

# 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

## Prior Experience

### University of Michigan Kidney Epidemiology and Cost Center

Ann Arbor, Michigan, USA

RESEARCH ASSISTANT

Aug. 2012 - Present

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

### Centre universitaire de santé McGill / 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 (BFF5) Conference

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)

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

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### University of Michigan Wolverines Men's Ice Hockey (NCAA Div-I)

*Ann Arbor, Michigan, USA*

STATISTICAL CONSULTANT

*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 Wolverines Men's Ice Hockey

## Skills

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### COURSES

- 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

### TECHNICAL EXPERTISE

- 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

### LANGUAGES

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

## Distinctions

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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 Maîtrise (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

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## JOURNAL ARTICLES

- Bray M, Wang W, Rees MA, Song PXX, Leichtman AB, Ashby VB, and Kalbfleisch JD (2017). [A Visualization Software Platform for Managing a Kidney Paired-Donation Program](#). In Preparation
- Bray M, Wang W, Song PXX, and Kalbfleisch JD (2017). [Valuing Sets of Potential Transplants in a Kidney Paired Donation Network](#). Statistics in Biosciences (Submitted)
- Wang W, Bray M, Song PXX, and Kalbfleisch JD (2017). [An Effective Algorithm to Enumerate Sets with Fallbacks for a Kidney Paired Donation Program](#). Operations Research in Health Care (Submitted)
- Ashby VB, Leichtman AB, Rees MA, Song PXX, 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 (Published Online June 2017) . DOI: [10.2215/CJN.09330916](#)
- Wang W, Bray M, Song PXX, and Kalbfleisch JD (2017). [A Look-Ahead Strategy for Non-Directed Donors in Kidney Paired Donation](#). Statistics in Biosciences 9 : 453–69. DOI: [10.1007/s12561-016-9155-y](#)
- Bray M, Wang W, Song PXX, 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 : 2636–45. DOI: [10.1111/ajt.13413](#)
- 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 : 142–8. DOI: [10.1017/cjn.2015.239](#)

## INVITED COMMENTARY

- Bray M and Song PXX (2016). [Commentary on "Statistical modelling of citation exchange between statistics journals" by Varin C, Catelan M, and Firth D](#). Journal of the Royal Statistical Society: Series A (Statistics in Society) 179 : 1–63. DOI: [10.1111/rssa.12124](#)

# Presentations

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## ORAL PRESENTATIONS

- |               |  |                             |
|---------------|--|-----------------------------|
| Mar. 15, 2017 | <b>ENAR 2017</b> , Assessing the Benefits of Multiple Incompatible Donors in Kidney Paired Donation                  | <i>Washington D.C., USA</i> |
| Mar. 25, 2016 | <b>MSSISS 2016</b> , Incorporating Candidates with Multiple Associated Incompatible Donors in Kidney Paired-Donation | <i>Ann Arbor, MI, USA</i>   |
| Sep. 8, 2011  | <b>endMS Rounds</b> , General Practitioner Preferences in Managing Care for Multiple Sclerosis Patients              | <i>Montreal, QC, Canada</i> |

## POSTER PRESENTATIONS

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