

## The University

Florida Atlantic University is located in south Florida on a scenic 850-acre tropical site just north of Fort Lauderdale and less than two miles from the Atlantic Ocean. A member of the State University System of Florida, the University has a highly diverse enrollment of more than 26,000 students.

## The Department

The Department of Chemistry and Biochemistry is a vibrant, research-active department in the Charles E. Schmidt College of Science. Faculty members receive significant research funding from many of the major national funding agencies including the National Institutes of Health (NIH) and the National Science Foundation to conduct a wide variety of cutting-edge research projects. In 2005 the department was awarded a Support of Continuous Research Excellence (SCORE) grant, totaling \$4 million over the next four years from the NIH. The College of Science has also been chosen by Florida as a Center of Excellence in Biomedical and Marine Biotechnology and funded with a \$10 million appropriation. In a recent groundbreaking development, the world-renowned Scripps Research Institute has founded a new biomedical research center on the FAU campus and is rapidly expanding its operations in the area. This is confirmation that the South Florida region is the new national hotspot for the biomedical research, pharmaceutical and biotechnology industries, and FAU is well placed to become a key partner in these enterprises. So come join the wave of growth and innovation underway at Florida's fastest growing University!

## Innovative Course Format

Students enrolled in two of four courses that form the core of the doctoral or master's programs. These highly interdisciplinary core courses are Instrumentation, Synthesis & Characterization, Kinetics & Energetics and Advanced Biochemistry. These core courses are team-taught and have been designed to promote innovation in the student's doctoral or master's research. Courses in more traditional subjects are also available as elective credits — three elective courses are required for graduation.

## Stipends and Fellowships Available

Both doctoral and master's level students accepted into the program are supported by either a teaching assistantship (TA) or research assistantship (RA). FAU Chemistry offers one of the highest doctoral stipends in the state. Stipends at the doctoral level begin at \$20,000/year and highly qualified applicants to the doctoral program can receive additional fellowships of up to \$5,000.

# Exciting Projects are Awaiting You!

## Biomedical Research Focus

Most of the FAU Chemistry and Biochemistry faculty members engage in research projects with an emphasis on biomedical applications. Through joint appointments in the departments of Biology, Biomedical Science, and the nearby Scripps Research Institute, many of our faculty are able to participate in groundbreaking interdisciplinary research.

## Biochemistry

- Peptide Biochemistry
- Structure and Conformation of Biomolecules
- Extracellular Matrix Degrading Proteases
- Tumor Cell Invasion Mechanisms
- Carbohydrate Recognition
- Directed Molecular Evolution

## Inorganic and Analytical Chemistry

- Metalloenzyme Engineering
- Metal-Containing Polymeric Materials
- Spectroscopy of Transition Metal Complexes
- Transition Metal Catalysis

## Marine and Environmental Chemistry

- Marine Natural Products Isolation and Biosynthesis
- Marine Neuropharmacology and Toxinology
- Protein Biochemistry of Marine Species
- Environmental Chemistry of Natural Waters
- Petroleum Geochemistry

## Organic Chemistry

- Small-molecule and Peptide Synthesis Techniques
- Solid-Phase and Combinatorial Methodology
- Synthesis of Anticancer and Antiviral Compounds

## Physical Chemistry

- Biomolecular NMR Spectroscopy
- Circular Dichroism of Polynucleotides and Peptides
- Confocal Laser Scanning Microscopy of Cells and Tissues
- Electronic Structure Theory and Molecular Modeling
- Raman and Fluorescence Laser Spectroscopy of Biomolecules

# Award-Winning Faculty

Members of the FAU Chemistry faculty are a diverse group of researchers trained in some of the finest universities, some under the direction of Nobel laureates. Most faculty members have gained international recognition for their research and have emerged as leaders in their respective research areas.

Gregg B. Fields (Chair)  
Patrick E. Buick  
Charles E. Carraher  
Donna Chamely-Wiik  
Predrag Cudic  
Alberto Haces  
Jerome E. Haky  
Daniel Huchital  
Mark D. Jackson  
Russell G. Kerr  
Salvatore D. Lepore  
Anthony Lombardo  
Deborah W. Louda

William J. Louda  
Frank Mari  
Cyril Parkányi  
Patricia A. Snyder  
Andrew C. Terentis  
Stefan W. Vetter

### Emeritus:

Earl W. Baker  
John C. Banter  
Theodore I. Bieber  
Jayarama R. Perumareddi  
John R. Wiesenfeld

Visit our faculty at [www.science.fau.edu/chemistry](http://www.science.fau.edu/chemistry)

## Partnering Graduate Faculty

### FAU Biological Sciences:

John D. Baldwin  
Theo Haerry  
Ramaswamy Narayanan  
Herb Weissbach

### FAU Biomedical Sciences:

AnaMaria Azzarolo  
Keith Brew  
Massimo Caputi  
Kathleen M. Guthrie  
Larry F. Lemanski  
Zongwei Li  
Howard M. Prentice

### Smithsonian Institution

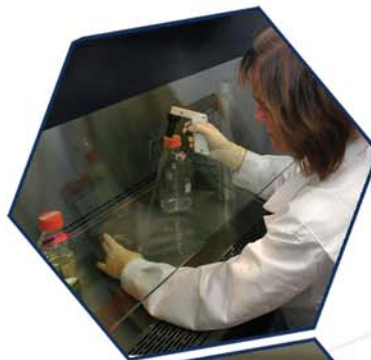
Valerie Paul

### The Scripps Research Institute:

Patrick Griffin  
Jeff Kelly  
Chris Liang  
K.C. Nicolaou

### Harbor Branch Oceanographic Institution:

Serath P. Gunasekera  
Joseph V. Lopez  
Shirley A. Pomponi  
Amy E. Wright



# Research Facilities and Equipment

The chemistry and biochemistry department at FAU incorporates modern NMR and proteomics core facilities equipped with numerous instruments for enabling students to perform world-class research projects.

- Two NMR spectrometers (500 and 400 MHz) equipped with a full complement of probeheads and electronic hardware
- State-of-the-art mass spectrometry facilities including: AB Q-Star XL hybrid MS/MS (with nanospray, oMALDI and capillary-LC) and AB Voyager-DE STR MALDI-TOF mass spectrometers, Finnigan LCQ Deca ion trap LC-MS.
- Peptide synthesizers, gene chip machine, protein and DNA Sequencers, fluorescence-activated cell sorter (FACS), scintillation counters and polarimeters.

Chemistry and Biochemistry department faculty members direct research in well-equipped labs (over 20,000 ft<sup>2</sup>) that span two recently constructed buildings.

## Ph.D. Degree Program

The doctoral chemistry program at FAU provides students with an environment that fosters the development of scientific research skills with an emphasis on interdisciplinary research, which lies at the interfaces of chemistry, biology and medicine. The chemistry Ph.D. is primarily a research degree requiring students to complete a significant amount of innovative research. Doctoral-level projects involve a sustained effort on the part of the student and are often integral to a larger scientific goal pursued by the research group. The research findings of the student are communicated to the scientific community in a variety of peer-reviewed journal publications. Ph.D. candidates will also summarize their work in a dissertation and defend it orally. In addition to research, students are required to complete advanced coursework, chosen from a list of contemporary and innovative courses. Students typically complete the requirements for the doctoral degree in four to five years.

## M.S. Degree Program

The M.S. degree in chemistry at FAU is designed to provide the bachelor's-degree-level chemist with a more mature understanding of the subject through a combination of thesis research and graduate coursework. The M.S. degree is typically completed in two years.

## Admission Requirements

The normal prerequisite to chemistry graduate studies (Ph.D. and M.S.) at FAU is the B.S. degree in chemistry. Highly qualified applicants holding the B.S. degree in other related fields will also be considered. Students must have achieved a 3.0 GPA in their B.S. degree and a combined score of 1000 or higher on the quantitative and verbal components of the general portion of the Graduate Record Examination. FAU and the Department of Chemistry and Biochemistry have always welcomed and sought diversity in all its forms. Thus we strongly encourage qualified minorities to apply to our program. For more details visit the FAU Chemistry and Biochemistry Website at [www.science.fau.edu/chemistry](http://www.science.fau.edu/chemistry)

**For inquires related to graduate admissions,  
please contact:**

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Chair of Graduate Admissions  
FAU Department of Chemistry and Biochemistry  
777 Glades Road  
Boca Raton, FL 33431-0991  
561.297.0330 or [slepore@fau.edu](mailto:slepore@fau.edu)

**Applications should be sent to the Office of  
Graduate Admissions. Application forms can  
be downloaded at**  
[www.fau.edu/academic/gradstud/online.htm](http://www.fau.edu/academic/gradstud/online.htm)

