REBEKAH WHITE

Computational Scientist, Sandia National Labs

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EDUCATION

M.S., Ph.D., Applied Mathematics 2016-2021
North Carolina State University

B.S., Mathematics 2012-2015
East Tennessee State University, *Summa Cum Laude*

HONORS & AWARDS

Institutional

2 Special Recognition (Spot) Awards 2022-Present

National

Best Poster Award at SIAM MDS22 2022

NSF GRFP Fellowship 2018-2021

GAANN Fellowship 2016-2017

RESEARCH FUNDING/GRANTS AWARDED

PI, "Reducing uncertainty in digital twin models by leveraging data from related assets," Sandia National Laboratories Laboratory Directed Research & Development (LDRD) Program 2023-2024

PI, "Multi-objective design optimization of advanced inertial confinement fusion and x-ray source concepts with multi-dimensional radiation magneto-hydrodynamics simulations," Sandia National Laboratories LDRD Program 2024-2027

TECHNICAL EXPERTISE

Inverse problems, Bayesian UQ, sensitivity analysis, and ptimal experimental design.

Programming/Computational

Python, Matlab, Linux, version control (Git), and LaTeX

MENTORING

Students Mentored

2. Haley Rosso, Ph.D. (2022-Present)
1. ETSU's Preparation for Industrial Careers in Mathematics and Statistics (2022-2023)
   Six students (B.S. and M.S)

PROFESSIONAL ACTIVITIES & AFFILIATIONS

Institutional Service

Sandia Recruiting Team 2023-Present

Member, Sandia Center for Computing Research Diversity, Equity, & Inclusion (DEI) Action Group Outreach Committee 2023-Present

Co-Organizer, Sandia 1400 Postdoc and Early Career Seminar Series 2022-Present

Reviewer for Journals

1. *Computer Methods in Applied Mechanics and Engineering*

Professional Memberships

Society for Industrial and Applied Mathematics (SIAM)

PUBLICATIONS – GOOGLE SCHOLAR LINK

Peer-Reviewed Journals

10. **R.D. White**, J.D. Jakeman, T. Butler, and T. Wildey. Building population-informed priors for Bayesian inference using Data-Consistent Stochastic Inversion. *In preparation*
9. T. Portone, **R.D. White**, and J.L. Hart. Quantifying model prediction sensitivity to model-form uncertainty. *In preparation*
8. **R.D. White**, A. Alexanderian, J. D. Jakeman, D. Kouri, and B. van Bloemen Waanders. Bayesian approaches to risk-aware optimal experimental design. *In preparation*
7. **R.D. White**, A. Alexanderian, O. Yousefian, Y. Karbalaeisadegh, K. Bekele-Maxwell, A. Kasali, H.T. Banks, M. Talmant, Q. Grimal, and M. Muller. Using ultrasonic attenuation in cortical bone to infer distributions on pore size. *Applied Mathematical Modelling*, 109:819–832, 2022. doi:10.1016/j.apm.2022.05.024
6. **R.D. White**, O. Yousefian, A. Alexanderian, H.T. Banks, and M. Muller. Inferring pore radius and density from ultrasonic attenuation using physics-based modeling. *Journal of the Acoustical Society of America*, 149, 2020. doi:10.1121/10.0003213
5. **R.D. White**, D. Fajardo, C. Doolittle, and H.T. Banks. Quantifying uncertainty in warhead design: How machining uncertainty affects volume and center of mass. *Journal of Verification, Validation, and Uncertainty Quantification*, 5(4), 2021. doi:10.1115/1.4049321
4. O. Yousefian, **R.D. White**, H.T. Banks, and M. Muller. Estimation of parameters quantifying porosity in random porous structures using ultrasonic attenuation: Solving the inverse problem. *The Journal of the Acoustical Society of America*, 145(3), 2019. doi:10.1121/1.5049782
3. H.T. Banks, R. A. Everett, Neha Murad, **R.D. White**, J. E. Banks, Bodil N. Cass, and Jay A. Rosenheim. Optimal design for dynamical modeling of pest populations. *Mathematical Biosciences & Engineering*, 15(4), 2018. doi:10.3934/mbe.2018044
2. T. Rieger, R. Allen, L. Bystricky, Y. Chen, G. Colopy, Y. Cui, A. Gonzalez, Y. Lui, **R.D. White**, R. A. Everett, H.T. Banks, and C.J. Musante. Improving the generation and selection of virtual populations in quantitative systems pharmacology models. *Progress in Biophysics and Molecular Biology*, 139, 2018. doi:10.1016/j.pbiomolbio.2018.06.002
1. **R.D. White**. A physiologically-based pharmacokinetic model for Vancomycin. *SIAM Undergraduate Research Online*, 9, 2016