William Paterson University

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**Carey D. Waldburger, Ph.D. E-mail: waldburgerc@wpunj.edu**

**CURRICULUM VITAE**

**Personal data:**

Name: Carey D. Waldburger

Birthdate: 07-11-62

**Academic Training:**

University of Wisconsin-Madison B.S. 1984

University of Wisconsin-Madison M.S. 1987

University of Southern California Ph.D. 1992

Advisor: Dr. Miriam Susskind

**Traineeship:**

Massachusetts Institute of Technology

Post-doctorate 1992-1996

Advisor: Dr. Robert Sauer

**Academic Appointments:**

William Paterson University

Department of Biology

Assistant Professor 2004-2008

Associate Professor 2008-present

Columbia University School of Physicians and Surgeons

Department of Microbiology

Assistant Professor 1997-2004

**Professional organizations/committees:**

American Association for the Advancement of Science

American Society for Microbiology

American Chemical Society

Journal Reviewer: *Nature Structural Biology, Journal of Molecular Biology,*

*Journal of Bacteriology, Structure, Journal of Biological Chemistry,*

*Nucleic Acids Research, Molecular Microbiology, PLOS Genetics*

Portuguese Institute of Science and Technology-Molecular and Genetic

Medicine and Immunology Review Panel

NIH Special Emphasis Panel in Fungal Pathogenesis: Grant Reviewer

**Awards:**

1998 HIRSCHL Scholar

1996 Charles King Trust Post-doctoral Fellowship

1992-95 NIH Post-doctoral Fellowship

1987-89 USC Pre-doctoral Merit Fellowship

1987 USC Dean’s Fellowship

1986 UW-Madison College of Agriculture and Life Science

**Invited Seminars and Meetings:**

University of Pennsylvania. Department of Biochemistry and Biophysics, March, 2007.

Johns Hopkins. Department of Biology. January 2003.

American Society for Microbiology 101st General Meeting. May, 2001. Division H.

University of Toronto. Department of Biology. May, 2001.

University of Washington-Seattle. Department of Microbiology. April, 2001.

Xenogen, Inc. Oakland, CA. May, 2000.

Gordon Research Conference on Bacterial Surfaces. June, 1998.

**Past Fellowship and Grant Support (as principal investigator):**

National Institutes of Health (R15 AI065448-01), 7/1/05-5/31/09; $223,161 total costs

National Institutes of Health (RO1 AI 041566-06), 7/1/97-6/30/02; $1,391,000 total costs

Irma T. Hirschl / Monique Weill-Caulier Medical Scholar Program; $100,000 total costs

American Cancer Society Institutional Research Grant Award; $15,000 total costs

**Teaching responsibilities:**

**William Paterson University**

Cell Biology Basic Microbiology

General Biology I Biotechnology: DNA

General Genetics Biotechnology: Proteins

Molecular Biology Structural Biology

Molecular Biology of Disease

**Columbia University**

Microbial Molecular Genetics (graduate student lecture course)

Advanced Topics in Microbiology (graduate student discussion course)

**Publications:**

Goldberg, S. D., Soto, C. S., Waldburger, C. D., & Degrado, W. F. (2008) Determination of the physiological dimer interface of the PhoQ sensor domain. *J. Mol. Biol.,* **379**:656-665.

Cheung, J., Bingman, C. A., Reyngold, M., Hendrickson, W. A., & Waldburger C. D. (2008) Crystal structure of a functional dimer of the PhoQ sensor domain. *J. Biol. Chem.,* **283**:13762-70.

Marina, A., Waldburger, C. D., & Hendrickson, W. A. (2005) Structure of the entire cytoplasmic portion of a sensor histidine-kinase protein. *EMBO J.*, **24**:4247-4259.

Waldburger, C. D. (2003) His-Asp Signal Transduction via a Monomeric Histidine Phosphotransfer Protein. *Structure,* **11**:1461-1462.

Lesley, J. A., and Waldburger, C. D. (2003) Repression of *Escherichia coli* PhoP-PhoQ signaling by acetate reveals a regulatory role for intracellular acetyl coenzyme A. *J. Bacteriol*., **185**:2563-2570.

Regelmann, A. G., Lesley, J. A., Mott, C. M., Stokes, L., and Waldburger C. D. (2002) Mutational analysis of the *E. coli* PhoQ histidine kinase reveals differences with *S. typhimurium* PhoQ and in the processing of different divalent cation signals. *J. Bacteriol*.,**184**:5468-5478.

Marina, A., Mott, C., Auyzenberg, A., Hendrickson, W. A., and Waldburger, C. D. (2001) Structural and mutational analysis of the PhoQ histidine kinase catalytic domain: insight into the reaction mechanism. *J. Biol. Chem.,* **276**:41182-41190.

Lesley, J. A., and Waldburger, C. D. (2001) Comparison of the *Pseudomonas aeruginosa* and *Escherichia coli* PhoQ sensor domains: evidence for distinct mechanisms of signal detection. *J. Biol. Chem.,* **276**:30827-30833.

Vogel, S., Mendelsohn, C. L., Mertz, J. R., Piantedosi, R. Waldburger, C., Gottesman, M. E., and Blaner, W. S. (2001) Characterization of a new fatty acid-binding protein family that binds all-trans-retinol*. J. Biol. Chem*., **276**:1353-1360.

Waldburger, C. D., and R.T. Sauer (1996). Signal Detection by the PhoQ Sensor-Transmitter. *J. Biol. Chem.* **271**:26630-26636.

Waldburger, C. D., T. Jonsson, and R.T. Sauer (1996). Barriers to protein folding: Formation of buried polar interactions is a slow step in acquisition of structure. *Proc. Natl. Acad. Sci., USA.* **93**:2629-2634.

Waldburger, C.D. and R.T. Sauer. (1995). Domains of Mnt repressor: Roles in tetramer formation, protein stability and operator binding. *Biochemistry*. **34**:13109-13116.

Waldburger, C.D., J.F. Schildbach, and R.T. Sauer. (1995). Are buried salt bridges important for protein stability and conformational specificity? *Nature Struct. Biol*. **2**:122-128.

Waldburger, C. and M.M. Susskind. (1993). Probing the informational content of *E. coli* σ70 region 2.3 by combinatorial cassette mutagenesis. *J. Mol. Biol.* **235**:1489-1500.

Waldburger, C., D. Gonzalez, and G.H. Chambliss. (1993). Discovery of a new sporulation factor in *Bacillus subtilis*. *J. Bacteriol.* **175**:6321-6327.

Waldburger, C., T. Gardella, R. Wong, and M.M. Susskind. (1990). Changes in conserved region 2 of *E. coli* σ70 affecting promoter recognition. *J. Mol. Biol.* **215**:267-276.

Jonsson, T., Waldburger, C.D., and R.T. Sauer (1996). Non-linear free energy relationships in Arc repressor unfolding imply existence of unstable, native-like folding intermediates. *Biochemistry.* **35**:4795-4802.

Milla, M. E., B.M Brown, C.D. Waldburger, and R.T. Sauer. (1995). P22 Arc repressor: Transition state properties inferred from mutational effects on the rates of unfolding and refolding. *Biochemistry*. **34**:13914-13919.

Sauer, R. T., M.E. Milla, C.D. Waldburger, B.M. Brown, and J.F. Schildbach. (1996). Sequence determinants of folding and stability for the P22 Arc repressor dimer. *FASEB J.* **10**:42-48.

Moyle, H., C. Waldburger, and M.M. Susskind. (1991). Hierarchies of base pair preferences in the P22 *ant* promoter. *J. Bacteriol*. **173**:1994-1950.