Contact

Email:	endy@mit.edu
URL:	http://web.mit.edu/endy/
Address:	MIT Department of Biology, 31 Ames St, 68-623, Cambridge, MA 02139
Fax:	617.253.8699
Lab, Office:	617.258.8684, 617.258.5152

Education

Doctor of Philosophy	Biotechnology and Biochemical Engineering Thayer School of Engineering, Dartmouth College, Hanover, NH	1998
Master of Science	Environmental Engineering Lehigh University, Bethlehem, PA	1994
Bachelor of Science	Civil Engineering Lehigh University, Bethlehem, PA	1992

Research Experience

Fellow *(joint appointment)*	Massachusetts Institute of Technology, Biology & Biological Engineering, Cambridge, MA	1/02
Research Fellow	The Molecular Sciences Institute, Berkeley, CA	10/98 - 12/01
Postdoctoral Fellow *(joint appointment)*	Univ. of Texas Microbiology & Molecular Genetics, Austin, TX Univ. of Wisconsin, Chemical Engineering, Madison WI	1/98 - 10/98
Research Scientist	Environmental Studies Center, Lehigh Univ., Bethlehem, PA	1994
Construction Management Assoc.	National Railroad Passenger Corporation, Philadelphia, PA	1991

Teaching Experience

MIT IAP	Synthetic Biology Lab: Engineered Genetic Blinkers	2003
7.93/BE.490	Foundations of Computational Biology, MIT, Cambridge, MA	2002
Teaching Assistant	Engineering Thermodynamics, Dartmouth College, Hanover, NH	1996
Teaching Assistant	Probability & Statistics in Engineering Design; Water Supply & Wastewater Management, Lehigh Univ., Bethlehem, PA	1992 - 1994

Awards

C.D. & R.T. Goodrich Prize	Dartmouth College, Hanover, NH	1998
H.F. Darling Fellowship	Dartmouth College, Hanover, NH	1994
Arthur Humphrey Teaching Award	Lehigh University, Bethlehem, PA	1993

Publications

Ting, AY, Endy, D, (2002) 'Decoding NF-□B signaling', *Science*, **298**:1189-1190 (perspective).

Endy, D, Brent, R, (2001) 'Modelling cellular behaviour', *Nature*, **409**:391-395 (perspective).

Endy, D, Yin, J, (2000) 'Toward antiviral strategies that resist viral escape', *Anti-microbial Agents and Chemotherapy*, **44**(4):1097-1099.

Endy, D, You, L, Yin, J, Molineux, IJ (2000) 'Computation, prediction, and experimental tests of fitness for bacteriophage T7 mutants with permuted genomes', *PNAS-USA*, **97**(10):5375-5380.

Endy, D (1998). 'Development and application of a genetically-structured simulation for bacteriophage T7'. *Dissertation*, Dartmouth College, Hanover, NH. UMI #AAT9821948.

Endy, D, Kong, D, Yin, J (1997). 'Intracellular kinetics of a growing virus: A genetically structured simulation for the growth of bacteriophage T7'. *Biotech. Bioeng.*, **55**:375-389.

Endy, D (1995). 'Biologically catalyzed reduction of nitrous oxide to nitrogen gas in wastewater treatment systems'. *Proceedings of the 27th Mid-Atlantic Industrial and Hazardous Waste Conference*, *Bethlehem, PA,* 255-263, Technomic Pub. Co., Lancaster, PA.

Recent/Ongoing Professional Activities

MIT Synthetic Biology Working Group (co-founder, w/ Tom Knight)

Gordon Research Conference on Bioinformatics (2003 vice-chair, 2005 chair)
CSH Banbury Conference on Biological Modeling Languages (4/03, w/ Andrew Finney & Yuri Lazebnik)
DARPA Synthetic Biology Study (2003, Chair)
BioSPICE Model Definition Language Working Group (co-chair, w/ Patrick Lincoln)
BioSPICE Experimental Working Group (participant)

Biophysical Journal (reviewer)
Bulletin of Mathematical Biology (reviewer)
Journal of Bacteriology (reviewer)
Nature Biotechnology (reviewer)
Physical Review Letters (reviewer)
PNAS USA (reviewer)
Science (reviewer)
Trends in Biotechnology (reviewer)

NIH (review panelist – ad hoc)
NSF (review panelist)
DOE (review panelist)

DARPA ISAT (member, 2001-2004)
DOE (workshops/briefings)
NRC (workshop speaker)
OSD/ONA (consultant)

Invited Past Presentations (selected)

'Metaphors & Yeast Pheromone Response', Harvard Center for Genomic Research, December 18, 2002, Cambridge, MA.

'Understanding & Engineering Biology', 1st Alpha Project Research Symposium, December 13, 2002, Berkeley, CA. Roger Brent organizing.

'Existing & Synthetic Bacteriophage', Plenary Lecture, American Physical Society Topical Conference in Biology, September 27-29, 2002. Boston, MA. Robert Austin et al. organizing.

'Modeling Biological Systems – Limits/Priorities', NIGMS "Visions of the Future" workshop, September 23-24, 2002. Bethesda, MD. Judith Greenberg & Rick Young organizing.

'Modeling Phage'. NEC/Princeton Biophysics Lectures, June 17-22, 2002. Princeton, NJ. Chao Tang and Ned Wingreen organizing.

'Considering the Representational Framework for Molecular Biology'. Gordon Conference on Theoretical Biology, June 9-14, 2002. Tilton, NH. Tim Elston et al. organizing.

'Creating and Applying Models of Biological Systems'. SIAM Conference on the Life Sciences, March 6-8, 2002. Boston, MA. Jim Collins et al. organizing.

'Creating and Applying Models of Biological Systems'. MIT Department of Biology, Aug 24, 2001. Host: Peter Sorger.

'Creating and Applying Models of Biological Systems'. Gordon Conference on Bioinformatics: From inference to predictive models. Tilton, NH. Aug 19-24, 2001. Adam Arkin et al. organizing.

'Modeling Cellular Behavior – Limits/Priorities'. NRC Workshop on the Modeling of Biological Systems. Cambridge, MA. May 9, 2001.

'Modeling Genetic & Biochemical Processes'. Statistical Physics and Biological Information Program. Institute for Theoretical Physics, Santa Barbara, CA. April, 8-21, 2001.

'Modeling biochemical and genetic cellular processes'. After the Genome VI. Tucson, AZ. December 16-21, 2000.

'Simulating biochemical and genetic cellular processes'. Simulation and visualization in the life sciences. Royal Institute of Technology. Stockholm, Sweden. December 14-15, 2000.

'Effecting an Intentional Biology'. Jones Seminar. Thayer School of Engineering, Dartmouth College. Hanover, NH. October 27, 2000.

'Computing the behavior of biological systems'. Computational Biology and Materials Technology Department, Sandia National Laboratories. Albuquerque, NM. September, 2000.

'An Intentional Biology'. JASON Biofutures briefing. General Atomic. San Diego, CA. ~June, 2000.

'Computing the behavior of biological systems'. Bioinformatics/computation symposia. Univ. California San Francisco. San Francisco, CA. March 25, 2000.

'Labile genetic stacks: Prediction and experimental characterization of altered genetic element order on the T7 growth cycle'. After the Genome IV. Jackson, WY. October 1998.

'Genetically structured models of biological systems', Frontiers in Biotechnology Series, Department of Chemical Engineering, Univ. Wisconsin Madison. Madison, WI. September 1998.

'On the importance of genetic element position'. Department of Genetics, Harvard Medical School. Boston, MA. June 1998.

Poster: 'Simulating phage T7 growth'. 15th biennial conference on phage/virus assembly. Asilomar, Pacific Grove, CA. June 1997.

'Design of antiviral strategies targeting the expression of specific genes'. AIChE annual meeting. Chicago, IL. November 1996.

Poster: 'Continuous culture of phage T7'. AIChE annual meeting. Chicago, IL. November 1996.

Poster: 'Engineering antiviral strategies'. New England society for industrial microbiology symposium. Whitehead Institute, Cambridge, MA. May 1996.

'Intracellular kinetics of phage T7 growth'. Dept. of Biology, Brookhaven National Laboratory. Brookhaven, NY. December 1995.

'Ribozyme inhibition of viral growth'. Dept. of Microbiology & Molecular Genetics, Univ. of Vermont. Burlington, VT. December 1995.

'Biologically catalyzed reduction of nitrous oxide to nitrogen gas in waste-water treatment systems'. 27th Mid-Atlantic Industrial and Hazardous Waste Conference. Bethlehem, PA. July 1995.

'Genetically structured modeling of viral replication processes', ACS Annual Meeting. Anaheim CA. April 1995.