

Faculty Name	Email Address	Faculty College	Faculty Dept	Project title	Project Description	Project Location	Important selection criteria	Student Majors Desired	Class Preference
Adil I. Khan PhD	adil.khan@temple.edu	TUSM	Pathology and Laboratory Medicine	Role of adhesion molecules in acute inflammation.	In Vitro and in vivo assays would be used to investigate the role of adhesion molecules in models of acute inflammation.		Good writing skills; be able to work independently. the work may involve a mouse models so should	Any science major.	Sophomore, Junior or Senior
Cagla Tukul	ctukul@temple.edu	TUSM	Microbiology and Immunology	Innate immune recognition of bacterial amyloids	Amyloids, complex proteins with a conserved beta sheet structure (1-4), are associated with complex diseases including Alzheimer's	TUHSC	pipetting, agarose gel electrophoresis, SDS-PAGE	Biochemistry, biology and chemistry	Juniors
Chelsea Walton	tug18864@temple.edu	CST	Math	Semisimple Hopf algebras	Hopf Algebras are objects that occur naturally in several subfields of mathematics and physics such as: abstract algebra algebraic	Main		Math	Junior, senior
Chelsea Walton	tug18864@temple.edu	CST	Math	Semisimple Hopf algebras	Hopf Algebras are objects that occur naturally in several subfields of mathematics and physics such as: abstract algebra algebraic	Main		Math	Junior, senior
Gillian Queisser	gillian.queisser@temple.edu	CST	Mathematics	Grid generation and convergence analysis for the Poisson-Nernst-Planck equations	The student researcher will work on developing automated ways to generate grids for the numerical computation of the Poisson-Nernst-Planck (PNP) equations	Main Campus	Programming skills (scripting language and/or object-oriented language) and an interest in applied mathematics/num	Mathematics, Computer Science	Juniors or Seniors

Gillian Queisser	gillian.queisser@temple.edu	CST	Mathematics	Simulating networks of brain cells under synapse loss	The student researcher will get to know novel simulation tools to simulate neural networks and use these tools to investigate the behavior of networks	Main Campus	Programming skills (scripting language and/or object-oriented language) are a plus.	Mathematics, Computer Science, Biology	Juniors or Seniors
Gillian Queisser	gillian.queisser@temple.edu	CST	Mathematics	Vector graphic export of two- and three-dimensional scientific data	The student researcher will develop export routines for scientific data in two and three dimensions. The visualization of scientific data is critical when	Main Campus	Programming skills (scripting language and/or object-oriented language)	Mathematics, Computer Science	Juniors or Seniors
Gillian Queisser	gillian.queisser@temple.edu	CST	Mathematics	Modeling and Simulation of Calcium Dynamics in Healthy and Diseased Neurons	In this project the student researcher will use novel simulation tools to simulate and evaluate the dynamics of calcium signals in neurons. Calcium is one	Main Campus	Programming skills (scripting language and/or object-oriented language) are a plus.	Mathematics, Computer Science, Biology	Juniors or Seniors
Katherine (Kallie) Willets	tuf79482@temple.edu	CST	Chemistry	Using light and nanoparticles to destroy pollutants	Breaking down organic pollutants into smaller, less harmful molecules is a major challenge in water remediation projects. Titania nanoparticles have	Main	good attitude, willingness to learn and ask questions	chemistry, physics	Sophomore, Junior, Senior
Katherine (Kallie) Willets	tuf79482@temple.edu	CST	Chemistry	Using light and nanoparticles to destroy pollutants	Breaking down organic pollutants into smaller, less harmful molecules is a major challenge in water remediation projects. Titania nanoparticles have	Main	good attitude, willingness to learn and ask questions	chemistry, physics	Sophomore, Junior, Senior
Matthew Stover	mstover@temple.edu	CST	Mathematics	Discriminants of integer polynomials	This project will study discriminants of polynomials with integer coefficients. For quadratic polynomials, this is the familiar expression $b^2 - 4ac$. It	Main	Students should know integral calculus, have solid foundations in computer programming, and an interest in	Math or CS	

Matthew Stover	mstover@temple.edu	CST	Mathematics	Discriminants of integer polynomials	This project will study discriminants of polynomials with integer coefficients. For quadratic polynomials, this is the familiar expression $b^2 - 4ac$. It	Main	Students should know integral calculus, have solid foundations in computer programming, and an interest in	Math or CS	
Mohan Patnala Achary	achary@temple.edu	TUSM	Metastasis and Radiation Research Lab	Markers for non-metastatic human breast cancers and inhibition of human glioblastoma In Vivo.	Validation of genomic and gene expression markers for differentiating human metastatic and non-metastatic primary breast cancers	TUHSC	None to one summer lab research experience - Sincerity	Biology	Sophomore, Junior, Senior
Pei Wang	pei.wang@temple.edu	CST	CIS	Testing an intelligent reasoning system	NARS is an intelligent reasoning system that accepts knowledge and problems in a formal language, and uses some inference rules to derive new knowledge	Main	Strong interest in science, especially in human and machine intelligence; solid background in mathematics and	computer and information sciences, mathematics	Sophomore, Junior or Senior
Richard T. Pomerantz	richard.pomerantz@temple.edu	TUSM	Fels Institute for Cancer Research	How the process of transcription contributes to genome instability in human cells.	Genome instability in the form of chromosome breaks, rearrangements and deletions is a hallmark of cancer cells and contributes to	TUHSC	Intelligent, hard-working, independent, passionate about science and research. - General Biology	Biochemistry, Biology, or Chemistry	
Richard T. Pomerantz	richard.pomerantz@temple.edu	TUSM	Fels Institute for Cancer Research	This research will provide important insight into how polymerase theta functions during alt-EJ and promotes the survival of cancer cells and chemotherapy resistance and will likely be published in a	A newly discovered DNA repair process called alternative end-joining (alt-EJ) or microhomology-mediated end-joining causes chromosome	TUHSC	Intelligent, hard-working, independent, passionate about science and research. - General Biology	Biochemistry, Biology, or Chemistry	
Young-Jin Son	yson@temp	TUSM	Anatomy and Cell Biology	Restoring Motor and Sensory Circuits after Peripheral Nerve Injury	We are currently carrying out two lines of translation-oriented research using clinically relevant mouse models, aiming to restore motor and sensory functions	TUHSC		Neuroscience, Biology, Chemistry, Premed	Juniors or Seniors

Abdelkarim Sabri	sabri@temple.edu	TUSM	Cardiovascular Research Center	Inflammatory proteases and cardiac repair	In the adult heart, cell death following myocardial infarction initiates an inflammatory reaction that removes dead cells and contributes to scar	TUHSC	Basic cell and molecular biology techniques. Highly motivated students with sound knowledge in cell and	Biochemistry	Junior & Senior
Adrienn Ruzsinszky	aruzsinszky@temple.edu	CST	Physics	Accurate Methods in Electronic Structure	We are developing and improving electronic structure methods based on many-body electron and density functional theory.	Main		Physics or Chemistry	Junior
Adrienn Ruzsinszky	aruzsinszky@temple.edu	CST	Physics	Electronic structure of layered semiconductors	ground-state and/or excited state calculations of layered semiconductors for nano-electromechanical device industry and photovoltaics	Main	interest in theoretical/computational research, good computational skills	Physics, Chemistry	
Adrienn Ruzsinszky	aruzsinszky@temple.edu	CST	Physics	First-principles electronic structure methods for materials	Development and applications of first-principles electronic structure methods in Physics and Chemistry.	Temple main campus	Interest in theoretical research. Solid mathematical background. Satisfactory programming and	Physics or Chemistry	Junior
Alexandra Davatzes	alix@temple.edu	CST	Earth and Environmental Science	Geochemical analysis of a Paleoproterozoic impact event.	Student will be completing a detailed geochemical analysis of a section of rock collected from an impact boundary.	Main Campus	Completed classes in General chemistry and Geochemistry or Petrology. Skilled in Excel; willing to work hard - Gen	Geology	Juniors or Seniors
Allen Nicholson	anichol@temple.edu	CST	Biology	Analysis of a Gene-regulatory Ribonuclease Complex	Proteomic analyses of protein-protein interactions in the bacterium Escherichia coli suggest that two ribonucleases, RNase III and RNase II, as well as	Main	Interest in biochemistry and molecular biology; strong foundation of basic biochemical/biological concepts	Biology, Biochemistry - , Junior or Senior	Sophomore, Junior or Senior

Allen Nicholson	anichol@temple.edu	CST	Biology	Understanding ribonuclease mechanism and function in gene regulation	We apply biochemical and molecular genetic techniques to probe the mechanism of ribonucleases and their function in gene expression and RNA	Main	Strong performance in biology and chemistry courses (including at least one semester of organic chemistry)	Biochemistry, Biology, Chemistry majors	Sophomore, Junior or Senior
Amy Freestone	amy.freestone@temple.edu	CST	Biology	Biogeographic variation in interaction strength and invasions at the ocean's nearshore (BioVision).	Global patterns of biodiversity demonstrate that most of the species on earth occur in the tropics, with strikingly fewer species occurring in	Main	Important selection criteria: A strong academic record, a strong interest in ecology and conservation, and a desire to	Biology, Environmental Science	Sophomore, Junior or Senior
Ana Gamero	gameroa@temple.edu	TUSM	Biochemistry	STAT2 Signaling in Cancer	STAT2 is a transcription factor widely recognized for its role in host defense against microbial attack and inflammation. Published work from my	TUHSC	Strong knowledge of biological concepts Self-motivated and willingness to work hard Good communication	Biology, Biochemistry	Sophomore, Junior, Senior
Ana Gamero	gameroa@temple.edu	TUSM	Biochemistry	Understanding the Role of STAT2 in Colorectal Cancer	Cancer is a very complex disease driven by multiple genetic alterations. The focus of my research is to investigate the mechanism by which	TUHSC	Good communication skills, attention to detail and able to follow directions	Biology, Biochemistry	Sophomore, Junior, Senior
Ananias Escalante	Ananias.Escalante@temple.edu	CST	Biology	Phylomedicine of vector-borne pathogens	It is increasingly evident that genomic information, together with concepts from epidemiology and evolutionary biology, allows for testing of	Main	I am looking for highly motivated students who are interested in gaining research experience. A minimum of 3.7	Biology, Biochem, Applied Mathematics, Natural Sciences	Freshman or sophomore
Ananias Escalante	Ananias.Escalante@temple.edu	CST	Biology	Genetic diversity of vector borne pathogens/parasites.	I am looking for highly motivated students who are interested in gaining research experience. A minimum of 3.7 GPA is required. Students should interview with	Main Campus	Basic knowledge on biology (transcription/translation; DNA structure and replication) OR analytical/comput	Biology, Natural Sciences, Math (applied) and Computer Sciences -	Sophomore or Junior, Freshman could be considered

Anduo Wang	adw@temp le.edu	CST	CIS	A Consistent SDN Management Plane with Logic Reasoning	My research interests center around improving networked- systems with database techniques and formal methods. My current research projects focus	Main Campus	good math, programming with Python, some understanding of networking and database	computer science	seniors
Ann Valentine	ann.valenti ne@temple .edu	CST	Chemistry	Bioinorganic Titanium Chemistry	The Valentine Lab is interested in hydrolysis- prone metal ions of biological relevance. The student will investigate possible ligand systems for	Main	intelligence enthusiasm conscientiousness - will teach skills necessary	chemistry biochemistry	Sophomore , Junior
Axel Kohlmeyer	a.kohlmeye r@temple.e du	CST	Mathematic s	Usage Monitoring on the High- Performance Computing Cluster	The Temple HPC team is looking to develop improved tools to report usage of resources on the new central HPC cluster. This would include collecting	Main	Experience with python programming is required. Experience with data bases, data analytics and data	Computer Scien	Sophomore , Junior, Senior
Bassel E Sawaya	sawaya@te mple.edu	TUSM	Neurology/ Fels Institute	Can HIV-1 proteins promote premature brain aging	Patients infected with HIV-1 suffer from learning and memory deficit. The mechanisms leading to these alterations remain unknown. We are in the	TUHSC	Ask, Learn, Enjoy, - Serious, ability to learn and to interact with others 1- Someone who is serious, ready to	All	Sophomore , Junior, Senior
Beata Kosmider	tug28074@ temple.edu	TUSM	Department of Thoracic Medicine and Surgery	Mutation analysis in emphysema.	Two million Americans suffer from chronic obstructive pulmonary disease, costing \$2.5 billion/year and contributing to 100,000 deaths/year	TUHSC		Biology or Biochem	
Beata Kosmider	tug28074@ temple.edu	TUSM	Department of Thoracic Medicine and Surgery	The role of microvesicles in emphysema.	Microvesicles are small membrane vesicles of 30–1,000 nm in diameter that are released into the extracellular environment under	TUHSC		Biology or Biochem	

Bernd Sorrow	surrow@temple.edu	CST	Physics	Automated Leakage Current Measurements	This project requires a lot of hands-on lab time. The student will develop a graphical user interface (GUI) via MATLAB/LABVIEW that	Main		Physics or Math	Sophomore, Junior, Senior
Bettina Buttarro	bbuttarro@temple.edu	TUSM	Microbiology and Immunology	Enterococcal pheromone inducible conjugative plasmids as virulence factors and disseminators of antibiotic resistance genes	Pheromone inducible conjugative plasmids, such as pCF10, play a central role in the ability of Enterococcal faecalis to cause disease. They encode	TUHSC	desire to learn to design and perform experiments independently under guidance -- Students are given	chemistry/biochemistry and biology	
Bettina Buttarro, PhD	bbuttarro@temple.edu	TUSM	Microbiology and Immunology	Antibiotic Resistance Gene Transfer Mediated by Enterococcus faecalis plasmid pCF10.	The plasmid makes helps make E. faecalis antibiotic resistant and virulent. Current biochemistry projects focus on characterizing how oxidative stress	TUHSC	introductory biology or chemistry courses are sufficient	Chemistry and Biology	Any
Blair Hedges	sbh@temple.edu	CST	Biology	Building a tree of life with DNA data	This project involves working with DNA sequence data of diverse organisms, and software, to help build the tree of life and better understand	Main	strong academics	normally biology but could be any major	Sophomore, Junior
Blair Hedges	sbh@temple.edu	CST	Biology	Conserving the biodiversity of Haiti	This project involves helping efforts in Temple's Center for Biodiversity to learn more about the biodiversity of Haiti, and to protect it. The	Main	strong academics	normally biology but could be any major	Sophomore, Junior
Bo Ji	boji@temple.edu	CST	CIS	System and Application Development for Internet of Things	Develop Internet of Things applications and systems based on Android platform.	Main		CIS/Math/ECE	Junior

Bo Ji	boji@templ e.edu	CST	CIS	Timeliness optimization in information-update systems	Timeliness optimization in information-update systems	Main		CIS/Math/ECE	Juniors & Seniors
Bojana Gligorijevic	bojana.glig orijevic@te mple.edu	Enginee ring	BioEngineer ing	Real-time imaging of cancer cell motility in the context of complex environments- integrated in vivo, in vitro, in silico approaches Cancer cell motility in microenvironment context	Student would use multiphoton and confocal fluorescent microscopes to image cancer cells labeled with 3 different fluorescent proteins. The goal is to	Main	use of microscopes, sterile cell culture, cell transfection and transduction, PCR, microarrays, immunofluoresce	biology	seniors
Bojeong Kim	bkim@tem ple.edu	CST	Geology	Phytotoxicity of metal oxide nanoparticles	Ecological toxicity of nano-sized materials hasn't been thoroughly evaluated. Through this project, plant toxicity of metal oxide nanoparticles will be	Main	I will train students for proper skills that need for the project. No skills needed.	Geology, Environmental Science, Chemistry, Biology	Sophomore or Higher
Brad Rothberg	rothberg@t emple.edu	TUSM	Medical Genetics and Molecular Biochemistr y	Crystal structures of potassium channel proteins	Potassium channels are membrane proteins that are critical for electrical signaling in nerve and muscle cells. Our research is focused on crystallizing	TUHSC	Most important criterion is a strong interest in protein structure and/or neuroscience. Previous	Biology; Biochemistry; Chemistry; Neuroscience	Juniors or Seniors
Brent Sewall	bjsewall@t emple.edu	CST	Biology	Large-scale analysis of correlates of susceptibility to white-nose syndrome, an emerging pathogen in hibernating bats	White-nose syndrome is an emerging fungal pathogen affecting hibernating bat populations of eastern North America. Although it only	Main	Coursework, training, or experience in relevant subjects such as statistics, Geographic Information	Biology, Environmental Science, Mathematics, Computer Science, or related -	Sophomore , Junior or Senior
Brent Sewall	bjsewall@t emple.edu	CST	Biology	Influence of vertebrate frugivory on plant seed dispersal and germination	Vertebrate frugivores (fruit-eating mammal and bird species) play an essential ecological role, by facilitating the dispersal and germination of the	Main	Coursework, training, or experience in relevant subjects such as ecology, statistics, Geographic	Biology, Environmental Science, or related - Intro Series in Biology (Bio 1111, 2112) or	Sophomore , Junior or Senior

Brent Sewall	bjsewall@temple.edu	CST	Biology	Conservation biology and community ecology	My lab is investigating multiple questions in the fields of conservation biology and community ecology, focusing on understanding human	Main and off-campus at field sites (may involve	Interest in the field of conservation biology or community ecology; experience and	Biology, Environmental Science, Mathematics, or related fields	
Brent Sewall	bjsewall@temple.edu	CST	Biology	Regional and global patterns of threat to biological diversity and the identification of large-scale spatial conservation priorities	Biological diversity is under threat from a variety of local- and global-scale threats, including land use change, climate change, and invasive species	Main	Coursework, training, or experience in relevant subjects such as Geographic Information	Biology, Environmental Science, or related - Geographic Information Systems (GIS)	Sophomore, Junior or Senior
Bruce Vanett	Bruce.Vanett@tuhs.temple.edu	TUSM	Orthopaedic Surgery and Sports Medicine	Study of Risk Factors for Bleeding in Knee Arthroplasty Patients	In this study, we will review medical record of knee arthroplasty patients and collect the transfusion information and other clinical information including	TUHSC		Biology	Sophomore or Junior
C. J. Martoff	martoff@temple.edu	CST	Physics	Position Sensitive Scintillation Detector With SiPM Readout	A two- dimensional scintillation light readout is required for an API-120 neutron generator. The generator will be deployed as part of the	Main			
Chiu C. Tan	cctan@temple.edu	CST		Early stage Alzheimer's Disease detection	The project will involve experimenting with human movement data to identify symptoms that are suggestive of Mild Cognitive Impairment (MCI) the	Main	Some knowledge of Matlab, R, or some other statistical package	CS, Physics, Mathematics, Statistics, Chemistry, Biology	Junior, senior
Christian Schafmeister	Christian.scshafmeister@temple.edu								

Dale Haines	dale.haines@temple.edu	TUSM	Fels Institute for Cancer Research	Finding Tet2 interacting proteins	TET2 is emerging as an important tumor suppressor in a variety of cancers, including in leukemias. Through three consecutive oxidation reaction, TET2	TUHSC		Biology, Biochemistry, Chemistry	Sophomore, junior
Daniel Strongin	dstrongin@temple.edu	CST	Chemistry	Reactivity of Pyrite and Acid Mine Drainage	The iron sulfide, pyrite, is found at active and abandoned coal mining sites. Its decomposition in the environment leads to acid mine drainage (sulfuric acid	Main	Motivation Academic performance - Introductory Chemistry Courses with Laboratory.	Chemistry ESS	
Darius Balciunas	darius@temple.edu	CST	Biology	Redundant roles of Fli transcription factors in regeneration	We are using a combination of molecular genetics techniques, from conditional gene traps to CRISPR/Cas9 mutagenesis to analyze	Main	For more information, please see the lab website http://www.balciunaslab.com/research-	Biology, Biochemistry	Sophomore, junior
Darius Balciunas	darius@temple.edu	CST	Biology	Precision genome editing using CRISPR/Cas9	Unlike humans, zebrafish possess a remarkable regenerative capacity, including the ability to regenerate their hearts after severe injury. We	Main	For more information, please see the lab website http://www.balciunaslab.com/research-	Biology, Biochemistry	Sophomore, junior
Darius Torchinsky	dtorchin@temple.edu	CST	Physics			Main			
Eduard Dragut	edragut@temple.edu	CST	CIS	Identifying Entity Mentions in Social Networking Streams	The project aims to develop methods that are capable to recognize substrings in user messages that refer to an entity (e.g., Phila or Philly refers to	Main	Good programming and analytic skills. Ideally, a student who would like to pursue grad studies	Math, CS, ECE	Sophomore, Juniors, Seniors

Eduard Dragut	edragut@temple.edu	CST	CIS	Herveting User Comments from the Social Networking Websites	This project aims to develop techniques that allow automatic harvesting of user comments from microblogs and other social networking	Main	Good programming and analytic skills. Ideally, a student who would like to pursue grad studies	Math, CS, ECE	Sophomore, Juniors, Seniors
Eric Borguet	eborguet@temple.edu	CST	Chemistry	Combining Photons, Electrons and Nanoparticles for Plasmonic Sensing and Catalysis	Students will develop and use nanoscale plasmonic materials for rapid, high sensitivity detection of biological and chemical agents, as well as catalytic	Main	Interest, curiosity and persistence - Undergraduate researchers in my group typically present at local, regional and even	Chemistry, Physics	Sophomore or Junior
Eric Borguet	eborguet@temple.edu	CST	Chemistry	Laser Vibrational Spectroscopy and Dynamics of Molecular Species at Bio and Geochemical Interfaces	Research involves learning to use ultrafast lasers (we make some of the shortest infrared pulses in the world) to perform vibrational Sum Frequency	Main	Interest in research - Aptitude for careful laboratory research	Chemistry Physics	Sophomore or Junior
Eric Borguet	eborguet@temple.edu	CST	Chemistry	Nanoparticle plasmonic sensors for biological and chemical detection	Develop novel plasmonic nanoparticles for rapid, high sensitivity detection of biological and chemical agents. Students will learn to use a variety of	Main	Interest in research - Aptitude for careful laboratory research	Chemistry	Sophomore or Junior
Erik Cordes	ecordes@temple.edu	CST	Biology	Molecular stress response of deep-sea corals	Field studies and laboratory experiments have revealed the effects of various anthropogenic stressors (ocean acidification, oil and dispersant	Main	Students who are interested in pursuing graduate school in the natural sciences, ecology and evolution	Biology and environmental science majors are preferred, but the position would be	
Erik Cordes	ecordes@temple.edu	CST	Biology	Molecular stress response of deep-sea corals	Field studies and laboratory experiments have revealed the effects of various anthropogenic stressors (ocean acidification, oil and dispersant	Main	Students who are interested in pursuing graduate school in the natural sciences, ecology and evolution	Biology and environmental science majors are preferred, but the position would be	

Fabio A. Recchia	fabio.recchia@temple.edu	TUSM	Physiology	New pharmacological and biological therapies for heart failure and atrial fibrillation	The general aim of this project is to identify new pharmacological and biological agents for the therapy of heart failure and atrial fibrillation in	TUHSC	Interest in the biomedical field and potential interest in future medical studies. At least the basic courses of biology	biology, bioengineering, biochemistry, kinesiology	
Fabio Recchia	fabio.recchia@temple.edu	TUSM	Physiology	New pharmacological and biological therapies for heart failure and atrial fibrillation		TUHSC			
Flavio Rizzolio	rizzolio@temple.edu	CST	Biology	The role of Pin1 in tumor growth	Normal cells became tumor cells through deregulation of multiple pathways. There are some pathways that are altered in many tumors and RB and p53	Main	For Junior: interest in interdisciplinary research; basic knowledge of molecular and cellular Biology or	Biology, Pharmacology, Chemistry. - Chemistry I, Chemistry Lab I, Chemistry II, Chemistry Lab	Sophomore, Junior
Frank Spango	spano@temple.edu	CST	Chemistry	Photophysical Properties of Histochemical Dye Aggregation		Main		Chemistry	
George Smith	george.smith@temple.edu	TUSM	Shriners Hospitals for Pediatric Research/Neuroscience	Transplantation of neural stem cells to promote circuit relays in the injured spinal cord.	The prospects of inducing long-distance functional regeneration of supraspinal tracts leading to connectivity and restoration of function remain a	TUHSC	Basic understanding of stem cells, immunochemistry, and molecular biology	Neuroscience, Biology, or Chemistry	Juniors or Seniors
Gianfranco Bellipanni	bellipa4@temple.edu	CST	Biology	Role of Beta-Catenin in Zebrafish Development and Cancer	In our laboratory we are interested to study the molecular and cellular mechanisms leading to the induction and specification of D/V patterning in the	Main		Biology or Chemistry	Sophomore, Junior

Glenn S. Gerhard	tuf81289@temple.edu	TUSM	Medical Genetics and Molecular Biochemistry	A new thyroid cancer gene.	Cellular hydrogen peroxide is associated with cancer, although the source(s) and precise role remains unclear. We have identified a candidate	TUHSC	Team oriented Prior laboratory experience Science GPA --If you work with zebrafish, be prepared to get	Biochemistry Biology Chemistry	
Grace Ma	grace.ma@temple.edu	TUSM	Center for Asian Health & Clinical Sciences	Cancer, CVDs, Diabetes-Ethnic populations	We have over 18 ongoing studies focusing on Cancer, CVDs, diabetes in underserved ethnic minority populations to reduce health	TUHSC	Good writing skills; be able to work independently and team player, motivated and reliable	Any fields, with health science interests preferred	Sophomore, Junior or Senior
Graham Dobereiner	dob@temple.edu	CST	Chemistry	Exploring the influence of Lewis Acids on Organometallic Compounds	Organometallic complexes, which feature metal-carbon bonds, underpin key catalytic reactions in chemical industry. This project will explore the	Main	Prior classroom laboratory experience (General Chemistry, and preferably Organic Chemistry)	Chemistry	
Gregory Smutzer, Ph.D.	smutzer@temple.edu	CST	Chemistry	Examination of Human Chemosensory Function	Humans perceive five basic taste qualities, which include sweet, sour, salty, bitter, and umami taste. In addition, humans readily detect	Main	Grade point average of 3.0 or higher. Ability to learn basic lab techniques. Standard lab skills include ability to	Biology, Biochemistry, Chemistry -	Sophomore, Junior or Senior
Gregory Smutzer, Ph.D.	smutzer@temple.edu	CST	Chemistry	Inositol 1,4,5-Trisphosphate Signaling in Mammalian Odontoblast Cells.	Although calcium is critical for the formation of dentin, the origin and regulation of calcium during dentinogenesis is not known. Odontoblasts	Main	Willingness to learn new lab techniques. - Standard lab skills including ability to prepare solutions, ability to use	Biochemistry - A year of General Biology. Biology Chemistry	Sophomore, Junior or Senior
He Wang -	He.Wang@tuhs.temple.edu	TUSM	Pathology & Lab Medicine	Compare microvascular disease in right and left ventricular wall at different time after heart transplantation	Despite significant improvement in short term survival, cardiac allograft vasculopathy (CAV) remains the major cause of death in late survival	TUHSC	Dedicated - previous exposure to histology and morphometric analysis are preferred/not absolutely	biochemical science or neuroscience	Junior or Senior

Hong Wang	hongw@temple.edu	TUSM	Center for Metabolic Disease Research	Homocysteine and Cardiovascular Disease	The objective of project is to study how hyperhomocysteinemia (HHcy, is a medical condition characterized by an abnormally high level of homocysteine in	TUHSC	Motivation, carefulness - Students who completed sophomore year.	Biology	
Hong Wang	hongw@temple.edu	TUSM	Center for Metabolic Disease Research	Mechanism of metabolic disorder-induced cardiovascular disease, DNA methylation, monocyte and stem cell differentiation, vascular inflammation and repair.	Cardiovascular disease is the number one killer in the developed countries, but the mechanism remains largely unknown. Dr. Wang's laboratory is	TUHSC	GPA greater than 3.4, Cell culture or Protein biochemistry , Hard working and dedicative	Biology, Biochemistry, Computer Science	Junior
Ilker K Sariyer	isariyer@temple.edu	TUSM	Neuroscience	Neuroimmune regulation of JC virus gene expression in glial cells	Patients undergoing immune modulatory therapies for the treatment of autoimmune diseases such as multiple sclerosis and	TUHSC		Biology, Chemistry, Neuroscience - Previous experience in biochemical lab techniques	Sophomore, Junior, senior
Ilker K. Sariyer	isariyer@temple.edu	TUSM	Neuroscience	Molecular regulation of JC virus reactivation in the brain.	Patients undergoing immune modulatory therapies for the treatment of autoimmune diseases such as multiple sclerosis and	TUHSC	Talented with good work ethics,	Biology Pharmacy	Sophomore, Junior, Senior
Ilya Buynevich	coast@temple.edu	CST	EES/Geology	Neotechnology: Imaging of Animal Traces in Coastal Sediments	Analysis of modern structures (casts) and georadar images of several large organisms (crustaceans, reptiles) that produce bioturbation structures	Main	Ability to work both independently and as part of a research team, with a possibility of field data	Geology, Environmental Science, Biology, Civil Engineering	Sophomore, Junior or Senior
Italo Tempera	tempera@temple.edu	TUSM	Fels Institute for Cancer Research	Post-translation modifications of LMP1	LMP1 is an important viral protein that is expressed by Epstein-Barr virus, EBV, during latent infection. EBV is a human herpesvirus that infects B cells and	TUHSC	Must have completed Biol 1111	Biology or Biochem	Sophomore, Junior or Senior

Jacqueline Tanaka	jtanaka@temple.edu	CST	Biology	Investigating ion channel mutations associated with complete color blindness.	My lab studies mutations in an ion channel protein expressed in cone photoreceptors that are associated with complete color-	Main	I would like to recruit potential MARC students. The MARC U-STAR program provides mentoring and financial support	Biology, biochemistry, chemistry, biophysics.	
Jacqueline Tanaka	jtanaka@temple.edu	CST	Biology	Investigating ion channel mutations associated with complete color blindness.	My lab studies mutations in an ion channel protein expressed in cone photoreceptors that are associated with complete color-	Main	I would like to recruit potential MARC students. The MARC U-STAR program provides mentoring and financial support	Biology, biochemistry, chemistry, biophysics.	
Jamie Payton	payton@temple.edu	CST	Computer and Information Sciences	Assigning Tasks to Ensure Coverage in Crowdsensing Applications	Mobile crowdsensing via smartphones enables mobile data collection on a massive scale and has been widely used to investigate scientific	Main Campus	Programming (Java or C#) Completion of algorithms and data structures course Exposure to statistics. Critical	CS, IS&T, or Math CIS 2168, CIS 2033 (or equivalent), CIS 3223	No preference
Jie Wu	jiewu@temple.edu	CST	CIS	Cloud Computing	Various distributed computing projects and testing have been run on our computing cluster. We maintain a virtual computing platform in order to test	Main		CIS/IST, Math,	Sophomore, Junior, Senior
Jie Wu	jiewu@temple.edu	CST	CIS	Wireless Networks	This project will be supported under the GENI project involving transferring large amounts of video data wirelessly to a processing server. This	Main		CIS/IST, Math,	Sophomore, Junior, Senior
Jocelyn Behm	jebhm@temple.edu	CST	Biology	Biodiversity and Ecosystem Services	The reason we have food to eat, oxygen to breathe, and we're not up to our shoulders in dead leaves is due to the services that ecosystems provide us	Main	Attention to detail, willingness to work outside, organized	Biology, Environmental Science	

Jocelyn Behm	jebehm@temple.edu	CST	Biology	Evaluation of "green" certification programs for biodiversity	Starbucks! Chipotle! Target! What do these companies have in common? They sell products with "green" certifications, but how green are they? This	Main	Must be a creative, independent thinker with good attention to detail. Willingness to learn new skills	Anyone interested in both ecology and sustainability (biology, environmental	
Jody Hey	hey@temple.edu	CST	Biology	Evolution and the Human Genome	Student's will work on questions about how the human genome has evolved. Some of the work may involve comparisons with Ape genomes	Main	Freshmen and sophomores with interest in bioinformatics or in using computers to address important	all majors	Freshmen, Sophomores
Jody Hey	hey@temple.edu	CST	Biology	Evolutionary Genomics	Students will use genomic data to address questions about natural selection and adaptation	Main	Freshmen and sophomores with interest in bioinformatics or in using computers to address important	all majors	Freshmen, Sophomores
Jody Hey	hey@temple.edu	CST	Biology	Population Genetics	Students will help develop mathematical and statistical models of evolutionary processes	Main	Freshmen and sophomores with interest in mathematical and computational biology	Biology/Math/Computer Science	Freshmen, Sophomores
Joel Sheffield	jbs@temple.edu	CST	Biology	Analysis of microglia in retina and pecten	Immunohistochemical localization of specific antigens during development of the chick retina.	Main	Electrophoresis, microscopy - Bio 3096 is a plus.	Biology	Junior & Senior
John Elrod	elrod@temple.edu	TUSM	Center for Translational Medicine	Identification of novel sORFs in cardiovascular disease	It has recently become apparent that previous computational methods used to identify genes throughout the human genome likely missed a significant number of	TUHSC	Priority placed on previously molecular biology laboratory experience. Motivated, hard-working	Any	Freshmen, Sophomores - Junior or Seniors

John Muschamp -	John.muschamp@temple.edu	TUSM	Center of Substance Abuse Research - Pharmacology	Behavioral neuroscience research assistant in drug addiction and pharmacology studies	Under the supervision of graduate students; student will characterize the molecular and behavioral effects of the recently approved FDA	TUHSC	Prefer 6 month+ commitment - Basic lab math (dose calculations, percentages, dilutions) Comfortable with	Neuroscience, biochem, biology but other majors are welcome.	Sophomore, Junior
Jonathan M. Smith	jonathan.m.smith@temple.edu	CST	Chemistry	High energy chemistry in combustion and the atmosphere	Molecules in extreme high energy settings are highly reactive as expected. Molecular reactions under these conditions can follow unique reaction	Main Campus	Enthusiasm for taking on supervised independent research. Skills can be learned as needed based on	Chemistry, Biochemistry, Physics	All levels
Jonathan Soboloff	soboloff@temple.edu	TUSM	Fels Institute for Cancer Research	Modulation of calcium signaling by changes in STIM expression	Increases in cytosolic Ca ²⁺ concentration are a common component of multiple signal transduction pathways regulating a wide variety of responses	TUHSC	Student must be enthusiastic with a genuine interest in learning research. Prior lab experience would be highly desirable	Biology/Biochemistry	Sophomore, Junior or Senior
Joshua Schraiber	joshua.schraiber@temple.edu	CST	Biology	Detecting inbreeding in ancient humans	We now have ancient DNA sequences from hundreds of early modern humans spanning the last ~50 thousand years of human evolution. Many	Main Campus	Some programming, some math, willingness to bang head against hard problems BIOL 2112 OR	Math, computer science	Juniors or Seniors
Justin Y. Shi	shi@temple.edu	CST	CIS	Digital Currency and Distributed Computing	The lack of robust security in physical assets fostered the research in distributed crypto systems like block-chains. It has been shown that trust	Main Campus	Basic knowledge of programming and cryptographic methods.	CIS, Physics, Math, Engineering - CIS 2168	Juniors or seniors
Justin Y. Shi	shi@temple.edu	CST	CIS	Big Data in Healthcare Industry	The healthcare industry collects massive structured and semi-structured data with increasingly higher resolution (thus the volume). Making sense	Main Campus	Basic Statistics Basic Economics Optional: Database SAS R	CIS, Math	Juniors or seniors

Karen B. Palter	palter@temple.edu	CST	Biology	Does hyperinsulinemia affect the basal and induced levels of Upd2 (leptin) in Drosophila?	Patients who are obese are at an increased risk of developing metabolic syndrome, characterized by impaired glucose tolerance, abnormal	Main	Motivation, interest in project and academic accomplishment. Quick learner, careful and good at quantitative	Bio, Biochem or Neuroscience - Completed Biology 1111 and 2112	Sophomore, Junior or Senior
Karen B. Palter	palter@temple.edu	CST	Biology	Is there a functional sialic acid pathway in the insulin producing cells (IPCs) of Drosophila?	Our laboratory has previously shown that Drosophila melanogaster lacking a functional sialic acid pathway display a range of metabolic defects	Main	Motivation, interest in project and academic accomplishment. Quick learner, careful and good at quantitative	Bio, Biochem or Neuroscience - Completed Biology 1111 and 2112	Sophomore, Junior or Senior
Karen Palter	palter@temple.edu	CST	Biology	Investigating the mechanism of insulin resistance in Type II diabetes	Our laboratory has previously shown that Drosophila melanogaster lacking a functional sialic acid pathway display a range of metabolic defects	Main	Motivation and interest in research. Biology 2112	Biochemistry or Biology	
Katherine Willets	kwillets@temple.edu	CST	Chemistry	Fabricating noble metal nanoparticle arrays for applications in molecular plasmonics	In this project, students will fabricate nanodisk and nanohole arrays for applications in plasmonics and electrochemistry. For the nanodisk arrays	Main	Patient and self-motivated. At least two lab courses.	Chemistry	
Katherine Willets	kwillets@temple.edu	CST	Chemistry	Fabricating noble metal nanoparticle arrays for applications in molecular plasmonics	In this project, students will fabricate nanodisk and nanohole arrays for applications in plasmonics and electrochemistry. For the nanodisk arrays	Main	Patient and self-motivated. At least two lab courses.	Chemistry	
Ke Chen	kchen@temple.edu	CST	Physics	Superconducting devices for high performance sensors and circuits	Superconductors are superior materials for devices with phenomenal performance compared to normal materials due to their zero dc electric	Main	Skillful in carry out experiments in a lab. Familiar with electronics and material sciences. Interested in solving problems	Physics, Electric engineering, Chemistry	

Krishna Kant	kkant@temple.edu	CST	CIS	Collaborative caching in content centric networks	The project will involve simulation study of a computer network designed for distributing content such as audio/video that is widely accessed	Main	The project would need good programming skills, exposure to discrete-event simulation, and basic background		
Krishna Kant	kkant@temple.edu	CST	CIS	Reliability prediction of large scale storage systems	This project involves analysis of data collected from storage systems and its characterization relative to the observed errors that can be used for	Main	The project would need good programming skills, exposure to discrete-event simulation, and basic background		
Laura Goetzl	laura.goetzl@tuhs.temple.edu	TUSM	Obstetrics & Gynecology	Novel noninvasive sampling of fetal neurodevelopment through fetal derived neuronal exosomes in maternal blood.	There has been limited methods for assessing fetal neurodevelopment during gestation in human in-vivo models. Our new methodology allows us to elucidate	TUHSC	Advanced, motivated, interested in research	Neuroscience, Biology, Pharmacy, Medical, Psychiatry, Gynecology	Juniors & seniors
Laura Goetzl	laura.goetzl@tuhs.temple.edu	TUSM	Obstetrics & Gynecology	Placental Serotonin Transporter (SERT) is Modified by Maternal Opioid Exposure: Implications for Altered Fetal Vulnerability with Multi-Substance Use	In the placenta, SERT transports serotonin and amphetamines to the fetus. Prenatal exposure to drugs, which triggers changes in placental SERT	TUHSC			
Laura Toran	ltoran@temple.edu	CST	EES	Stormwater monitoring	Use data loggers, sampling, and other instruments to understand how stormwater moves through and affects urban ecosystems	Philadelphia	Comfortable with field work and with using computers to analyze data.	Geology, Environmental Science, Physics	sophomore or higher
Laurie Kilpatrick, PhD	laurie.kilpatrick@temple.edu	TUSM	Lung Center/Physiology	Regulation of neutrophil-endothelial interactions in bacterial sepsis	Dr. Kilpatrick's research focuses on investigating molecular mechanisms regulating pro-inflammatory signaling in the innate immune system; particularly the	TUHSC	Some previous lab experience, highly motivated with an interest in research	Biochemistry, Chemistry, Biology	Juniors or Seniors or highly motivated sophomores

Lee-Yuan Liu-Chen	lliuche@temple.edu	TUSM	Center for Substance Abuse Research & Department of	Characterization of a knockin mouse line expressing a fusion protein of the kappa opioid receptor (KOPR) and the fluorescent protein tdTomato (tdT) [KOPr-tdT]	Lack of specific antibodies against the KOPR has hindered in vivo study of KOPR in terms of localization, trafficking, expression and signaling. My lab	TUHSC	solid grades, eagerness to learn, organized, some lab experience preferred, experience in	Neuroscience	Junior or Senior
LIQING JIN	jinliqin@temple.edu	TUSM	Shriners Hospitals Pediatric Research Center	molecular mechanisms of axon regeneration in the lamprey spinal cord	With molecular biological techniques, we study the role of local protein synthesis in axonal tips in axonal regeneration in lamprey spinal cord.	TUHSC	Diligent - biology, biochemistry, molecular biology, neuroscience, etc. -Students are welcome in our center	Medicine or biology	
Madesh Muniswamy	yson@temple.edu	TUSM	Biochemistry	MCU gene knockout using zebra fish model system	We are creating a knockout zebra fish for the mitochondrial calcium uniporter (MCU) gene using Crispr/Cas9. We plan to breed the homozygotes	TUHSC	Prior experience in a Biology/Life Science Lab Good Laboratory Practice General curiosity Bio 1, Bio 2 Genetics	Biology, Biochemistry, Molecular Biology	Juniors or Sophomore
Mahmut Safak	msafak@temple.edu	TUSM	Department of Neuroscience	Understanding the regulatory roles of JC virus agnoprotein in viral life cycle	JC virus is a human polyomavirus that causes a fatal disease, known as progressive multifocal leukoencephalopathy, in the central nervous	TUHSC		Biology, Chemistry, Biochemistry, Neuroscience	Sophomores and Juniors
Mahmut Safak	msafak@temple.edu	TUSM	Department of Neuroscience	Investigation of the regulatory roles of JC virus Agnoprotein in viral life cycle	Agnoprotein is one of the important regulatory proteins of the human polyomavirus, JC virus. It is a relatively small and basic protein. we	TUHSC	Student with a good work ethics	Biology, Chemistry Biochemistry Neuroscience	Sophomore
Marc A. Ilies	mailies@temple.edu	School of Pharmacy	Pharmaceutical Sciences	Synthesis and characterization of carbonic anhydrase inhibitors and activators	Carbonic anhydrase is a zinc metalloenzyme involved in many physiologic processes such as cellular respiration and transport of CO2 from	TUHSC	background (organic chemistry), past experience, motivation	chemistry, biochemistry	

Marc Ilies	mailies@temple.edu	School of Pharmacy	Pharmaceutical Sciences	Development of drug delivery systems with enhanced in vivo stability	Drug delivery systems can modify the pharmacokinetics of drugs, protect them from decomposition and control their spatial and temporal delivery	TUHSC	General knowledge in chemistry, biochemistry, biology and especially in the inter-disciplinary	Chemistry, Biochemistry, Biology	Freshman to Seniors
Marc Ilies	mailies@temple.edu	School of Pharmacy	Pharmaceutical Sciences	Physicochemical and biological evaluation of novel carbonic anhydrase inhibitors and their pharmaceutical formulations.	Carbonic anhydrases (CAs, E. C. 4.2.1.1) are a class of ubiquitous metallo-enzymes that catalyze the reversible hydration of carbon dioxide: $CO_2 + H_2O \leftrightarrow$	TUHSC	previous experience in physicochemical/biological evaluation of organic compounds and	Biochemistry, Biology	Sophomore, Juniors, Seniors
Maria Iavarone	iavarone@temple.edu	CST	Physics	Low Temperature STM Characterization of Superconducting Nanostructures	Superconducting ultrathin films and islands will be fabricated on different substrates in ultra high vacuum environment and characterized by	Main	The students should be very interested in research and very motivated to learn.	Physics - General Physics I and II. Introduction to quantum mechanics is	Junior & Senior
Maria Pacheco	tug00270@temple.edu	CST	Biology	Biodiversity and evolution of parasites	All known multicellular organisms harbor diverse assemblages of dependent species, many of which are considered parasites. Despite a growing	Main	Highly motivated. A minimum of 3.7 GPA. Basic knowledge on biology (transcription/translation and DNA	Biology, Applied Math, Natural Sciences, Information Science and Technology	Freshman or sophomore
Marion Chan	marionc@temple.edu	TUSM	Microbiology	The action of dietary phytochemicals on ovarian cancer cells	Tumors constitute from heterogeneous cell populations. Within them are a group of self renewing and differentiating stem cells, named tumor	TUHSC	Good work ethics, punctual, analytical thinking, dexterity	Biological Sciences related majors and Chemistry majors - Basic/Introductory Biology	Sophomore, Juniors
Matthew Helmus	mrhelmus@temple.edu	CST	Biology	The genomics of scared tadpoles	Tadpoles just want to grow up to become frogs, but in nature there are plenty of predators. Luckily, tadpoles have a defense-when exposed to	Main	Basic computer programming	Courses in Genomics or Computer Programming	

Matthew Helmus	mrhelius@temple.edu	CST	Biology	Are there universal patterns in biodiversity?	Natural selection has caused a spectacular amount of biodiversity, from flying frogs to legless lizards, yet this evolution is not random. For example	Main	Basic excel	Biology, Environmental Science	
Michael J. Zdilla	mzdilla@temple.edu	CST	Chemistry	Preparation and reactivity of manganese clusters inspired by photosynthetic water oxidation	We are seeking undergraduates to aid in the synthesis and characterization of manganese clusters that mimic the oxygen evolving complex of	Main		Chemistry, Biochemistry	Sophomore, Junior or Senior
Michael J. Zdilla	mzdilla@temple.edu	CST	Chemistry	Preparation and catalytic properties of layered, solid state materials.	We are seeking undergraduates to aid in the synthesis and characterization of layered catalytic materials as part of our energy frontiers	Main		Chemistry, Biochemistry	Sophomore, Junior or Senior
Michael J. Zdilla	mzdilla@temple.edu	CST	Chemistry	Synthesis of novel energetic molecules.	We are seeking undergraduates to aid in the development of novel energy-rich molecules containing redox frustration. These materials are of interest	Main		Chemistry, Biochemistry	Sophomore, Junior or Senior
Michael J. Zdilla	mzdilla@temple.edu	CST	Chemistry	Preparation and testing of solid electrolytes for battery applications	We are seeking undergraduates to aid in the synthesis of salt-organic hybrid electrolyte materials by co-crystalization methods, and the	Main	GPA, Intent to pursue Graduate education. Skills from General Chemistry and Organic Chemistry	Chemistry - General Chemistry completed, Organic chemistry completed or	Sophomore, Junior or Senior
Michael Shifman	mshifman@temple.edu	TUSM	Shriners Hospitals Pediatric Research Center	Epigenetics regulation of axonal regeneration	The goal of this research is to use the advantages of the lamprey CNS to test the hypothesis that "good regenerating" RS neurons have higher levels of histone	TUHSC	self-starter, good general laboratory skills	Neuroscience	

Mohammad Kiani	mkiani@temple.edu	Engineering	Mechanical Engineering	Does low doses of ionizing radiation damage DNA in HUVECs.	The effects of low and high doses of ionizing radiation on human umbilical vein endothelial cells will be determined using cell proliferation and comet	Main	Some experience in any lab setting	Biology, Engineering	Sophomore, Junior, senior
Mohsin Khan	tuf72052@temple.edu	TUSM	Department of Physiology/ Center for Metabolic Disease Research	Human Cardiac stem cell and exosome based therapies for cardiac regeneration	The goal of these studies is to develop a cardiac regeneration strategy based on human cardiac stem cells isolated from heart failure patients	TUHSC	General Lab Skills	Biology	Junior or Senior
Muruganandham Manickavachagam	tud20497@temple.edu	Engineering	Environmental Engineering	Technology development for water and wastewater treatment	The Water and Environmental Technology (WET) Center (funded by National Science Foundation and Industry) Department	Main		environmental science/engineering and or Chemistry background	Sophomore, Junior, Senior
Nancy Pleshko	npleshko@temple.edu	Engineering	Bio-engineering	Development of spectroscopic methods for assessment of engineered tissues	A significant impediment to advances in generating replacement tissues for damaged cartilage is the inability to assess the structure of an	Main	Motivation, organization, and ability to work productively in a team environment - Introductory Biology and	Bioengineering - Introductory Biology and Chemistry	Sophomore, Junior, Senior
Nancy Pleshko	npleshko@temple.edu	Engineering	Bio-engineering	Spectroscopic methods for detection of protein separation by gel electrophoresis	Protein quantification is essential in a variety of life science applications. Frequently, mixtures of proteins are separated using polyacrylamide gel electrophoresis	Main	Motivation, organization, and ability to work productively in a team environment - Introductory Biology and	Bioengineering - Introductory Biology and Chemistry	
Nora Engel	noraengel@temple.edu	TUSM	Fels Institute for Cancer Research	Genetics and Epigenetics of sex-specific expression patterns in early embryogenesis	We are investigating differences between male and female embryonic stem cells and the mechanisms by which these early differences are	Fels Institute for Cancer Research	Basic laboratory skills, such as pipetting and making solutions required.	Biology, Biochemistry	Junior & Senior

Nune Darbinian-Sarkissian	nsarkiss@temple.edu	TUSM	Fox Chase Cancer Center	Human Brain Development and Exposure to Psychoactive Medications and Alcohol	Our group investigates effects of maternal exposure to psychoactive medications and alcohol during pregnancy on the fetal brain	TUHSC			
Nune Darbinian-Sarkissian	nsarkiss@temple.edu	TUSM	Fox Chase Cancer Center	Effects of Maternal Alcohol Consumption and Gestational Age on Human Fetal Brain Apoptosis	Maternal alcohol (EtOH) exposure can lead to significant neuronal loss, synaptic dysfunction and fetal alcohol syndrome (FAS). Mechanisms of	TUHSC	Advanced, motivated, interested in research	Neuroscience, Biology, Pharmacy, Medical, Psychiatry, Gynecology	Juniors & Seniors
Parkson Lee-Gau Chong	pchong02@temple.edu	TUSM	Medical Genetics and Molecular Biochemistry	Design of Novel Liposomes for Drug Delivery	The goal of this research is to design novel liposomes for targeted drug delivery to treat cancers. We will use bipolar tetraether lipids (BTL) as the matrix lipids	TUHSC	GPA, research interest -Basic chem. lab skills	Chemistry, Biology, and Physics	Sophomore, Junior or Senior
Parkson Lee-Gau Chong	pchong02@temple.edu	TUSM	Medical Genetics and Molecular Biochemistry	Novel Membranes for Targeted Drug Delivery/Controlled Release and Other Technological Applications Such As Artificial Photosynthesis	Project 1: Archaeal bipolar tetraether liposomes (BTL) are remarkably stable and robust biomaterials, holding great promise for technological	TUHSC	having passion in science and technology; eager to learn new things; willing to devote a significant amount	Chemistry, Biology, Physics, Bioengineering	
Prasun Datta	dattapk@temple.edu	TUSM	Neuroscience	Cross-talk between HIV-1 and glucose metabolism	Elucidate mechanism(s) by which HIV-1 protein Vpr modulates macrophage glucose metabolism. 2. Elucidate mechanism(s) by which HIV-1 protein	TUHSC	Willingness to learn new techniques. - Prefer prior experience in research.	Biology, Neuroscience, Biochemistry	Sophomore, Junior or Senior
Prasun Datta	dattapk@temple.edu	TUSM	Neuroscience	Regulation of glutamate transporter EAAT2 in the context of NeuroAIDS	Research focuses on determining the role of HIV-1, cytokines and drugs of abuse in the regulation of glutamate transporter expression in astrocytes, microglia	TUHSC	Selection criteria are good organizational skills, interest in learning and hardworking. Prefer prior	Biology, Neuroscience, Biochemistry	Sophomore, Junior or Senior

Qiang Zeng	qzeng@temple.edu	CST	CIS	New security features of the new Intel processors	The latest generation of Intel processors provides new security features, which may bring a revolution of systems and software security. We will	Main Campus	Interest in cyber security. Good programming skills in C, C++, Java or Python.	CIS	Juniors or Seniors
Qimin Yan	qiminyan@temple.edu	CST	Physics	Computational study of elastic properties of two-dimensional materials	Layered two-dimensional (2D) materials, such as graphane and MoS2, have attracted a lot of attentions in the recent years for electronics	Main Campus	Good computational and programming skills (Linux, matlab, python), responsible, willing to work	Physics, Materials science	Seniors
Qimin Yan	qiminyan@temple.edu	CST	Physics	Machine learning based on Hamiltonian for materials science applications	Machine learning technology has shown a great potential to learn from existing data and predict new properties in the area of materials science. In this	Main Campus	Good programming skill with python or java, good communication skills, willing to work hard, responsible	Computer science, physics, materials science	Seniors
Qimin Yan	qiminyan@temple.edu	CST	Physics	Computational study of photocatalytic water splitting on transition metal oxides	Artificial photosynthesis using complex oxides poses a grand challenge for the generation of renewable energy from sun light and water. The student will carry out	Main Campus	Programming skills, Python, Linux, good communication skills	Physics, Materials Science	Seniors
Rachel Spigler	rachel.spigler@temple.edu	CST	Biology	Evaluating effects of habitat fragmentation on plant-animal interactions and their consequences for floral trait evolution	Habitat fragmentation ar	Main Campus	enthusiastic, hard-working, reliable, ability to follow directions and exceptional attention to detail. interest in	Biology	Frehman - sophomore - juniors
Raza Zaidi	zaidi@temple.edu	TUSM	Fels Institute for Cancer Research	molecular mechanisms of Melanomagenesis	Melanoma is the deadliest type of skin cancer, which originates from the pigment (melanin)-producing cells (melanocytes) in the skin. Approximately	TUHSC	Highly motivated individuals who have the passion for molecular biology research, and are willing to commit	Biochemisry or Biology	

Richard Souvenir	souvenir@temple.edu	CST	CIS	Identifying Indoor Scene Attributes from Images	The student will apply and adapt recent techniques from computer vision and machine learning to identify attributes from images of indoor	Main	Strong programming skills (preferably Python), interest or experience in image processing Courses taken CIS	CS	
Richard Waring	waring@temple.edu	CST	Biology	Mutational Analysis of DNA Meganucleases	Most DNA nucleases employed in molecular biology research cut DNA at a specific recognition sequence that is usually 4 to 6 basepairs in length (for	Main	Interest in independent research - Solid arithmetical skills Ability to keep good lab notebook	Biology and Biochemistry Majors - 1031 & 1032 General Chemistry	Sophomore, Junior or Senior
Rob Kulathinal	robkulathinal@temple.edu	CST	Biology	Forensic Population Genomics	New sequencing and genotyping platforms provide a fast, inexpensive, and statistically powerful way to genotype individuals. In	Main	Curiosity, determination, well-disciplined, computationally-inclined. The ideal candidate will be able to work	Biology, CompS	Freshman & Sophomore
Rob Kulathinal	robkulathinal@temple.edu	CST	Biology	New Gene Evolution	With multiple genomes sequenced, we can now track how novel genes are formed within species. Our current hypothesis is that de novo male genes are	Main	Curiosity, determination, well-disciplined, computationally-inclined. The ideal candidate will be able to work	Biology, Computer Science, Math	Freshman & Sophomore
Robert J. Levis	rjlevis@temple.edu	CST	Chemistry	Stand-Off Detection of Molecules using Advanced Laser Technology	The ability to detect molecules at distances up to 50 meters is valuable for many applications including explosives detection, analyzing smoke stacks	Main	independent motivation	Neuroscience, Cell and Developmental Biology	Sophomore, Junior, Senior
Robert J. Levis	rjlevis@temple.edu	CST	Chemistry	Nanomaterials by Design	Nanomaterials include size as a design parameter for a material's properties. For instance the color of a quantum dot changes as the size changes from	Main	independent motivation	Neuroscience, Cell and Developmental Biology	Sophomore, Junior, Senior

Robert Sanders	robert.sanders@temple.edu	CST	Biology	Mixotrophic microalgae and climate change	Algae that ingest particles in addition to photosynthesis (mixotrophs) are now known to frequently dominate phytoplankton	Main	Interest in aquatic ecology. Biology 1111 or 1911.	Biology, Environmental Science	
Ross Wang	rosswang@temple.edu	CST	Chemistry	Chemical probes to study post-translational modifications	Chemical biology approaches to the mechanism study, diagnosis, and treatment of human diseases II. Chemical proteomics	Main	Having completed General Chemistry, Organic Chemistry I with a grade of B or higher. Preferably with	Chemistry, Biology, Biochemistry, Pharmaceutical	Sophomore, Junior, or Senior
Ross Wang	rosswang@temple.edu	CST	Chemistry	Development of novel imaging agents for image-guided cancer therapy	Chemical biology approaches to the mechanism study, diagnosis, and treatment of human diseases	Main	Having completed General Chemistry, Organic Chemistry I with a grade of B or higher. Preferably with	Chemistry, Biology, Biochemistry, Pharmaceutical	Sophomore, Junior, or Senior
Ross Wang	rosswang@temple.edu	CST	Chemistry	Design and synthesis of antibody mimics	Chemical biology approaches to the mechanism study, diagnosis, and treatment of human diseases	Main	Having completed General Chemistry, Organic Chemistry I with a grade of B or higher. Preferably with	Chemistry, Biology, Biochemistry, Pharmaceutical	Sophomore, Junior, or Senior
Sara Jane Ward	saraward@temple.edu	TUSM	CSAR	Cannabinoids, Inflammation, and CNS Injury	Research focuses on determining the role of inflammation across a range of CNS disorders, from stroke to substance abuse. We take a behavioral and	TUHSC	Interest in neuroscience/experimental psychology	Neuroscience, Psychology	Junior or Senior
Sarah Wengryniuk	tuf76212@temple.edu	CST	Chemistry	Two possible projects: "Evaluation of IL-8 inhibitors for inhibition of cancer metastasis" and "Development of novel cyclic ether synthesis from tertiary alcohols"	Two possible projects: "Evaluation of IL-8 inhibitors for inhibition of cancer metastasis" and "Development of novel cyclic ether synthesis from tertiary	Main	Having completed both Organic 1 and Organic 2 with a B or higher in both courses. Strong letter of recommendation	Chemistry	Sophomore, Junior, Senior

Scott Sieburth	scott.sieburth@temple.edu	CST	Chemistry	Simple Methods for Complex Molecules	Using light to drive cycloaddition reactions and make strained, reactive new structures.	Main	work hard, work smart.	science	Freshman
Seo-Hee Cho	seo.hee.cho@temple.edu	TUSM	Shriners Hospitals Pediatric Research Center/ Anatomy and Cell	Examining the effects of Yap WT and Yap mutant genes overexpression in the developing retina using AAV (Adeno-associated virus) vectors.	This project consists of three parts. First, construction of AAV-Yap (WT), AAV-YapS1A and AAV-YapS1D via recombinant DNA technology. Second	TUHSC		Biology	Sophomore
Seo-Hee Cho	seo.hee.cho@temple.edu	TUSM	Shriners Hospitals Pediatric Research Center/ Anatomy and Cell	(1) A new LCA model by polarity gene ablation (2) Genetic analysis of the signaling genes during eye development	Our research focuses on understanding the cellular and molecular mechanisms underlying the normal development and degenerative diseases	TUHSC	not required	Biology related - General Biology recommended	any
Seonhee Kim	tue62079@temple.edu	TUSM	Anatomy and Cell Biology	The role of cell signaling and polarity in neural development	My laboratory's research focuses is to understand the molecular and cellular mechanisms controlling brain development to study the basis of	TUHSC		Biology	Junior or Senior
Sergei Pond	spond@temple.edu	CST	iGEM and Biology	Software development and Bioinformatics	Utilize and develop open-source software to explore DNA mutations. Please see www.hyphy.org and github.com/veg/hyphy for more information	Main Campus		Computer Science, Mathematics, Biology, Physics	any
Shuxin Li	shuxin.li@temple.edu	TUSM	Shriners Hospitals Pediatric Research Center	Neural repair and CNS neuronal regeneration	Our lab is highly interested in neural repair and CNS axon regeneration research. Our projects focus on the molecular/cellular mechanisms for CNS	TUHSC	Motivated person and basic background on research.		

Slobodan Vucetic	vucetic@temple.edu	CST	CIS	Data Science	Scientific and technological advances have allowed us to collect massive amounts of diverse types of data. There is an increasing recognition that data	Main	Some programming experience, good math background - Programming in any language (Python, Java, C	Any CST major might find this project valuable	
Spiridoula Matsika	smatsika@temple.edu	CST	Chemistry	Studying the photophysics and photochemistry of DNA using quantum mechanics	Processes initiated by light play an important role in biological systems with primary examples found in photosynthesis, vision, and photochemical	Main	Students should be motivated, interested in research and computational work, with an antitude for math	Chemistry, Physics	Junior or Senior
Stefania Gallucci	gallucci@temple.edu	TUSM	Microbiology- Immunology	Regulation of Type I Interferons in Autoimmunity	The project includes studies of cellular immunology and molecular biology of signal transduction of cytokines involved in the pathogenesis of an	TUHSC	Strong motivation to learn and hard working.	Biology_Prem ed	
Stephanie Wunder	slwunder@temple.edu	CST	Chemistry	Nanopartile/Lipid Project	Nanoparticles have high surface/volume ratios so that characterization of the material on the surface is very important in applications such as	Main	Willingness to work hard, understanding of experimental techniques and the importance of obtaining	Chemistry, Biochem - organic chemistry I, analytical chemistry	Junior or Senior
Stephanie Wunder	slwunder@temple.edu	CST	Chemistry	Lithium Batteries & Fuel Cells: Materials preparation & Characterization	In order to improve the performance of lithium ion batteries and fuel cells, it is critical to make advances in many aspects of the materials used in the electrodes	Main	Willingness to work hard, understanding of experimental techniques and the importance of obtaining	Chemistry, Biochem - organic chemistry I, analytical chemistry	Junior or Senior
Steven Houser	srhouser@temple.edu	TUSM	Cariology	Role of Cortical bone derived stem cells for improving heart function after myocardial infarction	We are studying role of cortical bone derived stem cells (CBSCs) in repair of heart after cardiac injury. We have previously shown that these stem cells have	TUHSC	General lab skills	Biology or Chemistry	Junior or Senior

Sudarsan Rajan	tuf37597@temple.edu	TUSM	Center for Translational Medicine	MCU Knockout gene using zebra fish model system	We are creating a knockout zebra fish for the mitochondrial calcium uniporter (MCU) gene using Crispr/Cas9. We plan to breed the homozygotes	TUHSC	Prior experience in a Biology/Life Science Lab Good Laboratory Practice General curiosity	Biology, Biochemistry, Chemistry - Bio 1 - BIO 2 - Genetics	Sophomore or Junior
Sudhir Kumar	s.kumar@temple.edu	CST	iGEM and Biology	Software development and Bioinformatics	We develop software (including smartphone apps) for analyzing biological data in the fields of Genomics and Medicine. See www.megasoftware.net	Main	Knowledge of computer programming and/or app development	All majors	Freshman, Sophomore, Junior
Sudhir Kumar	s.kumar@temple.edu	CST	iGEM and Biology	Personalized medicine and evolutionary link between DNA and disease	We all have many DNA differences from others. Which of these personal differences cause disease? We use computers to study disease variation in	Main	Interest in the field, knowledge of computers	All majors	Freshman, Sophomore, Junior
Sudhir Kumar	s.kumar@temple.edu	CST	iGEM and Biology	Genomics, Medicine, and Evolution (computer based)	Students will carry out biological and biomedical research using computers with emphasis on DNA data analysis. Biomedical questions will be	Main	Freshmen and sophomores with interest in biology, medicine, or computers. No requirements, as the projects will	Biology, Computers, Physics, Anthropology, Pharmacy, Chemistry	
Sudhir Kumar	s.kumar@temple.edu	CST	Institute for Genomics and Evolutionary Medicine	Genomic Medicine and Tree of Life	Evolutionary analytics of mutations, genomes, and species is the primary focus of my research group. We use integrative and comparative	Main	Prefer freshmen or sophomores interested in devoting multiple years working in our group so they can carry out real	Biology, Computer Science, Chemistry, Physics, Biomedical engineering	
Sujith Ravi	sravi@temple.edu	CST	Earth & Environmental Sciences	Belowground responses to climate change: Root imaging and analysis	Belowground processes such as root dynamics can alter nutrient and water cycles and impact the response of terrestrial ecosystems to changing climate and	Main	interest in the project/research, critical thinking, quantitative ability - Basic statistics, interest in image	Biology, Computer science, Environmental Sciences	

Susan Patterson	susan.patterson@temple.edu	CST	Biology			Main			
Tasuku Akiyama	tasuku.akiyama@temple.edu	TUSM	Dermatology and Anatomy & Cell Biology	Brain Processing of Itch					
Thomas Rogers	rogerst@temple.edu	TUSM	Center for Inflammation, Translational & Clinical Lung Research	Inflammatory monocytes and macrophages in emphysema	Emphysema is a chronic inflammatory disease, and the mechanisms that are responsible for the tissue damage are not fully understood. It appears that monocytes	TUHSC	Should have coursework in biology and biochemistry; prior laboratory experience desired. Must be		Juniors or Seniors
Tomasz Skorski	tskorski@temple.edu	TUSM	Microbiology and Immunology, Fels Cancer Research	Personalized medicine-guided synthetic lethality to eradicate tumor cells	Leukemia stem cells (LSCs), and especially quiescent LSCs, have a dual role as tumor initiating and therapy-refractory cells. Currently available anti-	TUHSC		biology	Junior & Senior
Tonia Hsieh	sthsieh@temple.edu	CST	Biology	Control mechanisms for counting unexpected perturbations during bipedal running in lizards		Main		Biology	
Tracy Fischer-Smith	tracy.fischer-smith@temple.edu	TUSM	Neuroscience	Role of systemic immune alterations in the development of CNS disease	While the brain is often considered to be "protected" from the body (periphery), in reality, there is continued communication	TUHSC	Mature, serious-minded, responsible, reliable	Biology, Biochemistry	Sophomore, Junior, Senior

Vincent Voelz	voelz@temple.edu	CST	Chemistry	Molecular simulation of proteins and peptide mimics	This work involves computational modeling of proteins and peptide mimics. We simulating the molecular dynamics of molecules on high-	Main	Some combination of programming experience, math skills and physics knowledge are important	Math, physics, computer science and chemistry	Sophomore or Junior
Weidong Yang	weidong.yang@temple.edu	CST	Biology	Super-resolution study of interactions and competitions in normal and cancer cells	Super-resolution light microscopy won the Nobel Prize in Chemistry in 2014. In our lab, we combine super-resolution microscopy with single-	Main Campus		Biology, biochemistry, biophysics and the relevant	Juniors and seniors
Wenzhe Ho	wenzheho@temple.edu	TUSM	Pathology and Laboratory Medicine	Exosome in Methamphetamine and HIV-associated Neurodegeneration	The proposed studies will reveal previous unidentified mechanisms by which METH and/or HIV compromise the BBB innate immunity	TUHSC	Prefer to have students with biology major, having a great interest in research (with or without	Biology, Neuroscience	
William Wuest	wwuest@temple.edu	CST	Chemistry	The Synthesis of c-di-GMP Analogs	c-di-GMP plays an important role in bacterial lifestyles as a second messenger molecule. The compound controls many important life	Main	Grades - Completed Organic Chemistry and Organic Chemistry Laboratory	Chemistry, Biochemistry - CHEM 2201, 2202, 2203, and/or 2204	Sophomore, Junior or Senior
William Wuest	wwuest@temple.edu	CST	Chemistry	Synthesis of Natural Product-Inspired Molecules to Perturb Bacterial Biofilms	Bacteria form complex communities known as biofilms to protect themselves from environmental stresses like antibiotics proving troublesome to multiple	Main	Grades and research interest	Biochemistry, Chemistry, Neuroscience	
Won H. Suh	whs@temple.edu	Engineering	Bio-engineering	Live-cell microscopy and biocompatibility study of mammalian cells inside 3D hydrogels	Water soluble polymers will be utilized to make three-dimensionally structured hydrogels. Mammalian cells such as PC12 and A549 will be encapsulated and	Main	Having taken chemistry and biology courses (with lab) as a pair (at least) will help the student (but it is not a pre-	Chemistry and Biology - One or more basic (general) chemistry course or one or more basic	Sophomore, Junior or Senior

Won H. Suh	whs@temp le.edu	Enginee ring	Bio- engineering	Synthesis of biocompatible photo- or ionically-crosslinked 3D hydrogels	Three-dimensional microenvironment conditions ideal for sustaining mammalian cell cultures will be developed via the conjugation of cross-	Main	Having taken chemistry and biology courses (with lab) as a pair (at least) will help the student (but it is not a pre-	Chemistry and Biology - One or more basic (general) chemistry course or one or more basic	Sophomore , Junior or Senior
Won H. Suh	whs@temp le.edu	Enginee ring	Bio- engineering	The biological properties of 3D printed polymers	Thermoplastics (e.g., polylactic acid) or photocrosslinkable polymer precursors (e.g., vinyl polymer) will be 3D-printed on two- dimensional surfaces or	Main	Having taken chemistry and biology courses (with lab) as a pair (at least) will help the student (but it is not a pre-	Chemistry and Biology - One or more basic (general) chemistry course or one or more basic	Sophomore , Junior or Senior
Won H. Suh	whs@temp le.edu	Enginee ring	Bio- engineering	Synthesis of cell penetrating and bioactive peptides for drug delivery	Bioactive and/or cell penetrating peptide sequences will be synthesized via solid- phase peptide synthesis (SPPS) methods. Characterization will be	Main	Having taken chemistry and biology courses (with lab) as a pair (at least) will help the student (but it is not a pre-	Chemistry and Biology - One or more basic (general) chemistry course or one or more basic	Sophomore , Junior or Senior
Xavier Grana	xgrana@te mple.edu	TUSM	Fels Institute for Cancer Research	Understanding Substrate Specificity of Protein Phosphatases and their regulation in cells	There are various projects available that deal with the characterization of the substrate specificity of the B55 α /PP2A holoenzyme and its	TUSM	Motivation for Science and Research Background knowledge - Previous lab experience is NOT	Biochemistry, Biology, Bioinformatics - Genetics and/or Biochemistry and/or Cell	Junior or Senior
Xiangdong Wu	xiangdong. wu@templ e.edu	TUSM		Protein phosphatase 5 a novel key regulator in the insulin signaling cascade in myoblasts and adipocytes					
Xiao-feng Yang	xfyang@te mple.edu	TUSM	Pharmacolo gy	Regulation of vascular inflammation and atherosclerosis	Dr. Xiaofeng Yang's laboratory, located in the MERB-10th floor- 1083, Centers of Metabolic Disease Research, Cardiovascular	TUHSC		Cardiovascular Research Center	

Xiaojiang Du	dux@temple.edu	CST	CIS	Mobile cloud computing.	Mobile cloud computing is one of today's hottest new technology markets. In mobile cloud computing, users lease computing/storage	Main	Good programming skills - High GPA - Solid math background - Good communication	CS/IST/Math-CS majors	Sophomore, Junior or Senior
Xiaojiang Du	dux@temple.edu	CST	CIS	Security and Privacy Issues of Android Phones/Tablets	In this project, the undergraduate student will work with Dr. Du and his Ph.D. students on Security and Privacy Issues of Android Phones/Tablets. First	Main	Good programming skills - Good communication skills Team working skills	CS	Sophomore, Junior or Senior
Xiaojiang Du	xjdu@temple.edu	CST	CIS	Internet of Things (IoT) Security	Internet of things (IoT) have approached us in the last few years. For example, Apple Inc. released its first smart watch in April, 2015; Nest Labs (acquired by	Main	Good programming skills High GPA Sound math background	CIS, Math	
Xiaoxing Xi	Xiaoxing@temple.edu	CST	Physics	Fabrication and studies of superconducting thin films for device applications	We work mainly with superconducting thin films for device applications at small and large scales. For this purpose, films of magnesium diboride	Main	Interested in research, hard working, aptitude for careful laboratory research, fond of problem solving	physics, engineering	
Xingting Wang	xingting@temple.edu	CST	Mathematics Department	Quantum p-Groups	In this project, we are going to investigate the quantized version of p-groups in the classical group theory and to explore their classification in low	Main Campus	Linear Algebra and some basic concepts of Abstract Algebra	Mathematics	Seniors
Xuebin Qin	xuebin.qin@temple.edu	TUSM	Neuroscience	Applying a novel cell knockout model for CNS diseases	Conditional and targeted cell ablation is fast becoming a powerful approach for studying cellular functions and tissue regeneration in vivo	TUHSC	Working hard - Genetics Cell biology	Genetics or molecular biology	

Yang Hu	yanghu@temple.edu	TUSM	Shriners Research Center	Neuroprotection by ER stress manipulation	We are explore the therapeutic potential of ER stress modulation on neuronal soma and axon survival. The students will learn some basic bench skills for	TUHSC		Neuroscience	Seniors
Yi Rao	yirao@temple.edu	CST	Chemistry	Two-dimensional Layered Organic-Inorganic Hybrid for Photovoltaic Applications	We will synthesize novel 2D layered materials for photovoltaic applications. We evaluate and control the elementary processes that govern	Main	Physical chemistry and organic chemistry	chemistry or physics	Junior, senior
Yi Rao	tuf42202@temple.edu	CST	Chemistry	Photovoltaic applications of multiple exciton generation from Ge nanocrystals	In this undergraduate research, we aim to investigate both Ge nanocrystal inorganic materials interactions with light and the potential for unique	Main		Chemistry, physics, engineering	Sophomore, Junior, Senior
Yugang Sun	ygsun@temple.edu	CST	Chemistry	Microfluidic synthesis of graphene-supported quantum dots for photocatalysis	This project seeks to use the home-built microfluidic reactor for synthesizing graphene-supported semiconductor quantum dots which	Main	Wet Chemistry	chemistry	Seniors
Yugang Sun	ygsun@temple.edu	CST	Chemistry	Microfluidic synthesis of graphene-supported metal nanocatalysts	This project seeks to use the home-built microfluidic reactor for synthesizing graphene-supported metal nanocrystals, which exhibit clean surfaces	Main	Wet Chemistry	chemistry	Juniors or Seniors
Yugang Sun	ygsun@temple.edu	CST	Chemistry	New Paradigm for Photocatalytic Energy Conversion	The project seeks to use a fundamentally new principle to enhance photocatalytic efficiency of nanomaterials. The photocatalysts	Main		Chemistry or Physics	Junior or Senior

Yury Grabovsky	yury@temple.edu	CST	Mathematics	Computation of rotationally invariant Jordan multialgebras with Maple	Project description: Effective properties of composite materials strongly depend not only on the composition, but also on the microstructure	Main	Interest in theoretical research. Strong mathematical background. Strong programming	Mathematics	Juniors or Seniors
Zoran Obradovic	zoran.obradovic@temple.edu	CST	CIS - Data Analytics Center, Computer and Information Science	Predictive analytics in big data	Predicting the system behaviors by analyzing big data. Applications include social networks, medicine, climate and environment. For more details see	Main	Interdisciplinary interests; Self-motivation; Problem solving skills; Some programming experience in any	Computer Science, Statistics, Physics, Biology, Chemistry, Pharmacy	