

## BOSTON UNIVERSITY

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## Department of Chemistry

John E. Search, Chair  
Lawrence Ziegler, Director of Graduate Studies

Degrees Offered: B.A., M.A., Ph.D.

**Fields of Specialization:** Biochemistry, Inorganic Chemistry, Organic Chemistry, Physical Chemistry, Theoretical Chemistry.

**Interdisciplinary Programs:** Biotechnology (Department of Biology and the Department of Physics), Molecular Biology, Cell Biology and Biochemistry Program (Dept. of Biology and Dept. of Biomedical Engineering), Grad Program in Bioinformatics (Dept. of Biology, Biomedical Engineering).

See Biochemistry Section.

**ALLEN, KAREN** (b.1967) Professor, B.S., 1984, Tufts University; Ph.D., 1989, Brandeis University; Doctoral Associate, 1989-1990, Massachusetts Institute of Technology; American Cancer Society Postdoctoral Fellow, 1990-1993, Brandeis University; *Enzymology, Structural Biology: Research in the Allen group is concerned with diverse aspects of protein structure, function, and design. The lab employs a multidisciplinary approach involving state-of-the-art X-ray crystallography and spectroscopy, molecular modeling, enzymology, and molecular biology to address fundamental problems at the interface of Enzymology and Structural Biology. Fundamental problems under study include mechanisms of phosphoryl transfer and evolution of enzymes.* TEL: (617) 552-6544 FAX: (617) 552-6555 E-Mail: [karen@bu.edu](mailto:karen@bu.edu)

**J. Dai, L. Fowl, C. Zhang, S. Labin, G. Zhang, E. Fowl, R. N. Allen and D. Danovary-Martinez.** Analysis of the structural determinants underlying discrimination between substrate and solvent in triphosphatase active sites. *Biochemistry*, **37**, 1046-1054 (1998).

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**BECKER, AARON** (b.1973) Research Assistant Professor, B.S., 1995, Belmont University; Ph.D., 2002, University of Mississippi; Research Associate, 2002-2005, Boston University; Organic Chemistry Professor. Becker leads efforts in the CHEM-BU's MFT synthesis activities, and a collaborative project with MIT to develop an automated microfluidic synthesis system. TEL: (617) 552-3487 FAX: (617) 552-6444 E-Mail: [www.bu.edu/chemistry/faculty/becker/](mailto:www.bu.edu/chemistry/faculty/becker/)

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**CARADONNA, JOHN P.** (b.1957) Associate Professor, B.S./M.S., 1979, The Johns Hopkins University; M.A., 1980, Columbia University; M.Phil., 1983, Columbia University; Ph.D., 1985, Columbia University; NIH Postdoctoral Fellowship, 1985-1987, Harvard University; Biochemistry, Chemistry, Structural and Molecular studies of transition metal centers in biological systems; non-heme Fe active sites; high resolution state non-covalent protein. TEL: (617) 552-1092 FAX: (617) 552-6444 E-Mail: [www.bu.edu/chemistry/faculty/caradonna/](mailto:www.bu.edu/chemistry/faculty/caradonna/)

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**P. J. Capaldi, P. C. Barnes, G. T. Rowe, A. J. Levin, M. Harvey, A. S. Srinivasan, W. L. W. H. Aymann, and J. P. Caradonna.** Synthesis and characterization of a family of bisoxazone non-heme iron mononuclear model compounds: evidence for a "phosphate-oxide" cofactor (POC) shift upon oxidation. *Inorg. Chem. Acta*, **261**, 213-219 (2000).

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**COKER, DAVID FREDERICK** (b.1950) Professor, B.S., 1968, University of Sydney; Ph.D., 1969, Australian National University; Postdoctoral Fellowship, 1969-1971, Columbia University; Computational Chemistry, Chemistry, Nonadiabatic control state quantum dynamics in condensed phase systems. TEL: (617) 552-2400 FAX: (617) 552-6444 E-Mail: [www.bu.edu/chemistry/faculty/coker/](mailto:www.bu.edu/chemistry/faculty/coker/)

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**COSTELLO, CATHERINE** Professor, A.B., 1964, Connecticut College; M.S., 1967, Georgetown University; Ph.D., 1970, Georgetown University; Research Associate, 1970-71, Massachusetts Institute of Technology; Biochemistry, Mass Spectrometry: Glycolipids, phospholipids, protein metabolism, lipid structures, immunology. TEL: (617) 552-6400 FAX: (617) 552-6444 E-Mail: [www.bu.edu/chemistry/faculty/costello/](mailto:www.bu.edu/chemistry/faculty/costello/)

**L. H. Costello, T. Puckett, A. Liu, R. Thibierge, R. H. Falk, G. Dams, A. Berg, C. E. Costello, C. O'Hara, D. C.**

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