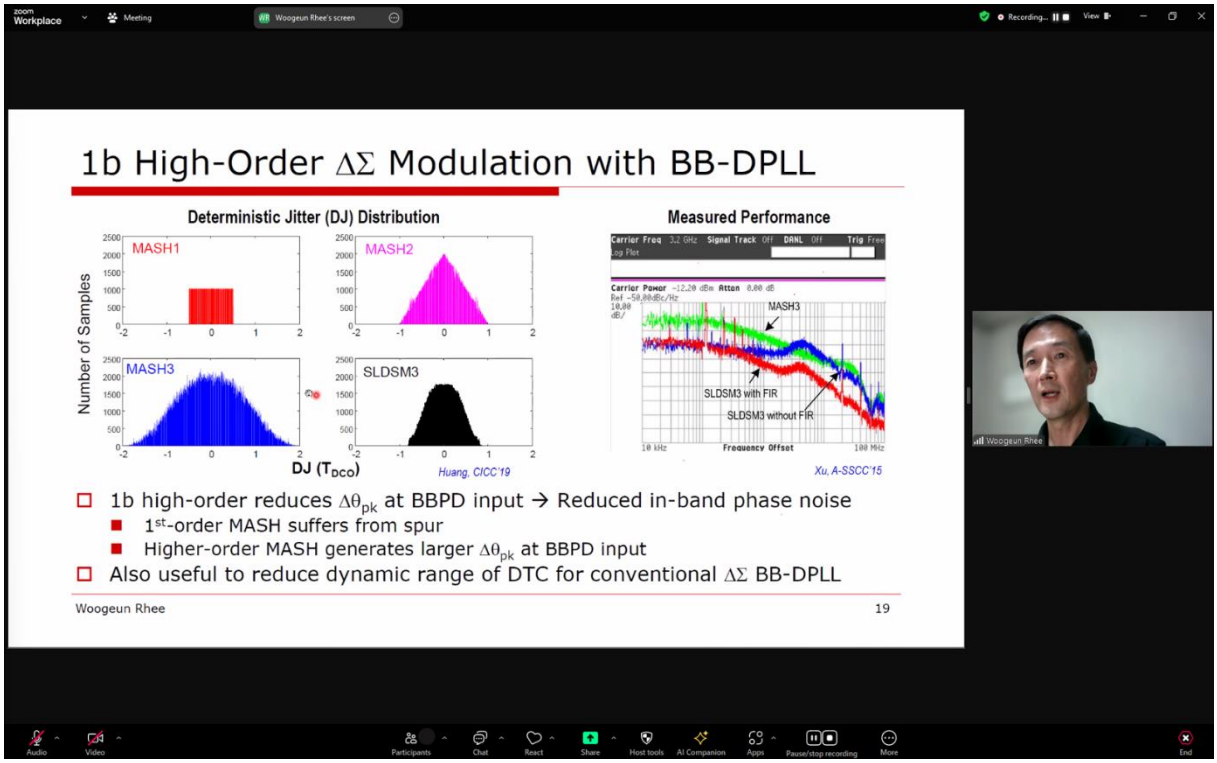
PLLs Online Course Delivered By “A Living Encyclopaedia”

The ***“Phase-Locked Loops – Practical & Advanced Design”*** online course, held in September 2024, attracted a global audience of 100 design engineers from industry and research organisations, across 5 continents of Asia, Africa, Europe, N. America and S. America, registering for our most requested online training course to date, anticipating the depth of knowledge and prolific industrial experience of our distinguished lecturer, Prof. Woogeun Rhee (Tsinghua University).

The 25 countries represented at this sold-out course were: Japan, China, S. Korea, Singapore, India, S. Arabia, Egypt, Greece, Italy, Czechia, Austria, Germany, Poland, Finland, Switzerland, Netherlands, Belgium, France, Spain, England, Scotland, Ireland, Canada, USA and Brazil.

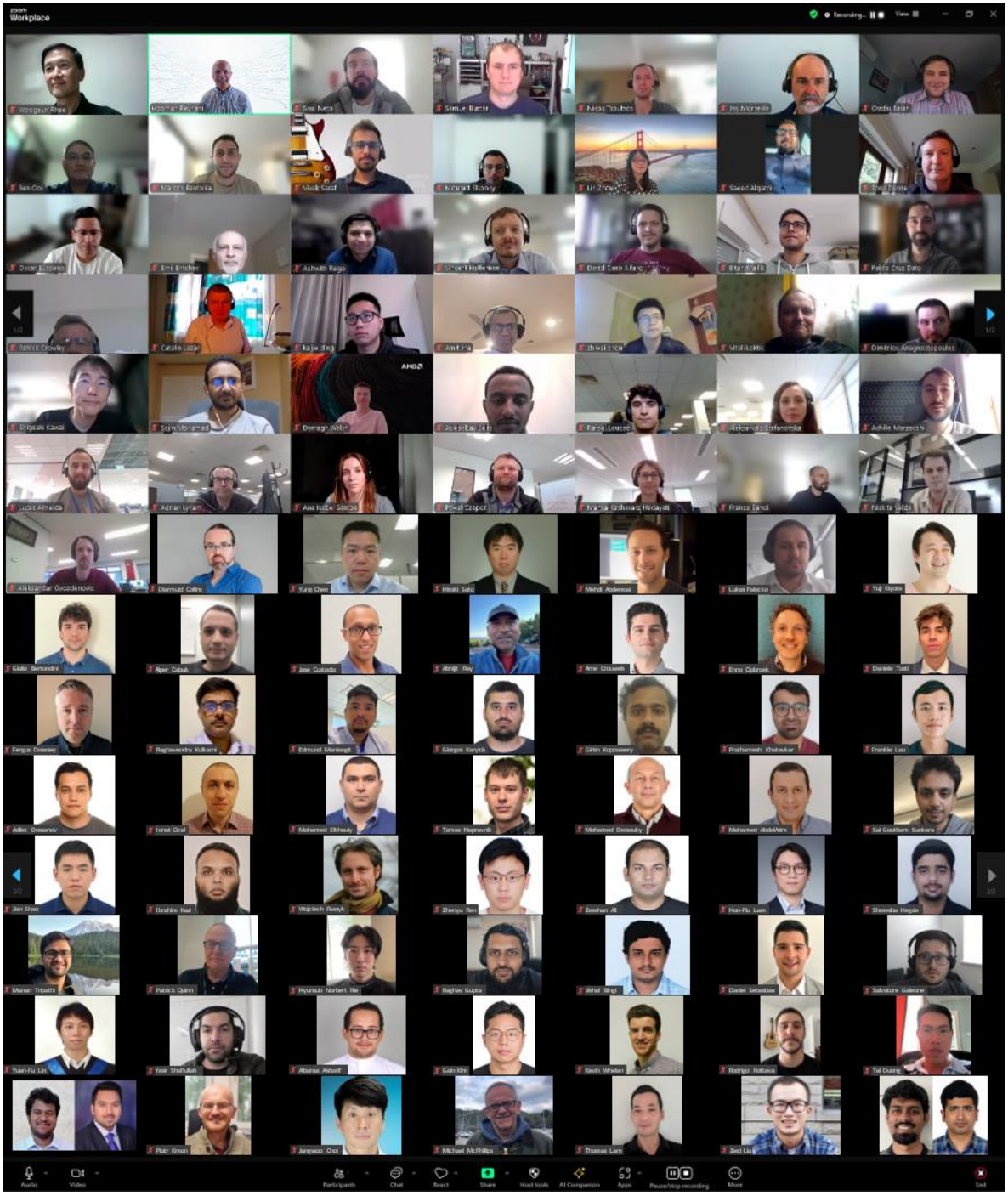
This carefully handcrafted course concentrated on practical and robust design of phase-locked loops (PLLs) by covering system perspectives, circuit design aspects, and PLL architectures including fractional-N PLLs, digital-intensive PLLs and advanced PLL architectures suitable for the nanoscale CMOS technologies. The course also addressed several design myths about the PLL.

The course was mainly aimed at experienced mixed-circuit designers, especially industry professionals who work on real products that rely on robust circuit design. It focused more on architectures and circuits useful for product-level design rather than on pure research-level innovations. Having said that, the course was very valuable for researchers in academia who are interested in developing new architectures by gaining the solid system perspectives and practical design aspects of the PLL. The attendance breakdown between industry vs. academia was 87 to 13.



Prof. Woogeun Rhee (Tsinghua University), course presenter, talked about ***“Phase-Locked Loops”,*** at an online course hosted by Hooman Reyhani, Ireland.

Prof. Rhee is currently a Professor with the School of Integrated Circuits, Tsinghua University, China. He has published more than 180 IEEE papers and holds 24 U.S. patents. He has edited and coauthored two PLL books titled "Phase-Locked Frequency Generation and Clocking: Architectures and Circuits for Modern Wireless and Wireline Systems" (IET, 2020) and "Phase-Locked Loops: System Perspectives and Circuit Design Aspects" (Wiley-IEEE Press, 2024). Dr. Rhee currently serves as the Editor-in-Chief for OJ-SSCS. He has served on the TPC for various IEEE conferences, including ISSCC, CICC, and A-SSCC. He is an IEEE Fellow.



The lecturer, organizer and participants of the ***"Phase-Locked Loops – Practical & Advanced Design"*** online course, September 2024.

The preview presentation, sample lecture and sample homework assignment are testament to the exceptionally high-quality teaching and learning of this PLL course. The phenomenal Q&A activity during the live sessions and the offline discussion forums set a new record.

The positive feedback received from the participants endorsed many aspects of the course:

"This course has been phenomenal and very practical to the point that I have used some of the calculations in my current work. It is one of the most practical courses I have taken. The flow chart that Prof. Rhee presented was similar to what I have used in my designs."

"I greatly appreciated the course format, which included recordings and homework assignments with recorded solutions. There are times when attending a live lecture is not feasible, or we may need to leave midway through. The availability of recordings allows us to access the material at a later time, thereby increasing the course's overall value. The video explanations accompanying the homework assignments are extremely helpful. I'll highly recommend this course to my colleagues."

"This course gives a very extensive overview of all the topics related to PLLs, and zooming into specific details for all the sub-components of the PLL. The professor is a living encyclopaedia on PLLs and totally owns the subject. I liked all the references he made to older papers and also the state-of-art. I consider this course a fast way to get up to speed on the advanced PLL topics."

There were also many invaluable suggestions and recommendations that are being carefully considered and will be implemented at future courses.

Full access to this course content, as well as our previous courses, may be requested (subject to payment). For more information, please see here.

— Hooman Reyhani