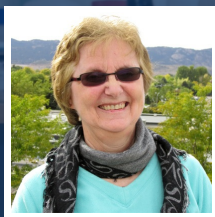


Chemistry at the Forefront of Interdisciplinary Research



Debbie Crans

Professor, Chemistry Professor Laureate, College of Natural Sciences Member, Cell and Molecular Biology Program

CURRENT RESEARCH

Wide knowledge of chemistry finds applications in biomedical sciences

Chemistry is the science of molecules, and it is often the basis of biological sciences that can have a profound impact on biomedical research. By understanding the basic components that constitute biology, chemists are able to help other scientists understand their work and provide the missing piece to advance technology and accelerate breakthroughs. Dr. Debbie Crans, Professor of Chemistry at the Colorado State University, is a biological chemist who assists life scientists in doing what they cannot. With a specialty in the area of metals in medicine and health, in both chemical studies as well as human studies, she aims to understand how drugs, vitamins, and metabolites work in our body and what can be done to make our systems work better.

Truly interdisciplinary and integral in the discovery process, Dr. Crans and her group focus on the fundamental chemistry and biochemistry of vanadium and other transition metal ions, fueled by the metals' applications in medicine and their mechanisms of toxicity. Using highly advanced spectroscopy, Dr. Crans and her team have synthesized new compounds, characterized them, and tested their biological properties to aid the biomedical sciences. Dr. Crans' group consists of nine graduate students and a Fulbright Scholar, who are poised to offer fresh new perspectives. Dr. Crans' insight and expertise in the molecular perspective can help develop new drugs against diabetes, tuberculosis, malaria, understand the onset of Alzheimer's and other neurodegenerative diseases, and in the process expand the general field of chemistry!

Current areas of interest include:

- Protein Folding and Misfolding: Dr. Crans is interested in understanding how metal...

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AFFILIATION



Colorado State University

EDUCATION

- Postdoctoral Education in Chemistry and Biochemistry 1986, University of California, Los Angeles
- Ph.D. in Chemistry 1985, Harvard University
- B.S. in Chemistry and Biochemistry 1980, University of Copenhagen, Denmark

AWARDS

- AAAS fellow, 2014
- Lectureship Award, Japanese Coordination Chemistry Society, 2012
- Best Teacher Award, CSU, 2011
- Colorado Section American Chemical Society Research Award, 2010
- ACS Fellow (Inaugural), 2009
- and 2 more...

RESEARCH AREAS

Technology, Chemistry, Nanotechnology

FUNDING REQUEST

Your contributions will support the continued research of Dr. Debbie Crans and her team at Colorado State University as they provide understanding to aid biomedical sciences. A donation of \$40K/year will fund one graduate student full time investigating one of her interdisciplinary problems. Other donations will help fund equipment, and help Dr. Crans continue to encourage undergraduate students to engage in research and expose them to opportunities. Partner with Dr. Crans as she derives solutions for numerous chemical and biological applications!