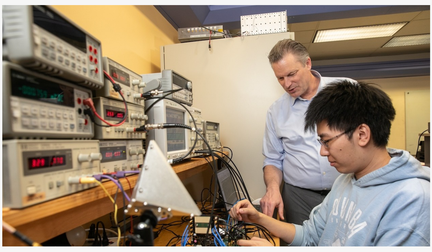
FACULTY & STAFF

A Circuit of Dedication: Peter Kinget Honored for Outstanding Teaching

Columbia Engineering's Peter Kinget is being recognized for his hands-on, systems-driven teaching and lasting impact on students.

May 09, 2025 Xintian Tina Wang



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In the final weeks of each fall semester, a familiar ritual plays out in Columbia's Electrical Engineering Department: industrial leaders, researchers, and students from Peter Kinget's VLSI Design Lab gather to demo the chips they've spent nearly a year designing. The room buzzes with anticipation. There are heart rate monitors, sensor and display systems, clocks, processors, even music-playing devices— hand-crafted systems born from silicon, some solder, and a semester's worth of long nights.

"That moment is after almost a year of hard work," says Kinget, the Bernard J. Lechner Professor of Electrical Engineering at Columbia Engineering. "Everybody's smiling. They realize it was worth it."

Electrical Engineering Professor Peter Kinget will be honored at the May 21 University Commencement. Credit: Timothy Lee/Columbia Engineering

It's that journey—from hesitation to accomplishment—that defines Kinget's approach to teaching. And it's one of the many reasons he has been named a recipient of the 2025 Presidential Award for Outstanding Teaching at Columbia University. Kinget will be recognized with this honor at the May 21 University Commencement at the Morningside campus. Established in 1996 to honor the University's best teachers, the award recognizes not only subject mastery, but a lasting impact on student learning across the Columbia community.

For Kinget, the honor affirms not only a dedication to teaching, but the years of thoughtful course design that have shaped some of the department's most sought-after classes. His two flagship offerings—Analog Electronic Circuits and the VLSI Design Lab—take students from theory to practice, with a major focus on system-level thinking.

In these courses, students don't stop at paper calculations or computer simulations. They design real chips that are fabricated in an industrial foundry and they integrate them into real-world systems with practical applications. "We still build components like amplifiers and measure their gain and bandwidth," Kinget says. "But we also build applications with them. You can actually say: 'Look, I built this amplifier, and now it works in a full system.'"

This systems-level thinking is central to his teaching philosophy. "Students today are used to seeing results fast—on a screen, in a game," he says. "If they're only working on one tiny cog in a system, it's harder to stay motivated. But if they see how their piece fits into the bigger picture, that's when they really engage."

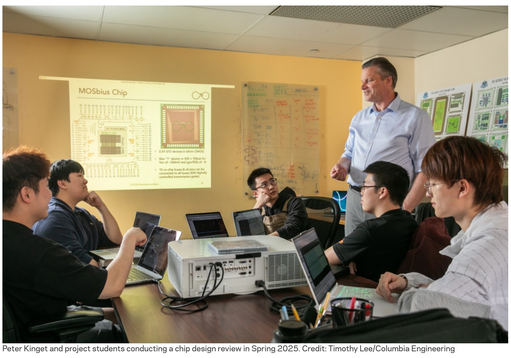
Peter Kinget and the VLSI Design Lab students in Spring 2024 Lab Demo. Credit: Electrical Engineering Department

Kinget has also restructured his analog electronics course to better match the learning styles of today's students. Rather than diving straight into theory, he begins with real-world motivations—problems students care about solving—and then leads them into the analysis behind the solutions. "We start at a higher level so they understand why all these things are needed and how they connect. Then we dig into circuit theory and device physics, because they're motivated to learn it."

At the core of his philosophy are two guiding values: clarity and application. "It's easy to keep adding material. The hard part is deciding what to leave out—so students really master what matters." He complements theory with lab work, reinforcing key concepts through hands-on experimentation. "As engineers, we build physical systems. And the laws of nature dictate how those systems operate—whether we like it or not." He is currently developing the MOSbius chip and lab kit to support real-world demonstrations of the circuit concepts taught in class.

Kinget describes himself as "strict but compassionate"—an instructor who demands excellence but is always present to support his students. He holds two office hours a week, constantly revises course materials for clarity, and treats each class as a work in progress. "I tell students: you'll get the grade you deserve—but I'll do everything I can to help you earn it."

His attention to fundamentals isn't just pedagogical—it's practical. "Making mistakes in chip design is extremely expensive, both in time and money," he says. "You need to really understand what you're doing."



Peter Kinget and project students conducting a chip design review in Spring 2025. Credit: Timothy Lee/Columbia Engineering

That discipline and mentorship have left a mark on students across levels. "I've witnessed firsthand Professor Kinget's deep commitment to teaching," says Kinget's PhD student Hongzhe Jiang. "He not only taught me strong technical foundations, but more importantly, he helped me learn how to become an independent researcher."

Now more than two decades into his Columbia career, Kinget still finds joy in those small but meaningful teaching moments: a concept finally clicking, a student stepping into their confidence, a group photo at the lab demo's end with every face smiling—not because they've reached the end, but because they've grown.

As Columbia honors him at this year's University Commencement, Kinget's legacy is clear: a teacher who doesn't just instruct, but empowers. His impact lives on in every student who leaves his classroom not just with knowledge—but with the courage to put it into practice.

Lead Photo Caption: Peter Kinget with his PhD student Hongzhe Jiang, working on radar measurement.

Credit: Timothy Lee/Columbia Engineering