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

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|---|---|
| 2020–present | Postdoctoral Research Scientist, Columbia University Mailman School of Public Health<br>Advisors: Ying Kuen Cheung & Karina Davidson |
| 2020–present | Visiting Scientist, Northwell Health |
| 2019–2020 | Research Assistant, UW Carbone Cancer Center, University of Wisconsin<br>Principal Investigator: Menggang Yu |
| 2018–2019 | Research Statistician, Medtronic Inc. |
| 2015–2019 | Research Assistant, Dept. Biostatistics & Medical Informatics, University of Wisconsin<br>Principal Investigator: Anthony Gitter |
| 2014–2015, 2020 | Teaching Assistant, University of Wisconsin |
| 2013 | Actuarial Summer Intern, Milliman |

## EDITORIAL ACTIVITIES

Reviewer *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 Journal*

## HONORS AND AWARDS

2020 Winner, SCT Thomas Chalmers Student Scholarship

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| 2020 | ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop Student Poster Recognition Award |
| 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**, M. Paukner, R. Chappell. Blocked adaptive randomization. Submitted.
2. **T. Chandereng**, R. Chappell. Optimality in blocked response-adaptive randomization for non-inferiority trials. Submitted.
3. **T. Chandereng**, R. Chappell. Sample size for blocked response-adaptive randomization. Submitted.
4. **T. Chandereng**, R. Chappell. Robust blocked response-adaptive randomization designs. Submitted.
5. **T. Chandereng**, Y. K. Cheung. Multivariate Time Series Clustering for Mobile Apps Data. Submitted.
6. P. Rowley, (et. al, including **T. Chandereng**). Unexpected findings from 14,721 brain magnetic resonance imaging exams in research volunteers over 10 years. Submitted.
7. M. E. Witek, (et. al, including **T. Chandereng**). PET-MRI assessment of early tumor response to predict outcomes of HPV-positive oropharynx cancer patients. Submitted.
8. J. Sobecki, (et. al, including **T. Chandereng**). Premature Bone Loss and Osteoporosis Risk in Younger Gynecologic Cancer Survivors. Submitted.
9. J. L. Schehr, (et. al, including **T. Chandereng**). Analytical validation of multi-analyte transcriptomic biomarker profiling of circulating tumor cells using automated exclusion-based sample preparation technology. Submitted.
10. M. Hillis, (et. al, including **T. Chandereng**). Optimization of a pharmacist-led oral anticancer agent outreach program using a risk-stratification scoring tool. Submitted.

11. M. Butler, (et. al, including **T. Chandereng**). Series of virtual interventions for chronic lower back pain: a feasibility pilot study protocol for a series of personalized (N-of-1) trials. Submitted.

## JOURNAL ARTICLES

1. Y. K. Cheung, **T. Chandereng**, K. M. Diaz (2021+). A novel framework to estimate multi-dimensional minimum effective doses using asymmetric posterior gain and $\epsilon$-tapering. Annals of Applied Statistics.
2. M. Wagar, (et. al, including **T. Chandereng**) (2021). Postoperative venous thromboembolism in gynecologic oncology patients undergoing minimally invasive surgery: does modality matter? Gynecologic Oncology.
3. **T. Chandereng**. (2021+). An R shiny app for a chronic lower back pain study, N-of-1 trial. Harvard Data Science Review.
4. 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.
5. 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.
6. 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.
7. L. Cha, (et. al, including **T. Chandereng**) (2021). 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.
8. S. L. Lee, (et. al, including **T. Chandereng**) (2021). Diagnostic test accuracy of MRI for esophageal carcinoma: a systematic review and meta-analysis. Radiology.
9. **T. Chandereng**, R. Chappell (2020). How to do RAR if you really must. Clinical Infectious Diseases.
10. **T. Chandereng**, X. Wei, R. Chappell (2020). Imbalanced randomization in clinical trials. Statistics in Medicine, 39(16), 2185-2196.
11. **T. Chandereng**, D. Musgrove, T. Haddad, G. Hickey, T. Hanson, T. Lystig (2020+). bayesCT: An R package for design and analysis of adaptive Bayesian clinical trials. Journal of Statistical Software.
12. **T. Chandereng**, A. Gitter (2020). Lag penalized weighted correlation for time series clustering. BMC Bioinformatics, 21(1), 1-15.
13. K. Nguyen, (et. al, including **T. Chandereng**). Local control achieved with brachytherapy vs whole breast irradiation for ductal carcinoma in situ. Brachytherapy.

## 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`.

### 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 incoporating 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. **bayesCT Shiny:** A tool for analyzing adaptive Bayesian clinical trials by incoporating 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.
3. **SSRAR Shiny:** A tool for sample size calculation for blocked RAR. The web tool is at http://www.statlab.wisc.edu/shiny/SSRAR/.
4. **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.
5. **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.
6. **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

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

2017–2022 Pilot Study for Oropharynx Cancer Patients (P30CA014520)
Role: Biostatistician (PI: Matthew Witek)

## PRESENTATIONS (* upcoming)

### SCIENTIFIC MEETINGS

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

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.