Aurélie Azoug

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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. Minor in Materials and Technological Innovation.

Professional Experience

Since 2016	**Assistant Professor**, School of Mechanical and Aerospace Engineering, Oklahoma State University, Stillwater. *MS^2M 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)

- **Undergraduate**
  - **Engineering Analysis and Methods** OSU - MAE 3013, Fa2016 (130), Sp2018 (100), Sp2019 (98), Sp2020 (54), Fall 2021 (137).
    - 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 a set of lecture notes to fill out to promote active learning during lectures.
  - **Finite Elements Modeling** ENSTA (France), 2009, Teaching assistant.
- **Graduate**
  - **Viscoelasticity** OSU - MAE 5593, Fa2018 (8), Fa2020 (9).
    - ∗ 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.
    - ∗ 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.
  - Abby Haddox (OSU 2021-): Influence of pressure on LCEs.
  - Nissrine Aziz (OSU 2021-): 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 CEAT Undergraduate Researchers, OSU Wentz: Funded Wentz Research Grant)
  - Iris Borunda (2022-): Musculoskeletal modeling and obesity
  - 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 Ruszkowski (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.

◦ **Committee member**

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

Honors and Awards

- HEMI Postdoctoral Development Award (2014), Hopkins Extreme Materials Institute, $5,000 funding to write a grant proposal.
- Scientific International Volunteer program (2011-2012), funding TOTAL, S.A., 18 months postdoctoral fellow at University of California Berkeley.
- Best 50 dissertations in ParisTech Universities (2011).
- DGA-CNRS fellowship (2007-2010), funding DGA (French Army Ministry), 3 years Ph.D.

Student Awards

- *Abby Haddox* Walt Kolb Graduate Studies Fellowship, Graduate College Oklahoma State University, 2021.
- *Manogna Jambhapuram* Best poster presentation, M. Jambhapuram, J.K. Good, A. Azoug, 2020, Development of Lamination models in roll-to-roll manufacturing, 3^{rd} Graduate Research Symposium MAE, Stillwater.
- *Jaden Kasitz* Poster competition finalist, J. Kasitz, A. Haddox, J. Hausselle, A. Azoug, 2019, Lower back muscle fatigue during pregnancy, OK-WISE, Tulsa, OK.
- *Shawn Ray* Student Travel Award, S. Ray, A. Azoug, and J. Hausselle, 2019, Testing coiled nylon threads as artificial muscles for exoskeletons. Louis Stokes Midwest Regional Center of Excellence Conference, Indianapolis, IN.
- *Shawn Ray* Student Travel Award, S. Ray, A. Azoug, and J. Hausselle, 2019, Testing coiled nylon threads as artificial muscles for exoskeletons. AISES National Conference, Milwaukee,WI.
- *Katelynn Harmon* 1^{st} place of the Collegiate Graduate Research Competition from 2018 WE local (SWE).
- *Katelynn Harmon* Travel award, 2018 WE local (SWE).

- *Victoria Ruszkowski* 1st place of the Collegiate Undergraduate Research Competition from 2018 WE local (SWE).
- *Victoria Ruszkowski* Travel award, 2018 WE local (SWE).
- *Valeria Vasconcellos* Student travel award (2015), Society of Engineering Science 52nd Annual Technical Meeting.

Scholarly Activities

- *Journal peer-reviewer:* 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.
- *Conference reviewer* 2017 International Ground Source Heat Pump Association Conference.
- *Panel reviewer:* 2017 National Defense Science and Engineering Graduate (NDSEG) Fellowship digital evaluation, American Society for Engineering Education (ASEE) and Department of Defense (DoD).
- *Conferences:*
  Organization committee
  - 2022, Sept. 4-9, International Conference on Mechanics of Time-dependent Materials, Dallas, TX, USA.
  - 2021 AIAA/ASME 40th Oklahoma Symposium, Stillwater, OK. (chair)
  - 2019 International Conference on Web Handling, Stillwater, OK

  Session chair
  - 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.

Outreach Activities

- October, 22, 2019, Women in Science Conference, NSF EPSCOR Outreach for 6th to 12th grade students, Science Museum Oklahoma City.
- May 14, 2019, National Lab Day, "The secret behind magic tricks: smart materials!".
- April 15, 2019, Introduce a Girl to Engineering & Research, high school female students lab tours organized by the SWE OSU chapter.
- Nov. 2018, consulting for the Coolidge Elementary Fifth grade space garment project directed by Mr. Bartnick, Enid, OK. First place regional, participated to national competition.
- July 12, 2018 Lab visit and demonstrations, 5 students, Upward Bound program at OSU.
- March 13, 2018 Invited speaker ASME OSU chapter on smart elastomers.
- March 11, 2018 Invited speaker ISE (Inspiring Successful Engineers) OSU organization on career pathways to success.
- Dec. 10, 2016 Workshop ($\frac{1}{2}$ day, 20 students) on smart elastomers in the Upward Bound program at OSU (program that mentors high school students on their way to college).
- Nov. 18, 2016 Invited panel member in Society of Women Engineers high school day at OSU.

- Oct 30, 2016 Invited speaker WISE (Women In Science and Engineering) OSU organization.
- Oct 24, 2016 Lab visits with OSU Scholar's Day CEAT tours.
- Aug. 2014 Judge, summer undergraduate poster session, at the University of Texas, El Paso (COURI program).
- Sept. 2013 Invited panel member, workshop for Ph.D. students Doctoriales (France), Research abroad and international postdoctoral fellowships.

Publications and Communications

Peer-reviewed Articles

16. Impact of winding on nanoimprinted surfaces in roll-to-roll nanoimprint lithography, M. Jambhapuram, JK. Good, A. Azoug, **2022**, *under review Polymer Engineering and Science*.
15. Highly tunable actuation and mechanical properties of 4D-printed nematic liquid crystal elastomers, Z. Siddiqui, J. Smay, A. Azoug, **2022**, *under review Mechanics of Materials*.
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 macrofibrils, 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, Guy 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

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. University of Oklahoma, *Department of Aerospace and Mechanical Engineering Graduate Seminar*, Oct. 03 **2018**, Dissipations in liquid crystal elastomers, Norman, OK.
3. University of Tulsa, *Department of Mechanical Engineering Graduate Seminar*, Oct. 20 **2017**, Phase transitions and viscoelasticity in liquid crystal elastomers, Tulsa, OK.
2. Oklahoma State University, *CEAT Research Seminar Series*, April **2017**, Phase transitions and viscoelasticity in liquid crystal elastomers, Stillwater, OK.
1. A. Azoug, R. Nevière, *9th Research Conferences*, **2010**, Molecular mobility in solid propellants, Le Bouchet, Vert-Le-Petit, France.

Conference Articles

** = national and international conferences.*

2. * A. Gajjalla, R. Markum, A. Azoug, J.K. Good, **2019**, Web length creep in wound roll, *IWEB2019, Stillwater, OK.* (presentation)
1. * S. Pan, A. Azoug, J.K. Good, **2019**, Curl analysis in winding, *IWEB2019, Stillwater, OK.* (presentation)

Conference Presentations

** = national and international conferences.*

50. K. Marchetta, J. Hausselle, A. Azoug, April 19-30 **2021**, Influence of obesity on biomechanics models, *Wentz Research Scholars Symposium*, online. (poster)
49. 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)
48. Z. Siddiqui, J. Smay, A. Azoug, April **2021**, Structure-property relationships in 4D-printed liquid crystal elastomers, *40th Oklahoma AIAA/ASME Symposium*, online. (presentation)
47. * 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)
46. * 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)
45. * 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)
44. * 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)

43. * 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)
42. 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)
41. 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)
40. 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)
39. 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)
38. * 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)
37. * 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)
36. * 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)
35. J. Kasitz, A. Haddox, J. Hausselle, A. Azoug, **2019**, Lower back muscle fatigue during pregnancy, *OK-WISE, Tulsa, OK.* (poster)
34. 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)
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)
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)
17. * A. Azoug, November **2017**, Viscoelasticity and dissipations in liquid crystal elastomers, *IMECE International Mechanical Engineering Congress & Exposition, Tampa, FL, USA.* (Presentation)
16. * H. Dong, Z. Wang, A. Azoug, T. O'Connor, M. Robbins, and T. D. Nguyen, April **2017**, Micromechanical models for the stiffness and strength of UHMWPE macrofibrils, *MACH Conference, Annapolis, MD, USA.* (Presentation)
15. H. Dong, Z. Wang, A. Azoug, T. O'Connor, M. Robbins, and T. D. Nguyen, October **2016**, Micromechanical model of the plasticity and failure behavior of highly oriented polyethylene fibers, *4th annual MEDE Fall Meeting, Towson, MD, USA.* (Poster)
14. * A. Azoug, T.D. Nguyen, November **2015**, Micromechanical modeling of ultra high molecular weight polyethylene fibers, *IMECE International Mechanical Engineering Congress & Exposition, Houston, TX, USA.* (Presentation)
13. * A. Azoug, M. Saed, C. Yakacki, T.D. Nguyen, November **2015**, Viscoelasticity of the Polydomain to Monodomain Transition in Liquid Crystal Elastomers, *IMECE International Mechanical Engineering Congress & Exposition, Houston, TX, USA.* (Presentation)
12. * A. Azoug, M. Saed, C. Yakacki, T.D. Nguyen, October **2015**, Time-temperature superposition in liquid crystal elastomers, *Society of Engineering Science 52nd Annual Technical Meeting, TEXAS A&M, TX, USA.* (Keynote)
11. * V. Vasconcellos, A. Azoug, M. Saed, C. Yakacki, T.D. Nguyen, October **2015**, Viscoelasticity of the polydomain-monodomain transition in liquid crystal elastomers, *Society of Engineering Science 52nd Annual Technical Meeting, TEXAS A&M, TX, USA.*(Poster)
10. A. Azoug, T.D. Nguyen, **2015**, Micromechanical modeling of Ultra High Molecular Weight PolyEthylene fibers, *4th annual MEDE Fall Meeting, Towson, MD, USA.* (Poster)
9. * A. Azoug, T.D. Nguyen, April **2015**, Micromechanical modeling of ultra high molecular weight polyethylene fibers, *MACH Conference, Annapolis, MD, USA.* (Presentation)
8. A. Azoug, T.D. Nguyen, **2014**, Micromechanical modeling of Ultra High Molecular Weight PolyEthylene fibers, *3rd annual MEDE Fall Meeting, Towson, MD, USA.* (Poster)
7. * A. Constantinescu, A. Azoug, R. Neviere, **2014**, Prestrained DMA for highly filled elas-

tomers, *9th International Conference on Mechanics of Time Dependent Materials, Montreal, Canada.* (Presentation)

6. * S. Govindjee, A. Azoug, **2013**, Investigation of the non-linear couplings in finite deformation thermo-elasticity: statistical mechanics and Monte Carlo methods, *12th U.S. National Congress on Computational Mechanics USNCCM12, Raleigh, USA.* (Keynote)
5. D. Jalocha, A. Azoug, A. Constantinescu, R. Neviere, **2013**, On the identification of nonlinear behavior of highly filled elastomers, *11eme Colloque National en Calcul des Structures, Giens, France.* (Presentation)
4. * S. Govindjee, S. Mistry, A. Azoug, **2012**, Application of statistical mechanics in thermomechanics and its effects on free-energy structure, *8th European Solid Mechanics Conference, Graz, Austria.* (Presentation)
3. A. Azoug, A. Constantinescu, R.M. Pradeilles-Duval, R. Nevière, **2010**, Micromechanisms and macroscopic behaviour of a highly-filled elastomer, *ESPCI ParisTech - Michelin Workshop on Multi-scale Dynamics of Structured Polymeric Materials, Paris, France.* (Poster)
2. * A. Azoug, R.M. Pradeilles-Duval, A. Constantinescu, R. Nevière, **2010**, Dynamic mechanical analysis of prestrained highly-filled elastomers, *Constitutive Models for Rubber VI, Dresden, Germany.* (Poster)
1. * A. Azoug, R.M. Pradeilles-Duval, A.Constantinescu, R.Nevière, **2009**, Analyse du comportement viscoélastique des élastomères fortement chargés, *in XIXème Congrès Français de Mécanique, Marseille, France.* (Presentation)