Steve Rozen, Ph.D.

Curriculum Vitae

Duke-NUS Graduate Medical School Singapore
8 College Road, Singapore 169857
steve.rozen [at] duke-nus.edu.sg
http://purl.com/STEVEROZEN/

Background

Education

Ph.D. Courant Institute of Mathematical Sciences at New York University, Computer Science (advisor: Dennis Shasha). Dissertation topic: automatic physical database design.

M.S. Courant Institute at New York University, Computer Science.

B.A. cum laude, University of California at Riverside.

Academic and research positions

2008-... Associate Professor, Duke-NUS Graduate Medical School Singapore

2010-… Adjunct Associate Professor (Associate Professor Track V), Department of Psychiatry and Behavioral Sciences, Duke University Medical Center

1993-2008 Research Scientist (1994-2008) Whitehead Institute, Cambridge MA

1996-2008 Bioinformatics Consultant (part-time)

1999-2001 Director of yearly, intensive course, *Bioinformatics: Writing Software for Genome Research,* Cold Spring Harbor Laboratory, New York

1989-1993 Research software engineer (full-time) Software Options, Inc. (DARPA-funded research), Cambridge, MA

1988-1989 Graduate Assistant/Instructor, Department of Computer Science, Courant Institute at New York University, New York

Teaching

2009-... Faculty of the NUS Graduate School for Integrative Sciences and Engineering, National University of Singapore

2008-... Faculty of the Singapore-MIT Alliance, Programme in Computation and Systems Biology

2001-2003 University of Amsterdam, advisor and Ph.D. committee for Sjoerd Repping: *The Reproductive Fitness of the Y Chromosome*

1999, 2000, 2001 Cold Spring Harbor Laboratory, New York, organized and directed course *Bioinformatics: Writing Software for Genome Research*, a yearly intensive course to train researchers in creation and integration of software for genomics, genetics, and molecular biology; covered use of the Unix/Linux operating system, Perl programming, database design, creating dynamic Web pages, and analysis of sequence and microarray data

1998 Boston University, master's thesis committee for Rhonda Harrison: *A Computer Simulation to Optimize the Effectiveness of Genomic Library Construction and Ordering*

1992 International Conference on Very Large Data Bases, *Database Tuning Tutorial* (with D. Shasha)

1989 New York University, Courant Institute, Department of Computer Science taught graduate course *Special Topics: Parallel Algorithms, Architectures, and Applications* (with D. Shasha)

1988 New York University, Courant Institute, Department of Computer Science, taught undergraduate *Introduction to Database Systems*

Other professional experience

1995-1997 Database consultant (part-time) Marble Associates Inc., Boston MA

1986-1988 Database architect and administrator and software engineer (full-time) Prudential-Bache Securities, New York

1983-1986 Information technology specialist and programmer, Chemical Bank, New York

Grants

A striatal synaptic dysfunction hypothesis for repetitive behaviors in autism evaluated by re-sequencing of candidate genes. Sept 2010 to Aug 2013. PI. Singapore National Medical Research Council, application IRG09nov001

Genomic Studies of Sex Chromosomes. April 2006 to March 2009. co-PI with David C. Page. NIH, NHGRI grant R01 HG00275

Genomic Studies of Sex Chromosomes. March 2003 to March 2006. co-PI with David C. Page. NIH, NHGRI grant R01 HG00275

Genetic Studies of Spermatogenic Failure in Humans. May 2000 to April 2006. Co-PI with David C. Page. NIH, NICHD grant R01 HD32907

Genomic Studies of the Y Chromosome. Jan 2000 to Feb 2003. Co-PI with David C. Page. NIH, NHGRI grant R01 HG00257

Mapping and Sequencing the Y Chromosome. Jan 1997 to Dec 1999. Co-PI with David C. Page. NIH, HCHGR grant 2 R01 HG00257-07

A Freely Sharable Database Management System Designed for Use in Component-Based, Modular, Genome-Informatics Systems. Sept 1995 to Sept 1998. Co-PI with Nathan Goodman. Department of Energy grant DE-FG02-95ER62101

Workflow-Management Software for Genome-Laboratory Informatics. May 1996 to April 1999 Co-PI with Nathan Goodman. NIH, NCHGR grant 1 R01 HG0367-01

Awards

2006 *Faculty of 1000 Medicine, Must Read* for Repping et al., 2006, listed below in Publications

2003 *Faculty of 1000 Biology, Recommended Paper* for Rozen, et al., 2003, listed below in Publications

2003 *Breakthrough of the Year #9 by the News and Editorial Staffs of* ***Science***, for sequencing the human Y chromosome, reported in Rozen et al., 2003 and Skaletsky et al., 2003, listed below in Publications

2003 *Faculty of 1000 Biology, Exceptional Paper* for Repping, et al., 2003, listed below in Publications

2003 *Cotterman Award from the American Society of Human Genetics* for Repping et al., 2002, listed below in Publications

Publications ⇨ *PDFs at http://purl.com/STEVEROZEN/pubs.cgi*

(IF indicates journal impact factor for year closest to publication year. TC indicates times cited, from ISI unless otherwise indicated.; "(GS)" indicates Google Scholar.)

D. Bellott , H.Skaletsky , T. Pyntikova , E. Mardis , T. A. Graves , C. Kremitzki , L. Brown , **S. Rozen**, W. C. Warren , R. K. Wilson, D. C. Page. "Convergent Evolution of Chicken Z and Human X Chromosomes by Expansion and Gene Acquisition." *Nature* (2010, in press) IF 31.4

J. F. Hughes, H. Skaletsky, T. Pyntikova, T. A. Graves, P. J. Minx, R. S. Fulton, S. D. McGrath, W. C. Warren, D. P. Locke, E. R. Mardis, S. K. M. van Daalen, S. Repping, C. Friedman, B. J. Trask, **S. Rozen**, R. K. Wilson, David C. Page. "Chimpanzee and human Y chromosomes are remarkably divergent in structure and gene content." *Nature.* 463:536-539 (2010) IF 31.4

S. Rozen, J. D. Marszalek, R. K. Alagappan, H. Skaletsky, D. C. Page. "Remarkably little variation in proteins encoded by the Y chromosome's single-copy genes, implying effective purifying selection." *Am. J. Hum. Genet.* 85:923-928 (2009) IF 10.2

P. Mannelli, A. Patkar, **S.Rozen**, W. Matson, R. Krishnan, R. Kaddurah-Daouk. "Opioid use affects antioxidant activity and purine metabolism."*Hum. Psychopharm.* 24:666-675 (2009) IF 2.1

A. A. Patkar, **S. Rozen**, P. Mannelli, W. Matson, C. Pae, K. R. Krishnan, R. Kaddurah-Daouk. "Alterations in tryptophan and purine metabolism in cocaine addiction: A metabolomic study." *Psychopharmacology (Berl).* 206:479-489 (2009) IF 3.7

L. Visser, G. H. Westerveld, C. M. Korver, S. K. M. van Daalen, S. E. Hovingh, **S. Rozen**, F. van der Veen, S. Repping. "Y chromosome gr/gr deletions are a risk factor for low semen quality." *Hum. Reprod.* 24:2667-2673 (2009) IF 3.8

J. K. Yao, G. G. Dougherty Jr, R. D. Reddy, M. S. Keshavan, D. M. Montrose, W. R. Matson, **S. Rozen**, R. R. Krishnan, J. McEvoy, R. Kaddurah-Daouk. "Altered interactions of tryptophan metabolites in first-episode neuroleptic-naive patients with schizophrenia." *Mol. Psychiatry,* Epub ahead of print, doi: 10.1038/mp.2009.33 (2009) IF 12.5

S. Repping, S. K. M. van Daalen, L. G. Brown, C. M. Korver, J. Lange, J. D. Marszalek, T. Pyntikova, F. van der Veen, H. Skaletsky, D. C. Page, **S. Rozen**. "High mutation rates have driven extensive structural polymorphism among human Y chromosomes." *Nat. Genetics*, 38:463-467 (2006) IF 24.2 TC 56

J. F. Hughes, H. Skaletsky, **S. Rozen**, R. K. Wilson, D. C. Page. "Has the chimpanzee Y chromosome been sequenced?" *Nat. Genetics,* 38:853-854 (2006) IF 24.2

A. Ballabio, D. Nelson, **S. Rozen**. "Genetics of disease, The sex chromosomes and human disease, Editorial overview." (Review) *Curr. Opin. Genet. Dev*. 16:1-4 (2006) IF 10.0

J. F. Hughes, H. Skaletsky, T. Pyntikova, P. J. Minx, T. Graves, **S. Rozen**, R. K. Wilson, D. C. Page. "Conservation of Y-linked genes during human evolution revealed by comparative sequencing in chimpanzee." *Nature*, 437:101-104 (2005) IF 29.3 TC 25 (Scopus)

S. Rozen, M. E. Cudkowicz, M. Bogdanov, W. R. Matson, B. S. Kristal, C. Beecher, S. Harrison, P. Vouros, J. Flarakos, K. Vigneau-Callahan, T. D. Matson, K. M. Newhall, M. F. Beal, R. H. Brown, Jr., R. Kaddurah-Daouk. "Metabolomic analysis and signatures in motor neuron disease." *Metabolomics*, 1:101-108 (2005) TC 23

S. Repping, S. K. M. van Daalen, C. M. Korver, L. G. Brown, J. D. Marszalek, J. Gianotten, R. D. Oates, S. Silber, F. van der Veen, D. C. Page, **S. Rozen**. "A family of human Y

chromosomes has dispersed throughout Northern Eurasia despite a 1.8 Mb deletion in the Azoospermia Factor c region." *Genomics*, 83:1046-1052 (2004) IF 3.8, TC 59

S. Repping, C. M. Korver, R. D. Oates, S. Silber, F. van der Veen, D. C. Page, **S. Rozen**. "Are sequence family variants useful for identifying deletions in the human Y chromosome?" *Am. J. Hum. Genet.* 75:514-517 (2004) IF 12.3 TC 12

S. Repping, H. Skaletsky, L. Brown, S. K. M. van Daalen, C. M. Korver, T. Pyntikova, T. Kuroda-Kawaguchi, J. W. A. de Vries, R. D. Oates, S. Silber, F. van der Veen, D. C. Page, **S. Rozen**. "Polymorphism for a 1.6-Mb deletion of the human Y chromosome persists through balance between recurrent mutation and haploid selection." *Nat. Genetics*, 35:247-251 (2003) IF 26.5, TC 128

S. Rozen, H. Skaletsky, J. D. Marszalek, P. J. Minx, H.S. Cordum, R. H. Waterston, R. K. Wilson, D. C. Page. "Abundant gene conversion between arms of massive palindromes in human and ape Y chromosomes." *Nature*, 423:873-876 (2003) IF 31.0, TC 160

H. Skaletsky, T. Kuroda-Kawaguchi, P. J. Minx, H. S. L. Hillier, L. G. Brown, S. Repping, T. Pyntikova, J. Ali, K. Delahunty, H. Du, G. Fewell, G. Fulton, T. Graves, S.-F. Hou P. Latrielle, R. Leonard, R. Maupin, T. Miner, W. Nash, C. Nguyen, P. Ozersky, K. Pepin, S. Rock, T. Rohlfing, K. Scott, C. Stoneking, C. Strong, A. Tin-Wollam, R. H. Waterston, R. K. Wilson, **S. Rozen**, D. C. Page. "The male-specific region of the human Y chromosome: A mosaic of discrete sequence classes." *Nature,* 423:825-837 (2003) IF 31.0, TC 456

S. Repping, H. Skaletsky, J. Lange, S. Silber, F. van der Veen, R. D. Oates, D. C. Page, **S. Rozen**. "Recombination between palindromes P5 and P1 on the human Y chromosome causes massive deletions and spermatogenic failure." *Am. J. Hum. Genet.* 71:906-922 (2002) IF 10.6, TC 110

T. Kuroda-Kawaguchi, H. Skaletsky, L. G. Brown, P. J. Minx, H. S. Cordum, R. H. Waterston, R. K. Wilson, S. Silber, R. Oates, **S. Rozen**, D. C. Page. "The human Y chromosome's *AZFc* region features massive palindromes, uniform recurrent deletions, and testis gene families." *Nat. Genetics*, 29:279-286 (2001) IF 29.6, TC 242 (Scopus)

C. Tilford, T. Kuroda-Kawaguchi, H. Skaletsky, **S. Rozen**, L. G. Brown, M. Rosenberg, J. D. McPherson, K. Wylle, M. Sekhon, T. A. Kucaba, R. H. Waterston, D. C. Page. "A physical map of the human Y chromosome." *Nature*, 409:943-945 (2001) IF 28.0, TC 102

E. Drenkard, B. G. Richter, **S. Rozen**, L. M. Stutius, N. A. Angell, M. Mindrinos, R. J. Cho, P. J. Oefner, R. W. Davis, F. M. Ausubel. "A simple procedure for the analysis of single nucleotide polymorphisms facilitates map-based cloning in *Arabidopsis*." *Plant Physiol*. 124:1483-1492 (2000) IF 4.8, TC 71

S. Rozen, H. Skaletsky. "Primer3 on the WWW for general users and for biologist programmers." In S. Krawetz, S. Misener, eds*. Bioinformatics Methods and Protocols* in the series *Methods in Molecular Biology*. Humana Press, Totowa, NJ, 2000, pages 365-386 TC 1,359 (Scopus)

C. Sun, H. Skaletsky, **S. Rozen**, J. Gromoll, E. Nieschlag, R. Oates, D. C. Page. "Deletion of azoospermia *AZFa*) region of human Y chromosome caused by recombination between HERV15 proviruses." *Hum. Mol. Genet.* 9:2291-2296 (2000) IF 9.0, TC 81

N. Goodman, **S. Rozen**, L. Stein. "LabBase: data and workflow management for large scale biological research." In S. Letovsky, ed. *Bioinformatics: Databases and Systems*. Kluwer Academic Publishers, Norwell, MA, 1999

R. G. Steen,..., **S. Rozen**, ..., H. J. Jacob. "A high-density integrated genetic linkage and radiation hybrid map of the laboratory rat genome." *Genome Res. 9* (advance electronic publication) (1999) TC 99

J. T.-L. Wang, **S. Rozen**, B. A. Shapiro, D. Shasha, Z. Wang, M. Yin. "New techniques for DNA sequence classification." *J. Comp. Bio.* 6:209-218 (1999) TC 20

J. T.- L. Wang, T. G. Marr, **S. Rozen**, D. Shasha, B. A. Shapiro, G.-W. Chirn, Z. Wang, K. Zhang. "Pattern discovery and classification in biosequences." In J. T.-L. Wang, B. A. Shapiro, D. Shasha, eds. *Pattern Discovery in Biomolecular Data: Tools, Techniques, and Applications.* Oxford University Press, 1999, pages 55-74

P. Deloukas,..., **S. Rozen**,..., D. R. Bently. "A physical map of 30,000 human genes." *Science,* 282:744-746 (1998) TC 514

D. Wang, ..., **S. Rozen**, T. J. Hudson, R. Lipshutz, M. Chee, E. S. Lander. "Large-scale identification, mapping and genotyping of single nucleotide polymorphisms in the human genome." *Science*, 280:1077-1082 (1998) TC 1,064

N. Goodman, **S. Rozen**, L .D. Stein. "The LabFlow System for Workflow Management in Large Scale Biology Research Laboratories." *Proceedings of the 6th International Conference on Intelligent Systems for Molecular Biology (ISMB)*, 6:69-77 (1998) TC 4 (GS)

N. Goodman, **S. Rozen**, L. D. Stein, A. G. Smith. "The LabBase System for Data Management in Large Scale Biology Research Laboratories." *Bioinformatics,* 14:562-574 (1998) TC 15

N. Kenmochi, T. Kawaguchi, **S. Rozen**, E. Davis, N. Goodman, T.J. Hudson, T. Tanaka, D.C. Page. "A map of 75 human ribosomal protein genes." *Genome Res.* 8:509-523 (1998) TC 74

A. J. Bonner, A. Shrufi, **S. Rozen**. "Database requirements for workflow management in a high-throughput genome laboratory." *NSF Workshop on Workflow and Process Automation in Information Systems: State-of-the-art and Future Directions* (1996) TC 8 (GS)

A. J. Bonner, A. Shrufi, **S. Rozen**. "LabFlow-1: A database benchmark for high-throughput workflow management." *Proceedings of the International Conference on Extending Database Technology (EDBT)* (1996) acceptance ratio 31/178 TC 35 (GS)

R. Saxena, L. G. Brown, T. Hawkins, R. K. Alagappan, H. Skaletsky, M. P. Reeve, R. Reijo, **S. Rozen**, M. B. Dinulos, C. M. Disteche, D. C. Page."The *DAZ* gene cluster on the human Y chromosome arose from an autosomal gene that was transposed, repeatedly amplified and pruned." *Nat. Genetics,* 14:292-299 (1996) TC 255

G. D. Schuler, ...,**S. Rozen**, ..., T. J. Hudson. "A gene map of the human genome." *Science*, 274:540-546 (1996) TC 796

L. Stein, **S. Rozen,** N. Goodman. "Managing laboratory workflow with LabBase." In *Proceedings of the 1994 Conference on Computers in Medicine*, World Scientific Publishing Company (1996)

A. J. Bonner, A. Shrufi, **S. Rozen**. "Benchmarking object-oriented DBMSs for workflow management." *OOPSLA'95 Workshop on Object Database Behavior, Benchmarks, and Performance,* Austin, Texas (1995) TC 3 (GS)

T. J. Hudson et al. "An STS-based map of the human genome." *Science*, 270:1945-1954 (1995) TC 702

R. Reijo, T-Y Lee, P. Salo, R. Alagappan, L. G. Brown, M. Rosenberg, **S. Rozen**, T. Jaffe, D. Straus, O. Hovatta, A. de la Chapelle, S. Sibler, D. C. Page. "Diverse spermatogenic

defects in humans caused by overlapping de novo Y deletions encompassing a novel RNA-binding protein gene." *Nat. Genetics*, 10:383-393 (1995) TC 710

S. Rozen, L. Stein, N. Goodman. "LabBase: A database to manage laboratory data in a large-scale genome-mapping project." *IEEE Engineering in Medicine and Biology*, 14:702-709 (1995) TC 4

N. Goodman, **S. Rozen**, L. Stein. "Requirements for a Deductive Query Language in the MapBase Genome-Mapping Database." In R. Ramakrishnan, ed. *Applications of Logic Databases*, Kluwer, 1994, pages 259-278 TC 25 (GS)

N. Goodman, **S. Rozen**, L. Stein. "Building a laboratory information system around a C++-based object-oriented DBMS." *Proceedings of the 20th International Conference on Very Large Data Bases* (1994) TC 24 (GS)

S. Rozen, L. Stein, N. Goodman. "Constructing a domain-specific DBMS using a persistent object system." *Sixth International Workshop on Persistent Object Systems* (1994) acceptance ratio 27/56 TC 14 (GS)

L. Stein, A. Marquis, E. Dredge, M. P. Reeve, M. Daly, **S. Rozen**, N. Goodman. "Splicing UNIX into a genome mapping laboratory." *USENIX Summer 1994 Technical Conference*, pages 221-229 (1994) TC 11 (GS)

S. Rozen. "Automating Physical Database Design: An Extensible Approach." Ph.D. thesis, Courant Institute of Mathematical Sciences, New York University (Mar 1993), 124 pages TC 8 (GS)

S. Rozen, D. Shasha. "A framework for automating physical database design." *Proceedings of the 17th International Conference on Very Large Data Bases*, pages 401-411 (1991) acceptance ratio 59/323 TC 49 (GS)

S. Rozen, D. Shasha. "Rationale and design of BULK." *Proceedings of the Third International Workshop on Database Programming Languages*, pages 71-85 (1991) TC 10 (GS)

S. Rozen, D. Shasha. "Using a relational system on Wall Street: The good, the bad, the ugly, and the ideal." *Communications of the ACM*, 32:8 988-994 (1989) TC 12 (GS)

Software, technical reports, proposals, etc.

S. Rozen, W. C. Warren, G. Weinstock, S. J. O'Brien, R. A. Gibbs, R. K. Wilson, D. C. Page. "Sequencing and Annotating New Mammalian Y Chromosomes, A White Paper Proposal, July, 2006." A proposal to the National Human Genome Research Institute, NIH

S. Rozen, H. J. Skaletsky. "Primer3: A software component for picking PCR primers." 1996-present. Source code available at https://sourceforge.net/project/showfiles.php?group_id=112461. User-friendly front end available as a public WWW server at http://fokker.wi.mit.edu.

S. Rozen et al. "Workflow Adapter Module: Draft Specification." Technical report (1997)

S. Rozen, L. Stein, N. Goodman. "LabBase User Manual." (1997) 21 pages

N. Goodman, **S. Rozen,** L. Stein. "Database-and Workflow-Management Challenges Posed by the Human Genome Project." Technical Report (1995) 31 pages

N. Goodman, **S. Rozen.** "A Freely Sharable Database Management System Designed for Use in Component-Based, Modular Genome Informatics Systems." From a proposal to the Department of Energy (1994) 22 pages

S. Rozen, M. J. Daly, M.-P. Reeve, N. Goodman. "GENOME-MAP: Real-World Test Data and Queries for Logic Databases." Technical Report (1993) 7 pages

S. Rozen, D. Shasha. "Automating physical database design: A general approach and its evaluation." Technical Report (1993) 51 pages

M. Karr, W. G. Morris, **S. Rozen.** "Global optimization for a coagulating code generator: Final technical report." Software Options, Inc., Technical Report (1991) 7 pages

W. G. Morris, **S. Rozen.** "Interim report on E-L/CCG benchmarks." Technical Report SOI-01-90, Software Options, Inc. (1991) 40 pages

Other Activities

Issue editor for Current Opinion in Genetics and Development, vol. 16, issue 16, "Genetics of disease, The sex chromosomes and human disease" with A. Ballabio and D. Nelson (2006).

Reviewer for

American Journal of Human Genetics
Annals of Human Genetics
Bioinformatics
Gene
Human Molecular Genetics
Human Reproduction
Information Systems
International Journal of Andrology
Metabolomics
Nature
Nature Genetics
New England Journal of Medicine
Nucleic Acids Research
PLoS Genetics

Study section reviewer for

NIH, Clinical Special Emphasis Panel in Digestive Sciences (2007)
GenomeCanada (2006)
National Cancer Institute/NIH, Metabolomics for Early Cancer Detection (2005)

Member of Scientific Board, Metabolomics Society (http://www.metabolomicssociety.org) (2005 to present)

Patents

US provisional application No. 60/592719 Markers of Alterations in the Y Chromosome and Uses Therefor (Filed June 30, 2004), licensed to Repromedix, Woburn, MA.

Invited Lectures

2009, Joint BII-DBS Workshop – Modern Approaches to Biological Problems, National University of Singapore, Sept. 3-4, *Can exon arrays help us understand cancer development?*

2009, Singapore MIT Alliance, Programme in Computation and Systems Biology Research Symposium, Singapore, July 28, *Cancer Genomics, Bioinformatics, and High-Throughput Systems Biology*

2008, Department of Biological Sciences, National University of Singapore, Sept. 26, *Human Y Chromosome Mutation and Sperm Production*

2008, Department of Veterinary Anatomy & Public Health, Texas A&M, Texas, April 3, *Y Chromosomes — Collateral Damage in the War between the Sexes*

2008, University of Georgia, March 31, *Y Chromosomes — Collateral Damage in the War between the Sexes*

2008, University of Kansas, March 26, *Y Chromosomes — Collateral Damage in the War between the Sexes*

2008, Mayo Clinic, Rochester Minnesota, March 7, *Generating, Analyzing, Interpreting Metabolomic Data*

2006, Kato Ladies Clinic, Tokyo, Japan, March 31, *Human Y Chromosome: Evolution and Sequence*

2006, DNA Structure, Genomic Rearrangements and Human Disease, Institute of Biosciences and Technology, Houston, Texas, March 12-14, *Large Scale Variation among Human Y Chromosomes*

2005, Pacific Grove, California, Y Chromosome and Male Germ Cell Biology in Health and Disease in the Post Genomic Era, Sept. 21-23, *The Human Y Chromosome: Structure and Genes*

2005, University of Pennsylvania, Center for Research on Reproduction and Women's Health, Nov 30, *The Human Y Chromosome and Spermatogenesis*

2004, Massachusetts Institute of Technology, course 18.417, "Introduction to Computational Molecular Biology," Nov. 2, lecture *Microarrays and Analysis of Gene Expression Data from Microarrays*

2004, Mammalian Genetics, Genomics and Development, Whitehead Institute, Jan. 12, *How Lively Is the Human Y Chromosome? A Survey of Large Scale Rearrangements*

2003, Center for Reproductive Medicine University of Amsterdam, The Netherlands, Oct., *How Testis Genes Survive on the Y Chromosome*

2003, Department of Growth and Reproduction, Rigshospitalet, Copenhagen, Denmark, Oct., *How Testis Genes Survive on the Y Chromosome*

2003, Whitehead Institute, Whitehead Forum, Nov. 20, *How Have Testis Genes Survived on the Human Y Chromosome?*

2002, Germ Cells, Cold Spring Harbor Laboratory, New York, Oct. 9-13, *Rethinking the Rotting Y: Palindromes, Gene Conversion, and Germ-Cell Genes*

2001, Boston IVF, Waltham, Massachusetts, January 25, 2001, *Recent Advances in Understanding the Sequence of the Y Chromosome.*

2000, Boston University, Boston, Massachusetts, April 10, *The Y Chromosome Exposed: Sequence, Genes, Phenotypes, and Functional Variation*

2000, Whitehead Institute, Lecture Series for High School Teachers, April 28, *The Human X and Y: A 300 Million Year History*

2000, Clontech Laboratories, Palo Alto, California, June 15, *Sequence of the Human Y Chromosome Genes, Phenotypes, and Functional Variation*

2000, Great Apes: Phenotypes and Genotypes, Banbury Center, Cold Spring Harbor Laboratory, March 19-22, *Sequence of the Human Y Chromosome: Genes, Gene Families, and Phenotypes*

1998, Massachusetts Institute of Technology, Independent Activities Period (IAP) lecture, Jan., *Common Variants Project, Finding Common Alleles Responsible for Common Phenotypes*

1997, Third International HUGO Single Chromosome Workshop on the Y Chromosome, University of Heidelberg, Germany, April 13-16, *Mapping and Sequencing the Human Y Chromosome*

1994, Conference on Computers in Medicine, Austin, Texas, *Managing Laboratory Workflow with LabBase*

1994, 20th International Conference on Very Large Data Bases, Santiago, Chile, *Building a Laboratory Information System around a C++-Based Object-Oriented DBMS*

1994, Sixth International Workshop on Persistent Object Systems, Tarascon, France *Constructing a Domain-Specific DBMS Using a Persistent Object System*

1991, 17th International Conference on Very Large Data Bases, Barcelona, Spain, *A framework for Automating Physical Database Design*

1991, Third International Workshop on Database Programming Languages, Nafplion, Greece, *Rationale and Design of BULK*