Nicholas J. Seewald

Curriculum Vitae

Contact Information

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Education

Expected 2020 | **Doctor of Philosophy**, Statistics
University of Michigan, Ann Arbor, Michigan
Passed qualifying exams in May 2016

May 2015 | **Master of Science**, Biostatistics
University of Michigan, Ann Arbor, Michigan

May 2013 | **Bachelor of Science** *cum laude*, Mathematics with Life Science
University of Notre Dame, Notre Dame, Indiana
Glynn Family Honors Program

Research Experience

Graduate Student Research Assistant, University of Michigan

Current - Jul 2016 | **Supervisor:** Daniel Almirall, Ph.D.

- Developed sample size methods for sequential, multiple-assignment randomized trials in which the primary aim is to compare two embedded dynamic treatment regimes on a continuous, repeated-measures outcome.

Sep 2015 - Jul 2016 | **Supervisor:** Susan A. Murphy, Ph.D.

- Managed complex, intensive longitudinal data arising from *HeartSteps*, a micro-randomized trial involving smartphone-based interventions aimed at increasing physical activity in sedentary adults (PI: Predrag Klasnja, Ph.D.).
- Performed primary analyses for HeartSteps to assess a proximal, marginal causal effect of providing the intervention versus not on participant step count.

Jan 2014 - Aug 2015 | **Supervisor:** Kelley M. Kidwell, Ph.D.

- Developed a web application for sizing sequential, multiple-assignment, randomized trials with binary or continuous outcomes in which the primary goal is to compare two embedded dynamic treatment regimes.
- Helped derive sample size methods for use in aforementioned application.
- Collaborated with investigators in the University of Michigan Health System, School of Pharmacy, and Department of Psychology on data analysis projects involving cancer, genetics, and obesity.

Sep 2013 - Jan 2014

Supervisor: Gonçalo Abecasis, D.Phil.

- Worked on aligning whole-genome samples from a large-scale case control study on age-related macular degeneration.

Undergraduate Honors Thesis, Department of Mathematics, University of Notre Dame

Apr 2012 - Apr 2013

Entropy and Counting
Supervisor: David Galvin, Ph.D.

- Studied properties of the entropy of a random variable and its combinatorial implications.

Undergraduate Research, Department of Chemistry and Biochemistry, University of Notre Dame

Jan 2010 - May 2012

Supervisor: Seth N. Brown, Ph.D.

- Synthesized a number of chiral boron molecules for analysis via NMR and X-Ray crystallography to investigate bond angles at the boron center.
- Studied NMR kinetics of reactions between molybdenum tris(catecholate) and nitrogen-containing compounds to investigate a probable reaction mechanism.

Teaching Experience

Graduate Student Instructor, Department of Statistics, University of Michigan

Fall 2017

STATS 500: Statistical Learning I: Regression
Instructor: Brian Thelan, Ph.D.

- Introductory regression course for students in the Masters program of Applied Statistics. Covered linear regression through shrinkage methods; includes an introduction to R.
- Held weekly office hours and graded weekly homework for 107 students.

Undergraduate Teaching Assistant, Department of Biological Sciences, University of Notre Dame

Spring 2012

BIOS 40411: Biostatistics
Instructor: Gary Lamberti, Ph.D.

- Introduction to statistical principles–including inference, ANOVA, regression, and non-parametrics–with biological applications
- Helped design and facilitate weekly tutorial sessions structured around data analysis in R

Publications

In Progress

Seewald, N.J., Smith, S.N., Lee, A.J., Klasnja, P., Murphy, S.A. (Under review) "Practical Considerations for Data Collection and Management in Mobile Health Micro-randomized Trials." *Statistics in Biosciences*.

Seewald, N.J., Kidwell, K.M., Wu, T., Nahum-Shani, I., Almirall, D. (In progress) "Sample size considerations for comparing dynamic treatment regimens in a sequential multiple-assignment randomized trial with a continuous longitudinal outcome."

Smith, S.N., **Seewald, N.J.**, Lee, A.J.S., Hall, K., Necamp, T., Luers, B., Murphy, S.A., Klasnja, P. (In progress) "User Experience with HeartSteps, a Context-aware Application for Supporting Physical Activity."

Klasnja, P., Smith, S., **Seewald, N.J.**, Lee, A., Hall, K., Luers, B., Hekler, E., Murphy, S.A. "Effectiveness of contextually-tailored suggestions for physical activity: A micro-randomized trial of HeartSteps."

Peer-Reviewed

2017

Meurer, W. J., **Seewald, N. J.**, Kidwell, K. M. (2017), "Sequential Multiple Assignment Randomized Trials: An Opportunity for Improved Design of Stroke Reperfusion Trials." *Journal of Stroke and Cerebrovascular Diseases*, http://dx.doi.org/10.1016/j.jstrokecerebrovasdis.2016.09.010.

Kadakia, K.C., Kidwell, K.M., **Seewald, N.J.**, Snyder, C.F., Storniolo, A.M., Otte, J.L., Flockhart, D.A., Hayes, D.F., Stearns, V., Henry, N.L. (2017), "Prospective assessment of patient-reported outcomes and estradiol and drug concentrations in patients experiencing toxicity from adjuvant aromatase inhibitors" *Breast Cancer Research and Treatment*

2016

Hertz, D. L., Kidwell, K. M., **Seewald, N. J.**, Gersch, C.L., Desta, Z., Flockhart, D.A., Storniolo, A-M., Stearns, V., Skaar, T.C., Hayes, D.F., Henry, N.L., and Rae, J. M. (2016), "Polymorphisms in Drug-Metabolizing Enzymes and Steady-State Exemestane Concentration in Postmenopausal Patients with Breast Cancer," *The Pharmacogenomics Journal*, http://doi.org/10.1038/tpj.2016.60

Kadakia, K. C., Snyder, C. F., Kidwell, K. M., **Seewald, N. J.**, …, Henry, N. L. (2016), "Patient-Reported Outcomes and Early Discontinuation in Aromatase Inhibitor-Treated Postmenopausal Women With Early Stage Breast Cancer" *The Oncologist*, 2, 539-546, http://doi.org/10.1634/theoncologist.2015-0349.

Hertz, D. L., Caram, M. V., Kidwell, K. M., Thibert, J. N., Gersch, C., **Seewald, N. J.**, Smerage, J., Rubenfire, M., Henry, N.L., Cooney, K.A., Leja, M., Griggs, J.J., and Rae, J.M. (2016), "Evidence for association of SNPs in ABCB1 and CBR3, but not RAC2, NCF4, SLC28A3 or TOP2B, with chronic cardiotoxicity in a cohort of breast cancer patients treated with anthracyclines," *Pharmacogenomics*, 17 231-240, http://doi.org/10.2217/pgs.15.162.

2013

Randolph, A. H., **Seewald, N. J.**, Rickert, K. and Brown, S. N. (2013), "Tris (3, 5-di-tert-butylcatecholato) molybdenum (VI): Lewis Acidity and Nonclassical Oxygen Atom Transfer Reactions," *Inorganic Chemistry*, 52, 12587-12598, http://doi.org/10.1021/ic401736f

2012

Marshall-Roth, T., Liebscher, S. C., Rickert, K., **Seewald, N. J.**, Oliver, A. G. and Brown, S. N. (2012), "Nonclassical oxygen atom transfer reactions of oxomolybdenum(vi) bis(catecholate)," *Chemical Communications*, 48(63) 7826-7828. http://doi.org/10.1039/c2cc33523a

Published Abstracts

2016

Hertz, D.L., Kidwell, K.M., **Seewald, N.J.**, Gersch, C.L., Desta, Z., Flockhart, D.A., Storniolo, A.M., Stearns, V., Skaar, T.C., Hayes, D. F., Henry, N.L., and Rae, J.M. (2016), "Abstract P5-12-05: CYP3A4* 22 polymorphism is associated with increased exemestane concentrations in postmenopausal breast cancer patients," *Cancer Research*, 76, 4 [supplement], P5-12-05, http://dx.doi.org/10.1158/1538-7445.SABCS15-P5-12-05.

Kadakia, K.C., Kidwell, K.M., **Seewald, N.J.**, Snyder, C.F., Flockhart, D.A., Otte, J.L., Hayes, D.F., Storniolo, A.M., Stearns, V., and Henry, N.L. (2016), "Crossover from One Aromatase Inhibitor (AI) to Another in the Exemestane and Letrozole Pharmacogenetics (ELPh) Trial," *Journal of Clinical Oncology*, 34, 3 [supplement], 158.

2015

Mammoser, A.G., Weathers, S.S., **Seewald, N.J.**, Taylor, J.M.G., and Junck, L. (2015), "Primary CNS Lymphoma; A Review of the University of Michigan Experience 2004-2013," *Journal of Clinical Oncology*, 33, 15 [supplement], e13012.

Kadakia, K.C., Snyder, C.F., Kidwell, K.M., **Seewald, N.J.**, Storniolo, A.M., Flockhart, D.A., Carpenter, J.S., Hayes, D.F., Stearns, V., and Henry, N.L. (2015), "Associations between Treatment-Emergent Symptoms and Early Discontinuation of Aromatase Inhibitor (AI) Therapy," *Journal of Clinical Oncology*, 33, 15 [supplement], e20745.

Posters and Presentations

Posters

2017 **Seewald, N.J.**, Nahum-Shani, I., McKay, J.R., Almirall, D. "Sample Size Considerations for the Analysis of Continuous Repeated-Measures Outcomes in Sequential Multiple-Assignment Randomized Trials." Michigan Student Symposium for Interdisciplinary Statistical Sciences. Ann Arbor, MI.

2015 **Seewald, N.J.**, Almirall, D., Kidwell, K.M. "A SMART Web-Based Sample Size Calculator." Michigan Student Symposium for Interdisciplinary Statistical Sciences. Ann Arbor, MI.

2014 **Seewald, N.J.**, Almirall, D., Kidwell, K.M. "A SMART Web-Based Sample Size Calculator." IMPACT Symposium III: Advances in Clinical Trial Statistics: Multiplicity Adjustment and Sequential, Multiple Assignment, Randomized Trials. Cary, NC.

Presentations

2016 **Seewald, N.J.** "GITting Started with Reproducibility: An Introduction to git and knitr." Biostatistics Student Association Computing Workshop, University of Michigan. January 29, 2016. *Invited.*

2015 **Seewald, N.J.** "Getting Started with LaTeX." Biostatistics Brown Bag Seminar, Department of Biostatistics, University of Michigan. November 6, 2015. *Invited*.

Seewald, N.J., Almirall, D., Kidwell, K.M. "Design, Analysis, and Sizing of Sequential Multiple Assignment Randomized Trials with Binary Outcomes." Graduate Student Statistical Topics Seminar Series, Department of Statistics, University of Michigan. September 24, 2015. *Invited*.

Seewald, N.J., Almirall, D. "An Introduction to Adaptive Interventions and SMARTs." Guest Lecture, Advanced Seminar in Survey Methodology. Instructor William Yeaton, Ph.D. Institute for Social Research, University of Michigan. June 24-25, 2015.

Nahum-Shani, I., **Seewald, N.J.** "Getting SMART: Experimental Design and Analysis Methods for Developing Adaptive Interventions." University of California San Francisco. May 19, 2015.

Awards

2017 Winner, Best Departmental Poster - Statistics. Michigan Student Symposium for Interdisciplinary Statistical Sciences. March 24, 2017.

2015 Winner, Best Departmental Poster - Biostatistics. Michigan Student Symposium for Interdiscipinary Statistical Sciences. March 20, 2015.

Professional Society Membership

American Statistical Association
Society for Clinical Trials
ENAR