It’s Time of Empowerment

Nanette Page and Cheryl E. Czuba (1999) see empowerment as a “process that is similar to a path or journey, one that develops as we work through it”. Page and Czuba define empowerment as a multi-dimensional social process that helps people gain control over their own lives. Empowerment is multi-dimensional in that it occurs within sociological, psychological, economic, and other dimensions. It is also a social process, since it occurs in relationship to others. According to these authors, “empowerment fosters power in people for use in their own lives, their communities and in their society, by acting on issues they define as important... While we cannot give people power and we cannot make them <<empowered>>, we can provide the opportunities, resources and support that they need to become involved themselves.”

Through the Undergraduate Research Education and Training Program (URGREAT) we provide opportunities for this empowerment process to happen among participant students. URGREAT is a talent development program, geared towards providing undergraduate science students at UNE opportunities to improve their academic, attitudinal and research credentials. The program also works with psychosocial mediators that could influence the empowerment process and the participants’ decisions to follow a scientific career. These psychosocial mediators include coping strategies, scientific identity, and self-reflection. The program seeks to influence student’s learning, pursuit of an academic and professional goal, overcoming personal, academic and emotional shortcomings and improving community efficacy. However, it is important to remember that individuals are the ones making the choice of what to do with these opportunities, resources and support.

It is our belief that, in recognition of the academic, psychological, and socioeconomic realities of UNE’s disadvantaged Hispanic/Latino student population, any undergraduate research training effort must make available a wide array of support services and should implement several strategies for improving an undergraduate research culture. At URGREAT Program we have witnessed how creating a healthy emotional environment with empathy, positive role models, and opportunities to work cooperatively with faculty and/or fellow students have a significant empowerment impact on the students that we serve.

The activities and strategies selected to achieve our goals are tailored to the environmental, personal, and cultural realities of the participants. Our activities are based on the following principles: process and result-driven education, unity in diversity, systems thinking, constructivism, collaboration, and social responsibility. After acceptance an orientation meeting with parents and significant others is held. Participants have a summer and academic year research experience with mentors from UNE and from major research institutions in Puerto Rico, either as apprentices or as experienced undergraduate research students. Some of them are accepted at competitive internships at major research institutions in the United States. The enrichment activities organized include scientific and graduate school seminars, a Safety in the Lab workshop, and mini-courses like Scientific Writing, Reading and Analyzing Research Papers, Math for the Lab, and Mathematical Concepts and Qualitative Reasoning Skills. Several discussion and support group meetings are held as well as an Annual Retreat to work with lab dynamics, coping mechanisms, life purpose, planning to finish my bachelor degree, applying and entering graduate school, conflict resolution, etc. Students present their research at UNE’s Annual Undergraduate Research Symposium as well as in national and international scientific society meetings. URGREAT participants attend study groups and tutoring for their science and math courses at the Undergraduate Research Students Success Center (UrS Success Center). This is part of their commitment to advance to increasing rigorous content in science and math, to maintain good academic standing, and to be socially responsible by collaborating with peers. Social responsibility in the empowerment process led to organizing, with participants and staff, several activities with parents and significant others, and with high school students. These activities included: Orientation Dinner, Achievement Night, Undergraduate Research Student Visits Your School, Scientist for a Day, and participation as judges in scientific fairs at elementary and high schools.

These activities have made our current program unique and effective in influencing performance and career choices of all participants as well as in paternal and significant others’ perceptions and support of student’s empowerment process and career decisions. Furthermore, URGREAT participants, staff and mentors have exerted a multiplier effect on other students, faculty and institutional research culture.
To finance the activities URGREAT requested and obtained institutional and federal funds. The federal funds came from the National Institutes of Health (NIH) through its Minority Biomedical Research Support Branch (MBRS) - Research Initiative for Scientific Enhancement Program (RISE). The NIH grant obtained proposes the following goal and objectives.

We intend to increase the proportion of graduates from UNE’s RISE Program who enter Ph.D. programs in biomedical sciences. In order to achieve this the students will:

- Graduate with a bachelor degree in Science and will apply to a biomedical science doctoral program.
- Participate in a Summer internship program in a research intensive institution.
- Maintain a GPA of 3.20 or higher.
- Attend and participate in professional scientific meetings, conferences or symposia.

On September 18, 2009 Universidad del Este (UNE) proudly celebrated the 7th Undergraduate Research Symposium. This event was possible through the collaboration of the School of Science and Technology (SST) and the Undergraduate Research Education and Training (URGREAT) Program. This Program is being sponsored by the Minority Biomedical Research Support (MBRS) and Research Initiative for Scientific Enhancement (RISE) Programs of the National Institutes of Health (NIH). During the event, 91 assistants enjoyed 15 oral presentations and 13 poster presentations by students. The research presented was done during the summer internships of those students in:

**United States of America:** Arizona State University, Mount Sinai School of Medicine, Ohio State University, Penn State University, Princeton University, University of Illinois at Urbana-Champaign, University of South Carolina y University of Wisconsin-Madison.

**Spain:** Instituto de Ciencias Biomédicas y Parasitología en Granada e Instituto de Investigación Biomédica en Barcelona.

**Puerto Rico:** Universidad del Este and the Medical Science Campus and Río Piedras Campus of the University of Puerto Rico.

CREATE: Approach as Guide Analysis of Journal Articles
A minicourse offered by Dr. Sally G. Hoskins, CUNY

From Virus to Brain: Viral Gene Delivery as a Tool to Study Learning and Memory, a seminar offered by Dr. Corinna Burguer, University of Wisconsin-Madison
ABRCMS is the largest, professional conference for biomedical and behavior students, attracting approximately 2,800 individuals, including 1,500 undergraduate students, 230 graduate students and postdoctoral scientists and 850 faculty and administrators. Students come from over 285 U.S. colleges and universities. All are pursuing advanced training in the biomedical and behavioral sciences, including mathematics, and many have conducted independent research. The conference is designed to encourage underrepresented minority students to pursue advanced training in the biomedical and behavioral sciences, including mathematics and provide faculty mentors and advisors with resources for facilitating students’ success. More than 280 representatives from graduate programs at US colleges and universities as well as scientists from government agencies, foundations, and professional scientific societies join ABRCMS in the exhibitors program to share information about graduate school and summer internship opportunities. These representatives present research opportunities, funding sources, and professional networks. On November 2009 Universidad del Este participated sponsoring, through the URGREAT-MBRS-RISE Project, seven (7) students, out of which five (5) were selected for poster presentations, two (2) were awarded a Travel Award and one (1) won a Best Poster Presentation Award.
We believe that students that participate in one or more internships gain hands-on experience beyond the classroom in a specific field of study. They develop or sharpen professional skills, work habits and ethics, have professional work setting exposure, opportunity to do some reality testing and find out if this field is right for them. This way they get a glimpse of a professional career without a long-term commitment.

Skills and knowledge acquired through internship participation will benefit student’s in future academic and professional goals. In addition, internships provide the opportunities of networking, gaining access to contacts in specific fields, broaden their future choices for graduate school.

An important aspect of the Project is our students’ involvement in community service activities. One of these is a presentation given by our students on the URGREAT-MBRS-RISE Program and their experience as a research student. The presentation is offered to prospective science students at the RISE student’s former high school. Our students also participate as judges in high school scientific fairs. It is important to point out that both, the high school and university students, learn greatly from each other every time they interact in these activities. Community service carries rewards beyond the obvious and tangible. Clearly, engaging in activities like the ones just described is altruistic: giving the provider meaning and accomplishment and the beneficiary the much needed experience and service.

In addition to all the activities mentioned before, other important workshops in which our students participate are “GRE Mock Test”, “Scientific Writing Skills in English”, “Math for the Lab”, “YEEE Laws to Achieve Success” and “CREATE: Approach as Guide Analysis of Journal Articles”.

Applicants to graduate schools encounter fierce competition for admission and funding in today’s competitive academic world. Therefore our students spend their time between their classes, internships, workshops, scientific seminars and community work, optimizing their chances of graduate school admission. These experiences will make our students stand out in the graduate admissions pool.
**Paul Brito-Vargas**

*Oral Presentation:* Activation Of Subregions Of The Rat Amygdala Following Exposure To Various Noxious Odors Which Did Or Did Not Elicit Defensive Burying, UNE URGREAT-MBRS-RISE Undergraduate Research Symposium, September 18, 2009. Summer internship at the Department of Pharmacology, Physiology and Neuroscience, University of South Carolina, South Carolina.

**Carlos Coriano-Vega**


**Carol Díaz-Díaz**

*Oral Presentation:* Evolutionary Analysis of Disease Associated Mutations in the Von Willebrand factor gene (VWF), UNE URGREAT-MBRS-RISE Undergraduate Research Symposium, September 18, 2009. Summer internship at Biodesign Institute, Arizona State University, Arizona.

**Shirley Díaz-Hernández**


**Juliana M. Falero-Pérez**


**Marisela Figueroa-Vázquez**

Solymar Landrau-Giovanetti

**Oral Presentation:** Role of Estrogen Receptors in Fear Extinction Memory at the Cellular, Molecular and Behavioral Level: Phase 1a- immunofluorescence Optimization for ER-Beta Detection, UNE URGREAT-MBRS-RISE Undergraduate Research Symposium, September 18, 2009.

Odelys López-Espinett

**Poster Presentation:** Genotyping of Wild-type and Transgenic C57BL/6J Mice using PCR, UNE URGREAT-MBRS-RISE Undergraduate Research Symposium, September 18, 2009. Summer internship at Universidad de Puerto Rico, Rio Piedras, Puerto Rico.

Luis Lebrón-Marrero

**Oral Presentation:** Effect of Gly257Ala-NEMO Mutation on NF-κB Activation After DNA Damage in Different Cells Growth Conditions, UNE URGREAT-MBRS-RISE Undergraduate Research Symposium, September 18, 2009. Summer internship at the Department of Pharmacology School of Medicine and Public Health at UW-Madison, Wisconsin.


Moisés Morales-Sierra

Oral Presentation: Inducible Pluripotent Stem Cell as in-vitro for Model Disease, UNE URGREAT-MBRS-RISE Undergraduate Research Symposium, September 18, 2009. Summer internship at Mount Sinai School of Medicine, New York.


Graduates June 2009

Daisey Arriaga-González
Bachelor of Science in Applied Microbiology

Ruth Franco Alméstica
Bachelor of Science in Applied Microbiology

Alexandra Colón-Rodríguez
Bachelor of Science in Applied Microbiology

Frances Lugo-Alvarado
Bachelor of Science in Environmental Technology

Other activities

Seminar: Modeling Cognitive Dysfunction in Depression
Dr. María D. Lápiz-Bluhm, UTHSCSA, Texas

Laboratory Research

Mini-course: Math for the Lab
Prof. Sandra González, UNE

Mini-course: Scientific Writing Skills in English
Dr. Evelyn Lugo, UNE
Graduates’ Update

- **Jeffrey Parrilla:** Ph.D. student, Neuroscience Program, School of Medicine, South Carolina University.

- **Lisbeth Echevarría:** Ph.D. student, Pathobiology Program, Arizona State University. She is also working at BioME (Biodiversity from Molecules to Ecosystems), an NSF funded GK-12 designed to spark K-12 students’ interest in the biological sciences while improving graduate students’ abilities to communicate science (http://biome.bio5.org/).

- **Godenee Cervantes:** Medical Technology student, Medical Sciences Campus, University of Puerto Rico.

- **Idennys Magly-Olmos:** M.S. in Environmental Science student, Graduate School of Public Health, Medical Sciences Campus, University of Puerto Rico.

- **Rubén Medina:** Medical Technology student, Medical Sciences Campus, University of Puerto Rico.

- **Venus González:** Nursing student, Universidad del Este.

- **Lorelys Rosado:** Medical Technology student, Medical Sciences Campus, University of Puerto Rico.

- **Lorrayne de Mar:** M.S. in Biochemistry student, Biochemistry Department, Medical Sciences Campus, University of Puerto Rico.

- **Lewdami Colón:** M.S. in Industrial Hygiene student, Graduate School of Public Health, Medical Sciences Campus, University of Puerto Rico.

  Participating in RISE catapulted my life in the right direction. It was the basis (base) for my career development which has taken me through my B.S. in Applied Microbiology and presently through my Master in Science at the University of Puerto Rico Medical Sciences Campus. I am currently working at Pfizer doing precisely what I longed for, under conditions that will propitiate finishing my degree while allowing me to better meet my goals.

- **Anardi Augusto Mujica:** Student at the Escuela de Medicina, Universidad de Guadalajara, México.

- **Maria E. Santiago-Gascot:** Laboratory Technician at Dr. Jennifer Barreto’s research laboratory and Special Ph.D. student, Department of Anatomy and Neurobiology, Medical Sciences Campus, University of Puerto Rico.
Jennifer Barreto-Estrada, Ph.D., Assistant Professor, Department of Anatomy and Neuroscience, Medical Sciences Campus, University of Puerto Rico. Research Interests: CNS molecular/cellular changes linked to reproductive health after exposure to androgens during puberty.

Benjamín Bolaños, Ph.D., Assistant Professor, Department of Microbiology and, Medical Sciences Campus, University of Puerto Rico. Research interests: Micology and asthma.

José García-Arrarás, Ph.D., Professor, Department of Biology, Río Piedras Campus, University of Puerto Rico. Research interests: Neural development and regeneration, the use of the sea cucumber as a model system to understand model system to understand the process of organogenesis and how the multiplicity of cell types are generated and assembled into a functional organ.


Ana T. Méndez, Ph.D., Assistant Professor Science and Technology School, Universidad del Este. Research Interests: Developmental Neuroscience. Behavioral, neuroanatomical, and gene expression differences within brain regions related with emotional preservation in two of different mice strains.

José Ortiz, Ph.D., Department of Pharmacology, Medical Sciences Campus, University of Puerto Rico. Research Interests: Noradrenergic modulation of glutamate transmission in the prefrontal cortex in cocaine sensitization.

Sandra Peña de Ortiz, Ph.D., Associate Professor, Department of Biology, Río Piedras Campus, University of Puerto Rico. Research interests: We use a multidisciplinary approach for the understanding of the mechanisms used by the rodent central nervous system to acquire, process, and store information. Our studies involve behavioral experiments as well as cellular, biochemical, molecular, and genomic approaches aimed at relating the expression and/or activation of specific molecules with learning and memory processes in the brain.


Nydia Rodríguez-Bonano, Ph.D., Science and Technology School, Universidad del Este. Research interests: Bacterial and Clinical Microbiology Antibiotic resistance of Enterococcus species isolated from recreational waters in Puerto Rico.

From the experience in URGREAT MBRS-RISE Project’s first four years, we learned that participating students face, in some cases, overwhelming challenges trying to excel in their academic endeavors while dedicating significant time to their undergraduate research tasks and the Project’s enrichment activities. Furthermore, we recognized the need to increase the quality of our science graduates, whom intend to pursue graduate studies in a biomedical area.

In the Projects’ second term, we are seeking to increase student capacity, through the UrS Success Center, by helping to develop: a) mathematical skills, b) thorough understanding of scientific concepts, c) a sense of self efficacy and self esteem as a science student and future scientist, and d) a learning community among participants.

The Center operates under the following learning principles:

Provide a climate for students to learn by questioning, probing and suggesting rather than lectures or simply giving information in order to achieve conceptual understanding. (The learning of science involves the understanding of the natural world in terms of the key concepts and principles of the life, physical and earth sciences and the understanding of the inquiry process through student engagement with the learning process.)

Guide students through the solution of a problem by asking questions and helping them understand what is expected of them, not by working the problem for them. (In accordance with UNE’s mission, the Center will provide tutoring following the constructivist approach, in which knowledge is constructed through hands-on experience, where the student is the center of the teaching/learning experience not a mere spectator.)

Provide Tutoring and Study Groups to participants to help overcome their anxiety towards performing well in math and science. Provide an environment where feelings of self-efficacy, personal control, self-respect and a sense of being valued and respected by others are esteemed.

During this first semester, the Center started operations using CECMAT’s facilities to offer tutoring and study group meetings. The facilities for the Center, located next to CECMAT, were completed in mid October. Tutors for the Center include experienced RISE participants, and senior science students. The center is currently offering tutoring to ten RISE participants, mainly apprentices (new) and a few experienced RISE students. Tutoring is also being offered to non RISE students whom participated in RISE 2009 summer activities.

Study groups have been slower than tutoring activities in starting up. We believe that this is due to lack of experience participating in these groups, thus resulting unfamiliar to students. The availability of the Center’s new facilities and an aggressive “marketing” of its advantages will hopefully improve study group participation. We aim to impact RISE and non RISE students in the study groups, increasing the number of science students benefitted by the Project. As part of the Center’s Assessment and Evaluation Plan, we will be surveying student satisfaction with the Center’s services and their recommendations for its improvement.
Meet Three of Our Students

Luis A. Lebrón-Marrero

I am a student of Biotechnology at the School of Science and Technology (UNE) and research student since 2006 in the URGREAT-MBRS-RISE project. My faculty mentor is Dr. Nydia Rodríguez-Bonano and we work in the analysis of plasmid DNA and antibiotic resistance profiles of Enterococcal environmental isolates in recreational waters in Puerto Rico. The aim of this research project is to determine if Enterococci strains are contributing to the dissemination of hard to treat infections among beach bathers in P.R. We characterize the phenotype and genotype of the isolates.

My participation in the RISE project has changed the perspective that I had of my career and my role as an undergraduate student. I now have more responsibilities and tasks because I have to keep a good standing status in my classes and complete many research tasks in the laboratory of Dr. Rodriguez. I also participate in seminars, workshops, and meetings to develop my research skills. Even though I have a busy daily schedule I'm greatly satisfied because I gain experience and I have the opportunity to work hand in hand with an experienced person in a field that interests me. One of the activities that I like most is presenting the results of my research project in meetings and sharing with other colleagues my findings and challenges. I have participated in local and national meetings and visited beautiful places in states like, California, Pennsylvania, Ohio, Texas, Illinois and Massachusetts. I attended a summer internship at the University of Wisconsin this past summer and at the University of Arizona in 2007.

All these experiences have helped me to expand my knowledge and define my interests in biomedical sciences. Thanks to my participation in the RISE project I have been invited to participate in a national television program and have received travel awards and recognition for being a leader in my university and community. Now, as a senior student I'm glad that some time back a good friend told me about RISE. It was my freshman year and I was totally lost. I am now more secure, I do make better decisions and I have grown up as a professional and as a person. My future goal is do a Ph.D. in molecular and cellular biology and contribute to a better quality of life through the development of drugs and treatments for diseases such as HIV and cancer.

Paul Brito-Vargas

Currently, I'm doing a bachelor's degree in Biology at the Universidad del Este (UNE) in Carolina, Puerto Rico. During the past two years I have been a participating student in the URGREAT-MBRS-RISE program. My mentor is Dr. Jennifer L. Barreto-Estrada at the University of Puerto Rico Medical Sciences Campus, Department of Anatomy and Neurobiology.

My research project studies the hedonic and rewarding properties of various kinds of anabolic androgenic steroids (AAS) which are classified into three classes according to their chemical structure and metabolism. The results obtained from this experiment are of great importance in the biomedical field because adult athletes, and more recently, adolescents are known to abuse these illegal substances. It is well known that the consumption of anabolic steroids produces side effects such as anxiety-like disorders and aggressiveness, among others. In our experiment, we used the conditioned place preference (CPP) method to test the hedonic and rewarding properties of anabolic steroids. We found that two classes of AAS (Class I and Class II) displayed hedonic and rewarding properties. These results contribute to understand the social and behavioral responses to synthetic androgens and represents an animal model that will be of great benefit to the human population and to the scientific community in the field of drug addiction.

During these two years, the undergraduate research experience has helped me grow intellectually and improve my communication skills. It has given me knowledge and new ideas to share with the scientific community. This is very important for a student that is studying science. Although, initially, my participation in the MBRS-RISE program looked just like a simple, fun job, it has helped me develop my talents and my knowledge through seminars, workshops, and orientations. Because of this, I now have no doubt of what I want for my future. I want to be admitted to a graduate program in Neuroscience.

I have received several honors, such as travel awards to attend the ABRCMS and the IBNS meetings. In addition, I am co-author of a scientific article that was published in the scientific journal Drug and Alcohol Dependence. One of the most important achievements was the opportunity to meet proficient scientists like Dr. Marlene Wilson, and to participate in a summer internship in her laboratory at the University of South Carolina School of Medicine. After two months of summer internship, I feel very proud that I significantly contributed to a scientific article that is in preparation and of which I am a co-author. Due to all these rewarding experiences I definitely recommend all science students, interested in doing research, to try the URGREAT-MBRS-RISE program.
My name is Emmanuel Vázquez-Rivera, a senior student at Universidad del Este (UNE) in Puerto Rico. I’m currently majoring in Applied Microbiology and I will be completing the requirements for a B.S. by December 2009. I have been participating in URGREAT-MBRS-RISE for about 3 years. It has been a gratifying experience for me both, as student and as future scientist.

I have had experience working hands on in research projects in my home institution and in other recognized academic institutions. I am currently working, at UNE, in a research project mentored by Dr. Nydia Rodríguez-Bonano entitled Determination of Antimicrobial Resistance Profiles of Enterococcus sp. Isolated from West Coast Public Recreational Waters in Puerto Rico. Also at UNE, I worked with Dr. Ana MÉndez-Mercado, in a research project entitled Immunocytochemistry Study of Developmental Neurogenesis Using the Sea Urchin Lytechinus variegatus (Echinodermata: Echinoidea), in order to map neurogenesis in embryos and larval echinoderms. Other institutions where I have also worked at are the University of Wisconsin-Madison (summer 2007), Woods Hole Oceanographic Institution (summer 2008), and Princeton University (summer 2009).

These experiences have helped me to foster some interpersonal skills such as confidence, discipline and assertiveness. I know that these characteristics will enable me to get involved with student life at the university and to interact with faculty members, administrative personnel, and the student community as a whole, something which is a vital part of the integral development of an individual.

Presently, my main goal is to start my graduate degree in a research based institution to enhance my science skills and knowledge to get a PhD in Microbiology and Biotechnology (Bioprospecting). In regards to my long-term plans, I expect to get a professional position in a university or an academic institution where I can indulge my primary objective, which is to be involved in scientific research and teaching.

After a few years of teaching and researching I would like to develop a special program for students from high school to undergraduate levels in order to offer them the opportunity to participate in research projects related to environmental and molecular biology fields, and in this way return to society what I received from RISE.

My entire perspective of science and life has been influenced by RISE. I think that the holistic training that I am gaining from this opportunity will prepare me to face the essence of a research career, which is in fact to RE–SEARCH, be creative and perseverant.

I am very confident that my diverse research experiences, along with a firm commitment to sciences, have qualified me to face the challenge to be a successful graduate student representing URGREAT-MBRS-RISE, UNE and Puerto Rico.
The field of Stem Cell Biology is a recent and exciting scientific journey that abruptly re-emerged with the appearance of a Dolly ten years ago, the first mammal to be created by reproductive cloning. But the idea of Dolly (and the consequences of it) in the field of stem cell biology is a simplification of a much more complex and multifaceted scientific field; stem cells biology is more than the image of an animal looking at itself in a mirror.

The first point to emphasize is that stem cells can be separated in two big categories, first the somatic/adult stem cells that come from many different developmentally committed tissues. The second big category of stem cells come from a particular region of the blastula stage of an embryo, inner cell mass, which after being cultured in the lab becomes embryonic stem cells. The use of embryonic stem cells is still controversial, in part by its association with Dolly. On the contrary, the former group of somatic/adult stem cells has been subjected to an intensive research activity fueled in part by a lack of social and ethical concerns, prompt therapeutic applications; and the idea that different adult body tissues have a small, rare population of cells with a remarkable regenerative potential.

The idea that in many adult tissues of humans and other mammals resides a rare population of stem cells, compelled me to ask which are some of the factors involved in the plasticity and differentiation potential of adult somatic stem cells. One somatic stem cell population found in the skin, known as Skin Progenitor Cells (SKP), can be differentiated in vitro to cells that show glial and neuronal markers. Previous work using neuronal stem cells indicate that in vitro differentiation commitment is controlled by the methylation status of genomic DNA. My particular interest is to study how non-genetic mechanisms such as DNA methylation are involved in regulating the in vitro differentiation potential of SKP towards a neuronal phenotype. But why do we need to know about neuronal-glial differentiation and commitment of SKP in a Petri dish? Simply because the skin is a good source of patient-specific somatic stem cells that allows for innumerable in vitro manipulations which can elucidate key mechanisms to develop cell replacement therapies.

As many other scientific journeys, these research questions were in need of logistical and financial support. In my case that support came along with a four-letter word acronym, RISE.† During the last two years MBRS-RISE-UNE allowed me to share my knowledge and experiences by mentoring undergraduate students at UNE. Additionally and essential to achieving my research goals, the MBRS-RISE-UNE program support allowed me to gather preliminary data to compete for a competitive research grant. This grant support will allow me to keep asking scientific questions, to obtain new data and to continue mentoring the next generation of scientists in the recent and exciting scientific journey of the Stem Cell Biology.
Retreat  
April 17–19, 2009

The purpose of the retreat was two-fold. First, for the students to get to know the implications of participating in RISE. The second purpose was for the students to learn how to deal with: preparing for, applying to and surviving graduate school.

Retreat  
October 23–25, 2009

The objective of this retreat was for the students to evaluate their strategies, and learn new ones, for coping with diverse situations and to fulfill their aspirations. Also, the participants took an online course on Responsible Conduct in Research in order to get certified.
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