



Remembrance of John “Jack” McDonald

By John Wen and the ECSE Department

Longtime ECSE faculty Jack McDonald passed away on February 11, 2020. Jack joined ECSE and RPI in 1974 as an Assistant Professor. He has served as an inspirational teacher, innovative researcher, and dedicated colleague for 46 years until his passing. Jack came to RPI with experience in coding, started moving toward computer hardware design, VLSI, 3D integration, and in the last few years, was brave enough to embark on a new research journey into cryogenic computing, Josephson Junction, quantum computing, and new silicon integrated devices that can switch at terahertz frequencies. Jack cared deeply about each and every one of his students, and took great pride in their work and the careers they pursued post-graduation. He inspired them and inspired us, his colleagues, with his dedication, commitment to high-quality research, teaching, and vision on the future of electronics beyond Moore’s Law. Jack graduated more than 70 master’s students and 45 Ph.D. students. He had over 300 journal and conference articles in high-impact IEEE journals and conferences.

Walking into Jack’s office was just like walking into the Library of Congress. It was also a museum of technology with relics of some old technologies on display or tucked away under tables, wedged into the back of bookshelves, stashed in cardboard boxes, or odd corners of his desk and any space on a flat surface low enough to be reached. During his tenure here in ECSE Jack had five different offices. Each later move became a more stability-endangering situation.

If you stopped by Jack’s office to get an opinion or answer to a simple question for which a “yes” or “no” would suffice, you undoubtedly would be waylaid for hours while you would be obliged to listen to a detailed recitation on the history of the original topic, as well as a little circling around into almost every ancillary-related topic. No one could walk away from any of these encounters without a feeling of having been truly enlightened.

When it came to just the budding of new ideas, Jack was a moth attracted to light. He had no fears or trepidation and relished the chance to learn something novel and a cutting-edge challenging technology. It gave him an excuse to buy more books on the subject!

Although there is plenty to joke about and retell favorite Jack anecdotes, no one can doubt his extremely high standards for research, passion for teaching, and extremely lofty ability to work hard and unceasingly. Jack has set the bar so high that few can ever hope to approach it by comparison. His demand for perfection from his graduate students is reflected in their highly placed careers. Jack has left a hole in the ECSE department that can never be filled. He will be deeply missed.