

EDUCATION

- June 2003-
May 2004 **Boston University, Boston, MA**
Doctor of Philosophy, Mechanical Engineering
Dissertation Title: An Experimental Investigation of the Dependence of Sonoluminescence on Ambient Acceleration
Dissertation Advisor: Glynn Holt
- September 1998-
May 2023 **Boston University, Boston, MA**
Master of Science, Mechanical Engineering,
Thesis Title: Design, Fabrication and Use of a KC-135 Experiment for Studying Sonoluminescence
Thesis Advisor: Glynn Holt
- September 1994-
May 1998 **University of Rochester, Rochester, NY**
Bachelor of Science, Physics

ACADEMIC EXPERIENCE

- September 2021-
May 2022 Interim Engineering Program Coordinator, Roger Williams University
- May 2017-Present Professor of Engineering, Roger Williams University
January 2017-
September 2020 Sustainability Studies Program Coordinator
- May 2011-
May 2017 Associate Professor of Engineering, Roger Williams University
- September 2005-
May 2011 Assistant Professor of Engineering, Roger Williams University
- June 2004- July
2005 Postdoctoral Researcher, Boston University

COURSES TAUGHT

Recent:

- ENGR 110: Engineering Graphics and Design
ENGR 305: Fluid Mechanics and Lab
ENGR 350: Theory and Design for Mechanical Measurements
ENGR 437: Acoustics
ENGR 240L: Circuit Theory Lab

Historical:

- ENGR 115: Computer Applications for Engineers
ENGR 210: Engineering Mechanics
ENGR 492: Engineering Design II
CNST 455: Mechanical and Electrical Design for Buildings
SUST 101: Introduction to Sustainability Studies
SUST 301: Analysis and Decision-Making for Sustainability

Senior Capstone Projects Mentored

2022 – 2023	Design and Fabrication of a small-scale wave tank Patrick Aldrich, Alexander Bertone, Logan Bolarino, Luke Calabrese, Lauren Duross, and Luke Wing
2021 – 2022	Design and Implementation of a System to Mitigate EMI in Aquarium Systems Jacob Champlin, Alexa DiCesare, Ignacio Monje Angelique Rivera, and Kaitlyn Sample
2020 – 2021	RWU Bell Tower Andre Amazeen, Josh Clark, Anthony Lucibello, Isabella Blessington, and Raquel Santos
2019 – 2020	Wave Counter system II Tyler, Colella, James Driscoll, Jeffery Mandile, Nicholas Spinella
2018 – 2019	Wave Counter System I Owen Guillot, Brandon Ribeiro, Gregory Stamm, Mathew Walsh
2017 – 2018	Physical Therapy Monitor for Lower Extremity Injuries II Raid Almuhanha, Matthew Kidney, Mark Parker, Russell Pierson, Yazmeen Shahin, M
2016 – 2017	Physical Therapy Monitor for Lower Extremity Injuries II Stephanie Gratiano, Ty Herzog, Ariane Marquant, Alexander Proulx, Evan Sage, Patrick Williams
2015 – 2016	Race to Zero Competition Michael Aiardo, Dan Arket, Lee Janusewki, Brittney Perreault
2014 – 2015	Conebites: A device to manufacture bite-sized ice cream cones. James Cappelletti, Brian Willis, Elisha Watrous
2010 – 2011	EPA-P3 Phase 2 Christopher Farrington, John Garlasco, Nathan Szczepanek, Brianna Sylvester
2009 – 2010	EPA-P3 Phase 1 Josh Boisclair, Jessica Pica, Adam Roy, George Schork

AFFILIATIONS

2005 – Present	American Society of Mechanical Engineers
2005 – Present	American Society of Civil Engineers
2005 – Present	American Society for Engineering Education
1999 – Present	Acoustical Society of America

SERVICE

2021 – Present	Member University Sustainability Committee
2020 – Present	Member RWU Faculty Association Elections Committee
2019 – Present (Summers)	Volunteer for New Student Orientation,
2016 – Present	Co-advisor to RWU student chapter of Engineers Without Borders
2015 – Present	Advisor to RWU student chapter of the American Society of Mechanical Engineers
2010 – Present	Member RWU Sustainability Studies Program Committee
2021 (Summer)	Member Faculty Senate ad hoc committee for First Year Seminar
2021	Member Construction Management Search Committee
2020	Member search committee SAS Associate Director Search Committee
2020 – 2021	Member Faculty Senate Diversity Committee
2016 – 2017	Member SECCM Curriculum Committee
2016 – 2019	Member Finance committee
2015 – 2016	Member search committee for engineering faculty
2015 – 2018	Member Board of directors Ocean State Pops Orchestra
2014 – 2016	SECCM Representative to Faculty Senate Curriculum Committee
2014 – 2015	SECCM Representative to University faculty review committee

2014	Outside reader for Mr. Joseph Favale's chemistry thesis
2013 – 2016	Advisor to Engineering Living-Learning Community
2013 – 2016, 2019 – 2020	Member of SECCM Faculty Review Committee
2013 – 2014	Member EWU Writing Studies, Rhetoric and Composition search committee
2013 – 2014	Member RWU Music search committee
2012 – 2014, 2019 - 2022	Member board of deacons United Congregational Church, Little Compton, RI, Co-chair 2020-2022
2011 – 2012	Member RWU Physics faculty search committee
2010 – 2013	Engineering Outreach to Mt. Hope High School Bristol RI
2009 – 2013	SECCM Representative to the Faculty Senate University Life Committee
2006 – 2010	Advisor to RWU Engineering Club

HONORS AND AWARDS

2020	RWU Student Senate, Hybrid Hero Award
2019 – 2020	RWU Diversity and Inclusion Faculty Fellow
Fall 2015, Fall 2016, Fall 2018	RWU Student Senate SECCM Professor of the Semester Award
2015	Roger Williams University Excellence in Teaching Award
September 2009 – May 2010	RWU Presidential Fellow

PUBLICATIONS

Referred Journals

McPheron, B. D., Thangaraj, C. V., & Thomas, C. R. (2017). A Mixed Learning Approach to Integrating Digital Signal Processing Laboratory Exercises into a Non-Lab Junior Year DSP Course. *Advances in Engineering Education*, 6(1), n1.

Thomas, C. R., Roy, R. A., & Holt, R. G. (2011). Ambient acceleration dependence of single-bubble sonoluminescence. *The Journal of the Acoustical Society of America*, 130(5), 3282-3288.

Charles, P. P., & Thomas, C. R. (2009). Four approaches to teaching with building performance simulation tools in undergraduate architecture and engineering education. *Journal of Building Performance Simulation*, 2(2), 95-114.

Thomas, C. R., Farny, C. H., Coussios, C. C., Roy, R. A., & Holt, R. G. (2005). Dynamics and control of cavitation during high-intensity focused ultrasound application. *Acoustics Research Letters Online*, 6(3), 182-187.

Thomas, C. R., Roy, R. A., & Holt, R. G. (2004). Bubble dynamics near the onset of single-bubble sonoluminescence. *Physical Review E*, 70(6), 066301.

Conference Proceedings

McPheron, B.D., Thomas, C.R., and Palm, W.J. (2018). Time for reflection: Development of twenty videos to introduce new topics and engage students in circuit theory. Proceedings of the 125th ASEE Annual Conference & Exposition, American Society for Engineering Education.

Flynn, C. P., Faria, K., Al-Uqaili, E. A., Aldayel, M. A., Thomas, C. R., & McPheron, B. D. (2016) "Detecting Underwater Objects using Ultrasound." Proceedings of the 2016 Zone 1 ASEE Conference, University of Rhode Island,

Palm, W. J., & Thomas, C. R. (2015, June). Living-Learning Communities Improve First-year Engineering Student Academic Performance and Retention at a Small Private University. In *2015 ASEE Annual Conference & Exposition* (pp. 26-1098).

Thomas, C., Byrne, L., & Campbell, J. (2010) Creating an Interdisciplinary Introduction to Sustainability Studies Course. Proceedings of the 2010 Zone 1 ASEE Conference, Wentworth Institute of Technology.

Charles, P., & Thomas, C. R. (2010). A multidisciplinary consultancy-based teaching model: Potentials and limitations. In *Proceedings of eSIM 2010 Conference* (pp. 109-116).

Charles, P. & Thomas, C. R. (2009). Integrating Building Performance Simulation in Studio teaching: a multidisciplinary consultancy-based model. In *Proceedings of 98th ACSA Annual Meeting* (pp. 178-188).

Thomas, C.R. and Charles, P. (2009) Planting the seeds for Future Collaboration: A Joint Engineering and Architecture Course in Sustainable Design. Proceedings of the 2009 Zone 1 ASEE Conference, University of Bridgeport

Riley, L.A., and Thomas C.R. (2008) Keeping the STEM Student Pipeline Flowing: An Innovative Partnership between a K-12 School System and an Institution of Higher Learning. Proceedings of the 2008 Zone 1 ASEE Conference, West Point

Thomas, C. R., Farny, C. H., Wu, T., Holt, R. G., & Roy, R. A. (2006). Monitoring HIFU lesion formation in vitro via the driving voltage. In *AIP Conference Proceedings* (Vol. 829, No. 1, pp. 293-297). American Institute of Physics.

Stein, M.R., and Thomas, C.R. (2006) A New Approach to the Treatment of Modeling in the Freshman Design Course at Roger Williams University. Proceedings of the 2006 New England ASEE Conference, WPI

Holt, R. G., Roy, R. A., Thomas, C. R., Farny, C., Wu, T., Yang, X., & Edson, P. (2006). Therapeutic bubbles: basic principles of cavitation in therapeutic ultrasound. In *AIP Conference Proceedings* (Vol. 829, No. 1, pp. 13-17). American Institute of Physics.

Conference Presentations

Calabrese, L., Wing, L., Bolarinho, L., Duross, L., Bertone, A., Aldrich, P., and Thomas, C.R., (2023). "Wave Generation Machine" Eastern States Science Conference, Sacred Heart University (poster)

Tribuna, M., Parker, M., Kidney, M., Almuhanha, R., Pierson, R., Shahin, Y., McPheron, B., Thomas, CR. (2018) "Physical Therapy Monitor for Lower Extremity Injuries" Eastern States Science Conference, Ithaca College (poster)

Thomas, C.R. (2011) The Sustainability Studies Minor at Roger Williams University, AASHE 2011 Conference and Expo: Creating Sustainable Campuses and Communities, Pittsburgh.

Thomas, C. R., Farny, C. H., Roy, R. A., & Holt, R. G. (2005). A technique for monitoring and controlling cavitation activity during high intensity focused ultrasound application. *The Journal of the Acoustical Society of America*, 117(4_Supplement), 2530-2530.

Thomas, C., Roy, R., Holt, R. G., & Holzfuss, J. (2004). Chemical oscillations in bubbles: Resolving the mystery of chaotic sonoluminescence. *The Journal of the Acoustical Society of America*, 115(5_Supplement), 2381-2382.

Farny, C. H., Thomas, C. R., Holt, R. G., & Roy, R. A. (2004). Controlling a high intensity focused ultrasound induced cavitation field via duty cycle. *The Journal of the Acoustical Society of America*, 116(4_Supplement), 2508-2508.

Thomas, C. R., Farny, C. H., Roy, R. A., & Holt, R. G. (2004). Observations of cavitation activity and lesion growth in optically clear tissue phantoms. *The Journal of the Acoustical Society of America*, 116(4), 2507-2507.

Coussios, C. C., Farny, C. H., Thomas, C. R., Cleveland, R. O., Holt, R. G., & Roy, R. A. (2004). Cavitation detection during and following HIFU exposure in vitro. *The Journal of the Acoustical Society of America*, 115(5_Supplement), 2448-2448.

Thomas, C. R., Holt, R. G., & Roy, R. A. (2002). Sonoluminescence in Space: The Critical Role of Buoyancy in Stability and Emission Mechanisms. In *Sixth Microgravity Fluid Physics and Transport Phenomena Conference: Exposition Topical Areas 1-6* (Vol. 2).

Thomas, C., Wyatt, S., Roy, R., & Holt, R. G. (2000). Comparing the predictions of a numerical model of SBSL in a variable acceleration environment to experiment. *The Journal of the Acoustical Society of America*, 108(5_Supplement), 2493-2493.

RESEARCH/CONSULTING SUPPORT

2061	Development of a Pre-Engineering Curriculum for the Providence Career and Technical Academy and Mt. Pleasant High School. Co-contract with Prof. Benjamin McPheron \$20,000.00
2012	Design and fabrication of a control system to support a power upweller system. Sub-contract from Prof. Dale Leavitt \$3,000.00
2010	Developing alternative power to drive a partitioned aquaculture system for intensive food fish production. EPA-P3 Phase 2 Award, Co-Pi with Dale Leavitt and Linda Riley \$75,000.00
2009	Developing alternative power to drive a partitioned aquaculture system for intensive food fish production. EPA-P3 Phase 1 Award, Co-Pi with Dale Leavitt and Linda Riley \$9,834.00
2008	Auditing the Energy use and carbon footprint of an academic building at RWU: establishing the pedagogical, practical and research bases for sustainability studies RWU Foundation Grant Co-PI Loren Byrne \$7,700.00
2006	Measuring the Flash Timing in Quasiperiodic Sonoluminescence RWU Foundation Grant \$9,180.00