

Human Genome Sequencing Center

Baylor College of Medicine

PRE-GRADUATE TRAINING EDUCATION PROGRAM

The Human Genome Sequencing Center (HGSC) received funding from the National Human Genome Research Institute to promote the advancement of underrepresented minorities participating in the Genomic research. The goal of the HGSC's program is to provide training and support to gain admission to graduate school with the expectation that they will successfully complete Ph.D. programs in the field of genomics or engineering.

The pre-Graduate Training Education Program will financially support post-baccalaureate students for two years who are interested in applying to Ph.D. programs in the genomic sciences (biology, chemistry, physics, math, engineering, computer science, public health). The program will offer various opportunities to strengthen the participant's background in order to increase their ability to successfully enter a graduate program. Each year a Selection Committee will choose participants for the program.

PROGRAM REQUIREMENTS

All Participants Must Meet the Following Requirements:

- MEMBER OF THE FOLLOWING UNDERREPRESENTED MINORITY GROUPS: AFRICAN AMERICAN, HISPANIC AMERICAN, NATIVE AMERICAN, AND PACIFIC ISLANDER
- HAVE A EARNED BACHELOR'S DEGREE

PROGRAM SUMMARY

The Program Provides The Following:

- Kaplan GRE-PREP COURSE
- FINANCIAL SUPPORT FOR MATH, SCIENCE, OR COMPUTER SCIENCE COURSES AT LOCAL UNIVERSITIES
- PROGRAM MENTOR; EXPOSURE TO MINORITY SCIENTISTS
- MOLECULAR/CELL BIOLOGY COURSE (BCM GRADUATE SCHOOL PREP PROGRAM)
- ASSISTANCE WITH GRADUTE SCHOOL PREPARATION
- PARTICIPATION IN GENOMIC COURSE OFFERED BY TMC HEALTH DISPARITIES CONSORTIUM
- WEEKLY GROUP MEETINGS/BROWN BAG SERIES

CONTACT: DEBRA MURRAY @ (713) 798-8083/email (ddm@bcm.edu)



**APPLICATION INSTRUCTIONS
PRE-GRADUATE EDUCATION TRAINING PROGRAM
HUMAN GENOME SEQUENCING CENTER
BAYLOR COLLEGE OF MEDICINE**

General Instructions

Complete all sections and fill in requested information as completely as you can.

Academic Information

Calculate your grade point average for each category. Convert letter grades to numbers using the following system: A = 4, B = 3, C = 2, D = 1, and F = 0. For each letter grade you received, multiply the point value for that letter grade by the number of credit hours for the course; this gives you the grade point for that course. Add up your total grade points. Add up your total number of credits. To get the average GPA, divide the total grade points by the total number of credits. You must include all courses from every college you attended to give an accurate GPA for your college work.

Academic Institutions Attended

List in chronological order all colleges and universities that you attended. Include the date you began and the date of the last semester you attended that institution. If you have not received a degree from that institution please indicate the date you plan to graduate (if you are still attending the institution). If you attended a summer program at the institution please indicate by placing an "S" in the Degree Awarded column. Please have an official transcript mailed to Dr. Murray/Human Genome Sequencing Center/Baylor College of Medicine/One Baylor Plaza N1519/Houston, TX 77030.

Standardized Test

If you have taken the GRE (or MCAT) in the past three years, please provide the scores for this exam. An official copy of your score report is **not** necessary for the application.

Letters of Recommendation

Please give the enclosed form to your current manager and one of your former professors to complete. Letters of recommendation and this form must be in sealed, signed envelopes and included in your application package.

Career Goals

Provide a one-page type written personal statement that would explain your exposure to science, research experience, and future goals.

Deadline

Please submit completed application by **May 15, 2009** to Dr. Debra Murray/Human Genome Sequencing Center/Baylor College of Medicine/One Baylor Plaza N1510/Houston, TX 77030.

**Human Genome Sequencing Center
Pre-Graduate Education Training Program
Application Form
Spring 2009**

Personal Data

Name: _____
Last Name First Middle

Social Security Number: _____ Date of Birth: _____

Place of Birth: _____
City State/County

Present Address: _____
Number and Street Name Apt or Bldg. No.

City State Zip Code

Permanent Address: _____
Number and Street Name Apt or Bldg. No.

City State Zip Code

Telephone: _____
Permanent Cell Lab No.

Email address: _____

Sex:

- Male
 Female

Citizenship: _____ If not U.S, visa type _____

Optional: Do you consider yourself a minority?

- Yes If yes, which minority group? _____
 No

Academic Institutions Attended: Please submit **official** transcripts from all colleges you attended.

Institution	Location City/State	Dates Attended From-To (Month/Year)	Field of Study	Degree Awarded

Academic Information: Please calculate your GPA and provide the following information for all undergraduate and graduate course work.

	<u>Undergraduate</u>		<u>Graduate</u>	
	GPA	Credit Hours	GPA	Credit Hours
Science				
Non-Science				
Overall				

Standardized Tests: If you have taken the GRE or MCAT, please provide a copy (unofficial) of those scores along with your application.

Research and Training Experience: Please list any medical or research training programs you may have participated in prior to your employment in the Genome center.

Human Genome Sequencing Center Employment History:

How long have you been employed at the HGSC? _____

What division do you work in? _____

Who is your senior manager? _____

Please mark your experiences using weeks/months, or semesters.

	College Lab Experience	College Courses	Work Experience
COMPUTER SKILLS			
Programming languages:			
4GL			
Basic			
C			
C++			
Fortran			
JAVA			
LISP			
Pascal			
Perl			
PROLOG			
tk/tcl			
X-window			
Motiff			
Builder accessory			
Applications:			
Data bases			
E-Mail			
Graphics			
GUI builders			
Image analysis			
Modeling			
Charmm			
Frodo			
X-plor			
Networking			
Signal processing			
Simulations			
Statistics			
Word Processing			
Other (specify)			
Other (specify)			
Other (specify)			
Machines & Operating Systems:			
Digital			
Dos/Windows			
Macintosh			
Silicon graphics			
Sun			
Unix			

	College Lab Experience	College Courses	Work Experience
ENGINEERING SKILLS			
General:			
Data acquisition			
Data analysis			
Experimental Design			
Experimental Methods			
Machine Shop			
Statistics			
Chemical:			
Diffusion			
Fluid dynamics			
Heat transfer			
Reactions			
Reactors			
Other (specify)			
Electrical:			
Analog simulation			
Circuits			
Circuit modeling			
Electrodes			
Instrument integration			
Signal processing			
Systems integration			
Other (specify)			
Mechanical:			
Biomechanics			
Materials science			
Materials testing			
Stress, strain analysis			
Structural mechanics			
Specialized:			
Image analysis			
Robotics			
Mathematics:			
Analytical geometry			
Differential equations			
Matrix algebra			
Numerical analysis			
Parameter ID			
Statistics			
Vector calculus			

	College Lab Experience	College Courses	Work Experience
A. Field of Work			
Biochemistry			
Biomechanics			
Biomedical Engineering			
Cell Biology			
Genetics			
Immunology			
Materials Science			
Metallurgy			
Microbiology			
Molecular Biology			
Neurobiology			
Pharmacology			
Physical Chemistry			
Physiology			
Virology			
Other (specify)			
Other (specify)			
1. General Laboratory Methods			
Buffer preparation			
pH measurement			
Making solutions			
Sterile technique			
Record keeping			
Other (specify)			
2. Quantitative Methods			
Protein assays			
DNA/RNA assays			
Enzyme assays			
Other (specify)			
Other (specify)			
3. Analytical Methods			
Chromatography:			
Thin-layer			
Column			
HPLC			
Gas/Liquid			
Spectrometry:			
UV/VIS			
IR			
GC/MIS			
NMR			
CD			
Other (specify)			
Ultracentrifugation			

	College Lab Experience	College Courses	Work Experience
Analytical Methods (cont.)			
Electrophoresis:			
PAGE			
2-D Gels			
Agarose			
SSCP			
Western blotting			
Protein expression			
Protein purification			
Other (specify)			
4. Microscopy			
Light microscopy			
Fluorescence			
Transmission EM			
Scanning EM			
Tissue Preparation:			
Light			
EM			
Frozen sections			
Cytogenetics			
Histochemistry			
Other (specify)			
5. Recombinant DNA			
DNA/RNA isolation			
Plasmid preparation			
Restriction mapping			
cDNA synthesis			
Cloning			
Construct preparation			
Library screening			
Southern hybridization			
Northern hybridization			
PCR			
Sequencing			
Translation			
Transfection			
DNA chip analysis			
Other (specify)			
6. Tissue Culture			
Cell culture			
Organ culture			
Cell transformation			
Cell fusion			

Scientific Background and Skills Assessment (Continued)

	College Lab Experience	College Courses	Work Experience
Tissue Culture (cont.)			
Animal passage			
Media Preparation			
Other (specify)			
7. Microbiology, Immunology & Virology methods			
Antibody production			
Antibody purification			
RIA			
ELISA			
Organism culture			
Handling pathogens			
8. Animal Handling			
Animal care			
Animal surgery			
Do you object to working with rats or mice?		Yes	No
9. Radioisotope Methods			
Radiotracers			
Radiolabelling			
Scintillation counting			
Gamma counting			
Radiation monitoring			
Other (specify)			
10. Computer Technology			
Mainframe			
Micros			
PC			
Excel			
Powerpoint			
html			
Graphics			
Other (specify)			
11. Writing			
Editing manuscripts			
Manuscript writing			

If you have skills or experience that are not indicated on this roster, please include this information in the spaced provided below.

Microbiology & Virology Methods

Physiology Methods

Patient Contact

Other (specify)

List Publications (if any):

Applicant Evaluation Form

Student's Full Name: _____

Students Social Security Number: _____

College / University: _____

Faculty Evaluator: _____ Phone _____

Faculty Evaluator's Signature: _____

How long have you known the student? _____

In what capacity? _____

Please rate the student in all categories with which you feel qualified to assess characteristics relative to other students at the same academic classification (i.e., freshman, sophomore, etc.) with whom you have had contact. Place an (X) in the field that best describes the student's characteristic.

Characteristic	Outstanding	Excellent	Good	Average	Below Average
Desire to learn					
Curiosity					
Creativity					
Hard working					
Perseverance					
Ability to adapt to new situations					
Interpersonal skills					
Analytical problem solving					
Scientific knowledge					
Technical expertise					

Please include a letter of recommendation that provides any information you feel would be helpful in assessing the student's placement in the HGSC-PGET Program, including obstacles the student has overcome. Return this form with the letter of recommendation to:

Dr. Debra Murray
Baylor College of Medicine
Human Genome Sequencing Center
One Baylor Plaza, N1519
Houston, TX 77030