

Date: November 9<sup>th</sup>, 2020

## RESUME

Full name: Yoav Vered

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### **ACADEMIC DEGREES**

- 2020: PhD – Mechanical Engineering, Technion.  
Expected graduation: November 2020
- 2017: MSc – Mechanical Engineering, Technion. During a direct doctoral track.
- 2016: BSc – *Summa cum Laude*, Mechanical Engineering, Technion.

### **TA APPOINTMENTS**

2015 – Today: Teaching assistant, Mechanical Engineering, Technion.

### **TA EXPERIENCE**

- Numerical analysis M, undergraduate-level, 2015.
- Introduction to control, undergraduate-level, 2016 and 2020.
- Theory of vibrations, undergraduate-level, 2016-2020.
- Linear systems M, undergraduate-level, 2017-2020.
- Experiments in Vibrations & Waves, New graduate-level, 2019.

### **HONORS & AWARDS**

- 2020: The Irwin Jacobs Award for Excellence, during PhD (two semesters).  
Faculty Excellence Scholarship funding (single semester)
- 2019: Vivian Konigsberg Award for Excellence in Teaching, 2016, 2018, and 2019.
- 2017: The Irwin Jacobs Award for Excellence, during MSc (two semesters).
- 2016: Dean's Excellence Scholarship funding (single semester).  
Sidney and Beatrice Wolberg Award, during BSc.

## **PUBLICATIONS**

### **Refereed papers in professional journals**

#### **Published papers**

- **Y. Vered**, R. Gabai, and I. Bucher, "*Waveguide dispersion curves identification at low-frequency using two actuators and phase perturbations.*" The Journal of the Acoustical Society of America 146.4 (2019), 2443-2451. [doi:10.1121/1.5128482](https://doi.org/10.1121/1.5128482)

#### **Submitted papers**

- **Y. Vered**, and I. Bucher, "*Experimental multimode traveling waves identification in an acoustic waveguide.*" Mechanical Systems and Signal Processing, Submitted May 2020. [arXiv:2007.11568](https://arxiv.org/abs/2007.11568)
- E. Baruch, **Y. Vered**, H. Plat, and I. Bucher, "*Active detection of small imperfections in structures with cyclic symmetry.*" Journal of Vibration and Acoustics, Submitted July 2020.
- **Y. Vered**, and I. Bucher, "*Adaptive model-based control of boundary impedance in an acoustic waveguide.*" Applied Acoustics, Submitted Aug 2020.

#### **In preparation papers**

- **Y. Vered**, E. Baruch, and I. Bucher, "*Experimental dispersion identification using a state-space mechanism.*" expected submission Dec 2020.
- I. Bucher, L. Mirkin, and **Y. Vered**, "*Robust input shaping design via FIR L2 preview tracking*", expected submission Dec 2020. (Alphabetic author order).
- **Y. Vered**, and I. Bucher, "*Identifying the Acoustic Reflection and Transmission coefficients using a matrix method approach for a multimode acoustic waveguide.*" expected submission Jan 2021.
- E. Baruch, **Y. Vered**, H. Plat, and I. Bucher, "*Fast iterative detection of perturbations in cyclic symmetry structure using traveling wave control.*" expected submission Jan 2021.

### **Refereed papers in conference proceeding**

- **Y. Vered**, R. Gabai, and I. Bucher, "*Dispersion based reduced-order model identification and boundary impedance control in a weakly coupled impedance tube.*" Proceedings of Meetings on Acoustics 178ASA 39.1 (2019), 045005. [doi:10.1121/1.5137245](https://doi.org/10.1121/1.5137245)
- **Y. Vered**, and I. Bucher, "*Tailoring Phononic-Like Topologies for Controlling the Structural-Acoustic Coupling in Fluid-Filled Cylinders.*"

ISMA2018 Proceedings, The 2018 Leuven Conference on Noise and Vibration Engineering, September 17 – 19 2018, Leuven, Belgium. [ISMA2018 Proceedings](#)

- **Y. Vered**, and I. Bucher, “*Determining the Underwater Acoustic Properties of materials, with a Fluid-Filled Impedance Tube and Two Spatial-Modes Reduced-Order Model.*” P. 1071-1076, UACE2017 Proceedings, The 4<sup>th</sup> Underwater Acoustic Conference and Exhibition, September 3 - 8 2017, Skiathos, Greece.

### **Accepted papers**

- I. Bucher, L. Mirkin, and **Y. Vered**, “*Input shaping via FIR L2 preview tracking*”, 59<sup>th</sup> IEEE conference on decision and control (Alphabetic author order).

## **CONFERENCES**

### **Lectures**

- “*Input shaping via FIR L2 tracking framework.*” CDC 2020 – 59<sup>th</sup> Conference on Decision and Control, Dec 14-18 4 2020, Jeju Island, Republic of Korea.
- “*Adaptive model-based control of traveling wave in a dispersive impedance tube.*” The 179<sup>th</sup> Meeting of the Acoustical Society of America, December 07-11 2020, Acoustics Virtually Everywhere, Webinar.
- “*Input shaping via FIR H2 tracking framework.*” GSC 2020 - The Annual Workshop of Graduate Students in Systems & Control, May 4 2020, Tel-Aviv, Israel. [GSC2020 Presentation](#)
- “*Dispersion curves identification and traveling wave control in a weakly coupled impedance tube.*” The 178<sup>th</sup> Meeting of the Acoustical Society of America, December 02-06 2019, San Diego, California, USA. [178th ASA Meeting Presentation](#)
- “*Multi-mode dispersion estimation in coupled waveguides.*” ISTAM2018, December 9 2018, Tel-Aviv, Israel.
- “*Tailoring Phononic-like topologies for controlling the structural acoustic coupling in fluid-filled cylinders.*” ISMA2018, September 17 – 19 2018, Leuven, Belgium.
- “*Underwater acoustic properties estimation in presence of coupled fluid-solid impedance tube.*” The 6 UWA symposium, June 15 2017, Tel-Aviv, Israel.

**Poster presentation**

- “*Determining the underwater acoustic properties of materials, with a fluid-filled impedance tube and two spatial-modes reduced-order model.*” The 4<sup>th</sup> Underwater Acoustic Conference and Exhibition, September the 3 - 8 2017, Skiathos, Greece.