Dr. Robert P. Popovich was born in Sheboygan, Wisconsin, on January 9, 1939, and died in Austin, Texas, on November 2, 2012. He is survived by his wife of thirty-one years, Lou Ellen Addison Popovich; his daughter, Kathleen Mary Popovich Noel of Austin, Texas; his sons, Steven Robert Popovich of Little Chute, Wisconsin, Scott Anthony Popovich of Sheboygan, Wisconsin, Robert Edward Popovich of Houston, Texas, and Michael Ray Buffaloe of Cedar Park, Texas; his brothers, Jack Popovich of Madison, Wisconsin, and Thomas Popovich of Eden Prairie, Minnesota; and five grandchildren, Christopher James Noel, David Alexander Noel, Scott Anthony Popovich Jr., Cassaundra Yvonne Popovich, and Sean Hunter Buffaloe.

Bob spent his childhood in Sheboygan where he attended North High School. He received a Bachelor of Science degree in chemical engineering from the University of Wisconsin-Madison in 1963 and a Master of Science degree in chemical engineering from the University of Wisconsin-Madison in 1968. He obtained “secret” security clearance to work at the Battelle Laboratories in Richland, Washington, on recovery of fission products for peaceful, commercial applications. In the exciting days of plentiful funding for biomedical research by the National Institutes of Health (NIH), he moved to the University of Washington in Seattle, Washington, which was already one of the main centers of medical research on artificial organs. He received a Doctor of Philosophy degree from the University of Washington at Seattle in 1970. His PhD work was under the direction of biomedical pioneers Belding H. Scribner, MD and Professor Albert L. Babb (a member of all three academies of the United States) and learned the intricacies of the design of new artificial kidneys, lung oxygenators, and artificial hearts. After obtaining his PhD, he stayed at the University of Washington on a postdoctoral appointment to continue his research.

In 1972, Bob Popovich moved to Austin, Texas. He was the first professor of biomedical engineering to be hired for the fledging program that was formed at UT Austin in 1966 by a number of faculty members interested in addressing biomedical research problems at the request of dean of engineering, John J. McKetta,. His official academic appointment was in the Department of Chemical Engineering at The University of Texas at Austin, a position he held until 1992. During his years in the chemical engineering department, he became very active in teaching transport phenomena courses, i.e., the use of fluid mechanics, heat- and mass-transfer principles, to solve important chemical, mechanical, but also biomedical problems. In his research, he concentrated on biomedical engineering and became one of the very early UT Austin professors to examine the application of engineering principles to the design of medical devices, artificial organs, and even novel treatment processes. For his contributions, he was recognized with appointment to the E.P. Schoch Professorship, which was named after the founder of UT Austin’s chemical engineering department.

While working at UT Austin, Bob Popovich developed a professional research partnership and longtime friendship with Jack W. Moncrief, MD. With Dr. Moncrief, Bob conceived and developed a new hemodialysis treatment method, the Continuous Ambulatory Peritoneal Dialysis (CAPD), a pioneering new method of treating patients with end-stage renal disease. Popovich and Moncrief filed for a patent in 1977, which was issued in December of 1980 with a US patent number 4,239,041. Soon thereafter, CAPD was adopted
throughout North America, Europe, and Australia. It is now the dominant form of home dialysis and has helped hundreds of thousands of patients.

CAPD works by using the peritoneum, a layer of tissue lining the abdominal cavity, as the dialysis membrane for filtering waste products when the kidney is not functioning, as in renal failure. This was an improvement on the more traditional method of hemodialysis because it allows freedom of movement since the filtering process takes place inside the body. It eliminates the need for the patient to be attached to a machine, allowing for the continuation of daily activities. Bob was successful in the development of various CAPD improvements during the course of his research. He received numerous honors and awards for his research, including the Dialysis Pioneering Award by the National Kidney Foundation in 1983, the Torchbearer Award from the American Kidney Foundation, and an award from the Peritoneal Dialysis Society in 1989 for “Contributions to Peritoneal Dialysis.”

While at UT Austin, he was mentor to a large number of undergraduate students who learned biomedical engineering and transport phenomena from him. His students have fond memories of the lively method of teaching he was using to present difficult ideas such as turbulent flow or pulsatile flow in conduits. Students, such as Drs. Christine Schmidt (University of Florida), Laura Suggs (The University of Texas at Austin), and Guillermo Ameer (Northwestern University), went on to become internationally known biomedical researchers and academics themselves. Also notable among his graduate students is David Rosenthal who was the 2012 President of the American Institute of Chemical Engineers (AIChE). Bob Popovich left UT Austin in 1992 to concentrate his efforts on medical consulting.

A giant in the development of new methods for hemodialysis, Dr. Popovich and his medical research impacted countless people throughout the world. He was devoted to his research and to teaching young, bright students, many of whom have become doctors, surgeons, professors, and research scientists. He leaves behind a large number of grateful students and a rich literature of patents and publications. He will be missed.

This memorial resolution was prepared by a special committee consisting of Professors Nicholas Peppas (chair), Thomas F. Edgar, and Donald R. Paul.

Distributed to the dean of the School of Engineering on April 9, 2013, and posted under “Memorials” at http://www.utexas.edu/faculty/council/.