

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.**, Bondell, H.D. and Reich, B.J., (2025) The R2D2 Prior for Generalized Linear Mixed Models, *The American Statistician*, **79** (1), 40-49. <https://doi.org/10.1080/00031305.2024.2352010>
- Yanchenko, E.**, Chappell, T.M. and Huseth, A.S. (2025) Bayesian Optimization of Insect Trap Distribution for Pest Monitoring Efficiency in Agroecosystems, *Frontiers in Insect Science*, **4**, 1509942, <https://doi.org/10.3389/finsc.2024.1509942>
- Yanchenko, E.**, Irie, K., Sugasawa, S. (2024+) The Group R2D2 Shrinkage Prior for Sparse Linear Models with Grouped Covariates, arXiv link: <https://arxiv.org/abs/2412.15293>

Feng, B.R., **Yanchenko, E.**, Hill, K.L., Rosman, L.A., Reich, B.J. and Rappold, A.G. (2024+) Mediation analysis of community context effects on heart failure using the survival R2D2 prior, arXiv link: <https://arxiv.org/abs/2411.04310>

Yanchenko, E. (2024+) Statistics, in *Introducing the Liberal Arts: A Guidebook for English Learners*, Information Age Publishing, *In Press*.

Yanchenko, E. (2024+) Oral exams in introductory statistics class with non-native English speakers, *Teaching Statistics* (major revisions), arXiv link: <https://arxiv.org/abs/2409.16613>

Yanchenko, E. (2024+) Graph sub-sampling for divide-and-conquer algorithms in large networks, arXiv link: <https://arxiv.org/abs/2409.06994>

Yanchenko, E., Murata, T. and Holme, P. (2024) Influence maximization on temporal networks: a review, *Applied Network Science*, **9**, 16. <https://doi.org/10.1007/s41109-024-00625-3>

Yanchenko, E. and Sengupta, S., (2024) A generalized hypothesis test for community structure in networks, *Network Science*, **12** (2), 122-138. <https://doi.org/10.1017/nws.2024.1>

Yanchenko, E., Stevens, S.R., Burns, L., Wruck, L., and 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, *Technometrics* (tentatively accepted), arXiv link: <https://arxiv.org/abs/2308.04700>

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., and 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.202210-19470C>.

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>

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.

Grants

KAKENHI Grant-in-Aid for Research Activity Start-up, The R2D2 Shrinkage Prior for Grouped Sparse Linear Models, Principal Investigator, *Japan Society for the Promotion of Science*, ¥1,100,000 2024-2025

Presentations

BOPIIM: Bayesian Optimization for influence maximization on temporal networks, *CCSS Workshop on Computational Social Science: Methods and Applications*, Kobe University, Kobe, Japan 2024

Graph sub-sampling for divide-and-conquer algorithms in large networks, *Economics Workshop*, Keio University, Tokyo, Japan 2024

Core-periphery hypothesis testing in networks, *Faculty of Economics*, The University of Tokyo, Tokyo, Japan 2024

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 (2 semesters)

CCS 320 - Machine Learning and Big Data (1 semester)

CCS 125 - Programming Principles (2 semesters)

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 / conferences:
Bayesian Analysis
eBioMedicine
European Conference on Information Systems (ECIS) 2025 (2 reviews)
IEEE Transactions on Network Science and Engineering
Journal of the American Statistical Association – Theory & Methods
Journal of Computational and Graphical Statistics (2 reviews)
Journal of Statistical Software
The New England Journal of Statistics in Data Science
npj Complexity
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 N4/N3 (unofficial)