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Education

<u>Institution</u>	<u>Degree</u>	<u>Year</u>	<u>Field of Study</u>
Harvard College	B.A.	1999	Applied Mathematics (Medical Sciences)
Harvard GSAS	M.S.	1999	Applied Mathematics (Medical Sciences)
New York University	Ph.D.	2003	Mathematics

Employment

1997-1999(summers) Research Assistant, Division of Engineering and Applied Sciences,
Harvard University
1998(fall) Course Assistant in Nonlinear Dynamics and Chaos,
Harvard University
2000-2001(summers) Research Associate, Paydarfar and Clay Labs,
Marine Biological Laboratories, Woods Hole, MA
2003 (early fall) Research Consultant, Paydarfar Lab,
Department of Neurology, UMASS Medical School
2003- Current Sloan Post-Doctoral Fellow, Blau Lab, Biology Department, NYU

Fellowships

1999-2000 Pre-doctoral Trainee in Sleep, Circadian and Respiratory Neurobiology,
Brigham and Women's Hospital, Harvard Medical School (NRSA T32)
2000-2003 National Science Foundation Graduate Research Fellowship
2003-Present Sloan Foundation Fellowship in Computational Molecular Biology

Awards and Honors

1999 Richard Kronauer Travel Award for Excellence in Biological Modeling
2000, 2002 Travel Award, Society for Research on Biological Rhythms
2003 Stuyvesant High School Mentor Award
2004 Wilhelm Magnus Memorial Prize for Significant Contributions to the
Mathematical Sciences
2004 Dean's Outstanding Dissertation Award in the Natural Sciences
2004 Burroughs Wellcome Fund Career Award at the Scientific Interface
(Finalist)

Publications

Forger DB and Peskin CS, Stochastic Simulation of the Mammalian Circadian Clock (In Press, PNAS).

Forger DB and Paydarfar D, Starting, Stopping and Resetting Biological Oscillators: In Search of Optimum Perturbations, *Journal of Theoretical Biology*, **230** (2004) 521-532.

Forger DB and Peskin CS, Model Based Conjectures on Mammalian Clock Controversies, *Journal of Theoretical Biology*, **230** (2004) 533-539.

Forger DB and Peskin CS, A Detailed Predictive Model of the Mammalian Circadian Clock, *PNAS*, **100** (2003) 14806-14811.

Forger DB, Dean DA, Gurdziel K, Leloup J-C, Lee C, von Gall C, Etchegaray J-P, Kronauer RE, Goldbeter A, Peskin CS, Jewett ME and Weaver DR, Development and Validation of Computational Models for Mammalian Circadian Oscillators, *Omics*, **7** (2003) 387-400.

Forger DB, Deterministic and Stochastic Mathematical Modeling and Computer Simulation of the Mammalian Intracellular Circadian Clock, PhD Dissertation

Forger DB and Kronauer RE, Reconciling Mathematical Models of Biological Clocks by Averaging on Approximate Manifolds, *SIAM J. Appl. Math.* **62** (2002) 1281-1296.

Forger DB, Jewett ME and Kronauer RE A Simpler Model of the Human Circadian Pacemaker, *J. Biol. Rhythms* **14** (1999) 532-537.

Kronauer RE, Forger DB and Jewett ME Quantifying Human Circadian Pacemaker Response to Brief, Extended and repeated Light Stimuli over the Phototopic Range, *J. Biol. Rhythms* **14** (1999) 500-515.

Jewett ME, Forger DB and Kronauer RE Revised Limit Cycle Oscillator Model of Human Circadian Pacemaker, *J. Biol. Rhythms* **14** (1999) 493-499.

Undergraduate Thesis, The Modeling of Circadian Oscillators, Harvard College.

Paydarfar D, Forger DB and Clay JR Control of Transitions Between Repetitive Firing and Quiescence by Stochastic Stimulation of Squid Axons with Membrane Bistability (abstract) *J. Physiol.* (2001) **536.P** 120.P.

Forger DB and Blau J, Searching for the Switch that Keeps Clocks Ticking (abstract) *CSHL Systems Biology* 2004

Forger DB and Peskin CS, Circadian Clocks Designed to be Robust to Molecular Noise (abstract) *SRBR* 2002

Dean DA, Forger DB, Indic P, Brown EN, Kronauer RE and Jewett ME Temperature Models are Improved by Allowing Circadian Amplitude to Vary and Replacing the Second Harmonic with an Independent ~12-h Sinusoid (abstract) *SRBR* 2002

Indic P, Forger DB, Dean DA, Brown EN, Kronauer RE and Jewett ME A Model of Human Core Temperature Circadian Rhythm with Statistical and Dynamic Characteristics. (abstract) SRBR 2002

Forger DB and Kronauer RE, Towards a Biochemical Model of the Human Circadian Pacemaker (abstract) SRBR 2000

Forger DB, Clay JR and Paydarfar D, Synapses and Dendrites Determine when an Axon Integrates or Resonates (In Preparation).

Selected Talks

2004	Mathematical Biosciences Institute
2004	Society for Math Biology
2004	UC Santa Barbara
2003, 2004	UMASS Medical School
2003	Applied Math Days, RPI
2002, 2004	PI presentation, DARPA Biocomp Program, Washington, DC
2002	Ecole Polytechnique, France
1999, 2000, 2001	Biomathematics Lunchtime Seminar, Courant Institute, NYU
1999, 2000	Brigham and Women's Hospital, Boston, MA

Affiliations, Committees and Memberships

BioMathematical Modeling Unit, Division of Sleep Medicine, Harvard Medical School; Society for Research on Biological Rhythms; Society for Industrial and Applied Mathematics; Air Force PRET External Review (2004).

Supervision of Students for the Intel (Westinghouse) Competition

Albert Leung: A Tissue Level Model of the Human Circadian Clock **Finalist 2001**

Varun Narenda: A Mathematical Model of Gaucher Disease **Finalist 2002**

Xiao Wei: Modeling Tumor Growth and Chemotherapy **Submitted 2004**

Ad Hoc Reviewer

NSF, PNAS, Journal of Theoretical Biology, CNS 04, Journal of Neuroscience