

*Curriculum Vitae*  
*for*

**Kevin F. Hulme, Ph.D., CMSP**

*Motion Simulation Laboratory*  
*106 Furnas Hall*  
*Buffalo, NY 14260-4200*

*University at Buffalo*  
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**EDUCATION**

Ph.D. Mechanical Engineering, University at Buffalo, February, 2000

Dissertation Title: *The Design of a Simulation-based Framework for the Development of Solution Approaches in Multidisciplinary Design Optimization*

*Advisor:* Dr. Christina L. Bloebaum

M.S. Mechanical Engineering, University at Buffalo, February, 1996

*(Summa cum Laude)*

Thesis Title: *Development of CASCADE - A Multidisciplinary Design Optimization Test Simulator for Use in Distributed Computing Environments*

*Advisor:* Dr. Christina L. Bloebaum

B.S. Mechanical Engineering, University at Buffalo, June, 1994

*(Magna cum Laude)*

**PROFESSIONAL CERTIFICATIONS**

Certified Modeling and Simulation Professional (CMSP)

National Training and Simulation Association (NTSA)

Certificate #0553

11/3/2015 – 11/30/2019

**TECHNICAL INTERESTS**

Modeling & Simulation (M&S) motion-based vehicle simulation, physics-based modeling, driver training and education, simulation fidelity, engineering design analysis and optimization, scientific visualization and virtual reality, virtual environments, multidisciplinary design synthesis, computer-aided graphics, design and engineering, additive manufacturing, parallel computing, numerical methods.

**RESEARCH ACTIVITIES (GROUND VEHICLE SIMULATION)**

Custom design and development of ground vehicle simulations for applications in: clinical research, education and training, and next-generation transportation studies. Recent areas of focus include: standardization of simulators in teen driver safety, fidelity requirements in simulation system specification, multi-participant civilian driving simulators, serious gaming and edutainment in simulation-based training, wearable VR environments, and simulator sickness mitigation.

## **EMPLOYMENT HISTORY**

*6/00 – present*

Senior Research Associate (SL-5)

- Shared Instrumentation Laboratories (SIL), School of Engineering and Applied Sciences, University at Buffalo, Buffalo, NY, 2016-present
- Center for Engineering Design and Applied Simulation (CEDAS), 2015
- New York State Center for Engineering Design and Industrial Innovation (NYSCEDII), 2000-2014

### **Motion Simulation Laboratory (MSL)**

**Responsibilities:** Oversee the daily operation of the Motion Simulation Laboratory, a Shared Instrumentation Laboratory (SIL), located in Furnas Hall, Room 106.

#### **Duties:**

- Maintenance and upkeep of the UB/SEAS Motion Simulator.
- Write grant proposals to facilitate the usage of the MSL.
- Disseminate research findings to peer-reviewed publications, journal and Conference.
- Foster opportunities for Training/Education.
- Foster opportunities for external users to leverage the MSL for training and research.
- Advise undergraduate and graduate students who participate within the MSL.
- Participate upon initiatives for Workforce Development.

### **Digital Manufacturing Laboratory (DML)**

**Responsibilities:** Oversee the daily operation of the Digital Manufacturing (3-D Printing) Laboratory, a Shared Instrumentation Laboratory (SIL), located in Bonner Hall, Room 118.

#### **Duties:**

- Maintenance and upkeep of the major printing/scanning hardware within the DML.
- Write grant proposals to facilitate the usage of the DML.
- Disseminate research findings to peer-reviewed publications, journal and Conference.
- Foster opportunities for Training/Education.
- Foster opportunities for external users to leverage the DML for training and research.
- Advise undergraduate and graduate students who participate within the DML.
- Participate upon initiatives for Workforce Development.

*12/16 – present*

Safety Officer

**Responsibilities:** USDOT call for designation of Automated Vehicle Proving Ground - The University at Buffalo's Instrument for Connected and Autonomous Vehicle Evaluation and Experimentation (iCAVE<sup>2</sup>) and Western/Central New York Proving Grounds

**Duties:** For testing involving the controlled real-world environment, a committee will be established and tasked with ensuring the safety of the experiments. This committee is advised by the proving grounds Safety Office, and will include members from UB's Public Safety personnel, Parking and Transportation Services, Emergency Management personnel, and UB Facilities, to ensure appropriate coordination regarding road closures and the conducting of experiments.

**9/16 - present**

Adjunct Assistant Professor

Department of Mechanical and Aerospace Engineering

School of Engineering and Applied Sciences, University at Buffalo, NY

**2/00 – 5/00**

Post-Doctoral Fellow

Department of Mechanical and Aerospace Engineering, University at Buffalo, Buffalo, NY

**8/94 – 1/00**

Research Assistant

Department of Mechanical and Aerospace Engineering, University at Buffalo, Buffalo, NY

**6/97 - 8/97**

Engineering Intern

Xerox Corporation, TTM-Engineering Systems Division, Webster, NY

**5/92 - 8/92, 5/94 - 8/94, 1/95**

Engineering Intern

Cascades Niagara Falls Inc., Niagara Falls, NY

### **PUBLICATIONS - ARCHIVED JOURNALS**

- Sodano, S., Fabiano, G.A., Hulme, K.F., et al., (2018). "Interpersonal Problems of Young Adults With and Without Attention-Deficit/Hyperactivity Disorder", *Journal of Attention Disorders* (JAD-18-06-182, *under review*).
- Fabiano, G.A., Hulme, K.F. et al., (2018). "An Evaluation of Occupational Behavior in Individuals with and without Attention-deficit/hyperactivity disorder", *Journal of Human Performance* (HHUP-2017-0145, *accepted, June 2018*).
- Hulme, K.F., Bauer, M.E., Hatten, N., Destro, H., and Duncan Jr., Ian, (2018). "A Pilot Study to Analyze the Effectiveness of a Targeted Simulation-based Training Curriculum on Young Driver Performance", Publication TBD, (*in preparation*)
- Sarwar, Md. T., Anastasopoulos, P., Golshani, N., and Hulme, K.F., (2017). "Grouped Random Parameters Bivariate Probit Analysis of Perceived and Observed Aggressive Driving Behavior: A Driving Simulation Study", *Journal of Analytic Methods in Accident Research*, Volume 13, March 2017, Pages 52–64, doi: 10.1016/j.amar.2016.12.001.
- Hou, Y., Zhong, W., Su, L., Hulme, K.F., Sadek, A.W., Qiao, C., (2016). "TASeT: Improving the Efficiency of Electric Taxis with Transfer-Allowed Rideshare", *IEEE Transactions on Vehicular Technology* 65 (12), 9518-9528.
- Fabiano, G.A., Schatz, N.K., Morris, K.L., Willoughby, M.T., Vujnovic, R.K., Hulme, K.F., Riordan, J., Howard, M., Hennessey, D., Lewis, K., Hawk, L., Pelham, W.E., & Wylie, A. (2016). Efficacy of a family-focused intervention for young drivers with attention-deficit hyperactivity disorder. *Journal of Consulting and Clinical Psychology*, 84(2), 1078-1093.
- Fabiano, G., Schatz, N.K., Hulme, K.F., Morris, K.L., Vujnovic, R.K., Willoughby, M.T., Hennessey, D., Lewis, K.E., Owens, J., and Pelham, W.E., (2015). "Positive Bias in Teenage Drivers with ADHD within a Simulated Driving Task", *Journal of Attention Disorders*, December.

- Zhang, Y., Wu, C., Qiao, C., Sadek, A.W., and Hulme, K.F., (2015). "Addressing the Safety of Transportation Cyber-Physical Systems: Development and Validation of a Verbal Warning Utility Scale for Intelligent Transportation Systems", *Journal of Mathematical Problems in Engineering*, special issue on Cyber-Physical Systems in Manufacturing and Service Systems, vol. 2015, Article ID 126947, 13 pages, 2015. doi:10.1155/2015/126947.
- Hou, Y., Zhao, Y., Wagh, A., Zhang, L., Qiao, C., Hulme, K.F., Wu, C., Sadek, A.W., and Liu, X., (2015). "Simulation Based Testing and Evaluation Tools for Transportation Cyber-Physical Systems", *IEEE Transactions on Vehicular Technology*, doi: 10.1109/TVT.2015.2407614.
- Zhao, Y., Wagh, A., Hou, Y., Hulme, K.F., Qiao, C., and Sadek, A.W., (2014). "Integrated Traffic-Driving-Networking Simulator for the Design of Connected Vehicle Applications: Eco-Signal Case Study", Special Issue on Cyber Transportation Systems, *Journal of Intelligent Transportation Systems*, pp 1-13.
- Wagh, A., Hou, Y., Qiao, C., Zhang, L., Li, X., Sadek, A.W., Hulme, K.F., Wu, C., Xu, H., and Huang, L., (2014). "Emerging Applications for Cyber Transportation Systems", *Journal of Computer Science and Technology*, Vol. 29, No. 4, pp. 562-575.
- Hou, Y., Zhao, Y., Hulme, K.F., Huang, S., Yang, Y., Sadek, A.W., and Qiao, C., (2014). "An integrated traffic-driving simulation framework: Design, implementation, and validation", *Transportation Research Part C: Emerging Technologies*, Vol. 45, pp. 138-153.
- Sadek, A.W., Zhao, Y., Huang, S., Fuglewicz, D., Hulme, K.F., and Qiao, C., (2011). "Advanced Transportation Simulation Modeling for Transportation System Evaluation and Management during Emergencies", Special online Issue of the *Journal of Homeland Security on Catastrophes and Complex Systems: Transportation*.
- Lewis, K., Hulme, K., Kasprzak, E., Moore-Russo, D. and Fabiano, G., (2011). "Motion Simulation Experiments for Driver Behavior and Road Vehicle Dynamics," *ASME J. Comput. Inf. Sci. Eng.*, Vol. 11, No.4, December, 2011.
- Fabiano, G.A., Hulme, K., Linke, S.M., Nelson-Tuttle, C., Pariseau, M.E., Gangloff, B., Lewis, K., Pelham, W.E., Waschbusch, D.A., Waxmonsky, J., Gormley, M., Gera, S., & Buck, M.M., (2011). "The Supporting a Teen's Effective Entry to the Roadway (STEER) Program: Feasibility and Preliminary Support for a Psychosocial Intervention for Teenage Drivers with ADHD", *Cognitive and Behavioral Practice*, 18, pp. 267-280, doi:10.1016/j.cbpra.2010.04.002.
- Medler, S., and Hulme, K.F., (2009). "Frequency-dependent power output and skeletal muscle design," *Comparative Biochemistry and Physiology, Part A*, 152, pp. 407-417.
- Hulme, K.F., Kasprzak, E., English, K., Moore-Russo, D., and Lewis, K., (2009). "Experiential Learning in Vehicle Dynamics Education via Motion Simulation and Interactive Gaming." *International Journal of Computer Games Technology*, vol. 2009, Article ID 952524, 15 pages, 2009. doi:10.1155/2009/952524.
- Hulme, K.F., Vusirikala, N., Patra, A., Galganski, R., Hatziprokopiou, I., (2007). "Integration of Scientific Visualization with Physical and Digital Modeling for Improved Child Restraint System Safety." *ASME Journal of Computing and Information Science in Engineering*, Vol 7., No. 2, June, 2007, pp. 174-181.
- Hulme, K.F., and Bloebaum, C.L., (2000). "A Simulation-based Comparison of Multidisciplinary Design Optimization Solution Strategies using CASCADE." *Structural and Multidisciplinary Optimization*, Volume 19, Number 1, March, 2000, pp. 17-35.

- Becker, J.C., Bloebaum, C.L., and Hulme, K.F., (1997). "Distributed Computing for Multidisciplinary Design Optimization Using Java." *Structural Optimization*, Volume 14, Number 4, December, 1997, pp. 203-218.
- McCulley, C., Hulme, K.F., and Bloebaum, C.L., (1997). "Simulation-based Development of Heuristic Strategies for Complex System Convergence." *Applied Mechanics Review*, Vol. 50, Number 11, Part 2, 1997, pp. S117-S124.
- Hulme, K.F., and Bloebaum, C.L., (1997). "Development of a Multidisciplinary Design Optimization Test Simulator." *Structural Optimization*, Vol. 14, Number 2-3, October, 1997, pp. 129-137.

### **PUBLICATIONS - PEER-REVIEWED CONFERENCE PROCEEDINGS**

- Fountas, G., Pantangi, S.S., Hulme, K.F., and Anastasopoulos, P., (2019). "Factors Affecting Perceived and Observed Aggressive Driving Behavior: An Empirical Analysis of Driver Fatigue and Gender, and Distracted Driving", Transportation Research Board, Washington, D.C., January, 2019. (*submitted*).
- Hulme, K.F., Estes, A., Schmid, M., Torres, E., Hendrick, C., and Sivashangaran, S., (2018). "Game-based Proving-grounds Simulation to assess Driving & Learning Preferences", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2018 (*accepted*).
- Liu, X., Dmowski, R., Gupta, A., Tang, L., Qiao, C., Sadek, A., He, Q., Wu, C., Hulme, K.F., Ziarek, L., and Koutsonikolas, D., (2017). "Development of iCAVE<sup>2</sup>: instrument for Connected and Autonomous Vehicle Evaluation and Experimentation", (poster), Graduate Research Conference, CSE 50th Anniversary Celebration, University at Buffalo, Buffalo, NY, September.
- Hulme, K.F., Fabiano, G.A., Sodano, S., Hulme, K.L., Lim, R., Homeyer, L., Reitano, R., LaFlore, A., Stephan, G., and Webb, A., (2017). "Laboratory Assessment of Behaviors in Occupational Roles (LABOR) within a Live-Virtual environment", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2017.
- Hulme, K.F., Kasprzak, E.M., and Morris, K.L., (2017). "Correlation of Game-based Experiential Education to Self-reported Driving and Learning Styles", MODSIM World Conference, Virginia Beach, VA, April, 2017.
- Golshani, N., Sarwar, M.T., Anastasopoulos, P., Hulme, K.F., (2017). "An Exploratory Empirical Analysis of Measured and Perceived Aggressive Driving Behavior in a Driving Simulation Environment", 96<sup>th</sup> Annual Meeting of the Transportation Research Board, Washington, D.C., January, 2017.
- Hulme, K.F., Androutselis, T., Eker, U., and, Anastasopoulos, P., (2016). "A Game-based Modeling and Simulation Environment to Examine the Dangers of Task-Unrelated Thought While Driving." MODSIM World Conference, Virginia Beach, VA, April, 2016.
- Hulme, K.F. Morris, K.L., Anastasopoulos, P., Fabiano, G.A., Frank, M., and Houston, R., (2015). "Multi-measure Assessment of Internal Distractions on Driver/Pilot Performance", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2015.

- Golshani, N., Sarwar, T., Jordan, G., Anastasopoulos, P., and Hulme, K.F., (2015). "Statistical Analysis of the Effect of Music on Aggressive Driving Behavior: Driving Simulation Study", Road Safety & Simulation International Conference, October, 2015, Orlando, FL.
- Golshani, N., Anastasopoulos, P., and Hulme, K.F., (2015). "A Fixed Effects Bivariate Ordered Probit Analysis of Perceived and Observed Aggressive Driving Behavior: A Driving Simulation Study", 94<sup>th</sup> Annual Meeting of the Transportation Research Board, Washington, D.C., January, 2015.
- Raghuwanshi, V., Salunke, S., Hou, Y., and Hulme, K.F. (2014). "Development of a Microscopic Artificially Intelligent Traffic Model for Simulation", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2014.
- Morris, K.L., Hulme, K.F., and Fabiano, G., (2014). "Leveraging Simulation to Augment Risky Driving Attitudes and Behaviors", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2014.
- Hou, Y., Zhao, Y., Hulme, K.F., and Sadek, A., (2014). "Autonomous Driving using a Validated and Integrated Simulation Framework", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2014.
- Hou, Y., Wan, J., Zhao, Y., Hulme, K.F., Wu, C., Sadek, A.W., and Qiao, C., (2014). "The Effect of Autonomous Speed Control System: An Investigation on Minimum Headway and Driver's Acceptance", ITS World Congress, Detroit, MI, September, 2014.
- Hulme, K.F., Fabiano, G., Rees, E., Hines, L., Gelberg, K., (2014). "Game-oriented Technology and Simulation to re-design driver training and education using Backward Design", MODSIM World Conference, Hampton, VA, April, 2014.
- Kundu, S., Wagh, A., Qiao, C., Li, X., Sadek A., Hulme, K., and Wu, C., (2013). "Vehicle Speed Control Algorithms for Eco-Driving", ACM/IEEE/IFAC/TRB International Conference on Connected Vehicles & Expo (ICCVE 2013), Las Vegas, NV, December, 2013, pp. 931-932.
- Hou, Y., Li, X., Zhao, Y., Jia, X., Sadek, A., Hulme, K.F., and Qiao, C., (2013). "Towards efficient vacant taxis cruising guidance", IEEE Globecom, Atlanta, GA, December, 2013, pp. 54-59.
- Hulme, K.F., and Thorpe, L., (2013). "Not just for Kids – Simulation for Evaluation of Senior Drivers", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2013.
- Hulme, K.F., Duncan, I., Hatten, N., Beim, S., Norton, R., Bald, N., Duquesnay, J., and Brutus, M., (2013). "Towards Standardizing Simulators in Teen Driver Training – Lessons Learned", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2013.
- Hulme, K.F., and Thorpe, L., (2013). "A Simulation-based Assessment Approach to Increase Safety among Senior Drivers", Final Report, University Transportation Research Center (UTRC) Region II, Project No: 49111-12-23, Research and Innovative Technology Administration / USDOT (RITA).
- Zhao, Y., Wagh, A., Hulme, K.F., Sadek, A., Qiao, C., Xu, H., and Huang, L., (2012). "Integrated Traffic-Driving-Networking Simulator: A Unique Research and Development Tool for Connected Vehicles", ACM/IEEE/IFAC/TRB International Conference on Connected Vehicles & Expo (ICCVE 2012), Beijing, China, December, 2012. (BEST PAPER RECIPIENT)

- Hulme, K.F. Duncan, I., Abraham, A., Deutsch, J., (2012). "Demonstration of the Potential for Simulators in Young Driver Training", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2012.
- Hulme, K.F. Guzy, L.T., and Kennedy, R.S., "Holistic Design Approach to Analyze Simulator Sickness in Motion-based Environments", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, November, 2011.
- Qiao, C., Sadek, A., Hulme, K., and Wu, C., "Addressing Design and Human Factors Challenges in Cyber-Transportation Systems with an Integrated Traffic-Driving-Networking Simulator", Workshop for Developing Dependable and Secure Automotive Cyber-Physical Systems from Components, Troy, MI, March, 2011.
- Hulme, K.F., Lewis, K.E., Kasprzak, E.M., Russo, D.-M., Singla, P., and Fuglewicz, D.P., "Game-based Experiential Learning in Dynamics Education Using Motion Simulation." The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, November, 2010.
- Hulme, K.F., Huang, S., Sadek, A.W., and Qiao, C., "Next Generation, Integrated Hardware-in-the-loop Transportation Simulation Modeling." The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, November, 2010.
- Hulme, K., Kasprzak E., Singla, P., Moore-Russo, D., and Lewis, K., "Teaching Automobile, Flight, and System Dynamics Using Innovative Motion Simulation Experiments," ASEE Annual Conference & Exposition, AC 2010-1641. Louisville, KY, June, 2010.
- Hulme, K., Kasprzak E., English, K., Moore-Russo, D., and Lewis, K., "Using Gaming and Motion Simulation to Enhance Vehicle Dynamics Education," ASEE Annual Conference & Exposition, AC 2009-2145. Austin, TX, June, 2009.
- Hulme, K.F., and Lewis, K., "A Multi-participant Motion-based Simulation Framework for Transportation Planning, Safety, and Design." National Workshop on High-Confidence Transportation Cyber-Physical Systems: Automotive, Aviation and Rail, Washington, DC, November, 2008.
- English, K., Hulme, K., and Lewis, K. "Engaging High School Women in Engineering Design Using CyberInfrastructure." ASME International Design Technical Conferences, Symposium on International Design and Education, New York City, New York, August, 2008, pp. 543-554.
- Kasprzak, E., Hulme, K.F., Russo, D.-M., Lewis, K., and English, K., "Experiential Learning in Vehicle Dynamics Education via Motion Simulation", ASEE Annual Conference & Exposition, AC 2008-1120, Pittsburgh, PA, June, 2008.
- Hulme, K.F., Patra, A., Arumugasundaram, S., Galganski, R, and Hatziprokopiou, I., "Real-time and Remote Scientific Visualization as a Practical Aid for Improved Child Restraint System Analysis." Society of Automotive Engineers 2006 World Congress, Detroit, Michigan, April, 2006, No. 2006-01-1650.
- Hulme, K.F., and Pancotti, A.P., "Development of a Virtual 6 D.O.F. Motion Platform for Simulation and Rapid Synthesis." 45<sup>th</sup> AIAA/ASME/ASCE/AHS/ASC Structures and Structural Dynamics, and Materials Conference, Palm Springs, California, April, 2004.
- Galganski, R., Hatziprokopiou, I., Hulme, K.F., Patra, A., and Vusirikala, N., (2004). "Integrated Sled Testing, Computer Modeling, and Scientific Visualization for Crashworthy Child Restraint

- System Design." Intelligent Transportation Systems Safety and Security Conference, Miami, Florida, March, 2004, pp. 24-25.
- Hulme, K.F., Patra, A., Galganski, R, Vusirikala, N., and Hatziprokopiou, I., "A Virtual Prototyping Toolkit for Assessment of Child Restraint System (CRS) Safety." Society of Automotive Engineers 2004 World Congress, Detroit, Michigan, March, 2004.
  - Hulme, K.F., Mendel, F.C., and Chugh, K.P., "Development of a Computational Toolkit for Biomechanical Analysis and Simulation: The Vertebrate Analyzer." ICSA 16<sup>th</sup> International Conference on Computer Applications in Industry and Engineering, Las Vegas, Nevada, November, 2003, pp. 258-263.
  - Hulme, K.F., Patra, A., Galganski, R, and Vusirikala, N., "Development of a Visualization Module for Madymo-based Child Restraint System (CRS) Safety Simulation." TNO MADYMO 5th Users' Meeting of the Americas, Troy, Michigan, October, 2003.
  - Hulme, K.F., "Development of a Monty Hall analog for Heuristic All-at-Once Optimization." Ninth AIAA/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization, Atlanta, Georgia, September, 2002.
  - Hulme, K.F., "Simulation-based Tools and Techniques for Increased Efficiency in Multidisciplinary Design Optimization." Thirty-ninth AIAA Aerospace Sciences Meeting and Exhibit, Graduate Awards Presentations, Reno, NV, January, 2001.
  - Hulme, K.F., Bloebaum, C.L., and Nozaki, Y., "A Performance-based Investigation of Parallel and Serial Approaches to Multidisciplinary Analysis Convergence." Eighth AIAA/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization, Long Beach, CA, September, 2000.
  - Hulme, K.F., and Bloebaum, C.L., "Development of a Simulation-based Framework for Exploiting New Tools and Techniques in Multidisciplinary Design Optimization." First ASMO UK/ISSMO Conference on Engineering Design Optimization, Ilkley, West Yorkshire, United Kingdom, July, 1999, pp. 179-186.
  - Hulme, K.F., and Bloebaum, C.L., "A Comparison of Formal and Heuristic Strategies for Iterative Convergence of a Coupled Multidisciplinary Analysis." Third World Congress on Structural and Multidisciplinary Optimization, Amherst, NY, May, 1999 (CD Proceedings).
  - Hulme, K.F., and Bloebaum, C.L., "A Comparison of Solution Strategies for Simulation-based Multidisciplinary Design Optimization." 7th AIAA/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization, St. Louis, MO, September, 1998, pp. 2143-2153.
  - Hulme, K.F., and Bloebaum, C.L., "Development of a Web-based Analysis Tool - A Preliminary Component for a Multidisciplinary Optimization Framework." ASME Mid-Atlantic Graduate Student Technical Conference, Pennsylvania State University, State College, PA, April, 1997.
  - Hulme, K.F., and Bloebaum, C.L., "Development of CASCADE - A Multidisciplinary Design Test Simulator." Sixth AIAA/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization, Bellevue, WA, September, 1996, pp. 438-447.

#### **INVITED TUTORIALS, SEMINARS, AND EXTENDED RESEARCH PRESENTATIONS**

- Hulme, K.F., Torres, E., Hendrick, C., and Sivashangaran, S., (2018). "The Science of Thrills: Applied M&S in the Entertainment Industry", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2018. (*accepted*)



- Hulme, K.F., Saptarshi, S., Kilian, H., Seymour, A., Deane, C., and Liu, M., (2018). "3-D Printing/Manufacturing Process Primer for the M&S Practitioner", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2018. (*accepted*)
- Hulme, K.F., (2018). "Game-based Experiential Learning for Road Vehicle Dynamics Education", Serious Play Conference, Jacobs School of Medicine, University at Buffalo / Buffalo-Niagara Medical Campus, Buffalo, NY, July, 2018.
- Hulme, K.F., (2017). "M&S by Example: Understanding Modeling & Simulation Applications by Design", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2017 (*BEST TUTORIAL NOMINEE*).
- Hulme, K.F., (2016). "The Yin-Yang of M&S: An Overview of Modeling Methods for use in Simulation", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2016, DOI: 10.13140/RG.2.2.35767.32166.
- Hulme, K.F., (2015). "Simulator Fidelity in Training: Informed Decision-Making to Maximize Effectiveness", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2015, DOI: 10.13140/RG.2.2.24862.13127.
- Hulme, K.F., (2015). "Applications in Simulation-based Transportation Research at the University at Buffalo", First Annual Symposium on Transportation Informatics (TransInfo), Buffalo, NY, August, 2015.
- Hulme, K.F., (2015). "Simulation at the University at Buffalo: Promoting Engagement and Measuring Outcomes", 6<sup>th</sup> Annual New York State Driver Traffic Safety Education Association (NYSDTSEA) Conference, Verona, NY, March 7, 2015, DOI: 10.13140/RG.2.2.21506.68800.
- Hulme, K.F., and Lewis, K.E. (2014). "Training Simulation Fidelity - Establishing Preferences, Priorities, and Optimizing Trade-offs", The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2014, DOI: 10.13140/RG.2.2.18151.24482.
- Hulme, K.F., and Lewis, K.E., (2013). "A Matter of Fidelity – identifying the "sweet spot" for simulation" The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), Orlando, FL, December, 2013, DOI: 10.13140/RG.2.2.34928.46082.
- Zhao, Y., Hou, Y., Wagh, A., Hulme, K.F., Qiao, C., and Sadek, A.W., (2013). "Evaluation of an Eco-Signal Application using an Integrated Traffic-Driving-Networking Simulator", TRB Workshop on the Future of Road Vehicle Automation (poster), Palo Alto, CA, July, 2013.
- Hulme, K.F., "Educational, Clinical, and Transportation-based Research Studies using Motion Simulation", Institute of Transportation Engineers New York upstate Section Annual Meeting, Buffalo Niagara Convention Center, Buffalo, NY, September, 2011, DOI: 10.13140/RG.2.2.26539.85288.
- Hulme, K.F., Thorpe, L., Stall, R., Sugarman, R., Pelletier, L., Blatt, A., and Kasprzak, E., "A proposed Simulation-Based Approach to Increase Safety in Cognitively Impaired Senior Drivers", Emerging Issues in Safe and Sustainable Mobility for Older Persons Transportation Research Board Fall Conference, Washington D.C., August, 2011, DOI: 10.13140/RG.2.2.16473.52323.

- Hulme, K.F., "Simulation-based Multidisciplinary Design Optimization and Applied Optimization in Scientific Visualization." IE 590 Distinguished Lecture Series, Pennsylvania State University, April, 2002.
- Hulme, K.F., and Bloebaum, C.L., "A Heuristic Convergence Strategy for Multidisciplinary Analysis." Student Research Competition and Poster Presentation for the Sigma Xi Scientific Research Society, University at Buffalo, Buffalo, NY, April, 1999.

### **PUBLICATIONS – BOOK CHAPTERS**

- Zhao, Y., Hou, Y., Wagh, A., Huang, S., Hulme, K.F., Qiao, C., and Sadek, A.W., (2014). "A Partial Reality Experimental System for Human-in-the-Loop Testing of Connected and Automated Vehicle Applications: Development, Validation and Applications", published in: *Road Vehicle Automation*, Part of the series Lecture Notes in Mobility, Springer International Publishing, pp. 185-196.

### **TECHNOLOGY DISCLOSURES**

- Hulme, K.F., (2016). "An Authoring Kit for (Oculus) 3-D VR Games to Improve Mental Health", R-7054, Submitted to the Office of Science, Technology Transfer, and Economic Outreach STOR, University at Buffalo, January, 2016.
- Hulme, K.F., and Pancotti, A.P., "Virtual 6 D.O.F. Motion Platform for Simulation and Rapid Synthesis." R-5990, Submitted to the Office of Science, Technology Transfer, and Economic Outreach STOR, University at Buffalo, February, 2005
- Hulme, K.F. and Ang, E.J., "Development of Optimization-based techniques for Braze Aluminum Heat Exchanger (BAHX) Rating." R-5989, Submitted to the Office of Science, Technology Transfer, and Economic Outreach STOR, University at Buffalo, February, 2005

### **HONORS AND AWARDS**

Promising Inventor Award, Research Foundation of the State of New York, 2005  
 AIAA Foundation John Leland Atwood Graduate Award, 2000-2001  
 Member of the "Who's Who in Science and Engineering", 2000-2001  
 SUNY at Buffalo Graduate School Excellence in Teaching Award, 1999-2000

### **MEMBERSHIPS AND AFFILIATIONS**

- Pi Tau Sigma (national Mechanical Engineering fraternity), February, 1993
- Golden Key national honor society, October, 1992

### **TEACHING EXPERIENCE**

- School of Engineering and Applied Sciences, University at Buffalo, Buffalo, NY  
 - Department of Mechanical and Aerospace Engineering, University at Buffalo, Buffalo, NY

### **Lectures and Workshops**

School of Engineering and Applied Sciences (SEAS)  
 University at Buffalo

- Spring, 2017; Fall, 2017; Spring, 2018
  - An Introduction to 3-D Printing and Additive Manufacturing (Workshop)
  - Game-based Modeling and Simulation (M&S) for Ground Vehicle Dynamics Applications in Training and Research
  - Print Technologies of the Digital Manufacturing Laboratory
  - Experiential Learning: Vehicle Dynamics on the UB Virtual Speedway

**Past Instructional Experience:**

<i>Dates:</i>	<i>Abbreviation:</i>	<i>Course/Lecture title &amp; description:</i>
• Spring, 2017	MAE 364	Manufacturing Processes ( <i>experiential learning: 3-D printing &amp; additive manufacturing</i> )
• Spring, 2017	EAS 202	Engineering Impact on Society ( <i>guest lecture: Applications in Modeling &amp; Simulation</i> )
• Fall, 2016	MAE 451	Design Process and Methods ( <i>experiential learning: 3-D printing &amp; additive manufacturing</i> )
• Spring, 2016	EAS 202	Engineering Impact on Society ( <i>guest lecture: Location-based Simulation</i> )
• Spring, 2015	EAS 202	Engineering Impact on Society ( <i>guest lecture: Applications in Virtual Reality</i> )
• 2007 - present	MAE 454/554 MAE 340	Road Vehicle Dynamics I&II Dynamic Systems ( <i>experiential learning: motion-based vehicle simulation environment design and application</i> )
• 2001 - 2003	MAE 459 MAE 494	Senior Design Project
• 8/01 - 12/01	MAE 473/573	Graphics in Computer Aided Design (CAD)
• 1/01 - 5/01	MAE 552	Heuristic Optimization Methods
• 8/99 – 12/99	MAE 552	Heuristic Optimization Methods
• 8/00 – 12/00	MAE 415	Analysis of Structures
• 8/99 - 12/99	MAE 550	Engineering Optimization I
• 8/95 - 5/96	MAE 477/577	Computer Aided Design Applications (T.A.)

**SPONSORED GRANT PARTICIPATION (last ten years):**

- Number of sponsored projects participated upon, 2007 – present: 14
- Total funded dollar amount: \$7,997,981

<i>Dates:</i>	<i>Funding Source:</i>	<i>Proposal title/PI/Funding amount:</i>	<i>Role:</i>
2017-2019	Shire Pharmaceuticals	Efficacy of lisdexamfetamine dimesylate for promoting occupational success in young adults with attention-deficit/hyperactivity disorder (Fabiano), \$190,730	Co-I
2016-2020	NSF (MRI)	MRI: Development of IMPRESIVE: Interdisciplinary, Multi-modal and Partial Reality Experimental System	Co-I

		with Instrumented Vehicles and Environment (Qiao), \$2,838,829	
2016-2017	UB IMPACT	Laboratory Assessment of Behaviors in Occupational Roles (LABOR): An analogue setting to investigate job functioning and treatments for individuals with ADHD (Fabiano), \$28,000	Co-I
2016-2017	NSF (REU)	REU Supplement for: CHS: Small: Modeling Cyber Transportation and Human Interaction in Connected and Automated Vehicles (Wu), \$15,360	Co-I
2016	NYS DOT	National Summer Transportation Institute Program (He), \$14,554	Co-I
2014-2017	NSF (CHS)	CHS: Small: Modeling Cyber Transportation and Human Interaction in Connected and Automated Vehicles (Wu), \$499,952	Co-I
2012	UTRC (mini-grant)	A Pilot Study to Investigate the Utility of Simulators as a Supplemental Means for Senior Driver Performance Assessment (Hulme), \$6,000	PI
2010-2014	NSF (CPS)	CPS:Medium: Addressing Design and Human Factor Challenges in Cyber-Transportation Systems (Qiao), \$695,523	Co-I
2010-2013	NSF (IOS)	Scale Effects on Muscle Design in Terrestrial Crabs (Medler), \$560,849	Co-I
2010-2011	Cisco Systems	Basic Research in Human Factors aware Cyber-Transportation Systems (Qiao), \$100,000	Co-I
2010	UTRC (Education)	Using Transportation System Simulation to Engage Math and Science Learners (English), \$10,000	Co-I
2009-2010	UTRC (ATI)	Next Generation, Human-in-the-loop Transportation Simulation Models (Sadek), \$49,998	Co-I
2009-2014	NIH (R01)	Improving parenting capacity to promote safe driving for adolescents with ADHD (Fabiano), \$2,838,186	Co-I
2007-2011	NSF (CCLI)	Experiential Learning in Vehicle Dynamics Education (Lewis), \$150,000	Co-I

**GRANT SUBMISSIONS (other submitted proposals, last five years):**

- Number of prepared/submitted grants with proposed participation, 2012 - present: 30
- Total dollar amount of proposed sponsored research: \$24,475,271

<i>Dates:</i>	<i>Funding source:</i>	<i>Proposal title/PI/Funding amount:</i>	<i>Role:</i>
2017 - 2021	NIH (R01)	Multi-measure Analysis of Internal Distractions on Driver Performance to Improve Driver Skill and Roadway Public Safety (Hulme), \$2,196,783	PI

2017-2019	NIH (R03)	Design and evaluation of a holistic approach to detect, quantify, and mitigate drowsy driving to improve young-driver safety (Hulme), \$151,300	PI
2017-2019	FHWA	Integrated Simulation System for Transportation (INSIST) (Qiao), \$999,030	Co-I
2017-2020	NSF (CPS)	CPS: Synergy: Personalized Cyber Transportation Systems (PerCTS) for Safety and Sustainability (Wu), \$995,632	Co-I
2017	UB PPP	Enhancement of Experiential Learning Opportunities in Modeling & Simulation (M&S) for Engineering Science at the University at Buffalo (Hulme), \$50,000 <i>(prepared; not yet submitted)</i>	PI
2016-2020	NIH (R01)	Analysis of Driving Risk Factors in Youth with and without ADHD (Fabiano), \$2,885,243	Co-I
2016-2019	NSF (CPS)	CPS:Synergy:Personalized Cyber Transportation Systems (PerCTS) for Safety and Sustainability (Wu), \$999,990	Co-I
2016-2017	UTRC	Computational Modeling of Driver Behavior in Taking Over Control of Level 3 Autonomous Vehicles (Wu), \$75,000	Co-I
2016-2017	AAA Foundation	A Comprehensive Approach to Examine Supervised Practice during the Transitional Phase of Permitted to Licensed Driving (Hulme), \$219,593	PI
2016-2017	CTSA	Multi-measure Analysis of Internal Distractions on Driver Performance to Improve Roadway Safety (Hulme), \$49,179	PI
2016	UB IMPACT	Modeling and Simulation-based design, test, and evaluation of a holistic approach to detect and quantify drowsy driving (Hulme), \$34,852	PI
2016	UB TAF	Development of cogVR - an Oculus-VR Therapy App Authoring System to Improve Cognition and Mental Health (Hulme), \$50,000	PI
2015-2019	NIH (R01)	Experimental analysis of risky driving behaviors in youth with ADHD <i>(attempt #2)</i> (Fabiano), \$2,481,567	Co-I
2015-2018	NSF (CPS)	CPS: Synergy: Collaborative Research: Safety and Efficiency in Transportation with Different Automation Levels (SET DIAL) (Qiao), \$680,935	Co-I
2015-2019	NIH (R01)	Experimental analysis of risky driving behaviors in youth with ADHD <i>(attempt #1)</i> (Fabiano), \$2,481,567	Co-I
2015-2016	AAA Foundation	A Holistic Protocol and Rating System for Improved Evaluation of Senior Drivers (Hulme), \$225,000	PI

2015-2016	AAA Foundation	Informed Next-Generation Training: Understanding the Causes of Internal and External Distractors on Novice Driver Behavior (Fabiano), \$225,000	Co-I
2014-2016	NIH (R21)	Development and Deployment of SWERVES - Towards Standardization of Simulation in National Teen Driver Training ( <i>attempt #2</i> ) (Hulme), \$431,975	PI
2014-2016	NIH (R21)	Systematic Analysis of Safety Issues associated with Marijuana and Driving (Hulme), \$434,925	PI
2014-2016	NIH (R21)	Simulation and Naturalistic Observations to Analyze Teen Driving Distractors (Hulme), \$429,615	PI
2014-2016	NSF (CIS)	Cooperative Vehicle-Intersection Control for Sustainability: Addressing System Evolution and Human Factors Challenges (Sadek), \$383,652	Co-I
2014-2016	AAA Foundation	Development of Targeted Simulator Measures to Establish Guidelines for Safe "Smoking and Driving" under the Influence of Cannabis (Hulme), \$308,300	PI
2014	UB COE	A Community of Excellence in Transportation Cyber Physical Systems (T-CPS): Research, Development, Testing, Evaluation, and Standardization (Sadek), <i>pre-proposal, no budget</i>	Co-I
2013-2016	FHWA	New Approaches for Testing Connected Highway and Vehicle Systems (Sadek), \$997,950	Co-I
2013-2016	NSF (CPS)	CPS:Synergy: CIVIC4SURE - Cloud-enabled and Integrated Vehicle-Infrastructure Control for Sustainability and Resilience (Qiao), \$999,881	Co-I
2013-2016	NSF (MRI)	MRI: Development of IMPRESIVE: Interdisciplinary, Multi-modal and Partial Reality Experimental System with Instrumented Vehicles and Environment (Qiao), \$2,084,446	Co-I
2013-2015	NIH (R21)	Development and Deployment of SWERVES - Towards Standardization of Simulation in National Teen Driver Training ( <i>attempt #2</i> ) (Hulme), \$431,975	PI
2013-2015	NSF (CIS)	Cooperative Vehicle-Intersection Control for Sustainability (CVIC-S): System Evolution, Human Factors, and Optimization (Sadek), \$403,465	Co-I
2013	AAA Foundation	A Fractional Factorial Design approach using Driving Simulators and Naturalistic Driving Hardware for a longitudinal examination of Senior Driver Performance (Hulme), \$130,741	PI
2012-2017	NIH (R01)	Sustained game-based simulation to supplement high school teen driver training (Hulme), \$2,637,675	PI

### **PROFESSIONAL ACTIVITIES AND SERVICE (EXTERNAL)**

### **Subcommittee Member**

The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC)

The National Training and Simulation Association (NTSA)

Tutorials Subcommittee (2017 – present)

Policy, Standards, Management, and Acquisition Subcommittee (2015-2016)

Annual Duties: Evaluate Abstracts (*March*) and Paper submissions (*July*) upon initial submission; act as a “Bird Dog” to authors during initial and final paper preparation, and slideshow preparation for accepted presentations; register and participate during I/ITSEC (*December*) as a Session Chair or Deputy Session Chair for the respective Subcommittee.

### **Advisory Board Member**

Driver Education Research and Training Center (DERIC), Albany, New York

Goals: Evaluate the efficacy of driver education in New York State. A collaboration between the New York State Department of Health, Health Research, Inc., NYS Department of Motor Vehicles, NYS Education Department, and the Governor's Traffic Safety Committee.

### Accomplishments:

- 2013: Established training module for Distracted Driving and Driver Inattention (DDDI)
- 2014: Established training modules for Occupant Protection/Unsafe Speed (OPUS)

### **Paper Reviews - Reviewer**

- Transportation Research Board (Conference) Annual Meeting, August, 2017
- Simulation Modeling Practice and Theory, Journal paper review, March, 2016
- Transportation Research: Part C, Emerging Technologies (Elsevier Ltd. Journal review), 2012
- SAE Motorsports Engineering Conference, Concord, North Carolina, December, 2008.
- ASME Design Engineering Technical Conference & Design Automation Conference, New York City, New York, August, 2008.
- ASME Journal of Computer Science and Engineering (JCISE), December, 2004.
- ICISA 16<sup>th</sup> International Conference on Computer Applications in Industry and Engineering, Las Vegas, Nevada, November, 2003.
- 2002 ASME/Mechanical Dynamics Student Mechanism Design Competition. 27<sup>th</sup> ASME Mechanisms and Robotics Conference, Montreal, Canada, September, 2002.
- ASME Design Theory & Methodology Conference, Montreal, Canada, September, 2002.
- ASME Design Theory & Methodology Conference, Baltimore, Maryland, September, 2000.

### **Conference Coordination – Assistant Organizer**

- The Third World Congress on Structural and Multidisciplinary Optimization (WCSMO-3) Amherst, NY, May 17-21, 1999.

### **WORKFORCE DEVELOPMENT & ONGOING SERVICE TO UB SEAS**

Buffalo-area Engineering Awareness for Minorities (BEAM)

- MSL Laboratory tours and student project sponsorship, various, 2007-2012

## Collegiate Science and Technology Entry Program (CSTEP)

- MSL Laboratory tours and student project sponsorship, various, 2007-2012

## Information and Computing Technology (ICT) Day Workshop

- MSL Laboratory tours, 2009-2011

## Science Exploration Day

- MSL Laboratory tours, March 2009-2016
- DML Laboratory tours, March, 2017

## Society of Women Engineers

- DML Laboratory tours (for high school females), February, 2017

## STEM Scouts Retreat

- DML experiential learning exercises, Summer, 2017
- MSL experiential learning exercises, Summer, 2017

## STEM Summer Workshops for Young Women

- Experiential Learning exercises using Modeling & Simulation (M&S), Summer 2007-2011

## Westminster Community Charter School Laboratory Tours

- DML Laboratory tours, Winter, 2017

## Women in Science and Engineering (WiSE)

- DML Laboratory Tours, Summer, 2016
- Accepted Students 3-D Printing Activity, March, 2017

## UB Business Partners Day

- MSL Laboratory tours, 2010

## UB Open House and Accepted Students Day

- MSL Laboratory tours, Fall/Spring, 2006-2015
- MSL and DML Laboratory Tours, Spring, 2017

## **STUDENT MENTORSHIP**

### **Department of Mechanical and Aerospace Engineering, University at Buffalo**

#### **Academic Club Advisement**

- Theme Park Engineering Club (founded, Fall, 2016)
- 3-D Printing and Engineering Design Club (preliminary planning, Spring, 2017)

#### **Student Advisement**

- Student research and project supervision, assistance, and advisement
- Year listed is date that advisement service began

- **B.S.:** Sanchit Batra (2018)<sup>3</sup>, Maggie Liu (2017)<sup>1</sup>, Leah Nolan (2017)<sup>1</sup>, Connie-Rose Deane (2017)<sup>1</sup>, Emmanuel Gil (2017)<sup>3</sup>, Christopher Hendrick (2017)<sup>5</sup>, Shathushan Sivashangaran (2017)<sup>5</sup>, Rachel Lim (2016)<sup>3</sup>, Matt Hollander (2016)<sup>1</sup>, Marawan Kenawi (2016)<sup>1</sup>, Mohamad Fares (2016)<sup>1</sup>, Angelys Cuello (2016)<sup>1</sup>, Jeffrey Su (2016)<sup>1</sup>, Victoria Lawrence (2016)<sup>1</sup>, Johnathan Boorady (2016)<sup>1</sup>, Ashley Seymour (2016)<sup>1</sup>, Hailey Kilian (2016)<sup>1</sup>, Norman Ng (2016)<sup>1</sup>, Liam Homeyer (2016)<sup>3</sup>, Fengyu Wu (2016)<sup>3</sup>, Elianna Enriquez (2016)<sup>1</sup>, Peter Schmitz (2015)<sup>3</sup>, Daniel Newins (2015)<sup>5</sup>, Nicole Cappa (2015)<sup>3</sup>, Natalia Shu (2015)<sup>3</sup>, Weishyn Chang (2015)<sup>2</sup>, Bin Ken Pang (2015)<sup>2</sup>, Frank Fonseca (2014)<sup>5</sup>, Kishen Das (2014)<sup>5</sup>, Helena Destro (2014)<sup>6</sup>, Jodie-Ann Duquesnay (2013)<sup>3</sup>, Samantha Beim (2012)<sup>3</sup>,



Vincent Reina (2012)<sup>5</sup>, Malika Brutus (2012)<sup>3</sup>, Jacob Deutsch (2010)<sup>3</sup>, Nichaela Bald (2008)<sup>3</sup>, Mrynal D'Arcangelo (2007)<sup>5</sup>, John Robinson (2007)<sup>3</sup>, Srivatsa Mahesh (2007)<sup>3</sup>, Nandan Dabhade (2007)<sup>5</sup>, Phil Cormier (2006)<sup>5</sup>, Ronald George (2006)<sup>3</sup>, Steven Korzelius (2006)<sup>3</sup>, Sarah Ruchalski (2006)<sup>2</sup>, Ali Kamyab (2006)<sup>4</sup>, Patrick Bayer (2005)<sup>2</sup>, Brian Haas (2003)<sup>4</sup>, Anthony Pancotti (2003)<sup>4</sup>, Timothy Nordberg (2003)<sup>4</sup>, Jung Leng Foo (2002)<sup>4</sup>, Khurram Khan (2002)<sup>4</sup>

- **M.S.:** Kaiyue Deng (2018)<sup>1</sup>, Sourabh Saptarshi (2016)<sup>1</sup>, John C. Vacanti (2015)<sup>3</sup>, Zhengjiang Li (2015)<sup>3</sup>, Meghan Bauer (2014)<sup>6</sup>, Brenden Switzer (2014)<sup>6</sup>, Rebecca Norton (2014)<sup>6</sup>, Nailah Hatten (2013)<sup>6</sup>, Sarthak Salunke (2012)<sup>3</sup>, Anand Abraham (2011)<sup>3</sup>, Yaqin Yang (2011)<sup>3</sup>, Pankaj Kumar (2011)<sup>3</sup>, Ian Duncan (2010)<sup>3</sup>, Viral Raghuwanshi (2010)<sup>3</sup>, Laxmikant Vyavahare (2009)<sup>3</sup>, Nikhil Sapre (2009)<sup>3</sup>, Ankur Bhargava (2009)<sup>3</sup>, Vijay Elavunkal (2007)<sup>3</sup>, Frank Centinello (2007)<sup>3</sup>, Matthew Zinski (2006)<sup>2</sup>, Robert Brooks (2006)<sup>2</sup>, Eu Jin Ang (2004)<sup>4</sup>, Richard Porcari (2004)<sup>4</sup>, Aditya Vaze (2004)<sup>4</sup>, Amit Phatak (2003)<sup>4</sup>, Anuj Jain (2002)<sup>4</sup>, Yuji Nozaki (2002)<sup>4</sup>, Mala Gosakan (2001)<sup>4</sup>
- **Ph.D.:** Ji Zhang (2016)<sup>1</sup>, Yunfei Hou (2012)<sup>3</sup>, Chen-Hung Huang (2003)<sup>4</sup>

**Subject areas:**

1: Additive Manufacturing, 2: Media Studies (web and print), 3: Motion Simulation and physics-based modeling  
4: Multidisciplinary Analysis and Optimization (MAO) and CAD, 5: Physical Modeling and Design, 6: Training and Education (for Simulation)

## REFERENCES – PAST/PRESENT SUPERVISORS

**Dr. Christina L. Bloebaum**  
*(Thesis Advisement, NYSCEDII Director)*  
*(1995 – 2005)*  
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**Dr. Kemper E. Lewis**  
*(Thesis Committee; NYSCEDII Director)*  
*(2005 – 2014)*  
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*(2016 – present)*  
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## REFERENCES - OTHER

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