

MICHELLE R. LACEY

Department of Mathematics
Tulane University
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EDUCATION

Ph.D., Statistics, Yale University, May 2003.

Dissertation: “On Convergence Rates of the Neighbor-Joining Method for Phylogeny Reconstruction.” Committee: Joseph Chang (advisor), Junhyong Kim, Andrew Barron.

M.A., Statistics, Yale University, May 1998.

A.B., Mathematics, Bryn Mawr College, 1994. *Magna cum laude*. English minor.

RESEARCH INTERESTS

Phylogeny reconstruction and evolutionary models, bioinformatics.

AWARDS AND FELLOWSHIPS

Dissertation Fellowship, Yale University, 2000-2001.

Leonard J. Savage Writing Prize, Yale Department of Statistics, 1998.

Fellowship, Yale University, 1996-1998.

EXPERIENCE

Assistant Professor, Department of Mathematics, Tulane University, Summer 2003-present.

Adjunct Assistant Professor, Department of Biostatistics, Tulane University, January 2004-present.

Research Fellow, Statistical and Applied Mathematical Sciences Institute (SAMSI), Fall 2005.

Visitor, Institute of Statistics and Decision Sciences, Duke University, Fall 2005.

Statistical Analyst, Department of Pathology, Yale University School of Medicine, Fall 2001-Summer 2003.

Consultant, Agilix Corporation, New Haven, CT, Winter 2002-Summer 2003.

Instructor, Yale Summer Programs, Summer 2001.

Assistant Systems Administrator, Yale University Statistics Department, 1998-2000.

Teaching Fellow, Department of Statistics, Yale University, 1997-2003.

Biostatistics Intern, Bristol-Myers Squibb Pharmaceutical Research Institute, Wallingford, CT, Summer 1999.

Associate Analyst I, Synergy, Inc., Washington, DC, 1995-1996.

Research Assistant, Synergy, Inc., Washington, DC, 1994-1995.

PEER-REVIEWED PUBLICATIONS

Tsumagari K, Qi L, Jackson K, Shao C, Lacey M, Sowden J, Tawil R, Vedanarayanan V, Ehrlich M. "Epigenetics of a tandem DNA repeat: chromatin DNaseI sensitivity and opposite methylation changes in cancers." *Nucleic Acids Research* 2008 Feb 16; (Epub ahead of print)

Cameron JE, Yin Q, Fewell C, Lacey M, McBride J, Wang X, Lin Z, Schaefer BC, Flemington EK. "The Epstein-Barr Virus latent membrane protein 1 (LMP1) induces cellular microRNA-146a, a modulator of lymphocyte signaling pathways." *Journal of Virology* 2008; 82(4):1946-58

Lacey MR, Brumlik MJ, Yenni RE, Burow ME, Curiel TJ. "*Toxoplasma gondii* expresses two mitogenactivated protein kinase genes that represent distinct protozoan subfamilies." *Journal of Molecular Evolution* 2007; 64(1): 4-14.

Lacey MR, Chang JT. "A signal-to-noise analysis of phylogeny estimation by Neighbor-Joining: Insufficiency of polynomial length sequences" *Mathematical Biosciences* 2006; 199(2): 188-215.

Kriegel AM, Blake DA, El-Ghawalby N, Ezzat F, Soultan A, Abdel-Wahab M, Fathy O, Ebidi G, Bassiouni N, Zhang Q, Hamilton SR, Abbruzzese JL, Lacey MR, Soliman AS. "Serum cadmium levels in pancreatic cancer patients from the East Nile Delta region of Egypt." *Environmental Health Perspectives* 2006; 114(1):113-9.

Pardo RI, Lacey MR. "Undue Hardship in the Bankruptcy Courts: An Empirical Assessment of the Discharge of Educational Debt." *University of Cincinnati Law Review* 2005; 74(2).

Nishiyama R, Qi L, Lacey M, Ehrlich M. "Both hypomethylation and hypermethylation in a 0.2-kb region of a DNA repeat in cancer." *Molecular Cancer Research* 2005; 3(11):617-26.

Brumlik MJ, Wei S, Finstad K, Nesbit J, Hyman L, Lacey M, Burow ME, Curiel TJ. "Identification of a novel mitogen-activated protein kinase in *Toxoplasma gondii*." *International Journal for Parasitology* 2004; **34**(11): 1245-1254.

Roth ME, Feng L, McConnell KJ, Schaffer PJ, Guerra CE, Affourtit JP, Piper KR, Guccione L, Hariharan J, Ford MJ, Powell SW, Krishnaswamy H, Lane J, Guccione L, Intrieri G, Merkel JS, Perbost C, Valerio A, Zolla B, Graham CD, Hnath J, Michaelson C, Wang R, Ying B, Halling C, Parman CE, Raha D, Orr B, Jedrzkiewicz B, Liao J, Tevelev A, Mattessich MJ, Kranz DM, Lacey M, Kaufman JM, Kim J, Latimer DR, Lizardi P. "Expression Profiling Using a Novel Universal Microarray." *Nature Biotechnology* 2004; **22**:418-426.

Weitzel JM, Hamann S, Jauk M, Lacey M, Filbry A, Radtke C, Iwen KAH, Kutz S, Harneit A, Lizardi P, Seize HJ. "Hepatic gene expression patterns in thyroid hormone-treated hypothyroid rats." *Journal of Molecular Endocrinology* 2003; **31**(2): 291-303.

Lage J, Leamon J, Pejovic T, Hamann S, Lacey M, Dillon D, Segraves R, Vossbrinck B, Gonzalez A, Pinkel D, Albertson D, Costa J, Lizardi P. "Whole genome analysis of genetic alterations in small DNA samples using hyperbranched strand displacement amplification and array-CGH." *Genome Research* 2003; **13**:294-307.

RESEARCH FUNDING

R03 EB007281-01 O'Connor (PI) July 2007-May 2009
NIH
Mechanisms of progenitor enrichment during amplification of marrow stromal cells
Role: Co-PI

N00014-06-1-1136 McLachlan (PI) October 2007-September 2008
Office of Naval Research
Biosensors for Defense Applications Program
Role: Co-PI

Louisiana Cancer Research Consortium (LCRC) July 2003- June 2006, July 2007- June 2008.

CONFERENCE PRESENTATIONS

Joint Statistical Meetings (JSM), Salt Lake City, July 2007: "A Probabilistic Approach for Phylogenetic Sequence Selection" (Contributed)

Future Directions in Phylogenetic Methods and Models Workshop, Isaac Newton Institute, Cambridge, UK, December 2007: "A signal-to-noise analysis of phylogeny estimation by neighbour-joining" (Invited)

PROFESSIONAL AND ACADEMIC SERVICE

Referree: *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, *Analytical Biochemistry*, *Medical Oncology*

Program Committee, 5th Annual Workshop on Algorithms in Bioinformatics (WABI'05).

Tulane University Department of Mathematics

- Undergraduate Studies Committee, Fall 2006-present.
- Hiring Committee, Fall 2004-Summer 2005, Fall 2006-Summer 2007.
- Computing Committee, Fall 2003-present.

Tulane University Health Sciences Center

- Genetics and Gene Therapy Committee, November 2007-present.
- Genetics and Genomics Committee, "Task Force to \$300 Million", January 2007-present.

Louisiana Cancer Research Consortium (LCRC)

- LCRC Biostatistics/Bioinformatics Core Steering Committee, Summer 2005-present.
- Biospecimen Task Force, Louisiana Cancer Research Consortium, Summer 2004-Summer 2005.
- Bioinformatics Task Force, Louisiana Cancer Research Consortium, Winter 2003-Summer 2005.
- Steering Committee, Louisiana Cancer Research Consortium, Fall 2003-Summer 2005.

TEACHING AND COURSE DEVELOPMENT

At Tulane University (* denotes new courses)

- Linear Models (Math 304/604/726), Spring 2005 and Spring 2006.
- Probability and Statistics (Math 301/601), Fall 2003, Fall 2004 and Fall 2006.
- Introduction to Probability and Statistics (Math 111), Spring 2006 and Fall 2007.
- *Data Analysis (Math 777, Math 313/613), Spring 2004, Lagniappe 2006, Fall 2007.
- *Mathematics and the Media (TIDES), Fall 2006 and Fall 2007.
- *Statistics for Scientists (Math 123), Spring 2007.
- *Topics in Statistics II: Data Mining (Math 777), Spring 2007.

Introduction to Statistics, Yale Summer Programs, Summer 2001.