KUDOS

- Many thanks to Melissa Sherrer for her hard work on Visit Emory Day!
- Thanks also to the members of the Admissions Committees for their work on reviewing many, many applications this year!
• “Science is facts; just as houses are made of stone, so is science made of facts; but a pile of stones is not a house, and a collection of facts is not necessarily science.”  
  --Jules Henri Poincaré (1854-1912) French mathematician

• “There are in fact two things, science and opinion; the former begets knowledge, the latter ignorance.”  
  --Hippocrates

• “Don’t be afraid of hard work. Nothing worthwhile comes easily. Don’t let others discourage you or tell you that you can’t do it. In my day I was told women didn’t go into chemistry. I saw no reason why we couldn’t.”  
  --Gertrude B. Elion, Nobel Prize winning chemist/drug discoverer.
Why you should always consider probability questions while brushing your teeth:

Data science at Harvard (and we are doing many similar things here at Emory).
http://harvardmagazine.com/2017/03/data-science-institute

"Fun and quirky" facts about statistics collected by Dr. Megan J. Olson Hunt (Univ of Wisconsin, Green Bay).
  o John Graunt developed the first “life table” – in 1661! Used by actuaries to determine insurance rates, they predict the probability a person of a certain age will make it to his next birthday. And would you believe that, across the entire U.S., Northeastern Wisconsin is the non-metropolitan area with the most actuaries and highest pay?! (Note from Lance: Graunt’s summary appears in many publications or here:
  http://www2.sunysuffolk.edu/westn/mortality.html Note that 10 people died of “Cancer, and Wolf” and 1 “Bit with a Mad Dog”, and 46 “Killed by Several Accidents”).
  o As described in “The Ghost Map,” John Snow’s 1854 “cholera map” determined a contaminated water pump in London’s Broad Street region was the source of the deadly outbreak, spurring the modern fields of epidemiology and biostatistics.
  o In the early 1900s, William Gossett – more commonly known by his penname, “Student” – developed important statistical ideas (Student’s $t$-test!) while a statistician at Guinness in Ireland. As stated by the American Statistical Association, “It uses a small number of samples to ensure that every brew tastes equally good”!
  o In 1940, Gertrude Cox became the first-ever female professor at North Carolina – in statistics nonetheless. Upon seeing her advisor’s suggested candidates, she asked why her name wasn’t listed. He added her – as a footnote: "Of course if you would consider a woman for this position I would recommend Gertrude Cox of my staff." She got the job.
  o From 2010 to 2013, statistics was the fastest-growing STEM major, with a 95% increase in bachelor's degrees during this time, beating out even computer science. And the demand is real: The Bureau of Labor Statistics estimates jobs for statisticians will increase 34% by 2024, much faster than the average growth rate of 7% across all fields.
UPCOMING DEPARTMENT MEETINGS

- BIOS Student Council Meeting, Tuesday April 4, 12-1.
  - Send agenda items to Lance.

WORKSHOPS AND MEETINGS

- An Introduction to Causal Inference
- June 12-16, 2017
- This 5-day course introduces concepts and methods for causal inference from observational data. Upon completion of the course, participants will be prepared to further explore the causal inference literature. Topics covered include the g-formula, inverse probability weighting of marginal structural models, g-estimation of structural nested models, causal mediation analysis, and methods to handle unmeasured confounding. The last day will end with a “capstone” open Q&A session.
- Instructors: Miguel Hernán, Judith Lok, James Robins, Eric Tchetgen Tchetgen & Tyler VanderWeele
- Prerequisites: Participants are expected to be familiar with basic concepts in epidemiology and biostatistics, including linear and logistic regression and survival analysis techniques.
- Tuition: $450/person, to be paid at the time of registration. Tuition will be waived for up to 2 students with primary affiliation at an institution in a developing country.
- https://www.hsph.harvard.edu/causal/shortcourse/
Bios Buzz

JOB OPENINGS

- Lead Data Science Instructor Position at General Assembly Atlanta, GA
  - Our Data Science Immersive course is a life-changing educational experience where students leave with the skills and mindset to take on new careers in a wide variety of Data Science roles. We are looking for an instructor to spearhead their transformation by leading General Assembly’s Data Science Immersive course.

  - Skills and Qualifications
    - Must Haves:
      - You have at least 2+ years of professional data science experience.
      - You are an expert in SQL, Python, and related Python libraries (pandas, numpy).
      - You have domain expertise in statistics, mathematics, and probability.
      - You can build and apply statistical models in python using machine learning libraries, such as scikit-learn and statsmodels.
      - You have a deep understanding of statistical hypothesis testing and experimental design, data visualization techniques and tools (i.e. matplotlib, bokeh, etc), and manipulation of large data sets.
      - You can demonstrate and explain the function of machine learning algorithms such as regularized regression, naive bayes, decision trees, ensemble methods, KNN, K-means clustering, and neural networks.
      - You are the person your colleagues naturally gravitate to when they are trying to figure something out.
      - You are eager to shape the skills, minds, and trajectories of the newest generation of data scientists.
    - Nice to haves:
      - You have proficiency with NLP python libraries such as NLTK; Hadoop or Apache Spark; D3.js or R.
      - You are on top of industry trends in big data, machine learning, deep learning, and AI.
      - You have previous data science or engineering teaching experience, through a course, workshop, team training, etc.
  - Responsibilities and Duties
    - Plan and implement a 12-week curriculum in conjunction with baseline materials and your local instructional team.
    - Deliver instruction 5 days a week, including teaching, advising, and content development.
    - Work closely with your instructional team to provide students with meaningful and prompt feedback on their progress.
    - Collaborate alongside GA staff in order to best meet the needs and learning styles of your students.
    - Guide students through the development of real world projects that will showcase their abilities to hiring managers.
    - Facilitate a dynamic and collaborative classroom community.
    - Inspire students to persevere through the challenges of learning complex subjects.
    - Contribute to the material and direction of an expanding global curriculum, ensuring the course remains cutting-edge and effective for students worldwide.
JOB OPENINGS

• **Postdoctoral Fellowship in Biostatistics Position in Kaiser Permanente Washington Health Research Institute Seattle, WA**

  o The Biostatistics Unit at Kaiser Permanente Washington Health Research Institute (KPWHRI) is seeking a postdoctoral fellow to engage in biostatistical and collaborative research activities under the mentorship of Drs. Andrea Cook and Jennifer Nelson. Using electronic health data from health care delivery systems, applicants will have the opportunity to conduct methodological research to improve the conduct of pragmatic trials and complex observational studies and to collaborate on interdisciplinary research teams. The specific scientific and biostatistical questions addressed will depend on the candidate’s expertise and interest and may include: 1) What statistical approach should be used in a multi-site cluster randomized back pain trial to estimate treatment effects that are robust to model misspecification?; 2) Can we modify existing correlated data methods to better understand individual and environmental factors that predict or modify trajectories of body weight?; 3) What adaptations of trial-based sequential methods are needed to make causal inference for survival outcomes in a post-marketing drug safety surveillance setting? 4) How can we integrate electronic health data within a traditional cohort design in order to characterize how multiple risk factors are associated with risk of dementia and Alzheimer’s disease? The successful candidate will be encouraged to publish in peer-reviewed journals and present at scientific meetings. To learn more about our ongoing research and methods, please visit [www.kpwashingtonresearch.org/](http://www.kpwashingtonresearch.org/).

  o **Applicants** should have a PhD degree in biostatistics or statistics, a passion for methodological inquiry grounded in collaborative interdisciplinary research, and strong communications skills. Review of applications will begin immediately and continue until the position is filled. The initial appointment will be for one year, with possible extension for a second year. Salary will be commensurate with qualifications. **To Apply:** Send a research statement, CV, and the names and contact information for three references to Jennifer Nelson, PhD (nelson.jl@ghc.org). Additional application procedures may be required. Kaiser Permanente is an affirmative action, equal opportunity employer.
Description: The research group led by Dr. Pei Wang in the Department of Genetics and Genomics Sciences at Icahn School of Medicine at Mount Sinai (New York, NY) invites applications for a postdoctoral researcher in Biostatistics/Bioinformatics. The positions will provide wonderful research opportunities to develop novel statistical/computation methods to solve cutting edge problems in cancer genomics and digital health research. The postdoctoral researcher will work with the established interdisciplinary research team consisting of statisticians, bioinformaticians, and laboratory and clinical scientists. He/She will be able to participate exciting projects from digital health (e.g. mobile health) studies, as well as cancer studies in NCI-CPTAC (Clinical Proteomic Tumor Analysis Consortium), the sister consortium of TCGA.

Duties and Responsibilities: The successful applicant will collaborate with quantitative researchers on methodology development and data analyses for large/complex data sets from omics technologies and/or digital health studies.

Position Qualifications: A Ph.D. in statistics/biostatistics/data sciences or related area is required. Relevant areas of expertise include statistical learning, machine/deep learning and et al. Some experience with applied techniques and real analysis is expected. Experience with computational programming such as R and/or C is required.

- A strong quantitative background in computing, with a demonstrated ability to design and implement algorithms in working code.
- Coursework and practical experience in applying statistical and/or data mining approaches to complex and/or high dimensional biological data.
- Programming experience in a UNIX/Linux environment using programming languages such as R.
- Excellent communication and teamwork skills to take advantage of the highly collaborative environment, adaptability and willingness to contribute to the overall goals of the research.

Salary Range: $60,000-$70,000 Annual

Benefits: Excellent benefit packages including insurance and housing.

Application Information: Applicants should send a curriculum vitae/resume and provide contact information for references. The posting will remain open until the position is filled.

Contact Email: pei.wang@mssm.edu
STATISTICS CARTOONS

NUH-UH. SOME GUY ON TWITTER JUST SAID YOU'RE WRONG.

“It’s not a text abbreviation, it’s a formula.”

“It’s an inexact science.”

CARTOONS SOURCES:
- https://s-media-cache-ak0.pinimg.com/originals/9a/34/e6/9a34e6ba90426f4bf689be358bac6912.png
- https://cdn.andertoons.com/img/toons/cartoon4419.png