A New Class of Teaching-Track Faculty: No Ph.D. Required

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ABSTRACT

Demand for computer science teaching faculty is skyrocketing. In response, many colleges and universities are beginning to advertise for and hire teaching candidates without a PhD. In this panel, we discuss our experiences as faculty in this position and explore how we can promote and support the important contributions that non-PhD faculty have on students. Throughout this interactive panel, we will engage in-person and virtual participants from all levels of higher education to discuss the experiences surrounding teaching track faculty without a PhD. Additionally we will reflect and envision how our community can systematically support and create alternative paths within academia that will allow potential faculty to earn a terminal Master's degree and learn how to be effective teachers at the same time.

CCS CONCEPTS

• **Social and professional topics** → **Computer science education**.

KEYWORDS

Teaching, Teaching track faculty, Computer Science Education, Academia

1 SUMMARY

As teaching track faculty fight for rights within their academic departments, faculty who have not taken the traditional academic path of earning a PhD may have additional biases or burdens that they face, but they also may have additional insights and suggestions for

improving educational environments. The SIGCSE community has hosted popular BoF each year from 2012 - 2020 to support teaching track faculty [1], but there has been limited, if any, support to discuss the growing number of teaching faculty with terminal Masters degrees. This panel aims to explore faculty experiences within the university and cs-ed communities, and will focus on the special issues and unique experiences of this new class of faculty. In addition to providing extra support for faculty members without a PhD, we also want to address ways to help students who may want to pursue a teaching path decide which route is best for them.

The intended audience for this panel is broad. Participants who also identify as non-PhD teaching track faculty as well undergraduate and graduate students who want to pursue a teaching career will be drawn to this discussion. Additionally, we expect that teaching and tenure track faculty as well as department chairs may be interested to hear the experiences and perspectives of the panelists, whether or not they support or oppose of hiring faculty without PhDs.

Since earning a PhD (or even a Masters degree) in computer science does not always support someone becoming a good teacher, how can we as a community legitimize and provide programs that support a teaching-focused computer science master's degree program? Can our teaching-focused faculty (with and without PhDs) work together to change the dialogue and expectations about preparing the next generation of faculty to be both computer science experts and effective teachers in higher education? This panel will explore the perspectives of faculty at various stages of their teaching careers at a variety of R1 institutions.

2 PANEL STRUCTURE

We plan to present this panel with all panelists in person at SIGCSE 2022, with opportunities for audience members to engage and ask questions in person or remotely by using Slido to facilitate the gathering and ranking of audience questions. Each panelist will be given up to 5-8 minutes to present their teaching experiences and views about how faculty without PhDs contribute to student success. Each panelist will then have an optional 5 minutes to share their vision for alternative pathways into CS education. Following the panelist presentations, we will facilitate an interactive question and answer discussion with the audience with Adam Blank acting

as the in-person moderator while Kendra Walther coordinates with the virtual participants.

3 POSITION STATEMENTS

3.1 Kendra Walther

Kendra has a Bachelor of Science in Computer Science from Harvey Mudd College, and a Masters of Science in Computer Science from University of Maryland, College Park. Kendra Walther has been teaching computer science off and on since she was an undergraduate "grutor" in the late 90s. Kendra taught her first college course while working full-time straight out of her undergraduate, and has since had the experience of teaching at both the K-12 and undergraduate levels. For the past 6 years, Kendra has been teaching programming courses to mostly non-engineering students and immersing herself with pedagogical thinking while constantly trying new teaching strategies to support students from a diversity of backgrounds succeed in computer science. When feeling positive, she will tell you that she gracefully exited her PhD program with a masters, but when imposter syndrome strikes, she may say she is "just a teacher" or "just" has a masters. She hopes this panel may inspire others to pursue teaching and spark more discussion about the validity and importance of teaching-track faculty regardless of their terminal degrees.

3.2 Adam Blank

Adam is an Assistant Teaching Professor in the Department of Computing + Mathematical Sciences at Caltech. They have previously taught as a lecturer at the University of Washington and as a graduate student at Carnegie Mellon. They are interested in the teaching and practice of Computer Science, and they love to try new techniques to help students learn. Their research involves using technology, machine learning, human computation, and collaboration to improve the way that we teach computer scientists at the collegiate level. Adam has a Bachelor of Science and a Masters of Science in Computer Science from Carnegie Mellon University, but, of course, no PhD.

3.3 Michael Ball

Michael Ball is a Lecturer in the EECS Department at UC Berkeley, where he earned both his Bachelors and Masters degrees. During his undergrad, he was a teaching assistant for three years, and couldn't leave the field of CS Education. At Berkeley, he currently co-leads the intro to CS for Data Science majors, the pedagogy course for teaching assistants, and the software engineering course. He is a contributor to The Beauty and Joy of Computing and Snap! Programming Languages, which aims to expand computer science access to high school and middle school students. Among other things, he is currently working on web accessibility curriculum for software engineering students. He was an early member of the Gradescope team before they joined Turnitin.

3.4 Suraj Rampure

Suraj is a Lecturer in the Halıcıoğlu Data Science Institute at the University of California, San Diego. He earned both a BS and MS in Electrical Engineering and Computer Sciences at UC Berkeley, graduating in 2021. While at Berkeley, he was a teaching assistant and instructor for multiple computer science and data science courses, most notably for the core upper-division course "Principles and Techniques of Data Science" which he helped redesign for remote instruction. During his MS, he created and taught a new pre-introductory data science course focused on computational thinking for non-majors. At UC San Diego, he teaches core lower-division data science courses and is involved in data science education research.

REFERENCES

[1] Chris Gregg, Shawn Lupoli, and Laney Strange. 2020. Teaching Track Faculty in Computer Science. In *Proceedings of the 51st ACM Technical Symposium on Computer Science Education* (Portland, OR, USA) *(SIGCSE '20)*. Association for Computing Machinery, New York, NY, USA, 1408. https://doi.org/10.1145/3328778.3372521