



Rowan President Dr. Ali Houshmand opens up the conference.

On a snowy Saturday, the Governor's STEM Scholars held their conference on academia at Rowan University. The conference introduced 90 of New Jersey's best and brightest high school and college students to some of the state's top STEM academics.

The day began with Dr. Ali Houshmand, president of Rowan, welcoming the scholars to campus. Commenting about how the scholars represented the best of America, he encouraged them to make the most of the day and to be diligent in their academic pursuits.

Following Houshmand's remarks, the scholars heard from a diverse



Scholars hear from a panel on academia. From left: STEM Scholars Director David Hodges, Dr. Andrea Lobo (Rowan), Dr. Kauser Jahan (Rowan), Dr. Ecevit Bilgili (NJIT), and Chris Wright (Princeton).

group of academics. The purpose of the panel was to bring down the barrier between students and teachers so

that the scholars could get a glimpse of what it is like on the other side of the lectern. The professors talked about

their own professional journeys and the challenges and opportunities of working at a research university. The panelists included Dr. Andrea Lobo and Dr. Kauser Jahan of Rowan, Dr. Ecevit Bilgili of NJIT, and Chris Wright of Princeton University. After the panel, the scholars spent much of the next hour either interacting with the professors on an individual basis or working on their research projects.

Over lunch, the scholars were treated to a keynote lecture by Dr. Kenneth Lacovara, one of the world's top paleontologists. Dr. Lacovara took the scholars on a tour-de-force presentation, linking the extinction of the dinosaurs to environmental problems that the earth is currently facing. Dr. Lacovara also showed the scholars how he was able to find the world's largest dinosaur, *Dreadnoughtus*, and how southern New Jersey contains some of the world's most complete dinosaur remains from the Cretaceous period. Following his presentation, STEM Scholars Director David Hodges announced that the program would provide copies of Dr. Lacovara's new book, "Why Dinosaurs Matter," to interested scholars.

Following the keynote, the scholars were treated to four "STEM classes." In these 30-minute sessions, the scholars got an overview of different STEM areas, participated in research experiments, and learned about the importance of seeking mentors. In Dr. Phil La Porta's (Rowan) class, he applied principles of magic to demonstrate the importance of good communication in science. In Dr. James Merritt's (Kean) class, the students learned how small molecule antagonists can neutralize aggressively malignant glioblastoma tumors. In Dr. Mary Staehle's (Rowan) class, she showed the students how to reverse-engineer a medical device. In Dr. Sagnik Basuray's (NJIT) class, he demon-



The panelists. From left: Dr. Ecevit Bilgili (NJIT), Dr. Kauser Jahan (Rowan), Dr. Andrea Lobo (Rowan), Chris Wright (Princeton), and STEM Scholars Director David Hodges.



Dr. Kauser Jahan (Rowan) talks with scholars.



At the conference's close, a scholar examines the remains of an ancient marine mammal.

strated how the emerging field of sensors can detect bioweapons and pathogens.

As the day came to a close, the scholars got a chance to see some of the fossils from Rowan's Edelman Fossil Park. Among the fossils were the remains of ancient maritime life, including sharks, crocodiles, and the massive mosasaurus.

Right: Dr. Mary Staehle (Rowan) leads scholars in reverse-engineering a medical device.

Below: Dr. Sagnik Basuray (NJIT) talks about building sensors to detect bioweapons.

Below right: Dr. James Merritt (Kean) lectures about neutralizing glioblastoma tumors.



Dr. Phil La Porta (Rowan) applies the principles of magic to communication in science.

In Other News

BASF Tour

With the help of Research & Development Council of New Jersey board member Dr. Mikhail Rodkin, a group of scholars visited BASF headquarters in Iselin. The scholars visited four separate laboratories where they learned about the important work being done in catalysis. Highlights of the day included seeing prototypes for the catalytic converter, the revolutionary tool that removes 99 percent of harmful particulate matter from the internal combustion engine, and is instrumental in creating cleaner air.

Patent Awards

Last year's group of winning STEM Scholars were honored at the 38th Annual Edison Patent Awards, New Jersey's premiere event celebrating its inventors. Led by Raritan Valley Community College student Sandeep Dhagat, this team measured how well antioxidant compounds in certain fruits endure under different conditions, which has important implications for health outcomes, including cancer.

In Conversation

The Governor's STEM Scholars was thrilled to have Dr. Marcus Weldon, president of Nokia Bell Labs, join a select group of scholars for the program's "In Conversation" series. Dr. Weldon took our students on an intellectual journey, talking about ambition, natural talent, and the future of technology. Some highlights from his talk include:

- On maximizing talent: "The thing about your special talent is it seems natural. It is not. If you do not take the time to communicate your talent to other people, you are shortchanging your talent."
- On adversity: "Every negative can be turned into a positive."
- On family life: "Genius moments don't take time. They only take a moment. Don't give up your personal time and your family for the drudgery of doing work that can wait."



A group of scholars after touring BASF in Iselin.



The 2016 winning STEM Scholars team is celebrated at the Patent Awards. From clockwise at the top: Sandeep Dhagat, Victoria Bigdelle, Sam Magda, Claire Furino, and Joyce An.



Dr. Marcus Weldon, president of Nokia Bell Labs, joins scholars for "In Conversation."



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