Project description:
Ali is working on an improved method for single molecule experiments, a recently developed technology. The work focuses on replacing tryptophan, an amino acid present in the linker streptavidin, with the analog 4-fluorotryptophan. Once put into place, this new analog will enable successful single-molecule experiments in the ever-important UV range, paving the way for new biomolecular discoveries.

Why he chose this research:
Ali chose the project for the exciting implications that it holds for the physiological and anatomical understanding of the human body. “Any time you can improve the method by which one conducts experiments, you exponentially increase the possibilities of discovering new and relevant phenomena,” he said.

Future plans:
Syed’s post-undergraduate plans are to attend medical school in the fall of 2011, where he will study biomolecules and the functions of the human body. He also hopes to have the chance to learn about a unique nucleic acid conformation or protein involvement due in part to improved single-molecule experimenting.
Presenter name: Danica Maureen Aquino, Honors psychology senior with health concentration

Hometown: Royal Oak, Mich.

Project title: The Influence of Motivational, Behavioral Inhibition and Behavioral Activation Systems on Smoking Cessation Through Contingency

Faculty advisor: David Ledgerwood, Ph.D., assistant professor of psychiatry in the School of Medicine

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Wayne State University
Undergraduate Researcher

Presenting at the National Conference for Undergraduate Research
April 15-17, 2010 at the University of Montana

Project description:
Aquino is investigating whether certain brain pathways associated with reward and punishment have an influence a person's success at quitting smoking, with the hypothesis that those with lower sensitivity to rewards and punishments will have more success. Results of her research may determine the extent to which treatments for smoking cessation can be tailored to an individual's personality.

Why she chose this research:
Aquino was interested in the work of Dr. Ledgerwood in the Substance Abuse Research Division at WSU’s School of Medicine, and began working as a research assistant in his lab through a directed study. As a pre-medicine student, she felt it was important to learn more about healthcare, including the psychological influence on health, and so began working on her own study regarding the influence of personality on the ability to quit smoking under his guidance.

Future plans:
Aquino will begin classes at Wayne State's School of Medicine in fall 2010 to further learn about healthcare and explore the psychological impacts on health.

Comment from faculty advisor:
"Since beginning work with my lab about two years ago, Danica has demonstrated great enthusiasm for science and medicine," Ledgerwood said. "She is incredibly bright and displays an interest in conducting her own research projects. I have no doubt that her project on the sensitivity of reward and punishment will contribute to our understanding of factors that predict smoking cessation."
Wayne State University
Undergraduate Researcher

Presenting at the National Conference for Undergraduate Research
April 15-17, 2010 at the University of Montana

Project description:
Past studies have shown hypothermia to be a clinically effective treatment for brain ischemia – insufficient blood flow to the brain that can result from cardiac arrest or stroke. A clinically relevant model of this type of therapy, however, is currently lacking. Bazzi, along with nutrition and food sciences honors senior Rasika Chepuri, is presenting research on one potential model, evaluating its efficiency and reproducibility along with its impact on physiological variables. Results could shed light on the mechanisms of therapeutic hypothermia, and could lead to a more effective clinical use.

Why she chose this research:
Prior to this laboratory research, Bazzi worked as a clinical research assistant in the emergency room at Detroit Receiving for a year and observed first-hand the prominence and devastating effects of a stroke. As a student wishing to pursue a career as a physician, she began to pursue the research topic because of its high clinical relevance.

Future plans:
Bazzi will begin classes at Wayne State University’s School of Medicine in the fall of 2010 and will continue to work on perfecting the focal ischemia model to test the neuroprotective effects of hypothermia.
Project description:
Byrnes investigated the status and language of employees in an ethnic restaurant. The information gained could contribute to insights to the relationship between a person’s language and their workplace status, including their level of independence in performing their job, how well others obey their instructions and even relationships with customers.

Comment from faculty advisor:
"Renata's project focuses on language and status to understand how a multiethnic workgroup stratifies work," Trujillo-Pagan said. "The project ties into important scholarship on ethnic entrepreneurs and the shifting boundaries of ethnicity."

Hometown:
Allen Park, Mich.

Faculty advisor:
Nicole Trujillo-Pagan, Ph.D., assistant professor of Sociology and Chicano Boricua Studies in the College of Liberal Arts and Sciences
Wayne State University
Undergraduate Researcher

Presenting at the National Conference for Undergraduate Research
April 15-17, 2010 at the University of Montana

Project description:
Past studies have shown hypothermia to be a clinically effective treat-
ment for brain ischemia – insufficient blood flow to the brain that can
result from cardiac arrest or stroke. A clinically relevant model of this
type of therapy, however, is currently lacking. Chepuri, along with bio-
logical sciences senior Danielle Bazzi, is presenting research on one
potential model, evaluating its efficiency and reproducibility along
with its impact on physiological variables. Results could shed light on
the mechanisms of therapeutic hypothermia, and could lead to a more
effective clinical use.

Why she chose this research:
Chepuri choose this area of research out of an interest in working with
Dr. Sullivan. She was also interested in delving into a new topic – unre-
lated to her major – and learn about animal behavior, tissue, surgery
and the effects of various treatment forms.

Future plans:
After graduating in May, Chepuri will enter Wayne State University’s
School of Medicine. She hopes to continue researching in Dr. Sullivan’s
lab the summer after her first year as an externship.

Presenter name:
Rasika Chepuri, nutrition
and food sciences honors
senior with a minor in bio-
logical sciences

Hometown:
West Bloomfield, Mich.

Project title:
The Neuroprotective Effects
of Hypothermia on Focal
Brain Ischemia

Faculty advisor:
Jonathon Sullivan, M.D.,
Ph.D. assistant professor in
the Department of Emer-
gency Medicine, WSU School
of Medicine and Detroit Re-
ceiving Hospital

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April 15-17, 2010 at the University of Montana

Project description:
Systemic lupus erythematosus is an autoimmune disorder in which the immune system attacks healthy tissues causing multiple organ damage. Lupus is more severe in the African American population and primarily affects women in the childbearing years. Given the severity of the symptoms, its incurability, and its disproportionate infection in African Americans, the objective of Debowska’s study was to examine the quality of life in these patients and whether there is any association with socioeconomic status and social support.

Comment from faculty advisor:
“Edyta is a terrific student and a diligent and creative researcher,” Dhar said. “She conceived this project while working in Translational Research and Clinical Epidemiology Program, when she became interested in the social issues of women with lupus. Her project revealed some very interesting data which will be submitted for publication in a peer-reviewed journal. It was a pleasure to work with such a dedicated and hard working student.”
Wayne State University
Undergraduate Researcher

Presenting at the National Conference for Undergraduate Research
April 15-17, 2010 at the University of Montana

Project description:
Eapen’s research focuses on preventing the onset of tumors in people with Li-Fraumeni syndrome (LFS), a rare genetic disorder that causes a predisposition to cancer. This predisposition is due to either inherited missense or truncating mutations in the p53 gene. Eapen investigated the hypothesis that Li-Fraumeni types of cancer are due to methylation of CpG islands and therefore can be reversed epigenetically by demethylation. The goal of the experiment was to demethylate the CpG islands so that tumor suppression genes can be expressed again.

Why she chose this research:
Eapen has always dreamed of becoming a doctor and was also interested in the study of the causes of cancer.

Future plans:
She will begin Wayne State University’s School of Medicine next year.

Comment from faculty advisor:
“Amy is a very intelligent person who picked up the methods rapidly and demonstrated that these HDAC inhibitors can reverse the progression of cancer cells at a very early stage,” Tainsky said. “She worked well in a team setting and was efficient in her experimental techniques.”
Project description:
Barth syndrome is a rare, X-linked genetic disorder that can lead to death by heart failure. A mutation in the tafazzin gene, TAZ1, is the known underlying cause of the syndrome. However, the high degree of symptom variation among patients with identical mutations suggests there are other physiological factors influencing the condition. Fei hypothesized that the answer to discovering these additional factors lies in the study of synthetic genetic interactions of mitochondrial morphology mutants with TAZ1. Her results will aid in characterizing the mechanisms behind Barth Syndrome and developing treatment methods.

Why she chose this research:
Of all her biology classes, Fei said she has always particularly enjoyed genetics. “It fascinates me that such minute differences in genetic organization can so greatly affect the status of the entire organism,” she said. “Working with the genetic disorder Barth Syndrome through a Saccharomyces Cerevisiae model and being able to manipulate the model and observe the effects as they relate to Barth Syndrome has been a wonderful experience.”

Future plans:
After graduation Fei hopes to continue conducting research throughout medical school either between semesters or as a member of the MD-PhD program. “I would love to further pursue my topic as it holds many unanswered questions that deserve my attention,” she said.

Comment from faculty advisor:
“Naomi Fei is one of the most outstanding undergraduates with whom I have had the pleasure of interacting,” Greenberg said. “Her findings have important implications for human disease, as they link the cardioliopin-associated disorder Barth syndrome with defects in mitochondrial morphology, which characterize many mitochondrial disorders. She is highly motivated, well-focused, and an excellent researcher whose work has contributed greatly to the research in my laboratory, and has the potential to shed light on conditions that exacerbate Barth syndrome.”
Project description:
Traumatic brain injury (TBI) occurs in a variety of settings, ranging from the sports field to the battlefield, and the resultant changes in brain function are debilitating, leading to both psychiatric as well as neurological disorders. Fenton used magnetic resonance spectroscopy to test the hypothesis that blunt force traumatic brain injury (TBI) alters glutamate function and membrane turnover in the hippocampus and motor cortex. Her results could be useful in the management of TBI, including treatments that could potentially prevent many of the injury’s long-term effects.

Why she chose this research:
Fenton’s interest in TBI grew out of a combination of her interest in combat-induced injury and her own athletic experiences. These motivating factors, taken together with the lack of effective treatments for TBI, resulted in her exploration of the neurochemical changes that occur as a result of TBI.

Future plans:
With plans to apply to neuroscience Ph.D. programs this fall, Fenton is busy with meeting potential research mentors for future research on the neurobiological basis of addiction and mood disorders.

Comment from faculty advisor:
“We expect Katrina’s studies will explain the neurochemical changes that occur in the brain after TBI, leading to improved diagnostic and treatment strategies,” Galloway said. “Katrina has managed the logistics and technical aspects of the study and I have every reason to believe that her undergraduate research experience will establish a solid foundation for her graduate studies in biomedical research and patient care.”
Wayne State University
Undergraduate Researcher

Presenting at the National Conference for Undergraduate Research
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Project description:
Gopalakrishna is investigating the potential anti-tumor activity of the major flavonoids – apigenin, baicalin, baicalein, chrysin, luteolin, and wogonin – found in the extracts of the herbal plant Scutellaria sp. Using MTT assays and western blots to analyze the metabolites, he found Luteolin and Wogonin to have the most anti-proliferative activity. The results have significant implications in scientific evidence-based usage of Scutellaria extract or constituent flavonoids such as Luteolin and Wogonin for the treatment of malignant tumors in the future.

Why he chose this research:
Gopalakrishna’s research stemmed from an interest in exploring the research side of medicine. “I was interested in cancer in particular because cancer afflicts millions of people around the world every year,” he said. “I contacted Dr. Parajuli about working with him and he was happy to have me join his lab and teach me the various laboratory techniques used in cancer research.”

Future plans:
“In the short term, I plan to continue to do research throughout my undergraduate years, as I have grown to love being in the lab and working on groundbreaking research” Gopalakrishna said. “After my undergraduate education, I plan to matriculate to medical school, where I will pursue an M.D. and possibly a Ph.D. If I pursue the M.D./Ph.D. path, I would like to be able to conduct research and practice at the same time.”

Comment from faculty advisor:
“Ajay Gopalakrishna is a very quick learner who has the capacity to focus his mind to the project in hand. Even more, he understands the importance of studying background material in order to understand the principle behind techniques,” Parajuli said. “He has produced some good data supporting the ongoing research on identifying molecular anti-cancer mechanisms of novel herbal products, which will help design further experiments to develop new adjuvant therapies for malignant tumors,” Parajuli said.
Project description:
Prior research indicates that religious and spiritual well-being (RSWB) are positively related to health outcomes and inversely related to stress among healthy adults. However, no study has examined whether this pattern holds true for survivors of traumatic brain injury (TBI). Hubbarth examined the relationship between RSWB and stress reactivity and found a positive correlation between recovery from high stress and religious and existential well-being. He also observed a correlation between negative religious coping (i.e. anger towards God) and unhealthy chronic stress. TBI survivors’ awareness of their own deficits from the injury also played a role in their stress levels, with those who were more aware coping with their injury better.

Why he chose this research:
Hubbarth chose this project after taking an essay course on religion and secularism in the US. “The role of religion in the our age had gained a great deal of attention and seemed like a good and worthwhile study,” he said. “It was a great chance to learn more about the psychology of religion while gaining valuable lab experience.”

Future plans:
Hubbarth plans to present his findings at the American Psychological Association’s annual convention in August.

Comment from faculty advisor:
“Paul has shown enthusiasm and independent motivation to excel as a researcher,” Rapport said. "We rarely take undergraduate students in our laboratory, because work with clinical populations poses special requirements and time commitments that most undergraduates are not able and/or willing to meet. Paul, however, quickly mastered complex data collection procedures, which involved interviewing as well as administering some psychological and neuropsychological tests. Additionally, he has mad skills in videography. The common theme in these experiences is that Paul takes on all sorts of new challenges with enthusiasm and intelligence. These are qualities of promising researchers."
Wayne State University
Undergraduate Researcher

Presenting at the National Conference for Undergraduate Research
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Project description:
Although prostate cancer starts in the prostate gland, it frequently spreads to other parts of the body by a process called metastasis. Studies have shown that the receptor CXCR4 aids in the metastatic process by binding to the ligand CXCL12 and activating cancer growth in certain tissues. Researchers have created compounds to bind and inhibit this function of CXCR4. Kandagatla tested the effectiveness of one such compound, CTCE-9908, and found the compound to be highly effective at inhibiting CXCR4’s metastatic function. His results suggest the potential use of CTCE-9908 in preventing the spread of prostate cancer.

Why he chose this research:
“As an aspiring physician, I’m greatly interested in molecular biology and cancer,” Kandagatla said. “I have been working with Dr. Chinni since the beginning of my first year at Wayne. Due to this interest, as well as my history with Dr. Chinni, I conducted this research in hopes of learning more about molecular biology and cancer.”

Future plans:
Kandagatla will begin classes at Wayne State University’s School of Medicine in the fall of 2010.

Comment from faculty advisor: “Pridvi has been instrumental in the analysis of the efficacy of the drug for stopping prostate cancer growth and metastasis in mouse model,” Chinni said. “His strong interest in research is evidenced by his volunteer participation in our laboratory research projects since his first year of his undergraduate program. His aptitude to learn and implement laboratory techniques has been his strong in his research activities in my lab.”
Wayne State University
Undergraduate Researcher

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Project description:
In an effort to alleviate poverty in rural China, Wayne State University, Tsinghua University in Beijing and the Wang Foundation partnered to create the Summer Service Learning Program in China. In the program, WSU students spend four weeks traveling to various counties in China, providing education with a focus on English skills and computer literacy. Kandagatla’s project explored the ways in which past WSU students’ perspectives changed as a result of the program, and how those changes affected their lives. The categories of the research were: changes in students’ perspective on globalization, changes in their career choice and changes in their perception of themselves.

Why he chose this research:
After participating in a study abroad program and working with Dr. Brender in a previous qualitative study, Kandagatla decided to work with Dr. Brender again to see how a study abroad program affects other students.

Future plans:
Kandagatla will begin classes at Wayne State University’s School of Medicine in the fall of 2010.

Comment from faculty advisor:
“My experience working with Pridvi Kandagatla began with a research project regarding second-generation Asian-Indian college student identity—a study we went on to present at state and national-level conferences,” Brender said. “Through his work on both this project and our current one, he has become a highly perceptive and analytical researcher and I have come to appreciate his research contributions tremendously.”
Wayne State University  
Undergraduate Researcher  

Presenting at the National Conference for Undergraduate Research  
April 15-17, 2010 at the University of Montana

**Project description:**
Kassab, along with computer science senior Shaun Pezeshki, created WayneAd, an intelligent software agent that can be used alongside a sponsored search auction simulator. Internet search auctions take place in popular search engines such as Google, Yahoo and Bing, wherein multiple bidding agents compete for ad placement in search result pages. Through meticulous trial and error, Kassab successfully created software that improves a bidder's ability to obtain a desired advertising slot in a simulated auction. The program can be used to develop applications for real-life sponsored search auctions.

**Why he chose this research:**
"I chose this topic because I felt it would be a great opportunity to become involved in the field of research," Kassab said. "I also found the subject matter to be very interesting. Not only did it relate to my major, but this research experience gave me a unique perspective into how exactly an ad-auction works."

**Future plans:**
Kassab plans to attend medical school and possibly enter into the field of research. "I hope to carry over the experience I have gained during this research opportunity and apply it to my future endeavors," he said.

**Comment from faculty advisor:**
"Sponsored search is one of the most important forms of advertising used by major search engines such as Google and Yahoo," Grosu said. "Christopher and Shaun's research produced a set of efficient strategies that can be used by Internet advertising companies to maximize their revenue. They were involved in all the phases of the project, showing great creativity and enthusiasm and spent many hours designing and experimenting with different bidding strategies. They are the best undergraduate students I have ever worked with during my career at Wayne State University."
Project description:
The media documents that urban residents, especially those living in poverty, use hospital emergency departments for primary care because of the scarcity of other health care options. Yet, little is known about the funds of knowledge that these patients use when they decide to utilize the urgent care clinic. Krishnan’s study analyzed this quandary using an interview protocol at an urban, university-based emergency department to determine the decision-making processes that lead the urban populace to seek care. The study shed light on potential connections between scientific literacy and the extent to which K-12 science prepares residents to make informed decisions about health care.

Comment from faculty advisor:
"For his research project, Abhinav developed a novel face-to-face interview procedure to discuss patients' decision-making rationale for using an urban care clinic," Tonso said. "His research contributes to our understanding of medical decision-making in an under-studied group and our ability to view science education from the perspective of its practical uses in everyday life."
Project description:
Kwiecien was part of Dr. Kodanko's pioneering research team that is working towards the development of catalytic drugs. Most drugs today are stoichiometric in nature, meaning a single drug molecule can only interact with one biological target at a time to destroy the targets' inherent activity. Catalytic drugs, on the other hand, allow one drug molecule to interact with many biological targets by chemically modifying each target along the way. A movement from stoichiometric to catalytic drugs would offer valuable benefits that include lower costs and dosages for the consumer. The goal of Kwiecien's research was to gain an understanding of the reactivity of metal-based oxidants and thiol containing substrates – information that's instrumental to the group's progress in developing this new drug.

Why he chose this research:
“I chose this topic because I find chemistry and medicine to be very intriguing and interesting,” Kwiecien said. “Conducting this research has given me the opportunity to use my chemistry knowledge in hopes of making a difference in the field of medicine.

Future plans:
Kwiecien will be applying to medical school this summer and hopes to begin his medical studies in the fall of 2011. He was recently awarded the Summer Undergraduate Research Fellowship (SURF) from Wayne State University's School of Medicine and will be conducting research the summer of 2010 with Jian-Ping Jin, M.D., Ph.D., professor and chair of physiology in WSU’s School of Medicine.

Comment from faculty advisor:
“Timothy Kwiecien has investigated the reactivity of an iron-based oxidant with glutathione, the most abundant thiol in cells,” Kodanko said. “The mechanism of glutathione oxidation was elucidated using spectroscopic techniques. These studies have relevance to the protective role of glutathione against high-valent iron species generated in nature.”
Wayne State University
Undergraduate Researcher

Presenting at the National Conference for Undergraduate Research
April 15-17, 2010 at the University of Montana

Project description:
Marinica and the research team postulated that much of the sustained damage following traumatic brain injury (TBI) is due to the constriction of blood vessels, known as vasoconstriction, which slows the delivery of nutrients to damaged areas and lengthens the overall time an injury takes to heal. However, by administering an ETra antagonist, which keeps blood flowing to the brain after a TBI, the group was able to minimize the effects of the injury—with patients gaining normal memory functioning following a TBI at a rate comparable with non-TBI test populations. From this work, other researchers can begin to develop drugs that target the same pathways in human TBI victims.

Why he chose this research:
Marinica’s interest in traumatic brain injury began when he met Dr. Kreipke at a Wayne State function. “What sold me was the real-world significance of our research,” he said. “As a result of the wars, thousands of soldiers are returning home with TBI injuries. Their recovery is long, and because of the severity of the TBI, many would never regain total spatial and memory functioning. Dr. Kreipke explained that if we could prove that an Etra antagonist given right after a TBI could help reduce the effects of the injury in the rat model, the same basic pathway could be targeted in humans as a viable treatment option.”

Future plans:
Marinica will continue doing research under Dr. Kreipke. He plans to take the MCAT in June, then apply to medical school. He hopes to continue doing research here in Detroit as well as possibly traveling to Africa to conduct another research project in 2011.

Comment from faculty advisor:
“My lab is heavily involved in drug development of novel treatments for those suffering from traumatic brain injury (TBI),” Kreipke said. “This sort of work involves great imagination, creativity, and hard work to break through the dogma that has led to many failed attempts to help TBI victims. Alexander Marinica embodies such characteristics. His eclectic background and energy melded to help our on-going research and, as he progresses in the medical field, will likely be able to use his experiences to continue to challenge current opinions to bring the best treatment to his patients.”
Project description:
Momin's research focused on the perception and motivation behind the education reform of rural China in the mid-1980s. Using materials gathered from the National Library of China in Beijing, his research revealed that the perception of the peasantry in China as well as the motivation for rural education reform was a reflection of the goals of the country's leaders. Wherein the policies of economic growth that were in place under Mao Zedong depended on a government-institutionalized separation of the country's rural and urban economies, Mao's death saw the arrival of Deng Xiaoping and a vision of a modernized economy. Within this vision, the peasantry's underdevelopment was viewed as a barrier to the modernization of China's agricultural production, providing the justification for education reform.

Comment from faculty advisor:
"It is hard to overestimate the importance of the Chinese peasantry to the contemporary US-China economic relationship," Day said. "Shayan Momin's project uncovers a key issue in the Chinese understanding of the peasant; an issue that is foundational to the development strategy that China has followed over the last three decades. I admire his tenacity in following leads and locating sources to complete this fascinating project."
Wayne State University
Undergraduate Researcher

Presenting at the National Conference for Undergraduate Research
April 15-17, 2010 at the University of Montana

Presenter name:
Jeri Pajor, anthropology senior

Hometown:
River Rouge, Mich.

Project title:
Preliminary Research on Black Bottom and Paradise Valley

Faculty advisor:
Thomas Killion, Ph.D., associate professor of Anthropology in the College of Liberal Arts and Sciences

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Project description:
Pajor gathered information that provides the beginnings of an archaeological investigation and excavation of Black Bottom and Paradise Valley, two culturally-rich neighborhoods of Detroit whose history has been largely neglected and undocumented. Materials collected included maps, real estate documents, newspaper clippings and oral histories. The goal was to identify areas of interest for a future excavation.

Why she chose this research:
Pajor’s topic relates to her anthropology studies and an interest in archaeology. After working in several of the field schools through WSU at the Worker’s Row House in Corktown, she wished to continue doing research projects in Detroit.

Future plans:
Pajor has received a grant from WSU’s Honors College to do the preliminary research for a future excavation project in Black Bottom and Paradise Valley.

Comment from faculty advisor:
"Ms. Jeri Pajor is a highly motivated student with a strong interest in historical archaeology and clear dedication to the preservation of Detroit history and its cultural resources," Killion said. "Her project demonstrates her ability to work independently and effectively to pull together the essential documentary and preliminary site information necessary for a successful archaeological research project. With her outstanding effort shows great potential for graduate study and professional work within the field of historical archaeology."
Project description:
Tuomey explored the potential Sir Ebenezer Howard's Garden City ideal as a model for the redevelopment of Detroit's vacant land into green space. The overall goal of the ideal is to combine countryside and city by incorporating garden and agriculture space within city limits. He also examined five of the major threats to the redevelopment of Detroit's vacant property: municipal liability, public access, environmental remediation, management, and zoning. The results of Tuomey's study have the potential to provide valuable strategies for avoiding these constraints during the greenspace redevelopment process.

Why he chose this research:
Tuomey wished to investigate the potential of Howard's model as a solution to the land-use aspect of Detroit's economic struggles. “Howard's utopian vision of the Garden City is incredibly interesting and relevant with regard to Detroit's situation,” Tuomey said. “Howard not only devised a plan, but his vision became reality, motivated by the promotion of human ecology. This is the legacy I hope to leave during my pursuits as a planner or a policy advisor.”

Future plans:
Tuomey plans to take a year off and travel throughout the United States, visiting National Parks. He plans to attend graduate school in the fall of 2011 to study urban planning with a focus on environmental land use. After completing a M.S. in urban planning, he hopes to study at the University of Columbia's Earth Institute to obtain an M.S. in sustainable management and environmental policy.

Comment from faculty advisor:
“Eric's research into adaptable greenspace development and its limitations was remarkably well-thought out before he asked me to be his adviser,” Horner said. “His promise as a researcher rests in his persistence. Eric followed through on my methodological approaches with determination and resolve, allowing each of us to learn much more about greenspace development issues.”
Wayne State University
Undergraduate Researcher

Presenting at the National Conference for Undergraduate Research
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Project description:
Wang’s project involves the creation of a computer program that determines whether a single nucleotide point (SNP) mutation occurring in DNA coding regions the drosophila melanogaster genome is a synonymous (not harmful) mutation or nonsynonymous (potentially harmful) mutation. The program accomplishes what would take a full-time research assistant eight months to complete in a matter of days. The program could be applied to other genomes – including human - and could lead to important developments in identifying and characterizing harmful mutations.

Why she chose this research:
Wang chose this topic because the field of bioinformatics is a largely unexplored. She wanted to help make data analysis of large sets of data more efficient and accurate.

Future plans:
Once her program is completed, Wang plans to copyright it and open a small bioinformatics company with a partner.

Comment from faculty advisor: “Ms. Wang provided critical new analyses of our sequencing data and helped to develop an automated program that will be used by other researchers in my laboratory to identify synonymous and non-synonymous mutations in the sequenced genomes,” Ruden said. “She was originally planning to go to medical school, but has decided to apply for law school instead. Nevertheless, her interest in medicine and background in biology and bioinformatics could help her be a very effective lawyer for a biotechnology company.”

Presenter name:
Le Wang, Asian studies senior with a minor in economics

Hometown:
Troy, Mich.

Project title:
SNPS in the Drosophila Melanogaster Genome

Faculty advisor:
Douglas Ruden, Ph.D., associate professor in the Institute of Environmental Health Sciences and director of Epigenomics in the Department of Obstetrics and Gynecology in the School of Medicine

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