

Steven Eric Zeltmann

engineering.nyu.edu/composites sezeltmann.com

<https://goo.gl/bVeMrq> (Google Scholar Profile)

steven.zeltmann@nyu.edu | P: 646.997.3827

EDUCATION

UNIVERSITY OF CALIFORNIA, BERKELEY | PHD IN MATERIALS SCIENCE & ENGINEERING

August 2017 - Present | Berkeley, CA

NEW YORK UNIVERSITY | BS/MS IN MECHANICAL ENGINEERING

with Aerospace Minor (B.S.), Mechanics & Structural Systems Specialty (M.S.)

January 2017 | Brooklyn, NY

Overall GPA: 3.898

Tandon (formerly Polytechnic) School of Engineering

Dean's List (All Semesters), Honors Program (All Semesters)

ST. JOHN THE BAPTIST DHS

Grad. June 2012 | West Islip, NY

Summa Cum Laude Honors, AP Scholar

National Honor Society (2011-2012)

GPA: 101.3, Ranked 6 of 420

EXPERIENCE

MINOR LAB | GRADUATE STUDENT RESEARCHER

August 2017 - Present | University of California, Berkeley

COMPOSITE MATERIALS AND MECHANICS LABORATORY | ASSOCIATE RESEARCH SCIENTIST

June 2013 - August 2017 | New York University Tandon School of Engineering, Brooklyn, NY

Working under the direction of Dr. Nikhil Gupta performing research in advanced lightweight composite materials and metal alloys for aerospace, marine, and structural applications. Mentoring high school and undergraduate researchers. Research Assistant from June 2013-January 2017.

3DP SECURITY, INC. | FOUNDER & CEO

October 2016 - Present | Brooklyn, NY

Developing and deploying innovative solutions to protect intellectual property in the additive manufacturing process chain.

NEW YORK UNIVERSITY ABU DHABI | ASSISTANT INSTRUCTOR OF MECHANICAL ENGINEERING

Summer Semester, 2015 & 2016 | Division of Engineering, NYUAD, Saadiyat Island, Abu Dhabi, UAE

Conducted the laboratory section of ENGR-AD 118, Engineering Materials. Led students in hands-on work and performed demonstrations. Graded exams and held office hours to assist students.

HOSPITALITY TOO SOUP KITCHEN | VOLUNTEER ORGANIZER AND NEWSLETTER EDITOR

June 2011 - Present | Brentwood, NY

In January 2013 I re-designed the group's monthly newsletter and remain as editor. Directed groups of 30+ young volunteers each week to ensure the smooth operation of the soup kitchen, serving approximately 250 hot meals every week, from June 2011 - February 2014.

PUBLICATIONS

JOURNAL

1. Koomson, C., **Zeltmann, S.E.**, and Gupta, N., "Strain rate sensitivity of polycarbonate and vinyl ester from dynamic mechanical analysis experiments," *Advanced Composites Science Accepted Manuscript* 2017.
2. Jayavardhan, M.L, Bharath Kumar, B.R., Doddamani, M., Singh, A.K., **Zeltmann, S.E.**, and Gupta, N., "Development of glass microballoon/HDPE syntactic foams by compression molding," *Composites Part B: Engineering* 130:119-131, 2017.
3. **Zeltmann, S.E.**, Prakash, K.A., Doddamani, M., and Gupta, N., "Prediction of modulus at various strain rates from dynamic mechanical analysis data for polymer matrix composites," *Composites Part B: Engineering* 120:27-34, 2017.

4. **Zeltmann, S.E.**, Chen, B., and Gupta, N., "Thermal expansion and dynamic mechanical analysis of epoxy matrix-borosilicate glass hollow particle syntactic foams," *Journal of Cellular Plastics*, 0021955X17691566, 2016.
5. **Zeltmann, S.E.**, Chen, B., and Gupta, N., "Mechanical properties of epoxy matrix – borosilicate glass hollow particle syntactic foams," *Materials Performance and Characterization* 2016 6(1):1-16.
6. **Zeltmann, S.E.**, Bharath Kumar, B.R., Doddamani, M., and Gupta, N., "Prediction of strain rate sensitivity of high density polyethylene using integral transform of dynamic mechanical analysis data," *Polymer*, 101, 2016.
7. **Zeltmann, S.E.**, Gupta, N., Tsoutsos, N.G., Maniatakos, M., Rajendran, J., and Karri, R., "Manufacturing and Security Challenges in 3D Printing," *JOM* 2016, 68(7):1872-1881.
8. Kumar, B.R.B., **Zeltmann, S.E.**, Doddamani, M., Gupta, N., Gurupadu, S., and Sailaja, R.R.N., "Effect of cenosphere surface treatment and blending method on the tensile properties of thermoplastic matrix syntactic foams," *Journal of Applied Polymer Science* 2016:43881.
9. Kumar, B.R.B, Doddamani, M., **Zeltmann, S.E.**, Gupta, N., and Ramakrishna, S., "Data characterizing tensile behavior of cenosphere/HDPE syntactic foam," *Data In Brief* 2016 6:933-941.
10. Kumar, B.R.B., Doddamani, M., **Zeltmann, S.E.**, Gupta, N., Uzma, Gurupadu, S., and Sailaja, R.R.N., "Effect of particle surface treatment and blending method on flexural properties of injection-molded cenosphere/HDPE syntactic foams," *Journal of Materials Science* 2016.
11. Kumar, B.R.B., Doddamani, M., **Zeltmann, S.E.**, Gupta, N., Ramesh, M.R., and Ramakrishna, S., "Processing of cenosphere/HDPE syntactic foams using an industrial scale polymer injection molding machine," *Materials & Design* 2016 92:414-423.
12. **Zeltmann, S.E.**, Poveda, R., and Gupta, N., "Accelerated environmental degradation and residual flexural analysis of carbon nanofiber reinforced composites," *Polymer Degradation and Stability* 2015, 121:348-358.
13. Gupta, N., **Zeltmann, S.E.**, Shunmugasamy, V.C., and Pinisetty, D., "Applications of polymer matrix syntactic foams," *JOM: Journal of the Materials, Metals, & Minerals Society* 2014, 66(2):245-254.
14. Shunmugasamy, V.C., **Zeltmann, S.E.**, Gupta, N., and Strbik III, O.M., "Compressive characterization of single porous SiC hollow particles," *JOM: Journal of the Minerals, Metals, & Materials Society* 2014, 66(6):892-897.
15. Labella, M., **Zeltmann, S.E.**, Shunmugasamy, V.C., Gupta, N., and Rohatgi, P.K., "Mechanical and thermal properties of fly ash/vinyl ester syntactic foams," *Fuel* 2014, 121:240-249.

BOOK CHAPTER

1. Gupta, N., **Zeltmann, S.E.**, Loung, D.D., and Doddamani, M., "Testing of Foams," in "Mechanics of Materials: Measurements and Applications," N. Chawla and K.K. Chawla, Editors. 2017, Springer: New York. *In press*.

CONFERENCE & PRESENTATION

1. **Zeltmann, S.E.**, Peng, W.Z., Barletta, B., and Cellini, F. "Using a Custom 3D Printer to Engage High School Students in 3D Printing Workshop," Poster displayed at *IMECE 2016*, Phoenix, AZ. 13 November 2016.
2. **Zeltmann, S.E.**, Gupta, N., Bharath Kumar, B.R., and Doddamani, M., "Dynamic mechanical analysis of cenosphere/HDPE syntactic foams," *ASC 2016 Williamsburg*, VA. 21 September 2016.
3. **Zeltmann, S.E.** and Gupta, N., "Public speaking and media interactions: Avenues for outreach and dissemination of research outcomes," *ASC 2016 Williamsburg*, VA. 20 September 2016.
4. **Zeltmann, S.E.** and Gupta, N., "Ultralight metal based composite materials: design principles and multifunctionality," *TMS 2016 Nashville*, TN.
5. **Zeltmann, S.E.**, Gupta, N., and Doddamani, M., "Development of a composite material filament for lightweight 3D printed components," *TMS 2016 Nashville*, TN.
6. **Zeltmann, S.E.**, Gupta, N., Chen, B., and Ricci, W., "Mechanical properties of borosilicate glass hollow particle reinforced epoxy matrix syntactic foams," *SAMPE Baltimore*, 2015, Baltimore, MD.
7. **Zeltmann, S.E.** "High strain rate material characterization using the split-Hopkinson pressure bar," *SAMPE NJ Chapter*, 2 April 2015.
8. **Zeltmann, S.E.**, Poveda, R., and Gupta, N., "Development of lightweight carbon nanofiber reinforced syntactic foam composites," in *TMS 2015 Orlando*, FL.
9. **Zeltmann, S.E.**, Poveda, R., and Gupta, N., "Environmental degradation of carbon nanofiber reinforced syntactic foams," in *TMS 2015*, Orlando, FL.

10. **Zeltmann, S.E.**, "Carbon nano-fiber reinforced lightweight composites," *SAMPE NJ Chapter*, 2 October 2014.
11. **Zeltmann, S.E.**, "Environmental degradation of carbon nano-fiber reinforced lightweight composites," *ASM NY/NJ Chapter*, 16 September 2014.

MASS MEDIA & OTHER

1. Gupta, N. and **Zeltmann, S.E.**, "From Shredded C-Notes to Corn: Weird Materials Make Their Way into Cars," 5 April 2016, [livescience.com](#) Op-Ed
2. Gupta, N. and **Zeltmann, S.E.**, "The Carbon-Fiber Future: It's About More Than Speed," 9 March 2016, [livescience.com](#) Op-Ed
3. Gupta, N. and **Zeltmann, S.E.**, "Navy's Secret to Building a Stealth Ship," 1 August 2014, [livescience.com](#) Op-Ed
4. Gupta, N. and **Zeltmann, S.E.**, "Finding the Strength to Reach the Ocean's Furthest Depths," 3 May 2014, [livescience.com](#) Op-Ed
5. Peanut Butter Jelly Gangs / Hospitality Too Soup Kitchen Monthly Newsletter *as editor*, January 2013 - Present

PEER REVIEW

Materials & Design • JOM • TMS Conferences • Journal of Materials Science • Polymer Degradation and Stability • Plastics, Rubber, and Composites

EDUCATIONAL VIDEOS

1. "Carbon Nanofiber Reinforced Syntactic Foam," with **Steven Zeltmann**, NYU Polytechnic School of Engineering, April 2014. vimeo.com/91443818
2. "Lightweight Materials Initiative," produced by MRS, TMS, and the Alcoa Foundation, June 2014. vimeo.com/83688450
3. "Analyzing the Brazuca Ball," NYU Polytechnic School of Engineering, June 2014. vimeo.com/97742139

AWARDS

- 2017 Best M.S. Thesis, Mechanical and Aerospace Engineering Department, NYU Tandon
- 2017 Ford Foundation Predoctoral Competition: Honorable Mention
- 2016 SAMPE University Research Symposium: 2nd Place in MS Category
- 2016 ASTM Noah A. Khan Memorial Award
- 2016 SAMPE Student Leader Experience Award
- 2015 Cablevision Chris Conklin Scholarship Winner
- 2015 Travel Grant to attend SAMPE Baltimore Conference
- 2015 TMS Structural Materials Division Scholarship Winner
- 2014 Cablevision Chris Conklin Scholarship Winner
- 2012 NYU-Poly Promise Scholarship & Honors Scholarship

PROFESSIONAL SOCIETY MEMBERSHIP

- The Minerals, Metals, & Materials Society (TMS): **Member of Composite Materials Committee, Structural Materials Division**
- Society for the Advancement of Material and Process Engineering (SAMPE): **President of NYU Chapter 2016-2017**
- Tau Beta Pi Engineering Honor Society, NY R Chapter
- Pi Tau Sigma Mechanical Engineering Honor Society, NY Pi Pi Chapter: **Founding Vice President**
- ASM International
- ASTM International
- New York Academy of Sciences

STUDENTS MENTORED

- Chrys Koomson, MS Project, Fall 2016
- Keerthana A Prakash, NYUAD Undergraduate Summer Research, Summer 2016
- Brian Chen, Edward R. Murrow High School, ARISE Program 2014-2015, Intel Science Talent Search
- Said Abdallah, NYU Undergraduate Student Research Program, 2015
- Rajvir Bains, Visiting Research Assistant, Spring 2015
- And others

SKILLS

EXPERIMENTAL

Scanning Electron Microscopy • Materials Characterization • Dynamic Mechanical Analysis • Thermo-mechanical Analysis • High Strain Rate Mechanical Testing • Composites Fabrication • Environmental Testing • High-Speed Imaging • Additive Manufacturing • X-ray Computed Tomography

COMPUTATIONAL

ANSYS Workbench • MATLAB • \LaTeX • Mathematica • LabVIEW • SolidWorks • Autodesk CFD • Objective-C • MS Office and Apple iWork • Adobe Dreamweaver