

**Committee on Energy and Commerce
U.S. House of Representatives**

Witness Disclosure Requirement "Truth in Testimony"
Required by House Rule XI, Clause 2(g)(5)

1. Your Name: <i>Diana Franklin</i>		
2. Your Title: <i>A Research Associate Professor, Director of Computer Science Education</i>		
3. The Entity(ies) You are Representing: <i>University of Chicago, UChicago STEM Education</i>		
4. Are you testifying on behalf of the Federal, or a State or local government entity?	Yes	No <input checked="" type="checkbox"/>
5. Please list any Federal grants or contracts, or contracts or payments originating with a foreign government, that you or the entity(ies) you represent have received on or after January 1, 2015. Only grants, contracts, or payments related to the subject matter of the hearing must be listed. <i>NSF: EPIQC: Enabling Practical-Scale Quantum Computation</i> <i>NSF: Scratch Encore: Equity via a Flexible, culturally-relevant Advanced Scratch Curriculum for Upper Elementary Diverse Students and Teachers</i>		
6. Please attach your curriculum vitae to your completed disclosure form.		

Signature: _____



Date: 5/15/18

Diana Franklin

Director, Computer Science Education
Senior Research Associate
UChicago STEM Education
University of Chicago


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Professional Preparation

University of California, Davis	Davis, CA	Computer Science and Engineering BS	1997
University of Illinois, Urbana-Champaign	Urbana, IL	Computer Science	MCS 1999
University of California, Davis	Davis, CA	Computer Science	PhD 2002

Appointments

- University of Chicago, Director and Senior Research Associate, Computer Science Education, UChicago STEM Education, 7/2015-present (50%).
- University of Chicago, Research Associate Professor, Computer Science Department, 7/20/15-present (50%).
- University of California, Santa Barbara, Tenured Teaching Faculty (LSOE), 11/2007-6/2015. 100% in Computer Science, 0% in Education.
- California Polytechnic State University, Forbes Associate Professor, 9/2007-12/2007.
- California Polytechnic State University, Forbes Assistant Professor, 2002-2007.

Relevant Publications

Javadi-Abhari, A., Gokhale P., Holmes, A., Franklin, D., Brown, K., Martonosi, M., Chong, F. T. Optimized surface code communication in superconducting quantum computers. In *Proceedings of the 50th Annual IEEE/ACM International Symposium on Microarchitecture (MICRO-50 '17)*. ACM, New York, NY, USA, 692-705.

Chong, F. T., Franklin, D., and Martonosi, M. Designing Quantum Programming Languages and Compilers Given Hardware Constraints, *Nature*, Vol. 549 No. 7671 pp180-187 (13 September 2017).

Rich, K. M., Strickland, C., Binkowski, A., Moran, C., and Franklin, D. K-8 Learning Trajectories Derived from Research Literature: Sequence, Repetition, Conditionals, *ICER '17 Proceedings of the 2017 ACM International Conference on Computer Education Research* Tacoma, WA, August 2017.

Franklin, D., Skifstad, G., Rolock, R., Mehrotra, I., Ding, V., Hansen, A., Weintrop, D., Harlow, D. Using Upper-Elementary Student Performance to Understand Conceptual Sequencing in a Blocks-based Curriculum *SIGCSE '17 Proceedings of the 2017 ACM SIGCSE Technical Symposium on Computer Science Education*, Seattle, WA, March 2017.

Rich, K., Strickland, C., Franklin, D. A Literature Review through the Lens of Computer Science Learning Goals Theorized and Explored in Research *SIGCSE '17 Proceedings of the 2017 ACM SIGCSE Technical Symposium on Computer Science Education*, Seattle, WA, March 2017.

Jeff Heckey, Ali JavadAbhari, Shruti Patil, Daniel Kudrow, Ken Brown, Diana Franklin, Frederic T. Chong, and Margaret Martonosi. “Compiler Management of Communication and Parallelism for Quantum Computation,” *Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, March 2015.

Franklin, D., Hill, C., Dwyer, H., Iveland, A., Hansen, A., Harlow, D. Initialization in Scratch: Seeking Knowledge Transfer, *Proceedings of the Symposium on Computer Science Education (SIGCSE)*, SIGCSE 2016, Memphis, TN, March 2016.

Hill, C., Dwyer, H., Martinez, T., Harlow, D., Franklin, D., “Floors and Flexibility: Designing a programming environment for 4th-6th grade classroom,” *Proceedings of the Symposium for Computer Science Education (SIGCSE)*, SIGCSE 2015, Kansas City, KS.

Daniel Kudrow, Kenneth Bier, Zhaoxia Deng, Diana Franklin, Yu Tomita, Kenneth Brown, and Frederic T. Chong, “Quantum Rotations: A Case Study in Static and Dynamic Machine-Code Generation for Quantum Computers,” *International Symposium on Computer Architecture (ISCA 2013)*, June 2013.

Diana Franklin and Frederic T. Chong, “Challenges in Reliable Quantum Computing,” book chapter in *Nano, Quantum and Molecular Computing: Implications to High Level Design and Validation*. S. Shukla and I. Bahar, editors. Kluwer Academic Publishers.

Dwyer, H., Hill, C., Patterson, S., Harlow, D., Franklin, D., “Identifying Elementary Students’ Pre-Instructional Ability to Develop Algorithms and Step-by-Step Instructions,” *Proceedings of the Symposium for Computer Science Education (SIGCSE)*, SIGCSE 2014, Atlanta, GA.

Franklin, D., Conrad, P., Boe, B., Nilsen, K., Hill, C., Len, M., Aldana, G., “Assessment of Computer Science Learning in a Scratch-Based Outreach Program,” *Proceedings of the Symposium for Computer Science Education (SIGCSE)*, SIGCSE 2013, Denver, CO.

H. Dwyer, B. Boe, C. Hill, D. Franklin, and D. Harlow, “Computational Thinking for Physics: Programming Models of Physics Phenomenon in Elementary School,” *Physics Education Research Conference PERC 2013*.

Synergistic Activities

- LaPlaya programming language and environment for 4th-6th grade students and KERP CS computational thinking and engineering design-thinking curriculum for 4th-5th grade students (2014).
- Writer, Programs and Algorithms, K-12 CS Framework Project
- Southern California Conference on Women in Computing Co-Program Committee Chair, 2014, Co-General Chair, 2016.
- CSTA Computational Thinking Task Force, member, 2014-2016.
- Summit participant in Computer Science Education, Part 2 (March 2014) and 3 (January 2015), National Academy of Engineers Future of Engineering Education (October, 2013).