SCHOOL OF SCIENCE LECTURE

“John F. Kennedy and the Race to the Moon”

Dr. John Logsdon, Professor Emeritus, George Washington University, will present a lecture based on his award-winning 2010 book “John F. Kennedy and the Race to the Moon” on Thursday, February 28, 4:00 pm in the CBIS Auditorium. Dr. Logsdon will review the factors that led President John F. Kennedy, on May 25, 1961, to set a national goal of sending Americans to the Moon “before this decade is out.”

He will explore JFK’s actions and second thoughts following that Cold War decision during the remaining thirty months of his presidency. Dr. Logsdon will address the question: “Was Apollo worth its costs and risks?” He will also relate the experience and evaluation of Apollo to current controversies regarding the character of future U.S. space efforts. A reception will follow the lecture. Please plan to join us!

FACULTY NEWS and NOTES

Laurie Leshin - Tuesday, January 22, 2013"Curiosity on Mars: Roving the Red Planet"

Laurie Leshin, Dean of the School of Science, presented a lecture in the Dudley Skywatch Series giving the latest from Mars as Curiosity roves the red planet seeking to understand Mars’ habitability. Curiosity
survived "7 minutes of terror" to successfully land within Gale Crater on Mars on August 5, 2012. With a highly diverse science payload of cameras, spectrometers and a chemistry laboratory, Curiosity is the most complex robotic mission ever to land on another planet. This lecture provided an insider view of the mission, the results to date, and plans for future Mars exploration with Curiosity and beyond. The lecture was very well attended with many children asking questions afterwards.

RESEARCH NEWS and NOTES

Rensselaer Science in Pictures
School of Science Research Photo Contest

The Rensselaer School of Science invites students, faculty, and alumni to participate in its Science Research Photo Contest. Submit original photos that demonstrate the innovative and leading-edge research activities currently being conducted in the School of Science. The winning photos will be hung in the Dean’s office and featured on the 2013 School of Science holiday card. The grand-prize winner will also receive an iPad mini.

Entries may be submitted to Amanda Thibault at thibaa2@rpi.edu. Photos must be 2MB or smaller, in .jpg or .png format, and at least 1600 pixels wide (if a horizontal image) or 1600 pixels tall (if a vertical image). Please include your name, RPI affiliation, and a title of the photo. A maximum of 3 entries may be submitted per person. Entries may be submitted until 5:00pm, February 28, 2013 and winners will be announced by the end of March.

STUDENT NEWS and NOTES

BH-BL student vies for ‘Junior Nobel’
Daily Gazette
Friday, February 8, 2013
By Tatiana Zarnowski (Contact)
Gazette Reporter

Samantha Scibelli, seated, has been named a finalist in the Intel Science Talent Search. The Burnt Hills-Ballston Lake senior and her teacher, Regina Reals, will get to attend the awards ceremony in March in Washington, D.C.
BURNT HILLS & BALLSTON LAKE — Scientists perusing Samantha Scibelli’s astronomy research at conferences ask her what graduate school she attends.

Giving the answer makes her smile — she’s a senior at Burnt Hills-Ballston Lake High School.

Scibelli’s research project, where she revealed issues with a public astronomy database that could hinder other astronomers’ research, has earned her a spot as an Intel Science Talent Search finalist.

The town of Ballston teen, whose parents are Anthony and Julie Scibelli, is one of 40 high school seniors in the country who are finalists for the prestigious award, which is informally called the Junior Nobel Prize.

She will travel to Washington, D.C., in March for a week of activities that culminate in her parents and teacher, Regina Reals, joining her for a ceremony where the $100,000 grand prize winner will be announced.

Each finalist is guaranteed at least $7,500 in scholarships, plus $1,000 they won as semifinalists. The finalists were chosen from among 300 semifinalists.

“It’ll be fun to meet everyone and be around so many smart kids and learn about their projects, which are really, really interesting,” Scibelli said.

Other students’ projects deal with such topics as cancer treatment and alternative energy.

She may get to meet President Barack Obama, who is scheduled to visit with the students.

The 20 female finalists each have hair and nail appointments before the big event, and the 20 male finalists are fitted for tuxedos to wear at the ceremony. They are also given professional cards to hand out that have their photo and research highlights.

“They really are treating them like kings and queens,” Reals said.

Scibelli’s project focused on the classifications of blue stars in the Sloan Digital Sky Survey, a database that keeps an electronic fingerprint of the light wavelengths of stars. She found that about 10 percent of the 12,000 stars she studied, or 1,203, were incorrectly classified as blue stars when they were really other types. She also found stars that have been seen but never classified in the database.

Stars are electronically classified based on readings that a telescope takes of their light wavelengths. A graph of that spectrum then is matched to a template in a computer.

However, sometimes the graphs don’t match up and the star is put in the wrong category, said Scibelli, who found the problems by doing database searches and comparing the individual stars’ graphs to the templates.

The project took hundreds of hours, Scibelli said.

Blue stars are brighter and burn hotter than other stars, making them easier to see. They’re unique because they burn their energy faster and die more quickly than other types of stars, and astronomers study them to learn about the galaxy.

“It’s been shown that some of the rare types of blue stars … are very helpful to astronomers that want to catalog the structure of our galaxy,” Scibelli said.

Scibelli and her adviser, Heidi Newberg, a professor at Rensselaer Polytechnic Institute, now are working on getting Scibelli’s research to the organization that runs the database. Scibelli is writing a paper detailing her findings, in the hope that changes can make the database run more smoothly and accurately for other researchers.

In Reals’ scientific research class, which has 20 students, students sign up for three years of intense scientific
study on top of their other science classes. They work with Reals and other outside mentors on developing projects.

Newberg had studied blue stars as part of a project looking at the structure of the Milky Way. She had seen problems in the classification, so she guided Scibelli to study them.

“Somebody needed to do it,” Reals said. “It took a high school kid to do it.”

Newberg and Scibelli went to California last month to present Scibelli’s research at the American Astronomical Society meeting.

She has been chosen for other honors, including being picked last summer as a NASA WISH Aerospace Scholar, a program for women in science, technology, engineering and math disciplines in high school. She also won a scholarship to the Advanced Astronomy Camp in Tucson, Ariz., in 2011.

Now she’s facing a decision this spring about colleges. Scibelli’s first choice is to attend Johns Hopkins University in Baltimore, and she’ll find out by the end of March whether she got in. She’s applied to six other schools to study astrophysics and plans to eventually get her doctorate.

**STAFF NEWS and NOTES**

**Laurie Leshin**, Dean of Science, said “Please help me welcome a new person to the Dean's office: **Amanda Thibault** comes to us from the National Research Council. She has a Masters in Atmospheric Science and experience with science policy and organizing big things! She will be helping us pull off more events, more communication and generally help us take things to the next level both within any beyond the School. When you get a request from her for help or input, please assume it's coming from me (in other words, answer it!). Welcome Amanda!”

**Amanda Thibault** joined the Dean’s Office in the School of Science on January 16th as a Project Administrator. Amanda graduated from Creighton University with a B.S. in Atmospheric Science in 2008. She continued on to earn an M.S. in Atmospheric Science from Texas Tech University in 2010 with a research background in severe local storms. Amanda served as a Research Associate at the National Academies for the Aeronautics and Space Engineering Board prior to joining Rensselaer.

*This newsletter is prepared monthly during the academic year and distributed to School of Science faculty, staff, students and alumni to highlight accomplishments and events within the school. Please submit news items for the next newsletter to Samuel Wait, Associate Dean Emeritus of Science, at waitsc@rpi.edu*