

THEVAA CHANDERENG
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EDUCATION AND TRAINING

- 2020 **University of Wisconsin**
Ph.D. in Statistics (Option in Biostatistics)
Dissertation title: Imbalanced
Advisor: Rick Chappell
Minor: Computer Science
- 2014 **University of Wisconsin**
B.S. with honors in Statistics and Mathematics
Honors thesis title: Genomic Predictors of Survival in Breast Cancer
Minor: Computer Science

PROFESSIONAL EXPERIENCE

- 2022–present Adjunct Assistant Professor of Biostatistics, Columbia University Mailman School of Public Health
- 2022–present Assistant Professor/Data Scientist, Institute of Health System Science & Quantitative Intelligence, Feinstein Institutes for Medical Research, Northwell Health
- 2021–2022 Assistant Professor of Biostatistics, Columbia University Mailman School of Public Health
- 2020–2021 Postdoctoral Research Scientist, Columbia University Mailman School of Public Health
Advisors: Ying Kuen Cheung
- 2019–2020 Research Assistant, UW Carbone Cancer Center, University of Wisconsin
Principal Investigator: Menggang Yu
- 2018–2019 Research Statistician, Medtronic Inc.
- 2015–2019 Research Assistant, Dept. Biostatistics & Medical Informatics, University of Wisconsin
Principal Investigator: Anthony Gitter
- 2014–2015, 2020 Teaching Assistant, University of Wisconsin
- 2013 Actuarial Summer Intern, Milliman

EDITORIAL ACTIVITIES

- Reviewer *Journal of the American Statistical Association, Statistics in Medicine, Biometrics, R Journal, ACM BCB, ISMB, R OpenSci, Journal of Statistical Software, Journal of Clinical Epidemiology, Applied Clinical Informatics, Harvard Data Science Review, Journal of the Korean Statistical Society, International Journal of Biostatistics, Statistical Methods in Medical Research, BMC Bioinformatics, Trials, Journal of the American Medical Informatics Association*

HONORS AND AWARDS

2025	Elected Fellow, Royal Society
2025	Guy Medal in Bronze, Royal Statistical Society
2025	Raymond Carroll Young Investigator Award, Texas A&M University
2023	Sloan Research Fellowship, Alfred P. Sloan Foundation 2023-2024
2022	CAREER Award, National Science Foundation 2022-2025
2021	American Heart Association Postdoctoral Fellowship (declined)
2021	NIH Director's Early Independence Award, National Institutes of Health 2021-2026
2020	Simons Investigator, Simons Foundation 2020-2023
2020	Winner, SCT Thomas Chalmers Student Scholarship
2020	ASA Biopharmaceutical Section Student Travel Award for Regulatory-Industry Statistics Workshop
2020	Finalist, IISA Student Paper Competition
2020	ASA Biopharmaceutical Section Student Paper Award
2019	ASA Student and Early Career Travel Fund
2018, 2019	UW-Madison Student Research Travel Grant
2019	2 nd place ASA Medical Device and Diagnostic Section Student Paper Award
2018	Biopharm-Deming Student Scholar Award
2018	Student Travel Award 25th Annual Biopharmaceutical Applied Statistics Symposium
2018	ASA Biopharmaceutical Section Scholarship Award
2018	Student Travel Award 41st Midwest Biopharmaceutical Statistics Workshop
2014	Mark Ingraham Scholarship
2013	David Lawrence Young Memorial Scholarship

PUBLICATIONS

UNDER REVIEW / TECH REPORTS

1. **T. Chandereng**, C.P. Friel. Quantile Coarsening of Nonnegative Functions. In revision, Journal of the American Statistical Association: Application & Case Studies.
2. **T. Chandereng**, M. Witek, R. Chappell. Blocked adaptive randomization. In revision, Journal of Clinical Oncology.

3. **T. Chandereng**, R. Chappell. Optimality in blocked response-adaptive randomization for non-inferiority trials. In revision, Biometrics.
4. **T. Chandereng**. Sample size for blocked response-adaptive randomized trials. Submitted.
5. P. Rowley, (et. al, including **T. Chandereng**). Unexpected findings from 14,721 brain magnetic resonance imaging exams in research volunteers over 10 years. Submitted.

JOURNAL ARTICLES (* co-first authors)

1. **T. Chandereng***, M. Butler*, et. al. (2024+). A framework for the aggregation and visualization of personalized N-of-1 trial data: The Personalized N-of-1 Data Wizard. Journal of the American Medical Informatics Association.
2. C.P. Friel, (et. al, including **T. Chandereng**). (2023). Feasibility Test of Personalized (N-of-1) Trials for Increasing Middle-Aged and Older Adults Physical Activity.
3. A.M. Goodwin, (et. al, including **T. Chandereng**). (2023). Protocol for randomized personalized trial for stress management compared to standard of care. Frontiers in Psychology.
4. A.M. Goodwin, (et. al, including **T. Chandereng**). (2023). A Series of Personalized Virtual Light Therapy Interventions for Fatigue: Feasibility Randomized Crossover Trial for N-of-1 Treatment. JMIR Formative Research.
5. **T. Chandereng**, R. Chappell (2023+). Robust blocked response-adaptive randomization designs. Clinical Trials.
6. M. Butler, (et. al, including **T. Chandereng**). (2023). The effect of a multi-component behavior change technique intervention on medication adherence among individuals on primary prevention statin therapy: a dose-finding protocol. Trials.
7. M. Butler, (et. al, including **T. Chandereng**). (2023). The effect of a multi-component behavior change technique intervention on physical activity among individuals on primary prevention statin therapy: A dose-finding trial protocol. Contemporary Clinical Trials.
8. C.P. Friel, (et. al, including **T. Chandereng**). (2023). A Personalized Trial Series Testing Behavior Change Techniques To Increase Physical Activity In Older Adults: 1577. Medicine & Science in Sports & Exercise.
9. M. Butler, (et. al, including **T. Chandereng**). (2023). A Series of Remote Melatonin Supplement Interventions for Poor Sleep: Protocol for a Feasibility Pilot Study for a Series of Personalized (N-of-1) Trials. JMIR Research Protocols.
10. C.P. Friel, (et. al, including **T. Chandereng**). (2023). Testing Behavior Change Techniques to Increase Physical Activity in Middle-Aged and Older Adults: Protocol for a Randomized Personalized Trial Series. JMIR Research Protocols.
11. J. Suls, (et. al, including **T. Chandereng**). (2023). Protocol of a feasibility study of a virtual personalized (N-of-1) trial for increasing low-intensity physical activity in older adults via habit formation. Contemporary Clinical Trials Communications.
12. D. Merrell, **T. Chandereng**, Y. Park (2023). A Markov decision process for response-adaptive randomization in clinical trials. Computational Statistics & Data Analysis.

13. V. Hsiao, **T. Chandereng**, et. al (2023). Telemedicine Use across Medical Specialties and Diagnoses. *Applied Clinical Informatics*.
14. H. Enamekhoo, **T. Chandereng**, et. al (2023). Patterns of Health Portal Use by Regular Portal Users Among Patients With Cancer: Results From the UWCCC Survivorship Program. *JCO Clinical Cancer Informatics*.
15. M. Butler, (et. al, including **T. Chandereng**). (2022). A Series of Virtual Light Therapy Interventions for Fatigue: A Feasibility Pilot Study Protocol for a Series of Personalized (N-of-1) Trials. *BMJ Open*.
16. **T. Chandereng**. (2022). An R shiny app for a chronic lower back pain study, N-of-1 trial. *Harvard Data Science Review*.
17. M. Butler, (et. al, including **T. Chandereng**) (2022). Series of virtual interventions for chronic lower back pain: a feasibility pilot study protocol for a series of personalized (N-of-1) trials. *Harvard Data Science Review*.
18. M. E. Witek, (et. al, including **T. Chandereng**) (2022). Prospective study of PET/MRI tumor response during chemoradiotherapy for patients with low and intermediate-risk p16-positive oropharynx cancer. *American Journal of Clinical Oncology*.
19. **T. Chandereng**, D. Musgrove, T. Haddad, G. Hickey, T. Hanson, T. Lystig (2022+). bayesCT: An R package for design and analysis of adaptive Bayesian clinical trials. *Journal of Statistical Software*.
20. Y. K. Cheung, **T. Chandereng**, K. M. Diaz (2022). A novel framework to estimate multi-dimensional minimum effective doses using asymmetric posterior gain and ϵ -tapering. *Annals of Applied Statistics*.
21. L. Cha, (et. al, including **T. Chandereng**) (2022). Reported Concerns and Acceptance of Information or Referrals Among Breast Cancer Survivors Seen for Care Planning Visits: Results from the University of Wisconsin Carbone Cancer Center Survivorship Program. *Journal of Cancer Education*.
22. J. Sobacki, (et. al, including **T. Chandereng**) (2022). Premature Bone Loss and Osteoporosis Risk in Younger Gynecologic Cancer Survivors. *International Journal of Gynecological Cancer*
23. M. Wagar, (et. al, including **T. Chandereng**) (2021). Postoperative venous thromboembolism in gynecologic oncology patients undergoing minimally invasive surgery: does modality matter? *Gynecologic Oncology*.
24. R. Luoh, (et. al, including **T. Chandereng**) (2021). Patterns and predictors of cancer-specific portal usage among patients with cancer: results from the UWCCC survivorship program. *Cancer Medicine*.
25. A. Tevaarwerk, **T. Chandereng**, et. al. (2021). Oncologist perspectives on telemedicine for patients with cancer: a national comprehensive cancer network (NCCN) survey. *JCO Oncology Practice*.
26. V. Hsiao, **T. Chandereng**, et. al (2021). Disparities in telemedicine access: A cross-sectional study of a maturing infrastructure during the COVID-19 pandemic including a large rural population. *Applied Clinical Informatics*.
27. S. L. Lee, (et. al, including **T. Chandereng**) (2021). Diagnostic test accuracy of MRI for esophageal carcinoma: a systematic review and meta-analysis. *Radiology*.
28. **T. Chandereng**, R. Chappell (2020). How to do RAR if you really must. *Clinical Infectious Diseases*.
29. **T. Chandereng**, X. Wei, R. Chappell (2020). Imbalanced randomization in clinical trials. *Statistics in Medicine*, 39(16), 2185-2196.

30. **T. Chandereng**, A. Gitter (2020). Lag penalized weighted correlation for time series clustering. *BMC Bioinformatics*, 21(1), 1-15.

CONFERENCE PAPERS

1. S. Liu, **T. Chandereng**, Y. Liang (2018). N-Gram Graph, A Novel Molecule Representation. Neural Information Processing Systems (NIPS) workshop on "Machine Learning for Molecules and Materials". https://chao1224.github.io/material/N_Gram_Graph.pdf.
2. **T. Chandereng**, Y. K. Cheung (2024). Multivariate Time Series Clustering for Mobile Apps Data. Proceedings of AAAI.

BOOK CHAPTER

1. **T. Chandereng**, et al. Methods for Translating Biomedical Research and Real World Evidence into Patient-Centric Precision Health Application: Role of Health App in the Design and Analysis of N-of-1 Trials.

SOFTWARES

1. **bayesCT**: R package for simulation of adaptive Bayesian clinical trials by incorporating historical data and allowing for early stopping for futility or early success. Currently being validated by the FDA for use as an approve Medical Device Development Tool. Available on CRAN: <https://cran.r-project.org/web/packages/bayesCT/index.html>.
2. **simon2stage**: Shiny app for sample size calculation for phase II trials using the Simon's two-stage design. The web tool is at <https://thevaa.shinyapps.io/simon2stage/>.
3. **bayesCT Shiny**: A tool for analyzing adaptive Bayesian clinical trials by incorporating historical data and allowing for early stopping for futility or early success. The webtool is available at <http://www.statlab.wisc.edu/shiny/bayesCT-shiny>.
4. **SSRAR Shiny**: A tool for sample size calculation for blocked RAR. The web tool is at <http://www.statlab.wisc.edu/shiny/SSRAR/>.
5. **blockRAR**: R package for simulation of response-adaptive randomization trials with binomial outcomes using both frequentist and Bayesian approaches. The R package is available at <https://cran.r-project.org/web/packages/blockRAR/index.html>.
6. **LPWC**: R package, LPWC is a method for clustering short time series data. LPWC supports irregular time series and incorporates lags to allow delayed response. Available on CRAN: <https://cran.r-project.org/web/packages/LPWC/index.html>.
7. **SSNI Shiny**: A tool for sample size calculation for non-inferiority trials with additive or multiplicative margins with normal, binomial or Poisson distribution. The web tool is at <http://www.statlab.wisc.edu/shiny/SSNI/>.

TEACHING AND ADVISING

TEACHING ASSISTANT

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| 2020 | Department of Biostatistics & Medical Informatics
Class: Statistical Methods for Clinical Trials
Professor: Tom Cook |
| 2015 | Department of Statistics, University of Wisconsin
Class: Introductory Applied Statistics For Engineers
Instructor: Nick Keuler |
| 2015 | Department of Statistics, University of Wisconsin
Class: Learning A Statistical Language
Instructor: John Gillett |
| 2014 | Department of Mathematics, University of Wisconsin
Class: Calculus and Analytic Geometry I
Professor: Sergey Bolotin |

RESEARCH GRANT PARTICIPATION

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| 2022–2025 | Roybal Center for Personalized Trials: Physical Activity Promotion to Foster Healthy Aging (1P30AG063786-01)
Role: Biostatistician (PI: Karina Davidson) |
| 2024–2029 | The impact of nutrients on Il-1 mediated inflammation in MD and AIED (R01 just awarded)
Role: Co-I (PI: Andrea Vambutas) |
| 2022–2024 | Re-engineering Precision Therapeutics Through N-of-1 Trials (5R01LM012836-04)
Role: Biostatistician (PI: Karina Davidson) |
| 2017–2020 | Pilot Study for Oropharynx Cancer Patients (P30CA014520)
Role: Biostatistician (PI: Matthew Witek) |

PRESENTATIONS (* upcoming)

SCIENTIFIC MEETINGS

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| 2024* | Joint Statistical Meeting Invited Session. Aug 3 - 8, Portland. |
| 2024 | Society for Clinical Trials Annual Meeting Invited Session. May 20 - 23, Boston. |
| 2022 | ENAR 2022 Invited Session. March 27 - 30, Houston, TX. |
| 2021 | International Indian Statistical Association 2021 Invited Session. May 20 - 23, Remotely. |

- 2020 ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop. September 23 - 25, Remotely. (Poster)
- 2020 Joint Statistical Meeting. August 1 - 6, Remotely.
- 2020 International Indian Statistical Association Virtual Student Paper Competition. July 18, Remotely.
- 2020 Thomas Chalmers Student Scholarship Award Finalists Webinar. May 18, Remotely.
- 2020 Eastern North American Region International Biometric Society. March 22 - 25, Remotely.
- 2019 Joint Statistical Meeting. July 27 - August 1, Denver, CO.
- 2019 Medical Device Innovation Consortium (MDIC) Annual Meeting. April 2. Arlington, VA.
- 2018 Annual Deming Conference on Applied Statistics. Dec 3 - 7. Atlantic City, NJ. (Poster)
- 2018 14th Annual Medtronic Statistics Conference. November 12 - 14. Fridley, MN.
- 2018 Biopharmaceutical Applied Statistics Symposium. October 15 - 17. Savannah, GA.
- 2018 Joint Statistical Meeting. July 28 - August 2, Vancouver, Canada.
- 2018 Midwest Biopharmaceutical Statistics Workshop. May 14 - 16. Indianapolis, IN. (Poster)
- 2017 Great Lakes Bioinformatics. May 15 - 17. Chicago, IL. (Poster)

INVITED SEMINARS

- 2024* Department of Pediatrics, George Washington University. June 4, Washington, DC.
- 2024 Department of Biostatistics, Yale University. May 28, New Haven, CT.
- 2023 Department of Biostatistics, MD Anderson Cancer Center. April 23, Houston, TX.
- 2023 Department of Biostatistics, Epidemiology & Informatics, University of Pennsylvania. March 22, Philadelphia, PA.
- 2022 Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins University, June 28, Baltimore, MD.
- 2022 ROADMAP Working Group, Columbia University Mailman School of Public Health. June 24, New York, NY.
- 2021 The Strategies to Innovate Emergency Care Clinical Trials Network (SIREN). June 16, Remotely.
- 2020 Department of Public Health Sciences, Medical University of South Carolina. April 24, Remotely.
- 2020 Department of Preventive Medicine, Northwestern University. April 20, Remotely.
- 2020 Department of Biostatistics, University of Florida. March 9, Gainesville, FL.
- 2020 Department of Biostatistics, Epidemiology & Informatics, University of Pennsylvania. March 4, Philadelphia, PA.
- 2020 mHealth Working Group, Columbia University Mailman School of Public Health. February 11, New York, NY.

- 2020 Center for Personalized Health, Northwell Health. February 10, New York, NY.
- 2020 Department of Epidemiology & Biostatistics, Memorial Sloan Kettering Cancer Center. January 27, New York, NY.
- 2020 Department of Biostatistics, MD Anderson Cancer Center. January 10, Houston, TX.
- 2019 Merck & Co. August 29, Rahway, NJ.
- 2019 Johnson & Johnson. August 28, Raritan, NJ.