

Scholars Program Faculty Summer Research Interests – contact the listed sponsor for more information

Project Title	Faculty Sponsor	Program Area	Students Needed	Special Qualifications	Students Identified
Understanding Technical Leadership	Prof. Peter Dominick AAITalk@aol.com	Technology Management	2	Interest in learning tech management	
Quantum nanocircuits using electron wave interferometry	Prof Chris Search csearch@stevens.edu	Physics	1	Interest in theoretical atomic physics	
Electromagnetically induced transparency in cold atom systems	Prof Chris Search csearch@stevens.edu	Physics	1	Interest in theoretical atomic physics	
Nanoscale manipulation and characterization	Prof Frank Fisher ffisher@stevens.edu	Nanotech	1	SEM Qualified	David Barth
Piezoelectric nanocomposites prepared using immersion precipitation	Prof Frank Fisher ffisher@stevens.edu	Nanotech	1	Chemistry background	Ryan Oelkers
Virtual research experiences for undergraduates in nanotechnology	Prof Frank Fisher ffisher@stevens.edu	Nanotech	2	Multimedia/creative design skills	Nicholas Walulik, Ellen Griggs
Non-isothermal crystallization studies of semicrystalline polymer nanocomposites	Prof Frank Fisher ffisher@stevens.edu Prof Dilhan Kalyon, dkalyon@stevens.edu	Nanotech	1	Chemical engineering major preferred	
New micromechanical models for polymer nanocomposites	Prof Frank Fisher ffisher@stevens.edu	Nanotech	1	junior in Mech. Eng, Civil Eng, or Mathematics; interested in pursuing a PhD upon graduation; knowledge of MathCAD a strong plus; this is a coding project which will lead to a journal publication. Interested students MUST email Professor Fisher to discuss this project in more detail	

Scholars Program Faculty Summer Research Interests – contact the listed sponsor for more information

Project Title	Faculty Sponsor	Program Area	Students Needed	Special Qualifications	Students Identified
FPGA Based Reconfigurable Platform for Machine Intelligence	Prof. Haibo He Haibo.He@stevens.edu	ECE Dept	3-4	See Prof He for details	
Adaptive Learning and Data Mining for Intelligent Information Processing	Prof. Haibo He Haibo.He@stevens.edu	ECE Dept	3-4	See Prof He for details	
Flooding remediation in the west side of Hoboken	Prof. Hank Dobbelaar hobbela@stevens.edu	Civil Engineering	2-3	This is a real world project with potentially significant impact in Hoboken. Creative, problem solving students are sought for this project. See Prof Dobbelaar for more info.	
Social Network Analysis	Prof. Jeff Nickerson jnickerson@stevens.edu Dr. Yasuaki Sakamoto yasuaki.sakamoto@stevens.edu	Technology Management	2-3	Sometimes the relations between people predict trends - for example, word-of-mouth about a song or movie will generate buzz. In this project, we are interested in studying how trends emerge. Do some individuals trigger trends? Programming knowledge and an interest in psychology will be important.	
Video game programming	Prof. Jeff Nickerson jnickerson@stevens.edu Dr. Yasuaki Sakamoto yasuaki.sakamoto@stevens.edu	Technology Management	2-3	We are building simulations of security situations, in which defenders try to outwit attackers. We have built an environment based on Half-Life 2, and we are looking for those	

Scholars Program Faculty Summer Research Interests – contact the listed sponsor for more information

Project Title	Faculty Sponsor	Program Area	Students Needed	Special Qualifications	Students Identified
				interested in helping with the coding of new simulations. Strong programming and gaming skills required	
Diagrams in Design	Prof. Jeff Nickerson jnickerson@stevens.edu Dr. Yasuaki Sakamoto yasuaki.sakamoto@stevens.edu	Technology Management	2-3	We are engaged in an NSF-funded project to improve the design of software through diagrams. We are looking for interested students to help create training experiments - for example the presentation of alternative diagrams to students, who choose the appropriate one. Programming skills are important, as well as an interest in psychology and the process of design	
Evaluation of an RTK GPS Wave-Runner Based Survey System with Application to Nearshore Bathymetric Beach Surveys.	Prof Jon Miller Jon.Miller@stevens.edu	Davidson Lab	1	1 student identified. Contact Prof Miller if interested.	Lauren Griggs

Scholars Program Faculty Summer Research Interests – contact the listed sponsor for more information

Project Title	Faculty Sponsor	Program Area	Students Needed	Special Qualifications	Students Identified
Study of cell-peptide interactions using computer simulation approach	Prof James Liang James.liang@stevens.edu	Chemical Biology	4-5	There is a close correlation between the conformation and the activity of a bioactive peptides. Our lab has discovered a series of bioactive peptide with antibiotic or anti-tumor activities. Now we are trying to molecular simulation program (CHARMM) to study peptide-cell interaction dynamics.	Nicole Patrone, Khushali Shah, Lauren Spagnuolo +1-2 more.
Agent-based simulation modeling of social, economic and security systems.	Prof. Leon Bazil Leon.Bazil@stevens.edu	Systems Engineering	1-2	Juniors who have taken EM/CPE 345 Simulation and Modeling	
Fabrication and characterization of tapered fibers as a novel nanoprobe	Prof Stefan Strauf sstrauf@stevens.edu	Physics/Nanotech	2	Interest in optics	
Laser synchronization and high speed sampling techniques	Prof. Rainer Martini rmartini@stevens.edu	Physics	2	Interest in physics/optics	
Decontamination of water using atmospheric pressure plasmas	Prof. Vladimir Tarnofsky Vladimir.Tarnovsky@stevens.edu	Physics	1-2	Interest in applied or engineering physics	
Microfluidic Investigation of Pharmaceutical Nanoparticle Self-Assembly	Prof Woo Lee wlee@stevens.edu	Chemical Engineering	1	Chem E student preferred	

Scholars Program Faculty Summer Research Interests – contact the listed sponsor for more information

Project Title	Faculty Sponsor	Program Area	Students Needed	Special Qualifications	Students Identified
Microfluidic Investigation of Biofilm Adhesion and Detachment	Prof Woo Lee wlee@stevens.edu	Biomedical Engineering	1	Biomed E student preferred	
Bridging Individual and Group Cognition	Dr. Yasuaki Sakamoto yasuaki.sakamoto@stevens.edu	Technology Management	2	Interest in cognitive psychology	
Snake Robots for Search and Rescue	Prof. Yi Guo Yi.Guo@stevens.edu	Electrical Engineering	2	ME, ECE or CS junior or senior with background in embedded systems, programming, or robot applications	
Functionalized scaffolds for neural tissue engineering	Prof. Xiaojun Yu Xiaojun.Yu@stevens.edu	Biomedical Engineering	2	Interest in biomedical engineering	
Functionalized scaffolds for musculoskeletal tissue engineering	Prof. Xiaojun Yu Xiaojun.Yu@stevens.edu	Biomedical Engineering	2	Interest in biomedical engineering	Elvin Lee
Drug delivery systems for drug and growth factor delivery	Prof. Xiaojun Yu Xiaojun.Yu@stevens.edu	Biomedical Engineering	2	Interest in biomedical engineering	
Transmedia Search: Searching for Analogies Across Media Forms	Prof. Quynh Dinh quynh@cs.stevens.edu Prof. Ebon Fisher fisher@nervepool.net	Computer Science	2	Transmedia search is a new initiative to develop technology for finding analogies across different media forms (e.g., sound, images, video, and 3D shapes). The summer project will involve developing an online survey that presents different media samples and asks participants to select “matching” samples and ex-	

Scholars Program Faculty Summer Research Interests – contact the listed sponsor for more information

Project Title	Faculty Sponsor	Program Area	Students Needed	Special Qualifications	Students Identified
				plain why they consider the samples to be analogous. This project will involve web and database programming.	
Wireless Communications and Networking	Prof. Yu-Dong Yao yyao@stevens.edu	Electrical Engineering	2	Research topics include wireless channel modeling, interference characterization, jamming techniques, multiple access protocols, CDMA, sensor networks, and ad hoc networks., Matlab/Java GUI development, microprocessor and FPGA programming, and circuits design and testing.	
Projects in Cryptography and Computer Security	Prof. Antonio Nicolosi nicolosi@cs.stevens.edu	Computer Science	2-3	A number of possible projects are available. Please contact Prof Nicolosi for details.	
Lumbar Center of Rotation in Healthy Individuals	Prof Vicki Hazelwood Vikki.Hazelwood@stevens.edu	Biomedical Engineering	2+	Please contact Prof Hazelwood for details	Malika Bhargava, Cassandra M. Habura
Environmental Stewardship of Energetic Materials	Dr. Washington Braid Washington.Braid@stevens.edu	Environmental Engineering	2	Please contact Dr. Braid for details.	

Scholars Program Faculty Summer Research Interests – contact the listed sponsor for more information

Project Title	Faculty Sponsor	Program Area	Students Needed	Special Qualifications	Students Identified
Automatic discovery of calibration parameters in Computer Vision	Prof. Ionut Florescu ifloresc@stevens.edu Prof. Rustam Stolkin rstolkin@stevens.edu	Computer Vision	1-2	Contact Prof. Florescu or Dr. Stolkin for details	
Fusion of motion detectors and color based trackers in Computer Vision	Prof. Ionut Florescu ifloresc@stevens.edu Prof. Rustam Stolkin rstolkin@stevens.edu	Computer Vision	1-2	Contact Prof. Florescu or Dr. Stolkin for details	
Modeling Market Microstructure	Prof. Ionut Florescu ifloresc@stevens.edu Prof. Rustam Stolkin rstolkin@stevens.edu	Computer Modeling	1-2	Contact Prof. Florescu or Dr. Stolkin for details	
New features for CodeBlue wireless sensor driven music performance system	Prof. David Naumann naumann@cs.stevens.edu Prof. Susanne Wetzel swetzel@cs.stevens.edu	Computer Science	1-2	Java programming and some familiarity with Unix networking.	