

Ying Lu, Ph.D., Engineer



Education/Training

Wayne State University:
Ph.D. in Biomedical Engineering

University of Michigan:
M.S. in Biology

University of Science and Technology of China:
B.S. in Biology

John Paul Stapp Award:
50th Stapp Car Crash Conference (2006)

Best Student Paper Award:
49th Stapp Car Crash Conference (2005)

New Investigator Recognition Award:
50th Annual Meeting of the Orthopedic Research Society (2004)

Ford Biomedical Engineering Graduate Fellowship:
Ford Motor Company (2001-2004)

Northwestern University Traffic Institute:
Traffic Accident Reconstruction Course

Mathematical Modeling: Bioengineering

Impact Biomechanics

Engineering Physiology

Specialties

Biomedical Analysis

Occupant Kinematics

Injury Causation

Low Speed Accidents

Recreational Injury

Sports Injury

General Engineering

Accident Reconstruction

Pedestrian Accidents

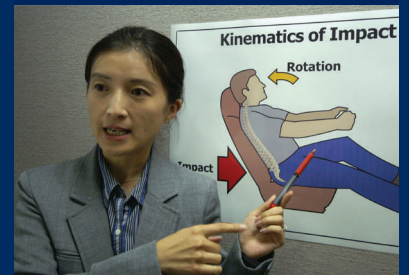
Bicycle Accidents

Slip/Trip/Fall

Product Design

Ergonomics

Human & Environment Interaction



BEC CONSULTING, LLC

3660 Hartsfield Rd.
Tallahassee, FL 32303
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Accident Reconstruction

Curriculum Vitae

Ying Lu, Ph.D., Consulting Engineer

(850) 558-3134 · ylu@becconsult.com

Biomedical engineer experienced in the fields of biomedical and biomechanical engineering, specifically applying the principles of injury tolerance and causation in various types of accidents including motor vehicular accidents, pedestrian accidents, slips and falls, industrial accidents such as human machinery interactions, and many others in different settings.

EDUCATION

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| 2006 | Doctor of Philosophy in Biomedical Engineering
Wayne State University, Detroit, MI |
| 2000 | Master of Science in Biology
University of Michigan, Ann Arbor, MI |
| 1998 | Bachelor of Science in Biology
University of Science and Technology of China, Hefei, China |

PROFESSIONAL EXPERIENCE

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| 2006 to present | BEC Consulting, LLC, Tallahassee, FL
(Formerly Benedict Engineering Company, Tallahassee, FL)
Consulting Engineer |
| 2001-2006 | Wayne State University Bioengineering Center
Research Assistant |

LICENSES, REGISTRATIONS, and CERTIFICATIONS

Certified Counter Balanced Forklift Operator

AWARDS

- John Paul Stapp Award, 50th Stapp Car Crash Conference (2006)
- Best Student Paper Award, 50th Stapp Car Crash Conference (2006)
- Best Student Paper Award, 49th Stapp Car Crash Conference (2005)
- New Investigator Recognition Award, 50th Annual Meeting of the Orthopedic Research Society (2004)
- Ford Biomedical Engineering Graduate Fellowship, Ford Motor Company (2001-2004)

PROFESSIONAL ASSOCIATIONS

- Society of Automotive Engineers (SAE)
- Biomedical Engineering Society
- American Standards for Testing of Materials (ASTM)
 - F30 Committee on Forensic Sciences
 - E34 Committee on Occupational Health and Safety

RELEVANT COURSEWORK/CONTINUING EDUCATION

July 2011	“ARAS 360 3D Computer Diagramming for Crash Reconstruction” ARAS 360 Technologies Inc., Tallahassee, FL
June 2011	“Safe Operation of Powered Industrial Truck” BEC Consulting, Tallahassee, FL
March 2008	“Accident Reconstruction” Northwestern University Center for Public Safety, Tallahassee, FL
March 2008	“Vehicle Crush Documentation – Use and Analysis of Total Station Survey Data” BEC Consulting, Tallahassee, FL
March 2008	“Evidence Inspection, Documentation, Analysis and Preservation” BEC Consulting, Tallahassee, FL
September 2007	“PhotoModeler – Vehicle Measurements” BEC Consulting, Tallahassee, FL
August 2007	“Human Factors, Perception and Reaction” BEC Consulting, Tallahassee, FL
July 2007	“Seat Belts in Accident Reconstruction” BEC Consulting, Tallahassee, FL
July 2007	“AirBag Blackbox and Blackbox Downloads” BEC Consulting, Tallahassee, FL
Fall 2003	“Tissue Biomechanics” Wayne State University, Detroit, MI
Winter 2003	“Musculoskeletal Biomechanics” Wayne State University, Detroit, MI
Fall 2002	“Biomedical Instrumentation” Wayne State University, Detroit, MI

- Winter 2002 “Mathematical Modeling: Bioengineering”
Wayne State University, Detroit, MI
- Fall 2001 “Impact Biomechanics”
Wayne State University, Detroit, MI
- Winter 2001 “Pathophysiology: Pain”
Wayne State University, Detroit, MI
- Fall 2000 “Engineering Physiology”
Wayne State University, Detroit, MI

PUBLICATIONS and PRESENTATIONS

- Lu Y, Chen C, Kallakuri S, Patwardhan A, Cavanaugh JM. Development of an in vivo method to investigate biomechanical and neurophysiological properties of spine facet joint capsules. *Er Spine J* 14(6):565-572, 2005.
- Lu Y, Chen C, Kallakuri S, Patwardhan A, Cavanaugh JM. Neurophysiological and biomechanical characterization of goat cervical facet joint capsules. *J Ortho Res* 23(4):779-787, 2005.
- Lu Y, Chen C, Kallakuri S, Patwardhan A, Cavanaugh JM. Neural response of cervical facet joint capsule to stretch: a study of whiplash pain mechanism. *Stapp Car Crash J.* 49:291-322, 2005 (John Paul Stapp Award, Best Student Paper Award).
- Lu Y. Neuroresponse of mechanoreceptors to strains in goat cervical facet joint capsule. Presentation in the 51st Annual Meeting of the Orthopaedic Research Society, Washington, DC, Feb 20-23, 2005.
- Lu Y. Neural response of cervical facet joint capsule to stretch: a study of whiplash pain mechanism. Presentation in the 49th Stapp Car Crash Conference, Washington, DC, Nov 9-11, 2005.
- Lu Y, Chen C, Kallakuri S, Patwardhan A, Cavanaugh JM: Neuroresponse of mechanoreceptors to strains in goat cervical facet joint capsule. 51st Annual Meeting of the Orthopaedic Research Society, paper # 277, Washington, DC, Feb 20-23, 2005.
- Singh A, Lu Y, Chen C, Cavanaugh JM. Mechanical properties of spinal nerve roots subjected to tension at different strain rates. *J Biomechanics* 39(9):1669-76, 2006.
- Singh A, Lu Y, Chen C, Cavanaugh JM. A new model of traumatic axonal injury to determine the effects of strain and displacement rates. *Stapp Car Crash J.* 50:601-23, 2006. (Best Student Paper Award).

- Chen C, Lu Y, Cavanaugh JM, Kallakuri S, Patwardhan A. Recording of neural activity from goat cervical facet joint capsule using custom-designed miniature electrodes. *Spine* 30(12):1367-1372, 2005.
- Chen C, Lu Y, Kallakuri S, Patwardhan A, Cavanaugh JM. Distribution of A-delta and C fiber units in cervical facet joint capsule and their response to stretch. *J Bone and Joint Surgery (Am)* 88(8):1807-16, 2006.
- Chen C, Lu Y, Cavanaugh JM, Kallakuri S, Patwardhan A. Neurophysiologic studies of cervical facet joint capsule – experimental setup and characterization of sensory receptors. 50th Annual Meeting of the Orthopaedic Research Society, poster # 331, San Francisco, CA, Mar 6-11, 2004.
- Cavanaugh JM, Lu Y, Chen C, Kallakuri S. Pain generation in lumbar and cervical facet joints. *J Bone and Joint Surgery (Am)*, 88 Suppl 1(pt 2):63-7, 2006.
- Cavanaugh JM, Chen C, Lu Y, Kallakuri S. Neural response to low and high rate cervical facet joint stretch. World Congress of Neck Pain. January, 20-22, 2008, Los Angeles CA.
- Kallakuri S, Singh A, Lu Y, Chen C, Patwardhan A, Cavanaugh JM. Tensile stretching of cervical facet joint capsule and related axonal changes. *Eur Spine J.* 2008 Apr;17(4):556-63.
- Azar NR, Kallakuri S, Chen C, Lu Y, Cavanaugh JM. Strain and load thresholds for cervical muscle recruitment in response to quasi-static tensile loading of the caprine C5-C6 facet joint capsule. *J Electromyography and Kinesiology.* 2009 Dec;19(6):e387-94.