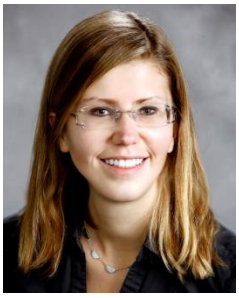
Irina Tezaur, Ph.D.



Dr. Irina Tezaur is currently a Distinguished Member of Technical Staff in the Quantitative Modeling & Analysis Department at Sandia National Laboratories in Livermore, California. She began her research career at Sandia in 2007. Since then, she has had the opportunity to experience research in three of the lab's centers, the Engineering Sciences Center, the Center for Computing Research and the Center for Homeland Security, spanning Sandia's two main sites (Albuquerque, NM and Livermore, CA). Dr. Tezaur has published ~30 peer-reviewed articles and more than 20 technical reports, white papers and conference papers, and has been a lead developer of several open-source codes, including the land-ice component of the DOE's Energy Exascale Earth System Model (E3SM), known as MALI. She has additionally been interviewed for several general-audience articles on topics such as land-ice melt induced sea-level rise and the intersection of climate and disease modeling. Dr. Tezaur is very active in the computational mathematics community, having served on the organizing/scientific committee for 6 conferences (including SIAM Geosciences 2017), and having organized more than 30 conference minisymposia/workshops worldwide. In 2019, Dr. Tezaur was awarded the Presidential Early Career Award for Scientists and Engineers (PECASE) for "developing new, impactful mathematical methods and computer algorithms to enable real-time analysis, control and decision-making on computationally prohibitive problems relevant to the nuclear security mission and climate modeling". In 2022, she became an Associate Editor of IEEE's Computing in Science and Engineering Journal. Dr. Tezaur holds a Ph.D. in Computational & Mathematical Engineering from Stanford University, in addition to a B.A. and M.A. in Mathematics from the University of Pennsylvania. Her research focuses broadly on developing algorithms and software to enable the modeling and simulation of complex multi-scale and multi-physics problems using high-performance computing. Her research interests include numerical solution to partial differential equations (PDEs), reduced order modeling (ROM) and multi-scale coupling methods, and climate modeling. She has served in leadership positions for several large interdisciplinary climate/Earth system modeling projects, including the recently-funded CLDERA Grand Challenge Laboratory Directed Research and Development project at Sandia, which aims to revolutionize climate attribution science.