Sheila M. Gaynor

BIOSTATISTICS POSTDOCTORAL FELLOW

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Academic Appointments

Postdoctoral Fellow *Boston, MA*
DEPARTMENT OF BIOSTATISTICS, HARVARD T.H. CHAN SCHOOL OF PUBLIC HEALTH *2018 - Present*
- Supervised by Dr. Xihong Lin
- Fellowship in statistical genetics and genomics
- Methodology emphasis on network and integrative approaches for multi-omics data
- Application emphasis on lung and pain phenotypes and disorders

Education

Harvard University *Cambridge, MA*
PH.D. IN BIOSTATISTICS, A.M. IN BIOSTATISTICS *2013 - 2018*
- Dissertation titled "Statistical Methods for Integratively Characterizing Genetic and Genomic Data"
- Co-advised by Dr. Xihong Lin and Dr. John Quackenbush

University of North Carolina *Chapel Hill, NC*
B.S.P.H. IN BIOSTATISTICS, B.A. IN MATHEMATICS *2009 - 2013*
- With highest honors and highest distinction

Experience

Duke University *Durham, NC*
STATISTICAL CONSULTANT FOR THE CENTER FOR TRANSLATIONAL PAIN MEDICINE *2017 - Present*
- Conducted clustering analysis on individuals from multiple cohorts with pain phenotyping
- Performed descriptive analyses on cohort studies across different pain conditions

Boston University *Boston, MA*
VISITING RESEARCHER IN BEHAVIORAL SCIENCE RESEARCH *2015 - 2017*
- Led statistical analysis of identifying latent classes of smokers unmotivated to quit from a cohort study
- Executed analysis plan in R and identified three distinct subtypes of unmotivated smokers

Harvard University *Boston, MA*
ROTATION STUDENT IN THE DEPARTMENT OF BIOMEDICAL INFORMATICS PARK LAB *2014*
- Implemented open source bioinformatics tools across programming languages to call copy number variants
- Compared copy number calls between array and sequencing data from The Cancer Genome Atlas (TCGA)

Awards

2017	**F31 Kirschstein Predoctoral Individual National Research Service Award**, NHLBI
2017	**Program in Quantitative Genomics Travel Award**, Harvard University Department of Biostatistics
2016	**XSEDE Computation Allocation**, NSF
2016	**Certificate of Distinction in Teaching**, Harvard University Department of Biostatistics
2013	**National Science Foundation Graduate Research Fellowship**, NSF
2013	**T32 NIH HIV/AIDS Training Grant Fellowship**, NIAID
2013	**Delta Omega Undergraduate Award**, Delta Omega Public Health Honors Society
2013	**Carolina Research Scholar**, UNC Office of Undergraduate Research
2013	**Buckley Public Service Scholar**, UNC Carolina Center for Public Service
2012	**Summer Undergraduate Research Fellowship**, UNC
2012	**Phi Beta Kappa**, University of North Carolina

Publications

Gaynor, S. M., Schwartz, J., & Lin, X. (2018). Mediation analysis for common binary outcomes. *Statistics in Medicine*.

Borrelli, B., **Gaynor, S.**, Tooley, E., Armitage, C. J., Wearden, A., & Bartlett, Y. K. (2018). Identification of three different types of smokers who are not motivated to quit: Results from a latent class analysis. *Health Psychology*, 37(2), 179.

Gaynor, S., & Bair, E. (2017). Identification of relevant subtypes via preweighted sparse clustering. *Computational Statistics & Data Analysis*, 116, 139-154.

Bair, E., **Gaynor, S.**, Slade, G. D., Ohrbach, R., Fillingim, R. B., Greenspan, J. D., ... & Maixner, W. (2016). Identification of clusters of individuals relevant to temporomandibular disorders and other chronic pain conditions: the OPPERA study. *Pain*, 157(6), 1266.

Kallogjeri, D., **Gaynor, S. M.**, Piccirillo, M. L., Jean, R. A., Spitznagel, E. L., & Piccirillo, J. F. (2014). Comparison of comorbidity collection methods. *Journal of the American College of Surgeons*, 219(2), 245-255.

Professional Involvement

2017-2018	**Graduate Mentor**,	Harvard Summer Program in Biostatistics & Computational Biology
2017-2018	**Member**,	Harvard Biostatistics Colloquium Committee
2016-2018	**Co-organizer**,	Harvard Biostatistics-Biomedical Informatics Big Data Seminar
2015-2017	**Member**,	Harvard Biostatistics Student Advising Committee
2012-2018	**Member**,	ENAR Section of the International Biometrics Society
2015-2016	**Organizer & Coordinator**,	Harvard Big Data Seminar
2015	**Chair**,	ENAR Session on Graphical Modeling
2014	**Judge**,	Harvard School of Public Health Poster Day

Presentations

ORAL PRESENTATIONS

- *Joint Statistical Meetings, 2018*. Degree centrality of SNPs in eQTL networks.
- *ENAR Spring Meeting, 2017*. Error quantification in biologically relevant eQTL network metrics.
- *Massachusetts General Hospital Trauma Genomics Group, 2017*. Mediation analysis of pathways to PTSD diagnosis.
- *Broad Institute Statistical Genetics Seminar, 2017*. Causal mediation analysis for genomic data.
- *Biostatistics Student Seminar, 2016*. Graduate Research Fellowships.
- *Joint Statistical Meetings, 2016*. Genomic analysis with common binary outcomes via mediation.
- *ENAR Spring Meeting, 2016*. Mediation methods for case-control settings with applications to genomics.
- *Harvard Medical School Epigenetics Symposium, 2015*. Integrating epigenetic and genomic analyses via mediation analysis.
- *Joint Statistical Meetings, 2015*. Mediation-based integrative genomic analysis.
- *Biostatistics Student Seminar, 2015*. A mediation-based integrative genomic analysis of lung cancer.
- *ENAR Spring Meeting, 2015*. Mediation-based integrative genomic analysis.
- *International Association for Dental Research Epi-Forum, 2015*. Preweighted sparse clustering with applications to temporomandibular disorder.
- *ENAR Spring Meeting, 2014*. Identification of biologically relevant subtypes via preweighted sparse clustering.

POSTER PRESENTATIONS

- *ENAR Spring Meeting, 2018*. Assessing the Effective Degree of SNPs in eQTL Networks. Oral poster.
- *American Society for Human Genetics Annual Meeting, 2016*. Mediation methods applied to post-traumatic stress disorder to identify genomic effects.
- *Harvard Graduate Women in Science and Engineering Symposium, 2015*. A mediation-based integrative genomic analysis of lung cancer.
- *UNC Celebration of Undergraduate Research, 2013*. The association between oral contraceptive use and painful conditions.
- *International Pelvic Pain Society Conference, 2012*. OPPERA Study Identifies an Association Between the Use of Hormonal Contraceptives and Orofacial Pain and Headaches. Prepared poster, First place in poster competition.
- *ENAR Spring Meeting, 2012*. Identification of clinically relevant disease subtypes using supervised sparse clustering.

Teaching

Harvard University Department of Biostatistics   *Boston, MA*
Teaching Assistant, ID 201: Principles of Biostatistics and Epidemiology   *2017*
- Led weekly lab sessions and graded homework

Harvard University Department of Biostatistics   *Boston, MA*
Head Teaching Assistant, ID 201: Principles of Biostatistics and Epidemiology   *2015*
- Developed lab sessions and homework assignments for new course
- Managed teaching staff of six biostatistics teaching assistants
- Led weekly lab sessions and graded homework

Harvard University Department of Biostatistics   *Boston, MA*
Teaching Assistant, BIO 200: Principles of Biostatistics   *2014*
- Led weekly lab sessions and graded homework