

## Farren B. S. Briggs, Ph.D. Sc.M.

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*Revised May 6, 2019*

### EDUCATION

- 2005-2010** University of California, Berkeley  
Berkeley, CA  
Ph.D. in Epidemiology  
  
Ph.D. Thesis: Characterization of complex genetic component contributing to the susceptibility for multiple sclerosis and rheumatoid arthritis.  
Thesis Committee: Lisa Barcellos, Ph.D. (Chair), Martyn Smith, Ph.D., Alan Hubbard, Ph.D., Glenys Thomson, Ph.D.
- 2003-2005** Brown University  
Providence, RI  
Sc.M. in Biostatistics  
  
Sc.M. Thesis: Longitudinal Data Analysis: A transitional ordered logistic approach: Understanding the two-year impact of praziquantel treatment for *Schistosoma japonicum*-induced hepatic fibrosis.  
Thesis Committee: Jeffrey Blume, Ph.D. (Chair); Stephen McGarvey, Ph.D., MPH.
- 1999-2001** College of the Holy Cross  
Worcester, MA  
B.A. in Biology, minor in Chemistry

### POST-GRADUATE TRAINING

- 2010-2014** University of California, Berkeley  
Berkeley, CA  
*National Multiple Sclerosis Society Post-Doctoral Fellow*  
Adviser: Lisa Barcellos, Ph.D. MPH

### ACADEMIC APPOINTMENTS

- June 2014-Present** Assistant Professor  
Department of Population and Quantitative Health Sciences (PQHS)  
School of Medicine  
Case Western Reserve University  
Cleveland, OH
- March 2014-June 2014** Visiting Assistant Professor  
Department of Epidemiology and Biostatistics (name changed to PQHS in May 2017)  
School of Medicine

Case Western Reserve University  
Cleveland, OH

## PROFESSIONAL EXPERIENCE

- 2005-2010**            Research Assistant  
Genetics and Genomics Laboratory  
Division of Epidemiology, School of Public Health  
University of California, Berkeley  
Berkeley, CA
- 2004-2005**            Biostatistics Research Assistant  
Department of Community Health, School of Medicine  
Brown University  
Providence, RI
- 2004-2005**            Environmental Justice Research Assistant  
Center for Environmental Studies  
Brown University  
Providence, RI
- 2001-2003**            Senior Research Technologist  
Massachusetts General Hospital  
Harvard Medical School  
Boston, MA

## ADDITIONAL TRAINING

- 2018**                    Association of American Medical Colleges (AAMC) Minority Faculty Grant Writers  
Coaching Group for NIH. Phoenix, AZ. *One of twenty competitive slots.*
- 2017**                    Causal Inference Methods for PCOR using Observational Data (CIMPOD) Workshop.  
Organizer: Patient-Centered Outcomes Research Institute (PCORI), Bethesda, MD.
- 2015-2016**            To Tenure and Beyond: Building and Intentional Career at CWRU. A year-long workshop  
series for pre-tenure faculty entering their second year. Office of Faculty Development, Case  
Western Reserve University, Cleveland, OH.
- 2010**                    Advanced Gene Mapping Course. Co-Organizers: Suzanne Leal, Goncalo Abecasis, Heather  
Cordell, Shaun Purcell. The Rockefeller University, New York, New York.

## PROFESSIONAL MEMBERSHIP

- 2007-present**            American Society for Human Genetics, Member
- 2009-present**            Society for Epidemiologic Research, Member
- 2016-present**            Consortium of Multiple Sclerosis Centers, Member
- 2018-present**            American Academy of Neurology, Member
- 2016-2017**            Society for Advancement of Chicanos/Hispanics and Native Americans in Science, Member

**HONORS AND AWARDS**

- 2019** ADVANCE Opportunity Grant  
ACES+ Initiative  
Case Western Reserve University
- 2018** The Best Platform in MS Research  
Consortium of Multiple Sclerosis Centers Annual Meeting
- 2018** Educational Travel Award  
Americas Committee for Treatment and Research in Multiple Sclerosis Annual Meeting
- 2017** Educational Travel Award  
Americas Committee for Treatment and Research in Multiple Sclerosis Annual Meeting
- 2010** Trainee Research Semifinalist Award  
American Society for Human Genetics Annual Meeting
- 2007** Non-Resident Tuition Award  
Graduate Division, University of California, Berkeley
- 2003-2005** Fellowship in Biostatistics  
Brown University
- 2000** Alpha Sigma Nu Jesuit Honor Society Inductee  
College of the Holy Cross
- 1999-2000** Provost' Merit Scholarship  
College of the Holy Cross
- 1997** Caribbean Examination Council Scholarship of Excellence  
Government of Belize
- 1997** International Lions Merit Award  
Lions Clubs International
- 1997** Valedictorian  
Belmopan Comprehensive School, Belize

**GRANT REVIEWS**

- 2019** Grant Reviewer, Wellcome Trust Career Re-Entry Fellowship Grant
- 2015** Grant Reviewer, Clinical Translation Science Collaborative (CTSC) of Cleveland Annual Large Pilot Grant Competition

**EDITORIAL BOARDS**

- 2019** Research Article Guest Editor, *PLoS Genetics*
- 2014** Guest editor, Special Issue of *International Journal of Environmental Research in Public Health*: "Genetic Epidemiology"

**2010-present** Ad Hoc Reviewer: Annals of Human Genetics (2012-present), BMC Genetics, Brain and Behavior, European Journal of Public Health (2016-present), Genes and Immunity (2015-present), Inflammatory Bowel Disease (2018-present), JAMA Neurology (2016), Journal of Neurosciences (2019), Molecular Genetics and Genomics (2019), Multiple Sclerosis and Related Disorders (2018-present), Multiple Sclerosis Journal (2016-present), Multiple Sclerosis Journal – Experimental, Translational and Clinical (2016-present), Obesity Research and Clinical Practice (2017-present), PLoS Genetics (2015, 2019), PLoS One (2010-present), Science (2017, 2018), Social Science & Medicine, The Neurosciences Journal (2019)

## COMMITTEE SERVICE

### Institution

**2014-present** LGBTQA Committee, Faculty member, Case Western Reserve University (CWRU)

### School

**2017-present** Diversity Advisory Committee, Faculty member, School of Medicine, CWRU

**2017-present** Case Inquiry (IQ) Block 1 Design Team, School of Medicine, CWRU

- *Contributes to the overall design of the course, particularly with introducing epidemiologic and biostatistic themes and the development of examination questions for 1<sup>st</sup> year medical students.*

**2017** Poster Judge, Biomedical Graduate Student Symposium, School of Medicine, CWRU

**2015-2016** Poster Judge, Lepow Day, School of Medicine, CWRU

### Department

**2014-present** Ph.D. Curriculum Committee member, Department of Population and Quantitative Health Sciences, CWRU

**2016-present** Poster Judge, Public Health Innovations Conference

**2017-present** Ph.D. General Examination Committee member

**2017-2018** Internal Advisory Committee on Education member

**2017** Ad-hoc Committee on Course Evaluation member

**2017** Ad-hoc Committee on Faculty Compensation member

**2016-2017** MPH Curriculum Committee member

**2015-2016** Ph.D. Qualifying Examination contributor

**2015** Ad Hoc Committee Ph.D. Qualifying Oral Examination member

**2014** Departmental Website Committee member

## FACULTY SEARCH COMMITTEES

- 2018-present** MPH Open-Rank Faculty Search Committee member, Department of Population and Quantitative Health Sciences, CWRU
- 2017-2018** MPH Programs Director Faculty Search Committee member, Department of Population and Quantitative Health Sciences, CWRU
- 2016** Cancer Epidemiology Faculty Search Committee II member, Department of Epidemiology and Biostatistics, CWRU
- 2016** Environmental Health Epidemiology Faculty Search Committee member, Department of Epidemiology and Biostatistics, CWRU
- 2015** Cancer Epidemiology Faculty Search Committee I member, Department of Epidemiology and Biostatistics, CWRU

## COMMUNITY SERVICE

- 2018-present** iConquerMS™ Research Advisory Committee member.
- *iConquerMS™ is an active longitudinal research database of individuals with multiple sclerosis focused on patient-engagement*
- 2017-2018** Science Contributor, iConquerMS™ Newsletter.
- *I volunteered as writer of a scientific column as a means to engage and integrate myself with the iConquerMS leadership and participant population.*
- 2017** Scientific Stakeholder Representative at iConquerMS™ Leadership Summit. Accelerated Cure Project. Boston, MA

## TEACHING ACTIVITIES

*Department of Population and Quantitative Health Sciences, Case Western Reserve University*

- 2014-present** **PQHS/MPHP 490:** Epidemiology: Introduction to Theory and Methods (3 credit hours).
- a. Course Director. I designed and instruct the core epidemiology class for all PQHS doctoral students. There were 35 students in 2018 (Ph.D., MPH, MS, CRSP, MD, and B.S. candidates). The course introduces principles of epidemiology, including measures of disease/associations, study design, selection and definition of study populations, screening, bias, and causal inference. Class has consistently rated above the departmental average (mean rating [0=Poor, 5=Excellent]: 2014=4.7, 2015=4.8, 2016=4.4; 2018=4.3; 2014-2018 median rating=5). **Years: 2014-present**

*School of Medicine, Case Western Reserve University*

- 2017, 2019** **Western Reserve Curriculum, Block 1** “Becoming A Doctor”. Course initiates medical students’ life-long learning in medicine and establishes the foundation for understanding the complex determinants of health for both individuals and populations.
- a. Case Inquiry (IQ) Facilitator. Facilitate learning sessions using case studies. 60 contact hours of medical education teaching credit per year. **Year: 2017**
  - b. Team Based Learning (TBL) Facilitator. Facilitate team base learning in population health and health systems. 5 contact hours of medical education teaching credit per year. **Years: 2017, 2019**

- 2015-present**      **IBMS 500:** On Being a Professional Scientist. The course covers a wide range of academic and professional development topics for biomedical doctoral students.
- Lecturer. Developed a lecture on graduate mentorship. 2 contact hours per year. **Years: 2018, 2019**
  - Group Discussion Facilitator. Led small group discussions on Data Management (2015), Mentorship (2016, 2017), Human Subjects Research (2016), and Authorship (2017). 2 contact hours per session. **Years: 2015-2017**

*Department of Mathematics and Applied Mathematics, Case Western Reserve University*

- 2016**      **STAT 395:** Senior Project in Statistics (3 credit hours)
- Co-Instructor: Directed and supervised an undergraduate research project that included data management, hypothesis testing, statistical analyses and interpretation, and a cumulating written report.

*School of Public Health, University of California, Berkeley*

- 2010-2013**      **PH 256:** Molecular and Genetic Epidemiology (4 credit hours)
- Lecturer: Developed and instructed lectures on population stratification and genetic substructure. **Years: 2011-2013**
  - Lab Instructor: Developed a series of practicums for conducting and interpreting genetic studies, including the use of Haploview, PLINK, Pypop, DAVID, and STRUCTURE. **Years: 2010-2013**

- 2007**      **PH 250A:** Epidemiological Methods I (3 credit hours).
- Graduate Student Instructor: Independently led weekly review sessions and developed and graded assignments introducing epidemiologic concepts to graduate students.

## ACADEMIC AND RESEARCH ADVISING

*Ph.D. Dissertation Advisor (Primary mentorship responsibility)*

- 2018-present**      Elina Misicka, Ph.D. Candidate, Department of Population and Quantitative Health Sciences, CWRU; Tentative Dissertation: *Characterizing the influence of cardiovascular comorbidities on multiple sclerosis risk and progression.*

*Ph.D. Dissertation Committee Member*

- 2014-2017**      Quinn Ostrom, Ph.D., Department of Population and Quantitative Health Sciences, CWRU; Dissertation: *Leveraging demographic differences in incidence for discovery and validation of risk variants in glioma.* Current position: Post-Doctoral Fellow, Baylor College of Medicine

*Ph.D. Academic Advising*

- 2018-present**      Elina Misicka, Ph.D. Candidate, Department of Population and Quantitative Health Sciences, CWRU

- 2014-2017**      Quinn Ostrom, Ph.D., Department of Population and Quantitative Health Sciences, CWRU

*Ph.D. Research Co-Mentor*

**2013-2015** Michaela George PhD MPH, Division of Epidemiology, School of Public Health, University of California, Berkeley; *Multiple Sclerosis Progression: a clinical, genetic, and environmental investigation*. Current Position: Adjunct Associate Professor, Dominican University of California

**2011-2013** Ling-I Hsu PhD MPH, Division of Epidemiology, School of Public Health, University of California, Berkeley; *Childhood leukemia in the Hispanic population: Inherited susceptibility in B-cell development genes and gene environment interaction*. Current Position: Associate Director, Global Health Economics and Outcomes Research, Gilead Sciences

*M.S. in Biostatistics Thesis Advisor (Primary mentorship responsibility)*

**2018** Frances Wang, M.S., Department of Population and Quantitative Health Sciences, CWRU; Thesis: *Application of a genetic risk score to improve clinical prediction of depression onset in multiple sclerosis*. Current position: Ph.D. student in Epidemiology, John Hopkins School of Public Health

**2017-2018** Justin Yu, M.S., Department of Population and Quantitative Health Sciences, CWRU; Thesis: *Investigating the contribution of multiple sclerosis risk factors on disease presentation*. Current position: Ph.D. student in Epidemiology, University of Wisconsin-Milwaukee

**2017-2018** Jinghong Jiangyang, M.S., Department of Population and Quantitative Health Sciences, CWRU; Thesis: *Machine learning in diagnostic delays of persons with multiple sclerosis*. Current position: Data scientist, Beaumont Health

*M.D. Thesis Advisor (Primary mentorship responsibility)*

**2017-present** Eddie Hill, M.D. student, School of Medicine, CWRU; Thesis: *Characterizing the burden of psychiatric conditions in multiple sclerosis patients*.

**2016-2018** Jonathon Wanta, M.D., School of Medicine, CWRU; Thesis: *National survey studying the psychosocial benefits of residential camp on pediatric craniofacial patients*.

*M.D. Research Block Advisor*

**2018** Eddie Hill, M.D. student, School of Medicine, CWRU

**2017** Lawrence Leung, M.D. MPH, Larner College of Medicine, The University of Vermont

*M.P.H. Capstone Mentor (Primary mentorship responsibility)*

**2017-2018** Jordan Bley, MPH, George Washington University; MPH Capstone: *Assessing the relationships of obesity, smoking, and MS genetic risk on MS disability*. Current position: Ph.D. student in Epidemiology, Vanderbilt University

**2016-2017** Ashley Franks, MPH, Department of Epidemiology and Biostatistics, CWRU; MPH Capstone: *Deciphering unintentional drug overdose death rates and drug-related emergency department visit rates throughout Ohio*. Current Position: Epidemiologist, Erie County Health Department (2017-present)

*M.P.H. Capstone Committee Member*

**2014-2015** Katrina Alber, MPH, Department of Epidemiology and Biostatistics, CWRU; *Understanding Tuberculosis Resistance among People Living with HIV/AIDS in Kampala, Uganda: A secondary data analysis of the Kawempe Community Health Study*. Current position: Research Project Coordinator, Northwestern University

*M.P.H. Practicum Mentor*

**2017** Jordan Bley, MPH, George Washington University

*Undergraduate Student Trainees*

**2018-present** Corriene Sept, Department of Mathematics, Applied Mathematics and Statistics, CWRU; Research Advisor and SAGES Senior Capstone in Statistics Chair

**2016-2017** Shannon Fu, Department of Mathematics, Applied Mathematics and Statistics, CWRU; Research Advisor and SAGES Senior Capstone in Statistics Chair. Current Position: Data scientist, KeyBank

**2015** Adithi Iyengar, Department of Psychological Sciences, CWRU

**2011-2013** Lawrence Leung, M.D. M.P.H., Department of Molecular and Cellular Biology, University of California, Berkeley; Honors Thesis Advisor

**2008-2009** Emon Elboudwarej, Ph.D. M.P.H., Department of Molecular and Cellular Biology, University of California, Berkeley; Honors Thesis Advisor. Current Position: Bioinformatician, Gilead Sciences

**2006-2007** Theodora Wingert, M.D.; Department of Molecular and Cellular Biology, University of California, Berkeley; Honors Thesis Advisor

*Post-Doctoral Trainees*

**2016** Yanina Natanzon, PhD MS, Department of Epidemiology and Biostatistics, CWRU  
Current Position: Senior epidemiologist, Synapse

*Research Mentor*

**2018-present** Blaine Martyn-Dowd, M.S. Candidate, Department of Population and Quantitative Health Sciences, CWRU

**2018** Aswhin Veeramani, Brown University, Summer Research Advisor.

**2015-2017** Paola Saroufim, PharmD M.P.H., Department of Epidemiology and Biostatistics; Current Position: Research Scientist, Institute for Computational Biology

**2017** Andrew Smith, M.D. M.S., Clinical Research Scholars Program.

**RESEARCH SUPPORT**

*Submitted*

1R01 NS113855-01  
NIH/NINHS/NIMH

Briggs, Gunzler

09/01/2019-08/31/2024



*Characterizing Multiple Sclerosis Phenotypic Heterogeneity*

We aim: 1) to model the longitudinal patterns of disability features for both clinical measures and patient reported outcomes; 2) to identify predictors of these patterns; and 3) to build a prototype dashboard that integrates our findings.

Role: **Principal Investigator**

RG-1902-33469

Briggs, Gunzler

09/01/2019-08/31/2023

National Multiple Sclerosis Society Research Grant

*Characterizing Multiple Sclerosis Phenotypic Heterogeneity*

We aim: 1) to model the longitudinal patterns of disability features for both clinical measures and patient reported outcomes; 2) to identify predictors of these patterns; and 3) to build a prototype dashboard that integrates our findings.

Role: **Principal Investigator**

1R01 TBD

Xu, Briggs, Gregory

09/01/2019-08/31/2023

NIH/NINDS

*Combine computational interrogation and targeted metabolomics to understand gut-microbiome-immune-brain interactions in MS*

We proposed an innovative integrated strategy that seamlessly combines computational interrogation and patient-based clinical association study to identify human gut microbial metabolites that are associated with MS risk.

Role: **Co-Principal Investigator**

TBD

Xu, Briggs, Gregory

09/01/2019-08/31/2023

National Multiple Sclerosis Society Research Grant

*Combine computational interrogation and targeted metabolomics to understand gut-microbiome-immune-brain interactions in MS*

We proposed an innovative integrated strategy that seamlessly combines computational interrogation and patient-based clinical association study to identify human gut microbial metabolites that are associated with MS risk.

Role: **Co-Principal Investigator**

1U01 TBD

Weinberg

09/01/2019-08/31/2024

NIH/NIDCR

*Validation of the Beta Defensive Index (BDI) as a Biomarker for Oral Cancer*

We have developed a laboratory test that determines if a visually suspicious oral lesion requires a biopsy. We will confirm that our laboratory test is able to distinguish cancerous from non-cancerous lesions in diverse patient populations.

Role: **Co-Investigator**

TBD

Sajatovic, Ghearing

09/30/2019-09/29/2024

CDC

*Self-management for people with epilepsy and a history of negative health events (SMART): Targeting rural and underserved people with Epilepsy*

To validate SMART for improving epilepsy outcomes in rural and underserved populations.

Role: **Co-Investigator**

1R21 LM013258-01

Crawford

09/01/2019-08/31/2021

NIH/NLM

*Rapid Phenotype Risk Scoring in Electronic Health Records for Rare Disease Diagnosis and Surveillance*

We aim to map Cleveland area EHR data to human phenotype ontology terms and calculate phenotype risk scores to identify potential cases of rare diseases.

Role: **Co-Investigator**

*Completed*

Project: Characterizing the heritability of age of onset of multiple sclerosis.

Summary: There are two goals for this project: (1) to investigate the relationship between established MS genetic risk variants and age of onset (AOO) of MS; and (2) to evaluate the proportion of MS AOO liability explained by MS genetic risk variants and other common variants.

Role: **Principal Investigator**

Submission Date: April **2017**

Agency: National Multiple Sclerosis Society Pilot Research Grant

Term: 9/1/2017-8/31/2018

Funded: **\$40,000**.

Project: Characterizing bone marrow mesenchymal stem cell genomic signatures in multiple sclerosis

Role: **Principal Investigator**

Submission Date: January **2015**

Agency: CTSC Pilot Grant Program

Funded: **\$9,910**.

Project: Detecting complex gene-environment interactions in multiple sclerosis

Role: **Principal Investigator**

Submission Date: December **2009**

Agency: National Multiple Sclerosis Society Post-Doctoral Fellowship

Term: 7/1/2010-6/30/2013

Funded: **\$135,448**.

Project: An investigation of DNA methylation profiles in multiple sclerosis by phenotype and ethnicity.

Role: **Co-Principal Investigator**, responsible for all aspects of study design and statistical analyses.

Submission Date: March **2009**

Agency: Berkeley Population Center Pilot Grant (co-funded with Robert Wood Johnson Foundation)

Term: 6/1/2009-12/31/2009

Funded: **\$19,464**.

## **BIBLIOGRAPHY**

### **Peer-reviewed Articles**

\* Trainees

<sup>S</sup> Indicates I am senior author.

<sup>D</sup> Indicates primary role as data analyst when not first author.

<sup>M</sup> Indicates methodology expertise when not first author.

2006

1. Barcellos LF, Sawcer S, Ramsay PP, Baranzini SE, Thomson G, **Briggs F<sup>D</sup>**, Cree BC, Begovich AB, Villoslada P, Montalban X, Uccelli A, Savettieri G, Lincoln RR, DeLoa C, Haines JL, Pericak-Vance MA, Compston A, Hauser SL, Oksenberg JR. Heterogeneity at the HLA-DRB1 locus and risk for multiple sclerosis. *Hum Mol Genet*. 2006 Sep 15;15(18):2813-24. Epub 2006 Aug 11. [PMID: 16905561](#).

2008

2. Caillier SJ, **Briggs F<sup>D</sup>**, Cree BA, Baranzini SE, Fernandez-Viña M, Ramsay PP, Khan O, Royal W 3rd, Hauser SL, Barcellos LF, Oksenberg JR. Uncoupling the roles of HLA-DRB1 and HLA-DRB5 genes in multiple sclerosis. *J Immunol*. 2008 Oct 15;181(8):5473-80. Erratum in: *J Immunol*. 2009 Feb 15;182(4):2551. [PMID:18832704](#).

2009

3. Shaw GM, Lu W, Zhu H, Yang W, **Briggs FB<sup>D</sup>**, Carmichael SL, Barcellos LF, Lammer EJ, Finnell RH. 118 SNPs of folate-related genes and risks of spina bifida and conotruncal heart defects. *BMC Med Genet*. 2009 Jun 3;10:49. doi:10.1186/1471-2350-10-49. [PMID: 19493349](#); [PMC2700092](#).

2010

4. **Briggs FB**, Ramsay PP, Madden E, Norris JM, Holers VM, Mikuls TR, Sokka T, Seldin MF, Gregersen PK, Criswell LA, Barcellos LF. Supervised machine learning and logistic regression identifies novel epistatic risk factors with PTPN22 for rheumatoid arthritis. *Genes Immun.* 2010 Apr;11(3):199-208. doi:10.1038/gene.2009.110. Epub 2010 Jan 21. [PMID: 20090771](#); [PMC3118040](#).
5. **Briggs FB**, Goldstein BA, McCauley JL, Zuvich RL, De Jager PL, Rioux JD, Ivinson AJ, Compston A, Hafler DA, Hauser SL, Oksenberg JR, Sawcer SJ, Pericak-Vance MA, Haines JL, Barcellos LF; International Multiple Sclerosis Genetics Consortium. Variation within DNA repair pathway genes and risk of multiple sclerosis. *Am J Epidemiol.* 2010 Jul 15;172(2):217-24. doi:10.1093/aje/kwq086. Epub 2010 Jun 3. [PMID: 20522537](#); [PMC3658128](#).
6. **Briggs FB**, Bartlett SE, Goldstein BA, Wang J, McCauley JL, Zuvich RL, De Jager PL, Rioux JD, Ivinson AJ, Compston A, Hafler DA, Hauser SL, Oksenberg JR, Sawcer SJ, Pericak-Vance MA, Haines JL; International Multiple Sclerosis Genetics Consortium, Barcellos LF. Evidence for CRHR1 in multiple sclerosis using supervised machine learning and meta-analysis in 12,566 individuals. *Hum Mol Genet.* 2010 Nov 1;19(21):4286-95. doi: 10.1093/hmg/ddq328. Epub 2010 Aug 10. [PMID: 20699326](#); [PMC2951862](#).

2011

7. RM Single, PA Gourraud, AK Lancaster, **F Briggs**<sup>DM</sup>, et al. 2011. Estimating haplotype frequencies and linkage disequilibrium parameters in the HLA and KIR regions. *Haplotype Estimation and Linkage Disequilibrium Methods Manual*. [https://import.niaid.nih.gov/docs/standards/MethodsManual\\_HaplotypeFreqs+LD\\_v8.pdf](https://import.niaid.nih.gov/docs/standards/MethodsManual_HaplotypeFreqs+LD_v8.pdf)
8. Goldstein BA, Polley EC, **Briggs FB**. Random forests for genetic association studies. *Stat Appl Genet Mol Biol.* 2011;10(1):32. doi: 10.2202/1544-6115.1691. Epub 2011 Jul 12. Review. [PMID: 22889876](#); [PMC3154091](#).
9. International Multiple Sclerosis Genetics Consortium, **Briggs FB**, Shao X, Goldstein BA, Oksenberg JR, Barcellos LF, de Jager PL. Genome-wide association study of severity in multiple sclerosis. *Genes Immun.* 2011 Dec;12(8):615-25. doi:10.1038/gene.2011.34. Epub 2011 Jun 9. [PMID: 21654844](#); [PMC3640650](#). *Conducted/led all aspects of study design, analyses and the interpretation of results.*

2014

10. MA Gianfrancesco, B Acuna, L Shen, **FBS Briggs**<sup>M</sup>, et al. Obesity during childhood and adolescence increases susceptibility to multiple sclerosis after accounting for established genetic and environmental risk factors. *Obesity Research and Clinical Practice.* 2014 Sep-Oct; 8(5):e435-47. doi: 10.1016/j.orcp.2014.01.002. [PMID: 25263833](#); [PMC4180039](#).
11. **Briggs FB**, Leung LJ\*, Barcellos LF. Annotation of functional variation within non-MHC MS susceptibility loci through bioinformatics analysis. *Genes Immun.* 2014 Jul 17. doi: 10.1038/gene.2014.37. [Epub ahead of print] [PMID: 25030428](#).
12. **Briggs FB**, Acuña BS, Shen L, Bellesis KH, Ramsay PP, Quach H, Bernstein A, Schaefer C, Barcellos LF. Adverse socioeconomic position during the life course is associated with multiple sclerosis. *J Epidemiol Community Health.* 2014 Jul;68(7):622-9. doi: 10.1136/jech-2013-203184. Epub 2014 Feb 27. [PMID:24577137](#).
13. **Briggs FB**, Acuna B, Shen L, Ramsay P, Quach H, Bernstein A, Bellesis KH, Kockum IS, Hedström AK, Alfredsson L, Olsson T, Schaefer C, Barcellos LF. Smoking and risk of multiple sclerosis: evidence of modification by NAT1 variants. *Epidemiology.* 2014 Jul;25(4):605-14. doi: 10.1097/EDE.0000000000000089. [PMID: 24625537](#).

14. Pittock SJ, Lennon VA, Bakshi N, Shen L, McKeon A, Quach H, **Briggs FB**<sup>D</sup>, Bernstein AL, Schaefer CA, Barcellos LF. Seroprevalence of Aquaporin-4-IgG in a Northern California Population Representative Cohort of Multiple Sclerosis. *JAMA Neurol.* 2014 Sep 1. Doi: 10.1001/jamaneurol.2014.1581. [PMID: 25178362](#)
15. Hedström AK, Bomfim IL, Barcellos LF, **Briggs F**<sup>D</sup>, Schaefer C, Kockum I, Olsson T, Alfredsson L. Interaction between passive smoking and two HLA genes with regard to multiple sclerosis risk. *Int J Epidemiol.* 2014 Oct 15. pii: dyu195. [Epub ahead of print]. [PMID: 25324153](#)

## 2015

16. Bos SD, Page CM, Andreassen BK, Elboudwarej E, Gustavsen MW, **Briggs F**<sup>M</sup>, Quach H, Leikfoss IS, Bjølgerud A, Berge T, Harbo HF, Barcellos LF. Genome-wide DNA methylation profiles indicate CD8<sup>+</sup> T cell hypermethylation in multiple sclerosis. *PLoS One.* 2015 Mar 3;10(3):e0117403. doi: 10.1371/journal.pone.0117403. eCollection 2015. [PMID: 25734800](#)
17. Hsu LI\*, Chaokkalingam AP, **Briggs FB**<sup>M</sup>, Walsh K, Crouse V, Fu C, Metayer C, Wiemels JL, Barcellos LF, Buffler PA. Association of genetic variation in IKZF1, ARID5B, and CEBPE and surrogates for early-life infections with the risk of acute lymphoblastic leukemia in Hispanic children. *Cancer Causes Control.* 2015 Apr 1. Doi: 10.1007/s10552-015-0550-3. [PMID: 25761407](#). *Guided study design, all analyses, and the interpretation of results.*
18. Cerejo R, John S, Buletko AB, Taqui A, Itrat A, Organek N, Cho SM, Sheikhi L, Uchino K, **Briggs F**<sup>M</sup>, Reimer AP, Winners S, Toth G, Rasmussen P, Hussain MS. A Mobile Stroke Treatment Unit for Field Triage of Patients for Intraarterial Revascularization Therapy. *J Neuroimaging.* 2015 Nov-Dec;25(6):940-5. doi: 10.1111/jon.12276. [PMID: 26179631](#). *Served as lead epidemiologist, guiding study design, analyses and the interpretation of results.*
19. Itrat A, Taqui A, Cerejo R, **Briggs F**<sup>M</sup>, Cho SM, Organek N, Reimer AP, Winners S, Rasmussen P, Hussain MS, Uchino K. Telemedicine in pre-hospital stroke evaluation and thrombolysis: Taking stroke treatment to the doorstep. *JAMA Neurol.* 2016 Feb;73(2):162-8. doi: 10.1001/jamaneurol.2015.3849. [PMID: 26641366](#). *Served as lead epidemiologist, guiding study design, analyses and the interpretation of results.*
20. Elboudwarej E, Cole M, **Briggs FB**<sup>M</sup>, Fouts A, Fain PR, Quach H, Quach D, Sinclair E, Criswell LA, Lane JA, Steck AK, Barcellos LF, Noble JA. Hypomethylation within gene promoter regions and type 1 diabetes in discordant monozygotic twins. *J Autoimmun.* 2016 Apr;68:23-9. doi: 10.1016/j.jaut.2015.12.003. Epub 2016 Jan 9. [PMID: 26782299](#)

## 2016

21. Hsu LI\*, **Briggs F**<sup>M</sup>, Shao X, Metayer C, Wiemels JL, Chokkalingam AP, Barcellos LF. Pathway Analysis of Genome-wide Association Study in Childhood Leukemia among Hispanics. *Cancer Epidemiol Biomarkers Prev.* 2016 May;25(5):815-22. doi: 10.1158/1055-9965.EPI-15-0528. Epub 2016 Mar 3. [PMID: 26941364](#). *Guided study design, all pathway and causal inference analyses, and the interpretation of results.*
22. Goldstein BA, Polley EC, **Briggs FB**<sup>M</sup>, van der Laan MJ, Hubbard A. Testing the Relative Performance of Data Adaptive Prediction Algorithms: A Generalized Test of Conditional Risk Differences. *Int J Biostat.* 2016 May 1;12(1):117-29. doi: 10.1515/ijb-2015-0014. [PMID: 26529567](#). *Served as genetic epidemiologist guiding the applied analyses.*
23. George MF\*, **Briggs FB**<sup>M</sup>, Shao X, Gianfrancesco MA, Kockum I, Harbo HF, Celius EG, Bos SD, Hedström A, Shen L, Bernstein A, Alfredsson L, Hillert J, Olsson T, Patsopoulos NA, De Jager PL, Oturai AB, Søndergaard HB, Sellebjerg F, Sorensen PS, Gomez R, Caillier SJ, Cree BA, Oksenberg JR, Hauser SL, D'Alfonso S, Leone MA, Martinelli Boneschi F, Sorosina M, van der Mei I, Taylor BV, Zhou Y, Schaefer C, Barcellos LF. Multiple sclerosis risk loci and disease severity in 7,125 individuals from 10 studies. *Neurol Genet.* 2016 Aug 4;2(4):e87. doi: 10.1212/NXG.000000000000087. eCollection 2016 Aug. [PMID: 27540591](#). *Contributed greatly to the overall study design and interpretation of results.*

24. Gunzler DD, Morris N, Perzynski A, Ontaneda D, **Briggs F<sup>M</sup>**, Miller D, Bermel RA. Heterogeneous depression trajectories in multiple sclerosis patients. *Mult Scler Relat Disord*. 2016 Sep;9:163-9. doi: 10.1016/j.msard.2016.08.004. Epub 2016 Aug 5. [PMID:27645367](#) *Served as lead epidemiologist, guiding study design and the interpretation of results.*
25. George MF\*, Holingue CB, **Briggs FBS<sup>DM</sup>**, Shao X, Bellesis KH, Whitmer RA, Schaefer C, Benedict RHB, Barcellos LF. Feasibility study for remote assessment of cognitive function in multiple sclerosis. *J Neurol Neuromed*. 2016 1(8): 10-18. [PMID:28255581](#). *Guided study design, analyses and the interpretation of results.*

2017

26. **Briggs FBS**, Gunzler DD, Ontaneda D, Marrie RA. Smokers with MS have greater decrements in quality of life and disability than non-smokers. *Mult Scler*. 2017 Jan 1:1352458516685169. doi: 10.1177/1352458516685169. [PMID: 28059618](#). *Led all aspects of the study design and conducted/interpreted all analyses. Results emphasize the pervasive negative impact of tobacco smoke in persons with MS.*
27. Galarza-Muñoz G, **Briggs FBS<sup>DM</sup>**, Evsyukova I, Schott-Lerner GO, Kennedy EM, Nyanhete T, Wang L, Bergamaschi L, Widen SG, Tomaras GD, Ko DC, Bradrick SS, Barcellos LF, Gregory SG, Barcia-Blanco MA. Human genetic epistasis controls IL7R splicing and increases multiple sclerosis risk. *Cell* 2017 169: 72-84. <http://dx.doi.org/10.1016/j.cell.2017.03.007>. *Conducted all statistical human genetic analyses in parallel to molecular experiments, which together identified likely causal epistatic relationships which guided functional analyses. This was a proof-of-principle of statistical and biological epistasis.*
28. Taqui A, Cerejo R, Itrat A, **Briggs FBS<sup>DM</sup>**, Reimer AP, Winner S, Organek N, Buletko AB, Sheikhi L, Cho SM, Buttrick M, Donohue MM, Khawaja Z, Wiso D, Frontera J, Russman A, Hustey FM, Kralovic D, Rasmussen P, Uchino K, Hussain MS. Reduction in time to treatment in Pre-Hospital Telemedicine Evaluation and Thrombolysis. *Neurology*. 2017 Apr 4;88(14):1305-1312. doi:10.1212/WNL.0000000000003786. [PMID: 28275084](#). *Served as lead epidemiologist, guiding study design, analyses and the interpretation of results.*

2018

29. Mehta K, Jaiswal P, **Briggs FBS<sup>M</sup>**, Faubion W, Tabibian JH, Cominelli F, Dave M. In-patient outcomes of hematopoietic stem cell transplantation in patients with immune mediated inflammatory diseases: a nationwide study. *Scientific Reports*. 2018 May 1;8(1):6825. doi: 10.1038/s41598-018-24060-4. [PMID: 29717163](#).
30. Bush WS, Crawford DC, **Briggs F** Freedman D, Sloan C. Integrating community-level data resources for precision medicine research. *Pac Symp Biocomput*. 2018;23:618-622. [PMID: 29218920](#).
31. Mowry EM, Hedstrom AK, Gianfrancesco MA, Shao X, Schaefer CA, Shen L, Bellesis KH, **Briggs FBS<sup>M</sup>**, Olsson T, Alfredsson L, Barcellos LF. Incorporating machine learning approaches to assess putative environmental risk factors for multiple sclerosis. *Mult Scler Relat Disord*. 2018 Aug;24:135-141. <https://doi.org/10.1016/j.msard.2018.06.009>
32. Saroufim P\*, Zweig SA\*, Conway DS, **Briggs FBS<sup>S</sup>**. Cardiovascular conditions in persons with multiple sclerosis, neuromyelitis optica and transverse myelitis. *Mult Scler Relat Disord*. 2018 Oct;25:21-25. <https://doi.org/10.1016/j.msard.2018.07.011>

2019

33. **Briggs FBS**, Yu J\*, Davis MF, Jiangyang J\*, Fu Shannon\*, Parrotta E, Gunzler D, Ontaneda D. Multiple sclerosis risk factors contribute to onset heterogeneity. *Mult Scler Relat Disord*. 2019 Feb;28:11-16. <https://doi.org/10.1016/j.msard.2018.12.007>
34. Hill E\*, Abboud H, **Briggs FBS<sup>S</sup>**. Prevalence of asthma in multiple sclerosis: a national population-based study. *Mult Scler Relat Disord*. 2019 Feb;28:69-74. <https://doi.org/10.1016/j.msard.2018.12.012>

35. **Briggs FBS**, Andersen AL, Winnike JH, Natanzon Y\*, Maichle S, Zhang X, Knagge KJ, Newby LK, Gregory SG. Metabolome-based signature of disease pathology in MS. *Mult Scler Relat Disord*. 2019 Mar 9;31:12-21. DOI: <https://doi.org/10.1016/j.msard.2019.03.006>.
36. **Briggs FBS**, Thompson NR, Conway DS. Prognostic factors of disability accrual in relapsing remitting multiple sclerosis. *Mult Scler Relat Disord*. 2019 May;30:9-16. DOI: <https://doi.org/10.1016/j.msard.2019.01.045>
37. International Multiple Sclerosis Genetics Consortium. A systems biology approach uncovers cell-specific gene regulatory effects of genetic associations in multiple sclerosis. *Nature Communications*. Accepted.

### **Peer-reviewed Reviews**

2015

1. **Briggs FB**, Green MC, Ritterman Weintraub ML. The role of socioeconomic position in multiple sclerosis aetiology. *Neurodegener Dis Manag* 2015 Aug;5(4):333-43. doi: 10.2217/nmt.15.22. Epub 2015 Aug 21. PMID: [26295724](https://pubmed.ncbi.nlm.nih.gov/26295724/)

### **Invited Commentaries**

2019

1. Gianfrancesco MA, **Briggs FBS**. New evidence suggests higher body mass index precedes pediatric-onset MS several years prior. *Developmental Medicine & Child Neurology*. In press.

### **Manuscripts under review**

1. Sheriff MZ, Mansoor E, Ananthkrishnan A, Salah MA, **Briggs FBS**<sup>M</sup>, Dave M. Opportunistic infections are more prevalent in Crohn's disease and ulcerative colitis: a large population based study. Status: submitted.
2. Crawford DC, Cooke-Bailey JN, **Briggs FBS**. Mind the Gap: Resources required to receive, process, and interpret research-returned whole genome data. Status: submitted. *All authors contributed equally*.
3. **Briggs FBS**, Hill E. The prevalence of multiple sclerosis: A United States population-based study of 56.6 million electronic health records. Status: revise and resubmit.
4. Khalid Z, Momtaz H, **Briggs F**<sup>DM</sup>, Cassidy KA, Chaytor N, Fraser RT, Janevic MR, Jobst BC, Johnson EK, Scal P, Spruill TM, Sajatovic M. Depressive symptoms in older versus younger people with epilepsy: Findings from an integrated epilepsy self-management clinical research dataset. Status: submitted.

### **Manuscripts in preparation**

2. **Briggs FBS**, Bley J\*. Assessing the relationships of obesity, smoking and MS genetic risk on MS disability. Status: final draft.
3. Wang F\*, Davis MF, **Briggs FBS**<sup>S</sup>. Predicting depression after onset of multiple sclerosis. Status: final draft.
4. **Briggs FBS**, Gunzler DD, Conway DS. Latent profile analysis of 4,039 multiple sclerosis patients. Status: final draft.
5. Misicka E\*, **Briggs FBS**<sup>S</sup>. Time to second relapse predicts conversion from relapsing remitting to secondary progressive MS. Status: final analysis.

6. **Briggs FBS**, Martyn-Dowd B\*, Leung LF\*, Zweig SA\*. Multiple sclerosis cases with polyautoimmunity differ from those with multiple sclerosis alone. Status: first draft.
7. **Briggs FBS**, LJ Leung\*, Zweig SA\*. Allergies in those with multiple sclerosis, neuromyelitis optica and transverse myelitis. Status: initial analysis.
8. **Briggs FBS**, Davis MF. The heritability of age of onset of multiple sclerosis. Status: initial draft.

### Invited Seminars

2017

1. **FBS Briggs**. The influence of risk factors on early clinical expression of multiple sclerosis. Presented to the Department of Microbiology and Molecular Biology, College of Life Sciences, Brigham Young University, February 2017, Provo, UT.
2. **FBS Briggs**. Studying MS: micro- to macro-level approaches. Presented to the QB3/Genetic Epidemiology and Genomic seminar, University of California, Berkeley, June 2017, Berkeley, CA.

2018

3. **FBS Briggs**. Characterizing phenotypic heterogeneity in multiple sclerosis. Presented to the Center for Health Care Research and Policy, MetroHealth Medical Center, December 2018, Cleveland, OH.

### Invited Oral Presentations

2007

1. **F Briggs**, et al. A comparison of methods of haplotype estimation within the MHC using genetic data from Type 1 Diabetes families. Presented at the Type 1 Diabetes Genetic Consortium MHC Results Workshop, August 2007, Washington, DC.

2010

2. **FBS Briggs** et al. Evidence for *CRHRI* in multiple sclerosis using supervised machine learning and meta-analysis in 12,566 individuals. Presented at the annual meeting of The American Society of Human Genetics, November 2010, Washington, DC.

2011

3. **FBS Briggs**, et al. Unfavorable childhood socioeconomic conditions and adult-onset multiple sclerosis risk: a gene-environment investigation. Presented at the 3<sup>rd</sup> North American Congress of Epidemiology, June 2011, Montreal, CAN.

2013

4. **FBS Briggs**, et al. *NATI* is an important genetic modifier of tobacco smoke exposure in multiple sclerosis susceptibility. Presented at the annual meeting of The American Society of Human Genetics, October 2013, Boston, MA.

2015

5. **FB Briggs**, Taqui A, Hussain SM, Uchino K. Cerebrovascular Disease and Interventional Neurology: Prehospital and Acute Ischemic Stroke Treatment. Presented at the American Academy of Neurology, Washington, DC in April 2015.
6. **FB Briggs**, Gunzler D, Cameron M, Li M, Cohen J. Characterizing bone marrow mesenchymal stem cell molecular signatures in multiple sclerosis using consensus clustering. Panel presentation at the Joint Statistical Meeting, Seattle, WA in August 2015.

2018

7. **FB Briggs**, et al. Obesity at onset impacts the early clinical presentation of multiple sclerosis. Presented at the 2018 Annual Meeting of the Consortium of Multiple Sclerosis Centers, Nashville, TN in May 2018.

2019

8. **FB Briggs**, et al. Multiple sclerosis genetic risk burden confers earlier onset. To be presented at the American Academy of Neurology, Philadelphia, PA in May 2019.

### Workshops

2016

The ABCs of Diversity in Genomic Research: Ascertainment, Bioinformatics, and Computation. Speakers: Drs. Dana Crawford (CWRU), **Farren Briggs** (CWRU), Janina Jeff (Illumina), William Bush (CWRU), and Sarah Pendergrass (Geisinger). Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) National Conference, Long Beach Convention Center, Long Beach, CA. Scientific Symposia Organizer. October 13-15, 2016

### Selected Poster Presentations (\*trainees)

2007

1. **FBS Briggs**, et al. The role of HLA-DRB5, -DRB1 and other MHC loci in susceptibility to multiple sclerosis: a study of 770 African-American cases and 751 controls. Presented at the annual meeting of The American Society of Human Genetics, October 2007, San Diego, CA.

2008

2. **FBS Briggs**, et al. Epigenetic mechanisms and autoimmunity: a pilot study testing DNA methylation profiles in multiple sclerosis cases and healthy controls. Presented at the annual meeting of The American Society of Human Genetics, November 2008, Philadelphia, PA.
3. **FBS Briggs**, et al. A two-stage analysis using Random Forests and association testing identifies novel epistatic relationships with PTPN22 in rheumatoid arthritis. Presented at the annual meeting of The American Society of Human Genetics, November 2008, Philadelphia, PA.

2009

4. **FBS Briggs**, et al. Genetic variation within DNA repair pathways and stress response genes and risk for multiple sclerosis. Presented at the annual meeting of The American Society of Human Genetics, October 2009, Honolulu, HI.
5. **FBS Briggs**, et al. Epigenetic changes characterized by DNA methylation profiling are associated with risk and phenotypic variation in multiple sclerosis. Presented at the annual meeting of The American Society of Human Genetics, October 2009, Honolulu, HI.

2011

6. **FBS Briggs**, et al. Gene-environment and functional classification analyses suggest novel candidate genes and processes that may be contributing to the susceptibility of adult-onset multiple sclerosis. Presented at the annual meeting of The American Society of Human Genetics, November 2011, Montreal, CAN.
7. **FBS Briggs**, et al. *NAT1* and tobacco smoke exposure in multiple sclerosis: evidence for a gene-environment interaction. Presented at the annual meeting of The American Society of Human Genetics, November 2011, Montreal, CAN.

2012

8. LF Barcellos, X Shao, E Elboudwarej, **FBS Briggs**, et al. First genome-wide analysis in pediatric multiple sclerosis (MS) confirms a role for adult MS risk variants and reveals new candidates. Presented at the annual meeting of The American Society of Human Genetics, November 2012, San Francisco, CA.



9. X Shao, **FBS Briggs**, et al. Identifying and ranking candidate genes contributing to multiple sclerosis disease severity by using targeted maximum likelihood estimation based variable importance measure. Presented at the annual meeting of The American Society of Human Genetics, November 2012, San Francisco, CA.
10. MF George\*, **FBS Briggs**, et al. Functional variants in vitamin D metabolism genes are not associated with multiple sclerosis site of onset, disease progression and age of onset. Presented at the annual meeting of The American Society of Human Genetics, November 2012, San Francisco, CA.
11. MF George\*, **FBS Briggs**, et al. 52 established multiple sclerosis risk loci are not associated with disease severity in a meta-analysis of 3,086 cases. Presented at the annual meeting of The American Society of Human Genetics, November 2012, San Francisco, CA.
12. **FBS Briggs**, et al. Risk of MS in smokers is restricted to carriers of specific *NATI* variants: meta-analysis of 2,526 individual. Presented at the annual meeting of The American Society of Human Genetics, November 2012, San Francisco, CA.

### 2013

13. MF George\*, E Elboudwarej, **FBS Briggs**, et al. Genetic and clinical associations with cognitive impairment assessed using TICS-M in multiple sclerosis. Presented at the annual meeting of The American Society of Human Genetics, October 2013, Boston, MA.
14. M Gianfrancesco, **FBS Briggs**, et al. Body size and obesity gene variation contribute to multiple sclerosis susceptibility. Presented at the annual meeting of The American Society of Human Genetics, October 2013, Boston, MA.
15. **FBS Briggs**, et al. Pathway analysis reveals new insights to genetic risk for multiple sclerosis among smokers. Presented at the annual meeting of The American Society of Human Genetics, October 2013, Boston, MA.

### 2015

16. M Dave, **FBS Briggs**. Adipose tissue from visceral fat has much higher expression of IBD susceptibility genes compared to subcutaneous fat. Presented at Digestive Disease Week, Washington, DC in May 2015.
17. MF George\*, **FBS Briggs**. Multiple sclerosis progression is accelerated among tobacco smokers: meta-analyses across 8,871 individuals. Presented at the Society for Epidemiology Research, Denver, CO in June 2015.
18. **FBS Briggs**, et al. Bone marrow mesenchymal stem cell molecular signatures in multiple sclerosis. Presented at The American Society of Human Genetics, Baltimore, MD in October 2015.

### 2016

19. **FBS Briggs**, et al. Decreased expression of neuroprotective genes in bone-marrow mesenchymal stem cells of progressive versus relapsing multiple sclerosis patients. Presented at the Congress of Epidemiology, Miami, FL in June 2016.
20. L. Leung\*, **FBS Briggs**. Cross-phenotype analyses of three clinical measures of multiple sclerosis disability suggests involvement of new biological processes. Presented at The American Society of Human Genetics, Vancouver, CAN in October 2016.
21. Y Natanzon\* ... **FBS Briggs**, S Gregory. Disease profiling with multi-omics data: an application in Multiple Sclerosis. Presented at The American Society of Human Genetics, Vancouver, CAN in October 2016.

22. MF George\*, **FBS Briggs**. Predicting age of onset in multiple sclerosis patients: *RGS14*, *CD40*, and *HLA-DRB1\*15:01* carriers are four years younger. Presented at The American Society of Human Genetics, Vancouver, CAN in October 2016.
23. P Wilkinson, Y Natanzon\*... **FBS Briggs**. Genomic signatures in bone-marrow mesenchymal stem cells differ by disease course in Multiple Sclerosis. Presented at The American Society of Human Genetics, Vancouver, CAN in October 2016.
24. **FBS Briggs**. Case-only investigation confirms multiple sclerosis risk conferred by tobacco smoke is modified by *NATI*. Presented at The American Society of Human Genetics, Vancouver, CAN in October 2016.

## 2017

25. **FBS Briggs**, DD Gunzler, D Ontaneda, RA Marrie. Smokers with MS have greater decrements in quality of life and disability than non-smokers. Presented at the Americas Committee for Treatment and Research in Multiple Sclerosis 2017 Forum, Orlando, FL in February 2017. *\*Recipient of the Educational Travel Grant*.
26. S Fu\*, **FBS Briggs**. Multiple sclerosis patients seeking care from non-MS specialist have greater disability, disease activity and lower quality of life. Presented at Case Western Reserve University Research ShowCASE, Cleveland, OH in April 2017.
27. P Saroufim\*, **FBS Briggs**. Vascular comorbidities contribute to diagnostic delays in demyelinating disorders. Presented at Case Western Reserve University Research ShowCASE, Cleveland, OH in April 2017.
28. J Jiangyang\*, J Yu\*, E Utigard, D Ontaneda, **FBS Briggs**. *TYK2* correlates with multiple sclerosis symptomatology at onset. Presented at The American Society of Human Genetics, Orlando, FL in October 2017.
29. **FBS Briggs**. Identification of several genes modifying multiple sclerosis risk conferred by tobacco smoke: a case-only analysis. Presented at The American Society of Human Genetics, Orlando, FL in October 2017.

## 2018

30. J Jiangyang\*, J Yu\*, **FBS Briggs**. Predicting diagnostic delays in persons with multiple sclerosis. Presented at the America's Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS) Forum, San Diego, CA in February 2018. *\*Recipient of the Educational Travel Grant. \*Finalist Best Trainee Poster Presentation*.
31. J Yu\*, J Jiangyang\*, E Utigard, D Gunzler, D Ontaneda, **FBS Briggs**. Investigating the contribution of susceptibility factors on early clinical expression of multiple sclerosis. Presented at the America's Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS) Forum, San Diego, CA in February 2018. *\*Recipient of the Educational Travel Grant. \*Semi-finalist Best Trainee Poster Presentation*.
32. **FBS Briggs**, NR Thompson, DS Conway. Prognostic factors of disability and depression in patients with multiple sclerosis: a longitudinal analysis of electronic health records. Presented at the America's Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS) Forum, San Diego, CA in February 2018. *\*Recipient of the Educational Travel Grant*.
33. **FBS Briggs**, NR Thompson, DS Conway. Prognostic factors of disability and depression in patients with multiple sclerosis: a longitudinal analysis of electronic health records. Presented at the American Academy of Neurology, Los Angeles, CA in April 2018.

## 2019

34. **FBS Briggs**, J Bley\*. Assessing the relationships of obesity, smoking and MS genetic risk on MS disability. To be presented at the America's Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS) Forum, Dallas, TX in February 2019.

35. **FBS Briggs**, B Martyn-Dow\*, LF Leung\*, SA Zweig\*. Characterizing polyautoimmunity and familial autoimmunity in a U.S. multiple sclerosis population. To be presented at the America's Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS) Forum, Dallas, TX in February 2019.
36. E Misicka\*, C Sept\*, **FBS Briggs**. The role of genetic and non-genetic factors in predicting transition to secondary-progressive multiple sclerosis. To be presented at the America's Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS) Forum, Dallas, TX in February 2019. *Recipient of the Educational Travel Grant. \*Semi-finalist Best Trainee Poster Presentation.*
37. E Hill\*, H Abboud, **FBS Briggs**. Prevalence of asthma in multiple sclerosis: a United States population-based study. To be presented at the America's Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS) Forum, Dallas, TX in February 2019. *Recipient of the Educational Travel Grant. \*Semi-finalist Best Trainee Poster Presentation.*
38. F Wang\*, MF Davis, **FBS Briggs**. Utilizing genetic and clinical factors to predict depression risk after the onset of multiple sclerosis. To be presented at the America's Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS) Forum, Dallas, TX in February 2019. *Recipient of the Educational Travel Grant. \*Semi-finalist Best Trainee Poster Presentation.*
39. **FBS Briggs**, DD Gunzler, DS Conway. A Person-Centered Approach, Latent-Profile Analysis of Impairment in Multiple Sclerosis. To be presented at the 2019 Annual Meeting of the Consortium of Multiple Sclerosis Centers, Seattle, WA in May 2018.

### **Press on Research/Alternative Dissemination Outputs**

2013

1. *ScienceNews* (October 25, 2013) "[Gene links smoking, multiple sclerosis](#)"

2016

2. *Accelerated Cure Project for Multiple Sclerosis Newsletter* (November, 2016) "[MS researcher, Farren Briggs, engages MS patients through iConquerMSTM](#)"

2017

3. *Managed Health Care Connect* (January 17, 2017) "[MS patients who smoke have lower quality of life](#)"
4. *MSWorld.org* (March 2, 2017) "[Smoking and Multiple Sclerosis](#)"

2018

5. *Multiple Sclerosis News Today* (December 17, 2018) "[Each Major Risk Factor \(Like Genes, Smoking and Obesity\) Can Affect Disease Course, Study Finds](#)"

2019

6. *Multiple Sclerosis Association of America – What's New in MS Research* (January 30, 2019) "[Increased prevalence of asthma among people with MS](#)"
7. *Multiple Sclerosis News Today* (March 4, 2019) "[#ACTRIMS2019 – Asthma More Common in MS Patients Than Public at Large, Study Finds](#)"
8. *Medscape Medical News* (March 7, 2019) "[Asthma Prevalence Three Time Higher in MS](#)"

### **Community Engagement**

2017

1. Keynote Address: The importance of American African representation in research – a multicultural scientist’s perspective. *The Centennial Celebration of The Most Worshipful St. John’s Grand Lodge A.F. & A.M. Inc. & Elizabeth Grand Chapter, O.E.S., Jurisdiction of Ohio.* Cleveland, OH. (June 3, 2017).
2. Scientific Community Liaison. *iConquerMS™ Leadership Summit.* Boston, MA. (September 16-17, 2017).
3. Guest Speaker: My life as an MS researcher. *Kemp’s Annual Walk for MS.* Cleveland, OH (October 14, 2017).
4. *Accelerated Cure Project for Multiple Sclerosis Newsletter: New Developments in MS research, a monthly column by Farren Briggs* (April, 2017) “[MS researchers identify new biological mechanisms regulating IL7R expression](#)”
5. *Accelerated Cure Project for Multiple Sclerosis Newsletter: New Developments in MS research, a monthly column by Farren Briggs* (May, 2017) “[Vitamin D – Food for Body and Mind?](#)”
9. *Accelerated Cure Project for Multiple Sclerosis Newsletter: New Developments in MS research, a monthly column by Farren Briggs* (June, 2017) “[When do MS symptoms start?](#)”
10. *Accelerated Cure Project for Multiple Sclerosis Newsletter: New Developments in MS research, a monthly column by Farren Briggs* (July, 2017) “[Changes in longevity in persons with MS](#)”
11. *Accelerated Cure Project for Multiple Sclerosis Newsletter: New Developments in MS research, a monthly column by Farren Briggs* (August, 2017) “[Physical Fitness and Multiple Sclerosis: to exercise or not to exercise?](#)”
12. *Accelerated Cure Project for Multiple Sclerosis Newsletter: New Developments in MS research, a monthly column by Farren Briggs* (September, 2017) “[The Microbiome and MS.](#)”
13. *Accelerated Cure Project for Multiple Sclerosis Newsletter: New Developments in MS research, a monthly column by Farren Briggs* (October, 2017) “[The Continued Pursuit of Biomarkers in MS.](#)”
14. *Accelerated Cure Project for Multiple Sclerosis Newsletter: New Developments in MS research, a monthly column by Farren Briggs* (November, 2017) “[Comorbidities and MS Disease Activity](#)”
15. *Accelerated Cure Project for Multiple Sclerosis Newsletter: New Developments in MS research, a monthly column by Farren Briggs* (December, 2017) “[Multiple Sclerosis – ‘Tis the season for food, family, friends and frankincense](#)”

2018

16. *Accelerated Cure Project for Multiple Sclerosis Newsletter: New Developments in MS research, a monthly column by Farren Briggs* (January, 2018) “[Modifiable dietary factors and MS](#)”
17. *Accelerated Cure Project for Multiple Sclerosis Newsletter: New Developments in MS research, a monthly column by Farren Briggs* (March, 2018) “[Why we still need to talk about smoking in MS](#)”
18. *Accelerated Cure Project for Multiple Sclerosis Newsletter: New Developments in MS research, a monthly column by Farren Briggs* (April, 2018) “[Novel movement rehabilitation and MS](#)”
19. *Accelerated Cure Project for Multiple Sclerosis Newsletter: New Developments in MS research, a monthly column by Farren Briggs* (July, 2018) “[Hypertension in those with MS](#)”
20. Guest Speaker: Updates on MS-microbiome research. *Kemp’s Annual Walk for MS.* Cleveland, OH (August 18, 2018).

*2019*

21. Guest Speaker on RealTalk MS podcast. Episode 75 (January 2019). "[MS Risk Factors](#)"