

Joslenne Peña



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education

- 2015–now **Ph.D. Candidate** in Informatics The Pennsylvania State University
Advisor: Mary Beth Rosson
Specialization: Human-Computer Interaction
Dissertation Title: Promoting Computational Grounding through Informal Coding Workshops for Non-Programmers
- 2013–2015 **M.S.** in Information Sciences and Technology The Pennsylvania State University
Conferred August 2015
- 2009–2013 **B.A.** in Multimedia Web Design and Development University of Hartford
Conferred May 2013
Cum Laude, President's List

skills

Tools | HTML, CSS, JavaScript/JQuery, Bootstrap, Wordpress, Joomla, Drupal, Scratch, Photoshop, Jing, Blackboard LMS, Canvas LMS, Axure RP, Audacity, Balsamiq, SPSS, Python/Django, L^AT_EX

Research | Interviews, Surveys, Focus Groups, Prototyping, Usability Heuristics, Think Alouds, Scenarios, Personas, Eye Tracking, Task Analysis, Electromyography (EMG) procedures, BioSemi ActiveTwo Equipment

research experience

- 2018-Now **Graduate Research Assistant - Coding Workshop Consultant**
Schreyer Business Library, Penn State
Working with Diane Zabel and Carmen Cole in assisting the Information Sciences and Business Liaison Librarian in the development of a coding workshop targeted to female and gender diverse Penn State students, faculty, and staff at University Park. Responsible for creating workshop curriculum, recruitment and selection of workshop participants, facilitating workshop content, delivery of content, and assessment of workshop for research purposes, presentation and publication. I am also leading research efforts on investigating the impacts of the workshop on participants. Responsible for the direction of an undergraduate intern: **Katie O'Leary**
- 2017–2018 **Research Associate, (1 year internship extended)**
Human-Centered Systems (HCS), Honeywell Aerospace
Manager: Olu Olofinboba
Specifically housed in the crew interface and platform systems (CIPS) group. Performing all aspects of human-centered design from concept development efforts, conducting research studies, to conducting and reporting research analyses in various projects. Selected projects are described below.
- Program: Strengthening Human Adaptive Reasoning and Problem-Solving (SHARP) Project**
Manager: Santosh Mathan
Supervisor: Michael Dillard
IARPA-funded program developing a cutting-edge regimen of game-based cognitive training and brain stimulation, designed to improve fluid intelligence. Worked in collaboration with Oxford University, Harvard University, Northeastern University and Simcoach Entertainment to develop a game-based training grounded in psychological theory, which targets unique combinations of component processes of fluid intelligence (Robot Factory). The task set served as the foundation of the adaptive training game, which has since been nominated for several awards at the Serious Games Showcase & Challenge. Participated in data collection efforts with the MITRE corporation serving as a test administrator which involved directly interfacing with participants such as consenting, recruiting, and screening as well as administering their test sessions.

Program: NextGen Flight Deck Multifunction Touch Screen Controls: Research on Human Factors Considerations and Development of Recommendations for Enhancements to FAA Guidance Material

Project Manager: Sonia Dodd

Collaborator: Jeff Lancaster

FAA-funded program concerned with producing information that will inform Aircraft Certification personnel who will evaluate the use of multi-touch screen controls on the flight deck. Using a human factors approach that encompasses identifying stakeholder issues with interface, iterative design and prototyping, and eliciting feedback through objective and subjective performance measures. Directly involved with experimental design, artifact designs, literature reviews, administering EMG equipment and running pilot experiments using a motion simulator.

Program: Intelligent Flight Deck

Project Manager: Barbara Holder

Supervisor: Chaya Garg

Using a human factors approach that encompasses identifying stakeholder issues with intelligent flight decks and specifically single pilot operations. This program aims to develop variable automated operations to enhance the aircraft. Validate software integration to existing platforms and demonstrate intelligent human-automation interaction interfaces and finally create a framework for collaborative human-autonomy teams. My tasks involve literature searches to determine state-of-the-art approaches in intelligent flight decks that use machine learning algorithms and artificial intelligence with the goal for conceptualizing designs. Other tasks include paper write-ups for customers and stakeholders, brainstorming and design sessions for concepts, and presentation updates.

2016–2018 **Graduate Research Assistant, Exploring Heuristics and Designing Interface Cues for Secure and Trustworthy Computing**

Center for Human-Computer Interaction, Penn State

In an NSF-funded program, I conducted user studies on semi-functional interfaces designed by Axure; our team was interested in how the design of these interfaces have an effect on online information disclosure as well as privacy. Personally tasked with recruitment, data collection, consenting, data analysis, and publication writing.

2016–Now **Graduate Research Assistant, Minimalist Learning with Tableau**

Computer-Supported Collaboration and Learning Lab, Penn State

Began a project and led an undergraduate researcher in devising a user study that will elicit design features through task-based prompts and minimalist instructional guides; will conduct interviews and rapid prototyping to refine Tableau. Conducted concept development efforts, submitted an IRB protocol form, and aggregated appropriate literature.

2014–2016 **Graduate Research Assistant, Evaluation of a Technology Education Pipeline Project**

Computer-Supported Collaboration and Learning Lab, Penn State

With other collaborators designed and developed iTech Academy, an online community, using Drupal and investigated its role in enhancing K-12 interest in computing careers in two contexts (summer camps and workshops). Led undergraduate researchers in recruiting, data collection efforts, system development, and publication writing. Undergraduate researchers working with us: **Dana Cinque, Ana Segura, Sarah-Alice Hanna, Adrian Negron, Jin Zhang**

2014–2015 **Dialectal Learning with Piazza**

Computer-Supported Collaboration and Learning Lab, Penn State

Our lab group re-purposed the use of Piazza, a QandA system, into a discussion based tool. Through several implementations in various classes and asking students to interface with the tool, we investigated the effectiveness of Piazza in argumentation building and critical thinking, as well as eliciting design requirements to potentially improve this system. Contributed through concept development efforts and lab discussions.

2013–2015 **An Investigation of Design Features for Inverted Classroom Support Technology**

Computer-Supported Collaboration and Learning Lab, Penn State

This work culminated as a result of a course project with Dr. Eileen Trauth and developed into my Master's Thesis research. I was concerned with how university instructors involved in STEM domains are appropriating unconventional teaching methods and the technologies they use to address their needs. Interviewed instructors across campus to investigate their current technical practices in instruction as well as their 'flipping' teaching approach; used interviews to elicit design features for design prototypes

2012 **Developer, Requirements Gatherer, Usability Tester, and Technical Writer**

Mathematics Department, University of Hartford

For my senior capstone project, I took on various roles in the development of a web application using Joomla CMS that tested a new pedagogical method (flipped classroom) for teaching calculus. I worked closely with a team of students in the design, development, and implementation of the project through an agile methodology process. In the different stages, I aided in creating interview scripts, running participants in a usability test, and writing documentation.

2011–2013 **Computer Application Support Specialist**

Faculty Center for Learning Development, University of Hartford

Assisted faculty with software and hardware issues through the phone and walk-in appointments; wrote technical documentation and tutorials for educational technologies; maintained CMS-based website; provided support for Blackboard LMS such as troubleshooting modules and course tasks.

teaching experience

Spring 2019 **Guest Lecturer on Errors**

College of Information Sciences and Technology at Penn State

IST331 – Organization and Design of Information Systems - Resident Course

This human-computer interaction (HCI) course focused on concepts of design and human factors through the lens of usability and user experience. I was invited by Dr. Patrick Dudas to teach one class session on errors in HCI.

July 2017 **Graduate Online Teaching Certificate**

OL 2050: Essentials of Online Teaching for Graduate Students

Earned certificate in online teaching in higher education. Learned about creating, and managing a learning environment, engaging learners, assessing and evaluating learners, and further developing professional learning and ethical practices

Spring 2017 **Graduate Teaching Assistant**

College of Information Sciences and Technology at Penn State

IST331 – Organization and Design of Information Systems – 48 students – Resident Course

This human-computer interaction (HCI) course focused on concepts of design, practical methods, and ideas associated with visualization based on Don Norman's ideologies. I assisted Dr. Patrick Dudas with grading, course preparation, and delivery of course materials. I developed grading rubrics, created new course content, and worked closely with students on their final projects. We also implemented the Canvas LMS during the course of the semester. Lectured on special topics such as crowd-sourcing methods and human errors in design.

Spring 2017 **Graduate Teaching Assistant**

College of Information Sciences and Technology at Penn State

IST331 – Organization and Design of Information Systems – 54 students – Resident Course

This human-computer interaction (HCI) course focused on concepts of design and human factors through the lens of cognitive science. I assisted Dr. Mike McNeese with grading, course preparation, and delivery of course materials. I developed grading rubrics, created new course content, and worked closely with students on their

final projects. Handled correspondences with students as well as held one-on-one appointments as needed. Led an undergraduate learning assistant and also implemented the Canvas LMS during the course of the semester. Single-handedly graded all student assignments except final course papers and lectured on special topics such as crowdsourcing methods and human errors in design.

Fall 2016 **Graduate Teaching Assistant**

College of Information Sciences and Technology at Penn State

IST440W – Information Sciences and Technology Integration and Problem Solving - 50 students - Resident Course

This capstone course focuses on group work and the duration of the software development life cycle and is required for undergraduate seniors. Student groups manage a project for a real-world client following a problem-based and writing intensive approach. Students reported weekly progress in presentation format and moved through different phases of the life cycle within the semester. I assisted Dr. Mike Hills with grading, course preparation, and delivery of course materials. I developed grading rubrics, created new course content, and worked closely with students on their final projects.

Summer 2016 **Instructor**

iTech Academy Summer Camp – College of IST at Penn State

I designed and developed two week long camp curricula that included lesson presentations, handout tutorials, and videos. I led instruction with hands-on activities and the introduction of basic concepts in topics related to JavaScript, HTML, CSS and Scratch. Both camp courses averaged 30 high schoolers/middle schoolers per camp.

Spring 2016 **Graduate Teaching Assistant**

College of Information Sciences and Technology at Penn State

IST331 – Organization and Design of Information Systems – 48 students – Resident Course

This human-computer interaction (HCI) course focused on theoretical concepts of design. I assisted Dr. Tamara Peyton with grading, course preparation, and delivery of course materials. I developed grading rubrics, created new course content, and worked closely with students on their final projects. We also implemented the Canvas LMS during the course of the semester.

Fall 2015 **Graduate Teaching Assistant**

College of Information Sciences and Technology at Penn State

IST110 – Information, People and Technology – 55 students – World Campus Course

This is a freshman introductory course held online. I assisted Gary Heberling with grading, course preparation, and delivery of course materials. I assist students online through forum discussions and virtual office hours. I also recorded weekly online sessions using Blackboard Collaborate with Professor Heberling to provide students a virtual presence.

Fall 2014 **Graduate Teaching Assistant**

College of Information Sciences and Technology at Penn State

IST413 – Usability Engineering – 40 students – Resident Course

I assisted Dr. Patrick Shih with grading, course preparation, and delivery of course materials. I developed grading rubrics, created new course content, and worked closely with students on their final projects. External products were used such as Pebble Watch and FitBit for development purposes. This course is a follow-up to IST 331 here we focus on methods and application of concepts learned in the previous HCI course.

2014 **Teaching Assistant**

iTech Academy Summer Camp – College of IST at Penn State

I assisted the lead instructor with demos of hands-on activities and the introduction of basic concepts in topics related to web design, programming, robotics, cyber security, and animation. I also provided guidance and feedback to the students. I aided four different week-long intensive camp courses averaging 30 high schoolers/middle schoolers per camp.

2011, 2012 **Instructor**

Columbia University, iD Tech Camps

I taught children from the ages of 7-13 fundamental programming and game design concepts using Scratch, Photoshop, and Multimedia Fusion 2 Developer. I created lesson plans, administered review sessions, and assisted in their development of a week-long final project and participated in various meetings with parents. Further, I planned physical activities as well as challenging mental activities. There were 8 children per weekly camp course for the duration of each summer.

publications and presentations

refereed/lightly-refereed conference papers and posters

[P.8] Peña, J., Cole, Carmen, & Rosson, M.B. (2019, February). Code For Her: Exploring Female and Gender-Diverse Computing Workshops for Faculty, Staff, and Students. To Appear In Proceedings of the 50th ACM Technical Symposium on Computer Science Education. ACM.~29% acceptance rate

[P.7] Peña, J., & Rosson, M.B., Ge, J., Jeong, E., Sundar, S.S., Kim, J., Gambino, A. (2018, March). An Exploration of Design Cues for Heuristic-Based Decision-Making about Information Sharing. In International Conference on Information (pp. 677-683). Springer, Cham.~30% acceptance rate

[P.6] Peña, J., (2017, December). Leveraging personal experience for academic research and outreach. XRDS 24, 2 (December 2017), 34-37. DOI: <https://doi.org/10.1145/3155122>

[P.5] Peña, J., Aritajati, C., & Rosson, M.B. (2016). The role of media enjoyment in the general population's reactions to computer science as a topic of study. ACM Richard Tapia Celebration of Diversity in Computing. September 14-17, Austin, TX.

[P.4] Peña, J., Shih, P. C., & Rosson, M. B. (2016, March). Scenario-based Design of Technology to Support Teaching in Inverted Classes. Proceedings of the iConference, Philadelphia, PA, USA. iSchools. ~30% acceptance rate

[P.3] Aritajati, C., Rosson, M. B., **Peña, J.,** Cinque, D., & Segura, A. (2015). A Socio-Cognitive Analysis of Summer Camp Outcomes and Experiences. In Proceedings of the 46th ACM Technical Symposium on Computer Science Education (pp. 581-586). ACM.

[P.2] Peña, J., and Rosson, M.B. (2014). An investigation of design features for inverted classroom support technology. The Grace Hopper Celebration of Women in Computing Conference. October 8-11, Phoenix, AZ. ~22% acceptance rate

[P.1] Peña, J., & Rosson, M. B. (2014). An investigation of design features for inverted classroom support technology. EDULEARN14 Proceedings, 6271-6280.

presentations and talks

[P.4] Peña, J. (2019, March). An Exploration of Design Cues for Heuristic-Based Decision-Making about Information Sharing. Poster presentation at the Graduate Exhibition, Penn State: University Park, PA.

[P.3] Cole, C., Peña, J., O'Leary, K. (2019, March). Code for Her: Empowering Women and Gender-Diverse Individuals in Tech. Presentation at the TLT Symposium, Penn State: University Park, PA.

[P.2] Peyton, T., Prasad, A., Liu, S., **Peña, J.** (2019, February). Teaching Human-Centered Design in CS programs. SIGCSE 2019. ~*Birds of a Feather Facilitator*

[P.1] Cole, C., Peña, J. (2018, December). Code for Her: Developing Programming Skills in an Empowering Environment. Pennsylvania Library Association College and Research Division.~*Webinar Presenter*
Links to presentation: <https://youtu.be/xn5ag7YCQUI> and <https://crdpala.org/connect-communicate/>

book chapters

[B.1] Peña, J., Shih, P. C., & Rosson, M. B. (2016). Instructors as End-User Developers: Technology Usage Opportunities in the Inverted Classroom. In E. Railean, G. Walker, L.Jackson, & A. Elci (Eds.), Handbook of Applied Learning Theory and Design in Modern Education, pp.560-571. Hershey, PA: IGI Global. [*Volume awarded Silver Medal by the European Exhibition of Creativity and Innovation Conference (Euroinvent) in June 2017*]

patents

[P.1] Peña, J., Rokade, A. (2018). METHOD AND SYSTEM FOR REPRESENTATION OF FLIGHT EVENTS USING ICONS WITHIN A GRAPHICAL USER INTERFACE. U.S. Patent Application No. 16/000,214

dissertations and theses

[D.1] Peña, J. (2015) An investigation of technology design features for inverted classroom teaching. Unpublished master's thesis, The Pennsylvania State University, State College, Pennsylvania.

funding, awards, honors

- 2019, April **Computing Research Association - Education Committee (CRA-E)** Washington, DC
Selected as 1 fellow to join a current standing fellow from a wide pool of applicants.
Tenure starting June 1st
- 2019, March **i3 institute PhD Teaching Fellow at the University of Pittsburgh** Pittsburgh, PA
Selected as 1 of 4 fellows from a wide pool of applicants; with Honorarium
- 2019, Feb **ACM SIG on Computer Science Education (SIGCSE) Student Volunteer** Minneapolis, MN
Partial conference costs covered by ACM SIGCSE
- 2018, March **Student Travel Grant Award to attend iConference 2018** Sheffield, UK
Received 1500 USD from the College of IST to cover international conference expenses for first author paper
- 2018, March **CHIME workshop selected participant at CHI 2018** Montreal, QC
This selection comes with full registration, 400 USD travel and 175 USD lodging funds to support conference
- 2018, January **Honeywell Recognition Award - Bronze Level (cash-based; 100 USD)** Honeywell Aerospace
This award is in recognition of the exemplary performance conducting human factors research for investigating issues with NextGen flight deck controls.
- 2017, June **Sloan Scholar, Alfred P. Sloan Foundation's Minority Ph.D (MPHD) 16-17 cohort** Penn State
Provided by the University Centers of Exemplary Mentoring (UCEM) program. Received 10K USD
- 2017, May **ACM Computer-Human Interaction (CHI) Student Volunteer** Denver, CO
Partial conference costs covered by CHI
- 2016, Sept **ACM Richard Tapia Celebration of Diversity in Computing** Austin, TX
Poster Presenter Scholarship; all conference costs covered by Tapia
- 2016, July **Student Invitation to Microsoft Research Faculty Summit** Redmond, WA
First ever cohort of students allowed at this event; all expenses covered
- 2016, May **ACM Computer-Human Interaction (CHI) Student Volunteer** San Jose, CA
Partial conference costs covered by CHI
- 2016, May **ACM-W Scholarship to attend ACM Computer-Human Interaction (CHI)** San Jose, CA
Partial funding to cover conference costs
- 2016, March **Student Travel Grant Award to attend iConference 2016** Philadelphia, PA
Received 1100 USD from the College of IST to cover conference expenses for first author paper
- 2015, Feb **Scholarship to attend the ACM Richard Tapia Celebration of Diversity in Computing** Boston, MA
Sponsored by the NSA; all conference costs covered
- 2014, Oct **Scholarship to attend the Grace Hopper Celebration of Women in Computing** Phoenix, AZ
College of IST funded conference costs

2014, Oct	Selected Scholarship to attend First Rutgers iSchool Research Invitational Program Program costs covered by Rutgers iSchool	New Brunswick, NJ
2014, Sept	Broadening Participation Workshop at UbiComp/ISWC Up to 1000 USD to cover workshop attendance costs	Seattle, WA
2014, Apr	CRA-W Scholarship to attend the Graduate Cohort Workshop Travel grant to cover workshop attendance costs	Santa Clara, CA
2013, Oct	Scholarship to attend the Grace Hopper Celebration of Women in Computing Penn State College of IST funded conference costs	Minneapolis, MN
2013-14, Aug	Bunton-Waller Graduate Fellowship One-year fellowship from the Graduate School	Penn State
2013, Apr	Senior Regents Honor Award Recipient Awarded senior year for excellence in major	University of Hartford
2009-13	Alumni Grant Partial funding to cover tuition costs for 4 years	University of Hartford
2009-13	University Grant Partial funding to cover tuition costs for 4 years	University of Hartford

service

2018-2019	The Pennsylvania State University Libraries Student Advisory Board	Member
2017	The Pennsylvania State University Annual Undergraduate Exhibition Judging	Judge
2017	Penn State - College of Engineering Research Symposium (CERS)	Reviewer
2016	ACM Conference on Designing Interactive Systems (DIS)	Reviewer
2016	ACM Conference on Computer-Human Interaction (CHI)	Reviewer
2016, '14	ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)	Reviewer
2016, '15	Penn State - Center for Online Innovation and Learning(COIL): Research Initiation Grants(RIG)	Reviewer
2015	IGI Global Handbook of Applied Learning Theory and Modern Education	Reviewer
2015, '16, '18	ACM Technical Symposium on Computer Science Education (SIGCSE)	Reviewer
2013 - present	Graduate Student Event Volunteer Throughout my duration as a graduate student, I have served as a volunteer for recruitment weekends and open houses for potential students. I have hosted potential students and summer undergraduate researchers. I have also aided in efforts during faculty candidate sessions.	Student Host

membership

2013-Now	ACM Computer Human Interaction (SIGCHI)
2018-Now	Society of Hispanic Professional Engineers (SHPE)

volunteer experience

2012 **President**

Alpha Phi Omega National Service Fraternity-University of Hartford Chapter

Foresaw all chapter operations, conducted weekly meetings with all active members, maintained connections with liaisons, chapter advisers, section chair, and regional members, approved several chapter decisions and participated in fund-raising events for travel.

2011 **Service Vice President**

Alpha Phi Omega National Service Fraternity-University of Hartford Chapter

Recorded and maintained all chapter member service hours for the semester which are approved through attendance at events. Organized service events with on-campus and off-campus organizations such as other fraternities, sororities, the Juvenile Diabetes Research Fund, Special Olympics of Connecticut, and American Cancer Society.

2010 **Sergeant at Arms**

Alpha Phi Omega National Service Fraternity-University of Hartford Chapter

Stood as a neutral conflict mediator in times of dispute and reserved rooms and tables for fraternity meetings and events.

press

March 2019 **Daily Collegian**

Cracking the Code: Carmen Cole, 'Code for Her' founder, helps diversify the IST field

<https://bit.ly/2UY2T50>

December 2018 **Pennsylvania Library Association's College Research Division: Connect and Communicate Webinar Series**

Code for Her: Reimagining Computing Education for Academic Library Outreach

<https://bit.ly/2CIYJre>

September 2018 **Daily Collegian**

'Code for Her' challenges gender barriers by teaching Penn State women computer programming

<https://bit.ly/2FDj0oS>