



HARVARD MEDICAL SCHOOL

MFDP **K-12** NEWSLETTER

Autumn 2000. Volume 1, Number 1.

Published by the Minority Faculty Development Program of Harvard Medical School

Welcome to the first issue of the K-12 Newsletter, published by Harvard Medical School's Faculty Development and Diversity / Minority Faculty Development Program.

The K-12 newsletter will be published three times a year as an extension of our student and teacher programs. The newsletter will not only highlight various aspects of our programs, but will also encourage increased involvement in the educational process from all participants, including parents, students, teachers, and admin-

istrators. Newsletter features will include highlights of our ongoing programs, a parents' column, and a calendar that will emphasize important program and standardized test dates.

We value your input. Please give us your feedback on the newsletter and let us know of any ideas you may have for future issues. For more information on Harvard Medical School's K-12 Programs, please contact us at (617) 432-4634. You can also access our website at www.mfdp.med.harvard.edu.



Karlene Boswell

Summer is often a time to slow down, to take a break from work and preparations for future goals and, instead, to head for the beach or another get-away. Not so for Karlene Boswell. During recent summers, you would be more likely to find Karlene researching recombinant DNA technology at the Harvard School of Dental Medicine or analyzing data from a clinical research project in the Department of Ophthalmology at Mass Eye and Ear than hanging out at the beach.

This summer marks the fourth year that Karlene has participated in Project Success, a summer science career initiative sponsored by the Faculty Development and Diversity Department of Harvard Medical School. Karlene first participated in the program during the summer between her junior and senior years at Hyde Park High School, when she researched the thyroid-stimulating hormone in a laboratory at Beth Israel Deaconess Medical Center. "Wow! This is what doing science is like," Karlene says she thought at the time. "It was an eye-opening experience. We didn't have labs at Hyde Park High; we learned chemistry from textbooks," she explains. She was able to experience what studying chemistry and conducting research were all about. "I enjoyed it. It was a great experience for me," she says.

Karlene graduated from UMass Dartmouth in June, majoring in chemistry and pre-med. This fall she will begin her graduate work at UMass Medical School. Her experiences with Project Success gave Karlene a broad sense of science and research and helped her to define her own career interests and long-term goals. "I loved the science and the research," she says. "From a variety of research experi-

ences, I learned that I'm more interested in clinical research and working directly with people than in laboratory research," she explains. "The projects I worked on with Project Success led me to the decision that I want to pursue a career as a general practitioner working with a variety of patients."

From its inception in 1993, Project Success has targeted Boston and Cambridge high school students, particularly minority and disadvantaged students, who participate in mentored summer research internships at Harvard Medical School and its affiliated institutions. Faculty-sponsored seminars and workshops, site visits, an SAT preparation course, and career guidance counseling augment the program. The goal of the program is to provide continuing support and resources for minority students interested in pursuing careers in science.

Karlene says that, through her involvement with Project Success, she gained valuable skills and experiences that helped with her college coursework and career goals. "I learned my way around a laboratory," Karlene explains. "My work on the protein project in the lab at the Dental School was my first exposure to biochemistry. When I took a course on biochemistry in my sophomore year, I knew what the teacher was talking about. I was always a step ahead."

"I gained presentation skills from reporting on my research work," she continues. "I learned to organize myself and plan my time well. It can be kind of hectic working on a research project, writing a paper on the project and developing a presentation at the same time. It was a good time-management experience for me."



Karlene and her advisor, Dr. Jessica Henderson Daniel of the Judge Baker Children's Center

"I don't think I would be where I am today if it were not for Project Success," Karlene continues. "Getting involved with all these research projects showed that I am capable of doing the work. My success on these projects and the contacts I made helped when putting together my medical school application."

Karlene's experiences with Project Success also helped her to see that Harvard is accessible to minorities and working people. "The laboratory mentors and speakers came from a wide variety of different backgrounds," Karlene says. "It's about diversity when it comes down to it," she says. "Everyone's ideas count."

One person who had a lot of influence on Karlene and served as a mentor for her was Harvard School of Dental Medicine Associate Professor David Wong. She was working on a project isolating a protein gene and a bacteria from one other in his laboratory. "I started a project and saw it to fulfillment," Karlene explains. "David was so encouraging, he made me believe I could carry the project through even when I was struggling." "His encouragement was motivating for me," she continues. "It made me believe I

could do this. In science, I could succeed.”

From each of the four research projects Karlene worked on through Project Success, she gained new skills and insights into the type of work she is most interested in pursuing as a career. A research project she worked on at Mass Eye and Ear and her most recent work this summer at the Judge Baker Children’s Center helped her decide that she is most interested in clinical research.

In the Department of Ophthalmology at Mass Eye and Ear, Karlene analyzed data from a vision-related quality of life study on patients receiving treatment for age-related macular degeneration (AMD). “I worked on data from real patients to see how the treatment had affected them,” Karlene explains. “I got to see the immediate results of what doctors did. In lab research the focus is on long-term effects. You don’t see end results.”

At the Judge Baker Children’s Center this summer, as part of a research study on the portrayal of black women in music videos, Karlene reviewed transcripts from a focus group’s viewing of clips from Black Entertainment Television. “It’s more hands-on than dealing with a protein study,” Karlene says. “This experience has

“I don’t think I would be where I am today if it were not for Project Success.... Getting involved with all these research projects showed that I am capable of doing the work.”

broadened my idea of research. I gained clinical experience, the chance to work directly with people. It’s been very fulfilling for me.”

When asked what she would tell high school students about Project Success, Karlene responds, “If you’re interested in science, Project Success is a good program to get involved with. You can get a sense of what science is all about.”

As for herself, Karlene says she wants “to be the best doctor I can be. My goal is to be knowledgeable and open-minded.” She plans to work in a community health center. “I want to work in under-represented areas with minorities,” she says.

Karlene credits her family, particularly her father, for inspiring her to stick with her career goals. Originally from Jamaica, Karlene and her family have lived in Boston for seven years. “My dad motivates me to try hard,” she says. “He didn’t have the opportunity to continue his education. He had wanted to do it,” she explains. “They couldn’t afford it.” Her father works as a nursing aid and a bus driver. “He leads by example: he never gives up,” she says. “I think that is a good example to uphold.”

For more information on Project Success

and other programs sponsored by Harvard Medical School’s Minority Faculty Development Program, call 432-4697 or access our website at www.mfdp.med.harvard.edu.



Project Success: Opening the Door to Biomedical Careers

The longest-running of the three summer programs offered by the Minority Faculty Development Program Office’s K-12 Programs, Project Success completed its 7th year this summer. Project Success is an eight-week research program for high school students, particularly minority and disadvantaged students, residing in Boston and Cambridge. The program



Glenn Hall, Jr. fielding questions during Project Success student presentations.

hosted sixteen high school students and two college students. Participants worked in labs at Harvard Medical School and affiliated hospitals conducting bench and clinical research. In addition to conducting research, participants attended weekly science and professional development seminars. These sessions provided a variety of information ranging from ethics in science and improving study skills to locating financial aid resources for college. At the end of the program, students wrote a research paper and presented their work to an audience consisting of their peers, parents, advisors and program staff. Participants were given fifteen minutes each to present their research and to field questions from the audience. Students were presented with certificates and gifts from the program in a congratulatory reception at the end of the two days of student presentations.

SAT Summer Prep Program

The SAT program ran for 6 weeks over the

summer, offering 16 students from Project Success, Saturday Science Academy and Mentoring For Science an opportunity to develop and/or enhance their test-taking skills. The course met two times per week for two and one half hours each session. Each student was given a study guide issued by Kaplan to use for practice at home. Students were encouraged to strengthen their verbal and math skills through both traditional and non-traditional lecturing, educational games and use of the worksheets provided in the study guide. The course was taught by Jason Badrinarain and Alicia Lee. Jason is a former Project Success participant and Alicia is an undergraduate at Harvard College who also serves as a mentor for the Saturday Science Academy during the academic year. Professor John Boller, a mathematician from Harvard College, also shared his knowledge and expertise in the field with the participants for two sessions during the summer. He reviewed the basic principles governing problem solving in algebra and geometry. By presenting the students with problems they were not used to working with, he was able to get them to

think of approaching problem solving from an alternative point of view. His overall goal was to get them to apply these basic rules of problem solving to the SAT exam.

Math & Science Summer Camp

The Math & Science Summer Camp hosted eleven eighth grade students transitioning to the ninth grade from the Boston Public Schools. The students were from the John D. O’Bryant School,

the Henry Dearborn Middle School and the Martin Luther King, Jr. Middle School. For two weeks the participants learned about the vestibular system and sleep disorders by working on two case studies developed by the curriculum development team out of the Minority Faculty Development Program office. Students monitored their own sleep habits for a week so they could better understand the sleep disorder that was presented to them from one of the cases. They visited the vestibular lab at Mass Eye and Ear and the sleep lab at Brigham and Women’s Hospital. They also went on a tour of the radiology department at Brigham and Women’s and the Museum of Natural History at Harvard College. The Camp was taught by Berinda Malden and Achilia Morrow. Ms. Malden is an eighth grade science teacher from the Martin Luther King, Jr. Middle School and Ms. Morrow is a Harvard Medical Student taking the year to work in the department of Faculty Development and Diversity on their K-12 Student Programs.

FOR PARENTS

Which standardized tests are necessary for college/high school? And when should my children take them?

* Part I: The SAT (Scholastic Aptitude Test)

Standardized tests are an important part of the process of planning for college. They are meant to help test your children's academic performance in school, and the further in advance you and your children plan for them, the better. Good scores, while not necessarily indicative of "achievement," only help to strengthen your children's college applications. In particular, the SAT measures the verbal and mathematical skills that your children have accumulated over time. Most, if not all, four-year colleges require this and see the test as a way to gauge how well your children will do in college. There are a few ways you and your children can prepare for the SAT:

1) *Think ahead and start early.* The SAT is usually taken in the junior year of high school, and in some cases, early in the senior year. One way to be a step ahead on



Dr. John Boller working with students in the SAT Summer Prep Program

the verbal sections is to have your children read, and to read a lot. Encourage them especially to read books on a variety of subjects and that may be on a slightly more challenging reading level. Don't wait for the test to come around to start this. For the math sections, encourage your children to take challenging math and science courses in high school. Help your children through the decision-making process, and be realistic.

2) *Encourage your children to take the Preliminary Scholastic Aptitude Test/ National Merit Scholarship Qualifying Test (PSAT/NMSQT).* The PSAT/NMSQT is a shorter test that measures many of the

skills that are involved on the SAT. Students can take this test twice: once, in 10th grade, as practice, and then again during junior year. The score from the junior-year test administration might also qualify your son or daughter for a scholarship from the National Merit Scholarship Corporation.

3) *Encourage your children to take an SAT Prep Course.* We include this option because it is an option, but one that is often ludicrously expensive and not always useful. There are the main preparatory companies, such as Kaplan and the Princeton Review, but we suggest that you seek out smaller organizations or programs that are affiliated with schools. If your children participate in the Saturday Science Academy or Project Success, encourage them to sign up for the SAT Summer Prep Program offered through the Minority Faculty Development Program K-12 Programs. For more information, please contact Faries Odom, Program Coordinator for K-12 Programs, at 432-4697 or at faries_odom@hms.harvard.edu.

4) *Practice, practice, practice.* The College Board publishes a book titled 10 Real SATs, which is a compilation of ten previously administered tests. This gives your children a chance to familiarize themselves with the test and to answer actual questions they can expect on the SAT. Since the SAT is a standardized test, the questions do not vary greatly from year to year and so this is a terrific way to get a "sneak preview." There are also drill practice books that focus on the specific sections available

in your local bookstore, but we suggest the ones published either by the Princeton Review or Kaplan. If you have web access, you can also order any of these books through www.amazon.com.

For more information about the test, there are information/registration booklets available in the guidance office of your child's school. This also applies to the PSAT. If you have web access, the College

Board site is extensive and informative - they focus on strategies to help you prepare for the tests and for college, as well as a list of resources. You can access the website at www.collegeboard.org.

* Part II: The Independent School Entrance Examination (ISEE)

The ISEE is a three-hour examination consisting of verbal and math multiple-choice questions, as well as an essay section. This test is required for entrance into the Boston Latin School, Boston Latin Academy, and the John D. O'Bryant School of Mathematics and Science. The test is administered in the fall of the 6th grade for

entrance into the Boston Latin School and Academy, which begins at the 7th-grade level. The test is also given in the fall of the 8th grade for entry into high school. In order to register for the test and to find where and when the test will be administered, contact your children's guidance offices. Specific information on the content of the test can also be found at the Educational Records Bureau website, at www.erbtest.org/isee.html.

Next issue: The SAT II and MCAS

TEACHERS

Teacher Institute Successfully Utilizes Case-based Method to Improve Science Instruction in Public Schools

Through effectively adapting the Harvard Medical School (HMS) case-based method and promoting scientific inquiry in teaching middle and high school science, the Minority Faculty Development Program's Teacher Institute has provided professional development to public school science teachers since 1994. Participants become teacher fellows at HMS for one year, with access to Countway Library and other resources. In addition to an intensive mini-sabbatical in which teachers explore current research in medicine and science, gain practical experiences in the case-based teaching method, and view demonstrations of diagnostic techniques at local hospitals, the program also includes follow-up activities and seminars. Of the sixty teacher participants to date, 75% continue their participation in Teacher Institute-sponsored activities beyond their

Harvard Medical School Speakers' Bureau Is Available to Boston Public Schools

The Harvard Medical School Speakers' Bureau is comprised of faculty members, fellows, and graduate students who are interested in sharing their passion for science and medicine with students and teachers in Boston Public Schools. They are available to speak on a variety of topics including the latest in scientific research, health issues, science fair project ideas, and individual career paths. Presentations can be geared toward specific curriculum topics or provide a general overview.

The Speakers' Bureau seeks to spread knowledge of and enthusiasm for the study of science to the next generation. For more information, or if you would like to arrange for a speaker, contact Teacher Institute Project Coordinator Maureen Stephens at 432-1319 or at maureen_stephens@hms.harvard.edu.

one year as a fellow.

The Teacher Institute is open to Boston Public School teachers who teach middle- or high school science. The next mini-sabbatical will take place the week of March 12, 2001. For more information on this program, or if you know a Boston public school science teacher who would be interested in participating, contact Maureen Stephens, Project Coordinator, Teacher Institute, Faculty Development & Diversity Department at 432-1319 or at maureen_stephens@hms.harvard.edu.

Upcoming Teacher Institute Events

The following upcoming events are sponsored by the Teacher's Institute for teachers who have previously participated in the Teacher's Institute program.

Fall Breakout Session for Teacher Fellows and Alumni on Wednesday, November 1

On Wednesday, November 1, 2000, from 3:30 - 6:30 p.m. in the Minot Room of the Countway Library, the Teacher's Institute will sponsor a workshop reviewing the case study titled "Tina's Tale." The major topics focused on in the "Tina's Tale" case study include viruses, the immune system, the respiratory system, and asthma. This special workshop will feature new ways of utilizing this particular case study in the classroom as well as a variety of written, web, and video resources and hands-on activities that can accompany the case study. Teachers will also have the opportunity to discuss and share with other teachers their experiences in applying this case study and other case studies within their curriculum and in meeting city, state, and national standards for teaching science. The case study method employs the scientific method of inquiry including problem analysis, hypothesis development and testing, student collaborative learning, and interdisciplinary activities. If a Teacher Institute alum would like to attend this breakout session, please call 432-1319 or e-mail maureen_stephens@hms.harvard.edu.

Teacher Institute to Host Video Lecture Series on Biological Clocks

On Monday, December 4 and Tuesday, December 5, Teacher Institute fellows and alumni are invited to participate in a video lecture series sponsored by the Howard Hughes Medical Institute (HHMI). The lecture series will focus on the nature of biological clocks, the molecular time pieces that control sleep, body temperature, and other aspects of physiology and behavior. The two lecturers, HHMI Investigators Michael Rosbash, Ph.D., and Joseph Takahashi, Ph.D., have done groundbreaking work in identifying the genes that control biological clocks in fruit flies and mice. They will draw on their own research to demonstrate how their work applies to humans, emphasizing the role of clocks in regulating sleep. There will be two lectures broadcast on each day. Harvard Medical School will receive the lecture broadcast each day from 2:30 - 5:00

CALENDAR

Friday, September 8 - Saturday Sciences Academy deadline for applications for new students

Friday, October 13 - Saturday Sciences Academy deadline for applications for new students

Friday, October 13 - Mentoring for Science deadline for applications

Friday, October 20 - Fall Breakout Session for Teacher Fellows and Alumni pre-registration deadline

Thursday, October 26 - Explorations, sponsored by the Biomedical Science Careers Program and the offices of Harvard Medical School's Faculty Development and Diversity Community Outreach and MFDP K-12 Programs

Wednesday, November 1 - Fall Breakout Session for Teacher Fellows and Alumni from 3:30 - 6:30 in the Minot Room at the Countway Library.

Saturday, November 18, 9:00 a.m. to 2:30 p.m. - Skills Workshops for High School Students, sponsored by the Biomedical Science Careers Program. For seniors, juniors and sophomores. The workshops will cover topics such as the college application process, interviewing skills, and resume writing. Pre-registration is required. Contact Lise Kaye at (617) 432-0552 or e-mail at lise_kaye@hms.harvard.edu

Friday, November 24 - Teacher Institute Video Lecture Series on Biological Clocks pre-registration deadline

Monday, December 4 and Tuesday, December 5, 2:30 p.m. - 5:00 p.m. - Teacher Institute Video Lecture Series on Biological Clocks

Friday, January 5, 2001 - Teacher Institute Mini-sabbatical deadline for applications

Wednesday, March 14 - Friday, March 16, 2001 - Teacher Institute Mini-sabbatical

p.m. Teacher guide materials and other resources will be provided to participants. More detailed information will be mailed out this fall. For more information, call 432-1319 or e-mail maureen_stephens@hms.harvard.edu.



Announcing the MFDP K-12 Science Program Bulletin Boards!

Check out http://www.mfdp.med.harvard.edu/cgi-bin/mentor_enter.cgi! That's where you'll find the fun and helpful new K-12 bulletin boards on the WWW.

The K-12 Science Program boards are like real-life bulletin boards. They let you post announcements, ask questions, and leave messages for other members in the community. There are two sections on the site, one for middle school students and another for high school students.

There are three categories in each section:

- In the News & Announcements section, you'll find announcements of new K-12 programs and news from MFDP.
- On the Math & Science Questions board,

you can post questions for your mentors, and they will respond as soon as they can.

- The How's Life? message board is a place to stay in touch with friends you've met in K-12 and, of course, to make new friends. On this board, you can talk about anything: baseball, Napster, fun upcoming events, news - it's up to you!

Since the bulletin board site is new, more sections and features will be added in short order, so be sure to visit often to see how you can use the site.

As with most web sites, members are asked to keep their language clean and treat others with respect. Refrain from writing confidential or sensitive information on the boards. And, above all, have fun!

These bulletin boards are limited to K-12 program participants and their families only. You'll need to enter the password "sc13nce" to enter the boards. Once inside, register a personal username and password. Be sure to save your password in a safe place.

MFDP K-12 Newsletter

Volume 1, Number 1, September 2000
Created and published by the Minority Faculty Development Program of the Faculty Development and Diversity Office at Harvard Medical School
Dr. Joan Reede, Associate Dean
Sandra T. Sims, Director of K-12 Programs
Faries Odom, Coordinator of Student Programs, Writer and Editor
Maureen Stephens, Coordinator of Teacher Programs, Writer and Editor
SueJeanne Koh, Writer and Editor
Liev K. Aleo, Writer and Editor
Tom Hart, Design and Illustration
164 Longwood Avenue, 2nd floor
Boston, MA 02115
(617) 432-4634
<http://www.mfdp.med.harvard.edu>

