



Caribbean Science Foundation

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STUDENT PROGRAM FOR INNOVATION IN SCIENCE AND ENGINEERING (SPISE)-2013

Program Goals

The annual Student Program for Innovation in Science and Engineering (SPISE) is an intensive four-week enrichment residential summer program for promising Caribbean high-school students who are interested in studying and exploring careers in science and engineering. The goal is to help address the low numbers of Caribbean students pursuing advanced degrees in science and engineering. This program is one of CSF's initiatives with the long-term goal of helping to diversify the economies of the Region by stimulating more technology-based entrepreneurship within the Region. Key important partners of the SPISE are the University of the West Indies Cave Hill Campus, and the CXC.

Program Description

SPISE is modeled after the well-known and highly successful MITES program at MIT (web.mit.edu/mites). SPISE provides a learning environment in which understanding the concepts and fundamental principles in several disciplines is reinforced over and above rote learning. Further, critical thinking and analytical and logical problem-solving approaches are emphasized in order to find solutions to complex problems that may not have been encountered before. Team work is yet another essential component of the SPISE experience, as are applying efficient study habits and time-management skills. Another aim is to have a balanced class of 50% girls and boys.

SPISE students study calculus, physics and humanities, and either biology, chemistry or biochemistry. In addition, they undertake two hands-on, experimental innovative projects chosen from robotics, computer programming and electronics. The humanities component focuses on the "one-Caribbean" concept and a foreign language (e.g., Spanish or Mandarin). They also learn the value of teamwork through joint participation in the hands-on engineering and science projects. Further, the students build self-confidence in their ability to be successful in a highly demanding academic environment.

The program is based at the CSF headquarters, located on the Barbados campus of the University of the West Indies. The instructors for the subjects are university lecturers and postgraduate students from the Caribbean and MIT. Teaching Assistants reside in the dormitories with the students so that technical assistance and supervision are available 24/7 to the young students. The program culminates with student project competitions in which each team first gives an oral presentation of their hands-on project before demonstrating the workings of their project. These final competitions are open to the public, and sponsors are urged to attend and cheer for their students. It is anticipated that students who complete the SPISE will attend some of the best science and engineering universities in the world, and become scientific, engineering and business leaders in academia and industry within the Caribbean.

Applications

In 2013, approximately 20 students will participate free of charge, owing to generous support from sponsors. SPISE 2013 will run from July 20 to August 17. Applicants must be at least 16 years of age but less than 18 years of age on July 1, 2013, and have completed CXC exams or equivalent in math and science subjects. Students from low-income households are encouraged to apply. Student, Teaching Assistant and Instructor application forms are posted on the CSF website (<http://caribbeanscience.org/>) and are due on April 22, 2013. For students, letters of recommendation, transcripts and essays are required. Students living outside of Barbados must prove that they have valid passports at the time their application is submitted.

For Sponsors

Sponsors from as many different countries as possible are invited to join the program. Sponsors may opt to designate support for students from specific countries. Each student is branded as a scholar of their sponsor. The estimated cost per student is US\$6,000. This estimate includes air fare for some of the students, housing and meals, stipends for the instructors and the resident tutors, and partial costs of lab equipment and supplies. The plan is to grow the program over the next 5 years to about 50 students per year. Please contact Prof. Cardinal Warde (warde.csf@gmail.com or 1-617-699-1281) with your questions about student sponsorship.