

Preprints

Students funded by me are indicated by * and other students are indicated by **. Stewart* is tenure-track Assistant Professor, Department of Statistics, Florida State University. Babkin* is Senior Data & Applied Scientist, Microsoft.

Stewart*, Jonathan R. and Michael Schweinberger. Pseudo-likelihood-based M -estimation of random graphs with dependent edges and parameter vectors of increasing dimension. Submitted to *The Annals of Statistics*. Under revision.

Eli*, Sean and Michael Schweinberger. *Non-asymptotic model selection for models of network data with parameter vectors of increasing dimension*. Submitted to *Journal of Statistical Planning and Inference*.

Jeon, Minjeong, Schweinberger, Michael, Baugh**, Samuel, and Eric Ho**. *Latent process models for monitoring progress towards hard-to-measure targets, with application to online educational assessment data*. To be submitted.

With Johannes Lederer. *Scalable model selection with a single observation of dependent random variables: pseudolikelihood-based Dantzig selectors*.

With Johathan R. Stewart*. *Composite likelihood in dependent-data problems with parameter vectors of increasing dimension*.

Accepted and published peer-reviewed articles

Students funded by me are indicated by * and other students are indicated by **. Stewart* is tenure-track Assistant Professor, Department of Statistics, Florida State University. Babkin* is Senior Data & Applied Scientist, Microsoft.

Jin, Ick Hoon, Jeon, Minjeong, **Schweinberger, Michael**, Yun, Jonghyun, and Lizhen Lin (2022). Multilevel network item response modeling for discovering differences between innovation and regular school systems in Korea. Accepted, *Journal of the Royal Statistical Society, Series C (Applied Statistics)*.

Park, Jaewoo, Jin, Ick Hoon, and **Michael Schweinberger** (2022). Bayesian model selection for high-dimensional Ising models, with applications to educational data. *Computational Statistics & Data Analysis*, 165, 1–20.

Schweinberger, Michael, Bomiriya**, Rashmi P., and Sergii Babkin* (2021). A semiparametric Bayesian approach to epidemics, with application to the spread of the coronavirus MERS in South Korea in 2015. Accepted, *Journal of Nonparametric Statistics*, 1–35.

Jeon, Minjeong, Jin, Ick Hoon, **Schweinberger, Michael**, and Samuel Baugh** (2021). Mapping unobserved item-respondent interactions: A latent space item response model with interaction map. *Psychometrika*, 86, 378–403. **The first three authors made equal contributions. The order of the first three authors is alphabetical.**

Schweinberger, Michael, Krivitsky, Pavel N., Butts, Carter T., and Jonathan R. Stewart* (2020). Exponential-family models of random graphs: Inference in finite, super, and infinite population scenarios. *Statistical Science*, 35, 627–662.

Schweinberger, Michael and Jonathan R. Stewart* (2020). Concentration and consistency results for canonical and curved exponential-family models of random graphs. *The Annals of Statistics*, 48, 374–396.

Schweinberger, Michael (2020). Consistent structure estimation of exponential-family random graph models with block structure. *Bernoulli*, 26, 1205–1233.

Babkin*, Sergii, Stewart*, Jonathan R., Long**, Xiaochen, and **Michael Schweinberger** (2020). Large-scale estimation of random graph models with local dependence. *Computational Statistics & Data Analysis*, 152, 1–19.

- Schweinberger, Michael** (2020). Statistical inference for continuous-time Markov processes with block structure based on discrete-time network data. *Statistica Neerlandica*, 74, 342–362.
- Stewart*, Jonathan R., **Schweinberger, Michael**, Bojanowski, Michal, and Martina Morris (2019). Multilevel networks facilitate statistical inference for curved ERGMs with geometrically weighted terms. *Social Networks*, 59, 98–119.
- Schweinberger, Michael** and Pamela Luna** (2018). hergm: Hierarchical exponential-family random graph models. *Journal of Statistical Software*, 85, 1–39.
- Cao**, Ming, Chen, Yong, Fujimoto, Kayo, and **Michael Schweinberger** (2018). A two-stage working model strategy for network analysis under hierarchical exponential random graph models. *Proceedings of the 2018 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining*, 290–298. Acceptance rate: 15%.
- Schweinberger, Michael**, Babkin*, Sergii, and Katherine B. Ensor (2017). High-dimensional multivariate time series with additional structure. *Journal of Computational and Graphical Statistics*, 26, 610–622.
- Schweinberger, Michael** and Mark S. Handcock (2015). Local dependence in random graph models: Characterization, properties and statistical inference. *Journal of the Royal Statistical Society, Series B (Statistical Methodology)*, 77, 647–676.
- Schweinberger, Michael**, Petrescu-Prahova, Miruna, and Duy Q. Vu** (2014). Disaster response on September 11, 2001 through the lens of statistical network analysis. *Social Networks*, 37, 42–55.
- Vu**, Duy Q., Hunter, David R., and **Michael Schweinberger** (2013). Model-based clustering of large networks. *The Annals of Applied Statistics*, 7, 1010–1039.
- Hunter, David R., Krivitsky, Pavel N., and **Michael Schweinberger** (2012). Computational statistical methods for social network models. *Journal of Computational and Graphical Statistics*, 21, 856–882. **Invited. The authors made equal contributions. The order of authors is alphabetical.**
- Schweinberger, Michael** (2012). Statistical modeling of network panel data: goodness-of-fit. *British Journal of Mathematical and Statistical Psychology*, 65, 263–281.

- Schweinberger, Michael** (2011). Instability, sensitivity, and degeneracy of discrete exponential families. *Journal of the American Statistical Association, Theory & Methods*, 106, 1361–1370.
- Lospinoso**, Joshua, **Schweinberger, Michael**, Snijders, Tom A.B., and Ruth Ripley (2011). Assessing and accounting for time heterogeneity in stochastic actor oriented models. *Advances in Data Analysis and Classification*, 5, 147–176.
- Snijders, Tom A.B., Koskinen, Johan, and **Michael Schweinberger** (2010). Maximum likelihood estimation for social network dynamics. *The Annals of Applied Statistics*, 4, 567–588.
- Schweinberger, Michael** and Tom A.B. Snijders (2007). Markov models for digraph panel data: Monte Carlo-based derivative estimation. *Computational Statistics and Data Analysis*, 51, 4465–4483.
- Schweinberger, Michael** and Tom A.B. Snijders (2003). Settings in social networks: A measurement model. *Sociological Methodology*, 33, 307–341.

Editor- and peer-reviewed book chapters and discussions

- Schweinberger, Michael**, Stingo, Francesco C., and Maria P. Vitale (2021). Special issue on statistical analysis of networks. *Statistical Methods & Applications (Journal of the Italian Statistical Society)*, 30, 1285–1288. **Invited. Editor-reviewed.**
- Schweinberger, Michael** (2021). Discussion to: “Bayesian graphical models for modern biological applications” by Yang Ni, Veerabhadran Baladandayuthapani, Marina Vannucci, and Francesco C. Stingo. *Statistical Methods & Applications (Journal of the Italian Statistical Society)*, 1–8. **Invited. Editor-reviewed.**
- Schweinberger, Michael** (2019). Random graphs. *Wiley StatsRef: Statistics Reference Online*. Edited by Brian Everitt, Geert Molenberghs, Walter Piegorsch, Fabrizio Ruggeri, Marie Davidian, and Ron Kenett. **Invited. Editor-reviewed.**
- Snijders, Tom A.B., Steglich, Christian E.G. and **Michael Schweinberger** (2007). Modeling the co-evolution of networks and behavior. In: Van Montfort, K., Oud, H. and A. Satorra (editors). *Longitudinal models in the behavioral and related sciences*. Mahwah, NJ: Lawrence Erlbaum.

Other publications

Schweinberger, Michael (2007). Statistical Methods for Studying the Evolution of Networks and Behavior. Ph.D. thesis, University of Groningen, NL.

Unpublished preprints

Schweinberger, Michael, Krivitsky, Pavel N., and Carter T. Butts (2017). A note on the role of projectivity in likelihood-based inference for random graph models. **The first two authors made equal contributions.**

Vu**, Duy Q. and **Michael Schweinberger** (2014). Model-based clustering of large random graphs with high-dimensional predictors.

Schweinberger, Michael and Tom A.B. Snijders (2007). Random effects models for di-graph panel data.