JOSEPH BLOCHBERGER, PE

Professional Engineer & Graduate Student
Department of Electrical & Computer Engineering
The Johns Hopkins University
Barton Hall 105
3400 N. Charles St.
Baltimore, MD 21218
E-mail: jblochb2@jhu.edu

PROFESSIONAL SUMMARY

Experienced multidisciplinary engineer well-versed engineering acoustics, analyzing sensor data, and sonar systems engineering. Committed to studying the performance of fielded engineering systems using real-world data, engineering principles, and applied probability / statistics. Licensed professional engineer in the Commonwealth of Virginia.

Research Interests: Operations Research, Predictive Analytics, Probability & Stochastic Processes, Signal Processing, Systems Engineering, Systems Science

EDUCATION & LICENSURE

Professional Engineer, License No. 0402060705, 06/2021, Virginia Department of Professional & Occupational Regulation

Master of Science, Mechanical Engineering, 12/2018, The Pennsylvania State University (Penn State)

Bachelor of Science, Mechanical Engineering, 05/2015, Virginia Polytechnic Institute and State University (Virginia Tech)

PROFESSIONAL EXPERIENCE

- Post-Masters Student (Electrical & Computer Engineering), **The Johns Hopkins University**, 01/2021 to present
- Project Manager, **The Johns Hopkins University Applied Physics Laboratory**, 09/2020 to present
- Test & Evaluation Engineer, **The Johns Hopkins University Applied Physics Laboratory**, 03/2019 to present
- Systems Engineer (Acoustics), **General Dynamics Electric Boat**, 05/2015 to 03/2019
- Research Assistant, **Energy Harvesting and Mechatronics Research Laboratory** (Advised by Prof. Lei Zuo), Virginia Tech, 01/2015 to 05/2015
- Engineering Intern, **General Dynamics Electric Boat**, 06/2014 to 01/2015
- R&D Engineering Intern, **Kollmorgen**, 01/2014 to 05/2014
- Lab Operator, **Virginia Tech Math Emporium**, Virginia Tech, 2013 to 2014

TECHNICAL PROFICIENCIES

- *Languages*: MATLAB, MySQL, Mathematica, Octave, R, Python, CSS, HTML, Javascript
- *Skills:* Acoustics, Analyzing Sensor Data, Applied Probability / Statistics, Independent Test & Evaluation, Mechanical Engineering, Noise Control, Project Management, Sonar, Signal Processing, Systems Engineering, Vibrations

PUBLICATIONS

Peer-reviewed Conference Proceedings

J. Blochberger, "Analysis of Structural Acoustic Design Variables for a Periodically Stiffened Plate Using the Finite Element Method," *Proceedings of the ASME 2019 International Mechanical Engineering Congress & Exposition. Volume 11: Acoustics, Vibration, and Phononics.* Salt Lake City, Utah, USA. November 11-14, 2019. V011T01A007. ASME. https://doi.org/10.1115/IMECE2019-10259

Master of Science in Mechanical Engineering Capstone

J. Blochberger, "Analysis of Structural Acoustic Design Variables for a Periodically Stiffened Plate Using the Finite Element Method," The Pennsylvania State University. Advisor: Dr. Alok Sinha. December, 2018.

PRESENTATIONS

J. Blochberger, "Analysis of Structural Acoustic Design Variables for a Periodically Stiffened Plate Using the Finite Element Method," ASME 2019 International Mechanical Engineering Congress & Exposition, Salt Lake City, UT, USA, 2019.

B. Ayliff, **J. Blochberger**, N. Foy, P. Norman, and T. Smith, "Smart Acoustic Monitoring System," NASA Acoustics Technical Working Group, Hampton, VA, USA, 2015.

OTHER PROJECTS

J. Blochberger, "Simulating a Reverberation Effect Using Convolution in MATLAB," Post-Masters Research Project, 2020.

J. Blochberger, "Performance of Reactive Acoustic Mufflers," Wolfram Demonstrations Project, 2016. https://demonstrations.wolfram.com/PerformanceOfReactiveAcousticMufflers/

B. Ayliff, **J. Blochberger**, N. Foy, P. Norman, and T. Smith, "Smart Acoustic Monitoring System – Virginia Tech Senior Mechanical Capstone Project," 2014-2015. Sponsored by the NASA Langley Research Center and the National Institute of Aerospace. Advised by Prof. Christopher Fuller. https://youtu.be/0nKAHMkX3tY

HONORS / AWARDS

- *Special Achievement Award*, The Johns Hopkins University Applied Physics Lab, 2020
- *Janney Explore Award*, The Johns Hopkins University Applied Physics Lab, 2019
- *Excellence in Mentoring Award*, General Dynamics Electric Boat, 2019
- *James Brown Memorial Scholarship*, General Dynamics Electric Boat Management Association, 2017
- *Best in Innovation & Creativity Award*, Virginia Tech Mechanical Engineering Department, 2015
- *Dean's List*, Virginia Tech, 2014

MEMBERSHIPS / AFFILIATIONS

American Society of Mechanical Engineers (ASME), 2012 to present
Acoustical Society of America, 2014 to 2019

PROFESSIONAL SERVICE

- Technical Committee Member
  - ASME Noise Control & Acoustics Division (NCAD), Structural Acoustics
- Conference Organizer
  - Topic Chair, Analytical & Computational Vibrations & Acoustics, 2021 ASME International Mechanical Engineering Congress & Exposition
  - Topic Chair, Analytical & Computational Vibrations & Acoustics, 2020 ASME International Mechanical Engineering Congress & Exposition
- Conference Paper Reviewer
  - 2021 ASME International Mechanical Engineering Congress & Exposition
  - 2020 ASME International Mechanical Engineering Congress & Exposition
  - 2019 ASME International Mechanical Engineering Congress & Exposition
  - 2018 ASME International Mechanical Engineering Congress & Exposition
  - 2017 ASME International Mechanical Engineering Congress & Exposition