

# CHEMISTRY

## POINTS OF PRIDE

- S. "Thai" Thayumanavan and colleagues in UMass Amherst's Institute for Applied Life Sciences are partnering with Anika Therapeutics, Inc., in a research collaboration focusing on innovative therapy for rheumatoid arthritis.
- Bret Jackson elected a fellow of the American Physical Society
- Kevin Kittilstved won the National Science Foundation CAREER Award. Kittilstved has partnered with the state's STEM Starter Academy at Springfield Technical Community College to bring its students to campus

## EDUCATION

- Widely regarded for its educational teaching innovations, including ongoing development of computer-aided learning environments.
- The department provides the bulk of laboratory-based undergraduate training on campus, teaching thousands of students in dozens of majors.
- Mentorship of undergraduate and graduate students engaged in

## LEADERSHIP & OUTREACH

- Chemistry faculty chair or co-chair a large number of conferences and symposia, and serve as editors and on the editorial boards of many top journals.
- Vincent Rotello was named a Fellow of the American Association for the Advancement of Science and of the Royal Society of Chemistry.
- S. Thayumanavan was chosen as the campus' first Spotlight Scholar.
- Jeanne Hardy appeared on WGBY's Eco Exchange to discuss the design of peptides as components of fuel cells.

next summer to live and work on the research supported by the award.

- Dhandapani Venkataraman won the university's Distinguished Teaching Award and also received the Graduate School's Second Annual Distinguished Graduate Mentor Award.
- Julian Tyson was named a Public Engagement Project's Public Engagement Faculty Fellow.
- Vincent Rotello, Charles A. Goessman, and colleagues won the University of Massachusetts President's Science and Technology Initiative Fund Award.

laboratory research is a high priority.

- The department offers BA/BS, MS, and PhD degrees.
- Host of the annual Chemistry Olympiad for high school students.
- The department is a leader in developing iCons: integrated Concentration in Science program to train tomorrow's leaders.

- Craig Martin developed the 3-D Molecular Playground, which showcases molecular science to the general public.

- Julian Tyson is the coprincipal investigator of Northeast Alliance for Graduate Education and the Professoriate (NEAGAP), an NSF-funded project to promote graduate education to underrepresented groups.
- The Research Experience for Undergraduates (REU) program provides research opportunities to non-UMass undergraduates, some of whom go on to become graduate students in the chemical sciences.

## BY THE NUMBERS FY15

Tenure-Track Faculty	26
Lecturers	7
Postdoctoral Fellows	10
Undergraduate Majors	202
Graduate Students	112
Research Awards	\$4.6M

## RESEARCH AREAS

### *Nanomaterials:*

Strengths include the microscopy of nanostructures, molecular design for solar cells, the development of sensors for detection and measurement, and the development and study of new materials.

### *Chemistry-Biology Interface:*

To better understand the chemical basis for disease, a variety of approaches, including crystallography, spectroscopy, and protein engineering, are used to elucidate protein structure, function, and folding.

### *Initiatives in Renewable Energy:*

Chemistry is a major, multi-faculty participant in the \$16M Energy Frontier Research Grant from the Department of Energy (Paul Lahti, co-PI). The Massachusetts Center for Renewable Energy Science and Technology has attracted significant new funding to campus, including the U. S. Army Green Energy Center and the NSF-funded Fueling the Future Center for Chemical Innovation.