## **PINKERTON** SCIENCE **SCHOLARS**

Photographs by MICHAEL SANTIAGO

# Higher Learning in the Lab

OMBINING RIGOROUS ACADEMIC ✓ preparation and work with a scientist on an authentic research project, The Pinkerton Science Scholars Program aims to provide a transformative educational experience for talented high school students from disadvantaged backgrounds. The program builds on the success of the Science Research Mentoring Program developed by the American Museum of Natural History. In 2013, the Foundation supported the development of a template based on the museum's model and convened strategy sessions with other science-based institutions. Thanks to Pinkerton funding, seventeen other institutionsranging from Rockefeller University and the NYU School of Engineering to Cold Spring Harbor Laboratory and research institutes at Columbia and multiple CUNY colleges—now offer the intensive mentoring experience. Almost 1,000 students have completed the classroom, lab and presentation requirements to be designated Pinkerton Science Scholars. With an additional \$10 million pledge last year, the Foundation will extend the experience to at least 1,500 more students by 2021. ♦





**Rockefeller University Science Outreach** Program: Dr. Jeanne Garbarino (left), director of the program, illustrates a point for Osvaldo Tlahuetl, a senior at John Bowne High School in Queens. Shuofei Sun (right) is researching how different lights affect the growth of plants and how microorganisms affect soil. He hopes his research can improve farming back home in Japan.





### **Rockefeller University Science Outreach**

Program: The program provides students with the opportunity to conduct hands-on research under the mentorship of worldrenowned scientists, instilling a passion for science and valuable insights into how the scientific process works. Catherina Mobini (left) in Dr. Hermann Steller's lab is studying the brain of the common fruit fly. For Catherina, the experience has been a revelation: "I'm learning that failure is not looked down upon in science, but seen as part of the process that leads to success."



### THE PINKERTON STORY





### Mount Sinai Sherman

Scholars: Daeson Gibbs (top), a first-year scholar, watches an experiment unfold at Icahn School of Medicine at Mount Sinai. Terell Howard (right) explains his homework to Dr. Stella Melana while Marcos Machado listens. The program's partnership with Eagle Academy ensures that young men of color are taken under the wings of scientist mentors. Scholars (below) await entry to a workshop with actors from The Irondale Center for Theater, Education, and Outreach who will coach them in presentation skills.







### Mount Sinai Sherman

Scholars: Carlton McKenzie (top), a second-year scholar, visits his grandfather, Calton McKenzie, in an assisted living facility. His grandfather has been a lifelong source of encouragement. (Below) Carlton works with Dr. Sergio Lira, director of the Immunology Institute at the Icahn School of Medicine at Mount Sinai. Lira researches Iymphoid development and cancer inflammation, among other things.

### THE PINKERTON STORY

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NYU Tandon School of Engineering ARISE Program: The Applied Research Innovations in Science and Engineering program is making a concerted effort to engage female students in hands-on engineering research. Lillian Baker (right) is absorbed in thought as she prepares an experiment investigating cellular function. She is especially interested in "cell stiffness," which can be a predictor of the invasive potential of cancer cells.







NYU Tandon School of Engineering ARISE Program:

Elizaveta Atalig and Michael Klamkin (above) in the Applied Dynamics and Optimization Lab study the amount of charge a battery can hold. (Left) Cameron Jacobson, Hartek Aabharwal and mentor David Diner examine an environmental monitoring aquatic vehicle in the Dynamical Systems lab. The device collects water quality data and images.



American Museum of Natural History: Karina Polanco (above), formerly a participant in the American Museum of Natural History Science Research Mentoring Program, now attends Columbia University and works part time at the Harkness Eye Institute. The work at Harkness opened a new gateway to Karina's scientific interests. (Right) Karina conducts a PCR test, which amplifies trace amounts of DNA and allows for more accurate identification of genetic material.





### CUNY Queens College STEM Academy: Sarah

Zaidi (left) holds a fish tank containing zebrafish in Dr. Nathalia Holtzman's lab at CUNY. Sarah was so inspired by her work with Holtzman that she has continued her study of zebrafish at Stony Brook. Holtzman studies the pattern of organ formation in zebrafish. STEM Academy-at nine CUNY colleges-recruits high school students interested in science who do not have strong science programs at their public schools.