

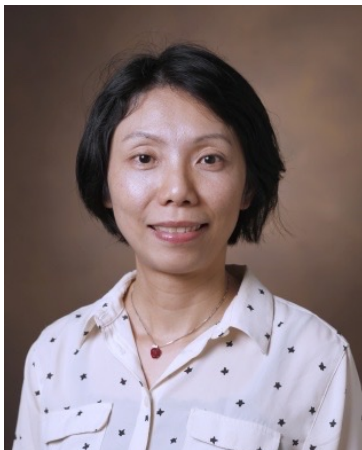
BULLETIN

April 2023

vumc.org/biostatistics

Cindy Chen elected to the Academy for Excellence in Education

Qingxia “Cindy” Chen, whose roles include vice chair of education and professor of biostatistics, biomedical informatics, and ophthalmology and visual sciences, will be inducted into the School of Medicine’s Academy for Excellence in Education this month.



Chen joined the department in 2005 and directs initiatives for the Executive Data Science Program, Post-Graduate Studies, and Distance Learning as well as serving as a leader of and mentor for our graduate program, which she helped design and implement.

Summer Institute 2023

Four on-campus courses; registration opens May 1



This July, the Summer Institute of the Center for Quantitative Sciences will be held in person, on the Vanderbilt University Medical Center campus. The ninth edition of the Institute will feature four weeklong courses to expand and sharpen participants’ quantitative research skills: “Regression and Modeling in R,” “Big Data in Biomedical Research,” “Introduction to Causal Inference,” and a brand-new seminar on working with data from the All of Us Research Program. Instructors include **Gustavo Amorim**, **Cindy Chen**, **Paul Harris**, **Qi Liu**, **Yu Shyr**, and **Andrew Spieker**.

Visit the Institute webpage to learn more and to register; early-bird signups receive a 20% discount.



New department staff

Visit [Our People](#) for more about these individuals.



Cass Johnson
Biostatistician



Joey Stolze
Statistical Genetic Analyst II



Jess Lai
Senior Program Manager



Kayla Sullivan
Associate Program Manager



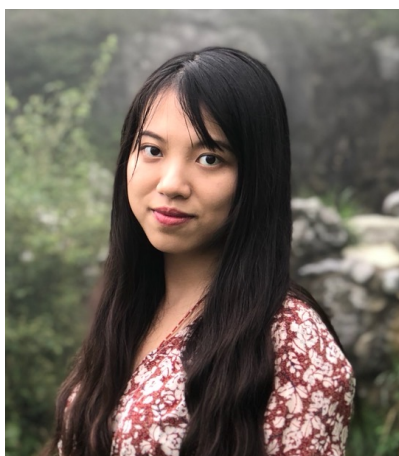
Margaret Cullum
Associate Program Manager



Andrea Elhajj
Health Services
Research Analyst



Amir Javid
Biostatistician



Ke Xu
Biostatistician



Heather Bickham
Project Manager

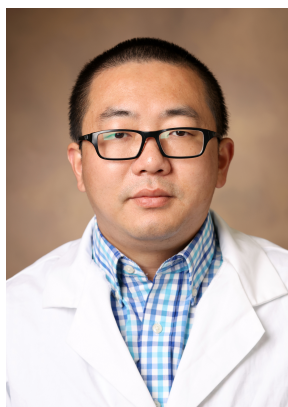
New faculty appointments

Visit [Our People](#) for more about these individuals.



Chih-Yuan Hsu

Previously: Staff Scientist
Now: Research Assistant
Professor of Biostatistics



Yang Liu

Previously: Research Assistant
Professor of Medicine,
Division of Allergy,
Pulmonary, and Critical Care
Now also: Research Assistant
Professor of Biostatistics



**Jacquelyn "Jackie"
Pennings**

Previously: Research
Assistant Professor of
Orthopaedic Surgery
Now: Research Associate
Professor of Orthopaedic
Surgery and Biostatistics



Professor **Bill Dupont** (center) was honored by Vanderbilt's [Master of Public Health](#) Program in a Reunion Weekend ceremony for 25 years of outstanding teaching. Department members **Yu Shyr** and **Yuwei Zhu** were recipients of 10-year awards. Photo: [Terry Wyatt](#)

New faculty spotlight: Bryan Blette

This July, **Bryan Blette** will join our department as Assistant Professor of Biostatistics (Basic Science Investigator track). He earned his PhD in biostatistics from the University of North Carolina in 2021, followed by a postdoctoral fellowship at the University of Pennsylvania. At Vanderbilt, he will collaborate primarily on projects at the Vanderbilt Institute for Clinical and Translational Research (VICTR).



His January 2023 presentation to the department was titled “Combining Causal and Joint Modeling Methods to Address Practical Issues in HIV Clinical Trials.”

New postdoctoral fellow spotlight: Leila Azinfar



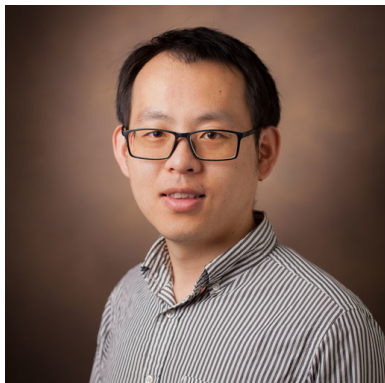
University of Missouri graduate **Leila Azinfar** has joined Amir Asiaee’s lab as a postdoctoral research fellow. Azinfar earned her PhD in bioengineering and will be focusing on causal effect estimation of regulatory molecules. She brings to our department more than ten years of experience in multidisciplinary translational research, including development of a 3D tractography algorithm and an EEG channel optimization algorithm.

Summer internships begin on May 8

Our program for underrepresented undergraduates will offer six weeks of paid training to five students this year. Read about the 2023 cohort in the next issue.

More appointments

Visit [Our People](#) for more about these individuals.



Hua-Chang Chen
Data Scientist Associate I

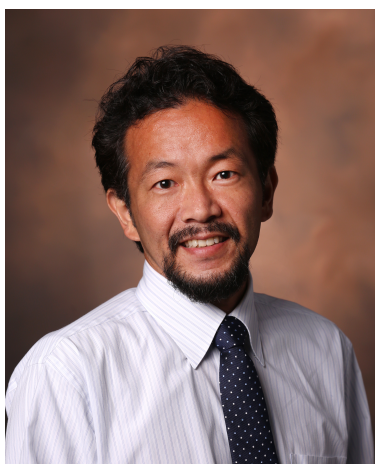


Chia-Jung "Charlene" Chang
Visiting Research Scholar



Daijiro Kabata
Visiting Scholar

Promotions



Tatsuki Koyama
Professor



Mario Davidson
Associate Professor



Peg Duthie
Senior Program Manager



Jena Altstadt
Assistant to the Chair



Cierra Streeter
Program Manager



Lili Sun
Senior Biostatistician

Promotions (continued)

Visit [Our People](#) for more about these individuals.



Amy Perkins
Lead Biostatistician



Liping Du
Research Assistant Professor

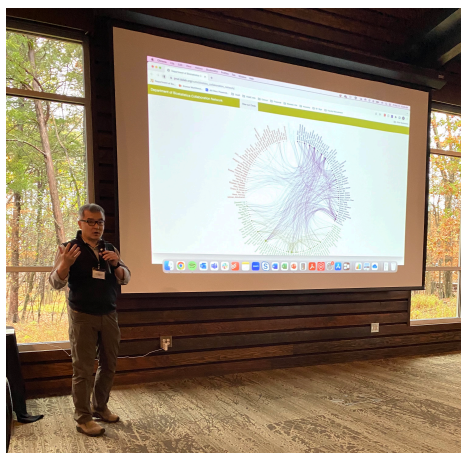


Xiaoke "Sarah" Feng
Senior Biostatistician



Chao-Han Lai
Adjoint Professor

More appointments and promotions are in the pipeline!
To be continued in the next issue . . .



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medical centers in the
United States?
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for more information.



The theme of our all-
department retreat in
November was *Reunite,
Relax, Refresh*.
It featured stretching breaks
(left), connection
visualizations (above), and
more. See the photo album
on [the retreat webpage](#) for
more images from the day.

Congratulations to our December 2022 graduates!



Michael L. Williams, PhD

Advisor: Leena Choi

Dissertation: Using Electronic Health Record Derived Medication Data for Population Pharmacokinetic Studies

Now: Senior Scientist, Clinical Pharmacology and Pharmacometrics, AstraZeneca



Elizabeth Sigworth Westerberg, PhD

Advisor: Qingxia Chen

Dissertation: Improving Inferential and Computational Efficiency for Real-World Data

Now: Associate Research Consultant, OPEN Health



Jacquelyn Neal, PhD

Advisor: Dandan Liu

Dissertation: Predictive Partly Conditional Models for Longitudinal Ordinal Outcomes with Applications to Alzheimer's Disease

Now: Product Data Analyst, Healthwise



John Jackson Resser, MS

Advisor: Andrew Spieker

Thesis: Prediction of Disease Severity in Jordanian Patients with Respiratory Syncytial Virus (RSV) in the Presence of Missingness

Now: Biostatistician, Vanderbilt University Medical Center

Resser will be presenting "The Effect of Community-Acquired Pneumonia on Six-Month Employment Loss in Older Patients" in May at SAEM23, the annual meeting of the Society for Academic Emergency Medicine.

Graduations (continued)

The link for each dissertation/thesis goes to Vanderbilt's Institutional Repository.



Justin Jacobs, MS

Advisor: Tatsuki Koyama

Thesis: A Simulated Exploration of Alternatives to Standard Expansion Cohorts in Phase 1 Trials

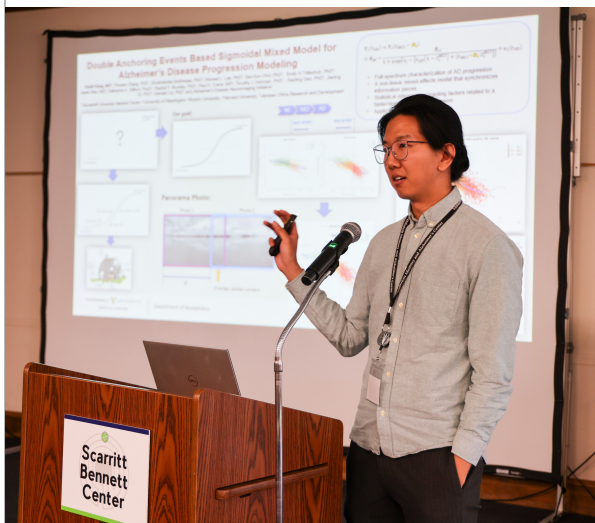
Now: Biostatistician II, Center for Trauma and Acute Care Surgery Research, HCA

Lotspeich wins David P. Byar Early Career Award

The Biometrics Section of the American Statistical Association has named **Sarah Lotspeich** (PhD 2021) the winner of the David P. Byar Early Career Award, for “Optimal Multi-Wave Validation of Secondary Use Data with Outcome and Exposure Misclassification.” Co-authored with research assistant professor **Gustavo Amorim**, assistant professor **Ran Tao**, and professor **Bryan Shepherd**, along with Kaiser Permanente’s Pamela Shaw, the paper was published in the *Canadian Journal of Statistics* at the end of March.



Kang takes first place at AD Research Day



PhD candidate **Kaidi Kang**'s “Double Anchoring Events Based Sigmoidal Mixed Model for Alzheimer's Disease Progression Modeling” was named the best data blitz at Vanderbilt University's 4th annual Alzheimer's Disease Research Day. Kang is also first author of “Accurate Confidence and Bayesian Interval Estimation for Non-centrality Parameters and Effect Size Indices.” Published in *Psychometrika*, the paper reflects Kang's collaboration with MS student **Megan Jones**, assistant professor **Simon Vandekar**, and members of Vanderbilt's Psychiatry and Behavioral Sciences Department.

Introducing the 2022 MS and PhD cohorts

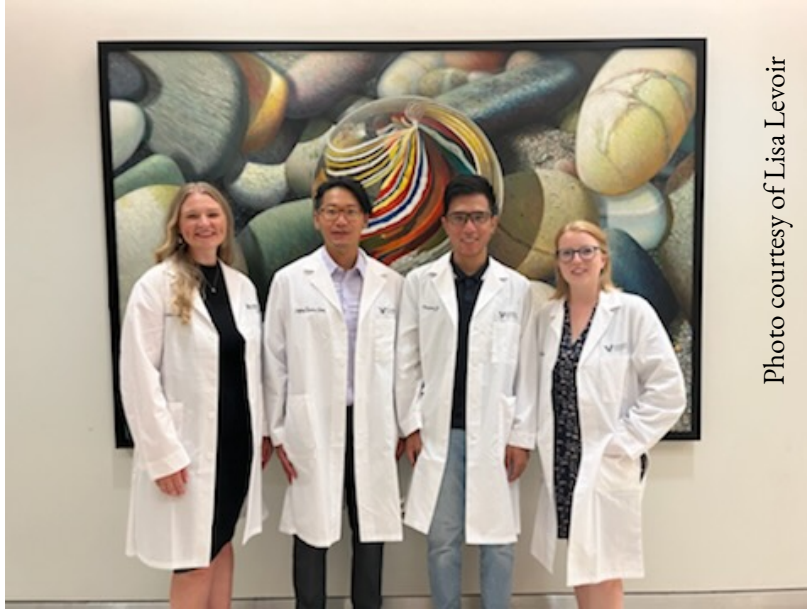


Photo courtesy of Lisa Levoir

Our newest PhD students at Vanderbilt's White Coat Ceremony. FROM LEFT: Alexis Fleming (BA, statistics and financial economics, Gustavus Adolphus College), Jeffrey Zhuohui Liang (MS, biostatistics, Columbia University), Haoyang Yi (MS, biostatistics, Columbia University), and Lisa Levoir (BA, biology), Macalester College.



Our newest MS students: FROM LEFT: Megan Hall (BS, biochemistry, Western Kentucky University), Kenneth Liao (BS, statistics, University of Tennessee), Nick Micheletti (BS, mathematics / BA, ancient studies, Washington University), and Jiming Yu (BS, mathematics, Baylor University).



Students, staff, and faculty in a discussion round at the 2022 All-Department Retreat

Malin named Heard Distinguished Service Professor



Bradley Malin, Accenture Professor of Biomedical Informatics, Biostatistics, and Computer Science, was presented with the Alexander Heard Distinguished Service Professor Award at the 2023 Spring Faculty Assembly. Malin is director of the Health Information Privacy Laboratory. He was a panelist for the “Genetic Information: Balancing Ethics and Impact” Lab-to-Table Conversation on March 28, and the “ChatGPT and LLMs 101: Opportunities and Risks in Medicine, Research + Learning” ListenDNA Twitter Spaces gathering on April 10. Professor **Michael Matheny** also participated in the live chat, which drew more than 200 listeners; a recording is available.

Gatto to lead Center for Learning Healthcare

Research assistant professor **Cheryl L. Gatto** has been appointed co-director of the new Center for Learning Healthcare, which will operate as a part of the Vanderbilt Institute for Clinical and Translational Research (VICTR). Gatto, an associate director at VICTR, won the Vanderbilt Art Wheeler Studio Award in 2022 for her contributions to research design sessions, and this year she is again serving on the program committee for the Vanderbilt Symposium on Implementation Research in the Learning Healthcare System.



VANDERBILT SYMPOSIUM ON

IMPLEMENTATION RESEARCH IN THE LEARNING HEALTH SYSTEM

SAVE THE DATE

MAY 15

11:30 AM - 5:00 PM

VANDERBILT ENGINEERING
AND SCIENCE BUILDING

KEYNOTE SPEAKER

VINCENT LIU, MD, MSC
KAISER PERMANENTE



Call for Poster
Submissions

Poster Registration Deadline | April 26

Cash prizes for poster award winners!
Poster guidelines are posted below.

Sponsored by:

Center for Clinical Quality and
Implementation Research
VICTR Learning Healthcare
System Platform

VICTR methods program director and associate professor **Dandan Liu** was featured in Discoveries in Medicine for her work to improve emergency care of patients with symptoms of coronary artery disease.

More milestones and honors



Biostatistician **Caroline Birdrow** was awarded a spot in the ISTAART (International Society to Advance Alzheimer's Research and Treatment) Design and Data Analytics PIA (Professional Interest Area) Workshop at Stanford University in December. Birdrow's primary collaboration at Vanderbilt is with the Critical Illness, Brain Dysfunction and Survivorship (**CIBS**) Center. A graduate of our MS program, she recently co-authored "**In-Hospital Depressed Level of Consciousness and Long-Term Functional Outcomes in ICU Survivors**" with associate professor **Rameela Raman** and other researchers at Vanderbilt, The Ohio State University, and Veterans Affairs' Geriatric Research Education and Clinical Center.

Associate professor and director of graduate studies **Benjamin French** (right) is a member of the 2023 **Mid-Career Leadership Development Program** (MLDP) cohort. Selection for the year-long program is very competitive, with the goal of training future School of Medicine leaders. Fei Ye and Qi Liu are MLDP alumni.



The **ACTIV-4 Host Tissue clinical trial platform** is now **international**, with new sites in Africa, Europe, and South America. Associate professor **Matt Shotwell** is principal investigator of the ACTIV-4 data coordinating center. Meanwhile, **ACTIV-6** is presently recruiting participants for its montelukast arm, with the support of our application developers, biostatisticians, and more.



ACTIV-6

WORKING TOGETHER TO HELP PEOPLE
WITH COVID-19 FEEL BETTER FASTER.

activ6study.org



[#feelbetterfaster](https://twitter.com/feelbetterfaster)

Conference news



Our department's cohort at the hybrid CMStats (Computational and Methodological Statistics) conference in December 2022 included session chairs/organizers **Amir Asiaee**, **Jonathan Schildcrout**, **Andrew Spieker**, and **Simon Vandekar**, and talks presented by Asiaee, Kaidi Kang, Matt Shotwell, Spieker, Tom Stewart, Ran Tao, and Vandekar, as well as alumna Sarah Lotspeich. (Links go to conference abstracts.)

At the 2023 meeting of the American Institute for Medical and Biological Engineering, **Paul Harris** (left) was inducted as a Fellow, in recognition of his “pioneering contributions in biomedical data collection, standardization, and cloud-based systems that support machine learning.” Harris, professor of biomedical informatics, biomedical engineering, and biostatistics, is the creator of REDCap and principal investigator of the All of Us Data and Research Center.

Chiara Di Gravio (below, second from right, with alumna **Megan Murray** and PhD students **Marisa Blackman** and **Max Rohde**) received a Distinguished Student Paper Award at ENAR 2023 for “Efficient Study Designs and Analysis Methods for Longitudinal Binary Data: an Application to the Lung Health Study.” Visit our ENAR webpage for more about this year's conference.



Recent presentations also include the following:

- ◆ Department chair **Yu Shyr** on “Artificial Intelligence in Digital Pathology and Molecular Biology” at ESMO Asia Congress 2022 in Singapore
- ◆ Associate professor **Mario Davidson** co-teaching “DEPICT: A Framework for Ethical Reasoning in Statistics and Data Science” with Virginia Tech’s Jennifer Van Mullekom at the American Statistical Association’s Conference on Statistical Practice. Davidson and Van Mullekom are also co-presenting “Guiding Principles for Ethical Statistical Practice in Research” at Georgia State University School of Public Health.

Upcoming presentations by department members and alumni are listed on our website in the Events and Groups section. These are some of the lectures our faculty and staff are preparing to deliver:

- ◆ **Yu Shyr**, “What Does a Biostatistician Really Think of Your Study and Why?” Invited panelist, American Association for Cancer Research annual meeting, Orlando, April
- ◆ **Derek K. Smith**, “From Machine Learning to Precision Medicine.” Plenary speaker, American Academy of Oral Medicine annual meeting, Savannah, May
- ◆ **Dandan Liu** and **Jonathan Schildcrout**: Invited speakers, Lifetime Data Science Conference, Raleigh, May
- ◆ **Jinyuan Liu**, “Modern Methods for Analysis of High-Dimensional Data in Biomedical Research.” Invited speaker, International Chinese Statistical Association (ICSA) Applied Statistics Symposium, Ann Arbor, June
- ◆ **Panpan Zhang**, “Statistical and Machine Learning Methods with Applications to Neurodegenerative Diseases.” Invited speaker, ICSA Applied Symposium, Ann Arbor, June

Our department is
hosting ICSA 2024!



A lively discussion among staff biostatisticians at ENAR 2023

Some publications (bold denotes department members; asterisks denote alumni; green denotes current students)



Svetlana Eden and Rameela Raman at the 2022 retreat

Blasingame M, **Samuels L**, Heerman WJ. The combined effects of social determinants of health on childhood overweight and obesity. *Childhood Obesity*. March.

Byrne DW. Artificial Intelligence for Improved Patient Outcomes: Principles for Moving Forward with Rigorous Science. Lippincott Williams & Wilkins. December.

Hiremath G, **Sun L**, **Koyama T** et al. Esophageal epithelium and lamina propria are unevenly involved in eosinophilic esophagitis. *Clinical Gastroenterology and Hepatology*. March.

Joseph J, **Raman R** et al. Child and family outcomes of the Safe Babies Court Team—A Scoping Review. *Children and Youth Services Review*. April.

Liu Q, Zhou Y, Cogan JD, Mitchell DB,

Sheng Q, **Zhao S**, **Shyr Y**, et al. The genetic landscape of familial pulmonary fibrosis. *American Journal of Respiratory and Critical Care Medicine*. January.

Raman R et al. Instruments assessing cognitive impairment in survivors of critical illness and reporting of race norms: A systematic review. *Critical Care Explorations*. December.

Raman R et al. Integrating ethics into the Guidelines for Assessment and Instruction in Statistics Education (GAISE). *American Statistician*. December.

Spieker AJ. Comments on the debate between marginal and conditional estimands. *Statistics in Medicine*. November.

Strayer N*, **Zhang S**, **Yao L**, **Xu Y** et al. Interactive network-based clustering and investigation of multimorbidity association matrices with {associationSubgraphs}. *Bioinformatics*. January.

Tierney WS, **Huang LC**, **Chen SC**, **Berry LD** et al. Comparative treatment outcomes for idiopathic subglottic stenosis: 5-Year update. *Otolaryngology—Head and Neck Surgery*. January.