

BIOGRAPHICAL SKETCH

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NAME Schadt, Eric E.		POSITION TITLE Chief Scientific Officer, Pacific Biosciences	
eRA COMMONS USER NAME ESCHADT		Co-founder, Director, Sage Bionetworks Adjunct Professor. UCSF	
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Cal Poly, San Luis Obispo, CA	B.S.	1991	Mathematics/ Computer Science
University of California, Davis	M.A.	1993	Pure Mathematics
University of California, Los Angeles	Ph.D.	1999 – 2001	Biomathematics

A. Personal Statement

I joined Pacific Biosciences as Chief Scientific Officer in June 2009 to oversee the scientific strategy for the company, including creating the vision for next-generation sequencing applications of the company's technology. I have no operational role in the company and am permitted to spend 75% of my time on external research in the academic setting. I recently founded Sage Bionetworks with Stephen Friend, an open access genomics initiative designed to build and support databases and an accessible platform for creating innovative, dynamic models of disease. My current efforts were motivated by the genomics and systems biology research I carried out at Merck to elucidate common human diseases and drug response using novel integrative genomics approaches based on genetic and molecular profiling data. My research helped revolutionize a field in statistical genetics (the genetics of gene expression), has energized the systems biology field, and has led to a number of discoveries relating to the causes of common human diseases. By the time I had left Merck in 2009 to start Sage Bionetworks, greater than 50% of all new drug discovery programs at Merck in the metabolic space were derived from work carried out in my group. I hold an affiliate professor position in the Departments of Medical Genetics and Biostatistics at the University of Washington in Seattle, and I was recently appointed as Fellow to the Institute of Systems and Synthetic Biology, Imperial College London. I received my B.S. in applied mathematics/computer science from California Polytechnic State University, my M.A. in pure mathematics from UCD, and my Ph.D. in bio-mathematics from UCLA (requiring Ph.D. candidacy in molecular biology and mathematics).

B. POSITIONS AND HONORS**Positions and Employment**

1990 – 1991 Software Engineer, Chevron Information Technology and Pipeline Companies, San Ramon, CA
 1993 Software Engineer, Silicon Graphics, Mountain View, CA
 1996 – 1997 Senior Software Engineer, University of California, Los Angeles, CA
 1997 – 1998 Director of Computing, Mathematical Sciences, University of California, Los Angeles, CA
 1998 – 1999 Senior Computational Research Scientist, Roche Bioscience, Palo Alto, CA
 1999 – 2003 Chief Scientist, Informatics, Rosetta Inpharmatics, Seattle, WA
 2003 – 2009 Senior Scientific Director, Rosetta Inpharmatics/Merck Research Labs, Seattle, WA
 2006 – Affiliate Associate Professor, Department of Biostatistics, University of Washington, Seattle, WA
 2009 - Affiliate Associate Professor, Department of Medicine – Medical Genetics, University of Washington, Seattle, WA
 2009 - Co-founder and a Director, Sage Bionetworks, Seattle, WA
 2009 - Chief Scientific Officer, Pacific Biosciences, Menlo Park, CA

Honors and Awards

1991 Graduated magna Cum Laude, Cal Poly San Luis Obispo
 1992 Earl C. Anthony Fellowship in Pure Mathematics
 1998 Alumni Distinguished Scholar Award

2007 Merck Presidential Fellowship Award
2008 Broad Distinguished Lecture in Computational Biology
2008 Fellow, Institute of Systems and Synthetic Biology, Imperial College London

C. SELECTED PEER-REVIEWED PUBLICATIONS

- Schadt EE[‡]**, Monks SA, (11 others) and Friend SH. 2003. The genetics of gene expression: a survey of maize, mouse and man. *Nature*: **422**:297 - 302.
- Monks SA, Zhu H, Leonardson A, Cundiff P, Edwards S, Phillips J, **Schadt EE[‡]**. 2004. Genetic inheritance of gene expression in human cell lines. *American Journal of Human Genetics*: **75**: 1094-1105.
- Schadt EE[‡]**, Lamb J, Zhu J, Edwards S, Araki H, GuhaThakurta D, Monks SA, Reitman M, Lum P, Drake TA, Lusis AJ, Leonardson A, Castle J, Zhu H, Sachs A. 2005. Inferring causality from microarray data in segregating populations. *Nature Genetics*: **37(7)**:710-717.
- Mehrabian, M, Stockton J, Lum P, Suh M, Castellani W, Lusis AJ, Allayee H, and **Schadt EE[‡]**. 2005. Pleiotropic Effects of 5-Lipoxygenase on components of the metabolic syndrome. *Nature Genetics* **37(11)**:1224-1233.
- Emilsson V, Thorleifsson G, Leonardson AS, ... (29 others)..., Stefansson K., **Schadt EE[‡]** 2008. The genetics of human gene expression from population-based tissue sampling. *Nature* **452**:423-428.
- Chen Y, Zhu J, Lum PY, Yang X, ... (16 others)..., **Schadt EE[‡]**. 2008. Variations in DNA induce changes in molecular network states that in turn lead to variations in obesity and related metabolic traits. *Nature* **452**:429-435.
- Schadt EE[‡]**, Molony C, Chudin E, ... (21 others). 2008. Mapping the genetic architecture of gene expression in human liver. *PLOS Biology* **6(5)**:e107.
- Zhu J, Zhang B, Smith E, Drees B, Brem R, Kruglyak L, Bumgarner R, **Schadt EE[‡]**. 2008. Integrating large-scale functional genomics data to dissect the complexity of yeast regulatory networks. *Nature Genetics* **40(7)**:854-861.
- Zhidong T, Argmann C, Wong KK, Mitnaul LJ, Edwards S, Sach IAC, Zhu J, **Schadt EE[‡]**. 2009. Integrating siRNA and protein-protein interaction data to identify Edg5 as a type 2 diabetes gene. *Genome Research* **19(6)**:1057-67.
- Dobrin R, Zhu J, Molony C, Argman C, Parrish ME, Carlson S, Allan MF, Pomp D, **Schadt EE[‡]**. 2009. Multi-tissue coexpression networks reveal unexpected subnetworks associated with disease. *Genome Biology* **10(5)**:R55.
- Yang, X, Deignan JL,... (25 others), **Schadt EE[‡]** (one of three senior authors), Lusis AJ, Drake TA. 2009. Validation of Candidate Causal Genes for Abdominal Obesity That Affect Shared Metabolic Pathways and Networks. *Nature Genetics* **41(4)**:415-423.
- Wang K, Narayanan M, Zhong H, Tompa M, **Schadt EE**, Zhu J. Meta-analysis of inter-species liver co-expression networks elucidates traits associated with common human diseases. 2009. *PLoS Comput Biol.* **5(12)**:e1000616. Epub 2009 Dec 18.
- Schadt EE[‡]**. Molecular networks as sensors and drivers of common human diseases. 2009. *Nature*. **461**:218-23.
- Zhang W, Zhu J, **Schadt EE**, Liu JS. A Bayesian partition method for detecting pleiotropic and epistatic eQTL modules. 2010. *PLoS Comput Biol.* **6(1)**:e1000642.
- Fraser HB, Moses AM, **Schadt EE[‡]**. The quantitative genetics of phenotypic robustness. 2010. *PNAS Early Edition* (DOI 10.1073/pnas.0912245107).
- Listgarten J, Kadie C, **Schadt EE**, Heckerman D. 2010. Correction for hidden confounders in the genetic analysis of gene expression. *PNAS USA* **107(38)**:16465-70.

Principal Investigator/Program Director (Last, First, Middle):

- Linderman M, Sorenson J, Lee L, Nolan G, **Schadt EE**[†]. 2010. Computing environments to cope with the life science information revolution. *Nature Reviews Genetics*.
- Fraser HB, Moses AM, **Schadt EE**[†]. The quantitative genetics of phenotypic robustness. 2010. *PNAS Early Edition* (DOI 10.1073/pnas.0912245107).
- Pandey G, Zhang B, Chang AN, Myers CL, Zhu J, Kumar V, **Schadt EE**[†]. 2010. An integrative multi-network and multi-classifier approach to predict genetic interactions. *PLoS Computational Biology* **6**(9):e1000928.
- Schadt EE**, Turner S, Kasarskis A. 2010. A window into third-generation sequencing. *Human Molecular Genetics* **19**(R2):R227-40.
- Schadt EE**[†]. 2011. First steps in a long road. *In Press, Science*.
- Chin CS, Sorenson J, Harris JB,...(11 others), Waldor MK, **Schadt EE**[†]. 2011. The origin of the Haitian cholera outbreak strain. *New England Journal of Medicine* **364**:33-42.

†Corresponding/Senior author

*First author

D. RESEARCH SUPPORT

ACTIVE

None.

COMPLETED

None.