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Education

Postdoctoral training, University of Michigan, June 2021 to present.

Postdoctoral training, University of Massachusetts Medical School, September 2019 to May 2021.

Ph.D. Statistics, University of Wisconsin-Madison, 2019.

Postdoctoral training, University of Wisconsin-Madison, February 2012 to January 2014.

Postdoctoral training, University of Washington, November 2007 to September 2009.

M.S. Population Health Sciences, University of Wisconsin-Madison, 2007.

M.D. Medicine, University of Wisconsin-Madison, 2007.

B.S. Chemistry, Mathematics, Biochemistry, University of Wisconsin-Madison, 2001.

Awards & Honors

Best Poster Award, International Mammalian Genome Conference, 2018

International Mammalian Genetics Society Conference Travel Scholarship, 2018

IRES Research Ethics Fellowship, University of Wisconsin-Madison, 2013-2014

New Arts Venture Challenge Award for Victorian Eyes art exhibition, University of Wisconsin-Madison, 2013

Medical Student Research Training Fellowship, Howard Hughes Medical Institute, 2006 (declined due to security concerns in Haiti)

Shapiro Award for research with Partners in Health, University of Wisconsin-Madison, 2004

Department of Family Medicine LOCUS stipend for research with Partners In Health, University of Wisconsin-Madison, 2004

Graduate Research Fellowship, National Science Foundation, 2001

Meyerhoff Excellence Award, University of Wisconsin-Madison, 2001

University Book Store Award for Outstanding Undergraduate Thesis, 2001

Department of Chemistry Edward Panek Memorial Scholarship, University of Wisconsin-Madison, 2000

Hilldale Undergraduate Research Fellowship, University of Wisconsin-Madison, 1999

Wisconsin Idea Fellowship for the Salvation Army Learning Center, University of Wisconsin-Madison, 1999

Department of Chemistry Summer Research Scholarship, University of Wisconsin-Madison, 1998
 Dean's List, University of Wisconsin-Madison, Spring 1997, Spring 1998 to Spring 2001
 College of Letters & Science Honors Program, University of Wisconsin-Madison, 1996 to 2001
 Wisconsin Academic Excellence Scholarship, University of Wisconsin-Madison, 1996 to 2000

Peer-reviewed articles

- Boehm, F. J. & Zhou, X. Statistical methods for Mendelian randomization in genome-wide association studies: A review. *Computational and Structural Biotechnology Journal* (2022).
- Smith, C. M., Baker, R. E., Proulx, M. K., Mishra, B. B., Long, J. E., Park, S. W., Lee, H.-N., Kiritsy, M. C., Bellerose, M. M., Olive, A. J., *et al.* Host-pathogen genetic interactions underlie tuberculosis susceptibility in genetically diverse mice. *Elife* **11**, e74419 (2022).
- Boehm, F. J. & Hanlon, B. M. What is happening on Twitter? A framework for student research projects with tweets. *Journal of Statistics Education*, S95–S102 (2021).
- Rodriguez-Gil, J. L., Watkins-Chow, D. E., Baxter, L. L., Elliot, G., Harper, U. L., Wincovitch, S. M., Wedel, J. C., Incao, A. A., Huebecker, M., Boehm, F. J., *et al.* Genetic background modifies phenotypic severity and longevity in a mouse model of Niemann-Pick disease type C1. *Disease Models & Mechanisms* **13** (2020).
- Boehm, F., Yandell, B. & Broman, K. W. qtl2pleio: Testing pleiotropy vs. separate QTL in multiparental populations. *Journal of Open Source Software* **4**, 1435 (2019).
- Boehm, F. J., Chesler, E. J., Yandell, B. S. & Broman, K. W. Testing pleiotropy vs. separate QTL in multiparental populations. *G3*. <https://g3journal.org/content/9/7/2317> (2019).
- Kemis, J. H., Linke, V., Barrett, K. L., Boehm, F. J., Traeger, L. L., Keller, M. P., Rabaglia, M. E., Schueler, K. L., Stapleton, D. S., Gatti, D. M., *et al.* Genetic determinants of gut microbiota composition and bile acid profiles in mice. *PLoS genetics* **15**, e1008073 (2019).
- Wells, C., Shah, D. V., Pevehouse, J. C., Yang, J., Pelled, A., Boehm, F., Lukito, J., Ghosh, S. & Schmidt, J. L. How Trump Drove Coverage to the Nomination: Hybrid Media Campaigning. *Political Communication* **33**, 669–676. doi:10.1080/10584609.2016.1224416. <http://dx.doi.org/10.1080/10584609.2016.1224416> (2016).
- Tauchman, E. C., Boehm, F. J. & DeLuca, J. G. Stable kinetochore-microtubule attachment is sufficient to silence the spindle assembly checkpoint in human cells. *Nature communications* **6** (2015).
- Costello, J. C., Heiser, L. M., Georgii, E., Gönen, M., Menden, M. P., Wang, N. J., Bansal, M., Hintsaenen, P., Khan, S. A., Mpindi, J.-P., *et al.* A community effort to assess and improve drug sensitivity prediction algorithms. *Nature biotechnology* **32**, 1202–1212 (2014).
- Dove, W. F., Shedlovsky, A., Clipson, L., Amos-Landgraf, J. M., Halberg, R. B., Krentz, K. J., Boehm, F. J., Newton, M. A., Adams, D. J. & Keane, T. M. A strategy to identify dominant point mutant modifiers of a quantitative trait. *G3: Genes | Genomes | Genetics* **4**, 1113–1121 (2014).
- Fawzi, M. S., Lambert, W., Boehm, F., Finkelstein, J., Singler, J., Léandre, F., Nevil, P., Bertrand, D., Claude, M., Bertrand, J., *et al.* Economic Risk Factors for HIV Infection Among Women in Rural Haiti: Implications for HIV Prevention Policies and Programs in Resource-Poor Settings. *Journal of Women's Health* **19**, 885–892 (2010).
- Laurie, C. C., Doheny, K. F., Mirel, D. B., Pugh, E. W., Bierut, L. J., Bhangale, T., Boehm, F., Caporaso, N. E., Cornelis, M. C., Edenberg, H. J., *et al.* Quality control and quality assurance in genotypic data for genome-wide association studies. *Genetic epidemiology* **34**, 591–602 (2010).
- Gestwicki, J. E., Strong, L. E., Cairo, C. W., Boehm, F. J. & Kiessling, L. L. Cell aggregation by scaffolded receptor clusters. *Chemistry & biology* **9**, 163–169 (2002).

Open-source software packages

15. Boehm, F. *gemma2 R package* Mar. 15, 2018. <https://github.com/fboehm/gemma2>.
16. Boehm, F. *qtl2pleio R package* June 4, 2018. <https://github.com/fboehm/qtl2pleio>.

Other articles

17. DeRose, C., Roy, C. & Boehm, F. *Victorian eyes: Literary, statistical, and artistic perspectives on Victorian novels – and Dickens’s unfinished murder mystery* 2014.
18. Boehm, F. *The lone male wolf of the Sandhill Wildlife Area* 1997.

Edited books

19. Moorthy, A. V., Becker, B. N., Boehm III, F. J. & Djamali, A. *Pathophysiology of Kidney Disease and Hypertension* (Saunders/Elsevier, 2009).

Book chapters

20. Pelled, A., Lukito, J., Boehm, F., Yang, J. & Shah, D. in *Digital Discussions: How Big Data Informs Political Communication* (eds Stroud, N. & McGregor, S.) 176–196 (Routledge, 2018).
21. Boehm, F., Traeger, K. & Djamali, A. in *Pathophysiology of Kidney Disease and Hypertension* (eds Moorthy, V., Becker, B., Boehm, F. & Djamali, A.) 79–88 (Saunders/Elsevier, 2009).
22. Moorthy, V. & Boehm, F. in *Pathophysiology of Kidney Disease and Hypertension* (eds Moorthy, V., Becker, B., Boehm, F. & Djamali, A.) 121–130 (Saunders/Elsevier, 2009).
23. Traeger, K., Boehm, F. & Djamali, A. in *Pathophysiology of Kidney Disease and Hypertension* (eds Moorthy, V., Becker, B., Boehm, F. & Djamali, A.) 63–78 (Saunders/Elsevier, 2009).

Conference proceedings

24. Mark, J., Wesler, L., Oswald, C., Léandre, F., Nevil, P., Bertrand, D., Bertrand, J., Boehm, F. & Fawzi, M. S. P2-S9. 07 *Economic risk factors for syphilis infection among pregnant women in rural Haiti* in. **87** (BMJ Publishing Group Ltd, 2011), A263–A263.
25. Marchani, E. E., Di, Y., Choi, Y., Cheung, C., Su, M., Boehm, F., Thompson, E. A. & Wijsman, E. M. *Contrasting identity-by-descent estimators, association studies, and linkage analyses using the Framingham Heart Study data* in. **3** (BioMed Central Ltd, 2009), S102.
26. Gestwicki, J., Cairo, C., Boehm, F. & Kiessling, L. *Mechanistic origins of the valency effect: Multivalent ligand binding studied by surface plasmon resonance and isothermal titration calorimetry*. in *ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY* **221** (2001), U56–U56.
27. Fasella, E., Boehm, F. & Kiessling, L. *Synthesis of galactosyl-alpha (1-3)-galactosyl epitopes for use in immunological studies*. in *ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY* **219** (2000), U108–U108.

Selected Presentations

Testing pleiotropy vs. separate QTL in multiparental populations
 Presented at the International Mammalian Genome Conference
 November 11-13, 2018
<https://github.com/fboehm/imgc2018poster>

Testing pleiotropy vs. separate QTL in multiparental populations

Presented at the Computation and Informatics in Biology and Medicine Training Program Retreat in Madison, Wisconsin

October 26, 2018

Distinguishing pleiotropy from separate QTL in multiparental populations

Presented at the Joint Statistical Meetings in Vancouver, Canada

July 30, 2018

Distinguishing pleiotropy from separate QTL in multiparental populations

Presented at the Complex Trait Community Meeting in Glasgow, Scotland

June 20, 2018

Event Detection with Topic Modeling of Tweets

Presented at PolMeth XXXIV in Madison, Wisconsin

July 13, 2017

Pleiotropy vs. Close Linkage in the Diversity Outbred Mouse Population

Presented at The Jackson Laboratory Systems Genetics Short Course

October 22, 2016

[https://figshare.com/articles/Pleiotropy vs Close Linkage in the Diversity Outbred Mouse Population/4284338](https://figshare.com/articles/Pleiotropy_vs_Close_Linkage_in_the_Diversity_Outbred_Mouse_Population/4284338)

Pleiotropy vs. Close Linkage in the Diversity Outbred Mouse Population

Presented at the Computation and Informatics in Biology and Medicine Training Program Retreat

October 7, 2016

Data Analysis with Topic Models for Communications Researchers

Presented at the Association for Education in Journalism and Mass Communication Annual Meeting

August 6, 2016

[https://figshare.com/articles/Data Analysis with Topic Models for Communications Researchers/3545462](https://figshare.com/articles/Data_Analysis_with_Topic_Models_for_Communications_Researchers/3545462)

Event Detection with Social Media Data

Presented at the UseR! 2016 Meeting in Stanford, California

June 30, 2016

[https://figshare.com/articles/Event Detection with Social Media Data/3545477](https://figshare.com/articles/Event_Detection_with_Social_Media_Data/3545477)

Event Detection with Topic Modeling of Tweets

Presented at the WARF Discovery Challenge Symposium in Madison, Wisconsin

April 6, 2016

[https://figshare.com/articles/Event Detection with Topic Modeling of Tweets/3545468](https://figshare.com/articles/Event_Detection_with_Topic_Modeling_of_Tweets/3545468)

Post-GWAS characterization of breast cancer-associated SNPs

Presented at the University of Wisconsin-Madison Department of Statistics Student Seminar

November 28, 2012

Identification of Expression Quantitative Trait Loci among breast cancer-associated SNPs

Presented at the University of Wisconsin-Madison Computation and Informatics in Biology and Medicine Retreat

October 12, 2012

Identification of Expression Quantitative Trait Loci among breast cancer-associated SNPs

Presented at the Molecular and Environmental Toxicology Center Seminar

September 20, 2012

Identification of Expression Quantitative Trait Loci among breast cancer-associated SNPs
Presented at the Molecular and Environmental Toxicology Center Retreat
May 22, 2012

Mentoring

Research mentor (with Bret Hanlon) to Robert Turner, Undergraduate researcher
Project: Topic Modeling of Tweets to Detect Events
Dates: May 2015 to May 2016

Research mentor (with Bret Hanlon) to Jinyu Xia, Undergraduate researcher
Project: Tweet Sentiments Associate with Stock Market Trends
Dates: September 2015 to August 2016

Teaching Experience

Formal Courses

The College Classroom: Teaching Inclusively
Title: Instructor
Term: Fall 2017
Institution: CIRTL Network

Course: The College Classroom: How to teach inclusively for educating a diverse nation
Title: Co-facilitator
Term: Spring 2017
Institution: University of Wisconsin-Madison

Course: Statistics 371: Introductory statistics for biologists
Title: Lecturer student assistant (Instructor of record)
Term: Fall 2016
Institution: University of Wisconsin-Madison

Course: Statistics 679: Data science
Title: Guest lecturer on topic models
Term: Fall 2016
Institution: University of Wisconsin-Madison

Course: Statistics 679: Data science
Title: Teaching assistant
Term: Fall 2016
Institution: University of Wisconsin-Madison

Course: Statistics 224 & 324: Introductory statistics for engineers
Title: Lecturer student assistant (Instructor of record)
Term: Spring 2014, Fall 2014, Spring 2015, Fall 2015, Spring 2016
Institution: University of Wisconsin-Madison

Course: Statistics 301 & 371: Introductory statistics
Title: Lecturer student assistant (Instructor of record)
Term: Summer 2015
Institution: University of Wisconsin-Madison

Course: Biostatistics 518: Introduction to biostatistics
Title: Teaching assistant

Term: Winter 2010
Institution: University of Washington

Course: Biostatistics 517: Introduction to biostatistics
Title: Teaching assistant
Term: Fall 2009
Institution: University of Washington

Course: Biostatistics 511
Title: Teaching assistant
Term: Summer 2008
Institution: University of Washington

Course: Chemistry 3B: Introductory organic chemistry
Title: Graduate student instructor
Term: Fall 2001
Institution: University of California-Berkeley

Short Courses & Workshops

Engaging students in the teaching of statistics
Title: Instructor
Dates: July 2020 to August 2020
Institution: CIRTL Network

Engaging students in the teaching of statistics
Title: Instructor
Dates: March 2018 to April 2018
Institution: CIRTL Network

Short Course: Data analysis with topic models for communications researchers
Title: Instructor
Dates: October 2016
Institution: University of Wisconsin-Madison

Data Carpentry Workshop
Title: Instructor
Dates: June 19-20, 2017
Website: <https://uw-madison-aci.github.io/2017-06-19-uwmadison-dc/>

Short Course: Data analysis with topic models for communications researchers
Title: Instructor
Dates: July 2016
Institution: University of Wisconsin-Madison
Course materials

Short course: Topic modeling for non-statisticians
Title: Instructor
Dates: October 2013
Institution: University of Wisconsin-Madison

Short course: Statistical computing with R
Title: Instructor
Dates: June & July 2013; June & July 2012

Employment

UW-Madison Value-added Research Center
Assistant researcher
January 2011 to July 2011

Service

University Service

Co-coordinator, Computational methods in communications studies research group, Fall 2016
Coordinator, WISCIENCE Graduate student book group, Summer 2015, Fall 2015 & Spring 2016
Organizer, Data, Humanities, and Art (DH + A) Symposium at University of Wisconsin-Madison, November 8, 2013
Moderator, University of Wisconsin-Madison Undergraduate Research Symposium, April 2013
Member, University of Wisconsin-Madison Graduate Student Peer Mentor Award Review Committee, April 2013
Member, University of Wisconsin-Madison Graduate School Vilas Travel Grant Review Committee, October 2012 to November 2012
Moderator, University of Wisconsin-Madison Undergraduate Research Symposium, April 2012
Member, University of Wisconsin-Madison Statistics Department Social Committee, January 2012 to May 2014

Community Service

Coach, Westborough Mathcounts Team, September 2020 to April 2022
Coach, Madison Science Olympiad Team, November 2013 to March 2014
Assistant coach, Madison Mathcounts Team, September 2012 to May 2013
Volunteer, MEDIC, September 2003 to May 2005
Founder and Director, Salvation Army Learning Center, September 1998 to May 2000
Cub Scouts Den Leader, Boy Scouts of America, September 1998 to June 2000

Professional Service

Editor, Journal of Open Source Software, June 2020 to present
Peer reviewer, European Journal of Epidemiology, The R Journal, Journal of Open Source Software, ROpenSci, Genetics, G3, PLoS Computational Biology
Member, Genetics Society of America Early Career Researchers Leadership Program, 2020 to 2022
Trainee, Peer Review Training Program, Genetics Society of America, 2018 to 2020
Website: <http://genestogenomes.org/learning-to-peer-review-program-update/>
Participant, American Statistical Association's Workshop on Communicating with the Media and the Public, 2016
Instructor, The Carpentries, 2017 to present
Participant, Data Carpentry & Software Carpentry Instructor Training Workshop, 2016

Additional Research Experience

University of Wisconsin-Madison School of Journalism and Mass Communication

Research assistant

January 2016 to May 2017

Topic modeling of Political Tweets

University of Wisconsin-Madison Molecular and Environmental Toxicology Center

Postdoctoral trainee

February 2012 to January 2014

Breast Cancer Genome-wide association study

Grant number T32 ES007015

University of Wisconsin-Madison Department of Biostatistics and Medical Informatics

Research assistant

August 2011 to January 2012

Breast Cancer Genome-wide association study

University of Washington Department of Biostatistics

Postdoctoral senior fellow

November 2007 to August 2009

Genes and Environment genome-wide association studies

Partners In Health

Research assistant

June 2004 to August 2004

Social and economic risk factors for HIV infection in women of rural Haiti.

University of Wisconsin-Madison Department of Population Health Sciences

Project assistant

January 2003 to August 2003

Measuring Wisconsin's health

University of Wisconsin-Madison Department of Population Health Sciences

Research assistant

June 2003 to August 2003

Measuring global mental health

University of Wisconsin-Madison Department of Chemistry

Research assistant

September 1998 to June 2001

Complex carbohydrates and cell signaling

University of Wisconsin-Madison Department of Chemistry

Research assistant

June 1998 to August 1998

Interfacial tension of polymer suspensions

University of Wisconsin-Madison Department of Chemistry

Research assistant

January 1997 to December 1997

Theoretical chemistry of C-F bond vibrations and stretches in trifluorotoluene

Last updated: October 29, 2023

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