Samuel D. Bellows

4/2/2023

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JOURNAL PUBLICATIONS

S. D. Bellows and T. W. Leishman, “Application of Chebyshev quadrature rules to equiangular spherical and hemispherical directivity measurements,” *J. Audio. Eng. Soc.,* (under review).

S. D. Bellows and T. W. Leishman, “On the low-frequency acoustic center,” *J. Acoust. Soc. Am.,* (under review).

S. D. Bellows and T.W. Leishman, "Optimal microphone placement for single-channel sound power spectrum estimation and reverberation effects," *J. Audio. Eng. Soc., 71*(1/2), pp. 22–35, (2023). doi: 10.17743/jaes.2022.0052

T. W. Leishman, S. D. Bellows, C. M. Pincock and J. K. Whiting, "High-resolution spherical directivity of live speech from a multiple-capture transfer-function method," *J. Acoust. Soc. Am.,* 149(3), pp. 1507–1523, (2021). doi: 10.1121/10.0003363.

CONFERENCE PROCEEDINGS

S. D. Bellows, D. T. Harwood, K. L. Gee, and T. W. Leishman, " Low-frequency directional characteristics of a gamelan gong", Proc. Mtgs. Acoust. 50, 035003, (2022). doi: 10.1121/2.0001722.

S. D. Bellows and T. W. Leishman, “A spherical beamforming algorithm for acoustic centering and phase correction of source directivities,” Proceedings of the 24th International Congress on Acoustics, ABS-0244, (2022).

S. D. Bellows and T. W. Leishman, “Modeling and measurements of organ pipe sound radiation,” Proceedings of the 24th International Congress on Acoustics, ABS-0243, (2022).

S. D. Bellows and T. W. Leishman, “Effect of Head Orientation on Speech Directivity.” Proc. Interspeech 2022, 246-250, (2022). doi: 10.21437/Interspeech.2022-553.

S. D. Bellows and T. W. Leishman, "Modeling musician diffraction and absorption for artificially excited clarinet directivity measurements", Proc. Mtgs. Acoust. 46, 035002, (2022). doi: 10.1121/2.0001586.

S. D. Bellows and T. W. Leishman, "Obtaining far-field spherical directivities of guitar amplifiers from arbitrarily shaped arrays using the Helmholtz equation least-squares method", Proc. Mtgs. Acoust. 42, 055005, (2020). doi: 10.1121/2.0001410.

S. D. Bellows and T. W. Leishman, "Acoustic source centering of musical instrument directivities using acoustical holography", Proc. Mtgs. Acoust. 42, 055002, (2020). doi:10.1121/2.0001371.

S. Bellows and T. Leishman, "Single-channel sound power estimation for reverberation effects," AES Convention 149, Paper 10413, (2020).

S. Bellows and T. Leishman, "High-resolution Analysis of the Directivity Factor and Directivity Index Functions of Human Speech," AES Convention 146, Paper 10173, (2019).

S. Bellows and T. W. Leishman, "Spherical harmonic expansions of high-resolution musical instrument directivities," *Proc. Mtgs. Acoust.* **35**, (2018). doi:10.1121/2.0001274.

OTHER PRESENTATIONS

S. D. Bellows and T. W. Leishman, "Comparative Analysis of the Directivity of the Sogeum and Danso," presented at the Korean Acoustical Society Fall Meeting, 2022.

R. C. Edelman, B. E. Anderson, S. D. Bellows, and T. W. Leishman, "Measured high-resolution directivities of guitar amplifiers," presented at ASA Denver, 2022.

R. C. Edelman, S. Bellows, and T. W. Leishman. "An archival database of high-resolution directivities," presented at ASA San Diego, 2019.

S. Bellows and T. W. Leishman, "Application of Hilbert space operators on the sphere to directivity measurements," presented at ASA San Diego, 2019.

EDUCATION

B.S. Applied Physics, Magna Cum Laude, (3.96) Brigham Young University

Ph.D. Physics-Acoustics Research Group (4.0) Brigham Young University (currently enrolled with expected graduation June 2023)

WORK EXPERIENCE

Intern | Yamaha Corporation | Hamamatsu, Japan | June 2022 – September 2022

- Studied violin acoustics as well as f-hole design to improve characteristics of fractional sized violins.

Intern | AFMG Group | Berlin, Germany | June 2019 – August 2019

- Developed real-time binaural convolver with head-tracking in C++ for room auralizations based on echograms created in EASE.

Intern | Associazione Siena Jazz |Siena, Italy| May 2017 – July 2017

- Used JavaScript and PHP to create ear-training tools to help jazz musicians studying music theory.

AWARDS AND RECOGNITION

POMA Student Paper Competition Winner for Acoustical Society of America Spring 2022 Meeting

Acoustical Society of America Signal Processing Student Council Representative (2022 – 2023)

Recipient of William James Strong and Charlene Fuhriman Strong Family Musical Acoustics Endowed Fellowship Fund (2021 – 2023)

Recipient of Heritage Scholarship (2013-2019)