

Matthew Louis Mauriello CV

Postdoctoral Scholar
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BIO STATEMENT

I will be starting as an **Assistant Professor** in the Department of **Computer & Information Sciences** at the **University of Delaware** this January 2021. I plan to establish new **Computer Science** and **Human-Computer Interaction (HCI)** research initiatives in diverse areas including **sustainability, human-building interactions, wearables, personal informatics, education, health, and games**. The aim of my research in these areas is twofold: (i) to understand and improve the role of technology with respect to personal and societal issues and (ii) complement and extend rather than supplant user capabilities. My approach begins with formative work to explore user challenges and perceptions that help to identify what roles HCI might play (e.g., to identify pain points that technology could alleviate). This work typically informs an iterative design and engineering phase that often results in a cyber-physical or software system that leverages advances from diverse areas of computer science (e.g., machine learning, image processing, information visualization, social computing) to improve user experiences. I then evaluate these systems through a mixed-methods approach that includes usability studies, field deployments, surveys, and interviews with relevant populations.

EDUCATION

University of Maryland, College Park

2018 Doctor of Philosophy
Area: Human-Computer Interaction & Sustainable HCI
Dissertation: Designing and Evaluating Next-Generation Thermographic Systems to Support Residential Energy Audits
Committee: Jon E. Froehlich (Chair), Andrea Wiggins, David W. Jacobs, Niklas Elmqvist, & Michelle Mazurek

University at Albany - State University of New York

2010 Master of Business Administration
Area: Information Technology Management
Thesis: The Impact of Collective Efficacy on Organizational Behaviors

2008 Master of Science, Computer Science and Applied Mathematics
Area: Software Architecture & Project Management
Qualifying Project: The Design of a Content & Business Management System for Collegiate Sports

2007 Bachelor of Science, Computer Science and Applied Mathematics

HONORS & PROFESSIONAL DEVELOPMENT

2018 Excellent Reviewer, ACM SIGCHI, CHI 2018
2017 Excellent Reviewer, ACM SIGCHI, CHI-PLAY 2017
2017 Excellent Reviewer, ACM SIGCHI, CHI 2017
2017 All S.T.A.R. Fellow, The Graduate School, University of Maryland
2017 Future Faculty Fellow, The Clark School, University of Maryland
2016 Jacob K. Goldhaber Travel Award, The Graduate School, University of Maryland
2015 Outstanding Graduate Assistant Award, The Graduate School, University of Maryland
2015 Level 1 Thermographer Certification, Infrared Training Center
2014 HCIL Conference Travel Award, Human-Computer Interaction Lab, University of Maryland
2013 Distinguished Teaching Assistant Award, Center for Teaching Excellence, University of Maryland
2013 John D. Gannon Travel Award, Department of Computer Science, University of Maryland
2012 IGDA Scholar Award, International Game Developers Association
2011 Graduate Participant, Revolutionary Aerospace Systems Concept Academic Linkage, National Institute of Aerospace
2010 Certified Scrum Master, Scrum Alliance
2010 Global Business Strategic Management Team Champion Award, The Business School, University at Albany
2003 EntrePrep, Lally School for Entrepreneurial Leadership, Rensselaer Polytechnic Institute

RESEARCH & WORK EXPERIENCE

****Assistant Professor, University of Delaware, Newark, DE, Spring 2021****

****Computer & Information Sciences****

Postdoctoral Scholar, Stanford University, Stanford, CA, 2019 – Present
School of Medicine, Pervasive Wellbeing Technology Lab. Advisor: Dr. Pablo E. Paredes

RESEARCH & WORK EXPERIENCE (Continued)

- Visiting Postdoctoral Scholar, Stanford University & Oregon State University**, Stanford, CA, 2018 – 2019
Civil and Environmental Engineering Department & School of Public Policy (respectively). Advisor: Dr. Hilary Boudet
- Graduate Research Assistant, UMIACS, University of Maryland**, College Park, MD, 2014 – 2018
Makeability Lab, Human-Computer Interaction Lab, Department of Computer Science. Advisor: Dr. Jon E. Froehlich
- User Experience Research Intern, Microsoft Research**, Bellevue, WA, 2015
Bing UX & Applied Machine Learning, Advisors: Tapas Kanungo & Susan Dumais
- Teaching Assistant, Department of Computer Science, University of Maryland**, College Park, MD, 2012 – 2016
Introduction to Human Computer Interaction, Introduction to Image Processing, Introduction to Computer Systems, etc.
- University Career Center & the President’s Promise, University of Maryland**, College Park, MD, 2010 – 2012
Web Services Developer
- Intriguing Design Studios Incorporated**, Albany, NY, 2007 – 2018
President (Project Manager & Developer)
- New York State Office of Cyber Security**, Albany, NY, 2007 - 2010
Graduate Assistant (Web Applications Developer)
- Library Systems, University Library, University at Albany, State University of New York**, Albany, NY, 2006 - 2007
Information Technology Intern (Technician/Programmer)
- Interactive Media Center, University Library, University at Albany, State University of New York**, Albany, NY, 2006 – 2007
Undergraduate Assistant (Technician/Consultant)
- The Office of the Chief Information Officer, Office of the State Comptroller**, Albany, NY, 2006
Project Management Intern
- Applied Robotics Incorporated**, Glenville, NY, 2002-2003
Information Technology Intern

CONFERENCE PUBLICATIONS

- 2019 **Mauriello, M.L.**, McNally, B., and Froehlich, J.E. (2019). “Thermporal: An Easy-to-Deploy Temporal Thermographic Sensor System to Support Residential Energy Audits.” *In Proceedings of ACM CHI 2019 Conference on Human Factors in Computing Systems* [Acceptance Rate: 24% (705/2960)].
- 2018 **Mauriello, M.L.**, McNally, B., Buntain, C., Bagalkotkar, S., Kushnir, S., and Froehlich, J.E. (2018). “A large-scale analysis of YouTube videos depicting everyday thermal camera use.” *In Proceedings of ACM MobileHCI 2018 Conference on Human-Computer Interaction with Mobile Devices & Services in Computing Systems* [Acceptance Rate: 24% (50/213)].
- 2018 Golbeck, J., **Mauriello, M.L.**, Auxier, B., Bhanushali, K.H., Bonk, C., Bouzaghrane, M.A., Buntain, C., *et al.*, (2018). “Fake news vs satire: a data set and analysis.” *In Proceedings of the 10th ACM Conference on Web Science* [Acceptance Rate: 27% (30/113)]. **Best of WebSci’18.**
- 2018 McNally, B., Kumar, P., Hordatt, C., **Mauriello, M.L.**, Naik, S., Norooz, L., Shorter, A., Golub, E., and Druin, A., (2018). “Co-designing mobile online safety applications with children.” *In Proceedings of ACM CHI 2018 Conference on Human Factors in Computing Systems* [Acceptance Rate: 26% (667/2595)].
- 2017 **Mauriello, M.L.**, Saha, M., Brown, E., and Froehlich, J.E., (2017). “Exploring novice approaches to smartphone-based thermographic energy auditing: A field study.” *In Proceedings of ACM CHI 2017 Conference on Human Factors in Computing Systems* [Acceptance Rate: 25% (606/2424)].
- 2017 McNally, B., **Mauriello, M.L.**, Guha, M.L., and Druin, A., (2017). “Gains from participatory design team membership as perceived by child alumni and their parents.” *In Proceedings of ACM CHI 2017 Conference on Human Factors in Computing Systems* [Acceptance Rate: 25% (606/2424)].
- 2016 McNally, B., Guha, M.L., **Mauriello, M.L.**, and Druin, A., (2016). “Children’s perspectives on ethical issues surrounding their past involvement on a participatory design team.” *In Proceedings of ACM CHI 2016 Conference on Human Factors in Computing Systems* [Acceptance Rate: 23% (538/2300)].
- 2015 **Mauriello, M.L.**, Norooz, L., and Froehlich, J.E., (2015). “Understanding the role of thermography in energy auditing: current practices and the potential for automated solutions.” *In Proceedings of ACM CHI 2015 Conference on Human Factors in Computing Systems* [Acceptance Rate: 23% (495/2150)]. **Best Paper Honorable Mention.**
- 2015 Norooz, L., **Mauriello, M.L.**, Jorgensen, A., McNally, B., and Froehlich, J.E., (2015). “BodyVis: A new approach to body learning through wearable sensing and visualization.” *In Proceedings of ACM CHI 2015 Conference on Human Factors in Computing Systems* [Acceptance Rate: 23% (495/2150)]. **Best Paper Honorable Mention.**

CONFERENCE PUBLICATIONS (Continued)

- 2014 **Mauriello, M.L.**, Gubbels, M., Froehlich, J. E., (2014). "Social Fabric Fitness: The design and evaluation of wearable E-textile displays to support group running." *In Proceedings of ACM CHI 2014 Conference on Human Factors in Computing Systems*. [Acceptance Rate: 23% (464/2034)]

JOURNAL PUBLICATIONS

- 2020 Balters, S., **Mauriello, M.L.**, Park, S.J., Landay, J.A., Paredes, P.E., (2020). "Calm Commute: Guided Slow Breathing for Daily Stress Management in Drivers." *In Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 4, 1, 38 (2020): 19.
- 2016 Golbeck, J., and **Mauriello, M.L.**, (2016). "User perception of Facebook app data access: A comparison of methods and privacy concerns." *Future Internet*, v8.2 (2016): 9.
- 2014 Lee, T. Y., **Mauriello, M. L.**, Ahn, J., and Bederson, B.B., (2014). "CTArcade: Computational thinking with games in school age children." *International Journal of Child-Computer Interaction*, v2.1 (2014): 26-33.

ADJUNCT PUBLICATIONS

- 2019 **Mauriello, M.L.**, Zanocco, C., Stelmach, G., Flora, J., Boudet, H., and Rajagopal, R., (2019). "An Energy Lifestyles Program for Tweens: A Pilot Study". *In Proceedings of ACM CHI 2019 Conference on Human Factors in Computing Systems*. Extended Abstract. [Acceptance Rate: 42% (343/813)].
- 2019 Bates, O., New, K., Mitchell-Finnigan, S., **Mauriello, M.L.**, Remy, C., Bendor, R., Mann, S., Chopra, S., Clear, A., and Priest, C., (2019). "Toward a Responsible Innovation Agenda for HCI." *In Proceedings of ACM CHI 2019 Conference on Human Factors in Computing Systems*. Extended Abstract.
- 2019 Buntain, C., Golbeck, J., Auxier, B., Assefa, G., Boyd, K.M, Chawla, G., Chen, D., Cooper, B.J., Cupani, J., Daetwyler, C., DeWitt, N., Garcia, S., Hafer, C., Khan, M., Lewis, E., Martindale, M. J., **Mauriello, M.L.**, et al. (2019). "Analyzing a Fake News Authorship Network. *In Proceedings of the iSchools iConference 2019*. Extended Abstract.
- 2017 **Mauriello, M.L.**, Chazan, J., Gilkeson, J., and Froehlich, J.E., (2017). "A temporal thermography system for supporting longitudinal building energy audits." *In Proceedings of the 2017 ACM international Joint Conference on Pervasive and Ubiquitous Computing*. Adjunct Publication.
- 2016 **Mauriello, M.L.**, Shneiderman, B., Du, F., Malik, S., and Plaisant, C., (2016). "Simplifying overviews of temporal event sequences." *In Proceedings of ACM CHI 2016 Conference on Human Factors in Computing Systems*. Extended Abstract. [Acceptance Rate: 43% (281/647)]. **Best Paper Honorable Mention.**
- 2014 **Mauriello, M. L.**, and Froehlich, J. E., (2014). "Towards automated thermal profiling of buildings at scale using unmanned aerial vehicles and 3D-reconstruction." *In Proceedings of the 2014 ACM international Joint Conference on Pervasive and Ubiquitous Computing*. Adjunct Publication.
- 2012 Lee, T. Y., **Mauriello, M.L.**, Ingraham, J., Sopan, A., Ahn, J., and Bederson, B. B. (2012). "CTArcade: Learning computational thinking while training virtual characters through game play." *In Proceedings of ACM CHI 2012 Conference on Human Factors in Computing Systems*. Extended Abstract.

WORKSHOP PAPERS

- 2020 Paredes, P.E., Goel, R., and **Mauriello, M.L.**, (2020). "SWEET: Towards a Digital Wellbeing and Occupational Health Platform in the Age of the COVID-19 Pandemic." *Microsoft, New Future of Work Symposium*
- 2020 **Mauriello, M.L.**, Mora-Mendoza, M., and Paredes, P.E., (2020). "Towards Breathing Edges: A Prototype Respiration Entrainment System for Browser-based Computing Tasks." *ACM SIGCHI 2020 3rd Body as a Starting Point Workshop Exploring Themes for Imbodied Interaction Research and Design*.
- 2020 Paredes, P., Tantivasadakarn, N., Hon, G., Lincoln E.T., Gowda, N., Mora-Mendoza, M., **Mauriello, M.L.**, (2020). "Toward PopBots: A Suite of Conversational Agents for Daily Stress." *ACM SIGCHI 2020 Workshop on Conversational Agents for Health and Wellbeing*.
- 2017 **Mauriello, M.L.**, (2017). "Scalable methods and tools to support thermographic data collection and analysis for energy audits." *ACM Ubicomp 2017 Doctoral Colloquium*.
- 2016 **Mauriello, M.L.**, Dalhausen, M., Brown, E., Saha, M., and Froehlich, J.E. (2016). "The future role of thermography in human-building interaction." *ACM SIGCHI 2016 Workshop on the Future of Human-Building Interaction*.

TECHNICAL REPORTS

- 2018 **Mauriello, M.L.**, Buntain, C., McNally, B., Bagalkotkar, S., Kushnir, S., and Froehlich, J.E., (2018). "SMIDGen: An approach for scalable, mixed-initiative dataset generation from online social networks." *HCIL Tech Reports*.

DISSERTATION

2018 **Mauriello, M.L.**, (2018). "Designing and evaluating next-generation thermographic systems to support residential energy audits." Department of Computer Science, University of Maryland.

CONFERENCE PRESENTATIONS

"Thermoporal: An Easy-to-Deploy Temporal Thermographic Sensor System to Support Residential Energy Audits." CHI 2019, Glasgow, Scotland, United Kingdom, May 4 – 9, 2019.

"A large-scale analysis of YouTube videos depicting everyday thermal camera use." MobileHCI 2018, Barcelona, Spain, September 3 – 6, 2018.

"Exploring novice approaches to smartphone-based thermographic energy auditing: A field study." CHI 2017, Denver, Colorado, USA, May 6 – 11, 2017.

"Understanding the role of thermography in energy auditing: current practices and the potential for automated solutions." CHI 2015, Seoul, Republic of South Korea, April 18 – 23, 2015.

"Social Fabric Fitness: The design and evaluation of wearable E-textile displays to support group running." CHI 2014, Toronto, Ontario, Canada, April 26 – May 1, 2014.

POSTER PRESENTATIONS

"Perceptions of a Skin Wearable for Stress Management" eWEAR 2020 Conference, Stanford University. Poster Presentation. February 14, 2020.

"An Energy Lifestyles Program for Tweens: A Pilot Study." CHI 2019, Glasgow, Scotland, United Kingdom, May 4 – 9, 2019.

"A temporal thermography system for supporting longitudinal building energy audits." UbiComp 2017, Maui, Hawaii, USA September 11 – 15, 2017.

"Simplifying overviews of temporal event sequences." CHI 2016, San Jose, California, USA, May 7 – 17, 2016.

"Towards automated thermal profiling of buildings at scale using unmanned aerial vehicles and 3D-reconstruction." UbiComp 2014, Seattle, Washington, USA, September 13 – 17, 2014.

"CTArcade: Learning computational thinking while training virtual characters through game play." CHI 2012, Austin, Texas, USA, May 5 – 10, 2012.

INVITED TALKS

"Don't Stick It Here, Stick It There: Receptiveness to eSkin Wearables for Stress Monitoring in Northern California" Research in Progress Seminar Series, Stanford Diabetes Center, Stanford University. Virtual Seminar Presentation, May 15, 2020.

"Building Interactive Systems for Social Good." Illinois Institute of Technology, Virtual Seminar Presentation, March 24, 2020

"Building Interactive Systems for Social Good." Michigan State University, Virtual Seminar Presentation, March 18, 2020.

"Building Interactive Systems for Social Good." Tufts University, Virtual Seminar Presentation, March 13, 2020.

"Building Interactive Systems for Social Good." University at Albany – SUNY, Albany, New York, USA, March 9, 2020.

"Building Interactive Systems for Social Good." University of Texas at Dallas, Dallas, Texas, USA, March 4, 2020.

"Building Interactive Systems for Social Good." San Francisco State University, San Francisco, California, USA, February 27, 2020.

"Building Interactive Systems for Social Good." University of Delaware, Newark, Delaware, USA, February 19, 2020.

"Building Interactive Systems for Social Good." University of Texas at Arlington, Arlington, Texas, USA, February 12, 2020.

"An Energy Lifestyles Program for Tweens: A Pilot Study." The University of Oxford, England, United Kingdom, May 21, 2019.

"Thermoporal: An Easy-to-Deploy Temporal Thermographic Sensor System to Support Residential Energy Audits." The University of Oxford, England, United Kingdom, May 21, 2019.

"The role of thermography in professional and novice energy auditing." Owens Corning R&D, Granville, Ohio, USA, June 8, 2017.

"Game jam 101: A workshop." Global Game Jam 2017, American University, Washington, DC, USA, Jan 20, 2017.

INVITED TALKS (Continued)

- “Tumbleweed Express: A tale of 54 game jams.” International Game Developers Association (IGDA) DC Chapter Meeting, Washington, DC, USA, June 28, 2016.
- “Exploring non-professional smartphone-based thermographic energy auditing.” 32nd Annual HCIL Symposium, College Park, Maryland, USA, May 26, 2016.
- “Game jams, SCRUM, and the development of independent video games.” 1st Annual UMD Video Game Showcase, College Park, Maryland, USA, April 14, 2013.
- “Understanding the role of thermography in energy auditing: current practices and the potential for automated solutions.” University of Maryland Baltimore County, Baltimore, MD, USA, March 30, 2015.
- “Social Fabric Fitness: The design and evaluation of wearable E-textile displays to support group running.” Quantified Self DC, Washington, DC, USA, March 19, 2014.

GIFTS, GRANTS, & AWARDS

Stanford University (as a postdoc)

- 2020 **Digital Wellbeing and Occupational Health in the Age of COVID-19**
Stanford University, RISE Grant, \$50,000.
Co-lead author, PIs: Victor G. Carrion, Pablo E. Paredes, & Jane P. Kim
- 2020 **Artificial Intelligence-enabled Multimodal Stress Sensing for Precision Health**
National Science Foundation, SenSE 20-556, \$750,000
Contributing writer, PIs: Zhenan Bao & Mert Pilanci
- 2019 **IoT Infrastructure for Indoor Navigation**
Adobe Research, Systems Technology Lab, \$10,000.
Led proposal with co-author Pablo E. Paredes

University of Maryland (as a graduate student)

- 2014 **Pervasive Thermography and Building Sustainability**
University of Maryland, Office of Sustainability, \$11,500.
Led proposal with co-author Jon E. Froehlich

TEACHING

University of Delaware (as a faculty member)

- 2021 Assistant Professor, CISC467/667: Computing for Social Good

University of Maryland, College Park (as a graduate student)

- 2015 Graduate Instructor, CMSC838L: Advanced Topics in Programming Languages; HCI Reading Seminar
- 2013 - 2016 Teaching Assistant, CMSC434: Introduction to Human-Computer Interaction
- 2012 Teaching Assistant, CMSC426: Introduction to Image Processing
- 2012 Teaching Assistant, CMSC216: Introduction to Computer Systems

MENTORING

- 2020 – Present Parsa Nowruzi, Graduate Intern, Stanford University
- 2019 – Present Philip Dasler, Graduate Intern, Adobe Research
- 2019 – Present Thierry Lincoln, Graduate Intern, Stanford University
- 2019 – Present Marco Antonio Mora-Mendoza, Undergraduate Intern, Stanford University
- 2020 Dorien Simon, Undergraduate Intern, Stanford University
- 2020 Luke Hansen, Undergraduate Intern, Stanford University
- 2020 Joshua Kim, Undergraduate Intern, Stanford University
- 2020 Nathaniel Goenawan, Undergraduate Intern, Stanford University
- 2020 Gizem Incesu, Undergraduate Intern, Stanford University
- 2019 – 2020 Grace Hon, Graduate Intern, Stanford University
- 2019 – 2020 Nick Tantivasadakarn, Undergraduate Intern, Stanford University
- 2019 Akshara Motani, Graduate Intern, Stanford University

MENTORING (Continued)

2018 – 2019	Kintien Wong, High School Intern, Stanford University
2017 – 2018	Simran Chawla, Undergraduate Intern, University of Maryland
2017	Sapna Bagalkotkar, High School Intern, University of Maryland
2017	Samuel Kushnir, High School Intern, University of Maryland
2017	Matt Brady, Undergraduate Intern, University of Maryland
2017	Anthony Castrio, Undergraduate Intern, University of Maryland
2016	Julia Zheng, Undergraduate Intern, University of Maryland
2016	Luka Zhupa, Undergraduate Intern, University of Maryland
2016 – 2017	Manaswi Saha, Graduate Intern, University of Maryland
2015 – 2016	Erica Brown, Undergraduate Intern, University of Maryland
2014, 2016	Jamie Gilkeson, High School & Undergraduate Intern, University of Maryland
2013, 2016 - 2017	Noa Chazan, High School & Undergraduate Intern, University of Maryland

PROFESSIONAL ACTIVITIES & SERVICE

2019 – Present	Associate Chair, Specific Application Areas; Human Factors in Computing Systems Conference (CHI2021)
2019 – Present	Communications Chair, ACM SIGCHI Communities: HCI and Sustainability (SHCI)
2019 – Present	Reviewer, International Journal of Human-Computer Studies (IJHCS)
2018 – Present	Member, Association for Computing Machinery (ACM) and SIGCHI
2018 – Present	Member, International Game Developers Association
2017 – Present	Reviewer, Proceedings of the ACM on Interactive, Mobile, Wearable, and Ubiquitous Technologies (IMWUT)
2013 – Present	Reviewer, Proceedings of the ACM on Human Factors in Computing Systems (CHI)
2008 – Present	Developer, Independent Video Game Project(s)
2020	Reviewer, 15th ACM International Conference on Tangible, Embedded and Embodied Interaction (TEI 2021)
2020	Reviewer, 11th Nordic Conference on Human-Computer Interaction (NordiCHI 2020)
2020	Reviewer, ACM User Interface Software and Technology Symposium (UIST 2020)
2020	Organizer, (not-)CHI2020 Sustainable HCI Virtual Forum
2019	Program Committee, ICT for Sustainability 2020 (Conference)
2018	Program Committee, ICT for Sustainability 2019 (Conference)
2018 – 2019	Reviewer, Applied Energy (Journal)
2018	Session Chair, Human Factors in Computer Systems Conference (CHI2018)
2018	Graduate Admissions Committee, Department of Computer Science, University of Maryland
2018	Reviewer, Graphics Interface Conference (GI2018)
2018	Reviewer, Designing Interactive Systems Conference
2017 – 2018	Hackerspace Student Coordinator, Human-Computer Interaction Lab (HCIL), University of Maryland
2016 – 2017	Graduate Representative, Department Council, Department of Computer Science, University of Maryland
2017	Reviewer, Social Science Computer Review (SSCORE)
2016 – 2018	Reviewer, Journal of Medical Internet Research (JMIR)
2016	Graduate Student Ambassador, Department of Computer Science, University of Maryland
2016 – 2017	Reviewer, Computer-Human Interaction in Play (CHI-PLAY)
2016	Student Volunteer, Human Factors in Computer Systems Conference (CHI)
2015 – 2016	Graduate Representative, Education Committee, Department of Computer Science, University of Maryland
2014 – 2016	Human-Computer Interaction Lab (HCIL) Social Coordinator (HCIL-Play Listserv & Social Media)
2014 – 2017	Reviewer, Pervasive and Ubiquitous Computing Conference (UbiComp)
2012 – 2018	Student Volunteer, Annual Human-Computer Interaction Lab (HCIL) Symposium
2012 – 2018	Student Member, Association for Computing Machinery (ACM) and SIGCHI
2012 – 2013	Vice President, University of Maryland Student Chapter of the Association for Computing Machinery
2012 – 2013	Guest Columnist, BaltimoreGamer
2011	Volunteer, University of Maryland STEM Expo & University of Maryland Day
2010 - 2019	Student Member, International Game Developers Association