Jimmy Moore

Education

2021 **PhD**, *Computer Science*, University of Utah, Salt Lake City, UT
Emphasis: Data Visualization & User Experience Research

2015 **MS**, *Applied Mathematics*, University of Delaware, Newark, DE

2007 **BS**, *Physics, Applied Mathematics*, Pennsylvania State University, State College, PA

Experience

Sep-Dec '19 & Sep-Aug 20 **UX Researcher**, NASA Jet Propulsion Laboratory, Pasadena, CA
- Conducted and analyzed several stakeholder interviews to understand how engineers approach analyzing data, and what success means at several points along the mission design process.
- Performed an onsite workshop with several JPL engineers to capture pain points and opportunities for high-impact quality of life improvements when reviewing and analyzing complex simulation data.
- Iterated over several wireframe interface mockups to refine prototype workflow using Mural, InVision, and Adobe products.
- Built a fully functional web-based visual analytics tool that supported engineers to review satellite telemetry data directly from simulation files.

2015–2021 **Graduate Research Assistant**, University of Utah, Salt Lake City, UT
- Conducted a multi-year qualitative study on asthmatics' relationship with their personal air quality data to improve how designers can make more effective interactive tools.
- Co-taught an undergraduate course for increasing non-STEM students' technological fluency using hands-on electronic and sound art projects.
- Delivered several lectures on human-computer interaction principles, including user-centered design basics, thematic analysis techniques, and real-world smart home applications.

Jun-Aug 2015 **Computational Scholar**, Lawrence Livermore National Lab, Livermore, CA
- Studied the effects of algorithmic corruption on computational simulations. Using soft fault injection utilities (e.g. Kulfi, FlipIt) I identified some vulnerable locations in LLNL simulation algorithms.

2013–2015 **Teaching Assistant**, University of Delaware, Newark, DE
- Taught and graded the undergraduate calculus sequence. Also co-created the departments' Mathematica lab curriculum and designed 12 in-class exercises and take-home assignments to supplement classroom instruction.

2012–2013 **Professional Tutor**, Pennsylvania State University STEM Lab, Media, PA
- Responsible for remedial algebra and introductory calculus courses. 20-30 students per semester.

2007–2011 **Research Engineer**, Penn State Electro-Optics Center, Freeport, PA
- Designed and prototyped a low-cost 3D imaging system, including hardware selection, software architecture design, data capture and system programming. Hardware control and data processing written in LabView.
- Systems engineer for hyperspectral imaging system: requirements definition for real-time processing hardware, algorithms, and data workflow.
- Project manager and systems integrator for ground robotics platform: control and imaging hardware.
- Automated laser machining experiments, reduced calibration and data collection times by 50%.

Jun-Aug 2006 **Research Assistant**, Penn State Electro-Optics Center, Freeport, PA
- Designing and conducting experiments to measure operational parameters of a prototype 3D imaging system.

Skills

Qualitative research methods, usability testing, user interviews, technical writing, public speaking

Research Interests

User Centered Design, Understanding user needs and how they approach tasks to inform more intuitive interfaces and information systems.

Interviewing, Developed the Data Engagement Interview framework to help researchers understand user needs by incorporating realworld data directly in the interview process.

Prototyping & Tool Building, Have worked with high school students through NASA scientists to develop interactive analysis tools to improve decision making.

Peer-Reviewed Publications

2021 **Jimmy Moore**, P. Goffin, J. Wiese, M. Meyer, "An interview method for engaging personal data", The Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), December 2021.

2021 **Jimmy Moore**, P. Goffin, J. Wiese, M. Meyer, "Exploring the personal informatics analysis gap: 'There's a lot of bacon' ", IEEE Transactions on Visualization and Computer Graphics (VIS), 2021.

2021 R. Patel, **Jimmy Moore**, J. Stuart, S. Hernandez, B. Alper, "I'll have the Porter: Interactively visualizing the results of statistical maneuver analysis", American Astronautical Society. 2021.

2020 **Jimmy Moore**, W. Wing, Z. Wilhelm, M. Dailey, K. Le, T. Sayahi, T. Becnel, R. Whitaker, M. Meyer, J. Wiese, P. Gaillardon, K. Kelly, A. Butterfield. "Engaging Pre-College Students in Hypothesis Generation using a Citizen Scientist Network of Air Quality Sensors", American Society for Engineering Education (ASEE)

2020 Shruti Hegde, Kyeong Min, **James Moore**, Philip Lundrigan, Neal Patwari, Scott Collingwood, Kerry E. Kelly "Indoor Household Particulate Matter Measurement Using a Network of Low-Cost Sensors", *Aerosol and Air Quality Research* 20 (2020): 381-394.

2018 **Jimmy Moore**, Pascal Goffin, Miriah Meyer, Philip Lundrigan, Neal Patwari, Katherine Sward, and Jason Wiese. 2018. "Managing In-home Environments through Sensing, Annotating, and Visualizing Air Quality Data". Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies. 2, 3, Article 128 (September 2018)

2018 Lundrigan, Philip, Kyeong T. Min, Neal Patwari, Sneha Kumar Kasera, Kerry Kelly, **Jimmy Moore**, Miriah Meyer et al. "EpiFi: An in-Home IoT Architecture for Epidemiological Deployments." In 2018 IEEE 43rd Conference on Local Computer Networks Workshops (LCN Workshops), pp. 30-37. IEEE, 2018.

Other Publications

2018 **Jimmy Moore**, Pascal Goffin, Miriah Meyer, and Jason Wiese. "Interpersonal Informatics: A Case Study of In-Home Air Quality", Computer-Supported Cooperative Work and Social Computing (CSCW2018)

2014 Edwards, David, Moore, Richard, **Moore, James**, et al. "Spatial Pattern Formation in Fused Silica Under UV Irradiation." MPI Workshop, 2014