

# Plant, Soil & Insect Sciences

## 2012 Department at a Glance

### Points of Pride

- Anne Averill is the project director on a 5-year, \$3.32M USDA-NIFA-SCRI grant that involves UMass researchers and five other institutions to study ways to protect wild pollinator communities and to assess the current status and risks to crop pollination.
- Robert Wick and Li-Jun Ma joined a multistate research team to search for 'Strategies for Improving the U.S. Responses to Fusarium, Downy Mildew and Chilling Injury in Production of Sweet Basil' that was recently awarded \$1.8M from USDA.
- Joe Elkinton received six USDA awards totaling \$538K for study and control of various insect pests.
- Geunhwa Jung wrote 36 successful grant applications totaling \$439K in support of his Turf Grass pathology research.
- Ben Normark awarded \$312K NSF grant to digitize information on plant-feeding insects from four different university and state museums, including the UMass insect collection.
- Peter Veneman and colleagues received \$194K for a Lake Ontario Coastal Wetland Inventory and Monitoring Project.
- Stephen Rich received a \$125K UMass Medical Center for Clinical and Translation Science grant to test the use of whole plant *Artemisia annua* as treatment for malaria.
- Frank Mangan was awarded a \$122K Salvadoran Integral Assistance Foundation grant to form an alliance between farmers in El Salvador and Massachusetts to meet the demand of ethnic food markets in New England.
- Roy VanDriesche received a \$104K U.S. Forest Service grant to examine the impact of parasitoids on Emerald Ash Borers.

### Education

- PSIS faculty mentor 50+ graduate students in 2 departmental programs in Entomology and Plant & Soil Sciences, and 3 college interdisciplinary graduate programs.
- 130+ undergraduates are enrolled in one of four concentrations in the PSIS major:
  - Applied Biology and Biotechnology
  - Horticultural Sciences
  - Sustainable Food and Farming
  - Turf Science and Management
- 15+ undergraduate and graduate students are the recipients of departmental funded by donors and benefactors.
- Agnes Abera Kalibata (PhD '05) was named Rwanda's State Minister of Agriculture.

### Leadership & Outreach

- Anne Averill is an Executive Director of the \$4M USDA-NIFA-CAP project on sustainable health of managed bees, which involves dozens of researchers nationwide to study bee decline.
- Joe Elkinton and Ben Normark organize the Organismic and Evolutionary Biology Program's two new core courses in Ecology and Evolution with participation from several other PSIS faculty co-teaching the courses.
- William J. Manning has joined the Board of Directors of the International Association of Urban Environment in China.



### By the Numbers FY11

Tenure-Track Faculty	31
Postdoctoral Fellows	12
Undergraduate Majors	231
Graduate Students	50
Research Awards	\$4,939,156

### Research Areas

- Biotechnology and Molecular Biology
- Biological Control
- Ecology and Behavior
- Entomology
- Horticultural Science and Agronomy
- Microbial Ecology
- Molecular Biology
- Comparative and Functional Genomics
- Biochemistry and Molecular Biology
- Plant Pathology and Physiology
- Systematics and Evolution
- Soil Science and Chemistry
- Virology

### Research Facilities

- New state-of-the-art greenhouses
- 300+ acres of Research Farm land
  - South Deerfield Agronomy Farm
  - Joseph Troll Turf Research Center
  - Cold Spring Orchard Research & Education Center
- The Durfee Conservatory houses rare plants and a small indoor "rain forest" since the mid 1800s.
- The Apiary is a 3-story facility dedicated to study of bee behavior and pathology.
- The Entomology teaching and study insect collections includes the C.P. Alexander collection.