Mathieu **Bray**

PH.D. CANDIDATE · DEPARTMENT OF BIOSTATISTICS · UNIVERSITY OF MICHIGAN SCHOOL OF PUBLIC HEALTH

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Education

University of Michigan   *Ann Arbor, Michigan, USA*

PH.D. IN BIOSTATISTICS   *Ongoing*

- Advisor: Peter X-K. Song
- Achieved Candidacy – June 2015

McGill University   *Montreal, Quebec, Canada*

B.SC. JOINT HONOURS IN STATISTICS AND COMPUTER SCIENCE   *May 2012*

- Distinction - Top 25% of graduating class
- First Class Honours - CGPA above 3.5
- Deans Honour List - 2010-2011 & 2009-2010 academic years

Experience

University of Michigan Kidney Epidemiology and Cost Center   *Ann Arbor, Michigan, USA*

RESEARCH ASSISTANT   *Aug. 2012 - Present*

- Assisted the Kidney-Paired Donation simulation group at the Kidney Epidemiology and Cost Center with investigations on optimization strategies in paired donation, as well as development of visualization software for paired donation networks.
- Contact: Peter X-K. Song, Professor & Jack (John D.) Kalbfleisch, Professor Emeritus, Dept. of Biostatistics, University of Michigan

McGill University Health Centre   *Montreal, Quebec, Canada*

endMS SUMMER STUDENT - NEUROEPIDEMIOLOGY RESEARCH UNIT   *May 2011 - Sep. 2011*

- Provided research and analysis on general practitioner preferences in managing care for multiple sclerosis patients.
- Contact: Christina Wolfson, Professor, Faculty of Medicine, McGill University

McGill University   *Montreal, Quebec, Canada*

BIOSTATISTICS SUMMER INTERN - DEPT. OF EPIDEMIOLOGY, BIOSTATISTICS & OCCUPATIONAL HEALTH   *May 2010 - Jul. 2010*

- Selected for the inaugural cohort of Undergraduate Summer Internships within the biostatistics division.
- Assisted with preparation of a literature review on the relation between family responsibilities and gender to the productivity and career satisfaction of medical faculty, as well as the release of a software package for optimal dynamic treatment regimes.
- Contact: Erica E. M. Moodie, Associate Professor, Dept. of Epidemiology, Biostatistics & Occupational Health, McGill University

Committee Membership & Service

Fifth Bayesian, Fiducial & Frequentist Conference - BFF5   *Ann Arbor, Michigan, USA*

MEMBER, ORGANIZING COMMITTEE   *May 2017 - May 2018*

- Member of the organizing committee for the Fifth Bayesian, Fiducial and Frequentist (BFF5) Conference, primarily responsible for drafting and sending speaker invitations, maintaining the conference website, and scheduling organizing committee meetings.
- Contact: Peter X-K. Song, Professor, Department of Biostatistics, University of Michigan

Michigan Student Symposium for Interdisciplinary Statistical Sciences - MSSISS 2015   *Ann Arbor, Michigan, USA*

ORGANIZING COMMITTEE, BIOSTATISTICS REPRESENTATIVE   *Sep. 2014 - Mar. 2015*

- Organized, advertised and hosted MSSISS 2015 (March 20, 2015).
- Selected student speakers, judged the student oral presentation competition, coordinated with the keynote speaker, and helped select the keynote speaker for the event the following year.
- Contact: Timothy D. Johnson, Professor, Department of Biostatistics, University of Michigan

Consulting

University of Michigan Men's NCAA Div-I Ice Hockey   *Ann Arbor, Michigan, USA*

<small>STATISTICAL CONSULTANT</small>   *Sep. 2015 - Mar. 2018*

- Provided statistical consultation and analysis for the University of Michigan Wolverines hockey team, including season-long video tracking and data collection, data management and visualization, as well as simulation-based analysis and visualizations of historical NCAA team-level trends.
- Contact: Evan Hall, Video Coordinator, University of Michigan Men's NCCA Div-I Ice Hockey

Skills

<small>COURSES</small>

- Probability & Distribution Theory, Biostatistical Inference, Large Sample Theory
- Linear Regression, Generalized Linear Models
- Analysis of Repeated Measures, Longitudinal Analysis
- Categorical Data Analysis
- Stochastic Processes
- Survival Analysis

<small>TECHNICAL EXPERTISE</small>

- Extensive experience with R (RStudio, Shiny, shinyapps.io), C++ (GUI programming with Qt), & LaTeX
- Moderate experience with SQL (mySQL), Python, SAS, Java, C, MATLAB, & Tableau
- Mild experience with MapReduce framework (Hadoop, Pig, Spark) in controlled settings

<small>LANGUAGES</small>

- English (written and oral)
- Français (écrit et verbal)

Distinctions

2012-2013	**Postgraduate Scholarship (Master's) PGS M**, NSERC	
2012-2013	**Alexander Graham Bell Canada Graduate Scholarship (Master's) CGS M**, NSERC	*Declined*
2012-2013	**Bourse de Maitrise (Master's Scholarship) B1**, FQRNT	*Declined*
2011	**endMS Summer Studentship Award**, Multiple Sclerosis Society of Canada	
2011-2012	**Sir Edward Beatty Memorial Scholarship**, McGill University	
2009-2010	**J.W. McConnell Scholarship**, McGill University	

Publication List

JOURNAL ARTICLES

Bray M, Wang W, Rees MA, Song PXK, Leichtman AB, Ashby VB, and Kalbfleisch JD (2018). A Visualization Software Platform for Managing a Kidney Paired-Donation Program. In Preparation

Wang W, Bray M, Song PXK, and Kalbfleisch JD (2018). An Effective Algorithm to Enumerate Sets with Fallbacks for a Kidney Paired Donation Program. Operations Research in Health Care (Submitted)

Bray M, Wang W, Song PXK, and Kalbfleisch JD (2018). Valuing Sets of Potential Transplants in a Kidney Paired Donation Network. Statistics in Biosciences (Published Online March 2018). DOI: 10.1007/s12561-018-9214-7

Ashby VB, Leichtman AB, Rees MA, Song PXK, Bray M, Wang W, and Kalbfleisch JD (2017). A Kidney Graft Survival Calculator that Accounts for Mismatches in Age, Sex, HLA, and Body Size. Clinical Journal of the American Society of Nephrology 12(7): 1148–60. DOI: 10.2215/CJN.09330916

Wang W, Bray M, Song PXK, and Kalbfleisch JD (2017). A Look-Ahead Strategy for Non-Directed Donors in Kidney Paired Donation. Statistics in Biosciences 9(2): 453–69. DOI: 10.1007/s12561-016-9155-y

Bray M, Wolfson C, Moore F, Zhu B, and Uniat J (2016). General Practitioner Preferences in Managing Care of Multiple Sclerosis Patients. Canadian Journal of Neurological Sciences 43(1): 142–8. DOI: 10.1017/cjn.2015.239

Bray M, Wang W, Song PXK, Leichtman AB, Rees MA, Ashby VB, Eikstadt R, Goulding A, and Kalbfleisch JD (2015). Planning for Uncertainty and Fallbacks Can Increase the Number of Transplants in a Kidney Paired Donation Program. American Journal of Transplantation 15(10): 2636–45. DOI: 10.1111/ajt.13413

INVITED COMMENTARY

Bray M and Song PXK (2016). Commentary on "Statistical Modelling of Citation Exchange Between Statistics Journals" by Varin C, Cattelan M, and Firth D. Journal of the Royal Statistical Society: Series A (Statistics in Society) 179(1): 1–63. DOI: 10.1111/rssa.12124

Presentations

ORAL PRESENTATIONS

Apr. 3, 2018	**MSSISS 2018**, Online Non-Negative Tensor Decomposition with Application to Kidney Paired Donation	*Ann Arbor, MI, USA*
Mar. 15, 2017	**ENAR 2017**, Assessing the Benefits of Multiple Incompatible Donors in Kidney Paired Donation	*Washington D.C., USA*
Mar. 25, 2016	**MSSISS 2016**, Incorporating Candidates with Multiple Associated Incompatible Donors in Kidney Paired-Donation	*Ann Arbor, MI, USA*
Sep. 8, 2011	**endMS Rounds**, General Practitioner Preferences in Managing Care for Multiple Sclerosis Patients	*Montreal, QC, Canada*

POSTER PRESENTATIONS

Jun. 14, 2016	**American Transplant Congress**, A Visualization Software Platform for Managing a Kidney Paired-Donation Program	*Boston, MA, USA*
Mar. 6, 2016	**ENAR 2016**, Incorporating Candidates with Multiple Associated Incompatible Donors in Kidney Paired-Donation	*Austin, TX, USA*
Mar. 21, 2014	**MSSISS 2014**, Incorporating Uncertainties and Contingencies in a Paired Donation Program	*Ann Arbor, MI, USA*
Nov. 7, 2013	**ASN Kidney Week**, Incorporating Uncertainties and Contingencies in a Paired Donation Program	*Atlanta, GA, USA*