

## Philip R. Baldwin

### (a) Professional Preparation

Princeton University	Physics	AB	1982
U. Illinois at Urbana-Champaign	Physics	PhD	1987
Bell Laboratories	Physics	Postdoc	1988-1990
Baylor College of Medicine	Biochemistry	Research Associate	1996-2000
Baylor College of Medicine	Neuroscience	Research Associate	2000-2003

### (b) Appointments

**Research Assistant Professor** - Department of Neuroscience

2007-present

**Adjunct Professor** – Information Sciences, UT Houston Health Science 2006-present

**Assistant Professor** – Department of Biochemistry, UT Houston Med School 2003-2006

**Research Associate** - Department of Neuroscience, Baylor College of Medicine 2000-2003

**Research Associate**- Department of Biochemistry, Baylor College of Medicine 1996-2000

**Associate Professor**- Department of Physics, University of Akron 1994-1996

**Assistant Professor** - Department of Physics, University of Akron 1990-1994

**Technical Staff** – AT&T Bell Labs, Murray Hill, NJ 1988-1990

**Post Doctoral Fellow** – Department of Physics, University of Houston 1991-1992

**PhD** - University of Illinois at Urbana Champaign 1982-1987

**Technical Staff** - Schlumberger Doll Research, Ridgefield, Connecticut 1985

### (c) Publications

#### **Relevant publications**

1. Montague, PR, McClure, SM, Baldwin, PR, Phillips, PEM, Budygin, EA, Kilpatrick, MR, Stuber, GD, Wightman, MR (2004) Dynamic gain control of dopamine delivery in freely moving animals. Journal of Neuroscience 24:1754-1759.
2. Pullan, L, Mullapudi, S, Huang, Z, Baldwin, PR, Chin, C, Sun, W, Tsujimoto, S, Kolodziej, SJ, Stoops, JK, Lee, JC, Waxham, MN, Bean, AJ and Penczek, PA (2006). The endosome-associated protein Hrs is hexameric and controls cargo sorting as a “master molecule”. Structure 14:661-671.
3. Baldwin, PR, Penczek, PA (2007) The Transform Class in SPARX and EMAN2. Journal of Structural Biology 157:250-261.
4. Hohn, M, Tang, G, Goodyear, G, Baldwin, PR, Huang, Z, Penczek, PA, Yang, C, Glaeser, RM, Adams, PD, Ludtke, SJ (2007) SPARX, a new environment for Cryo-EM image processing Journal of Structural Biology 157:47-55
5. Tang, G, Peng, L, Baldwin, PR, Mann, DS, Jiang, W, Rees, I, Ludtke, SJ (2007) EMAN2: An extensible image processing suite for electron microscopy. Journal of Structural Biology 157:38-46.

#### **Other Significant Publications**

1. Baldwin, PR and Penczek, PA (2005): Estimating alignment errors in sets of 2D images. Journal of Structural Biology 150:211-225.
2. Huang, Z, Baldwin, PR, Mullapudi, SR, Penczek, PA (2003) Automated determination of parameters describing power spectra of micrograph images in electron microscopy. Journal of Structural Biology 144:79-94.
3. Ludtke, SJ, Baldwin, PR, Chiu, W (1999) EMAN: semiautomated software for high-resolution single-particle reconstructions. Journal of Structural Biology 128:82-97.
4. Baldwin, PR, Kiehn, RM, (1997) Classification of linearly polarized transverse electromagnetic waves. Journal of Mathematical Analysis and its Applications 205:313-324.
5. Baldwin, PR, Townsend, GM (1995) Complex Trkalian fields and solutions to Euler's equation for the ideal fluid. Physical Review E 51:2059-2068.

#### **(d) Synergistic Activities**

**1999** Co-developed EMAN, an image processing suite of tools for cyro-electron microscopy that has become the most popular package for performing 3D reconstructions of asymmetric single particles (12-50 nm) in solution. Responsible for initial model building, symmetry aspects and rotations. Downloads are available from Baylor's NCMI website.

**2006** Co-developed EMAN2, which is a highly extensible rewrite of the EMAN package, with a python level interface, such that non-expert users are able to develop sets of routines conforming to their own needs. Responsible for initial model building, symmetry aspects and rotations. Downloads are available from Baylor's NCMI website.

#### **(e) Collaborators & Other Affiliations**

- **Collaborators & Editors**

Steven Ludtke	Department of Biochemistry, Baylor College of Medicine
Read Montague	Department of Biochemistry, Baylor College of Medicine
Wah Chiu	Department of Biochemistry, Baylor College of Medicine
Pawel Penczek	Department of Biochemistry, UT Houston Medical School
Samuel McClure	Department of Psychology, Princeton University
Robert Glaeser	Department of Biochemistry, University of California at Berkeley
Robert Kiehn	Department of Physics (emeritus), University of Houston

- **Graduate and Postdoctoral Advisors**

Oono, Yoshi (PhD)	Department of Physics, University of Illinois
Helfand, Eugene (PhD)	Chemical Physics, AT&T Bell Labs, Murray Hill, NJ
Su, Wu-Pei (PhD)	Department of Physics, University of Houston

- **Masters Thesis Advisor**

- **Graduate students (1)**

Bernick, Jonathan Assistant Professor, Computer Science Coastal Carolina University 1993-1995