

April 4, 2011

Dear Claire Pomeroy Award Selection Committee,

This is my nomination of Dr. William L. Bargar for SARTA's Claire Pomeroy Award for Innovation in Medical Technology.

Education: B.S. in Aero Engineering, Ohio State University, Columbus, OH. 1968.
M.S. in Mechanical Engineering, University of Delaware, Newark, DE. 1972.
M.D., Ohio State University, Columbus, OH. 1975.
General Surgical Residency, Riverside Methodist Hospital, Columbus, OH. 1975-1977.
Biomechanics and Joint Replacement, UCLA. 1977-1978.
Orthopaedic Residency, Case Western Reserve University, Cleveland, OH. 1978-1981

Affiliations: Senior Medical Staff, Sutter Community Hospitals, Sacramento, CA. 1985-present.
Clinical Professor of Orthopaedic Surgery, UCDCMC. 1986 (Assistant)-present.
Two international, eight national, two state, and one local medical organizations.
Founder and CEO of Friends of Orthopaedic Research.
Board of Directors, Sacramento Medical Foundation Blood Center.
Crippled Children Services Panel in Orthopaedic Surgery.

Awards: Outstanding Teacher, UC Davis Department of Orthopaedics. 1985-1986.
Computerworld Smithsonian Award for Information Technology in Medicine. 1992.
Co-recipient, Joseph F. Engelberger Award, Robotics Industries Association. 1996.

Publications: Reviewer or editor of three orthopaedic journals, editor of eleven book chapters, and author or co-author of more than sixty-five journals and proceedings articles.

Teaching assignments in orthopaedic surgery and/or biomedical engineering at Ohio State University, Case Western Reserve, UC Davis Schools of Medicine and Veterinary Medicine.
Instructor, U.S. Naval Nuclear Power School, Bainbridge, Maryland 1968-1972.

OUTSTANDING ACHIEVEMENT IN MEDICAL INNOVATION: ROBODOC®.

Dr. Bargar has followed his passion to apply the precision of engineering to orthopaedic surgery. He began his career as a new professor at UC Davis in 1981. At the time, hip implants were fixed to bone with acrylic cement, but the cement was found to be failing after 10-15 years. Researchers were developing ways to obtain fixation of the implants to bone via "bone ingrowth," but these "cementless implants" did not have a high initial success rate. Dr. Bargar's idea was to use CT-scans and CAD/CAM techniques to custom-make the implants to fit the patient's bone precisely. In order to insert these implants with equal precision, he envisioned a robotic arm that could function like a CAD/CAM machine in the operating room. This required combining the technology of 3-D Imaging and Robotics, neither of which at the time were sophisticated enough to accomplish the task.

With the help of a grant from IBM and many researchers at UC Davis Orthopaedic Laboratories and the Sutter Institute for Medical Research, this came to fruition on November 12, 1992 when Dr. Bargar performed the first robotic-assisted hip replacement on a patient at Sutter General Hospital. Like many new technologies, ROBODOC was first used commercially outside the US beginning in 1994. It has had extensive use in the EU, Japan and Korea. After two lengthy FDA studies, it was cleared for use in the US in 2008. Over 25,000 procedures have been performed worldwide.

Dr. Bargar is a founder of two companies, Integrated Surgical Systems, (now Curexo Technology Corporation, makers of the ROBODOC System) and Hayes Medical (now Consensus Orthopaedics, an implant manufacturer) Dr. Bargar is one of the very first pioneers in robotic assisted surgery, and he is an example of the goal of SARTA/ MedStart's program for innovation,

product development, and commercialization; utilizing industry, UCDMC's cooperation and Sutter's hospital services. It is fitting that Dr. William Bargar receive the Claire Pomeroy Award.



Submitted by:
Richard T. Marshall, D.V.M., Director, Research Laboratory Services
Sutter Institute for Medical Research