

Fengling Hu

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EDUCATION

Perelman School of Medicine

MD-PhD

- Graduate Group in Biostatistics
- Step 1: 266
- Elective courses: Case Studies in Translational Research; Humanism and Professionalism Through Music; Extreme Noticing: Perception, Awareness, and Writing
- Awards: 2022 Medical Student Research Paper Prize in AI and Informatics in Medicine

Philadelphia, PA
August 2019 – Present

Amherst College

Bachelor of Arts

- Major: Statistics & Biology
- GPA: 3.98/4.00
- MCAT: 524/528
- Awards: Walker Teaching Award in Statistics, James R. Elster Award in Biology Research, Mu Sigma Rho Statistics Honor Society Member

Amherst, MA
August 2015 – May 2019

RESEARCH EXPERIENCE

Penn Statistics in Imaging and Visualization Endeavor (PennSIVE)

PhD student

- Learn, apply, and extend theoretical statistics concepts in the biomedical setting.
- Develop and validate statistically-motivated methodology for computational neuroscience.
- Collaborate with neuroimaging scientists on applied segmentation and analysis problems.

Philadelphia, PA
July 2020 – Present

Amherst College – Jeong Lab

Research Assistant

- Investigate essential metal characteristics in weedy rice species to determine the metal uptake mechanisms.
- Establish *Arabidopsis thaliana* lines with mutations in essential iron-deficiency response proteins.

Amherst, MA
July 2017 – May 2019

Northwestern University – Yee Lab

Research Assistant

- Perform mixed-methods, thematic analysis on a program designed to improve postpartum return to care.
- Investigate themes in text-message-based communication correlated with return for postpartum care.

Chicago, IL
June 2016 – June 2018

University of Michigan – Big Data Summer Institute

Student Intern

- Analyzed single cell RNA sequencing data to determine appropriate methodology for analyzing cell populations and characterizing data collection errors.
- Learned theory behind statistics methodology, applications of big data statistics, and implementation of learned concepts in R.

Ann Arbor, MI
June 2017 – July 2017

WORK AND VOLUNTEER EXPERIENCE

Graduate Group in Epidemiology and Biostatistics

Student Representative

- Serve as elected representative for Biostatistics PhD cohort entering in 2021.
- Engage in curriculum reform and administrative concerns with graduate group leaders
- Provide real-time, anonymized feedback to course instructors

Philadelphia, PA
August 2021 – Present

BSAC Founder, President, and Consultant

- Work with Graduate Group leadership to build, organize, and run BSAC within PhD program time and funding constraints.
- Lead outreach for new collaborations and connect collaborators to consultants with appropriate skillset.
- Advocate for fellow BSAC consultants to get appropriate credit and conduct consultations that are limited in scope.
- Provide statistical guidance and conduct analyses for basic science, clinical, and health informatics collaborators.
- Draft methodological descriptions and create figures for publication.

August 2022 – Present

Amherst College Statistics Department

Statistics Fellow and Probability Teaching Assistant

- Tutor students in Introduction to Statistics, Intermediate Statistics, and Probability in lecture materials, homework, and R code.
- Serve as statistical analysts for various on-campus academic and administrative departments and projects.

Amherst, MA
March 2017 – May 2019

Amherst College Emergency Medical Service (ACEMS)

Amherst, MA

Emergency Medical Technician – Crew Chief, Director of Recruitment, Director of Business February 2016 – May 2019

- Serve on the ACEMS Board of Directors to organize continued education training, build community, and conduct quality control for over 50 active members.
- Organized a three-week, intensive EMT certification course over winter break to fully train thirty students as EMTs.
- Implement protocols to decrease burnout, increase efficiency, and collect and address member feedback.
- Lead a three-person EMT crew on biweekly 12-hour shifts to provide emergency 24/7 Basic Life Support services.

No Pain Labor & Delivery – Global Health Initiative

China

Interpreter Coordinator

June 2013 – May 2019

- Mediate conversation between American obstetricians, obstetrical anesthesiologists, neonatologists, and nurses and their Chinese counterparts in the delivery rooms of target hospitals for one week each summer. The goals were to facilitate use of labor analgesia, decrease Cesarean rates, and provide better neonatal care.
- Provide instruction and guidance to a team of mostly American high school, college, and medical school students who are semi-fluent to fluent in Chinese.

Kidney Disease Screening and Prevention (KDSAP)

Amherst, MA

Communications Director

February 2016 – February 2018

- Organize and execute kidney disease screenings involving student and nephrologist volunteers in surrounding low-income communities with low access to healthcare.
- Manage communication between the KDSAP Executive Board and KDSAP members, Amherst College administration, and fellow Amherst College pre-health organizations.

Northwestern Memorial Hospital

Chicago, IL

Anesthesia Technician I

August 2015 – July 2017

- Resupply and decontaminate anesthesia equipment and machines between uses to ensure optimal patient care
- Provide support to anesthesiologists during routine surgical operations and anesthesia emergencies.

PUBLICATIONS

Hu, F., Weinstein, S., Baller, E., Valcarcel, A., Adebimpe, A., Raznahan, A., Roalf, D., Robert-Fitzgerald, T., Gonzenbach, V., Gur, R., and others 2022. Voxel-wise intermodal coupling analysis of two or more modalities using local covariance decomposition. *Human Brain Mapping*.

Eweje, F., Byun, S., Chandra, R., Hu, F., Kamel, I., Zhang, P., Jiao, Z., and Bai, H. 2022. Translatability Analysis of National Institutes of Health–Funded Biomedical Research That Applies Artificial Intelligence. *JAMA Network Open*, 5(1), p.e2144742–e2144742.

Martinez, N., Strohbach, A., Hu, F., and Yee, L. 2020. “Real-world” effect of a peer counselor on breastfeeding outcomes in an urban prenatal clinic in the United States. *BMC Pregnancy and Childbirth*, 20(1), p.1–8.

Kim, L., Tsuyuki, K., Hu, F., Park, E., Zhang, J., Iraheta, J., Chia, J.C., Huang, R., Tucker, A., Clyne, M., and others 2021. Ferroportin 3 is a dual-targeted mitochondrial/chloroplast iron exporter necessary for iron homeostasis in Arabidopsis. *The Plant Journal*, 107(1), p.215–236.

Drzymalski, D., Guo, J.C., Qi, X.Q., Tsen, L., Sun, Y., Ouanes, J.P., Xia, Y., Gao, W., Ruthazer, R., Hu, F., and others 2021. The effect of the no pain labor & delivery-global health initiative on cesarean delivery and neonatal outcomes in china: an interrupted time-series analysis. *Anesthesia & Analgesia*, 132(3), p.698–706.

Hu, F., Strohbach, A., Martinez, N., Simon, M., and Yee, L. 2021. Patient and provider perceptions of a patient navigation program to improve postpartum care among publicly insured women. *American journal of perinatology*, 38(03), p.248–257.

Park, E., Tsuyuki, K., Hu, F., Lee, J., and Jeong, J. 2019. PRC2-mediated H3K27me3 contributes to transcriptional regulation of FIT-dependent iron deficiency response. *Frontiers in Plant Science*, 10, p.627.

Strohbach, A., Hu, F., Martinez, N., and Yee, L. 2018. Evaluating the Use of Text Message Communication in a Postpartum Patient Navigation Program for Publicly Insured Women. *Patient Education and Counseling*.

Zhao, P., and Hu, F. 2016. American-trained Chinese anesthesiologists: how are they doing?. *Journal of clinical anesthesia*, 33, p.351–356.

Bouziat, R., Hinterleitner, R., Brown, J., Stencel-Baerenwald, J., Ikizler, M., Mayassi, T., Meisel, M., Kim, S., Discepolo, V., Pruijssers, A., and others 2017. Reovirus infection triggers inflammatory responses to dietary antigens and development of celiac disease. *Science*, 356(6333), p.44–50.

Hu, L.Q., Flood, P., Li, Y., Tao, W., Zhao, P., Xia, Y., Pian-Smith, M., Stellaccio, F., Ouanes, J.P., Hu, F., and others 2016. No Pain Labor & Delivery: A Global Health Initiative’s Impact on Clinical Outcomes in China. *Anesthesia & Analgesia*, 122(6), p.1931–1938.

ORAL AND POSTER PRESENTATIONS

Hu, F., Weinstein, S., Baller, E., Valcarcel, A., Adebimpe, A., Raznahan, A., Roalf, D., Robert-Fitzgerald, T., Gonzenbach, V., Gur, R., and others. 2022. Voxel-wise Intermodal Coupling Analyses of Multiple Images Using Local Covariance Decompositions. *Organization for Human Brain Mapping*.

Hu, F., Weinstein, S., Baller, E., Valcarcel, A., Adebimpe, A., Raznahan, A., Roalf, D., Robert-Fitzgerald, T., Gonzenbach, V., Gur, R., and others. 2022. Leveraging principal component analysis to study intermodal coupling in two or more modalities. *ASA Statistical Methods in Imaging*.

Hu, F., Weinstein, S., Baller, E., Valcarcel, A., Adebimpe, A., Raznahan, A., Roalf, D., Robert-Fitzgerald, T., Gonzenbach, V., Gur, R., and others. 2022. Voxel-wise Intermodal Coupling Using Local Covariance Decompositions. 2022. *Eastern North American Region International Biometric Society*.

Yee, L., Niznik, C., DiTosto, J., Slagle, H., Ekpe, E., Summerlin, S., Hu, F., and Grobman, W. 2022. Associations of mindfulness, food security, and health literacy with diabetes-related perinatal health outcomes. *American Journal of Obstetrics & Gynecology*, 226(1), p.S709–S710.

Martinez, N., Nguyen, A., Hu, F., Strohbach, A., Hajjar, N., and Yee, L. 2017. Effect of Introduction of a Lactation Counselor on Breastfeeding Uptake and Satisfaction in an Urban Prenatal Clinic [39A]. *Obstetrics & Gynecology*, 129(5), p.19S–20S.

Strohbach, A., Hu, F., Martinez, N., Hajjar, N., Simon, M., and Yee, L. 2017. Navigating New Motherhood: Evaluating the Role of Patient-Navigator Communication on Postpartum Follow-Up in a Low-Income Community. *Reproductive Sciences* (pp. 211A–212A).

Hu, F., Strohbach, A., Martinez, N., Hajjar, N., Simon, M., and Yee, L. 2017. Patient and Provider Evaluation of a Postpartum Patient Navigation Program to Improve Postpartum Care Among Publicly Insured Women. *Reproductive Sciences* (pp. 147A–147A).