



# CONNECTICUT COLLEGE

## Sarah Fleet '05

### Chemistry



**Q: What made you decide on Connecticut College?**

A: I came to Connecticut College knowing that I wanted to major in biochemistry. I had fallen

in love with chemistry in high school, and I knew that I wanted to go to medical school. But I also love dance and, at Connecticut College, I could pursue both passions. I had only three classes larger than 20 students. Now that I've been out in the real world for a bit, I realize how amazing that is for a pre-med and biochemistry major. And my classes were taught only by professors, not grad students.

**Q: What kind of research were you involved in?**

A: I spent the summer between my sophomore and junior years on campus characterizing the luciferous protein. The next summer, the College provided funding for an internship at a hospital where I shadowed 20 different physicians from surgery to obstetrics and family medicine. That renewed my focus and ambition.

**Q: Where are you working now?**

A: I'm now a clinical research assistant in gastroenterology and cell biology at Children's Hospital Boston, the pediatric teaching hospital of Harvard Medical School. My job at Children's will help me move on to medical school. My lab experience as a student made me a very, very competitive job applicant. Because the labs and classes are so small, you have experience that chemistry majors from other schools don't have. At Connecticut College, they expect a lot of you — but they help you a lot, too.

## Chemistry

### Overview

At Connecticut College, you can pursue degrees in chemistry or biochemistry with professional certification from the American Chemical Society in either one. We also offer a major in environmental chemistry and an interdisciplinary major in biochemistry, cellular and molecular biology — a popular choice for pre-med students because it covers all requirements for the Medical College Admissions Test. In any of these majors, you will have small classes, lots of interaction with your professors and research opportunities that at many institutions would be limited to graduate students.

### Research Opportunities

Our chemistry facilities are modern and well-equipped. Introductory courses are taught in the F.W. Olin Science Center. Upper-division courses and student-faculty research are in Hale Laboratory. You'll have many opportunities to get involved in research through classes and summer internships on and off campus. Many of our students co-author papers with faculty and present their work at major research seminars in the U.S. and abroad. You will also have opportunities for study and research abroad — which is unusual for science students. Our faculty have taken students on semester-long programs in Cape Town, South Africa, as well as shorter programs in Italy, across the U.S. and in Puerto Rico. Our students intern at hospitals and many nearby companies, ranging from Pfizer — which has its world research headquarters in New London — to biotech start-ups like Rib-X Pharmaceuticals. We draw on these resources for speakers, with special lectures on campus nearly every week.

### Faculty Research

Professor Branchini's bioluminescence research group has been studying fireflies for nearly three decades. This work, funded by the Air Force Office of Scientific Research and the National Science Foundation, has provided independent study and research opportunities for many students now in graduate school or working as professional scientists. Other faculty research has been supported by the Howard Hughes Medical Institute, the W.M. Keck Foundation, the National Institutes of Health, the Humboldt Foundation, the Henry and Camille Dreyfus Foundation, and the Office of Naval Research.

### Beyond Connecticut College

About 20 percent of our chemistry majors go on to medical school. More than 50 percent go on to graduate work at top universities including Yale University,

the University of Pennsylvania and Duke University. Graduates work in a wide range of settings including Pfizer, Bristol-Myers Squibb, GlaxoSmithKline and the National Institutes of Health.

## Faculty

**Bruce R. Branchini**, *Hans and Ella McCollum '21 Vahlteich Professor of Organic Chemistry*

B.S., Lehigh University; M.A., Johns Hopkins University; Ph.D., Johns Hopkins University  
Bioluminescence; nuclear magnetic resonance

**Stanton Ching**, *Professor of Chemistry; Chair of Chemistry Department*

B.A., Pomona College; Ph.D., Northwestern University; Postdoctoral Fellow, University of North Carolina  
Inorganic materials chemistry and electrochemistry

**Vicki King Fontneau**, *Senior Lecturer in Chemistry*

B.S., Florida State University; M.S., University of Hawaii  
Protein biochemistry; laboratory safety; chemistry education

**Colleen Kaczmarek**, *Lecturer in Chemistry*

B.A., Central Connecticut State University; M.S., University of Rhode Island; Ph.D., Wesleyan University  
General chemistry; organic chemistry

**David K. Lewis**, *Margaret W. Kelly Professor of Chemistry*

A.B., Amherst College; Ph.D., Cornell University  
Physical chemistry; gas phase reaction kinetics; rates and mechanisms of prototype chemical reactions; ultra-high resolution molecular spectroscopy using tunable diode infrared lasers; atmospheric chemistry and physics

**Timo Ovaska**, *Hans and Ella McCollum '21 Vahlteich Professor of Chemistry*

M.S., University of Turku; Ph.D., University of Connecticut  
Organic chemistry

**Maureen Ronau**, *Senior Lecturer in Chemistry*

B.A., Niagara University; M.A., University of Notre Dame  
Chemical education; analytical chemistry techniques; organic chemistry

**Marc Zimmer**, *Professor of Chemistry*

B.S., M.S., University of Witwatersrand, South Africa; Ph.D., Worcester Polytechnic Institute; Post-Doctorate, Yale University  
Computational chemistry; molecular science; environmental chemistry; green fluorescent protein

## Selected Courses

Molecular Science; Inorganic Chemistry; Medicinal Chemistry; Chemical Thermodynamics; Organic Spectroscopic Methods; Environmental Chemistry; Biochemistry

## About Connecticut College

Connecticut College is a highly selective residential liberal arts college with 1,900 students from all over the country and the world. The academic program offers more than 47 majors in the arts, sciences, social sciences and humanities as well as innovative interdisciplinary programs. Students engage with dedicated faculty and each other to create a vibrant social, cultural and intellectual community in which learning is valued for its own sake — and individuals' diverse perspectives enrich the experience of all.

## What can you do with a major in chemistry?

### Vasilena Gocheva '04

Ph.D. candidate at the Weill Graduate School of Biomedical Sciences at Cornell University. Doing thesis research on the mechanisms of pancreatic cancer development at Memorial Sloan-Kettering Cancer Center.

### Rebecca Reeves '05

Ph.D. candidate at Washington State University's School of Molecular Biosciences.

Studied computational chemistry with Professors Grossel and Zimmer and presented her research at an American Chemical Society meeting in San Diego.

### Ram Prasad Neupane '05

Ph.D. candidate in chemistry at the University of Wisconsin

At Connecticut College, did research with Professor Ching on applications of manganese oxides in rechargeable batteries to make cheaper, more environmentally friendly batteries.

### Erica Gagne '07

High school chemistry teacher in Chicago with Teach For America.

At Connecticut College, turned her research into a senior honors thesis, "The Cloud Condensation Nuclei Activation of Ammonium Sulfate Particles."

For more information, visit  
[www.conncoll.edu/academics/](http://www.conncoll.edu/academics/)