

# Eric Yanchenko

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- Education**
- NORTH CAROLINA STATE UNIVERSITY *2019-Present*  
PhD Candidate in 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**
- TOKYO INSTITUTE OF TECHNOLOGY *2023-2024*  
JSPS Short-term Fellow, Dr. Petter Holme, Dr. Tsuyoshi Murata
- NORTH CAROLINA STATE UNIVERSITY *2020-Present*  
Research Assistant, Dr. Brian Reich  
Research Assistant, Dr. Srijan Sengupta *2020-Present*  
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 *2017*  
Research Assistant, Institute of Applied Physics, Dr. Derck Schlettwein
- Publications**
- 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.**, Bondell, H.D. and Reich, B.J. (2023+) R2D2 goes to space! A principled approach to setting prior distributions on spatial parameters, arXiv link: <https://arxiv.org/abs/2301.09951>
- 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>
- 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. (2022+) Generalizability of External Clinical Trial and Electronic Health Record

Control Arms in Idiopathic Pulmonary Fibrosis. *In review.*

**Yanchenko, E.** (2022+) Quantifying the presence/absence of meso-scale structures in networks, arXiv link: <https://arxiv.org/abs/2203.16620>

**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>

**Yanchenko, E.** and Sengupta, S., (2021+) A generalized hypothesis test for community structure and homophily in networks, arXiv link: <https://arxiv.org/abs/2107.06093>

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

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

Guest lecture for ST740 (Advanced Bayesian Inference, NCSU), *Bayesian Variable Selection* 2022  
Tutor for TRIO college program, NCSU 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  
Tutored one student at NCSU in ST705 (Linear Models) 2021  
Wrote and recorded tutorial for SEAS program on  $p$ -values / hypothesis testing 2021  
Tutored two students in High-School Algebra I 2020-2021  
Developed curriculum and tutored Japanese businessman in English 2020

## Reviewer service

Served as a peer-reviewer for the following journals:  
*Journal of the American Statistical Association – Theory & Methods*  
*Journal of Computational and Graphical Statistics*

**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**

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 2019-2022