

## Computational Acoustics

The Computational Acoustics Technical Specialty Group (CA TSG) completed its third full year in 2021. The TSG kicked off following approval from the ASA Executive Council at the Minneapolis meeting in Spring of 2018. Subsequently, at the Spring 2021 meeting (Acoustics in Focus), the EC approved the TSG for another 3-year term while we attempt to close the gap on the requirements to become a full TC. The CA TSG provides a forum for researchers interested in numerical methods, optimization of calculations, benchmarking, and practical application of computational models. Additional information on the formation and purpose of the TSG can be found in the *Acoustics Today* “Sound Perspectives” article (<https://acousticstoday.org/technical-specialty-group-report-computational-acoustics-d-keith-wilson/>).

The CA TSG held its fifth open meeting at Acoustics Virtually Everywhere, with 65 (virtual) attendees. At AVE, the TSG took the lead on three special sessions: “Acoustic Optimization: Methods and Applications” (chaired by Micah Shepherd), “Domain Truncation Techniques for Exterior Problems” (co-chaired by Anthony Bonomo and Benjamin Goldsberry), and “Ray Methods Across Acoustics” (co-chaired by Michelle Swearingen and Jennifer Cooper). The latter is part of an on-going series of special sessions highlighting various computational methods.

At the Acoustics in Focus meeting, the CA TSG sponsored two focused sessions: “Computational Methods for Complex Media and Geometries” (co-chaired by Kuangcheng Wu and D. Keith Wilson) and “Normal Modes across Acoustics” (co-chaired by Jennifer Cooper and Michelle Swearingen). The CA TSG also held a tutorial session (jointly with Musical Acoustics) on “Tutorials on Computation Techniques and Best Practices” (organized and co-chaired by Kimberly Riegel and Gary Scavone), which featured tutorials on topics such as finite element and boundary element methods, parabolic equation methods, finite difference time domain methods for room acoustics, and uncertainty quantification. A Lightning Round session was also held on “Innovative Ideas for Computational Acoustics” (chaired by Mallory Morgan). This format proved well suited to communicating timely ideas and computational tips. The CA TSG’s open meeting at AiF had 38 virtual attendees.

The CA TSG chair is particularly grateful to Kimberly Riegel for helping to launch the new CA TSG web site this year, to Jennifer Cooper for serving so capably as the CA Technical Program Organizer for the past several years, and to Amanda Hanford for transitioning into the TPO role starting with the Acoustics in Focus meeting.

Laura Brill, Ralph Muehleisen, and Jennifer Cooper led the TSG’s first instance of its Early Career Presenter award competition, held at the AVE meeting. The competition was extremely close and resulted in three awards, to Philipp Schäfer (“Ray tracing for efficient simulation of curved sound propagation paths: Towards real-time auralization of aircraft noise”), Jonathan Broyles (“Investigation of optimization techniques on structural-acoustical shaped concrete slabs in buildings”), and Trevor Wilson (“Modeling infrasound propagation from tornado producing storms”).

The CA TSG would like to thank the many editors involved in computational acoustics for ASA publications: Kuangcheng Wu is the *JASA* Coordinating Editor for CA; John B. Fahnl, Nail A. Gumerov, Ying-Tsong Lin, Steffen Marburg, Assad Oberai, and Nickolas Vlahopoulos serve as the *JASA* Associate Editors for CA; Vlahopoulos and D. Keith Wilson are *JASA Express Letters* AEs for CA; and Matthew Blevins and Amanda Hanford are *POMA* AEs for CA.

We look forward to seeing our friends and colleagues in Seattle! The CA TSG welcomes ideas and participation from all members of the ASA interested in computational acoustics. Please consider getting involved in our activities!

D. KEITH WILSON  
Chair, 2021–2024