Eric Yanchenko

Akita International University
Global Connectivity Program
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Education

North Carolina State University *2023*
PhD, Statistics
Advisors: Dr. Brian Reich and Dr. Srijan Sengupta

The Ohio State University *2019*
B.S. Mathematics, B.S. Physics. Statistics Minor
with Honors in the Arts and Sciences, Summa Cum Laude

Positions

Akita International University
Assistant Professor of AI & Data Science (tenure-track), Global Connectivity Program *2024-Present*

Tokyo Institute of Technology
JSPS Short-term Fellow, Dr. Petter Holme, Dr. Tsuyoshi Murata *2023*

North Carolina State University
Research Assistant, Dr. Brian Reich *2020-2023*
Research Assistant, Dr. Srijan Sengupta *2020-2023*
Duke Clinical Research Institute NHBLI Integrated Biostatistical Training Program for CVD research T32 training grant trainee, Dr. Hwanhee Hong *2021-2022*
Data-Enabled Science and Engineering of Atomic Structures Fellow *2020-2021*

The Ohio State University
Research Assistant, Department of Physics, Dr. Leonard Brillson *2015-2019*
Research Assistant, Department of Statistics, Dr. Christopher Hans *2018*

University of Michigan
Participant, Big Data Summer Institute, Dr. Jenna Wiens, Dr. Danai Koutra *2018*

Justus-Liebig University
Research Assistant, Institute of Applied Physics, Dr. Derck Schlettwein *2017*

Publications

Yanchenko, E. and Sengupta, S., (2024+) A generalized hypothesis test for community structure in networks, *Network Science*, 1-17. https://doi.org/10.1017/nws.2024.1

Yanchenko, E., Stevens, S.R., Burns, L., Wruck, L., Hong, H. (2024+) Effect of imbalanced treatment allocation ratio on combining multiple historical controls in clinical trials, *Submitted*.

Yanchenko, E., Bondell, H.D. and Reich, B.J. (2024) Spatial regression modeling via the R2D2 framework, *Environmetrics*, **35** (2), e2829. http://doi.org/10.1002/env.2829

Yanchenko, E., Murata, T. and Holme, P. (2023) Link prediction for ex ante influence maximization on temporal networks, *Applied Network Science*, **8**, 70. https://doi.org/10.1007/s41109-023-00594-z

Yanchenko, E. (2023+) BOPIM: Bayesian Optimization for influence maximization on temporal networks, arXiv link: https://arxiv.org/abs/2308.04700

Yanchenko, E., Murata, T. and Holme, P. (2023+) Influence maximization on temporal networks: a review, arXiv link: https://arxiv.org/abs/2307.00181

Swaminathan, A.C., Snyder, L.D., Hong, H., Stevens, S.R., Long, A.S., **Yanchenko, E.**, Qiu, Y., Liu, R., Zhang, H., Fischer, A., Burns, L., Wruck, L., Palmer, S.M. (2023) Generalizability of External Clinical Trial and Electronic Health Record Control Arms in Idiopathic Pulmonary Fibrosis, *American Journal of Respiratory and Critical Care Medicine*, **208** (5), 579-588. https://doi.org/10.1164/rccm.202210-1947OC.

Yanchenko, E. and Sengupta, S. (2023) Core-periphery structure in networks: a statistical exposition, *Statistics Surveys*, **17**, 42-74, https://doi.org/10.1214/23-SS141

Yanchenko, E. (2022) A divide-and-conquer algorithm for core-periphery identification in large networks. *Stat.* pp. e475. https://doi.org/10.1002/sta4.475

Yanchenko, E., Bondell, H.D. and Reich, B.J., (2021+) The R2D2 prior for generalized linear mixed models, arXiv link: https://arxiv.org/abs/2111.10718

Asel, T., **Yanchenko, E.**, Yang, X., Jiang, S., Krymowski, K., Wang, Y., Trout, A., McComb, D., Windl, W., Goldberger, J., Brillson, L., (2018) Identification of Ge Vacancies as Electronic Defects in Methyl- and Hydrogen-Terminated Germanane, *Applied Physics Letters*, **113**, 061110.

Jiang, S., Krymowski, K., Asel, T., Arguilla, M., Cultrara, N., **Yanchenko, E.**, Yang, X., Brillson, L., Windl W., Goldberger, J.G., (2016) Tailoring the Electronic Structure of Covalently Functionalized Germanane via the Interplay of Ligand Strain and Electronegativity, *Chemistry of Materials*, **28**, 8071-8077.

Presentations

The R2D2 prior for generalized linear mixed models, *6th International Conference on Statistics and Econometrics (EcoSta 2023)*, Waseda University, Tokyo, Japan *2023*
Spatial regression modeling via the R2D2 framework, *Workshop on Bayesian Statistics and Econometrics*, Temple University Japan, Tokyo, Japan *2023*
Comparing Bayesian methods for combining multiple historical controls in clinical trials, *Annual Meeting of the Japanese Society of Biometrics*, Sapporo, Japan *2023*
The R2D2 prior for generalized linear mixed models, *Faculty of Economics, The University of Tokyo*, Tokyo, Japan *2023*
A generalized hypothesis test for community structure in networks, *Center for Computational Social Science, Kobe University*, Kobe, Japan *2023*
A divide-and-conquer algorithm for core-periphery identification in large networks, *Invited talk, North Carolina State University*, Raleigh, NC *2022*
A divide-and-conquer algorithm for core-periphery identification in large networks (poster), *SRCOS Summer Research Conference*, Jekyll Island, GA *2022*
A generalized hypothesis test for community structure and homophily in networks, *Sunbelt 2022, INSNA*, Cairns, Australia *2022*
Quantifying the presence/absence of meso-scale structures in networks, *North Carolina State University*, Raleigh, NC *2022*

A model-agnostic hypothesis test for community structure and homophily in networks (poster), *SRCOS Summer Research Conference*, Jekyll Island, GA *2021*
A model-agnostic hypothesis test for community structure and homophily in networks, *Joint Statistical Meeting*, Seattle, WA *2021*
Big Data Summer Institute Symposium and Poster Session, Ann Arbor, MI *2018*

Teaching

Akita International University
MAT 200 - Introduction to Statistics (1 semester)
CCS 320 - Machine Learning and Big Data (1 semester)

North Carolina State University
Teaching Assistant, ST 758 (Advanced Statistical Computing), NCSU *2023*
Introduction to Bayesian inference lecture for astrostatistics group, NCSU *2023*
Guest lecture for ST740 (Advanced Bayesian Inference, NCSU), *Bayesian Variable Selection* *2022*
Guest lecture for ST758 (Advanced Statistical Computing, NCSU), *Networks, Community Structure and Combinatorial Optimization* *2021*
Instructor for statistics first-year PhD qualifying exam boot camp *2021*
Wrote and recorded tutorial for SEAS program on p-values / hypothesis testing *2021*

Reviewer service

Served as a peer-reviewer for the following journals:
IEEE Transactions on Network Science and Engineering
Journal of the American Statistical Association – Theory & Methods
Journal of Computational and Graphical Statistics
Journal of Statistical Software
Scientific Reports
Statistical Methods in Medical Research

Awards

Travel Award, *ISBA World Meeting*, $300 (declined) *2022*
Clint Miller Award (best graduate student poster), *SRCOS Summer Research Conference* *2021*
NC State Datathon, 3rd Place *2021*
Paige Plagge Graduate Award for Citizenship, NCSU Statistics Department *2020*
Awarded for good citizenship to "a graduate student with an outstanding academic record, who in the judgment of the committee has especially enhanced the life of fellow students with encouragement, generosity and/or humor."

Provost Doctoral Fellowship, NCSU Graduate School, $24,000 *2019-2020*
University Graduate Fellowship, NCSU Graduate School, $4,000 *2019-2020*
Phi Beta Kappa *2019*

Service

Department of Statistics Seminar Committee, NCSU *2023*
NC State-Duke Summer Institute in Biostatistics Graduate Student Mentor *2022*
GRAD-Future Workshop Panelist, NCSU *2022*
Climate Committee, Department of Statistics, NCSU *2021-2022*
Started an English Conversation Club in NCSU Dept. of Stat. where four to six international students and two domestic students met weekly to encourage department camaraderie while also teaching idioms and other American-English speaking conventions to the international students *2019-2023*

Languages English: Native
Japanese: JLPT N5/N4