

Yongqiang Liang

Mail Code 104-44
California Institute of Technology
Pasadena, CA 91125
(626)807-7840
yliang@caltech.edu

OBJECTIVE

Mechanical engineer/researcher for **system design and control** and/or **biomedical application**

EDUCATION

California Institute of Technology

Ph.D. Mechanical Engineering

expected **2006**

M.S. Mechanical Engineering

June 2004

University of Science and Technology of China

M.E. Solid Mechanics

July 2001

B.S. Theoretical and Applied Mechanics (Graduated with 1st rank in class)

July 1998

SUMMARY OF SKILLS

System Development and Analysis

- Robotic and control system development
- Dynamic system modelling and simulation
- Neuromechanical modelling and simulation

Mechanics and Material Testing

- Nondestructive measurement and material testing

Computer and Language Skills

- C++, Matlab, Labview, Mathematica, Fortran
- English, Mandarin(native speaker), Spanish(conversational)

RESEARCH EXPERIENCE

Robotics, Caltech

2001~present

- Conducted interdisciplinary research on robotic devices and their applications in spinal cord injury rehabilitation; Developed a robotic system for animal rehabilitative training
- Analyzed object motion under multiple constraints with additional external loads

Optical Measurement, USTC

1998~2001

- Developed a diagnosis system using holography and electrical speckle pattern interference, including hardware and software data acquisition and analysis; Studied the anomalous deformation pattern of metal sheets under tensile load
- Designed an apparatus to detect 3D surface profile with a projected laser beam

SELECTED PUBLICATIONS

1. Liang, Y.Q., Cai, L.L., Burdick, J. W., and Edgerton, V.R. , "A robotic training system for the studies of post-SCI stand rehabilitation", submitted to *IEEE/RAS-EMBS Intern. Conf. Biomed. Rob. Biomechatron.*, 2006
2. Cai, L.L., Fong, A. J., Otoshi, C. K., Liang, Y.Q., et al., "Effects of consistency vs. variability in robotically controlled training of stepping in adult spinal mice", *Proc. IEEE Intern. Conf. Rehab. Rob.* 575-579, 2005
3. Burdick, J. W., Liang, Y.Q., and Rimon, E., "Experiments in Fixturing Mechanics", *Intern. Conf. Rob. Auto.*, 2003

LEADERSHIP ACTIVITY

Outdoor Activities Coordinator of Caltech Chinese Students' Association

2003