Lawrence A. David

CONTACT INFORMATION

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EDUCATION

Massachusetts Institute of Technology, Cambridge, MA **2005-present**

Enrolled in Computational and Systems Biology PhD Program

- GPA: 5.00/5.00
- Selected coursework: Found of Comp & Sys Bio; Biomolec kinetics and cell dynamics; Microbial Evol; Env Microbio; Biochem.; New Enterprises

Columbia University, New York, NY **2001-2005**

B.S., Biomedical Engineering:

- GPA: 4.04/4.00; *Summa Cum Laude* (top 5% of class)
- Selected coursework: Comp Genomics; Biophysical Modeling; Quant Physiology; Fluid Biomech; Cell. & Tissue Engin; Data Structs & Algs; Combinatorics & Graph Theory; Probability; Lin Alg; Princ of Econ; Game Theory.
- Chosen by department faculty as graduating senior most likely to contribute substantially to the field of biomedical engineering.

FELLOWSHIPS & AWARDS

2009 - MIT Whitaker Health Sciences Fund Fellowship
2005 - National Defense Science and Engineering Graduate Fellowship
2005 - Ford Foundation Diversity Fellowship [Predoctoral] (Declined)
2005 - Dept. of Energy Computational Science Graduate Fellowship (Declined)
2005 - Columbia Thomas "Pop" Harrington Award Recipient
2005 - Columbia Robert E. and Claire S. Reiss Graduate Prize Recipient
2004 - Member, Tau Beta Pi
2004 - Barry M. Goldwater Scholarship
2002 - Westchester Filipino-American Scholarship
2001 - Columbia C.P. Davis Scholar
2001 - National Merit Scholarship
1997 - Regis High School (NYC) Full Scholarship [4-years]

WORKS & PUBLICATIONS
[* DENOTES EQUAL CONTRIBUTION]

LA David, EJ Alm. Insights into the origins of microbial gene families. *In prep.*

BJ Shapiro, **LA David**, Y Friedman, EJ ALM. Looking for Darwin's footprints in the microbial world. *Trends in Microbiology*, 2009; *Accepted.*

BJ Dubin-Thaler, JM Hofman, Y Cai, H Xenias, I Spielman, AV Shneidman, **LA David**, HG Dobereiner, CH Wiggins, MP Sheetz. Quantification of Cell Edge Velocities and Traction Forces Reveals Distinct Motility Modules during Cell Spreading. *PLoS ONE*, 2008 Nov;3(11):e3735 doi:10.1371/journal.pone.0003735

DE Hunt*, **LA David***, D Gevers, SP Preheim, EJ Alm, MF Polz. Resource Partitioning and Sympatric Differentiation Among Closely Related Bacterioplankton. *Science*, 2008 May;320(5879):1081-85. DOI: 10.1126/science.1157890.

LA David, C Wiggins. Benchmarking of dynamic Bayesian Networks from stochastic time-series data. *Ann NY Acad Sci.*, 2007 Oct; 10.1196/annals.1407.009.

CF Glenn, DK Chow, **L David**, C Cooke, M Gami, W Iser, K Hanselman, I Goldberg and CA Wolkow. Behavioral deficits during early states of aging in *Caenorhabditis elegans* result from locomotory deficits possibly linked to muscle frailty. *J Gerontol A Biol Sci Med Sci.*, 2004 Dec;59(12):1251-60

Teaching & Mentorship Roles

Graduate resident tutor **Fall 2008-Present**

- Live-in mentor for 40 students at MIT's Macgregor undergraduate dormitory.

Research advisor **Fall 2007-Present**

- Provide research guidance to undergraduate researchers (UROPs) Alexandra Koenings and Albert Wang in Alm Lab.

Science tutor and mentor **Fall 2007-Spring 2008**

- Volunteer biology tutor and Science Olympiad mentor at Cambridge Public High School.

Teaching assistant **Fall 2006**

- Aided in teaching of MIT undergraduate class 20.181: *Computation for Biological Engineers.*

Tennis instructor **Summers 1997-2001**

- Provided professional instruction to students of all skill levels and age ranges.

Research Experiences

Massachusetts Institute of Technology, Cambridge, Massachusetts USA

Alm Group **Spring 2006 - Present**
Advisor: Prof. Eric Alm, Biological Engineering Division

Endy Group **Summer 2004**
Advisor: Prof. Drew Endy, Biological Engineering Division

Columbia University, New York, New York USA

Cell-spreading Analysis Group **Fall 2004 - Spring 2005**
Advisor: Prof. Chris Wiggins, Dept. of Applied Mathematics

Neurotrauma and Repair Laboratory **Fall 2004 - Spring 2005**
Advisor: Prof. Barclay Morrison III, Dept. of Biomedical Engineering

Genetic Network Inference Group **Fall 2002 - Spring 2004**
Advisor: Prof. Chris Wiggins, Dept. of Applied Mathematics

National Institute on Aging, Baltimore, Maryland USA

Laboratory of Genetics **Summer 2003**
Advisor: Ilya Goldberg, Ph.D.; Head, Image Informatics and Computational Biology Unit

Laboratory of Genetics **Summer 2002**
Advisors: Toshiyuki Yoshikawa, M.D. Ph.D., Minoru Ko Ph.D.

Skills

- Computational: Experience in phylogenetic analysis, genetic sequence analysis, machine and statistical learning, image processing and data visualization.
- Laboratory: Molecular biology and organic chemistry laboratory experience
- Computer: Fluent in Python and Matlab. Working knowledge of Perl, Java, shell-scripting languages, HTML, Applescript and LaTeX. Experience with C, R, and SQL. Comfortable with Windows, Mac OS X, and Unix.