

2018-2019 Annual Reports

This annual report summarizes the activities within the Biomedical Acoustics TC during the Minnesota meeting (Spring 2018) and through the Louisville meeting (Spring 2018) and including the Victoria meeting (Fall 2018).

The 175th ASA meeting was held in Minnesota, MN. The four special sessions were “Using acoustic wave propagation to estimate quantitative material properties of tissue” by Matthew Urban, “Induction Mechanisms for Bubble Nucleation” by Brian Fowlkes and Ron Roy, “Transcranial Focused Ultrasound for Targeted Brain Therapies” by Emad Ebbini, and “Acoustic imaging of small vessels and low speed flow” by Mahdi Bayat. We had an eventful BATC meeting where we discussed several ASA initiatives including an upcoming Strategic Plan meeting, ASA-Government Relations Improvement, a new cross-discipline Computational Acoustics Technical Specialty Group, and better acoustics outreach. Our BA technical initiative to conduct a FOCUS workshop by Robert McGough was approved by TC for the Louisville meeting. We had an outstanding student poster competition in Minnesota. This poster competition was organized and coordinated by Kevin Haworth. Congratulations to the Winners: Tho N.H.T. Tran (3rd Place), Parker O’Brien (2nd Place), Dezhuang Ye (1st Place)! Many thanks to the poster judges in Minnesota: Hong Chen, Max Denis, Tim Doyle, Jim Lacefield, Brian Tracey and Matt Urban. We also had the privilege of congratulating Kenneth Suslick for receiving the Helmholtz-Rayleigh Interdisciplinary Silver Medal in Physical and Biomedical Acoustics, Vic Sparrow who was elected President-Elect and Tyrone Porter who was elected to Executive Council.

The 176th ASA meeting was held in beautiful Victoria, BC. The six special sessions were “The state of the art in lung ultrasound, past, present and future” organized by Libertario Demi and Martin Verweij, “Bubble Trouble in Therapeutic Ultrasound” organized by Christy Holland and Klazina Kooiman, “Targeted Drug Delivery – Acoustic Radiation Force” organized John Allen and Alfred Yu, “Shock waves and ultrasound for calculus fragmentation” organized by Juliana Simon and Michael Bailey, “Therapeutic ultrasound transducers” organized by Adam Maxwell and Tatiana Khokhlova, and “Wave propagation in complex media: from theory to applications” organized by Guillaume Haiat and Pierre Belanger. The BATC meeting on Wednesday evening was also eventful where we discussed a future change to the remote presentation policy, upcoming surveys, and outreach to industry. Congratulations to two new BA Fellows: Eleanor P. Stride for contributions to the modelling, development, and manufacturing of acoustically responsive biomaterials and Ahmed A. Al-Jumaily for contributions to biomedical applications of acoustics and vibrations.

The 177th ASA meeting was held in Louisville, KY. The four special sessions were “Cardiovascular Ultrasound: Imaging and Therapy” organized by Kevin Haworth and Jonathan Kopacheck, “Lung ultrasound and tissue stiffness method” organized by Xiaoming Zhang and Libertario Demi, “Interaction of light and ultrasound” organized Carr Everbach and Ron Roy, and “Inverse Problems in Biomedical Ultrasound” organized by Doug Mast. Robert McGough conducted the first BA modeling workshop and it was a huge success with nearly 50 attendees and great feedback! The BATC meeting on Wednesday evening was very well-attended (over 50 new and continuing members) where we discussed a JASA Special Issue initiative (Reflections) and the Strategic Summit Results and related Champions meeting where the four task groups

would be formed. We had another outstanding student poster competition in Louisville. This poster competition was organized and coordinated by Kevin Haworth. Congratulations to the Winners: (1st) Billy Y.S. Yiu (2aBA2): Live color encoded speckle imaging platform for real time complex flow visualization in vivo, (2nd) Frederick William Damen, 2aBA5: Spatial analysis of cardiac strain using high frequency four dimensional ultrasound in mice, (3rd) Joseph Majdi, 5aBA3: Tissue Doppler Imaging To Detect Muscle Fatigue! Many thanks to the poster judges: Bob McGough, Julianna Simon, Mike Bailey, Jim McAteer, Kang Kim, Marie Muller, Christy Holland, Jonathan Kopechek, Alfred Yu, Costas Arvanitis, Paul Barbone, Larry Crum, Libertario Demi, and Viktor Bollen. Congratulations to Adam Maxwell for receiving the R. Bruce Lindsay Award!

The efforts of everyone who contributed to the Biomedical Acoustics Technical Committee this past year are gratefully acknowledged. This includes, but is not limited to, incoming and outgoing BATC representatives on committees (Medals and Awards, Membership, and ASACOS – Jeff Ketterling, Tom Matula Wayne Kreider, respectively) for the Acoustical Society, Associate Editors, special session organizers, session chairs, the student council representative, poster session judges, and the poster session organizer. The Associate Editors of JASA and JASA-EL for BA related areas are W. W. L. Au, C. C. Church, R. R. Fay, J. J. Finneran, M. C. Hastings, G. Hatat, D. K. Mellinger, D. L. Miller, A. N. Popper, T. J. Royston, A. M. Simmons, C. E. Taylor, K. A. Wear, and Suk Wang Yoon. Timothy G. Leighton is the BA editor for POMA. Many thanks to Kang Kim, Siddhartha Sikar for representing BA on the TPOM sessions for these meetings and to our new student council representative, Asis Lopez. I would also like to thank everyone else who contributed to or participated in Biomedical Acoustics activities during the past year.

Hope to see you in San Diego.

Subha Maruvada
Chair, 2017–2020