The Howard Hughes Medical Institute Funds Base Pair until 2012

The Howard Hughes Medical Institute recently funded the Base Pair Program for an additional five years. A grant of more than $695,000 will ensure the operation of the program for an additional five years. Howard Hughes Medical Institute is the largest private supporter of science education initiatives in the world. In operation since 1993, Base Pair is a science mentoring program that pairs faculty from the University of Mississippi Medical Center with high school students and educators from the Jackson Public School District. The generous support of the Howard Hughes Medical Institute will allow the program to build on its strengths and continue to successfully prepare students for careers in the biomedical arena.

2007 Summer Research Institute

Each summer, a teacher professional development activity, the Base Pair Summer Research Institute, takes place at the University of Mississippi Medical Center. Teachers are recruited from local school districts for a six-week series of biomedical lectures. Laboratory proficiency training exercises and curriculum development activities. Training and advice are also provided to assist teachers in the preparation of grant proposals to support classroom activities.

The 2007 Summer Research Institute took place June 11-July 13. Some of the Institute’s sessions included crime scene investigations, a fingerprinting lab, CPR training, emerging and re-emerging diseases, an AIDS Update: Where Is It and Where Is It Going?, Alcohol and driving and a number of other topics that acquainted the students and teachers with cutting edge skills and procedures in biological and chemical laboratory techniques.
The 2007-2008 Murrah High School Base Pair students are enjoying a productive new school year.

Base Pair and SOAR students and teachers will participate as walkers and volunteers at the

Metro Jackson Heart Walk 2007-2008

State Capitol—the New Capitol Building
Sunday, Oct. 21, from 1-4 p.m.
At 400 High Street in Jackson.

As the signature fund-raising event for the American Heart Association, the Start! Heart Walk promotes physical activity and heart-healthy living in a fun family environment.
“Last year’s research focused on tissue transglutaminase-dependent and independent interaction of calcium-binding protein calbindin D-28K with ataxin-1 in an attempt to gain a further insight into the initiating events leading to the pathological sequence of the progressive degeneration of selective neurons within the cerebellum, spinal tracts and brainstem. This year’s research will involve performing quantitative analysis of vacuole and Purkinje cell count from the cerebellar sections of different age-group mice with spinocerebellar ataxia type 1 (SCA-1).”

La’Mont Sutton….(Mentor Dr. Parminder Vig)

“After studying the behavior of male rats treated with SSRIs at an early age, it was found that the females were behaving differently from each other despite having all the same treatments, thus leading to a variation in male behaviors. It was found that, even though small, like humans, each rat has to have a particular amount of a treatment depending on size, age, weight, etc. This year, we have begun raising new rats, male and female. The male rats have been pre-exposed to SSRIs during developmental stages. The females will be accurately measured to ensure proper dosage. This way, if there is any problem, we will know the problem is with the males treated with SSRIs and the females (which is what we want).”

Chris Campbell…(Mentor Dr. Ian Paul)

“This year we will study the effects of the sleep aid Lunesta™ with or without anti-depressant co-treatment on neurogenesis in sleep deprived rats.”

Theresa Raymond…(Mentor Dr. James Shaffery)

“I will continue the research of my past year on the effects of sustained delivery of TGF on chondrocyte proliferation in a rat degenerative disc model. I will add to this research the usage of Ki-67 and IGF-1 on the growth and chondrocyte proliferation of the degenerative disc model for a rat.”

Justin Brown…(Mentor Dr. Ham Benghuzzi)

“We will measure the effects of the tex deletion in pneumonoccal growth and virulence through comparing the competitive growth in vitro with TIGRDPAC and TIGRA”.

Ashley Poullard…(Mentor Dr. Larry McDaniel)
Mrs. Hope Hamlin (not pictured) teaches this group of SOAR students at Callaway High School.

Toys and Lead Poisoning

Recently some of the major toy manufacturers have recalled toys because of paints that could possibly contain excessive levels of lead. Lead is toxic if ingested by young children and can cause adverse health effects. Stay informed about this dangerous topic. For more information, visit the Center for Disease Control’s Lead Poisoning Prevention Program web site.

(http://www.cdc.gov/nceh/lead/default.htm)
Jim Hill High School’s SOAR Program

The Student Oriented Academic Research (SOAR) Program is a companion to, and collaboration with the Base Pair Program at Murrah High School. As a result of a joint venture between the Base Pair program at UMC/Murrah, Jackson Public Schools and Tougaloo College, a plan was developed to implement advanced science research activities for students in Jackson schools outside the Murrah zone. This project development was funded as a part of the NSF Urban Systemic Medical Institute and more than $90,000 worth of grants secured by the Jim Hill SOAR lead teacher, Ms. Susan Bender. This is the foundation of Jim Hill’s current SOAR Program.

The purpose of the SOAR class offered at Jim Hill is to provide an opportunity for students to experience and participate in a rigorous two-year science research program. A primary goal of this program is to develop peer-mentoring groups at the high school level. The SOAR Program consists of 83 students as of the 2006-2007 school year. The aim of the SOAR Program is to develop a network of scientifically literate students with research experience who may serve as mentors for other students. The SOAR Program’s goals are clear; the people responsible are committed to working together to produce students that can respond effectively to scientific problems, and issues. These students will be experienced in contemporary technology-based presentation methods that will allow them to share the results of their scientific research projects, in-house, at science fair, and at state and regional meetings such as the Mississippi Academy of Sciences. There are plenty of opportunities for students to shine in SOAR.

2007-2008 Jim Hill SOAR Class

This article was reprinted from the September 12, 2007 Jim Hill High School SOAR Newsletter.
I am among those who think that science has great beauty. A scientist in his laboratory is not only a technician: he is also a child placed before natural phenomena which impress him like a fairy tale.

-Marie Curie
French physicist and chemist, twice winner of the Nobel Prize, 1867-1934
Community Science Forum 2007

“THE HEART OF THE MATTER”

A free community-oriented presentation
Tuesday, October 16, 2007
5:30-7:30 p.m.

5:30 p.m. reception; 6:15 presentations begin

Keynote Speaker

Dr. Dan Jones, President, American Heart Association
Vice Chancellor for Health Affairs
University of Mississippi Medical Center

Kimberly Morgan, 2007 Miss Mississippi

Wade Overstreet, Executive Director
Blue Cross Blue Shield of Mississippi Foundation

Maggie Wade, Co-Anchor
WLBT-TV

Blood pressure screenings and health information will be provided by
the American Heart Association and the HEAT Partnership.
October 2007

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Important JPS Dates *

October 1-5, 2007
First Semester District Testing

October 8, 2007
Fall Break (All schools and offices closed)
* Correct as of September 26, 2007

Please visit the following web sites for additional information.

**Base Pair**
http://basepair.library.umc.edu/

**Howard Hughes Medical Institute**
http://www.hhmi.org/

**Jackson Public Schools**
http://www.jackson.k12.ms.us/

**The University of Mississippi Medical Center**
http://www.umc.edu

The University of Mississippi Medical Center offers equal opportunity in employment and all its programs and services, M/F/D/V.