Melissa Bica, Ph.D.

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RESEARCH AREAS

Human computer interaction (HCI), crisis informatics, computer supported cooperative work (CSCW), social computing, information science, user experience

EDUCATION

Ph.D., Computer Science, University of Colorado Boulder   December 2019
Dissertation: *The Crisis Informatics of Online Hurricane Risk Communication*
Committee: Leysia Palen (advisor, chair), Kenneth M. Anderson, Julie L. Demuth, Brian C.
   Keegan, Clayton Lewis
NSF Graduate Research Fellow

M.S., Computer Science, University of Colorado Boulder   May 2017

B.S., Computer Science and Engineering, Santa Clara University   June 2014
Graduated *cum laude*

Study abroad, School of Informatics, University of Edinburgh, Scotland   Fall 2012

PUBLICATIONS

Archival, Peer-Reviewed Conference Papers

Frank Bentley, Max Silverman, and **Melissa Bica**. (2019). **Exploring Online Video Watching Behaviors.** To appear in *Proceedings of the ACM International Conference on Interactive Experiences for Television and Online Video* (TVX '19).

Melissa Bica, Julie L. Demuth, James E. Dykes, and Leysia Palen. (2019). **Communicating Hurricane Risks: Multi-Method Examination of Risk Imagery Diffusion**. To appear in *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems* (CHI '19).

Frank Bentley, Katie Quehl, Jordan Wirfs-Brock, and **Melissa Bica**. (2019). **Understanding Online News Behaviors.** To appear in *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems Proceedings* (CHI '19).

Melissa Bica, Leysia Palen, and Chris Bopp. (2017). **Visual Representations of Disaster.** *Proceedings of the 20th ACM Conference on Computer Supported Cooperative Work and Social Computing* (CSCW '17).

Jennings Anderson, Marina Kogan, **Melissa Bica**, Leysia Palen, Kenneth M. Anderson, Kevin Stowe, Rebecca Morss, Julie Demuth, Heather Lazrus, Olga Wilhelmi, and Jen Henderson. (2016). **Far Far Away in Far Rockaway: Responses to Risks and Impacts during Hurricane Sandy through First-Person Social Media Narratives.** *Proceedings of the 13th International Conference on Information Systems for Crisis Response and Management* (ISCRAM '16).

Kyoung-Sook Kim, **Melissa Bica**, Isao Kojima, and Hirotaka Ogawa. (2015). **RendezView: Look at Meanings of an Encounter Region over Local Social Flocks.** *Proceedings of the 6th ACM SIGSPATIAL International Workshop on GeoStreaming.*

Journal Articles

Julie L. Demuth, Rebecca E. Morss, Leysia Palen, Kenneth M. Anderson, Jennings Anderson, Marina Kogan, Kevin Stowe, **Melissa Bica**, Heather Lazrus, Olga Wilhelmi, and Jen Henderson. (2018). **"Sometimes da #beachlife ain't always da wave": Understanding People's Evolving Hurricane Risk Communication, Risk Assessments, and Responses Using Twitter Narratives.** *Weather, Climate, and Society* 10, 3: 537–560.

Rebecca E. Morss, Julie L. Demuth, Heather Lazrus, Leysia Palen, C. Michael Barton, Christopher A. Davis, Chris Snyder, Olga V. Wilhelmi, Kenneth M. Anderson, David A. Ahijevych, Jennings Anderson, **Melissa Bica**, Kathryn R. Fossell, Jennifer Henderson, Marina Kogan, Kevin Stowe, and Joshua Watts. (2017). **Hazardous weather prediction and communication in the modern information environment.** *Bulletin of the American Meteorological Society* 98, 12: 2653–2674.

Non-Archival Workshop Papers & Posters

Melissa Bica, Jennifer Henderson, Jennifer Spinney, Leysia Palen, Erik Nielsen, Russ Schumacher, Julie Demuth, and Rebecca Morss. (2019). **Twitter in the Eye of the Storm: Examining Social Media Use for Overcoming Constraints in a Multi-Hazard Hurricane.** Presented at Fall 2019 VORTEX Southeast Workshop. [Poster]

Melissa Bica. (2019). **Human-Centered Data Science for Collaborative, Interdisciplinary Research**. Presented at "Human-Centered Study of Data Science Work Practices" Workshop at the ACM Conference on Human Factors in Computing Systems (CHI '19). [Workshop Paper]

Melissa Bica. (2018). **Sensemaking Around Visual Hurricane Risk Messaging**. Presented at "Sensemaking in a Senseless World" Workshop at the ACM Conference on Human Factors in Computing Systems (CHI '18). [Workshop Paper]

Melissa Bica. (2017). **Visual Representations of Disaster: Analysis of Disaster-Related Online Imagery.** Presented at CRA-W Grad Cohort Workshop. [Poster]

Melissa Bica and Jennings Anderson. (2016). **"You Are What You Tweet!" The Ethics of (Re) Publishing Public Data as Crafted Narratives.** Presented at "Ethical Encounters in HCI Research" Workshop at the ACM Conference on Human Factors in Computing Systems (CHI '16). [Workshop Paper]

Melissa Bica and Kyoung-Sook Kim. (2015). **RendezView: An Interactive Visual Mining Tool for Discerning Flock Relationships in Social Media Data.** Presented at International Conference for High Performance Computing, Networking, Storage and Analysis (SC '15). [Poster]

CONFERENCE PRESENTATIONS

Presenter and panelist, "The Other Uncertainty: Social, Political, and Cultural Forms of Uncertainty in Weather Contexts." American Meteorological Society 99th Annual Meeting. Phoenix, AZ. January 7, 2019.

PRESS COVERAGE

"Twitter could be confusing people who need crucial hurricane information." Ashley Michels. KDVR FOX31 Denver. September 11, 2018. https://kdvr.com/2018/09/11/twitter-could-be-confusing-people-who-need-crucial-hurricane-information/

"Graduate Makes Waves in Data Mining." Jenni Sigl. The Santa Clara. January 7, 2016. http://thesantaclara.org/graduate-makes-waves-in-data-mining/

"Mining social media to manage crises." Sam Stalion. Science Node. December 2, 2015. https://sciencenode.org/feature/mining-social-media-to-manage-crises.php

PROFESSIONAL & RESEARCH EXPERIENCE

Oath Inc. (Yahoo!), Sunnyvale, CA
User Experience Research Intern, Yahoo! Mail
Summer 2018

Microsoft Research, Redmond, WA
Research Intern, Business AI Design & Ethics group
Summer 2017

National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan
OSDC Partnership for International Research and Education Fellow
Summer 2015

Santa Clara University Center for Science, Technology, & Society and Anudip Foundation,   Feb.–Dec. 2013
Kolkata, India and Santa Clara, CA
Global Social Benefit Fellow

Qualcomm Incorporated, San Diego, CA   Summer 2012
Interim Engineering Intern

TEACHING EXPERIENCE

University of Colorado Boulder
Guest Lecturer for CSCI 4830: HCC Big Data Computing   Oct. 2015
Teaching Assistant for CSCI 1300: Introduction to Programming   Aug. 2014–May 2015

Santa Clara University
Guest Lecturer for COEN 100: Undergraduate Research Seminar   May 23, 2018

SKILLS

Programming Languages & Tools: Python, MongoDB, Jupyter Notebook, HTML/CSS/JS, R, MATLAB, Tableau, QGIS

Methods: quantitative/qualitative data analysis, visual content analysis, surveys, interviews, ethnographic observation, think-alouds, cognitive walkthroughs, personas/user stories, in-lab studies

AWARDS

National Science Foundation Graduate Research Fellowship	June 2016
Open Science Data Cloud Partnerships for International Research and Education (PIRE) Fellowship	Apr. 2015
Graduate Student Research Community Development Award	Oct. 2014
Dean's Fellowship (CU Boulder)	AY 2014–2015
Dean's List (Santa Clara University)	AY 2013–2014
Senior Design Presentation Session Award (Santa Clara University)	May 2014
IEEE Women in Engineering International Leadership Conference Scholarship	Apr. 2014
Upsilon Pi Epsilon Computing and Information Honor Society	Apr. 2014
Willem P. Roelandts and Maria Constantino-Roelandts Grant	Nov. 2013
Tau Beta Pi Engineering Honor Society	Oct. 2013
Grace Hopper Celebration of Women in Computing Scholarship	July 2013
Global Social Benefit Fellowship	Feb. 2013
Cisco-SCU Engineering Fellowship	May 2012
Richard Tapia Celebration of Diversity in Computing Scholarship	Apr. 2011

ACADEMIC SERVICE

Reviewing

ACM Conference on Human Factors in Computing Systems (CHI)
ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)
International Journal of Disaster Risk Reduction
ACM Transactions on Information Systems
International Conference on Information Systems for Crisis Response and Management (ISCRAM)

Weather, Climate and Society

Student Volunteering

CHI 2016−2018
International Conference for High Performance Computing, Networking, Storage, and Analysis (SC15)

Mentoring

Mentored undergraduate researcher for CU Boulder's Undergraduate Research Opportunities Program (2019)
Mentored 8 undergraduate researchers for the CU Boulder Discovery Learning Apprenticeship (Spring 2016)

PROFESSIONAL MEMBERSHIP

ACM, ACM-W, ACM Special Interest Group Computer-Human Interaction (SIGCHI), Colorado Virtual Operations Support Team (COVOST)