

HAND AND UPPER EXTREMITY LABORATORY

Zong-Ming Li, PhD, Robert J. Goitz, MD



(From left to right: Tom Christophel, Bob Goitz, Teresa Brininger, Danny Harkness, Nitin Narayana, Norm Gustafson, Zong-Ming Li, Nancy Baker, Shouchen Dun, Chris Ugbohue)

Under the direction of Zong-Ming Li, the Hand and Upper Extremity Laboratory uses a multidisciplinary approach to study carpal tunnel syndrome. It has been a very exciting year for our laboratory as we have assembled a strong research team and obtained two research grants from the Whitaker Foundation and the Aircast Foundation.

A number of talented people have joined our group, including hand surgeons, faculty of occupational therapy, research fellows, and graduate and undergraduate students. Robert J. Goitz, the Chief of our Division of Hand and Upper Extremity Surgery, has been enthusiastically participating in our research and has provided clinical guidance for our team. Shouchen Dun came to work with us as a research fellow after receiving his Master's degree in Biomedical Engineering at Case Western Reserve University. Shouchen's research has focused on finger coordination and its clinical applications. We have subsequently welcomed Chris Ugbohue, who also has assumed a role as a research fellow after completing his doctoral requirements in bioengineering at the University of Strathclyde in Scotland. Chris will undertake projects related to repetitive strain injuries. Danny Harkness, a graduate student, is currently involved in studying hand motor function of both normal people and individuals with carpal tunnel syndrome, further substantiated by cadaveric testing and in vivo nerve blocking techniques. Teresa Brininger, a graduate student and certified occupational therapist from the army, brings her clinical expertise to our research team to study carpal tunnel syndrome.

Tom Christophel and Nitin Narayana, undergraduate students in our Bioengineering program, have been working with us part time for the past three semesters. Wendy Gwilliam assists our laboratory in recruiting research subjects. With strong interest in carpal tunnel syndrome, Nancy Baker and Norm Gustafson, faculty in the Department of Occupational Therapy, have been actively involved in our research activities. Extramurally, we have developed a collaborative relationship with Yubo Fan at Sichuan University in China. Graduate students in Fan's laboratory have begun working on biomechanical modeling and visualization of the carpal tunnel. This collaboration has been supported by a grant from the University of Pittsburgh Hewlett International Grant Program.

Our laboratory has also greatly benefited from the generous support of our department. Freddie H. Fu Silver Professor and Chair Funds have been appropriated to boost the technological development in our laboratory. Savio L-Y. Woo Ferguson Professor and Chair Funds have been provided to enhance our personnel growth.

The Hand and Upper Extremity Laboratory continues to progress. While implementing the funded research projects, we are generating many new exciting ideas for the study of carpal tunnel syndrome. In the long term, our research endeavors will help in understanding the underlying mechanisms for carpal tunnel syndrome and foster the development of new strategies for prevention, diagnosis, evaluation, therapeutic intervention, and treatment.

LABORATORY PERSONNEL

Zong-Ming Li, PhD	Director
Robert J. Goitz, MD	Faculty in Orthopaedic Surgery
Nancy Baker, ScD, OTR/L	Faculty in Occupational Therapy
Norm Gustafson, OTR/L, CHT	Faculty in Occupational Therapy
Wendy Gwilliam	Clinical Coordinator
Chris Ugbohue	Research Fellow
Shouchen Dun	Research Fellow
Teresa Brininger, OTR/L, CHT	Graduate Student
Daniel Harkness	Graduate Student
Thomas Christophel	Undergraduate Student
Nitin Narayana	Undergraduate Student