



Summer Research Intern Program – 2007

<http://viterbi.usc.edu/summerinternship/>

The USC Viterbi School of Engineering is pleased to announce an eight-week **SUMMER RESEARCH INTERN PROGRAM** from June 11 to August 3, 2007, for outstanding undergraduate engineering students who will begin their senior year in fall 2007. Students will work with engineering faculty on projects of current interest. The list of projects and faculty is given below. Students selected for this program will receive a stipend of \$2,250.00 per month for two months toward living expenses. Students chosen for the program must have their own medical insurance coverage and must be US citizens or permanent residents. Interested students should complete the [online application form](#) located at <http://viterbi.usc.edu/summerinternship/> and submit supporting documents by March 23, 2007. They will be notified of decisions by March 30, 2007. For questions, please write to berti@usc.edu.

Participating faculty and projects:

- **Dr. Yong Chen, Assistant Professor of Industrial and Systems Engineering**

http://www.usc.edu/dept/ise/directory/yong_chen.htm

Project: Reverse Engineering: Developing a test-bed (with integrated hardware and software) to explore creating a parametric CAD model from a physical model based on CCD cameras

- **Dr. Roger Ghanem, Professor of Aerospace and Mechanical Engineering**

<http://ame-www.usc.edu/personnel/ghanem/index.shtml>

Projects: (1) Numerical Liver: developing a detailed computational model of the human liver; (2) Natural Resource Management: A Geographic Information System (GIS) containing natural resource data relevant to Southern California will be used to develop a decision support system for environmental policy making and analysis

- **Dr. Norberto Grzywacz, Professor of Biomedical Engineering**

<http://bme.usc.edu/directory/faculty/primary-faculty/norberto-m-grzywacz/>

Projects: (1) retinal processing (electrophysiology, immunocyto-chemistry, or molecular biology); (2) visual perception (psychophysics)

- **Dr. Martin A. Gunderson, Professor of Electrical Engineering**

http://ee.usc.edu/faculty_staff/faculty_directory/gunderson.htm

Projects in applied plasmas physics or pulsed power research or bioelectrics

- **Dr. John Heidemann, Research Associate Professor of Computer Science**

<http://www.isi.edu/~johnh/>

Projects: (1) Experiments with underwater sensor networks and underwater acoustic communications; (2) Internet traffic analysis

- **Dr. Tzung Hsiai, Assistant Professor of Biomedical Engineering and Medicine/Cardiology**

<http://bme.usc.edu/directory/faculty/primary-faculty/tzung-k-hsiai/>

Project: To develop micro- and nano-scale sensors for cardiovascular medicine

- **Dr. Eva Kanso, Assistant Professor of Aerospace and Mechanical Engineering**

<http://ame-www.usc.edu/personnel/kanso/index.shtml>

Project: Modelling mathematically a physical phenomenon, such as the motion of a diver or a bicycle, and learning how to numerically integrate the system and analyze the results using tools from dynamical systems theory

- **Dr. Bhaskar Krishnamachari, Assistant Professor of Electrical Engineering**

<http://ceng.usc.edu/~bkrishna/>

Project: Design and analysis of wireless network protocols

- **Dr. Jihie Kim, Research Assistant Professor of Computer Science, USC Information Sciences Institute**

<http://www.isi.edu/~jihie/>

Project: Novel tools for extracting knowledge from on-line discussions

- **Dr. Pin Wang, Assistant Professor of Chemical Engineering**

http://chems.usc.edu/faculty_staff/wang.htm

Project: Targeted gene delivery for cancer therapy

- **Dr. Brent J Liu, Assistant Professor, Department of Radiology & Department of Biomedical Engineering**

<http://www.ipilab.org/People/Brent%20Liu.htm>

Projects: (1) An electronic Patient Record (ePR) System for managing Minimally Invasive Spinal Surgery (MISS) patients; (2) A DICOM-RT based ePR system for Managing Proton Therapy Patients; (3) Data Grid for Imaging-Based Clinical Trials

- **Dr. Gerald E. Loeb, MD, Professor of Biomedical Engineering**

<http://www.usc.edu/dept/biomed/faculty/primary/gloeb.htm>

Project: [BION](#)[®] see <http://ami.usc.edu/projects/>

- **Dr. Maja J Mataric, Professor of Computer Science**

<http://www-robotics.usc.edu/~maja/>

Projects: (1) A robot tour guide; (2) Robot speech generation; (3) Expressive gestures for robots; (4) Robot face finding

- **Dr. Gerard Medioni, Professor and Chair, Computer Science**

<http://iris.usc.edu/home/iris/medioni/User.html>

Projects: (1) Vision system for a Personal Service Robot in an Intelligent Home; (2) Recognition of uncooperative subjects at a distance

- **Dr. Ellis F. Meng, Assistant Professor of Biomedical Engineering**

<http://bme.usc.edu/directory/faculty/primary-faculty/ellis-meng/>

Project: Characterization of microelectromechanical systems (MEMS) devices used in therapy of ocular diseases

- **Dr. Mansour Rahimi, Associate Professor of Industrial and Systems Engineering**

http://www.usc.edu/dept/ise/directory/mansour_rahimi.htm

Project: Life-Cycle Assessment of Future Fuels and Energy Systems

- **Dr. Amy Rechenmacher, Assistant Professor of Civil and Environmental Engineering**

http://www.usc.edu/dept/civil_eng/dept/faculty-staff/faculty-directory/rechenmacher-amy.htm

Project: Developing better understanding of the grain-scale processes governing initiation and progression of localized shear failure planes in granular materials

- **Dr. Paul Ronney, Professor of Aerospace and Mechanical Engineering**

<http://ronney.usc.edu>, <http://www.paulronney.com> AND

<http://cpl.usc.edu/>

Project: Microscale power generation

- **Dr. Tony Maxworthy, Smith International Professor of Mechanical Engineering, Professor of Aerospace Engineering**

<http://ame-www.usc.edu/personnel/maxworthy/index.shtml>

Projects: Various projects in Aerodynamics (see registration page)

- **Dr. Laurent Itti, Associate Professor of Computer Science**

<http://ilab.usc.edu/>

Project: Testing visual attention models through eye movement recordings