>
<td>3.65</td>
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<tr>
<td>2006</td>
<td>115</td>
<td>29%</td>
<td>79%</td>
<td>26</td>
<td>544</td>
<td>641</td>
<td>1185</td>
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<td>2007</td>
<td>94</td>
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<td>69%</td>
<td>18</td>
<td>445</td>
<td>681</td>
<td>1126</td>
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<tr>
<td>2008</td>
<td>120</td>
<td>23%</td>
<td>59%</td>
<td>16</td>
<td>529</td>
<td>664</td>
<td>1193</td>
<td>3.50</td>
</tr>
<tr>
<td>2009</td>
<td>135</td>
<td>17%</td>
<td>65%</td>
<td>15</td>
<td>529</td>
<td>661</td>
<td>1190</td>
<td>3.59</td>
</tr>
<tr>
<td>2010</td>
<td>121</td>
<td>21%</td>
<td>62%</td>
<td>13</td>
<td>473</td>
<td>684</td>
<td>1157</td>
<td>3.60</td>
</tr>
<tr>
<td>2011</td>
<td>141</td>
<td>7%</td>
<td>100%</td>
<td>8</td>
<td>587</td>
<td>703</td>
<td>1291</td>
<td>3.67</td>
</tr>
<tr>
<td>2012</td>
<td>84</td>
<td>15%</td>
<td>69%</td>
<td>9</td>
<td>5704</td>
<td>7334</td>
<td>13034</td>
<td>3.69</td>
</tr>
<tr>
<td>Mean</td>
<td>112</td>
<td>28%</td>
<td>63%</td>
<td>18</td>
<td>532</td>
<td>648</td>
<td>1179</td>
<td>3.52</td>
</tr>
</tbody>
</table>

1 Students applying for spring and fall semester of indicated year.  
2 Calculated for students entering in regular status; GPA is for latest degree (undergraduate or MS) for domestic students; GRE is for both domestic and international students.  
3 Data on GPA are not available for this year.
Ad Hoc Committee on Assessment
Walker (chair) / Buikema / Evans / Lipscomb / Stevens

Curriculum Committee
Walker (chair) / Barrett / Benfield / Cimini / Evans / Opell / Seyler / Sarmadi

Undergraduate Curriculum Revision Committee
Walker (chair) / Barrett / Belden / Buikema / Lipscomb / Stevens / Tyson / Winkel

Diversity Committee
McNabb (chair) / Brown / Lazar / Phillips / Tholl / Yang (Spr) / Mathias / Garcia / He

Executive/Personnel Committee
Winkel (chair) / Barrett / Lawrence / Nilsen / Stevens / Tholl / Tyson / Webster / Xing

Faculty Recognition Committee
Stevens (chair) / Buikema / Walker / Winkel

Faculty Search - ISES
Webster (chair) / Barrett / Belden / Benfield / Brown / Winkel / Norman / Schoenholtz (FREC) / Krometis (BSE)

Faculty Search - Molecular Ecologist
Walters (chair) / Hawley / Livnat / Moore / Tholl / R. Danner / Schmale (PPWS)

Graduate Evaluation Committee
Walters (chair) / Benfield / Cimini / Lawrence / Phillips / Schubot

Graduate Selection Committee
Walters (chair) / Moore / Rasmussen / Schubot

Honors Advisors
Buikema / Simmons

Research Day Committee
Schur (chair) / Jensen / Hilu / Mury / Voshell / Howard / Silkworth

Safety Committee
Waller (chair) / Benfield / Capelluto / Rodgers / Schubot / Tholl / Tolga Durak (EHSS Rep) / Hart

Student Recognition Committee
Lipscomb (chair) / Capelluto / Elgert / Evans / Li / Via / Baker

Undergrad Research Committee
Seyler (chair) / Walker / Lazar / Altrichter

Department Programs and Technical Functions
Alumni Advisory Board: Winkel (chair) / Finkielstein / Melville
Animal Care: Elgert / Jarrett
BGSA President: Michelle Jusino; VP: Adam Hart
Biological Collections: Hilu / Wieboldt / Rosenzweig
Facilities: Benfield / Waller
Freshman advisors: Evans (chair) / Belden / Benfield / Buikema / Elgert / Haymore / Moore / Lipscomb / Mathias / Phillips / Rosenzweig / Seyler / Simmons / Wilson
Freshman Labs: Buikema / Sarmadi
Dept Greenhouse: Nilsen / Wiley
Microbiology Group Coordinator: Stevens
Micro/immuno labs: Rodgers / Stevens

University/College Reps
Alumni Teaching Award Committee: Stevens / Walker
Acad Tchg Excellence Exec Comm: Stevens (vice chair)
Biology-VBI Greenhouse: Nilsen (chair) / Hilu / Wiley
College Curriculum: Walker
College Diversity: McNabb (co-chair)
College Grad Affairs: Benfield
College Honorifics: Li
College New Majors: Finkielstein (Nanoscience) / Moore (Neuroscience) / Tyson (chair), Cimini, Jensen, Lazar, Li, Xing (Systems Biology) / Tyson (Integrated Science Curriculum)
College P&T: Falkingham
College Instructor Promotions: Rosenzweig
College Research: Tyson
College Scholarship: Falkingham / Yang / Tyson
College Teaching Excellence Committee: Moore / Walker
EEB Seminar: Hawley (chair) / Belden / Northington / Faculty Senate: Lazar
Fralin SURF Program: Melville (coordinator)
ILSB Faculty Stakeholders Committee: Banerjee
Latham Facilities Committee: Tholl
Life Sciences I Director: Popham
MCBB/VTLSS seminar: Finkielstein (chair)
Staff senate: Bowden
University Animal Care Comm.: Turner
University Biotech Oversight committee: Walker
Univ. Emergency Mgmt & Risk Assessment: Popham
University Honorifics: Buikema
Univ. Intellectual Properties: Falkingham
Univ. Library Representative: Belden
Univ. Micro Grad Program: Popham (chair)
Univ. Mol Plant Sciences Grad Program: Tholl (chair)
Univ. Office of Sustainability Liaison: Rosenzweig
Univ. Undergraduate Honors System: Buikema
VT Postdoc Association: Cimini

OWLS / Emeritus Faculty

Assistant Professors/Mentors
Diya Banerjee: Huckle / Stevens / Adams / Kuhn: Walker / Winkel
Bryan Brown: Benfield / Evans / Phillips
Daniel Capelluto: Li / Konark Mukherjee: Lawrence
Daniela Cimini: Walker / Birgit Scharf: Stevens
Dana Hawley: Moore / Florian Schubot: Popham
Debbie Kelly: Melville / Jianhua Xing: Tyson

Club Advisors
BGSA: Rosenzweig / Microbiology: Stevens, Schur / Nursing: Evans / Optometry: Evans / Pharmacy: Evans / Phi Sigma Honor Society: Popham / Scuba: Waller / SEEDS: Rosenzweig