

Curriculum Vitae

Education

Ph.D. Spatial information Science and Engineering

August 2017

School of Computing and Information Science, University of Maine

Dissertation Title: *Role of spatial prepositions for natural language indoor scene description and navigation.* Chair: Dr. Kate Beard, Professor, School of Computer and Information Science

Degree Emphasis: Human-computer interaction, AR assistive technologies design, indoor space, spatial linguistics and auditory knowledge representation and supports.

M.S. in Spatial Information Science and Engineering

May 2010

College of Engineering, University of Maine

Master's Thesis: *Modeling a personal exposure history through event-event relationships*

Degree Emphasis: Knowledge representation and ontologies, spatio-temporal events, spatial epidemiology, and spatial analysis methods.

B.A. in Anthropology

May 1999

College of Liberal Arts and Sciences, University of Maine

Honor's Thesis: *Religion, identity and gender equity among North American Sikhs*

Degree Emphasis: Intersectional identity, qualitative research methodology, South Asian religions and politics, and multi-generational migrant communities.

B.S. in Elementary Education

May 1999

College of Education and Human Development, University of Maine

Degree Emphasis: Geography and social studies in Grades 6-12.

Professional Experience

Visiting Assistant Professor

July 2018-present

Department of Computer Science, Bowdoin College

- Focus on Introduction to Computer Science, HCI, Natural Language Assistants, Assistive Technologies, Navigation Technologies, Computing Ethics, Professional Culture and Diversity in Technical Environments.

Research Manager, Assistant Research Professor

September 2017-June 2018

Virtual Environment and Multimodal Interaction Lab, University of Maine

- Design and implement Human-Computer Interaction (HCI) studies focusing on User Experience/User Interface (UX/UI) aspects of multimodal systems for navigation;
- Develop interdisciplinary research project including vibro-audio interfaces for increasing non-visual access to graphical information, biometrics, virtual learning systems, augmented speech systems;
- Supervise undergraduate and graduate student research training;
- Develop federal and foundation grant proposals.

Stacy A. Doore

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Advisor and Evaluator

April 2017-June 2018

School of Computing and Information Science, University of Maine

- Advisor to women in SCIS program through ACM-W outreach;
- Curriculum Advisor and Evaluator for pilot SCIS Summer Coding Camp for HS students without prior programming experience;
- Liaison for SCIS with other UMaine women in STEM programs and clubs.

Consultant-External Evaluator

August 2017-present

Mariko Chang Consulting, LLC, Boston, MA

- Sub-contractor working with Mariko Chang Consulting, LLC on external evaluation NSF grants. This includes for NSF grant AWIS ARC Network (3.5 million, 5 year) and UCGIS TReLIS Mentoring Initiative (\$360,000, 3 year) to support research and use of resources related to NSF Broadening Participation programs;
- Current evaluation responsibilities include development of online survey tools for assessing grant activities and total impact of AWIS efforts, interviews with key stakeholders, and program activities and impact study reporting.

Consultant-External Evaluator

August 2017-present

MDI Biological Laboratory, Bar Harbor, Maine

- Evaluation of NIH grant for development of online course evaluation and communication tools for researchers enrolled in the Environmental Genomics courses;
- Current evaluation responsibilities include development of online survey tools for assessing grant activities and total impact of MDI Biological Laboratory efforts, interviews with key stakeholders, and program activities and impact study reporting.

Internal Evaluator

November 2013-August 2017

Rising Tide Center, University of Maine

- Evaluation of NSF ADVANCE Institutional Transformation grant (3.2 million, 6 years) for the increase of recruitment, retention, and advancement of women faculty in STEM and Social-Behavioral Sciences at the University of Maine;
- Evaluation responsibilities included development of institutional transformation logic model and evaluation plan, collection and analysis of quantitative and qualitative institutional data, survey design;

Consultant-External Evaluator

2013-2017

Multiple Federal Grant Awards, University of Maine

- Evaluation of multiple grant awards for University of Maine units including the *Canadian-American Center* (IES National Resource Center grant), *Forest Bioproducts Research Institute* (USDA SELF program), *Cooperative Extension* (USDA Agrability program).
- Evaluation responsibilities included development of logic model and evaluation plans, collection and analysis of quantitative and qualitative data, survey design, and evaluation impact reporting.

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Consultant-External Evaluator

2013-2014

Patient EMR Portal Program, Eastern Maine Health Services Clinical Research Unit

- Evaluation of NIH outcomes related to User Experience for EMHS Patient EMR Data Portal.
- Responsibilities included conducting Portal User interviews and focus groups (EMHS doctors, nurse supervisors, IT support staff. and patients), discourse analysis, and evaluation impact reporting.
- Co-authored research publications with EMHS Co-PIs.

Program Evaluator and Spatial Data Analyst

2012-2013

Center for Research and Evaluation, University of Maine

- Coordinated research agenda for Maine Department of Education Student Longitudinal Data System mobility project which focused on spatial-temporal modeling of student mobility data and academic outcomes for 1 million student records from 2008-2011.
- Conducted text & sentiment analysis of system level learning technologies and teaching methods for University of Maine System T4 evaluation project.

NSF IGERT Trainee-Cohort Leader

2010-2012

NSF IGERT Sensor Science, Engineering and Informatics, University of Maine

- Led cohort team in the development of real-time indoor formaldehyde monitoring system. Coordinated project management, reporting, and research dissemination activities.
- Developed ontology for data collection and analysis. Conducted prototype development and testing.

Instructor - EDT 598 GIS in Education

2009-2010

College of Education and Human Development, University of Maine

- Co-developed and co-taught graduate level education course for teachers in using GIS technologies and applications in middle and high school classrooms to teach spatial thinking, analysis and research skills.

Graduate Student Research Assistant

2008-2010

National Center for Geographic Information Analysis, University of Maine

- Conducted spatial analysis for Department of Defense's Maine Cancer GIS project, a partnership with Maine Institute for Human Genetics and Health, Jackson Lab, and the University of Maine.

NSF GK-12 Fellow

2007-2010

NSF GK-12 Sensors!, University of Maine

- Co-developed and taught first GIS course in Maine for high school sophomores and juniors with a particular emphasis on promoting engineering and computer science career paths for girls.

Research Associate, Research and Evaluation Team

2003-2007

Center for Community Inclusion and Disability Studies, University of Maine

- Conducted qualitative research and analysis for assistive technologies development project, assisted with survey design, validation and field testing, and information system support.

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Research Associate, Professional Development and Database Developer

2001-2003

National Center for Student Aspirations, University of Maine

- Conducted qualitative research and analysis for improving school climate and student outcomes, assisted with survey design, professional development module training, and information system support.

Middle School Educator, Gr 7 and 8

1999-2001

J.A. Leonard Middle School, Old Town, Maine

- Instructor for Math, Language Arts and Social Studies. Developed curriculum and student assessments for a diverse group of learners.

Teaching and Courses

Intro. to Computer Science

Fall 2018

Computing, Ethics, and Society

Fall 2018

Dept. of Computer Science, Bowdoin College

Special Topics: Gender in STEM

Spring 2018

College of Liberal Arts and Sciences, University of Maine

Special Topics: Virtual Reality Systems (Guest Lectures)

Fall 2016 & 2017

School of Computing and Information Sciences, University of Maine

GIS in Education

Spring 2010

College of Education and Human Development, University of Maine

Research and Collaborative Projects

Guidelines for Multimodal Systems: Non-Visual Indoor Navigation in Airports April 2018-present

Collaboration with Nicholas Giudice and Federal Aviation Administration

- Research on establishing guideline for spatial natural language cues in multimodal systems for non-visual indoor navigation tasks specifically for airport travel for the BVI community.

Coders Collaborative (Coco-Women helping Women)

2016-present

Collaboration with Ruth Leopold, Portland, Maine

- Expansion of online forum designed to provide encouragement, support, and programming skill building of women entering tech fields. This unique digital humanities project combines video interviews, coding lessons, and community building to connect women in remote locations through sharing experiences and learning environments. <https://coderscollaborative.net/site/>

Spatial Language in Indoor Environments

2016-present

VEMI Lab, University of Maine

- Research and demonstration of impact of spatial language on cognitive map formation and navigation task performance in real-world and virtual indoor environments. Research aims to develop improved spatial language for use in multimodal mobile interfaces for general population and users with limited visual capacity (e.g., situational blindness, vision impairment, emergency/disaster response).

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Vibro-Audio STEM: Accessible STEM for Learners with Vision Impairment

2016-2018

VEMI Lab, University of Maine

- Multimodal Interfaces for Developing Remote STEM Curriculum and Materials to support STEM learners and educators in blind and vision impairment community in remote locations.

Training and Retaining Leaders in the STEM Geospatial Sciences

May 2017-present

University Consortium of Geographic Information Science (UCGIS)

- NSF funded research and professional development focused on supporting women faculty and PhD. students in the geospatial sciences (GIScience, remote sensing, spatial analysis, and mapping sciences). A 3 year series of workshops, and online resources will include videos, podcasts, and written compilations of recommendations of best practices, and strategies for improving professional experiences of women in geospatial science. (NSF Award No: BCS 1660400).

Transforming Computing Across the University of Maine System

June 2017-2018

School of Computing and Information Science, University of Maine

- UMS RRF Seed grant funded research and education pilot project to develop exploratory CS programming course for non-CS majors and high school students. Conducting project evaluation and dissemination of results to wider CS education community.

ADVANCE Resource and Coordination Network (ARC Network)

September 2017-present

Association of Women in Science, Washington, D.C.

- NSF funded research and evaluation program focused on gathering, synthesizing, and conducting meta-analysis on existing resources across 150 NSF ADVANCE funded institutions and increasing information access to improve broadening participation outcomes across NSF funded programs.

Publications

Giudice, N. A., Whalen, W. E., Riehle, T. H., Anderson, S.M., and Doore, S.A. (accepted). Evaluation of an accessible, real-time, and infrastructure-free indoor navigation system by blind users in the Mall of America. *Journal of Visual Impairment and Blindness*.

Doore, S.A., Beard, K., and Giudice, N.A. (2017). Spatial prepositions in natural-language descriptions of indoor scenes. Fogliaroni, P., Ballatore, A., Clementini, E. (Eds.) *In: Proceedings of Workshops and Posters at the 13th International Conference on Spatial Information Theory (COSIT 2017)*. L'Aquila, Italy, Springer International Publishing.

Doore, S.A. (2016). Spatial preposition specification for improved small scale navigation, in: Onsrud, H. and Kuhn, W. (eds.) *Advancing Geographic Information Science: The Past and Next Twenty Years*. The Global Spatial Data Infrastructure Association, Santa Barbara, CA.

Gardner, S. and Doore, S. (2016). Institutional Transformation through Innovative Internal Advisory Boards. *Association for Women in Science (AWIS) Magazine*. Fall 2016.

- Sorondo, B., Allen, A., Bayleran, J., Doore, S., Fathima, S., Sabbagh, I., and Newcomb, L. (2016). "Using a Patient Portal to Transmit Patient Reported Health Information into the Electronic Record: Workflow Implications and User Experience," *eGEMs (Generating Evidence & Methods to improve patient outcomes)*: 4 (3).
- Doore, B., Jorgenson, B, Doore, S and Mason, C. (2013) *Teacher evaluation and professional growth systems: A national review of models, approaches and challenges*. Maine Education Policy Research Institute, University of Maine, Orono.
- Mahmood, C.K. and Brady(Doore), S.A. (2000). *The Guru's Gift: An Ethnography Exploring Gender Equality with North American Sikh Women*. New York McGraw Hill.

Refereed Conference Papers and Presentations

- Doore, S.A., Beard, K., and Giudice, N.A. (2018). Natural-language spatial cues for learning and navigating indoor environments. Talk: 2nd biannual Interdisciplinary Navigation Symposium (iNav 2018). June 25-29, Quartier Tremblant, CANADA.
- Jensen, N.A., Rasmussen, W.E.O., Doore, S.A., and Giudice, N.A. (2018). Comparing Vibrotactile Smartphone Interfaces for Supporting Nonvisual Navigation of Virtual Environments. Poster: 2nd biannual Interdisciplinary Navigation Symposium (iNav 2018). June 25-29, Quartier Tremblant, Canada.
- Doore, S.A., Beard, K., and Giudice, N.A. (2018). Conceptual structure and object salience in indoor scene descriptions. Talk: 7th International Conference on Spatial Cognition (ICSC 2018). Sept. 10-14, Rome, Italy.
- Doore, S.A. and Gardner, S. The University of Maine's Rising Tide Center: Showcasing a Successful Evaluation and Social Science Collaboration. *2017 ADVANCE/GSE Program Workshop on Broadening Participation: Intersectionality*. Washington D.C., October 2017.
- Doore, S.A., Beard, M.K. and Giudice, N. A. Spatial preposition use in indoor scene descriptions. *9th International Conference on Geographic Information Science*. Montreal, Quebec. September, 2016.
- Doore, S.A., Fried, A., and Horton, K. From the bottom and the top: Changing gendered universities. *112th Annual Meeting of the American Political Science Association*. Philadelphia, PA. September, 2016.
- Doore, S.A., Beard, K. and Giudice, N. A room with a view: The role of spatial prepositions in indoor scene descriptions. *Spatial Cognition 2016*, Philadelphia, PA. August, 2016.
- Doore, S. Spatial prepositions for improved scene descriptions. *10th International Conference on Spatial Information Theory, COSIT 2015*, Santa Fe, New Mexico. October, 2015.
- Bilen-Green, C., Carpenter, J. P., Doore, S., Green, R. A., Horton, K. J., Jellison, K. L., Latimer, S. M., Levine, M. J., and O'Neal, D. P., Implementation of advocates and allies programs to support and promote gender equity in academia. *2015 American Society for Engineering Education Annual Conference and Exposition, (ASEE 2015)* Seattle, Washington. June, 2015.
- Doore, S., Mason, C., and Beard, K. A conceptual model for representing student mobility histories. *Association of American Geographers 2013 Annual Meeting, (AAG 2013)*. Los Angeles, CA. April, 2013.

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- Doore, S., Eaton, C, Wittier, J., Smitheran, P, and Massey, D. Real-Time Monitoring of Formaldehyde Concentrations in the Built Environment. *International Society of Environmental Epidemiology (ISEE 2012)*. Barcelona, Spain. September, 2011.
- Doore, S., Beard, K. and Bult, C. Zooming in: A closer look at cancer in Maine, *URISA Conference for GIS in Public Health*, Atlanta, GA, June, 2011.
- Doore, S., Beard, K. and Bult, C. An ontology-based personal exposure history. *Association for Computer Machinery International Health Informatics Symposium (ACM IHI 2010)*. Arlington, VA. November, 2010.
- Doore, S., Chernosky, M., Hedefine, E., Arsenault, J., Godsoe, S., Holden, C., Vetelino, J. University of Maine GK-12 Sensors! Program Benefits a Local Community. *38th ASEE/IEEE Frontiers in Education Conference (FIE 2008)*.Saratoga, NY. October, 2008.
- Doore, S., Tu, S., Song, Q., Cobo-Lewis, C., Day, P., Wall, T., and Mason, C.(2006). Using GIS and data linkage for birth defects surveillance in a small and rural population. In *Proceedings of the 134th Annual Meeting of the American Public Health Association (APHA 2006)*, Boston, MA. November, 2006.

Pending External Funding

NSF Future Workforce Human-Technology Interactions-Augmenting Cognitive and Physical Capacities, Program Solicitation: NSF 18-548

Proposal Title: Compensatory Augmentation Technologies (CAT) Supporting Blind and Visually Impaired Workforce Development (Pending--1.4 million-5 year) Co-PI

NSF Cyberlearning for Work at the Human-Technology Frontier

Program Solicitation: NSF 17-598

Proposal Title: A remote multimodal learning environment to increase graphical information access for blind and visually impaired students (Pending—800,000-3 year) Co-PI

Awards

Michael J. Eckardt Dissertation Fellowship	2016
Grace Hopper Celebration Scholar, Anita Borg Institute	2016
Conference on Spatial Information Theory Conference Scholarship	2015
Vespucci Summer Institute Scholarship	Italy 2011 and 2013; Maine 2015
Valedictorian, Class of 1999, University of Maine	1999
Outstanding Graduating Senior, Summa Cum Laude	1999
University of Maine Graduate Research Symposium Awards	
• Best presentation-Physical Sciences	2016
• Best poster-Social Sciences	2013
• Research Innovation award	2011
• Best poster-Engineering	2009

Scientific Engagement and Service

Research Conferences

Interdisciplinary Navigation Symposium (iNAV 2018)	2018
UCGIS Symposium	2018
NSF ADVANCE/GSE/AWIS Workshop PI meeting	2017
Grace Hopper Celebration of Women in Computing	2017
International Conference on Spatial Information Theory (COSIT 2017)	2017
UCGIS Symposium	2017
New England Celebration of Women in Computing	2017
Geographic Information Science (GIScience)	2016
Spatial Cognition	2016
Association of American Geographers	2016
Grace Hopper Celebration of Women in Computing	2016
International Conference on Spatial Cognition (COSIT 2015)	2015
Vespucci Summer Institute- 20th Anniversary Future of GIScience	2015
International Conference on Spatial Information Theory (COSIT)	2015
NSF ADVANCE PI meeting	2014
Association of American Geographers	2013
Vespucci Summer Institute. Spatial Micro-simulation Methods, Fiesole, Italy	2013
Vespucci Summer Institute. Process Ontologies, Fiesole, Italy	2011
URISA Conference on GIS and Public Health	2011
International Society of Environmental Epidemiology (ISEE)	2011
International Health Informatics Symposium (ACM IHI)	2010
URISA Conference on GIS and Public Health	2009
Frontiers in Engineering Education Conference (ASEE/IEEE FIE)	2008
Annual Meeting of the American Public Health Association (APHA)	2006

Synergistic Activities and Academic Service:

<i>Session Reviewer</i> , Workshop on Spatial Language, COSIT	2017
<i>Session Reviewer</i> , HCI Track, Grace Hopper Celebration of Women in Computing	2017
<i>Manuscript Reviewer</i> , <i>Assistive Technology</i> , Taylor and Francis Online	2017
<i>Session Organizer</i> , New England Celebration of Women in Computing	2016
<i>ACM-W Student Chapter President</i> , <i>ACM-W Advisor</i>	2016-2018
<ul style="list-style-type: none">• Wrote successful Google.org grant for \$3,000 to launch Association of Computing Machinery-Women (ACM-W) student chapter at the University of Maine.• Planned group launch, implemented K-12 outreach and career panels while working to expand membership to include other institutions in Maine.• Developed industry partnerships for internships and job opportunities for ACM-W members	

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- Implementation and Evaluation Committee- Coding Camp: HS Intro CS Camp* 2017-present
- Provided consultation on best practices in teaching introductory computer science concepts to high school students.
 - Provided evaluation of pilot program activities and outcomes
- Planning Committee, Expanding Your Horizons, Rising Tide Center* 2017-present
- Planning and implementation of transition of EYH to Rising Tide Center.
- Oversight Committee, Women in STEMM, UMaine* 2016-present
- Planning and implementation of WiSTEMM Symposium 2016
- Co-Chair, Data Committee, Provost Council on Advancement of Women Faculty 2015-2017*
- Advised PCAWF on issues related to institutional transformation processes including data collection, analysis, and evaluation of programming to increase recruitment, retention, and advancement of women faculty at UMaine.
- STEM-CS Gr 4-12 Workshop Facilitator,* 2007-present
- Designed +12 workshops with a focus on education/career opportunities for Grades 4-12 girls in spatial information science and computer science for campus STEM-CS events. This includes Expanding Your Horizons, Girl Scout Science Days, 4H Science Days and Maine Science Festival.

Professional and Service Societies

Association for Computing Machinery-Women, Association for Women in Science, American Association of Geographers, Society of Women Engineers, NCWIT, P.E.O., Phi Beta Kappa, Phi Kappa Phi.

Collaborators

Penny Rheingans (University of Maine), Kate Beard (University of Maine); Susan Gardner (University of Maine); Richard Corey (University of Maine); Nicholas Giudice (University of Maine); Caitlin Howell (University of Maine); Amy Fried (University of Maine); Karen Horton (University of Maine); Barbara Sorondo (EMMC Clinical Research); Janet Bayleran (EMMC Clinical Research); Carol Bult (Jackson Laboratory); Constance Holden (University of Maine Augusta); John Vetelino (University of Maine); Cynthia Mahmood (University of Notre Dame); Mariko Chang (Mariko Chang Consulting); Harlan Onsrud (University of Maine); Jane Disney (MDI Biological Laboratory); Laura Wilson (University of Maine), Anne Applin (Southern Maine Community College).