

# Mathieu Bray

DEPARTMENT OF BIOSTATISTICS · UNIVERSITY OF MICHIGAN SCHOOL OF PUBLIC HEALTH

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## Education

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### University of Michigan

*Ann Arbor, Michigan, USA*

M.Sc. IN BIOSTATISTICS

- Advisor: [Peter X-K. Song](#)

### McGill University

*Montreal, Quebec, Canada*

B.Sc. JOINT HONOURS IN STATISTICS AND COMPUTER SCIENCE

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

## Prior Experience

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### 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

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### 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](#)

## INVITED COMMENTARY

- 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](#)

# 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>   |