Mechanical and Aerospace Engineering
Engineering Quad, Rm. D214
Princeton, NJ 08544
+1 (301) 943-5362
josephgt@princeton.edu
www.princeton.edu/~josephgt/
josephgt

Joseph G. Tylka

Research Interests

3D Audio · Psychoacoustics · Audio Signal Processing

Education

2012–present **Doctor of Philosophy (Ph.D.) in Mechanical and Aerospace Engineering**, *Princeton University*, Princeton, N.J., Current G.P.A.: 3.822.
Conducting dissertation research on the binaural rendering of recorded 3D soundfields

2012–2014 **Master of Arts (M.A.) in Mechanical and Aerospace Engineering**, *Princeton University*, Princeton, N.J., Final G.P.A.: 3.800.
Completed with a concentration in acoustics and signal processing

2012–2014 **Non-Degree Graduate Student in Acoustics**, *The Pennsylvania State University*, University Park, P.A., Final G.P.A.: 3.89.
Attended via distance education through the Graduate Program in Acoustics

2008–2012 **Bachelor of Science (B.S.) in Physics**, *University of Maryland*, College Park, M.D., Final G.P.A.: 3.912.
Graduated cum laude with a minor in philosophy

Experience

Research

2012–present **Assistant in Research**, *3D Audio and Applied Acoustics Laboratory*, Department of Mechanical and Aerospace Engineering, Princeton University, Princeton, NJ.

2009–2012 **Undergraduate Research Assistant**, *Cosmic Ray Laboratory*, Institute for Physical Science and Technology, University of Maryland, College Park, MD.

Teaching

Spring 2017 **Assistant in Instruction**, *MAE 502: Mathematical Methods of Engineering Analysis II*, Department of Mechanical and Aerospace Engineering, Princeton University, Princeton NJ.

Spring 2016 and Fall 2016 **Assistant in Instruction**, *MAE 433: Automatic Control Systems*, Department of Mechanical and Aerospace Engineering, Princeton University, Princeton NJ.

Fall 2014 **Assistant in Instruction**, *MAE 412: Microprocessors for Measurement and Control*, Department of Mechanical and Aerospace Engineering, Princeton University, Princeton NJ.

Fall 2011 **Teaching Assistant**, *PHYS 103: Physics of Music Laboratory*, Department of Physics, University of Maryland, College Park, MD.

Professional Affiliations

Audio Engineering Society – Student Member

Publications

[1] J. G. Tylka, B. B. Boren, and E. Y. Choueiri. A Generalized Method for Fractional-Octave Smoothing of Transfer Functions that Preserves Log-Frequency Symmetry. *J. Audio Eng. Soc.*, 65(3):239–245, 2017.

[2] J. G. Tylka and E. Y. Choueiri. Soundfield Navigation using an Array of Higher-Order Ambisonics Microphones. In *Audio Engineering Society Conference: 2016 AES International Conference on Audio for Virtual and Augmented Reality*, number 4-2, September 2016.

[3] R. Sridhar, J. G. Tylka, and E. Y. Choueiri. Metrics for Constant Directivity. In *Audio Engineering Society Convention 140*, number 9501, May 2016.

[4] J. G. Tylka and E. Y. Choueiri. Comparison of Techniques for Binaural Navigation of Higher-Order Ambisonic Soundfields. In *Audio Engineering Society Convention 139*, number 9421, October 2015.

[5] J. G. Tylka, R. Sridhar, and E. Y. Choueiri. A Database of Loudspeaker Polar Radiation Measurements. In *Audio Engineering Society Convention 139*, number 230, October 2015. Engineering Brief.

[6] J. G. Tylka and E. Y. Choueiri. On the Calculation of Full and Partial Directivity Indices. Technical report, 3D Audio and Applied Acoustics Laboratory, Princeton University, November 2014.

[7] J. G. Tylka, R. Sridhar, B. B. Boren, and E. Y. Choueiri. A New Approach to Impulse Response Measurements at High Sampling Rates. In *Audio Engineering Society Convention 137*, number 9183, October 2014.

[8] J. H. Han et al. Performance of the CREAM-V and CREAM-VI calorimeters in flight. In *32nd International Cosmic Ray Conference*, August 2011.