

Jennifer Stamm, Ph.D.
Mechanical Engineering

3917 E. Robinson Rd., Amherst, NY 14228

Cell: (716) 830-4515

Email: jrh6@buffalo.edu

TECHNOLOGY-LEADER

Passionate leadership and education through promotion of creativity, integrity, and multi-disciplinary collaboration for engineering success in a diverse environment

Engineering/Mentorship/Teaching/Student Excellence Initiatives/Concept Organization/Commercial and Societal Impact/Strategic Development/Proposals, Planning & Implementation/High-Tech Start-Ups/Modeling and Simulation/Uncertainty Modeling and Information Fusion/Emerging Technologies

EDUCATION

State University of New York at Buffalo, Ph.D.

"Minimum-Time Optimal Output Transitions using Pre- and Post-Actuated Inputs"

Mechanical Engineering, February 2015

State University of New York at Buffalo, M.S.

"Minimax Control of Flexible Structures using Quadratically Constrained Programming"

Mechanical Engineering, February 2008

State University of New York at Buffalo, B.S.

Mechanical Engineering, February 2005

TECHNICAL INTERESTS

Control, Optimization, and Estimation of Dynamic Systems, Data Assimilation and Bayesian Inference, Robust Convex Approximation Theory, Meta-Modeling, High Performance Computing, Computational Material Science and Material Informatics, Nondestructive Evaluation, Adaptive Sparse Grid Collocation, Multi-Physics Modeling, Tradespace Exploration, Life-Cycle Cost Modeling, Aggregate Demand, Supply Chain Optimization, Industrial Internet, Exon Skipping, Integrated Circuit Optimization, Proteomics, Genomics, and Computational Biology

PROFESSIONAL EXPERIENCE

University Experience:

08/17-present

Teaching Assistant Professor, School of Engineering and Applied Sciences, State University of NY, Buffalo, NY.

06/10-05/12

Research Assistant, Control, Dynamics and Estimation Laboratory, State University of NY, Buffalo, NY.

- 09/10-06/11* **Instructor, Student Excellence Initiatives and Small Groups Programs**, Department of Mechanical and Aerospace Engineering State University of New York, Buffalo, NY.
- 01/07-06/10* **Research Assistant, Control, Dynamics and Estimation Laboratory**, State University of NY, Buffalo, NY.
- 08/05-06/07* **Instructor, Undergraduate System's Analysis Laboratory Course**, Department of Mechanical and Aerospace Engineering, State University of New York, Buffalo, NY.
- 02/06-06/06* **Instructor, Undergraduate Instrumentation Laboratory Course**, Department of Mechanical and Aerospace Engineering, State University of New York, Buffalo, NY.
- 08/05-06/07* **Instructor, Student Excellence Initiatives and Small Groups Programs**, Department of Mechanical and Aerospace Engineering State University of New York, Buffalo, NY.
- 06/06-06/07* **NASA Space Grant Fellow, "Gaussian Unscented Mixture Model (GUMM) Filter for Estimating Nonlinear Non-Gaussian Systems"**, Cornell University, NY Space Grant Consortium, Ithaca, NY.
- 06/05-06/06* **NASA Space Grant Fellow, "Real-Time Virtual Dynamics"**, Cornell University, NY Space Grant Consortium, Ithaca, NY.

Industry Experience:

- 01/15-08/16* **Director of Small Business Innovative Research (SBIR) and Small Business Technology Transfer (STTR)**, Sentient Science Corporation, Buffalo, NY.
- 01/15-present* **Research Engineer for Uncertainty Quantification and Analysis, and Data Fusion Expert**, Sentient Science Corporation, Buffalo, NY.
- 07/13-01/15* **Implementation Manager and Research Engineer for Sensor-Model Fusion and System Control**, Sentient Science Corporation, Buffalo, NY.
- 03/13-07/13* **Contractor and Research Engineer for Sensor-Model Fusion in DigitalClone™ System**, Sentient Science Corporation, Buffalo, NY.

Industrial Internships:

- 01/12-05/12* **Mechanical Engineering Intern**, Marker Systems Corporation, North Tonawanda, NY

06/02-09/02 **Mechanical Engineering Intern**, Jaco Custom Grinding Corporation,
North Tonawanda, NY.

HONORS

- 2016 Sentient Science team recipient of the **"New Energy Pioneers Award"** from Bloomberg New Energy finance at the Future of Energy Summit 2016, New York, NY. Selected from global competition as "game changer" in clean energy.
- 2016 Sentient Science team recipient of **"Best Technological Innovation Award"** at Wind Dallas O&M Show.
- 2014 Sentient Science team recipient **"National Science Foundation Tibbetts Award"** presented at the White House, the highest award given by the U.S. Government to honor outstanding technical and commercial achievements of small business under the SBIR and STTR programs.
- 2011 Recipient of the **"Western New York Prosperity Scholarship"** for students committed to furthering the economic development and growth in the Western New York (WNY) region.
- 2007 One of two National Recipients of the **"Marjorie Roy Rothermel Scholarship"**, American Society of Mechanical Engineers.
- 2006 Winner of the **University-wide Sigma Xi Scientific Poster Competition** for a poster presentation of a research project titled "Real-Time Virtual Dynamics".
- 2001 Recipient of the **"Gregory B. Jarvis Award"** for Enthusiasm in Engineering.

PROFESSIONAL SERVICE & ASSOCIATIONS

School of Engineering and Applied Science, Engineering Education Journal Club, Member, Spring 2018 - present

American Institute of Aeronautics and Astronautics, Journal of Guidance, Control, and Dynamics, Manuscript Reviewer, 2015-present

American Helicopter Society International, Member, 2012-2017

American Society of Mechanical Engineers Member, 2005-2017

American Wind Energy Association, Member, 2014-2017

Wind Europe, Member 2016-2017

European Wind Energy Association, Member, 2014-2016

Society for Industrial and Applied Mathematics, Member, 2008-2010

COMMUNITY LEADERSHIP

2015-2016	Roswell Park Cancer Institute, IT Oversight Committee Board Member , Buffalo, NY
2015	Industry Representative, Tau Beta Pi Honors Dinner , School of Engineering, University at Buffalo, Buffalo, NY
2003-2013	Director of Research Suneel's Light Foundation , Buffalo, NY
2007	Mentor, Leader, and Event Facilitator, "Introduce a Girl to Engineering Day" , Buffalo Science Museum, Buffalo, NY
2005	Engineering Tour Guide , Mechanical and Aerospace Engineering Department, University at Buffalo, Buffalo, NY
2002-2004	Tour Guide and Group Leader, "Opening Day" , School of Engineering, University at Buffalo, Buffalo, NY

COURSES INSTRUCTED

University at Buffalo

<i>Course</i>	<i>Title</i>	<i>Years Taught</i>
EAS 198	UB Seminar – The Places You Will Go	Fall '17
EAS 199	Grand Challenges for Engineering	Fall '16, Fall '17
EAS 202	Engineering Impact on Society	Spring '17, Spring '18
EAS 207	Statics	Fall '17
EAS 208	Dynamics	Summer '17, Spring '18
EAS 104	Engineering Special Topics	Summer '17

FE Review – Statics	Fundamentals of Engineering Review Course – Statics	Fall '17
FE Review – Dynamics	Fundamentals of Engineering Review Course – Dynamics	Fall '17
MTH 141 Small Group	Small Group for Calculus I	Fall '05, Fall '06, Fall '10, Fall '16, Fall '17
MTH 142 Small Group	Small Group for Calculus II	Spring '06, Spring '07, Spring '11, Spring '17, Spring '18
CHEM 107 Small Group	Small Group for Chemistry I	Fall '05, Fall '06, Fall '10, Fall '16, Fall '17, Spring '18
PHY 107 Small Group	Small Group for Physics I	Spring '06, Spring '07, Spring '11, Spring '17, Spring '18
MAE 340 L	Systems Analysis Laboratory	Fall '06, Fall '07
MAE 334 L	Introduction to Instrumentation and Computers Laboratory	Spring '06

MENTORSHIP

Mechanical Engineering Faculty Mentor for the iLearns Project Team, Department of Computer Science and Engineering, Spring 2018

Faculty Mentor Program for Freshman, Spring 2018

Faculty Mentor Program for Freshman, Spring 2017

Department of Mechanical and Aerospace Engineering, "Establishing Meaningful Connections, Discussion via Google Hangouts", 2017

CONFERENCES

Intel International Science and Engineering Fair, 2018

Intel International Science and Engineering Fair, 2017

American Helicopter Society International, *Forum 72, Annual Forum and Technology Display*, 2016

American Helicopter Society International, *Forum 71, Annual Forum and Technology Display*, 2015

American Wind Energy Association, *WINDPOWER 2016, Conference and Exhibition*, 2016

European Wind Energy Association, Annual Event, 2015

American Society of Mechanical Engineers, *International Mechanical Engineering Conference and Exhibition*, 2014

INVITED LECTURES

Department of Mechanical and Aerospace Engineering Representative Speaker, University at Buffalo Female Engineering TINKER Camp, 2017

Guest Lecturer and Panelist, University at Buffalo New York State Center for Excellence in Bioinformatics and Life Sciences, Innovation Lecture Series, presentation titled: "*A Webware Infrastructure for Rapid Conversion and Implementation of Predictive Modeling Approaches in a Web-Based Tool*", 2016

Presenter, Live Webinar: "Improve your Chances of Winning SBIR Funding by Leveraging High Performance Computing", Hosted by FuzeHub in Partnership with HPCNY High Performance Computing Consortium and Manufacturing Extension Partnership, <http://fuzehub.com/how-high-performance-computing-helped-companies-win-sbir-funding/> 2016

PROFESSIONAL DEVELOPMENT - SPECIAL TRAINING

Academic Publishing Workshop for Early-Career Faculty, Session 1: "Advice for New Academic Authors from Editors and Publishers", Session 2: "Copyright and Fair Use for Faculty", 2017

SEAS Professional Development Session – "Respectful Confrontation", 2017

Completed Department of Energy's Phase I Dawnbreaker Commercialization Assistance Program (CAP) Training Program, Resulting in a Phase II Program Award titled "*Predictive Modeling Tools for Metal-Based Additive Manufacturing*", 2015

COMMITTEES & BOARDS

- | | |
|-----------------|-----------------------------------------------------------------------------------------------------------------------|
| 01/18 - present | School of Engineering and Applied Sciences, SUNY at Buffalo, Mechanics Instructor Search Committee Member |
| 10/17 – 12/17 | Department of Mechanical and Aerospace, SUNY at Buffalo, Instructor Search Committee Member |
| 04/16 | Sentient Science Proxy for the CEO at the Global Wind Energy Council Board Meeting |
| 09/05 – present | Board Member for Industrial Advisory Board for NYS Center of Excellence in Materials Informatics (3 year term) |

11/14-11/15 Board Member for **Roswell Park Cancer Institute Corporation IT Oversight Committee**

02/05-05/12 **Director of Research and Board Member for Suneel's Light Research Foundation**

ROUNDTABLES

University at Buffalo Industry Roundtable (2016) with Microsoft Distinguished Scientist, Dr. Eric Horvitz, Technical Fellow and Deputy Managing Director, Microsoft Research.

MEDIA COVERAGE

"Wearable Tech for the battlefield and people at risk for heart attacks"
<http://www.buffalo.edu/news/releases/2014/11/019.html>

RESEARCH GRANTS & CONTRACTS

Program Manager: Jennifer Haggerty
Principal Investigator: Behrooz Jalalahmadi
Title: "Reliability Centered Additive Manufacturing Design Framework"
Sponsor: Office of Naval Research
Amount: \$2,150,000, 2015-2019, (Year 1: \$150,000, Year 2-Year 5: \$2,000,000)

Program Manager: Jennifer Haggerty
Principal Investigator: Behrooz Jalalahmadi
Title: "Predictive Modeling Tools for Metal-Based Additive Manufacturing"
Sponsor: Department of Energy, Office of Science
Amount: \$1,150,000, 2015-2018 (Year 1: \$150,000, Year 2-Year3: \$1,000,000)

Program Manager: Jennifer Haggerty
Principal Investigator: Adrijan Ribaric
Co-Investigator: Xiawa Wu
Title: "A Webware Infrastructure for Rapid Conversion and Implementation of Predictive Modeling Approaches in a Web-Based Tool"
Sponsor: Department of Energy, Office of Science
Amount: \$150,000, 2015 (Year 1: \$150,000)

Program Manager: Jennifer Haggerty
Principal Investigator: Elon Terrel
Title: "Wind Turbine Blade Load Reduction through Vision-Based Load Sensing and Intelligent Load Control"
Sponsor: New York State Energy Research & Development Authority
Amount: \$400,000, 2016, (Year 1: \$400,000 with cost share)

Program Manager: Jennifer Haggerty
Principal Investigator: Nathan Bolander
Title: "Advanced Manufacturing Technologies"
Sponsor: Defense Logistics Agency
Amount: \$150,000, 2015, (Year 1: \$150,000)

Principal Investigator: Jennifer Haggerty
Co-Investigator: Albert H. Titus
Title: "Bioelectronic Fusion Sensor System"
Sponsor: Office of Naval Research
Amount: \$150,000, 2014 (Year 1: \$80,000, Year 2: \$70,000)

Principal Investigator: Raja Pulikollu
Co-Investigators: Jennifer Haggerty Adrijan Ribaric
Title: "Multi-Functional Integrated Drive System Sensor (MIDSS) for Rotorcraft"
Sponsor: Army
Amount: \$150,000, 2013, (Year 1: \$150,000)

Principal Investigator: Jennifer Haggerty
Title: "WES Sensor for Early Bearing Fault Detection"
Sponsor: Commercial Company – Hendrickson Trailer
Amount: \$25,000, 2014

Principal Investigator: Raja Pulikollu
Co-Investigator: Jennifer Haggerty
Title: "DigitalClone™ Live with Vibration-Based Diagnostics for Fault Detection, a Data-Fusion Approach"
Sponsor: Commercial Company – First Wind/Sun Edison
Amount: \$750,000, 2014

Principal Investigator: Raja Pulikollu
Co-Investigators: Nathan Bolandar, Behrooz Jalalahmadi, Adrijan Ribaric, Jennifer Haggerty
Title: "Analytical Fatigue Prediction Tool for Remanufactured Gearbox Components"
Sponsor: National Science Foundation
Amount: \$750,000, 2013

PUBLICATIONS

Haggerty, J., *Minimum-Time Optimal Output Transitions using Pre- and Post-Actuated Inputs: Impact of Zeros on the Structure of the Optimal Control Profile*. Publication February 1st, 2015.

Haggerty, J. and T. Singh, *Time-Optimal Output Transition for Minimum-Phase Systems*. Journal of Dynamic Systems, Measurement, and Control, 2013. **135**(6): p. 061014.

Haggerty, J. and T. Singh. *Time Optimal Output Transitions for Minimum Phase Systems: A Frequency Domain Approach to Post-Actuation*. 2012 American Control Conference. 2012 Fairmont Queen Elizabeth, Montreal, Canada.

Haggerty, J., *Minimax Control of Flexible Structures using Quadratically Constrained Programming*, in *Mechanical Engineering Department*. 2010, State University at Buffalo.