

February 14th, 2021

Lior Arbel - CV

Music and Audio: Design, Acoustics, Signal Processing

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Education

- 2020 - present **University of Le Mans, France**
Chateaubriand Fellowship postdoctoral researcher -
Laboratoire d'Acoustique de l'Université du Mans (LAUM)
Research: Electroacoustic Assembly System of Musical Instruments
- 2020 **Ben Gurion University of the Negev/Facebook Reality Labs (Seattle)**
Postdoctoral researcher, Department of Electrical and Computer Engineering
Research: Virtual Reality Audio Synthesis From Sparse Measurements
- 2015 - 2020 **Technion - Israel Institute of Technology**
PhD, Industrial Design, Faculty of Architecture and Town Planning
Thesis: Symbaline - an Active Wine Glass Instrument
- 2011 - 2015 **Technion - Israel Institute of Technology**
MSc. Industrial Design, Faculty of Architecture and Town Planning
Thesis: New Designs of Musical Instruments Based on Wine Glasses and Similar Vessels
- 2004 - 2009 **Technion - Israel Institute of Technology**
BSc. Electricity Engineering.

Work Experience

- 2017 - present **Technion - Israel Institute of Technology, Viterbi Faculty of Electricity Engineering**
Teaching Assistant: Auditory and Visual Systems (Graduate course, 2017-2020)
Laboratory Instructor: High Speed Digital Systems (Undergraduate lab, 2017-present)
- 2007 - 2015 **Intel (Haifa, Israel)**
Analog validation engineer, System margin validation engineer

Fellowships

2020 **Chateaubriand Fellowship**
The French Embassy in Israel,
Awarded for research in Le Mans University, France

Peer Reviewed Publications

Arbel, L., Ben-Hur, Z., Alon, D. L. & Rafaely, B. *Applied Methods for Sparse Sampling of Head-Related Transfer Functions*. Proceedings of the International Conference on Acoustics, Speech and Signal Processing (ICASSP), Toronto, Canada, 2021 (in print).

Arbel, L., Schechner, Y. Y., & Amir, N. *The Symbaline - An Active Wine Glass Instrument with a Liquid Sloshing Vibrato Mechanism*. Proceedings of the International Conference on New Interfaces for Musical Expression, Porto Alegre, Brazil, 2019, 9–14.

Arbel, L., Schechner, Y. Y., & Amir, N. *Symbaline: An Electromagnetically Actuated Wine Glass Instrument*. Journal of New Music Research, 2018, 47(5), 476-491.

Arbel, L., Schechner, Y. Y., & Amir, N. *Wine Glass Sound Excitation by Mechanical Coupling to Plucked Strings*. Applied Acoustics, 2017, 124, 1-10.

Invited Presentations

Arbel, L. & Amir, N. **Symbaline concert and lecture**
Biennale du Son, La Mans, France, November 2019.

Other Conference Publications

The International Symposium on Music Acoustics (ISMA)

Arbel, L., Schechner, Y. Y., & Amir, N. - A Liquid Sloshing Vibrato Mechanism for the Symbaline; an Active Wine Glass Instrument
Demo presentation. 2019.

Best demo award.

The International Symposium on Musical Acoustics (ISMA)

Arbel, L., Schechner, Y. Y., & Amir, N. - An Electromagnet Based Wine Glass Instrument
Oral presentation. 2017.

Third Vienna Talk on Music Acoustics

Arbel, L., Schechner, Y. Y., & Amir, N. - Methods for Exciting Wine Glasses by Coupling to Plucked Strings - Theory and Experiment
Oral presentation. 2015.