

2021 BOARD NOMINEE

# Diana Franklin

Associate Professor, Computer Science  
University of Chicago



**CRA**  
Computing Research  
Association

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## Awards and Honors and Year Received

- ICER Best Paper Award, 2020, 2017
- QIS co-lead organizer and writer, K-12 QIS Key Concepts Workshop - 2020
- NCWIT Mentoring Award for Undergraduate Research - 2012,
- UC Santa Barbara Computer Science Outstanding Faculty Member - 2010, 2011
- National Science Foundation CAREER Award - 2007

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## Involvement in CRA Activities

I attended a student CRA-W function in 2002 as a graduate student, where I met female computer science faculty members. After I became a professor, I presented at a CRA-W workshop for computer architecture run by Margaret Martonosi at Princeton in 2006. Both as a student and as a faculty member, I really valued the community that CRA-W has helped to form to provide opportunities for students from marginalized populations. These efforts have spurred efforts within computer architecture, which have in recent years provided a strong female community.

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## Other Relevant Experience

- Co-Lead: National Q12 Partnership - 2020-now
- Witness: Testified before Congressional Subcommittee about Quantum Computing, 2018
- Writer: CS K-12 Framework, Programming and Algorithms - 2016
- Co-PC Chair (2x), co-General Chair: SoCal Celebration of Women in Computing (regional Grace Hopper) - 2012, 2014, 2016
- Book Author: Practical Guide to Gender Diversity for CS Faculty - 2013

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## Research Interests

Computer Science Education  
Quantum Computing Education  
Quantum Computing  
Computer Architecture

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Completed ballots must be returned to CRA by **March 17, 2021**  
<https://cra.org/about/board/ballot>

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## Personal Statement

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My broad background has resulted in a unique set of experiences that will result in valuable contributions to EDI (Equity, Diversity, and Inclusion) initiatives and national initiatives in K-12 CS and Quantum education. I have a background in computer architecture (22 years), quantum computing (17 years), CS Education (10 years), and EDI (14 years), I now co-lead the National Q12 Partnership, an OSTP-organized K-12 QIS Initiative. My goal is to help CRA advance interdisciplinary computer science, especially with respect to EDI initiatives, through data-driven research and implementation of best practices throughout the entire academic pipeline.

**Diana M. Franklin**  
*Curriculum Vitae*

**Education**

University of California at Davis, Ph.D. in Computer Science, 2002.  
University of Illinois at Urbana-Champaign, MCS. in Computer Science, 1999.  
University of California at Davis, B.S. in Computer Science, 1997.

**Area of Specialization**

Computer Science Education, Quantum Computer Architecture, and Diversity, Equity, and Inclusion

**Professional Experience**

University of Chicago, Computer Science Department, Associate Professor, 2020-present  
University of Chicago, Computer Science Department, Research Associate Professor, 2015-2019  
University of Chicago, UChicago STEM Education, Director of Computer Science, 2015-2019.  
University of Chicago, Computer Science Department, Lecturer, 2015-2019  
University of California at Santa Barbara, LSOE, 2008-2015,  
100%, Dept of Computer Science, 0% Gevirtz Graduate School of Education  
California Polytechnic State University, San Luis Obispo, Associate Professor, 2007  
California Polytechnic State University, San Luis Obispo, Assistant Professor, 2002-2007

**Awards and Honors**

ICER Best Paper Award: 2020  
CHI Honourable Mention Award (ranked top 5% of all submissions), 2018  
ICER Best Paper Award: John Henry Award, 2017  
NCWIT Undergraduate Research Mentoring Award, 2012 (4 chosen nationally)  
Outstanding Faculty Member 2011, 2010 voted by graduating CS major seniors  
NSF CAREER Award - 2007  
Most Inspiring Professor – 2007 voted by all CPE majors  
Nominated for SWE Most Supportive Professor Award, 2004, 2005, 2006  
IEEE Outstanding Computer Engineering Instructor for 2003 school year voted by all CPE majors  
IEEE Outstanding Professor, March 2003 nominated by CPE students

**Prestigious Presentations and Service**

Co-organizer, NSF QISE User Facility Project Scoping Workshop, 2020  
Co-Lead Writer and Organizer, NSF K-12 QIS Key Concepts Workshop, 2020  
Invited Facilitator, K-6 Computational Thinking, RPP PI Meeting, 2019  
Panelist, CS4IL Summit, Curriculum and Diversity, 2019  
Presenter, PreK-5<sup>th</sup> grade CT Integration, STEM+C PI Summit, 2019  
Keynote panel, RESPECT conference, 2019  
Testified before Congressional Subcommittee about Quantum Computing, 2018. (4 chosen nationally)  
K-12 CS Framework, Writer, 2015-16  
NSF Future Directions in Computer Science Education – Part 2 participant, Spring 2014  
Frontiers on Engineering Education, National Academy of Engineering, participant, Fall 2013

**TEACHING**

Courses taught: Computer Architecture, Introduction to Programming, Data Structures, Computers for Learning (education, game development), Quantum Computing for Everyone

**Special Appointments**

<b>Years</b>	<b>Position</b>	<b>Type of Service</b>
2020-now	Co-Lead	Q12 Partnership (National QIS K-12 Education Consortium)
2015-16	Co-General Chair	Southern California Celebration of Women in Computing
2014	Co-Program Chair	Southern California Celebration of Women in Computing
2014	Co-Program Chair	Computing Frontiers 2014
2008	Program Chair	9th Workshop on Computer Architecture Education

## PART II. PROFESSIONAL ACTIVITIES

### Grants and Contracts

Total \$13M, \$3M as PI, \$2.2M in Education and \$800K in Architecture. Active grants in bold

Years	Source	Title	Amount	Prin. Invest.
<b>2019-2024</b>	<b>DOE</b>	<b>Improving Pedagogy to Accelerate Computational Thinking (IMPACT)</b>	<b>\$4M</b>	<b>Co-PI (PI of UChicago Site)</b>
<b>2018-2023</b>	<b>NSF</b>	<b>Collaborative Research: EPIQC: Enabling Practical-Scale Quantum Computation</b>	<b>\$10M</b>	<b>Co-PI (PI Chong)</b>
<b>2017-2020</b>	<b>NSF</b>	<b>Scratch Encore: Equity via a Flexible, Culturally-Relevant Advanced Scratch Curriculum for Upper-Elementary Diverse Students and Teachers</b>	<b>\$734K</b>	<b>PI (Co-PIs at CPS, UMaryland)</b>
<b>2017-2020</b>	<b>NSF</b>	<b>Learning Trajectories for Everyday Computing: Integrating Computational Thinking in Elementary Mathematics</b>	<b>\$2.5M</b>	<b>Co-PI (PI of UChicago Site)</b>
<b>2017-2020</b>	<b>NSF</b>	<b>Collaborative Research: Comprehending Code: The role of reading skills and meta-cognition in programming for struggling learners</b>	<b>\$325K</b>	<b>PI (Co-PI at TX State)</b>
2017-2019	anon.	UChicago Lab School Computational Thinking Initiative	\$279K	Co-PI (PI Abelmann)
2015-2017	NSF	Learning Trajectories for Integrating K-5 Computer Science and Mathematics	\$1.2M	SP (6 Co-PIs at UIUC, UChicago)
2012-2015	NSF	CER: DEPICT: Developing Elementary (Learning) Progressions to Integrate Computational Thinking	\$600K	PI (1 Co-PI in Education)
2011-2012	Army-ICB	Energy-Efficient Microprocessors using Memristive Neural Networks for Prediction	\$140K	Co-PI (PI Chong)
2010-2013	NSF	CCF: Minimal Multithreading - Exploiting Redundancy in Parallel Systems	\$500K	PI (1 Co-PI)
2010-2013	NSF	BPC-DP:Animal Tlatoque: A Synergy between Mesoamerican Cultural History and Endangered Species to attract and retain Latina/os and Females in Computer Science	\$533K	PI (2 Co-PIs, 1 in Dept of Chicana/o Studies)
2007-2012	NSF	CAREER: Horseshoes and Hand Grenades: Exploiting Error Tolerance in Applications	\$300K	PI
2006-2009	NSF	MRI: Acquisition of Computing Resources for Management of Reliability through Data Classification and Voltage Overscaling	\$45K	PI
2003-2007	NSF	NSF-ITR: Synchroscale: Exploiting Synchronized Clock Domains for Energy Efficient Multirate Embedded Systems	\$300K	Co-PI (PI Chong)

### Products

**Learning Trajectories** for Quantum Superposition, Reversibility, Entanglement, Measurement for K-12 to guide curriculum design

**Learning Trajectories** for Sequence, Conditionals, Iteration, Decomposition, and Debugging for K-12 to guide curriculum design<sup>[1]</sup>

**Scratch Act 1** – Introductory computing curriculum for 3rd-5th grade students, revision of San Francisco Unified School District’s curriculum to integrate research-based pedagogical approach and learning strategy. Used by schools at SFUSD and Austin Independent School District

**Scratch Encore** – Intermediate culturally-relevant computing curriculum for 5th-8th grade students designed to broaden participation in computing. Used by schools in Chicago Public Schools.<sup>[1]</sup>

**TIPP&SEE** – Learning Strategy inspired by reading comprehension strategy THIEVES, designed to help upper-elementary school students manage the Scratch programming interface and connect what they see the code do to the code blocks that perform the actions.

**Scratch Charades** –Game for 3rd-5th grade students in which students act out Scratch scripts (code snippets), and other students build those scripts with LEGOs<sup>[1]</sup>

**Quantum Zines** – Small 8-page pamphlets that introduce quantum computing concepts in broadly accessible ways to broaden participation in computing and quantum computing

**SELECTED RESEARCH CONTRIBUTIONS**

Highlights: 22 SIGCSE, 7 ICER, 1 Nature, 5 ISCA, 4 Micro, 1 ASPLOS

No.	Year	Title and Authors	Publisher	Category
1	1999	“Exploiting ILP in Page-Based Intelligent Memory,” M. Oskin, J. Hensley, D. Keen (Franklin), F. T. Chong, M. Farrens, And A. Chopra.	32 <sup>nd</sup> Annual International Symposium on Microarchitecture (MICRO-32)	Refereed Conference Paper
2	1999	"FlexRAM: An Advanced Intelligent Memory System.", Yi Kang, Michael Huang, Seung-Moon Yoon, Zhengho Ge, Diana Keen (Franklin), Vinh Lam, Prattap Pattnaik and Josep Torrellas.	International Conference on Computer Design (ICCD).	Refereed Conference Paper
3	2003	“Cache Coherence in Intelligent Memory Systems,” D. Keen (Franklin), M. Oskin, J. Hensley, And F. T. Chong.	IEEE Transactions on Computers	Article
4	2004	“Synchrosalar: A Multiple Clock Domain Power-Aware Tile-Based Embedded Processor,” J. Oliver, R. Rao, P. Sultana, J. Crandall, E. Czernikowski, L. Jones, D. Franklin, V. Akella, And F. T. Chong.	International Symposium on Computer Architecture (ISCA '04)	Refereed Conference Paper
5	2004	“Challenges in Reliable Quantum Computing,” D. Franklin And F. Chong.	In Nano, Quantum and Molecular Computing: Implications to High Level Design and Validation. S. Shukla and I. Bahar, editors. Kluwer Academic Publishers.	Book Chapter
6	2006	“Case Studies in Cost, Performance, and Reliability,” Diana Franklin.	Computer Architecture - A Quantitative Approach - 4th edition by Hennessy and Patterson, Elsevier Publishers	Book Chapter
7	2007	“Gender Differences: Recognizing and Developing Potential in Female Students,” Diana Franklin.	Computing Research News, March 2007, Vol. 19, No. 3	Article
8	2009	“Multi-Execution: Multicore Caching for Data-Similar Executions,” S. Biswas, D. Franklin, A. Savage, R. Dixon, T. Sherwood, F. Chong <a href="http://www.cs.ucsb.edu/~franklin/cv/pubs/isca142-biswas.pdf">http://www.cs.ucsb.edu/~franklin/cv/pubs/isca142-biswas.pdf</a>	International Symposium on Computer Architectures (ISCA'09)	Refereed Conference Paper
9	2010	"Minimal Multi-Threading: Finding and Removing Redundant Instructions in Multi-Threaded Processors," Guoping Long, Diana Franklin, Susmit Biswas, Pablo Ortiz, Jason Oberg, Dongrui Fan , Frederic T. Chong	International Symposium On Microarchitecture (MICRO)	Refereed Conference Paper
10	2011	"Animal Tlatoque: Attracting Middle-School Students to Computing through Culturally-Relevant Themes," D Franklin, P Conrad, G Aldana, S Hough, N Avalos Cisneros, F Lopez, A Gonzalez, A Hernandez, S Jones, J Lopez, C Lu, N Moreno, P Ortiz, M Rochin, S Smith	SIGCSE Technical Symposium	Refereed Conference Paper
11	2011	Exercises for Chapter 1, Appendix C. Diana Franklin	Computer Architecture - A Quantitative Approach - 5th edition by Hennessy and Patterson, Elsevier Publishers	Book Chapter

12	2011	“Teaching-Oriented Faculty at Research Universities,” SIGCSE Teaching-Oriented Faculty Working Group (with contributions by Steve Wolfman, Owen Astrachan, Mike Clancy, Kurt Eiselt, Jeffrey Forbes, Diana Franklin, David Kay, Mike Scott, and Kevin Wayne)	Communications of the ACM	Journal
13	2013	“Assessment of Computer Science Learning in a Scratch-Based Outreach Program,” Diana Franklin, Phillip Conrad, Bryce Boe, Katy Nilsen, Charlotte Hill, Michelle Len, Greg Dreschler, Gerardo Aldana, Paulo Almeida-Tanaka, Brynn Kiefer, Chelsea Laird, Felicia Lopez, Christine Pham, Jessica Suarez, Robert Waite	SIGCSE Technical Symposium	Refereed Conference Paper
14	2013	“Hairball: Lint-inspired Static Analysis of Scratch Projects,” Bryce Boe, Charlotte Hill, Michelle Len, Greg Dreschler, Diana Franklin, Phillip Conrad,	SIGCSE Technical Symposium	Refereed Conference Paper
15	2013	“Practical Guide to Gender Diversity for Computer Science Faculty,” Diana Franklin <a href="http://www.morganclaypool.com/doi/abs/10.2200/S00495ED1V01Y201304PRO002">http://www.morganclaypool.com/doi/abs/10.2200/S00495ED1V01Y201304PRO002</a>	Morgan-Claypool	Edited Book
16	2013	“Quantum Rotations: A Case Study in Static and Dynamic Machine-Code Generation for Quantum Computers,” Daniel Kudrow, Kenneth Bier, Zhaoxia Deng, Diana Franklin, Yu Tomita, Kenneth Brown, and Frederic T. Chong	International Symposium on Computer Architecture (ISCA '13)	Refereed Conference Paper
17	2014	“Identifying Elementary Students’ Pre-Instructional Ability to Develop Algorithms and Step-by-Step Instructions,” Hilary Dwyer, Charlotte Hill, Stacey Patterson, Danielle Harlow, and Diana Franklin	SIGCSE Technical Symposium	Refereed Conference Paper
18	2014	"ReDHiP: Recalibrating Deep Hierarchy Prediction for Energy Efficiency," Xun Li, Diana Franklin, Ricardo Bianchini, Fred Chong,	IEEE International Parallel & Distributed Processing Symposium (IPDPS)	Refereed Conference Paper
19	2014	"SpongeDirectory: Flexible Sparse Directories Utilizing Multi-Level Memristors," Lunkai Zhang, Dmitri Strukov, Hebatallah Saadelddeen, Dongrui Fan, Mingzhe Zhang, Diana Franklin	<b>Best Paper - Architecture</b> International Conference on Parallel Architectures and Compilation Techniques (PACT 2014)	Refereed Conference Paper
20	2015	“Putting the CS in Computing Education Research,” Diana Franklin	Communications of the Association for Computing Machinery, Viewpoints	Edited Column
21	2015	“Floors and Flexibility: Designing a programming environment for 4th-6th grade classrooms,” Charlotte Hill, Hilary Dwyer, Tim Martinez, Ashley Iveland, Alexandria Killian, Danielle Harlow, and Diana Franklin	SIGCSE Technical Symposium	Refereed Conference Paper
22	2015	“Getting Started Teaching and Researching Computer Science in the Elementary Classroom,” Diana Franklin, Charlotte Hill, Hilary Dwyer, Ashley Iveland, Alexandria Killian, and Danielle Harlow.	SIGCSE Technical Symposium	Refereed Conference Paper
23	2015	“Compiler Management of Communication and Parallelism for Quantum Computation,” Jeff Heckey, Ali JavadAbhari, Shruti Patil, Daniel Kudrow, Ken Brown, Diana Franklin, Frederic T. Chong, and Margaret Martonosi.	Architectural Support for Programming Languages and Operating Systems (ASPLOS)	Refereed Conference Paper
24	2015	“Fourth-Grade Students Reading Block-Based Programs: Predictions, Visual Cues, and Affordances,” Hilary Dwyer, Charlotte Hill, Alexandria Hansen, Ashley Iveland, Diana Franklin, Danielle Harlow	International Computer Education Research Conference (ICER 2015)	Refereed Conference Paper

25	2016	“Differentiating for Diversity: Using Universal Design for Learning in K-6 Computer Science Education,” Alexandria Hansen, Hilary Dwyer, Ashley Iveland, Diana Franklin, Danielle Harlow.	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
26	2016	“Initialization in Scratch: Seeking Knowledge Transfer,” Diana Franklin, Charlotte Hill, Hilary Dwyer, Ashley Iveland, Alexandria Hansen, Danielle Harlow.	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
27	2016	“User-Centered Design in Block-Based Programming: Developmental & Pedagogical Considerations for Children,” Alexandria Hansen, Diana Franklin, Danielle Harlow.	ACM SIGCHI Interactive Design for Children (IDC)	Refereed Conference Paper
28	2016	“Mellow Writes: Extending Lifetime in Resistive Memories through Selective Slow Write Backs,” Lunkai Zhang, Brian Neely, Diana Franklin, Dmitri Strukov, Yuan Xie, Fred Chong	International Symposium on Computer Architecture (ISCA'16)	Refereed Conference Paper
29	2017	“Assessing Children’s Understanding of the Work of Computer Scientists: The Draw-a-Computer-Scientist Test,” Alexandria Hansen, Hilary Dwyer, Ashley Iveland, Mia Talesfore, Lacy Wright, Danielle Harlow, Diana Franklin.	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
30	2017	“Covering Edge Cases: An Analysis of Computer Science Learning Goals Theorized and Tested in Literature,” Kathryn Rich, Carla Strickland, Diana Franklin.	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
31	2017	“Using Upper-Elementary student performance to understand conceptual sequencing in a blocks-based Curriculum,” Diana Franklin, Gabriela Skifstad, Reiny Rolock, Isha Mehrotra, Valerie Ding, Alexandria Hansen, David Weintrop, Danielle Harlow.	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
32	2017	“K-8 Learning Trajectories Derived from Research Literature: Sequence, Repetition, Conditionals,” Katherine M. Rich, Carla Strickland, Andrew Binkowski, Cheryl Moran, Diana Franklin.	International Conference on Computer Education Research (ICER '17) – <b>Best Paper (John Henry Award)</b>	Refereed Conference Paper
33	2017	“Designing Quantum Programming Languages and Compilers Given Hardware Constraints,” Frederic T. Chong, Diana Franklin, Margaret Martonosi.	Nature, Vol. 549 No. 7671 pp 180-187	Refereed Journal
34	2017	“Optimized Surface Code communication in Superconducting Quantum Computers,” Ali Javadi-Abhari, Pranav Gokhale, Adam Holmes, Diana Franklin, Ken Brown, Margaret Martonosi, Frederic T. Chong	International Symposium on Microarchitecture (MICRO)	Refereed Conference Paper
35	2018	“Evaluating CoBlox: A Comparative Study of Robotics Programming Environments for Adult Novices,” David Weintrop, Patrick Francis, Bo Li, Afsoon Afzal, David Shepherd, Jean Salac, Diana Franklin.	ACM CHI Conference on Human Factors in Computing Systems (CHI 2018)	Refereed Conference Paper
36	2018	“Decomposition: A K-8 Computational Thinking Learning Trajectory,” Kathryn M. Rich, T. Carla Strickland, T. Andrew Binkowski, Diana Franklin.	International Conference on Computer Education Research (ICER '18)	Refereed Conference Paper
37	2018	“Starting from Scratch: Outcomes of Early Computer Science Learning Experiences and Implications for What Comes Next,” David Weintrop, Alexandria K. Hansen, Danielle B. Harlow, Diana Franklin.	International Conference on Computer Education Research (ICER '18)	Refereed Conference Paper

38	2018	“Ecological Design-Based Research for Computer Science Education: Affordances and Effectivities for Elementary School students,” Danielle Harlow, Hillary Dwyer, Alexandria Hansen, Ashley Iveland, Diana Franklin.	Cognition and Instruction, pages 1-23	Refereed Journal
39	2018	“Magic-State Functional Units: Mapping and Scheduling Multi-Level Distillation Circuits for Fault-Tolerant Quantum Architectures,” Yongshan Ding, Adam Holmes, Ali Javadi-Abhari, Diana Franklin, Margaret Martonosi, Frederic T. Chong	International Symposium on Microarchitecture (MICRO)	Refereed Conference Paper
40	2019	“A K-8 Debugging Learning Trajectory Derived from Research Literature,” Katherine M. Rich, Carla Strickland, Andrew Binkowski, Diana Franklin.	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
41	2019	“An Analysis through an Equity Lens of the Implementation of Computer Science in K-8 Classrooms in a Large, Urban School District,” Jean Salac, Max White, Ashley Wang, Diana Franklin.	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
42	2019	“Enacting Identities: Participatory Design as a Context for Youth to Reflect, Project, and Apply their Emerging Identities,” Merijke Coenraad, Jennifer Palmer, Diana Franklin, David Weintrop.	Interactive Design for Children (IDC ‘19)	Refereed Conference Paper
43	2019	“The Teacher Accessibility, Equity, and Content (TEC) Rubric for Evaluating Computing Curricula.” David Weintrop, Merijke Coenraad, Jennifer Palmer, & Diana Franklin	ACM Transactions on Computing Education (TOCE)	Refereed Journal
44	2020	“Scratch Encore: The Design and Pilot of a Culturally-Relevant Intermediate Scratch Curriculum,” Diana Franklin, Jen Palmer, Merijke Coenraad, Melissa Cobian, Kristan Beck, Andrew Rasmussen, Susan Krause, Max White, Marco Anaya, Zachary Crenshaw	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
45	2020	“TIPP&SEE: A Learning Strategy to Guide Students through Use->Modify Scratch Activities,” Jean Salac, Cathy Thomas, Choe Butler, Ashley Sanchez, Diana Franklin	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
46	2020	“Eliciting Student Scratch Script Understandings via Scratch Charades,” Diana Franklin, Jean Salac, Cathy Thomas, Zene Sekou, Susan Krause	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
47	2020	“Patterns in Elementary-Age Student Responses to Personalized & Generic Code Comprehension Questions,” Jean Salac, Qi Jin, Zipporah Klain, Saranya Turimella, Max White, & Diana Franklin	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
48	2020	“Comprehending Code: Understanding the Relationship between Reading and Math Proficiency, and 4th-Grade CS Learning Outcomes,” Jean Salac, Cathy Thomas, Bryan Twarek, William Marsland, & Diana Franklin	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
49	2020	“SQUARE: strategic quantum ancilla reuse for modular quantum programs via cost-effective uncomputation ,” Yongshan Ding, Xin-Chuan Wu, Adam Holmes, Ash Wiseth, Diana Franklin, Margaret Martonosi, and Frederic T. Chong.	International Symposium on Computer Architecture (ISCA'20) – <b>IEEE Top Picks Honorable Mention</b>	Refereed Conference Paper



50	2020	“If They Build It, Will They Understand It? Exploring the Relationship between Student Code and Performance,” Jean Salac, Diana Franklin	Conference on Innovation and Technology in Computer Science (ITiCSE '20)	Refereed Conference Paper
51	2020	“Exploring Student Behavior Using the TIPP&SEE Learning Strategy,” Diana Franklin, Jean Salac, Zackary Crenshaw, Saranya Turimella, Zipporah Klain, Marco Anaya, Cathy Thomas	International Conference on Computer Education Research (ICER '20) – <b>Best Paper</b>	Refereed Conference Paper
52	2020	“An analysis of Use-Modify-Create Pedagogical Approach’s Success in Balancing Structure and Student Agency,” Diana Franklin, Merijke Coenraad, Jennifer Palmer, Donna Eatinger, Anna Zipp, Marco Anaya, Max White, Hoang Pham, Ozan Gokdemir, David Weintrop	International Conference on Computer Education Research (ICER '20)	Refereed Conference Paper
53	2020	“Exploring Quantum Reversibility with Young Learners,” Diana Franklin, Jen Palmer, Woorin Jang, Elizabeth M. Lehman, Jasmine Marckwordt, Randall H. Landsberg, Alexandria Muller, Danielle Harlow	International Conference on Computer Education Research (ICER '20)	Refereed Conference Paper
54	2021	“Development and Preliminary Validation of the Assessment of Computing for Elementary Students (ACES),” Miranda C. Parker, Yvonne S. Kao, Dana Saito-Stehberger, Diana Franklin, Susan Krause, Debra Richardson, Mark Warschauer	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
55	2021	“The Effects of Providing Starter Projects in Open-Ended Scratch Activities,” Merijke Coenraad, Jen Palmer, David Weintrop, Donna Eatinger, Zachary Crenshaw, Hoang Pham, Diana Franklin	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
56	2021	“Supporting Diverse Learners in K-8 Computational Thinking with TIPP&SEE,” Jean Salac, Cathy Thomas, Chloe Butler, Diana Franklin	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper
57	2021	“Action Fractions: The Design and Pilot of an Integrated Math+CS Elementary Curriculum Based on CS Learning Trajectories,” Carla Strickland, Kathryn M. Rich, Donna Eatinger, Todd Lash, Andy Isaacs, Maya Israel, Diana Franklin	Symposium on Computer Science Education (SIGCSE)	Refereed Conference Paper