

# Mathieu Bray

PHD 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

*Aug. 2012 - Present*

- Advisor: [Peter X-K. Song](#)
- Achieved Candidacy – June 2015
- Expected Completion – August 2018

### McGill University

*Montreal, Quebec, Canada*

B.SC. JOINT HONOURS IN STATISTICS AND COMPUTER SCIENCE

*Sep. 2009 - May 2012*

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

## Academic & Research Experience

### University of Michigan, Kidney Epidemiology and Cost Center

*Ann Arbor, Michigan, USA*

RESEARCH ASSISTANT

*Aug. 2012 - Present*

- Assist 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.
- Advisors: [Peter X-K. Song](#), [Jack \(John D.\) Kalbfleisch](#)

### McGill University Hospital Centre, Neuroepidemiology Research Unit

*Montreal, Quebec, Canada*

ENDMS SUMMER STUDENT

*May 2011 - Sep. 2011*

- Provided research and analysis on general practitioner preferences in managing care for multiple sclerosis patients.
- Advisor: [Christina Wolfson](#)

### McGill University, Dept. of Epidemiology, Biostatistics & Occupational Health

*Montreal, Quebec, Canada*

BIOSTATISTICS SUMMER INTERN

*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.
- Advisor: [Erica E. M. Moodie](#)

## Committee Membership & Service

### Fifth Bayesian, Fiducial & Frequentist (BFF5) Conference

*Ann Arbor, Michigan, USA*

MEMBER, ORGANIZING COMMITTEE

*May 2017 - Present*

- Currently participating as 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

### Biostatistics Student Association

*Ann Arbor, Michigan, USA*

EXECUTIVE MEMBER

*Aug. 2014 - Apr. 2016*

- Communicated issues and events pertaining to students, represented student interests, and organized social and professional development activities, which included student computing workshops.
- Contact: [Nicole Fenech](#), Program Coordinator, Department of Biostatistics, University of Michigan

## Michigan Student Symposium for Interdisciplinary Statistical Sciences (MSSISS)

Ann Arbor, Michigan, USA

STUDENT 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

## Skills

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### LANGUAGES

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

### TECHNICAL EXPERTISE

- High level of experience with R (RStudio, Shiny, shinyapps.io), C++ (GUI programming with Qt), LaTeX
- Previous extensive experience with Java, C, SAS, MATLAB
- Familiarity with SQL, Python, Julia, Ruby, Tableau, Spark, Tensorflow

## 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

## Publications

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### KIDNEY PAIRED DONATION

- 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](#)

### MULTIPLE SCLEROSIS

- 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

- |               |                                                                                                                       |                           |
|---------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------|
| 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>   |