CURRICULUM VITAE
OF
JU SUN

Department of Mechanical and Materials Engineering
College of Engineering and Computing
Florida International University

EDUCATION

- Ph.D., State University of New York at Stony Brook, Mechanical Engineering, Dec. 2002
- M.S., State University of New York at Stony Brook, Mechanical Engineering, Dec. 1999
- B.S., Beijing University of Technology, Thermal Energy Engineering, Jul. 1994

FULL-TIME ACADEMIC EXPERIENCE

- Florida International University, Teaching Professor, Mechanical Engineering, Aug. 2018 – Present
- Florida International University, Senior Instructor, Mechanical Engineering, Aug. 2012 – Jul. 2018
- Florida International University, Instructor, Mechanical Engineering, Jan. 2007 – Jul. 2012
- Florida International University, Visiting Instructor, Mechanical Engineering, Aug. 2004 – Dec. 2006
- The University of Texas Medical Branch, Postdoctoral Fellow/Researcher, Center for Biomedical Engineering, Jul. 2003 – Aug. 2004
- State University of New York at Stony Brook, Research Assistant, Mechanical Engineering, Aug. 1997 – Aug. 2002

NON-ACADEMIC EXPERIENCE

- MesoScribe Technologies, Inc., Senior Research Engineer, Sep. 2002 – Jun. 2003

EMPLOYMENT RECORD AT FIU

- Teaching Professor, Aug. 2018 – present
- Senior Instructor, Aug. 2012 – Jul. 2018
- Instructor, Jan. 2007 – Jul. 2012
- Visiting Instructor, Aug. 2004 – Dec. 2006

PROFESSIONAL HONORS, PRIZES, FELLOWSHIPS

- Oct. 2023 Faculty Senate Excellent in Teaching Award, FIU

- Oct. 2014 Faculty Senate Excellent in Teaching Award, FIU
- Nov. 2012 Faculty Council Award for Excellence in Teaching, College of Engineering and Computing, FIU
- Apr. 2017 Nomination to FIU Gateway Teaching Award
- Mar. 2007 Nomination to Dean's Award of Teaching, FIU

TEACHING

- Undergraduate Courses Taught:
  - EGN 3311 Statics
  - EGN 3321 Dynamics
  - EGN 3343 Thermodynamics I
  - EML 4706 Design of Thermal/Fluids Systems
  - EML 4601 Principle of Refrigeration and Air Conditioning
  - EML 4906L Mechanical Engineering Lab
  - EML 3101 Thermodynamics II
  - EML 3126L Transport Phenomena Lab
  - EGN 3365 Materials in Engineering
- Course, Curriculum Development Activities:
  - Undertaking FIU Gateway Course Project with EGN 3321 Dynamics.
  - Have redeveloped EGN 3321 Dynamics into a FIU Certified hybrid course.
  - Have modified course structure of EGN 3311 Statics to add "Active Learning" element with Learning Assistants (LAs).
  - Have worked with the Department Undergraduate Program Director and other instructors to develop and implement the college-wide on-line common exam strategy for EGN 3311 Statics and EGN 3321 Dynamics.
- Other Teaching-Related Activities:
  - Have initiated course teaching in FIU Broward Pines Center via FEEDS video conference, including EGN 3311 Statics and EGN 3321 Dynamics.
  - Have served in the Outreach Taskforce Committee of the CEC College to promote FIU engineering programs to local high schools.

OTHER PROFESSIONAL ACTIVITIES AND PUBLIC SERVICE

- Departmental Search and Screen Committee for Non-Tenure Track Faculty, Chair
- Departmental Committee for Non-Tenure Track Promotion Policy, Chair
- Departmental ABET Committee, Vice-Chair
- FIU Course Coordinators Council, Member
- Departmental Non-Tenure Track Faculty Promotion Committee, Member
- Departmental Committee for Undergraduate Awards, Member
- Departmental Curriculum Committee, Member
- Departmental Committee for Evaluating Teaching Project, Member

- Departmental Graduate Research Symposium, Judge
- Non-Tenure Track Promotion Committee for Department of Civil and Environmental Engineering, Outside Member
- FIU Society of Women Engineers: Faculty Advisor
- Outreach Taskforce Committee of the CEC College to promote FIU engineering programs to local high schools, Member

RECENT PROFESSIONAL DEVELOPMENT ACTIVITIES

- FIU Gateway to Graduation (G2G) Workshop Series
- FIU Center for the Advancement of Teaching Workshops
- 2019 International Learning Assistant Conference
- FIU Workshop on developing certified hybrid course
- FIU Remote Tech Ready Certification
- FIU STRIDE Workshop for faculty hiring

PUBLICATIONS

- Articles:

1. B. Gong, J. Sun, G. Vargas, Q. Chang, Y. Xu, D. Srivastava, P. J. Boor, "Nonlinear Imaging Study of Extracellular Matrix in Chemical-Induced, Developmental Dissecting Aortic Aneurysm: Evidence for Defective Collagen Type III," *Birth Defects Research Part A: Clinical and Molecular Teratology*, Vol. 82, No. 1, pp. 16-24, January 2008.
2. J. Sun, T. Shilagard, B. Bell, M. Motamedi, and G. Vargas, "*In Vivo* Multimodal Nonlinear Optical Imaging of Mucosal Tissue," *Optics Express*, Vol. 12, No. 11, pp. 2478-2486, May 2004.
3. J. Sun, and J. P. Longtin, "Effects of A Gas Medium on Ultrafast Laser Beam Delivery and Materials Processing," *Journal of the Optical Society of America B*, Vol. 21, No. 5, pp. 1081–1088, May 2004.
   Selected for collection by *Virtual Journal of Ultrafast Science*, Vol. 3, No. 5, 2004.
4. C. H. Fan, J. Sun, and J. P. Longtin, "Plasma Absorption of Ultrashort Laser Pulses in Dielectrics," *Journal of Heat Transfer*, *Special Issue on Micro/Nanoscale Heat and Mass Transfer*, *Transactions of ASME*, Vol. 124, No. 2, pp. 275–283, Apr 2002.
5. C. H. Fan, J. Sun, and J. P. Longtin, "Breakdown Threshold and Localized Electron Density in Water Induced by Ultrashort Laser Pulses," *Journal of Applied Physics*, Vol. 91, No. 4, pp. 2530–2536, Feb 2002.
6. J. Sun, and J. P. Longtin, "Inert Gas Beam Delivery for Ultrafast Laser Micromachining at Ambient Pressure," *Journ8al of Applied Physics*, Vol. 89, No. 12, pp. 8219–8224, Jun 2001.

7. J. Sun, J. P. Longtin, and P. M. Norris, "Ultrafast Laser Micromachining of Silica Aerogels," *Journal of Non-Crystalline Solids*, Vol. 281, Issues 1–3, pp. 39–47, Mar 2001.
8. J. Sun, J. P. Longtin, and T. F. Irvine Jr., "Laser-Based Thermal Pulse Measurement of Liquid Thermophysical Properties," *International Journal of Heat and Mass Transfer*, Vol. 44, No. 3, pp. 641–653, Feb 2001.
9. J. Sun, and J. P. Longtin, "Novel Beam Delivery Technique for Ultrafast Laser Processing," *Thermal Science and Engineering*, Vol. 7, No. 6, pp. 81–85, Nov 1999.

- Proceedings

1. B. Gong, J. Sun, G. Vargas, P. J. Boor, "Quantitative Morphologic Assessment on Extracellular Matrix in Chemical-Induced Developmental Dissecting Aortic Aneurysm using Multiphoton Florescence and Second Harmonic Generation Microscopy", *2006 Weinstein Cardiovascular Development Conference*, St. Petersburg, FL, U.S.A., May 11–13, 2006.
2. J. Sun, T. Shilagard, B. Bell, M. Motamedi, and G. Vargas, "Imaging Oral Carcinogenesis using Two-Photon Fluorescence and Second Harmonic Generation Microscopy," *21st Annual Houston Conference on Biomedical Engineering Research*, Houston, TX, U.S.A., Feb 12–13, 2004.
3. J. Sun, and J. P. Longtin, "Effects of Gas Medium on Femtosecond Laser Beam Delivery," presented at the *21st International Congress on Applications of Lasers & Electro-Optics (ICALEO2002)*, Scottsdale, AZ, U.S.A., Oct. 14–17, 2002.
4. J. Sun, C. H. Fan, J. P. Longtin, and S. Sampath, "Micromachining of Vias through Thermal-Sprayed Multilayer Structures Using Ultrafast Lasers," presented at the *2001 International Mechanical Engineering Congress and Exposition*, New York, NY, U.S.A., Nov 11–16, 2001.
5. C. H. Fan, J. Sun, and J. P. Longtin, "Localized Electron Evolution Induced by Femtosecond Laser Pulses in Water," presented at the *2001 International Mechanical Engineering Congress and Exposition*, New York, NY, U.S.A., Nov 11–16, 2001.
6. J. Sun, and J. P. Longtin, "Ultrafast Laser Micromachining with a Liquid Film," presented at the *20th International Congress on Applications of Lasers & Electro-Optics (ICALEO2001)*, Jacksonville, FL, U.S.A., Oct 15–18, 2001.
7. J. Sun, C. H. Fan, J. P. Longtin, and S. Sampath, "Laser Processing of Thermal Spray Patterns Using Femtosecond Pulses," presented at the *35th National Heat Transfer Conference*, Anaheim, CA, U.S.A., Jun 10–12, 2001. Proceedings of the 35th National Heat Transfer Conference, NHTC01–1823.
8. C. H. Fan, J. Sun, and J. P. Longtin, "Time- and Space-Resolved Plasma Absorption of a Femtosecond Laser Pulse in Dielectrics," presented at the *35th*

National Heat Transfer Conference, Anaheim, CA, U.S.A., Jun 10–12, 2001. Proceedings of the 35th National Heat Transfer Conference, NHTC01–11222.

9. J. Sun, J. P. Longtin, and P. M. Norris, "Laser Processing of Silica Aerogels Using Ultrashort Pulses," presented at *2000 ASME International Mechanical Engineering Congress and Exposition*, Orlando, FL, U.S.A, Nov 5–10, 2000. Proceedings of the ASME, Heat Transfer Division–2000, Vol. 3, pp. 195–200.
10. J. Sun, J. P. Longtin, and P. M. Norris, "Micromachining of Silica Aerogels Using Femtosecond Lasers," presented at the *Brooklyn Polytechnic ME–100 Conference*, New York City, U.S.A., Nov 4–5, 1999.
11. J. Sun, J. P. Longtin, and T. F. Irvine Jr., "Laser-Based Measurement of Liquid Thermal Conductivity and Thermal Diffusivity," presented at the *33rd National Heat Transfer Conference*, Albuquerque, New Mexico, U.S.A., Aug 15–17, 1999. Proceedings of the 33rd National Heat Transfer Conference, NHTC99–266.

PRESENTED PAPERS, AND LECTURES

1. "Imaging Oral Carcinogenesis using Two-Photon Fluorescence and Second Harmonic Generation Microscopy," *21st Annual Houston Conference on Biomedical Engineering Research*, Houston, TX, U.S.A., Feb 12–13, 2004.
2. "Effects of Gas Medium on Femtosecond Laser Beam Delivery," *21st International Congress on Applications of Lasers & Electro-Optics* (*ICALEO 2002*), Scottsdale, AZ, U.S.A., Oct. 14–17, 2002.
3. "Micromachining of Vias through Thermal-Sprayed Multilayer Structures Using Ultrafast Lasers," *2001 International Mechanical Engineering Congress and Exposition*, New York, NY, U.S.A., Nov 11–16, 2001.
4. "Ultrafast Laser Micromachining with a Liquid Film," *the 20th International Congress on Applications of lasers & Electo-Optics* (*ICALEO 2001*), Jacksonville, FL, U.S.A., Oct 15–18, 2001.
5. "Laser Processing of Thermal Spray Patterns Using Femtosecond Pulses," *35th National Heat Transfer Conference*, Anaheim, CA, U.S.A., Jun 10–12, 2001.
6. "Laser Processing of Silica Aerogels Using Ultrashort Pulses," *2000 ASME International Mechanical Engineering Congress and Exposition*, Orlando, FL, U.S.A., Nov 5–10, 2000.