Eric S. Lander

February 25, 2005

Prepared by:
John E. Sisson
Biological Sciences Librarian
jsisson@uci.edu

Journal Articles

(Selected from over 220 articles he has authored or co-authored)

Poirier, C., Y. J. Qin, C.P. Adams, Y. Anaya, J. B. Singer, A. E. Hill, Eric S. Lander, J.H. Nadeau, and C. E. Bishop. "A complex interaction of imprinted and maternal-effect genes modifies sex determination in odd sex (Ods) mice." *Genetics* 168, no. 3 (2004): 1557-1562.

Skuse, D. H., S. Purcell, M. J. Daly, R. J. Dolan, J. S. Morris, K. Lawrence, Eric S. Lander, and P. Sklar. "What can studies on Turner syndrome tell us about the role of X-linked genes in social cognition?." *American Journal of Medical Genetics Part B-Neuropsychiatric Genetics* 130B, no. 1 (2004): 8-9.

Rioux, J. D., H. Karinen, K. Kocher, S. G. McMahon, P. Karkkainen, E. Janatuinen, M. Heikkinen, R. Julkunen, J. Pihlajamaki, A. Naukkarinen, V. M. Kosma, M. J. Daly, Eric S. Lander, and M. Laakso. "Genomewide search and association studies in a Finnish celiac disease population: Identification of a novel locus and replication of the HLA and CTLA4 loci." *American Journal of Medical Genetics Part A* 130A, no. 4 (2004): 345-350.

Michalkiewicz, M., T. Michalkiewicz, R. A. Ettinger, E. A. Rutledge, J. M. Fuller, D. H. Moralejo, B. Van Yserloo, A. J. MacMurray, A. E. Kwitek, H. J. Jacob, Eric S. Lander, and A. Lernmark. "Transgenic rescue demonstrates involvement of the Ian5 gene in T cell development in the rat." *Physiological Genomics* 19, no. 2 (2004): 228-232.

Lander, Eric S. "Eric S. Lander." *Nature Reviews Drug Discovery* 3, no. 9 (2004): 730.

Kellis M, N. Patterson, B. Birren, B. Berger, and Eric S. Lander. "Methods in comparative genomics: genome correspondence, gene identification and regulatory motif discovery." *Journal of Computational Biology* 11, nos. 2-3 (2004):319-55.

Kellis, M., N. Patterson, M. Endrizzi, B. Birren, and Eric. S. Lander. "Sequencing and comparison of yeast species to identify genes and regulatory elements." *Nature* 423, (2003): 241–254.

Waterston, Robert H., Eric S. Lander, and John E. Sulston. "More on the sequencing of the human genome." *Proceedings of the National Academy of Sciences of the United States of America* 100, no. 6 (March 18, 2003): 3022-3024.

Waterston, Robert H., Eric S. Lander, and John E. Sulston. "On the sequencing of the human genome." *Proceedings of the National Academy of Sciences of the United States of America* 99, no. 6 (March 19, 2002): 3712-3716.

Waterston R.H., K. Lindblad-Toh, E. Birney, et al. Mouse Genome Sequencing Consortium. "Initial sequencing and comparative analysis of the mouse genome." *Nature* 420, no. 6915 (2002): 520–562.

Daly, Mark J., John D. Rioux, Stephen F. Schaffner, Thomas J. Hudson, and Eric S. Lander. "High-resolution haplotype structure in the human genome." *Nature Genetics* 29, no. 2 (October, 2001): 229-232.

International Human Genome Sequencing Consortium., Eric S. Lander, A. Patrinos, and J.J. Morgan. "Initial sequencing and analysis of the human genome." *Nature* 409, (2001): 813-958.

Holstege, F. C. P., E. G. Jennings, J. J. Wyrick, T. I. Lee, C. J. Hengartner, M. R. Green, T. R. Golub, Eric S. Lander, and R. A. Young. "Dissecting the regulatory circuitry of a eukaryotic genome." *Cell* 95, (1998): 717-728.

Wang, D. G., J. B. Fan, C. J. Siao, A. Berno, P. Young, R. Sapolsky, G. Ghandour, N. Perkins, E. Winchester, J. Spencer, L. Kruglyak, L. Stein, L. Hsie, T. Topaloglou, E. Hubbell, E. Robinson, M. Mittmann, M. S. Morris, N. P. Shen, D. Kilburn, J. Rioux, C. Nusbaum, S. Rozen, T. J. Hudson, R. Lipshutz, M. Chee, and Eric S. Lander. "Large-scale identification, mapping, and genotyping of single- nucleotide polymorphisms in the human genome." *Science* 280, (1998): 1077-1082.

Dietrich, W.F., J. Miller, R. Steen, M. A. Merchant, D. Damronboles, Z. Husain, R. Dredge, M. J. Daly, K. A. Ingalls, T. J. Oconnor, C. A. Evans, M. M. Deangelis, D. M. Levinson, L. Kruglyak, N. Goodman, N. G. Copeland, N. A. Jenkins, T. L. Hawkins, L. Stein, D. C. Page, and Eric S. Lander. "A comprehensive genetic map of the mouse genome." *Nature* 380, (1996): 149-152.

Schuler, G. D., M. S. Boguski, E. A. Stewart, L. D. Stein, G. Gyapay, K. Rice, R. E. White, P. Rodrigueztome, A. Aggarwal, E. Bajorek, S. Bentolila, B. B. Birren, A. Butler, A. B. Castle, N. Chiannilkulchai, A. Chu, C. Clee, S. Cowles, P. J. R. Day, T. Dibling, N. Drouot, I. Dunham, S. Duprat, C. East, C. Edwards, J. B. Fan, N. Fang, C. Fizames, C. Garrett, L. Green, D. Hadley, M. Harris, P. Harrison, S. Brady, A. Hicks, E. Holloway, L. Hui, S. Hussain, C. Louisditsully, J. Ma, A. Macgilvery, C. Mader, A. Maratukulam, T. C. Matise, K. B. Mckusick, J. Morissette, A. Mungall, D. Muselet, H. C. Nusbaum, D. C. Page, A. Peck, S. Perkins, M. Piercy, F. Qin, J. Quackenbush, S. Ranby, T. Reif, S. Rozen, C. Sanders, X. She, J. Silva, D. K. Slonim, C. Soderlund, W. L. Sun, P. Tabar, T. Thangarajah, N. Vegaczamy, D. Vollrath, S. Voyticky, T. Wilmer, X. Wu, M. D. Adams, C. Auffray, N. A. R. Walter, R. Brandon, A. Dehejia, P. N. Goodfellow, R. Houlgatte, J. R. Hudson, S. E. Ide, K. R. Iorio, W. Y. Lee, N. Seki, T. Nagase, K. Ishikawa, N. Nomura, C. Phillips, M. H. Polymeropoulos, M. Sandusky, K. Schmitt, R. Berry, K. Swanson, R. Torres, J. C. Venter, J. M. Sikela, J. S. Beckmann, J. Weissenbach, R. M. Myers, D. R. Cox, M. R. James, D. Bentley, P. Deloukas, Eric S. Lander, and T. J. Hudson. "A gene map of the human genome." *Science* 274, (1996): 540-546.

Jacob, H. J., D. M. Brown, R. K. Bunker, M. J. Daly, V. J. Dzau, A. Goodman, G. Koike, V. Kren, T. Kurtz, A. Lernmark, G. Levan, Y. P. Mao, A. Pettersson, M. Pravenec, J. S. Simon, C. Szpirer, J. Szpirer, M. R. Trolliet, E. S. Winer, and Eric S. Lander. "A genetic-linkage map of the laboratory rat, <u>Rattus-Norvegicus</u>." *Nature Genetics* 9, (1995): 63-69.

Kruglyak, L. and Eric S. Lander. "Complete multipoint sib-pair analysis of qualitative and quantitative traits." *American Journal of Human Genetics* 57, (1995): 439-454.

Lander, Eric S. "Mapping heredity: using probabilistic models and algorithms to map genes and genomes II." *Notices of the American Mathematical Society* 42, no. 8 (1995): 854-858.

Lander, Eric S. "Mapping heredity: using probabilistic models and algorithms to map genes and genomes." *Notices of the American Mathematical Society* 42, no. 7 (1995): 747-753.

Lincoln, Stephen E. and Eric S. Lander. "Systematic detection of errors in genetic linkage data." *Genomics* 14, no. 3 (1992): 604-610.

Lander Eric S., R. Langridge, and D. M. Saccocio. "Mapping and interpreting biological information." *Communications of the ACM* 34, no. 11 (Nov. 1991): 32-39.

Lander, Eric S. "Research on DNA typing catching up with courtroom application." *American Journal of Human Genetics* 48, no. 5 (1991): 819-823.

Arratia, Richard and Eric S. Lander. "The distribution of clusters in random graphs." *Advances in Applied Mathematics* 11, no. 1 (1990): 36-48.

Lander E. , J. P. Mesirov, and W. Taylor. "Study of protein sequence comparison metrics on the Connection Machine CM-2." *Journal of Supercomputing* 3, no. 4 (Dec. 1989): 255-269.

Lander, Eric S. "Restrictions upon multipliers of an abelian difference set." *Archives of Mathematics (Basel)* 50, no. 3 (1988): 241-242.

Lander, Eric S. "Characterizing symmetric designs by their symmetries." *Journal of Algebra* 113, no. 1 (1988): 1-18.

Donis-Keller H, P. Green, C. Helms, S. Cartinhour, B. Weiffenbach, K. Stephens, T. P. Keith, D. W. Bowden, D. R. Smith, Eric S. Lander, et al. "A genetic linkage map of the human genome." *Cell* 51, no. 2 (Oct. 23, 1987): 319-37.

Lander, Eric S. and D. Botstein. "Homozygosity mapping- A way to map human recessive traits with the DNA of inbred children." *Science* 236, no. 4808 (1987): 1567-1570.

Lander, Eric S. and P. Green. "Construction of multilocus genetic-linkage maps in humans." *Proceedings of the National Academy of Sciences of the United States of America* 84, no. 8 (1987): 2363-2367.

Lander, Eric S. and D. Botstein. "Mapping complex genetic-traits in humans- New methods using a complete RFLP linkage map." *Cold Spring Harbor Symposia on Quantitative Biology* 51 pt 1, (1986): 49-62.

Lander, Eric S. and D. Botstein. "Strategies for studying heterogeneous genetic-traits in humans by using a linkage map of restriction-fragment-length-polymorphisms." *Proceedings of the National Academy of Sciences of the United States of America* 83, no. 19 (1986): 7353-7357.

Lander, Eric S. "Symmetric designs and self-dual codes." *The Journal of the London Mathematical Society. (Second Series)* 24, no. 2 (1981): 193-204.

Books and Book Chapters

Lander, Eric S. *Calculating the secrets of life : applications of the mathematical sciences in molecular biology*. Washington, D.C.: National Academy Press, 1995.

Lander, Eric S. "Mapping heredity: using probabilistic models and algorithms to map genes and genomes." In *The Legacy of Norbert Wiener: A Centennial Symposium, Cambridge, MA, 1994*, Proceedings of symposia in pure mathematics v. 60, ed. David Jerison, I. M. Singer, and Daniel W. Stroock, 137-148. Providence, RI: American Mathematical Society, 1997.
Science Library Call Number: QA1 L3786 1997

Lander, Eric S. "Analysis with restriction enzymes." In *Mathematical methods for DNA sequences*, ed. Michael S. Waterman, 35-51. Boca Raton, FL: CRC, 1989
Science Library Call Number: QU 58 M426 1989

Lander, Eric S. *Symmetric designs : an algebraic approach*. Cambridge: Cambridge University Press, 1983.
Science Library Call Number: QA 166.25 L36 1983

Lander, Eric S. "Characterization of biplanes by their automorphism groups." In *Geometries and groups : proceedings of a colloquium held at the Freie Universität, Berlin May 1981*, Lecture Notes in Mathematics #893, eds. M. Aigner and D. Jungnickel, 204-218. Berlin: Springer-Verlag, 1981.
Science Library Call Number: QA3 L28 No. 893

Editorial Work

Editor. *Annual review of genomics and human genetics* (2000-present)

Selected Conference Proceedings and Papers

Kamvysselis, Manolis, Nick Patterso, Bruce Birren, Bonnie Berger, and Eric Lander. "Whole-genome comparative annotation and regulatory motif discovery in multiple yeast species." In *RECOMB 2003: proceedings of the Seventh Annual International Conference on Computational Molecular Biology, April 10-13, 2003, Berlin, Germany*, 157-166. New York : Association for Computing Machinery, 2003.

Kamvysselis, Manolis, Nick Patterson, Bruce Birren, and Eric S. Lander. "Saccharomyces comparative genomics: Genes, regulatory motifs, and genome evolution." From XXIst International Conference on Yeast Genetics and Molecular Biology, Goeteborg, Sweden; July 07-12, 2003. *Yeast* 20(Supplement 1), (July 2003): S282.

Hirschhorn, Joel N., Megan Loomer, Jill Platko, Chris O'Donnell, Mark J. Daly, and Eric S. Lander. "Surveying linkage disequilibrium in genes: Implications for disease studies." From Annual Meeting of the Pediatric Societies', Baltimore, MD, USA; May 04-07, 2002. *Pediatric Research* 51, no. 4 part 2 (April, 2002): 225A.

Batzoglou S., L. Pachter, J. Mesirov, B. Berger, and Eric S. Lander. "Human and mouse gene structure: comparative analysis and application to exon prediction." In *RECOMB 2000. Proceedings of the Fourth Annual International Conference on Computational Molecular Biology*, 46-53. New York: Association for Computing Machinery, 2000.

Batzoglou, Serafim, Bonnie Berger, Daniel J. Kleitman, Eric S. Lander, and Lior Pachter. "Recent developments in computational gene recognition." From Proceedings of the International Congress of Mathematicians (Berlin, 1998). *Documenta Mathematica*, no. Extra Vol. 1 (1998): 648-658.

Slonim, Donna, Leonid Kruglyak, Lincoln Stein, and Eric Lander. "Building human genome maps with radiation hybrids." In *RECOMB '97 : proceedings of the first annual International Conference on Computational Molecular Biology, January 19-22, 1997, Eldorado Hotel, Santa Fe, New Mexico*, 277-286. New York : Association for Computing Machinery, 1997.

Technical Reports

Lincoln, Stephen E., Mark J. Daly, and Eric S. Lander. *Constructing Genetic Linkage Maps with MAPMAKER/EXP Version 3.0: A Tutorial and Reference Manual*. Whitehead Institute for Biomedical Research Technical Report Third Edition (Beta Distribution 3B), January, 1993. http://www.broad.mit.edu/genome_software/other/mapmaker.html

Lincoln, Stephen E., Mark J. Daly, and Eric S. Lander. *Mapping Genes Controlling Quantitative Traits Using MAPMAKER/QTL Version 1.1: A Tutorial and Reference Manual*. A Whitehead Institute for Biomedical Research Technical Report Second Edition (Beta Distribution 3B), January, 1993. http://www.broad.mit.edu/genome_software/other/qtl.html

Lander, Eric S., Jill P Mesirov, and Washington Taylor. *Study of protein sequence comparison metrics on the connection machine CM-2*. Technical report no. TMC-32. Cambridge, Mass. : Thinking Machines Corp., 1988.

Immerman, Neil and Eric S Lander. *Describing graphs : a first-order approach to graph canonization*. Technical report, TR605. New Haven, Conn. : Yale University, Dept. of Computer Science, 1988.

Lander, Eric S., Jill P Mesirov, and Washington Taylor. *Protein sequence comparison on a data parallel computer*. Technical report no. TMC-33. Cambridge, Mass. : Thinking Machines Corp., 1988.

Selected Patents

Lander, Eric S., Michele Cargill, James S. Ireland, Stacey Bolk, George Q. Daley, and Jeanette J. McCarthy. "Single nucleotide polymorphisms in genes." *Official Gazette of the United States Patent & Trademark Office Patents* 1281, no 4 (Apr. 27, 2004): 6,727,063.

Lander, Eric S., George Q. Daley, Michele Cargill, James S. Ireland, and Steven G. Rozen. "Coding sequence polymorphisms in vascular pathology genes." *Official Gazette of the United States Patent & Trademark Office Patents* 1279, no. 3 (Feb. 17, 2004): 6,692,909.

Altshuler; David, and Eric S. Lander. "Computer method and apparatus for analyzing mutations in DNA." March 6, 2001. Patent# 6,197,516.

Honors and Awards

Gairdner International Prize (2002)

City of Medicine Award (2001)

8th Annual Millennium 2000 Lecture at the White House. "Informatics Meets Genomics," with Dr. Vinton Cerf. (October 12, 1999):
http://www.rand.org/scitech/stpi/ourfuture/Rosetta/millennium.html

Elected Member American Academy of Arts and Sciences (1999)

Woodrow Wilson Prize (Princeton University) (1998)

Elected member U.S. Institute of Medicine (1998)

Elected Member U.S. National Academy of Sciences (1997)

MIT's Baker Memorial Award for Undergraduate Teaching (1992)

MacArthur Foundation Prize Fellowship (1987)

Biographical Information

Whitehead Institute Faculty Profile:
http://www.wi.mit.edu/research/faculty/lander.html

Broad Institute Profile:
http://www.broad.mit.edu/broad/ericlander.html

Harvard Medical School, Department of Systems Biology Faculty Profile:
http://sysbio.med.harvard.edu/faculty/lander/