

## CURRICULUM VITAE

**Bryan D. James, Ph.D.** (he/him)

*Postdoctoral Investigator/Scholar*

Marine Chemistry & Geochemistry/Biology

Woods Hole Oceanographic Institution

Woods Hole, MA 02543

**Tel.:** (352) 397-1665

**E-mail:** [bjames@whoi.edu](mailto:bjames@whoi.edu)

**ORCID:** [0000-0002-6104-8310](https://orcid.org/0000-0002-6104-8310)

**Twitter:** [@bdbjames](https://twitter.com/bdbjames)

**Website:** [bryandjames.com](http://bryandjames.com)

## EDUCATION

---

<b>Ph.D.</b>	<b>University of Florida</b> Department of Materials Science and Engineering Advisor: Prof. Josephine B. Allen <b>Dissertation:</b> <i>Engineering Complex Microenvironments &amp; Their Applications to Sex- Specific Mechanobiology and Biomaterial Development</i>	Aug. 2017 - May 2021
<b>B.A.Sc.</b>	<b>University of Toronto</b> Department of Materials Science and Engineering Advisor: Prof. Eli D. Sone <b>Thesis:</b> <i>Design and testing of anti-fouling SLIPS surfaces for prevention of zebra mussel adhesion</i>	Sept. 2012 - May 2017

## EARLY CAREER AWARDS AND DISTINCTIONS

---

<u>Rising Stars in Engineering in Health</u> – Cornell Uni., Columbia Uni., Johns Hopkins Uni.	2023
<u>CAS Future Leader</u> – American Chemical Society	2023
<u>Distinguished Young Scholars Seminar (DYSS)</u> – Uni. of Washington	2022
<u>ACS PMSE Future Faculty Scholar</u> – American Chemical Society	2022
<u>Early Career Editorial Advisory Board</u> – ACS Biomaterials Science & Engineering	2022-2025
<u>NextProf Nexus Workshop Alumni</u> – Uni. of Michigan, Georgia Tech., UC Berkeley	2020
<u>New England Future Faculty Workshop Alumni</u> – Northeastern Uni., Harvard Medical School	2020

## RESEARCH EXPERIENCE

---

<b>Woods Hole Oceanographic Institution</b> <i>Postdoctoral Investigator/Weston Howland Jr. Postdoctoral Scholar</i> Co-advisor: Senior Scientist Christopher M. Reddy Co-advisor: Senior Scientist Mark E. Hahn Co-advisor: Associate Scientist Collin P. Ward	Aug. 2021 – Present
<b>University of Florida</b> <i>National Institutes of Health National Research Service Award (F31) Fellow</i> Advisor: Prof. Josephine B. Allen	Aug. 2017 – May 2021
<b>University of Toronto</b> <i>Post-graduate Research Assistant, Undergraduate Research Assistant</i> Advisor: Prof. Eli D. Sone	Sept. 2016 – July. 2017
<b>Air Liquide Laboratories, Research &amp; Development, Tsukuba, Japan</b> <i>Process Engineer</i> Advisor: Scientific Director Christian Dussarrat, Ph.D.	June 2015 – May 2016
<b>Woods Hole Oceanographic Institution</b> <i>Undergraduate Lab Manager, Guest Student, Volunteer</i> Advisor: Senior Scientist Christopher M. Reddy	Summers 2011-2014

**Published**

1. **James, B. D.**, Reddy, C. M., Hahn, M. E., Nelson, R. K., de Vos, A., Aluwihare, L. I., Wade, T. L., Knap, A. H., Bera, G. Fire and oil led to complex mixtures of PAHs on burnt and unburnt plastic during the M/V X-Press Pearl disaster. *ACS Environmental Au* (2023).
2. **James, B. D.**, Karchner, S. I., Walsh, A. N., Aluru, N., Franks, D. G., Sullivan, K. R., Reddy, C. M., Ward, C. P., Hahn, M. E. Formulation controls the potential neuromuscular toxicity of polyethylene photoproducts in developing zebrafish. *Environmental Science & Technology*. **57**, 21, 7966–7977 (2023).
3. Allen, J. B.<sup>\*</sup>, Ludtka, C.<sup>\*</sup>, **James, B. D.**<sup>\*</sup> Sex as a Biological Variable in Tissue Engineering and Regenerative Medicine. *Annual Review in Biomedical Engineering*. **25**, 1 (2023).
4. Landrigan, P. J., Raps, H., Cropper, M., Brunner, M., Canonizado, E. M., Charles, D., Chiles, T., Donohue, M. J., Enck, J., Fenichel, P., Fleming, L. E., Ferrier-Pages, C., Fordham, R., Gozt, A., Griffin, C., Hahn, M. E., Haryanto, Budi, Hixson, R., Ianelli, H., **James, B. D.**, Kumar, P., Laborde, A., Lavender-Law, K., Martin, K., Mu, J., Mulders, Y., Mustapha, A., Niu, J., Pahl, S., Park, Y., Pitt, J. A., Ruchirawat, M., Seewoo, B. J., Spring, M., Stegeman, J. J., Suk, W., Symeonides, C., Takada, H., Thompson, R., Vicini, A., Wang, Z., Whitman, E., Wirth, D., Wolff, M., Yousuf, A., Dunlop, S. The Minderoo Monaco Commission on Plastics and Human Health. *Annals of Global Health*. 1-214 (2023).
5. **James, B. D.**, de Vos, A., Aluwihare, L. I., Youngs, S., Ward, C. P., Nelson, R. K., Michel, A. P. M., Hahn, M. E., Reddy, C. M. Divergent Forms of Pyroplastic: Lessons Learned from the M/V X-Press Pearl Ship Fire. *ACS Environmental Au*. **2**, 5, 467-479 (2022).
6. de Vos, A., Aluwihare, L. I., DiBenedetto, M. H., Ward, C. P., Youngs, S., Michel, A. P. M., Colson, B. C., Mazzotta, M. G., Walsh, A. N., Nelson, R. K., Reddy, C. M., **James, B. D.** The M/V X-Press Pearl nurdle spill: Contamination of burnt plastic and unburnt nurdles along Sri Lanka's beaches. *ACS Environmental Au*. **2**, 2, 128-135 (2022).
  - **Cover story of [C&EN January 23, 2023](#)**
  - **[ACS Environmental Au Best Paper Award, 2021-2022](#)**
7. **James, B. D.**<sup>\*</sup>, Kimmins, K. M.<sup>\*</sup>, Nguyen, M.<sup>α</sup>, Lausch, A. J., Sone, E. D. Attachment of zebra and quagga mussel adhesive plaques to diverse substrates. *Scientific Reports*. **11**, 23998 (2021).
8. **James, B. D.**, Allen, J. B. Sex-specific response to combinations of shear stress and substrate stiffness by endothelial cells *in vitro*. *Advanced Healthcare Materials*. **10**, 18, 2100735 (2021).
  - **Featured on [cover](#) of journal**
9. Roy, T., **James, B. D.**, Allen, J. B. Anti-VEGF-R2 Aptamer and RGD Peptide Synergize in a Bifunctional Hydrogel for Enhanced Angiogenic Potential. *Macromolecular Bioscience*. **21**, 2, 2000337 (2021).
10. **James, B. D.**, Allen, J. B. Self-assembled VEGF-R2 targeting DNA aptamer-collagen fibers stimulate an angiogenic-like endothelial cell phenotype. *Materials Science & Engineering: C*. **120**, 111683 (2021).
11. **James, B. D.**, Guerin, P.<sup>α</sup>, Allen, J. B. Let's Talk About Sex– Biological Sex Is Underreported in Biomaterial Studies. *Advanced Healthcare Materials*. **10**, 1, 2001034 (2021).
  - **Featured by [Advanced Science News](#)**
12. **James, B. D.**, Guerin, P.<sup>α</sup>, Iverson, Z.<sup>α</sup>, Allen, J. B. Mineralized DNA-collagen complex-based biomaterials for bone tissue engineering. *International Journal of Biological Macromolecules*. **161**, 1127-1139 (2020).
13. **James, B. D.**, Montoya, N.<sup>α</sup>, Allen, J. B. MechanoBioTester: A Decoupled Multi-Stimulus Cell Culture Device for Studying Complex Microenvironments In-Vitro. *ACS Biomaterials Science & Engineering*. **6**, 6, 3673-3689 (2020).
14. **James, B. D.**, Saenz, S.<sup>α</sup>, van Gent, A.<sup>α</sup>, J. B. Allen. Oligomer Length Defines the Self-Assembly of Single-Stranded DNA–Collagen Complex Fibers. *ACS Biomaterials Science & Engineering*. **6**, 1, 213-218 (2020).
15. **James, B. D.**, Ruddick, W. N., Vasisth, S. E., Dulany, K., Sulekar, S., Porras, A., Maraño, A., Nino, J. C., Allen, J. B. Palm Readings: *Manicaria saccifera* palm fibers are bioactive textiles with low immunogenicity. *Materials Science & Engineering: C*. **108**, 110484 (2019).

16. Kimmins, K., **James, B. D.**, Nguyen, M.<sup>a</sup>, Hatton, B. D., Sone, E. D. Oil-infused polydimethylsiloxane prevents zebra mussel attachment. *ACS Applied Bio Materials*. **2**, 12, 5841-5847 (2019).
17. Chen, M.\* , Savguira, Y.\* , MacInnis, J.\* , **James, B. D.\***, Thorpe, S. J. Power-to-Gas Design Project: Amphibious Yacht and Fueling Station. *International Journal of Hydrogen Energy*. **44**, 59, 31646-31669 (2019).
18. **James, B. D.**, Allen, J. B. Vascular Endothelial Cell Behavior in Complex Mechanical Microenvironments. *ACS Biomaterial Science & Engineering*. **4**, 11, 3818–3842 (2018).

#### **In Review**

1. **James, B. D.**, Ward, C. P., Hahn, M. E., Thorpe, S. J., Reddy, C. M. Minimizing the environmental impacts of plastic through eco-design. (to *ACS Sustainable Chemistry & Engineering*; [ChemRxiv](#))

#### **In Preparation**

1. **James, B. D.**, Sun, Y., Izallalen, M., Mazumder, S., Perri, S. T., Edwards, B., de Wit, J., Reddy, C. M., Ward, C. P. Biodegradation of drinking straws in the coastal ocean. ([ChemRxiv](#))
2. **James, B. D.**, Reddy, C. M., Ward, C. P., Hahn, M. E. Select moldable plastics can be acutely toxic to developing zebrafish.
3. Zhang, B., Lichlyter, D., **James, B. D.**, Poon, J., Major, S., Allen, J. B., Webb, A. Development of Carbon Monoxide Releasing Poly(diols-citrate) Biomaterials.

#### **BOOK CHAPTERS**

1. Ursino, H.\* , **James, B. D.\***, Ludtka, C.\* , Allen, J. B. Bone Tissue Engineering. *Tissue Engineering Using Ceramics and Polymers, 3<sup>rd</sup> Edition*. Edited by A. Boccaccini, P.X. Ma, L. Liverani. Woodhead Publishing. (2021). ISBN [9780128205082](#).
2. **James, B. D.**, Allen, J. B. Engineering Vascular Grafts with Multiphase Structures. *Vascular Tissue Engineering*. Methods in Molecular Biology. Edited by F. Zhao, K. W. Leong. Springer Nature. (2021). ISBN [978-1-0716-1707-6](#).

#### **NON-REFEREED PUBLICATIONS**

1. **James, B. D.**, Hahn, M. E., Reddy, C. M. (2022) Biomaterials Science Can Offer a Valuable Second Opinion on Nature's Plastic Malady. *Environmental Science & Technology*. **56**, 3, 1475-1477.
2. **James, B.D.** (2021). Choosing the right straw: when you get to think like a materials engineer. *Gainesville Sun*, posted on July 8.

#### **PATENTS**

1. United States Patent application 17/423,303. Allen, J. B. and **James, B. D.** Bioreactor chamber and systems thereof. (Published July 28, 2022).
2. United States Patent application 17/36,715. Allen, J. B. and **James, B. D.** Aptamer assemblies for protein crosslinking. (Published October 20, 2022).
3. Patent pending. PCT/US2021/049833. Allen, J. B., **James, B. D.**, Andrew, J. S., Ferson, N. D. DNA-Collagen Complexes and Magnetoelectric Janus Materials for Biomedical Applications. (Filed September 10, 2021).
4. Patent pending. PCT/US2021/072653. Allen, J. B., **James, B. D.**, Aptamer assemblies for protein crosslinking. (Filed December 1, 2021).

#### **AWARDS AND HONORS**

##### **Academic**

<u>Best Paper Award, 2021-2022 – ACS Environmental Au</u>	2023
<u>Attributes of a Gator Engineer – Leadership – Uni. of Florida</u>	2021
<u>Weston Howland Jr. Postdoctoral Scholar – WHOI</u>	2020

<u>Gridley McKim-Smith Women's Health Fellowship Award</u> – Foundation for Women's Wellness	2020
<u>Ruth L. Kirschstein Predoctoral Individual NRSA</u> – NIH NHLBI	2019
Iva and Norman Tuckett Institute for Computational Engineering Fellowship – Uni. of Florida	2017
Dow Chemical Graduate Fellowship – Uni. of Florida	2017
Graduate School Preeminence Award – Uni. of Florida	2017
U.S. Steel Canada Undergraduate Scholarship – Uni. of Toronto	2013-2015
Dean's List – Uni. of Toronto	2012-2017

### Competition

1 <sup>st</sup> Place, <u>Biomaterials Education Challenge</u> – Society For Biomaterials (SFB)	2019
1 <sup>st</sup> Place, <u>Hydrogen Student Design Contest</u> – Hydrogen Education Foundation	2018

### Organization

<u>Biomaterials Day Grant</u> – SFB	2020
<u>Local Section Science Café Mini-Grant</u> – ACS Florida Chapter	2018

### Conference

Student Abstract Award – SFB Tissue Engineering SIG	2020
SFB Chapter Travel Award – Uni. of Florida SFB Student Chapter	2018, 2019

### GRANTS

NIH NHLBI F31 Predoctoral Fellowship: 1 F31 HL147445-01 <u>Vascular cell sexual dimorphism in complex mechanical microenvironments</u> (awarded, \$117,615 over 3 years)	2019-2021
--	-----------

### LEADERSHIP, OUTREACH, AND TEACHING ACTIVITIES

#### Leadership

Secretary/Treasurer, SFB National Student Chapter	May 2021 – May 2022
Secretary/Treasurer - Elect, SFB National Student Chapter	Oct. 2020 – May 2021
President, Uni. of Florida SFB Student Chapter	Apr. 2019 – May 2021
Outreach Director, Uni. of Florida SFB Student Chapter	Apr. 2018 – Apr. 2019
4 <sup>th</sup> Year Class Representative, Uni. of Toronto Engineering Society	Sept. 2016 – Apr. 2017
Chair, MSE Discipline Club	Sept. 2016 – Apr. 2017
Vice-chair, MSE Discipline Club	Sept. 2014 – Apr. 2015
Communications Director, MSE Discipline Club	Sept. 2013 – Apr. 2014

#### Outreach

Speaker, Visiting UMass Dartmouth NSF-REU community college students, WHOI	June 2023
Speaker, WEBiO, Uni. of Florida	Oct. 2022
Speaker, on Marine Plastic Pollution, Town of Hingham, MA	Oct. 2022
Speaker, Microplastics Survey, Ocean Science Journalism Fellowship, WHOI	May 2022
Speaker, Theater and Microplastics with the Boston Conservatory and WHOI	March 2022
Middle School Science Advisor, Ms. Dawna Garvin's Class, Pleasanton, TX	Mar. 2022 – Present
Speaker, Science Untapped, MIT Office of Graduate Education	Oct. 2021
Co-Organizer, Career Opportunities in Biomaterials for HBCU Students, SFB	Oct. 2021
Co-Organizer/Speaker, Biomaterials Day Virtual Workshop, SFB	Sept. 2021
Co-Organizer, "Hearing from Engineers – UF SFB Speaks with Industry" Webinar Series	July 2020 – Aug. 2020
Co-Organizer, Uni. of Florida 10 <sup>th</sup> Annual Biomaterials Day Symposium	Mar. 2021

---

Co-Organizer, Uni. of Florida 8 <sup>th</sup> Annual Biomaterials Day Symposium	Mar. 2019
Guest Instructor, Biomaterials Lesson, PK Yonge Developmental Research School	Mar. 2019
Co-Organizer, ACS Science Café	July 2018 – Nov. 2018
<b>Teaching</b>	
Invited Speaker, EMA 3000L, Sophomore Materials Lab, Uni. of Florida (Virtual).	Winter 2022
<ul style="list-style-type: none"> <li>Instructed on plastics and design for environment</li> </ul>	
Invited Speaker, IDH3931, FUNdamentals of Research Integrity, Uni. of Florida	Fall 2020
<ul style="list-style-type: none"> <li>Spoke to students on Mentor/Mentee dynamics</li> </ul>	
Guest Instructor, EMA4061: Biomaterials: Structure and Properties, Uni. of Florida	Fall 2019
<ul style="list-style-type: none"> <li>Senior level undergraduate course</li> <li>Covered topics related to blood-material and host-material interactions</li> </ul>	
Guest Instructor, EMA3010: Intro to MSE, Uni. of Florida	Summer 2019
<ul style="list-style-type: none"> <li>Introductory undergraduate course</li> <li>Covered topics related to mechanical properties and phase transformations</li> </ul>	
Co-Instructor and Course Co-Creator, IDH2931: Honors Seminar, Uni. of Florida	Summer 2019
<ul style="list-style-type: none"> <li>Designed an 8-week seminar on biomaterials for the UF Summer Science Training Program</li> <li>Instructed to a class of high school students</li> </ul>	
Teaching Assistant, EMA3011: Fundamental Principles of Materials, Uni. of Florida	Winter 2019
<ul style="list-style-type: none"> <li>Sophomore level undergraduate course</li> <li>Covered topics related to quantum phenomena and organic chemistry</li> </ul>	
Teaching Assistant, EMA4061L: Biomaterials Laboratory, Uni. of Florida	Fall 2018
<ul style="list-style-type: none"> <li>Senior level undergraduate laboratory course</li> <li>Guided students in biomaterials synthesis and characterization</li> <li>Taught mammalian cell culture, aseptic technique, and immunofluorescence microscopy</li> </ul>	

## MENTORING

### Graduate Students

- |   |                      |
|---|----------------------|
| 1. <b>Heather Ursino</b> , University of Florida, MSE | Aug. 2019 – May 2021 |
|---|----------------------|

### Undergraduate Students

- |  |                        |
|--|------------------------|
| 1. <b>Brenden Irving</b> , WHOI, CC-CREW Program                               | June 2023 – Aug. 2023  |
| 2. <b>Gantt Meredith</b> , University of Florida, BME                          | Oct. 2019 – May 2020   |
| 3. <b>Zion Iverson</b> , University of Florida, Biology                        | Sept. 2019 – Dec. 2019 |
| 4. <b>Sophia Saenz</b> , University of Florida, BME                            | Jan. 2019 – May 2021   |
| 5. <b>Paxton Guerin</b> , University of Florida, BME                           | Jan. 2019 – May 2021   |
| 6. <b>Nicolas Montoya</b> , University of Florida, ECE                         | Sept. 2018 – May 2020  |
| 7. <b>Kadeem Samuel</b> , University of Florida, ECE                           | Sept. 2018 – Nov. 2018 |
| 8. <b>Gabriela Alvarez</b> , University of California, Riverside, REU student  | June 2018 – Aug. 2018  |
| 9. <b>Jeffrey Butler</b> , Morehouse College, REU student                      | June 2018 – Aug. 2018  |
| 10. <b>Chris Cotter</b> , University of Florida, MSE                           | Sept. 2017 – Apr. 2018 |
| 11. <b>Scott Parker</b> , University of Florida, MSE                           | Sept. 2017 – Apr. 2018 |
| 12. <b>Minh-Tam Nguyen</b> , University of Toronto, MSE                        | Apr. 2017 – July 2017  |
| 13. <b>Thomas Rugh</b> , California State Polytechnic University-Pamona, MechE | May 2014 – Sept. 2014  |
| 14. <b>Brian Forst</b> , Harvard University, Government                        | May 2013 – Aug. 2013   |
| 15. <b>Mike McNulty</b> , Boston College, Chemistry                            | May 2013 – Aug. 2013   |

<b>16. Ben Freiberg</b> , Skidmore College, Environmental Science	May 2013 – Aug. 2013
<b>High School Students</b>	
1. <b>Anastacia van Gent</b> , University of Florida Student Science Training Program	June 2019 – July 2019

## IN THE NEWS

1. "[Why you can't wear yoga clothes in an MRI: The fibers may burn your skin](#)", *Washington Post*. 07/26/2023.
2. "[Grappling with the biggest marine plastic spill in history](#)", *Chemical & Engineering News*. 01/22/2023.

## PROFESSIONAL RESPONSIBILITIES & SERVICE

### Early Career Editorial Advisory Board

ACS Biomaterials Science & Engineering 2022-2025

### Committees

WHOI [Committee for Diversity, Equity, and Inclusion](#) 2021-Present

### Reviewed for Funding Agencies (# of grants)

Connecticut Sea Grant (1)

New York Sea Grant (1)

### Reviewed for Journals (# of articles)

[Journal of Nanobiotechnology](#) (2)

[Bioengineering & Translational Medicine](#) (3)

[Science of the Total Environment](#) (1)

[Talanta](#) (1)

[Frontiers in Marine Science – Marine Pollution](#) (1)

[Journal of Tissue Engineering and Regenerative Medicine](#) (1)

### Volunteering

TERMIS-AM Annual Conference & Exhibition, Orlando, FL Dec. 2019

Biomedical Engineering Society Annual Meeting, Philadelphia, PA Oct. 2019

Biomedical Engineering Society Annual Meeting, Atlanta, GA Oct. 2018

Society For Biomaterials Annual Meeting & Exhibition, Atlanta GA Apr. 2018

## ORAL PRESENTATIONS (presenter underlined) (<sup>α</sup> mentee)

1. James, B. D. *Materials Engineering and Eco-Design*. Rhode Island School of Design (RISD) Nature Lab. Providence, RI. September 25, 2023. (Invited).
2. James, B. D., Ward, C. P., Hahn, H. E., Thorpe, S. J., Reddy, C. M. *Addressing plastic environmental impact through eco-design*. American Chemical Society Fall Meeting. San Francisco, CA. Aug. 13-17, 2023.
3. James, B. D. *Responding to the X-Press Pearl Nurdle Spill*. WHOI Summer Lecture Series. Woods Hole, MA. June 28, 2023. (Invited).
4. James, B. D. *Linking Formulation to the Fate and Impacts of Plastics in Sunlit Surface Waters*. International Council of Chemical Associations (ICCA) Microplastics Advanced Research and Innovation Initiative (MARII) Workshop. Seattle, WA. June 12-14, 2023. (Invited).
5. James, B. D. *The Many Forms of Plastic Pollution: Lessons Learned from X-Press Pearl Nurdle Spill*. American Chemical Society Fall Meeting. Chicago, IL. Aug. 21-25, 2022. (Invited).
6. James, B. D. *Burnt Plastic is a Complex Contaminant: Lessons Learned from X-Press Pearl Ship Fire*. UMass Dartmouth. Dartmouth, MA. Aug. 12, 2022. (Invited).
7. James, B. D. *Engineering Complex Microenvironments and Their Applications to Sex-Specific Mechanobiology*. 9th World Congress of Biomechanics, Hybrid. Taipei, Taiwan. July 10-14, 2022 (Invited).
8. James, B. D. *Plastic Pollution and Its Many Forms: Lessons Learned from the M/V X-Press Pearl Ship Fire*. UW Distinguished Young Scholars Seminar. Seattle, WA. June 29, 2022. (Invited).



9. [James, B. D.](#) *The M/V X-Press Pearl nurdle spill: Characterizing burnt and unburnt nurdles collected along Sri Lanka's beaches.* **UConn Marine Sciences Seminar**, Hybrid. Groton, CT. Apr. 8, 2022. **(Invited)**.
10. [James, B. D.](#) *Engineering Complex Microenvironments and Their Applications to Sex-Specific Mechanobiology and Biomaterial Development.* **WHOI, Biology Seminar**, Virtual, Jan. 13, 2022.
11. [James, B. D.](#) *The M/V X-Press Pearl nurdle spill: Characterizing burnt and unburnt nurdles collected along Sri Lanka's beaches.* **WHOI, Marine Chemistry & Geochemistry Seminar**, Hybrid. Woods Hole, MA. Oct. 19, 2021.
12. [James, B. D.](#), Saenz, S.<sup>α</sup>, Guerin, P.<sup>α</sup>, Allen, J. B. *Nucleic Acid-Collagen Complexes (NACC): Engineering Tunable Hard and Soft ECM Mimics.* **Society For Biomaterials Annual Meeting and Exposition**, Virtual. Apr. 20-23, 2021.
13. [Saenz, S.<sup>α</sup>](#), [James, B. D.](#), Allen, J. B. *Nucleic Acid Elastin Collagen Complex (NAECC) Fibers and Gels Working Towards an ECM Mimic.* **Society For Biomaterials Annual Meeting and Exposition**, Virtual. Apr. 20-23, 2021.
14. [Guerin, P.<sup>α</sup>](#), [James, B. D.](#), Allen, J. B. *Nucleic Acid-Collagen Complexes (NACCs) Stabilization via Physiological Ions.* **Society For Biomaterials Annual Meeting and Exposition**, Virtual. Apr. 20-23, 2021.
15. [James, B. D.](#), Allen, J. B. *DNA aptamer-collagen complex-based biomaterials.* **11th World Biomaterials Congress**, Virtual. Dec. 11-16, 2020.
16. [James, B. D.](#), Montoya, N.<sup>α</sup>, Allen, J. B. *The MechanoBioTester: A Decoupled Multi-Stimulus Device for Studying Complex Microenvironments In-Vitro.* **11th World Biomaterials Congress**, Virtual. Dec. 11-16, 2020.
17. [James, B. D.](#), Montoya, N.<sup>α</sup>, Allen, J. B. *A Multi-Stimulus Culture Model for Studying Complex Chemo-Mechanical Microenvironments In Vitro.* **Biomedical Engineering Society Annual Meeting**, Virtual. Oct. 14-17, 2020.
18. Lichlyter, D., [James, B. D.](#), [Webb, A.](#) *Cellular Effects of Carbon Monoxide Releasing Poly(diol-citrate) Polymers.* **Society For Biomaterials Annual Meeting and Exposition**, Seattle, WA. April 3-6, 2019.
19. [James, B. D.](#), Zupanska, A., Allen, J. B. *Microgravity Effects on the Function of Vascular Endothelial Cells.* **American Society for Gravitational and Space Research Meeting**, Bethesda, MD. October 31 – Nov 3, 2018.
20. [James, B. D.](#), Chen, M., [Savguira, Y.](#), [MacInnis, J.](#), Thorpe, S. J. *Amphibious Yacht and Fueling Station.* **U.S. Department of Energy Hydrogen and Fuel Cells Program 2018 Annual Merit Review and Peer Evaluation Meeting**, Washington, D.C. June 13-15, 2018. **(Invited)**.

## POSTER PRESENTATIONS

1. [James, B. D.](#), Karchner, S. I., Walsh, A. N., Aluru, N., Franks, D. G., Sullivan, K. R., Reddy, C. M., Ward, C. P., Hahn, M. E. *Determining the toxicity of polyethylene photoproduct complex mixtures in developing zebrafish.* **American Chemical Society Fall Meeting**. San Francisco, CA. Aug. 13-17, 2023.
2. [James, B. D.](#), Karchner, S. I., Walsh, A. N., Aluru, N., Franks, D. G., Sullivan, K. R., Reddy, C. M., Ward, C. P., Hahn, M. E. *Determining the toxicity of polyethylene photoproduct complex mixtures in developing zebrafish.* **University of Rhode Island Global Plastics Forum**, Kingston, RI. May 15-16, 2023.
3. [Young, S.](#), Michel, A. P. M., de Vos, A., DiBenedetto, M. H., [James, B. D.](#), Reddy, C. M. *Chemical Analysis of Nurdles from the M/V X-Press Pearl Fire: A Study of Rapid Degradation, Weathering, and Metal Accumulation.* **Ocean Sciences Meeting**, Virtual, February 24 - March 4, 2022.
4. [James, B. D.](#), Allen, J. B. *VEGF-R2 Targeting DNA Aptamer-Collagen Fibers Stimulate an Angiogenic-Like Endothelial Cell Phenotype.* **Biomedical Engineering Society Annual Meeting**, Virtual. October 14-17, 2020.
5. [James, B. D.](#), [Wiggins, S.](#) *Development of a High School-Level Introduction to Biomaterials Science and Engineering Course.* **Biomedical Engineering Society Annual Meeting**, Virtual. October 14-17, 2020.

6. [James, B. D.](#), Guerin, P.<sup>α</sup>, Iverson, Z.<sup>α</sup>, Allen, J. B. *Mineralized DNA-Collagen Complex-Based Biomaterials for Bone Tissue Engineering*. **Biomedical Engineering Society Annual Meeting**, Virtual. October 14-17, 2020.
7. [James, B. D.](#), Montoya, N.<sup>α</sup>, Ruddick, W., Allen, J. B. *A Decoupled Multi-Stimulus Bioreactor for Studying Complex Chemo-Mechanical Microenvironments In Vitro*. **TERMIS-AM Annual Conference & Exhibition**, Orlando, FL. December 2-5, 2019.
8. [James, B. D.](#), Montoya, N.<sup>α</sup>, Ruddick, W., Allen, J. B. *A Decoupled Multi-Stimulus Bioreactor for Studying Complex Chemo-Mechanical Microenvironments In Vitro*. **Biomedical Engineering Society Annual Meeting**, Philadelphia, PA. October 16-19, 2019.
9. [James, B.D.](#), Murbach, J. Freeman, S. T. *Osseous biomaterials: When your bone needs help healing*. **Society For Biomaterials Annual Meeting and Exposition**, Seattle, WA. Apr. 3-6, 2019.
10. [James, B. D.](#), Montoya, N.<sup>α</sup>, Ruddick, W., Allen, J. B. *A Decoupled Multi-Stimulus Bioreactor for Studying Complex Chemo-Mechanical Microenvironments In Vitro*. **Society For Biomaterials Annual Meeting and Exposition**, Seattle, WA. Apr. 3-6, 2019.
11. [James, B. D.](#), Allen, J. B. *Spatial command of PDMS optical and mechanical properties by controlled diffusion-reaction processes*. **Biomedical Engineering Society Annual Meeting**, Atlanta, GA, October 17-20, 2018.
12. Lichlyter, D., [James, B. D.](#), [Webb, A.](#) *Carbon monoxide releasing Poly(diol-nicotinamide-citrate) polymer to reduce oxidative stress*. **Biomedical Engineering Society Annual Meeting**, Atlanta, GA, October 17-20, 2018.
13. [James, B. D.](#), [Chen, M.](#), [Savguira, Y.](#), [MacInnis, J.](#), Thorpe, S. J. *Power-to-Gas Design Project: Amphibious Yacht and Fueling Station*. **U.S. Department of Energy Hydrogen and Fuel Cells Program 2018 Annual Merit Review and Peer Evaluation Meeting**, Washington, D.C., June 13-15, 2018.
14. [James, B.D.](#), Reddy, C.M., Aeppli, C., [Carmichael, C.A.](#), Nelson, R.K. *Variability in the hydrocarbon composition of oil films on rocks along the Gulf coast post the Deepwater Horizon disaster*. **Gulf of Mexico Oil Spill & Ecosystem Science Conference, Mobile**, AL, January 27, 2014.
15. [James, B.D.](#), Reddy, C.M., Aeppli, C., [Carmichael, C.A.](#), Nelson, R.K. *Variability in the hydrocarbon composition of oil films on rocks along the Gulf coast post the Deepwater Horizon disaster*. **Deep-C Consortium "All-Hands" Meeting**, Tallahassee, FL, September 10, 2013.
16. [James, B.D.](#), [Carmichael, C. A.](#), Aeppli, C., Nelson, R.K., Murphy, E., Radovic, J., Reddy, C.M. *Variability in oiled sand-patties collected: How different are samples collected within meters on a beach?* **Gulf of Mexico Oil Spill & Ecosystem Science Conference**, New Orleans, LA, January 22, 2013.
17. [James, B.D.](#), [Carmichael, C. A.](#), Aeppli, C., Nelson, R.K., Murphy, E., Radovic, J., Reddy, C.M. *Variability in oiled sand-patties collected: How different are samples collected within meters on a beach?* **Deep-C Consortium "All-Hands" Meeting**, Tallahassee, FL, August 22, 2012.