**Faculty Profile: Jeffrey W. Herrmann**

St. Abbo of Fleury Endowed Chair in Engineering  
Ordinary Professor

Department: Mechanical Engineering

School: School of Engineering

Email: [herrmannj@cua.edu](mailto:herrmannj@cua.edu)

Phone: 202-319-6175

Education: Ph.D., Industrial and Systems Engineering, University of Florida, 1993

**Research Interests and Expertise:**

Metareasoning for robots and autonomous systems, risk-based path planning, multi-agent systems, operations research, scheduling, engineering decision making, risk management, simulation.

**Biography:**

Professor Herrmann’s research, service, and teaching activities have established him as a leader in the following areas: (1) developing novel mathematical models to improve public health preparedness, (2) describing and modeling engineering design decision-making processes, and (3) using risk-based techniques to improve path planning for autonomous systems. He has published over 100 journal papers and refereed conference papers and fifteen book chapters, co-authored an engineering design textbook, edited two handbooks, authored a textbook on engineering decision making and risk management, and written a book on metareasoning. Before joining the Catholic University of America, Professor Herrmann was at the University of Maryland, College Park, where he had a joint appointment in the Department of Mechanical Engineering and the Institute for Systems Research. In 2003, Dr. Herrmann received the Society of Manufacturing Engineers Jiri Tlusty Outstanding Young Manufacturing Engineer Award; in 2013, he was named a Diplomate of the Society for Health Systems. In 2016, his textbook Engineering Decision Making and Risk Management won the IIE/Joint Publishers Book of the Year award. He is a member of Society of Catholic Scientists, IISE, ASME, and the Design Society.

**Five Selected Papers:**

1. Herrmann, J.W., Michael Morency, Azrah Anparasan, and Erica Gralla, “Evaluating Clustering Algorithms for Identifying Design Subproblems,” *Journal of Mechanical Design*, Volume 140, pages 081401-1-12, August 2018. doi:10.1115/1.4040176
2. Nayak, Sharan, Suyash Yeotikar, Estefany Carrillo, Eliot Rudnick-Cohen, Mohamed Khalid M Jaffar, Ruchir Patel, Shapour Azarm, Jeffrey W. Herrmann, Huan Xu, Michael W. Otte, “Experimental Comparison of Decentralized Task Allocation Algorithms under Imperfect Communication,” *IEEE Robotics and Automation Letters*, Volume 5, Number 2, pages 572-579, 2020. doi: 10.1109/LRA.2019.2963646
3. Samuel T. Langlois, Oghenetekevwe Akoroda, Estefany Carrillo, Jeffrey W. \*Herrmann, Shapour Azarm, Huan Xu, and Michael Otte, “Metareasoning Structures, Problems, and Modes for Multiagent Systems: A Survey,” *IEEE Access*, Volume 8, pages 183080-183089, 2020.
4. Carrillo, Estefany, Mohamed Khalid M. Jaffar, Sharan Nayak, Ruchir Patel, Suyash Yeotikar, Shapour Azarm, Jeffrey W. Herrmann, Michael Otte, and Huan Xu, “Communication-Aware Multi-Agent Metareasoning for Decentralized Task Allocation,” *IEEE Access*, Volume 9, pages 98712-98730, 2021. DOI: 10.1109/ACCESS.2021.3096229
5. Lancaster, Greg, and Jeffrey W. Herrmann, “Simulating Cardiac Arrest Events to Evaluate Novel Emergency Response Systems,” *IISE Transactions on Healthcare Systems Engineering*, Volume 11, Number 1, pages 38-50, October 2020. DOI: 10.1080/24725579.2020.1836090

**Professional Activities**

* Associate Editor, ASME *Journal of Autonomous Vehicles and Systems*.