

Biographical Sketch:

Y. Charles Lu, PhD, PE.

PROFESSIONAL PREPARATION

The University of Western Ontario Mechanical and Materials Engineering Ph.D. 2000.

APPOINTMENTS

2015-present H.E. Katterjohn Professor in Engineering, University of Kentucky
2013 spring, Visiting Professor, Case Western Reserve University, OH
06-08 of 2012 Visiting Faculty, University of Dayton Research Institute, University of Dayton, OH
06-08 of 2010 Visiting Scientist, Air Force Research Laboratory, Wright-Patterson AFB
05-08 of 2009 Research Scientist, Air Force Research Laboratory, Wright-Patterson AFB
05-08 of 2008 Research Scientist, Air Force Research Laboratory, Wright-Patterson AFB
06-08 of 2007 Visiting Researcher, Air Force Research Laboratory, Wright-Patterson AFB
2006-2014, Assistant/Associate Professor, Dept. of Mechanical Engineering, University of Kentucky
2001-2006, Sr. FE Analysis Engineer, Sr. Development Engineer, Dana Corporation
2000-2001 Research Scientist, Akron Rubber Development Laboratory, OH.

BOOKS EDITED (7 TOTAL)

1. Carbon Nanotube Turfs: A Novel Approach Towards Characterization, J. Joseph and Y.C. Lu, (252 pages) Scholars' Press, Saarbrücken, Germany, 2015.
2. Design of Automotive Composites, Edited by Lu, YC and Pilla, S., published by Society of Automotive Engineers International, 2014.
3. CAE Design and Failure Analysis of Automotive Composites, Edited by Lu, YC and Pilla, S., published by Society of Automotive Engineers International, 2014.
4. Biocomposites for Automotive Applications, Edited by Pilla, S. and Lu, YC, published by Society of Automotive Engineers International, 2015.
5. Nanocomposites for Automotive Applications, Edited by Lu, YC and Pilla, S., published by Society of Automotive Engineers International, appear in 2015.

RECENT PUBLICATIONS (>150 IN JOURNALS, PROCEEDINGS, AND BOOKS)

1. S. S. Pulla, M. Souri, H.E. Karaca, Y.C. Lu*, "Numerical design of shape memory polymer composites reinforced with temperature responsive SMA particles", Composites, B. (96 (2016) 287-294.
2. Y.C. Lu*, R. Wheeler, G. P. Tandon, "A Methodology for In-Situ Micro-Compression Testing of Fiber Composites", International Journal of Materials Research, 107 (2016) 1- 4
3. Y. C. Lu*, Q. Zhang, J. Baur, L. Dai, "On the rate-dependence of mechanical properties of aligned carbon nanotube arrays", Journal of Mechanics of Time-Dependent Materials, 19:229–242 (2015).
4. C.S. Jarali, S.R. Basavaraddi, B. Kiefer, S.C. Pilli, and Y.C. Lu, "Modelling Effective Elastic Properties of Ultrastrong, Stiff and Multifunctional CNT Nanocomposites Due to Agglomeration of Circular Straight CNT Fibers in Polymer Composites", ASME Journal of Applied Mechanics, Vol. 81 / 021010-1, (2014)
5. C.S. Jarali, S.F. Patil, S.C. Pilli, and Y.C. Lu, Modelling the Effective Elastic Properties of Nanocomposites with Circular Straight CNT Fibers Reinforced in Epoxy Matrix, Journal of Materials Science 48 (8), 3160-3172 (2013).
6. Y. Fan, Y.C. Lu, J. Lou and D.M. Shinozaki, Structure Orientation and Micromechanical Characterization of Platelet-Reinforced Polyethylene Nanocomposites, Journal of Applied Polymer Sciences, 127 (2), 1387-1393 (2013).

7. Y.C. Lu*, J. Joseph, Q. Zhang, L. Dai, J. Baur., Large-displacement indentation test of vertically aligned carbon nanotube arrays, *Experimental Mechanics*, Vol. 52, No.9, (2012).
8. Q. Zhang, Y.C. Lu*, F. Du., L. Dai, F. Bauer., D.C. Foster, Viscoelastic creep of vertically aligned carbon nanotubes, *Journal of Physics, D: Applied Physics*, 43 (2010) 315401.
9. J. Joseph and Y.C. Lu*, "Design of Multi-Walled Carbon Nanotube Arrays Using Structural Shell Modeling", *International Journal of Computational Materials Science and Engineering*, Vol. 3, No. 4 (2014) 1450021.
10. J. Joseph and Y.C. Lu*, "Finite Element Modeling of Compressive Deformation of Super-long Vertically Aligned Carbon Nanotubes", *Computers, Materials & Continua*, Vol. 42, No. 1 (2014).

SYNERGISTIC ACTIVITIES

Service to institution and scientific community

- Instructor, Workshop on “Engineering Design for K-12 Science Teachers”. The 5-day workshop had been successfully offered to 43 teachers from 30 school districts in western Kentucky region over the last two years (2014, 2015)
- Faculty Advisor to UK-Paducah SAE Baja Vehicle Design Team (2006-present)
- Co-Organizer of Track on Mechanics of Time-Dependent Materials and Processes in Conventional and Multifunctional Materials, 2010-2013, SEM Applied Mechanics Conference; Organizer/Chair of Section on Automotive Composites, SAE World Congress, 2008-2017.
- Invited Panelist for the US National Science Foundation (2011, 2013, 2016) and the Latvian Council of Science (2012, 2013)
- Associate Editor of SAE International Journal of Materials and Manufacturing and Technical Reviewer for over 40 technical journals.

Professional recognitions

- 2015 SAE International Forest R McFarland Award
- 2011 Wethington Research Award, University of Kentucky
- 2011 Paducah Outstanding Faculty Award (Research), University of Kentucky
- 2010 SAE International Ralph R. Teetor Educational Award
- 2009 Outstanding Mechanical Engineering Faculty Award, University of Kentucky
- 2009 Paducah Outstanding Faculty Award (Teaching), University of Kentucky
- 2008, 2009, Air Force Summer Faculty Fellow
- 2002-2006 Dana Technical Achievement Awards

Scientific and professional societies

- Senior member of American Institute of Aeronautics and Astronautics (AIAA), member of SAE, SEM, ASEE, ASME, Associate member of Rubber Division of ACS.

COLLABORATORS & OTHER AFFILIATIONS

(i) Collaborators

Dr. Michael Meador of NASA, Dr. Evan Pineda of NASA, Dr. Jeff Baur of Air Force Research Laboratory, Dr. Greg Schoepner of Air Force Research Laboratory, Dr. G.P. Tandon of University of Dayton Research Institute, Prof. Liming Dai of Case Western Reserve University, Prof. Fuqian Yang of University of Kentucky, Prof. Y-T Cheng of University of Kentucky, Prof. Haluk Karaca of University of Kentucky, Dr. C. Jarali, National Aerospace Laboratories, India.

(ii) Graduate and Postdoctoral Advisors

Ph.D. and MEdSc. Advisor: Prof. Douglas M. Shinozaki, University of Western Ontario

(iii) Thesis Advisor and Postgraduate-Scholar Sponsor

Johnson Joseph (PhD), Spandana Pulla (PhD), Mohammed Souri (PhD), Colton Roach (MS), Jared Fulcher (MS), Spandana Pulla (MS), David Jones (MS), Siva Kurapati (MS).