

THE UNIVERSITY OF MICHIGAN

*Regents Communication*

**ACTION REQUEST**

**Subject: Report of Faculty Retirement**

**Action Requested: Adoption of Retirement Memoir**

**Ronald M. Gilgenbach, Ph.D.**, Chihiro Kikuchi Collegiate Professor of Nuclear Engineering and Radiological Sciences, and professor of nuclear engineering and radiological sciences in the College of Engineering, retired from active faculty status on December 31, 2023.

Professor Gilgenbach received his B.S. (1972) and M.S. (1973) degrees in electrical engineering from the University of Wisconsin, Madison, and his Ph.D. (1978) degree in electrical engineering from Columbia University. He was a member of the technical staff at AT&T Bell Labs (1974-1977) and a research scientist at JAYCOR (1978-1980). He joined the University of Michigan faculty as an assistant professor in 1980, and was promoted to associate professor in 1984, and professor in 1989. He founded the university's Plasma, Pulsed Power, and Microwave Laboratory (PPML) in 1980 and served as director from 1980-2021. He served as the Department of Nuclear Engineering and Radiological Sciences chair from 2010-2018.

Professor Gilgenbach's research spans plasma physics, nuclear fusion, high-power microwave devices, and more. He pioneered the use of electron-cyclotron microwave heating in fusion tokamaks before inventing and patenting the recirculating planar magnetron for generating ultrahigh-power microwaves in radar and electronic defense applications. He also demonstrated the first mega-ampere Linear Transformer Driver (LTD) facility in the United States and utilized this facility to study the magneto-Rayleigh-Taylor instability for nuclear fusion applications. Professor Gilgenbach served as chair or co-chair of 51 graduated students' doctoral committees. He has published over 200 peer-reviewed journal articles, several book chapters, four patents, and over 400 conference papers or abstracts. His many honors and awards include fellow of the American Physical Society (1996), life fellow of the Institute for Electrical and Electronics Engineers (IEEE, 2015), fellow of the American Nuclear Society (2017), the IEEE Plasma Science and Applications Award (1997), and the IEEE Peter Haas Award for outstanding contributions to pulsed power technology (2017).

The Regents now salute this distinguished faculty member by naming **Ronald M. Gilgenbach, Chihiro Kikuchi Collegiate Professor Emeritus of Nuclear Engineering and Radiological Sciences, and professor emeritus of nuclear engineering and radiological sciences.**

**Requested by:**



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**Sally J. Churchill, J.D.**  
Vice President and Secretary of the University

**December 2023**