

Aurélie Azoug

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Professional

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Education

- 2010 **Ph.D. Ecole Polytechnique, Mechanics, France.**
2007 **M.Sc. University of Technology of Compiègne, Mechanics, France.**
2007 **B.Sc. University of Technology of Compiègne, Mechanical Engineering, France.**

Professional Experience

- Since 2016 **Assistant Professor**, School of Mechanical and Aerospace Engineering, Oklahoma State University, Stillwater.
MS²M lab: Mechanics of Smart and Soft Materials.
- 2014-2016 **Postdoctoral Scholar**, Department of Mechanical Engineering, Hopkins Extreme Materials Institute, Johns Hopkins University, Baltimore. P.I.: T.D. Nguyen, *Viscoelasticity of liquid crystal elastomers - Mechanical modeling of UHMWPE fibers.*
- 2013 **Visiting Researcher** (2 months), Solid Mechanics Laboratory CNRS, Ecole Polytechnique. *Nonlinear constitutive law for highly-filled elastomers.*
- 2012 **Lecturer**, Department of Civil and Environmental Engineering, University of California, Berkeley. *Mechanics of Solids (CE231).*
- 2011-2013 **Postdoctoral Scholar**, Department of Civil and Environmental Engineering, University of California, Berkeley. P.I.: S. Govindjee, *Thermomechanical behavior of elastomers undergoing large temperature cycles - Statistical mechanics of the polymer chain in the stress ensemble.*
- 2007-2010 **Doctoral Research Assistant**, Solid Mechanics Laboratory CNRS, Ecole Polytechnique. DGA-CNRS Fellowship, Advisors: R.M. Pradeilles-Duval, A. Constantinescu. *Micromechanisms and macroscopic behaviour of a highly-filled elastomer.*
- 2007 **M.Sc. Research Assistant** Solid Mechanics Laboratory CNRS, Ecole Polytechnique. Advisor: C. Stolz, Thesis: *Study of cavitation in incompressible hyperelastic materials using a bifurcation theory.*

Teaching experience

university - course, semester (enrollment)

o Undergraduate

- **Engineering Analysis and Methods** OSU - MAE 3013, Fa2016 (130), Sp2018 (100), Sp2019 (98), Sp2020 (54), Fall 2021 (137), Spring 2023 (50).

- * transferred the teaching of numerical methods to Python language in Jupyter notebooks to follow the College choice of coding language

- * developed a syllabus including MATLAB training and use for numerical methods.
- * tested and established the use of Matlab Grader (MATLAB online platform) for instruction and assessment of chapters including numerical methods.
- * created an open set of lecture notes to fill out to promote active learning during lectures.
- **Finite Elements Modeling** Ecole Nationale Supérieure de Techniques Avancées ENSTA (France), 2009, Teaching assistant.
- **Graduate**
 - **Viscoelasticity** OSU - MAE 5593, Fa2018 (8), Fa2020 (9), Fa2022 (7).
 - * created a project-based course on the theoretical and experimental aspects of viscoelasticity.
 - * initiated a project per student involving experiments and application of a theory described during lectures.
 - **Continuum Mechanics** UC Berkeley - CE 231, Fa2012 (21). OSU - MAE 5573, Sp2017 (13), Fa2019 (9), Sp2022 (6).
 - * developed a lecture-based class rigorously setting up the basics of Continuum Mechanics and associated mathematical tools.

Advising and Mentoring

- **Advisor**, Ph.D. graduate students.
 - Leila Rezaei (OSU 2019-): Model of the Polydomain-Monodomain transition
 - Manogna Jambhapurham (OSU 2017-2020): Viscoelastic phenomena in roll-to-roll manufacturing - Two case studies of industrial relevance
- **Advisor**, M.Sc. graduate students.
 - Nazmus Sakib (OSU 2023-): 4D printing of LCEs
 - Abby Haddox (OSU 2021-2023): A smart skin to treat and prevent pressure ulcers.
 - Nissrine Aziz (OSU 2021-2023): Rheological properties of Liquid Crystal Polymer ink for 4D printing of LCEs.
 - Jeremy Perez (OSU 2019-2021): Preventing pressure ulcers by pressure distribution via a liquid crystal elastomer smart skin.
 - Likhitha Ippagunta (OSU 2019-2021): Effect of pregnancy-induced mass gain and footwear on postural stability.
 - Zozef Siddiqui (OSU 2019-2021): Structure-property relationships in 4D-printed liquid crystal elastomers.
 - Clement Brousse (OSU 2018-2020): The viscoelastic Poisson's ratio of webs.
 - Tyler Estrada (OSU 2017-2018): Local Polydomain-Monodomain Transition in Liquid Crystal Elastomers using Digital Image Correlation.
 - Martin Schreiber (Polytechnique 2009): Mesoscale modeling of a viscoelastic composite.
 - Anders Thorin (Polytechnique 2010): Viscoelastic constitutive law for propellants.
- **Advisor**, undergraduate students. (CEAT UR: Funded as CEAT Undergraduate Researchers, OSU Wentz: Funded by Wentz Research Grant, OK-LSAMP: NSF program broadening participation of minority in research)

- Caroline King (OSU 2023-): Musculoskeletal modeling of pregnant women of all BMIs.
- Iris Borunda (CEATUR, OK-LSAMP, OSU 2022): Musculoskeletal modeling and obesity
- Adrien Fau (U. Limoges 2022): Radial stretching of LCEs
- Abby Haddox (CEAT UR, Wentz, OSU 2017-2021): DSC, postural changes in pregnancy.
- Samantha Leach (OSU 2019-2021): Formulation of Bisphenol elastomers.
- Tristan Zoll (CEAT UR, OSU 2019-2021): Compression of LCEs.
- Jaden Kasitz (CEAT UR, OSU 2019-2021): Postural changes during pregnancy.
- Kara Marchetta (Wentz, OSU 2018-2021): 3D scanning for musculoskeletal modeling.
- Zachary Yap (OSU 2019-2020): 3D printing of LCEs.
- Lindsey Marsh (CEAT UR, OSU 2019-2020): Local orientation in LCEs.
- Jeb Wallace (Wentz, OSU 2018-2020): LCE viscoelasticity at Tni, LCE 3D-printing.
- Chapman Howard (CEAT UR, OSU 2018-2019): VHB viscoelasticity, LCE 3D-printing.
- Isaac Hernandez-Moreno (OK-LSAMP, OSU 2017-2019): Stress relaxation in LCEs.
- Oscar Mallet (OSU 2018-2019): Viscoelasticity and compression of LCEs.
- Garrett Johnson (OSU Summer 2018): 3D-printing of LCEs.
- Kevin Moseni (OSU 2016-2018): Synthesis and printing of LCE fibers.
- Victoria Ruzzkowski (OSU 2017-2018): Self-folding of smart elastomers.
- Valeria Vasconcellos (Hopkins 2014-2015): Polydomain-monodomain transition in LCEs.
- Jacob Dooling (Hopkins Summer 2014): Time-temperature superposition in LCEs.
- Ryan Johnston (Hopkins Fall 2014): Cycling behavior of liquid crystal elastomers.
- Vincent Tran (UC Berkeley 2012): Cycling and relaxation experiments on rubbers.

o **Committee member**

- Ph.D students: Lenissongui Yeo (OSU Dr. J. Bair), Rosty Martinez Duque (OSU Dr. M. Borunda), Mazharul Islam (OSU Dr. C. Bradshaw), Sandra Vinnikova (OSU Dr. S. Wang), Kubra Sekmen 2023 (Ecole Polytechnique, Dr. Constantinescu), Martin Avila Torrado 2022 (Ecole Polytechnique, Dr. Constantinescu), Yuan Zhang 2022 (OSU Dr. S. Wang), Xin Chen 2020 (OSU Dr. K. Good), Sheng Pan 2019 (OSU Dr. K. Good),
- M. Sc. students: Taylor Matlock (OSU Dr. A. Arena), Jarrod Braun 2020 (OSU Dr. J. Hausselle), Karthik Madhamshetty 2018 (OSU Dr. J. Manimala), Venkata Aswin Reddy Gajjala 2018 (OSU Dr. J.K. Good), Roy Saurav 2017 (OSU Dr. K. Kalkan).

Honors and Awards

- o Best poster award, M. Jambhapuram, J.K. Good, A. Azoug, **2020**, Development of Lamination models in roll-to-roll manufacturing, 3rd Graduate Research Symposium MAE, Stillwater.
- o Poster competition finalist, J. Kasitz, A. Haddox, J. Hausselle, A. Azoug, **2019**, Lower back muscle fatigue during pregnancy, OK-WISE, Tulsa, OK.
- o Best presentation award, T. Ruzzkowski, A. Azoug, **2018**, Self-folding of Smart Soft Materials, WE local Undergraduate Collegiate Research Competition, Tulsa, OK.
- o Best presentation award, K. Harmon, J. Hausselle, A. Azoug, **2018**, Radial Actuation of Liquid Crystal Elastomers, WE local Undergraduate Collegiate Research Competition, Tulsa, OK.
- o HEMI Postdoctoral Development Award, **2014**, Hopkins Extreme Materials Institute.
- o Scientific International Volunteer program **2011-2012**, funding TOTAL, S.A., 18 months post-doctoral fellow at University of California Berkeley.
- o Best 50 dissertations in ParisTech Universities, **2011**.
- o DGA-CNRS fellowship, **2007-2010**, funding DGA (French Army Ministry), 3 years Ph.D.

Student Awards

- Robberson Summer Dissertation Fellowship, *Leila Rezaei*, Graduate College Oklahoma state University, **2023**. The Fellowship supports summer research for outstanding post-candidacy, doctoral students.
- Walt Kolb Graduate Studies Fellowship, *Abby Haddox*, Graduate College Oklahoma State University, **2021**.
- Travel Award, *Shawn Ray*, **2019**, Louis Stokes Midwest Regional Center of Excellence Conference, Indianapolis, IN.
- Travel Award, *Shawn Ray*, **2019**, AISES National Conference, Milwaukee, WI.
- Travel award, *Katelynn Harmon*, **2018** WE local (SWE).
- Travel award, *Victoria Ruszkowski*, **2018** WE local (SWE).
- Travel award, *Valeria Vasconcellos*, **2015**, Society of Engineering Science 52nd Annual Technical Meeting.

Scholarly Activities

- *Technical editor*
Journal of Mechanics of Time-Dependent Materials, Springer, 2022-present.
- *Reviewer*
International Journal of Solids and Structures, Nature Communications, Continuum Mechanics and Thermodynamics, Journal of Functional Biomaterials, Materials and Design, Biosensors, Mechanics of Materials, Materials, Polymer Engineering and Science, Materials Today Communications, Biomedical Engineering Online, Applied Sciences, International Journal of Smart and Nano Materials, Polymers, Polymer, Soft Matter, Journal of Applied Polymer Science, Industrial & Engineering Chemistry Research.
- *Technical panel reviewer*
2017 National Defense Science and Engineering Graduate (NDSEG) Fellowship digital evaluation, American Society for Engineering Education (ASEE) and Department of Defense (DoD).
- *Conference Scientific committee*
2022 International Conference on Mechanics of Time-dependent Materials, Dallas, TX, USA.
2019 International Conference on Web Handling, Stillwater, OK.
2017 International Ground Source Heat Pump Association Conference.
- *Conference Organization committee*
2021 AIAA/ASME 40th Oklahoma Symposium, Stillwater, OK. (chair)
- *Conference Session chair*
2022 Material Behavior II, 12th International Conference on Mechanics of Time-Dependent Materials, Dallas, TX, USA.
2018 Fracture, dissipation, and self-healing in Topic: Mechanics of Soft Materials, IMECE International Mechanical Engineering Congress & Exposition, Pittsburgh, PA, USA.
2015 Liquid-Crystalline and Light-Sensitive Active Polymers in Topic: Mechanics of Soft Materials, IMECE International Mechanical Engineering Congress & Exposition, Houston, TX, USA.

Service Activities

2022-present	Treasurer, Women's Faculty Council OSU
2018-present	Faculty sponsor, ASME MAE student chapter
2022	CV for Women in STEM, Workshop development, Graduate College OSU

2022-2023	MAE Faculty Search Committee
2020-2022	OSU Goldwater Scholarship committee
2020-2022	MAE Undergraduate Curriculum Committee
2020-2021	MAE Head Search Committee
2016-2018	Engineering Freshmen and CEAT Scholars interviews

Outreach Activities

2022-	Member of EngineerGirl, a National Academy of Engineering organization to promote the participation of women in Engineering.
2019, 2022	Women in Science Conference, NSF EPSCOR Outreach girls 6 th -12 th grade, Science Museum Oklahoma City. Booth: initiation to artificial muscles and biomechanics.
2022	CEAT Discovery Day (15 high school students, lab visit) introduction to smart materials and hands-on smart robot activity.
2019	National Lab Day, "The secret behind magic tricks: smart materials!"
2019	Introduce a Girl to Engineering & Research, high school female students lab tours organized by the SWE OSU chapter.
2018	consulting for Coolidge Elementary Fifth grade space garment project directed by Mr. Bartnick, Enid, OK. First place regional, participated in national competition.
2018	Lab visit and demonstrations, 5 students, Upward Bound program at OSU.
2018	Invited speaker ASME OSU chapter on smart elastomers.
2018	Invited speaker ISE (Inspiring Successful Engineers) OSU organization on career pathways to success.
2016	Workshop (4h, 20 students) on smart elastomers, Upward Bound program OSU.
2016	Invited panel member in OSU Society of Women Engineers High School day.
2016	Invited speaker WISE (Women In Science and Engineering) OSU.
2016	Lab visits with OSU Scholar's Day CEAT tours.
2014	Judge, summer undergraduate poster session, at the University of Texas, El Paso (COURI program).
2013	Invited panel member, workshop for Ph.D. students Doctoriales (France), Research abroad and international postdoctoral fellowships.

Research Grants

2023-2028	CAREER: Dissipation mechanisms and damping in smart elastomers with inter-molecular organization, National Science Foundation CAREER award 2238035 PI \$580,651
2023-2024	Biomechanical models to prevent falls during pregnancy American Association of University Women (AAUW) PI \$35,000
2020-2023	A smart skin to treat and prevent pressure ulcers, Oklahoma Center for Advanced Science and Technology Health Program PI \$134,782
2018-2020	Viscoelastic Poisson's ratio of webs Web Handling Research Center OSU PI \$17,660

- 2019 A tabletop cooling tower learning environment using a peristaltic pump
ASHRAE Undergraduate Program Equipment Grant
co-PI (50%) \$5,000
- 2018-2019 Mitigating posture changes and risks of falling in standing pregnant workers
Southwest Center for Occupational and Environmental Health - UT Health School
of Health, NIOSH
PI \$20,000
- 2017-2021 Viscoelastic winding models and predicting MD curl
Web Handling Research Center OSU
co-PI (20%) \$24,000
- 2017-2019 Elastic and viscoelastic winding model validation for predicting web caliper and
length in a roll
Web Handling Research Center OSU
co-PI (10%) \$10,320

Publications and Communications

Peer-reviewed Articles

16. Impact of winding on nanoimprinted surfaces in roll-to-roll nanoimprint lithography, M. Jambhapuram, J.K. Good, A. Azoug, **2022**, *Polymer Engineering and Science*, 62(8):2657-2667.
15. Highly tunable actuation and mechanical properties of 4D-printed nematic liquid crystal elastomers, Z. Siddiqui, J. Smay, A. Azoug, **2022**, *Mechanics of Materials*, 170:104329.
14. Machine Learning based Inverse Modeling of Full-Field Strain Distribution for Mechanical Characterization of a Linear Elastic and Heterogeneous Membrane, Y. Zhang, L. Guo, C.J.A. Brousse, Ch-H. Lee, A. Azoug, H. Lu, S. Wang, **2022**, *Mechanics of Materials*, 165:104134.
13. Footwear effect on postural strategy and stability during quiet standing, J. Hausselle, A.G. Haddox, J. Kasitz, A. Azoug, **2021**, *International Biomechanics*, 8(1):63-74.
12. Finite element investigation of lamination-induced curl due to residual stresses, M. Jambhapuram, J.K. Good, A. Azoug, **2021**, *Forces in Mechanics*, 4:100034.
11. Viscoelastic web curl due to storage in wound rolls, S. Pan, A. Azoug, J.K. Good, **2020**, *TAPPI Journal*, July.
10. Changes in segmental mass and inertia during pregnancy: A musculoskeletal model of the pregnant woman, A.G. Haddox, J. Hausselle, A. Azoug, **2020**, *Gait & Posture*, 76:389-395.
9. Micromechanical models for the stiffness and strength of UHMWPE microfibrils, H. Dong, Z. Wang, A. Azoug, T. O'Connor, M. Robbins, T.D. Nguyen, **2018**, *Journal of the Mechanics and Physics of Solids*, 116:70-98.
8. Viscoelasticity of the polydomain-monodomain transition in liquid crystal elastomers, A. Azoug, V. Vasconcellos, J. Dooling, M. Saed, C. Yakacki, T.D. Nguyen, **2016**, *Polymer*, 98:165-171.
7. Molecular origin of the influence of temperature on the loss factor of solid propellants, A. Azoug, R. Nevière, A. Constantinescu, **2015**, *Propellants, Explosives, Pyrotechnics*, 40:369-378.
6. Investigation of the microstructure in highly-filled elastomers through low-resolution NMR, A. Azoug, A. Constantinescu, R. Nevière, G. Jacob, **2015**, *Fuel*, 148:39-47.
5. Influence of fillers and bonding agents on the viscoelasticity of highly-filled elastomers, A. Azoug, R. Nevière, R.-M. Pradeilles-Duval, A. Constantinescu, **2014** *J. Applied Polymer Science*, 131(16):40664.

4. Influence of cross-linking and plasticizing on the viscoelasticity of highly-filled elastomers, A. Azoug, R. Nevière, R.-M. Pradeilles-Duval, A. Constantinescu, **2014** *J. Applied Polymer Science*, 131(12):40392.
3. Influence of orthogonal prestrain on the viscoelastic behaviour of highly-filled elastomers, A. Azoug, A. Thorin, R. Nevière, R.-M. Pradeilles-Duval, A. Constantinescu, **2013**, *Polymer Testing*, 32(2):375-384.
2. Effect of the sol fraction and hydrostatic deformation on the viscoelastic behaviour of prestrained highly-filled elastomers, A. Azoug, A. Constantinescu, R. M. Pradeilles-Duval, M. F. Vallat, R. Nevière and B. Haidar, **2013**, *J. Applied Polymer Science*, 127:1772-1780.
1. Influence of prestrain on mechanical properties of highly-filled elastomers: Measurements and modeling, A. Thorin, A. Azoug, A. Constantinescu, **2012**, *Polymer Testing*, 31(8):978-986.

Invited Talks

7. A. Azoug, **2022**, Mechanics of Smart and Soft Material Lab, *Women Faculty Council Research Symposium*, April 20, Stillwater, OK. (poster)
6. A. Azoug, T. Estrada, O. Mallet, J. Perez, L. Rezaei, Z. Siddiqui, T. Zoll, **2020**, Heterogeneous orientation in liquid crystal elastomers, Southern Methodist University, *Department of Mechanical Engineering Seminar*, Nov. 13, Dallas, TX (online).
5. A. Haddox, J. Kasitz, O. Mallet, J. Hausselle, A. Azoug, **2019**, Posture changes during pregnancy: Mitigating the risk of falling of pregnant women, *NIOSH Education and Research Pilot Project Research Symposium, UTHealth School of Public Health, Houston, TX*.
4. A. Azoug, **2018**, Dissipations in liquid crystal elastomers, University of Oklahoma, *Department of Aerospace and Mechanical Engineering Graduate Seminar*, Norman, OK.
3. A. Azoug, **2017**, Phase transitions and viscoelasticity in liquid crystal elastomers, University of Tulsa, *Department of Mechanical Engineering Graduate Seminar*, Tulsa, OK.
2. A. Azoug, **2017**, Phase transitions and viscoelasticity in liquid crystal elastomers, Oklahoma State University, *CEAT Research Seminar Series*, Stillwater, OK.
1. A. Azoug, R. Nevière, **2010**, Molecular mobility in solid propellants, *9th Research Conferences*, Le Bouchet, Vert-Le-Petit, France.

Conference Presentations

* = national and international conferences.

2023

63. L. Rezaei, A. Haddox, N. Aziz, G. Scalet, M. Peigney, A. Azoug, March 24 2023, **Modeling Nematic Liquid Crystal Elastomers in compression**, *5th MAE Graduate Research Symposium*, Stillwater. (presentation)
62. N. Aziz, A. Azoug, March 24 2023, **Rheological and viscoelastic properties of liquid crystal elastomers during UV curing**, *5th MAE Graduate Research Symposium*, Stillwater. (poster)
61. A. Haddox, A. Azoug, March 24 2023, **A smart skin to treat and prevent pressure ulcers**, *5th MAE Graduate Research Symposium*, Stillwater. (poster)

2022

60. * I. Borunda, K. Marchetta, J. Hausselle, A. Azoug, October 2022, **Influence of obesity on biomechanics models and simulations**, *National Diversity in STEM Conference, Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS)*, San Juan, Puerto Rico, USA. (poster)

59. * L. Rezaei, A. Haddox, N. Aziz, A. Fau, G. Scalet, M. Peigney, A. Azoug, October 2022, **Modeling Nematic Liquid Crystal Elastomers in Compression**, *Society of Engineering Sciences Annual Conference*, College Station, TX. (presentation)
58. * N. Aziz, A. Azoug, September 2022, **Rheological and Viscoelastic Properties of Liquid Crystal Elastomers during Photocuring**, *12th International Conference on Mechanics of Time-Dependent Materials, MTDM*, Dallas, TX. (presentation)
57. * A. Haddox, L. Rezaei, A. Azoug, September 2022, **Viscoelasticity and Soft Elasticity of Liquid Crystal Elastomers in Compression**, *12th International Conference on Mechanics of Time-Dependent Materials, MTDM*, Dallas, TX. (presentation)
56. * L. Rezaei, G. Scalet, M. Peigney, A. Azoug, September 2022, **Coupling between Viscoelasticity and Soft Elasticity in Nematic Liquid Crystal Elastomers**, *12th International Conference on Mechanics of Time-Dependent Materials, MTDM*, Dallas, TX. (presentation)
55. N. Aziz, Z. Siddiqui, A. Azoug, March 30 2022, **4D-Printed Liquid Crystal Elastomer Hinges for Soft Robotics Applications**, *4th MAE Graduate Research Symposium*, Stillwater. (poster)
54. L. Rezaei, G. Scalet, M. Peigney, A. Azoug, March 30 2022, **Modeling Liquid Crystal Elastomers**, *4th MAE Graduate Research Symposium*, Stillwater. (presentation)
53. A. Haddox, A. Azoug, March 30 2022, **A smart skin to treat and prevent pressure ulcers**, *4th MAE Graduate Research Symposium*, Stillwater. (poster)

2020-2021 (COVID)

52. K. Marchetta, J. Hausselle, A. Azoug, April 19-30 2021, **Influence of obesity on biomechanics models**, *Wentz Research Scholars Symposium*, online. (poster)
51. L. Rezaei, J. Perez, G. Scalet, M. Peigney, A. Azoug, April 2021, **Modeling the viscoelastic soft elasticity of liquid crystal elastomers**, *40th Oklahoma AIAA/ASME Symposium*, online. (presentation)
50. Z. Siddiqui, J. Smay, A. Azoug, April 2021, **Structure-property relationships in 4D-printed liquid crystal elastomers**, *40th Oklahoma AIAA/ASME Symposium*, online. (presentation)
49. * A. Azoug and J. Hausselle, February 13-16 2021, **Effects of pregnancy-related inertial parameters on the risk of falling**, *Orthopaedic Research Society Annual Meeting*, online. (poster)
48. * L. Ippagunta, A.G. Haddox, J. Kasitz, K. Marchetta, J. Hausselle, A. Azoug, February 13-16 2021, **Optimal parameters to quantify pregnancy and footwear effects on postural stability**, *Orthopaedic Research Society Annual Meeting*, online. (poster)
47. * A.G. Haddox, J. Kasitz, K. Marchetta, J. Hausselle, A. Azoug, 2020, **Posture Changes During Pregnancy: Influence of Footwear on the Risk of Falling of Pregnant Women**, *IMECE International Mechanical Engineering Congress & Exposition*, online. (poster)
46. * J. Kasitz, A.G. Haddox, K. Marchetta, J. Hausselle, A. Azoug, 2020, **Influence of Pregnancy and Footwear on Lower-Back Muscle Activity During Quiet Standing**, *IMECE International Mechanical Engineering Congress & Exposition*, online. (poster)
45. * L. Rezaei, J. Perez, G. Scalet, M. Peigney, A. Azoug, October 29 - 31 2020, **Modeling a liquid crystal elastomer smart skin to prevent pressure ulcers**, *8th Annual Black Doctoral Network Conference*, online. (poster)
44. M. Jambhapuram, J.K. Good, A. Azoug, 2020, **Development of Lamination models in Roll-to-Roll Manufacturing**, *3rd Graduate Research Symposium, Mechanical and Aerospace Engineering, Oklahoma State University, Stillwater, OK*. (poster)
43. A.G. Haddox, J. Kasitz, K. Marchetta, J. Hausselle, A. Azoug, April 2020, **Posture changes during pregnancy: influence of footwear on the risk of falling of pregnant women**, *Wentz Research Scholars Symposium*, Stillwater, OK. (presentation)

2019

42. * S. Ray, A. Azoug, J. Hausselle, 2019, **Testing coiled nylon threads as artificial muscles for exoskeletons**, *Annual Biomedical Research Conference for Minority Students (ABRCMS)*, November 13-16, 2019. (poster)
41. S. Ray, A. Azoug, J. Hausselle, 2019, **Testing coiled nylon threads as artificial muscles for exoskeletons**, *Louis Stokes Midwest Regional Center of Excellence Conference*, October 25-27, 2019. (poster)
40. * T.Estrada, O. Mallet, K. Harmon, A. Azoug, 2019, **Heterogeneous orientations in Liquid Crystal Elastomers**, *56th Society of Engineering Sciences Technical Meeting*, Saint Louis, MO.(presentation)
39. * S. Ray, A. Azoug, and J. Hausselle, 2019, **Testing coiled nylon threads as artificial muscles for exoskeletons**, *American Indian Science and Engineering Society (AISES) National Conference*. (poster)
38. * X. Chen, M. Jambhapuram, R. Markum, S. Qi, J.W. Wallace, A. Azoug, D.A. Lucca and J.K. Good, 2019, **Challenges for Scaling UV-NIL to Production Speeds using Roll-to-Roll Manufacturing**, *Nanoimprint and Nanoprint Technologies*, Boston, MA. (presentation)
37. J. Kasitz, A. Haddox, J. Hausselle, A. Azoug, 2019, **Lower back muscle fatigue during pregnancy**, *OK-WISE*, Tulsa, OK. (poster)
36. A. Haddox, J. Kasitz, K. Marchetta, J. Hausselle, A. Azoug, 2019, **Posture changes during pregnancy: influence of footwear on the risk of falling of pregnant women**, *OK-WISE*, Tulsa, OK. (poster)
35. * C. Mollamahmutoglu, A. Gajjala, R. Markum, A. Azoug, J.K. Good, 2019, **Web length creep in wound roll**, *Proceedings of the fifteenth International Conference on Web Handling, IWEB2019*, Stillwater, OK. (paper, presentation)
34. * S. Pan, A. Azoug, J.K. Good, 2019, **Curl analysis in winding**, *Proceedings of the fifteenth International Conference on Web Handling, IWEB2019*, Stillwater, OK. (paper, presentation)
33. J.W. Wallace, A. Azoug, April 2019, **Dissipations in nematic elastomers at the nematic-isotropic transitions**, *39th Oklahoma AIAA/ASME Symposium*, Tulsa, OK. (presentation)
32. A. Haddox, J. Kasitz, O. Mallet. J. Hausselle, A. Azoug, April 2019, **Posture changes during pregnancy: Influence of footwear on the risk of falling of pregnant women**, *39th Oklahoma AIAA/ASME Symposium*, Tulsa, OK. (presentation)

2018

31. * A. Azoug, J. Wallace, November 2018, **Dissipations in Liquid Crystal Elastomers at the Nematic-Isotropic Transition**, *IMECE International Mechanical Engineering Congress & Exposition*, Pittsburgh, PA, USA. (presentation)
30. I. Hernandez-Moreno, A. Azoug, November 2018, **Stress relaxation of liquid crystal elastomers at the polydomain-monodomain transition**, *24th OK-LSAMP Research Symposium*, Stillwater, OK. (poster)
29. A. Haddox, K. Marchetta, J. Hausselle, A. Azoug, November 2018, **Posture changes during pregnancy: Influence of footwear on the risk of falling of pregnant women**, *2nd MAE Graduate Research Symposium*, Stillwater, OK. (poster)
28. C. Howard, G. Johnson, J. Smay, A. Azoug, November 2018, **3D printing liquid crystal elastomers**, *2nd MAE Graduate Research Symposium*, Stillwater, OK. (poster)
27. I. Hernandez-Moreno, A. Azoug, November 2018, **Stress relaxation of liquid crystal elastomers at the polydomain-monodomain transition**, *2nd MAE Graduate Research Symposium*, Stillwater, OK. (poster)
26. J. Wallace, A. Azoug, November 2018, **On the soft viscoelasticity of liquid crystal elastomers**, *2nd MAE Graduate Research Symposium*, Stillwater, OK. (poster)

25. K. Harmon, J. Hausselle, A. Azoug, November 2018, **On mitigating diabetic ulcers with smart elastomers**, *2nd MAE Graduate Research Symposium, Stillwater, OK.* (Presentation)
24. T. Estrada, A. Azoug, November 2018, **Local liquid crystal orientation in liquid crystal elastomers**, *2nd MAE Graduate Research Symposium, Stillwater, OK.* (Presentation)
23. K. Harmon, J. Hausselle, A. Azoug, April 2018, **Radial Actuation in Liquid Crystal Elastomers for Biomedical Applications**, *38th Oklahoma AIAA/ASME Symposium, Edmond, OK.* (Presentation)
22. T. Estrada, A. Azoug, April 2018, **Low-Cost DIC Sensitivity to Speckle Pattern**, *38th Oklahoma AIAA/ASME Symposium, Edmond, OK.* (Presentation)
21. * T. Ruszkowski, A. Azoug, April 2018, **Self-folding of smart soft materials**, *NCUR 2018 National Conference on Undergraduate Research, Edmond, OK.* (Poster)
20. * K. Moseni, A. Azoug, April 2018, **Synthesis of High-Performance Artificial Muscle Fibers from Liquid-Crystal Elastomers**, *NCUR 2018 National Conference on Undergraduate Research, Edmond, OK.* (Poster)
19. T. Ruszkowski, A. Azoug, January 2018, **Self-folding of Smart Soft Materials**, *2018 WE local Undergraduate Collegiate Competition, Tulsa, OK.* (Presentation and poster)
18. K. Harmon, J. Hausselle, A. Azoug, January 2018, **Radial Actuation of Liquid Crystal Elastomers**, *2018 WE local Graduate Collegiate Competition, Tulsa, OK.*(Presentation and poster)

2017 and before

17. * A. Azoug, November 2017, **Viscoelasticity and dissipations in liquid crystal elastomers**, *IMECE International Mechanical Engineering Congress & Exposition, Tampa, FL, USA.* (Presentation)
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