

BIOSTATISTICS BULLETIN

February 2022

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Upcoming events and programs

For a more extensive list, visit our [Events and Groups](#) guide.

The inaugural Vanderbilt Bio-statistics Summer Internship for Underrepresented Under-graduates will be conducted from May 23 to July 1. Up to five students will be directly mentored by experienced researchers, with the goal of helping the students prepare for graduate study in biostatistics or data science. The application deadline is February 28. Visit the [internship webpage](#) for details.

On May 25–27, our department will host the hybrid [Statistical Methods in Imaging \(SMI\) annual meeting](#), with assistant professor [Simon Vandekar](#) (chair) and associate professor [Hakmook Kang](#) on the organizing committee, and associate program manager [Cierra Streeter](#) as event coordinator. Early bird registration is open through March 11, and submissions of poster abstracts are welcome through April 22. Visit the [SMI webpage](#) for details, including the conference schedule.

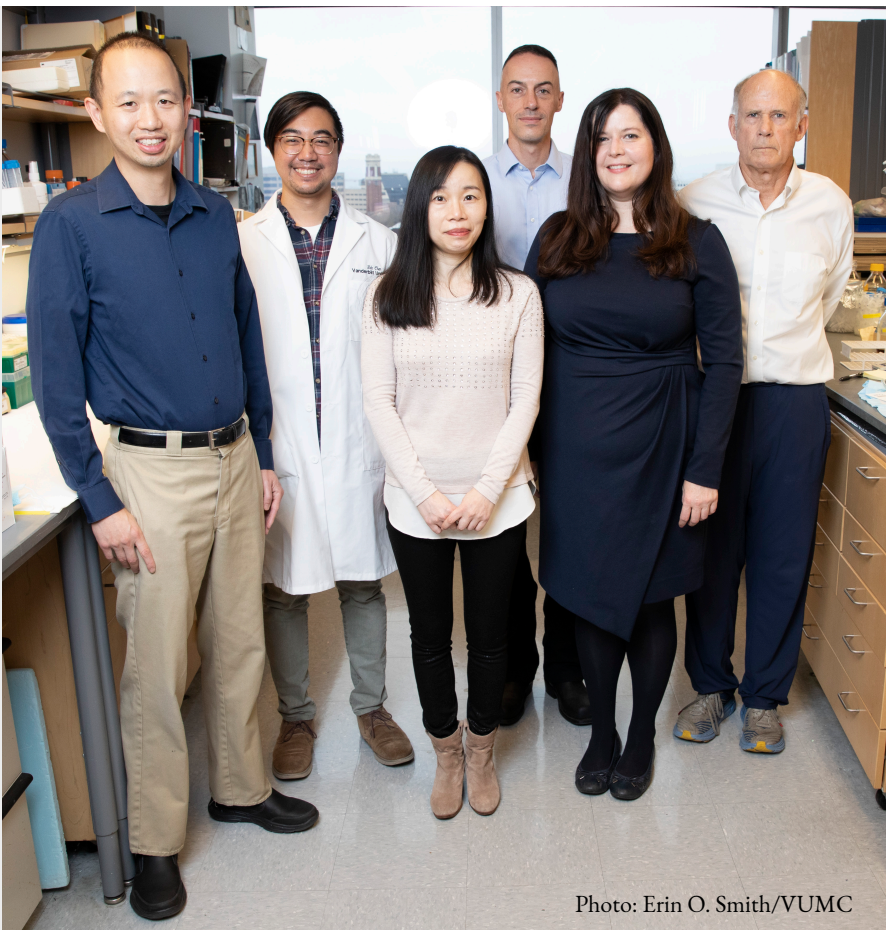


Photo: Erin O. Smith/VUMC

Associate professor [Qi Liu](#) (front center), statistical genetic analyst [Marisol Ramirez-Solano](#), assistant professors [Quanhui “Tiger” Sheng](#) and [Simon Vandekar](#), and research assistant professor [Lynne Berry](#) contributed their expertise to “[Differential pre-malignant programs and microenvironment chart distinct paths to malignancy in human colorectal polyps](#),” a December 2021 paper in *Cell* that offers hope for more precise surveillance of colorectal cancer. See the [VUMC Reporter feature on this study](#) for more about its significance.

Questions? News? Send information and images to [Peg Duthie](#), communications manager, for potential publication here and/or online, and [follow us on Twitter](#) between issues for the latest announcements.

Events and programs

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[useR! 2022](#) will take place online on June 20–23. Information on becoming a [sponsor](#) of this global conference is now available, as are details on [submitting abstracts](#) (due by March 1, when registration opens).



The global conference is being actively promoted in English, French, and Spanish. Department members on the organizing committee include associate professors Matt Shotwell (chair) and Ben French, associate program manager Jena Altstatt, administrative manager Audrey Carvajal, communications manager Peg Duthie, informatics software development director Shawn Garbett, assistant professors Amber Hackstadt and Tom Stewart, senior biostatistician Omair Khan, and chief business officer Janey Wang.

Recent headlines

[*Vanderbilt and CDC research shows third vaccine dose key to preventing omicron hospitalization*](#) *VUMC Reporter*, February 9

Team members include professor Chris Lindsell, principal biostatistician Kimberly Hart, and senior associate Yuwei Zhu.

[*Impact of digital health interventions*](#)

VUMC Reporter, January 31

Assistant professor Andrew Spieker and associate professor Robert Greevy collaborated with Vanderbilt and Tennessee Valley Health-care System investigators on this study.

[*Vanderbilt biostatisticians launch Cancer-Immu data portal for predicting response to immune checkpoint blockade*](#)

immunotherapy *VUMC Reporter*, January 14

Postdoctoral fellow Jing Yang served as first author of the *Cancer Research* report of this resource. The paper was co-authored by assistant professor Shilin Zhao, research assistant professor Jing Wang, assistant professor Quanhu “Tiger” Sheng, associate professor Qi Liu, and professor Yu Shyr.

[*Combined biomarker model tackles indeterminate lung nodules*](#) *Discover: Breakthroughs in medical science and patient care*

The December 13 issue of this Medical Center magazine featured this study. The team working on this approach for improving predictions of who may have lung cancer included research assistant professor Sheau-Chiann Chen.

Visit [Our People](#) for more info on researchers mentioned on this page. Follow our Twitter ([@vandy_biostat](#)) for additional headlines and highlights.

Race, in the words of Dorothy Roberts, “is a political category that has staggering biological consequences because of the impact of social inequality on people’s health.” How, then, should we as biostatisticians use race and related constructs in our analyses? Our **Ethical Responsibilities Regarding Race in Research study group** meets monthly. For more information, contact research assistant professor [Laurie Samuels](#).

Milestones



Promoted to **Lead Biostatistician:**

Cathy Jenkins

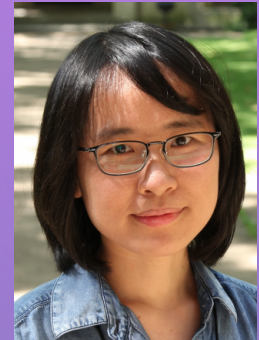
Samuel Nwosu

Li Wang

Promoted to **Research Assistant Professor:**

Sheau-Chiann Chen

Li-Ching Huang



Welcome to the department!



TOP ROW (left to right): Vinni Yenukonda, Associate Quality Assurance Analyst; Jena Altstatt, Associate Program Manager; Paridhi Ranadive, Biostatistician; Stephen Yeargin, Senior Application Developer. BOTTOM ROW: Afan Swan, Health Services Research Analyst; Xiangyu Ji, Biostatistician; Ine Sohn, Biostatistician. Visit [Our People](#) for bios.

Congratulations to our graduates!



Xiangyu Ji

MS awarded December 2021

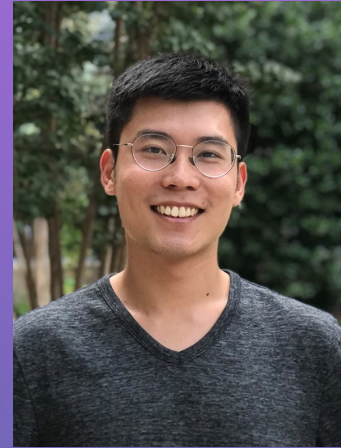
Thesis: “Evaluating uses of machine learning in propensity score estimation on time-to-event data: A simulation study”

Yi Zuo

PhD awarded January 2022

Dissertation: “Improved variable selection with second-generation p-values”

Advisor: Jeffrey Blume



Recent presentations

At the **14th International Conference of the ERCIM WG** (European Consortium for Informatics and Mathematics Working Group) on **Computational and Methodological Statistics (AKA CMStatistics 2021)**, which convened in London and online from December 18 through 20, our department members contributed the following:

Professor [Frank Harrell](#): “Longitudinal ordinal models as a general framework for medical outcomes” (invited talk; slides and video available at [Statistical Thinking](#))

PhD candidate [Coleman Harris](#): “[Computational tools to quantify and correct slide-to-slide variation in multiplexed immunofluorescence images](#)” (invited talk; co-authored by Qi Liu, Simon Vandekar, and others)

Professor [Jonathan Schildcrout](#) chaired an invited session on ordinal regression methods. Assistant professor [Andrew Spieker](#) chaired an invited session on recent advances in causal inference. Assistant professor [Simon Vandekar](#) chaired an invited session on single-cell resolution image analysis.

On January 14, Professor [Christopher Lindsell](#) presented “Searching for a Unicorn: Understanding Stakeholder Perspectives When Selecting Outcomes for Outpatient Trials” in the NIH Pragmatic Trials Collaboratory Grand Rounds. A [video](#) of this lecture is available, as is the January 27 [podcast](#) in which Dr. Lindsell and Dr. Adrian Hernandez continue discussing this topic.

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Recent presentations

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At the American Statistical Association's 2022 Conference on Statistical Practice, on February 3, assistant professor [Mario Davidson](#) raised questions and possible answers regarding ethical thinking and analytic workflows, in "[Borrowing Data Without Permission: It's Okay When It Is for the Greater Good, Right?](#)"

At the International Neuropsychological Society's 50th Annual Meeting (February 2-4), [Vanderbilt Memory & Alzheimer's Center](#) postdoc [Corey Bolton](#) presented "[Improving the Identification of Diagnostic Conversion and Amyloid status in Community-Dwelling Adults.](#)" This global collaboration (with investigators from Sweden, Britain, and Hong Kong as well as the United States) included senior biostatistician [Omair Khan](#) and associate professor [Dandan Liu](#).

The *VUMC Biostatistics Bulletin* is published six times a year by the Department of Biostatistics. To receive future issues via email, opt in via [our homepage](#) or scan this QR code.



Spotlight on health equity and economics

With hundreds of peer-reviewed papers published by department members (including students) and alumni each year, it's impossible to be comprehensive about any topic among our many areas of expertise (which range from epidemiology and genetics/genomics to pharmacodynamic modeling, survival analysis, and more). That said, here are some publications to pique your interest:

Herbst, RS, Shyr Y, Winn RA. [Novel mentorship program tackles disparities in clinical research](#). *Cancer Letter*. 2022;48(4):27-28. Professor [Yu Shyr](#) co-directs the course that is a part of the Bristol Myers Squibb Foundation [Diversity in Clinical Trials Career Development Program](#).

Chang RS, Xu M, Brown SH, et al. [Relation of the dietary approaches to stop hypertension dietary pattern to heart failure risk and socioeconomic status](#) (from the Southern Community Cohort Study) [published online ahead of print, 2022 Jan 25]. *Am J Cardiol*. 2022;S0002-9149(21)01280-7. doi:10.1016/j.amjcard.2021.12.043. Principal biostatistician [Meng Xu](#) is the second author on this.

Hawley JE, Sun T, Chism DD, et al. [Assessment of regional variability in COVID-19 outcomes among patients with cancer in the United States](#). *JAMA Netw Open*. 2022;5(1):e2142046. doi:10.1001/jamanetworkopen.2021.42046. PhD candidate [Tianyi Sun](#) is the second author on this paper, and associate professor [Ben French](#) co-senior author.

Howard LM, Garguilo K, Gillon J, et al. [The first 1000 symptomatic pediatric SARS-CoV-2 infections in an integrated health care system: a prospective cohort study](#). *BMC Pediatr*. 2021;21(1):403. doi:10.1186/s12887-021-02863-1. Senior associate [Daniel Byrne](#), principal biostatistician [Hank Domenico](#), and biostatistician [Ryan Moore](#) contributed to this study; the study shows that COVID-19 positive Black and Hispanic children are more likely to require hospitalization.



In December, associate program manager [Cierra Streeter](#) completed VPRAD (VUMC Program in Research Administration Development) intensive training as a member of Cohort 32.