

# JOLIE BREAU FRKETIC

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## EDUCATION

Florida State University, Tallahassee, FL <b>PhD Industrial and Manufacturing Engineering</b>	<b>2014-Present</b>
University of Florida, Gainesville, FL <b>M.S. Mechanical Engineering</b> Thesis: Mechanics of Angiogenesis in Collagen Tubes	<b>2011-2014</b>
Florida State University, Tallahassee, FL <b>B.S. Mechanical Engineering</b> Concentration: Dynamics and Controls Honors Thesis: Manufacturability of Triboluminescent Composites: Towards a Sensory Level Component	<b>2007-2011</b>

## AWARDS

<b>Adelaide Wilson Fellowship</b> , Florida State University	<b>August 2014 – May 2019</b>
<b>Graduate School Fellowship Award</b> , University of Florida	<b>August 2011 – May 2014</b>

## RELATED EXPERIENCE

<b><u>High Performance Materials Institute</u></b> <i>Florida State University, Tallahassee, FL</i> <b>Graduate Researcher</b> <ul style="list-style-type: none"><li>Developing weaving extruder for composite 3D printing applications</li><li>Carried out experiments to further triboluminescent structural health monitoring</li><li>Created executable for use in analyzing dispersion of crystals in a resin matrix</li></ul>	<b>August 2014 – Present</b>
<b><u>University of Florida</u></b> <i>Gainesville, FL</i> <b>Graduate Researcher</b> <ul style="list-style-type: none"><li>Constructed dynamic light scattering set up and ran Fourier analysis to determine cell movement in 3D structures</li><li>Created 3D printer for cell printing in hydrogels</li><li>Trained in sterile cell culture protocols</li></ul>	<b>August 2011 – May 2014</b>
<b><u>High Performance Materials Institute</u></b> <i>Florida State University, Tallahassee, FL</i> <b>Undergraduate Research Assistant</b> <ul style="list-style-type: none"><li>Carried out research to further efforts towards creating a triboluminescent (TL) structural health monitoring system</li><li>Designed process to create TL-doped Vinyl Ester resin and PMMA thin films</li><li>Fabricated resin and TL samples and performed mechanical material analysis</li><li>Trained on O.M.A.C water jet cutter, TA Instruments Q800 DMA tester, 1 kN MTS Material Testing System</li></ul>	<b>June 2010- June 2011</b>
<b><u>Brainfuse INC</u></b> <b>Online Math and Science Tutor</b> <ul style="list-style-type: none"><li>Provided online mentoring to Physics, General Science, Precalculus, Algebra 2, Trigonometry, and Algebra Students</li></ul>	<b>May 2014 – August 2014</b>

JOURNAL PUBLICATIONS

**Jolie Frketic**, Natalia Ariza, David Olawale, Okenwa Okoli, Tarik Dickens. "Measurement of Impact Force for Triboluminescent-Enhanced Composites by Modified Impulse Method" *Submitted Composites Pt. B*

**Jolie Frketic**, Tarik Dickens. "Automated Manufacturing and Processing of FRP Composites: An Additive Review of Contemporary and Modern Techniques for Advanced Materials Manufacturing" *Submitted Composites Pt. A*

**Frketic, Jolie B.**, Abigail DeLaPeña, Melanie G. Suaris, Steven M. Zehnder, and Thomas E. Angelini. "Multi-scale undulations in human aortic endothelial cell fibers." *The European Physical Journal E* 38, no. 2 (2015): 1-7.

Dickens, T. J., **J. Breaux**, D. O. Olawale, W. G. Sullivan, and O. I. Okoli. "Effects of ZnS: Mn concentrated vinyl ester matrices under flexural loading on the triboluminescent yield." *Journal of Luminescence* 132, no. 7 (2012): 1714-1719.

CONFERENCE PAPERS AND PRESENTATIONS

Joshi, Kunal, **Jolie B. Frketic**, Meagan Raley, TJ Dickens, "Screening Failure Detection of Structural Composite Systems: Embedded Triboluminescent Structronic Wires" IWSHM 2015

Joshi, Kunal, **Jolie B. Frketic**, David Olawale, and Tarik Dickens. "Damage monitoring of CFRP retrofits using triboluminescent optical fiber sensors." In *SPIE Smart Structures and Materials+ Nondestructive Evaluation and Health Monitoring*, pp. 943520-943520. International Society for Optics and Photonics, 2015.

Suaris, Melanie, **Jolie A. Breaux**, Steven P. Zehnder, and Thomas E. Angelini. "Nucleation and growth of epithelial cell clusters." In *4TH INTERNATIONAL SYMPOSIUM ON SLOW DYNAMICS IN COMPLEX SYSTEMS: Keep Going Tohoku*, vol. 1518, no. 1, pp. 536-540. AIP Publishing, 2013.

**Jolie Breaux**, Abigail de La Pena, Melanie Suaris, Steven Zehnder, Thomas Angelini. "The mechanics of Angiogenesis in Collagen Tubes" Presentation, American Physical Society, 03/2013

**Jolie Breaux.**, Zehnder, S., Osterbur, L., Lewis, J., & Angelini, T. "Collective Cell Mechanics in 3D Scaffolds." Presentation, American Physical Society, 02/2012

Dickens, Tarik J., David Olawale, Garrett Sullivan, **Jolie Breaux**, Okenwa OI Okoli, and Ben Wang. "Toward triboluminescent sensor realization for SHM: statistical modeling of triboluminescent composites." In *SPIE Smart Structures and Materials+ Nondestructive Evaluation and Health Monitoring*, pp. 79810J-79810J. International Society for Optics and Photonics, 2011.

CERTIFICATIONS

National Institute of Metal Working Skills

- CNC Mill Operator – Level 1
- CNC Lathe Operator – Level 1
- Measurement, Materials, & Safety

MEMBERSHIPS

Society for the Advancement of Material and Process Engineering

Fellows Society, Florida State University

Institute of Industrial Engineers

Tau Beta Pi