



Governor's STEM Scholars Present Research at Graduation



STEM Scholar Brandon Hickson talks about removing arsenic from drinking water.

On Saturday, May 6, the Governor's STEM Scholars held its graduation for the program's third class at Montclair State University. The conference was the conclusion to the year and gave a forum for the scholars to present their research.

The day began with remarks by Research & Development Council of New Jersey President Tony Cicatiello and Program Director David Hodges. Cicatiello talked about the importance of the program to the Council and the role that the scholars play in strengthening the state's STEM economy.

Following Cicatiello's remarks, the scholars began their research presentations. Over nearly two hours,



Council members and judges pose with the winning team. From L to R: Council President Tony Cicatiello, Executive Director Kim Case, Dr. Anasuya Ghosh, Dr. Rich Kram, Samantha Magda, Victoria Bigdelle, Claire Furino, Sandeep Dhagat, Joyce An, Matt Roskoski, Dr. Kamana Misra, and Director David Hodges.

fourteen teams presented the projects they worked on over the past year. The presentations ranged from studying the effects of methamphetamine on

the brain to removing arsenic from the water in developing countries.

After the presentations concluded, the scholars broke for lunch before

presenting their research on posters to the audience. Dr. Anasuya Ghosh of Novartis, Dr. Rich Kram of TE SubCom, and Dr. Kamana Misra of American Women in Science talked with each group individually and pressed them on their research, while a crowd of around 100 guests got the chance to learn more about the projects.

Clara de Soto, co-founder of Reply.AI delivered the keynote address. Named one of the Next Web's 100 Tech & Business Women Speakers, de Soto is an entrepreneur who has worked on tech start-ups and Fortune 500 companies. She focused her upbeat and engaging remarks on the unconventional path she took to success and had the audience laughing and cheering throughout her time on stage.

Prior to graduation, Hodges expressed his gratitude to the scholars for being such an involved group of students. He reiterated to them that the benefits of the program will be with them as alumni and that the program really does function as a connector for New Jersey's STEM economy.

He then announced the winning research presentation. After careful deliberation, the judges awarded Samantha Magda, Victoria Bigdelle, Claire Furino, Sandeep Dhagat, Joyce An, and Matt Roskoski. The highly innovative project was entitled "Evaluating the Effects of Boiling Duration on Antioxidant Capacity Using Briggs-Rauscher." The team succeeded in measuring how well antioxidant compounds in certain fruits endure under different conditions, which has important implications for health outcomes, including cancer. Although the judging was difficult, this project was the unanimous choice due to the team's innovation and demonstrated ability to work together. As the winners, the team will be honored at this year's Edison Patent Awards at the



A team shows the judging panel their project reducing the likelihood of SIDS.



Director David Hodges, Council Executive Director Kim Case, and Reply.AI co-founder Clara de Soto with a team that investigated STEM education best practices.



STEM Scholar Isaac Velasquez talks about his team's project.

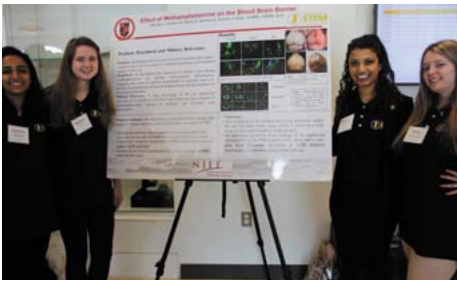
Liberty Science Center.

At the close of the day, each student graduated and received two mementos. First, the Research & Development Council produced a graduation certificate for each scholar signed by Govern-



Council President Tony Cicatiello congratulates STEM Scholar Joan Marie Tubungbanua.

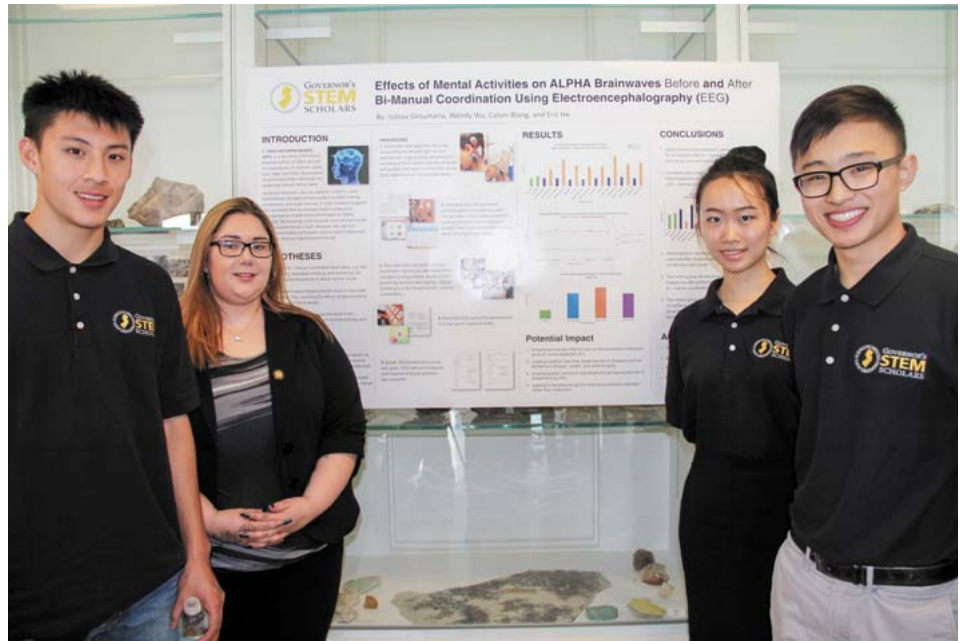
nor Chris Christie and Council President Anthony Cicatiello. Second, the scholars also received a copy of a legislative commendation sponsored by Assemblyman Andrew Zwicker that congratulated each graduate for their work.



This team measured the effects of methamphetamines on the blood brain barrier.



This team evaluated the effects of boiling duration on antioxidant capacity using Briggs-Rauscher.



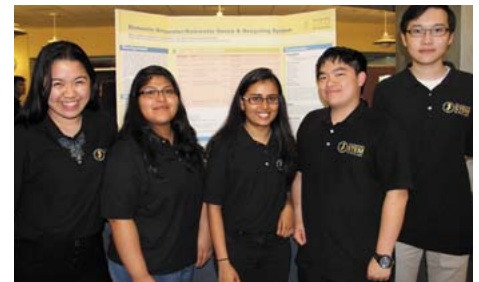
This team measured the effects of mental activities on ALPHA waves using EEG.



This team designed a baby monitor using the Arduino to monitor temperature, movement, and pulse.



This team measured bacterial resistance to a generic household cleaner.



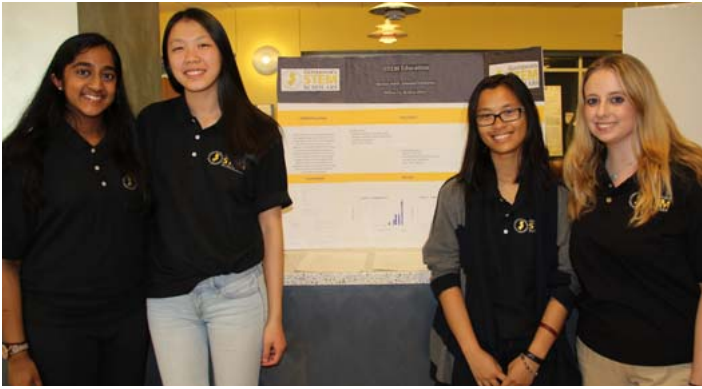
This team built a better greywater-rainwater reuse and recycling system.

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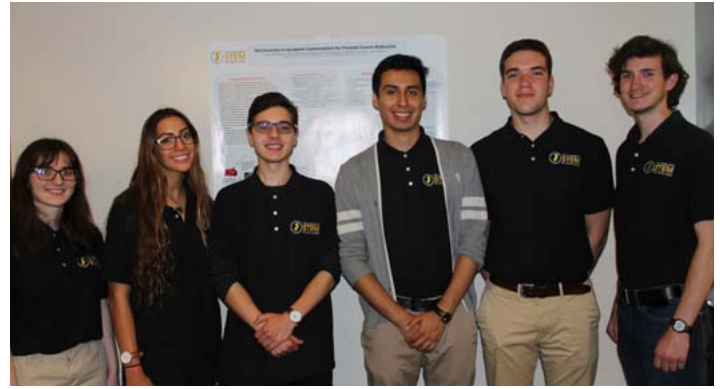


RBC Capital Markets

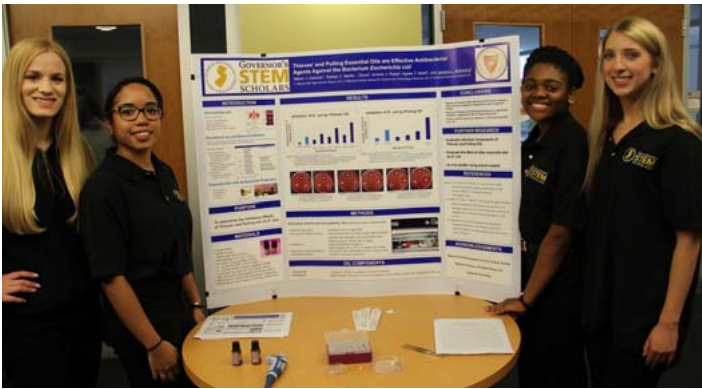




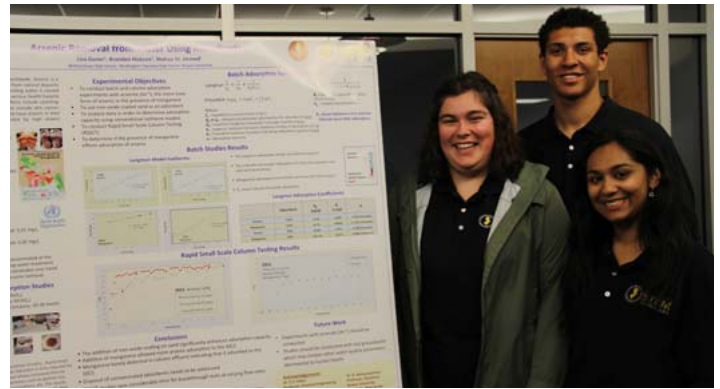
This team investigated the different ways students learn in STEM-infused classes.



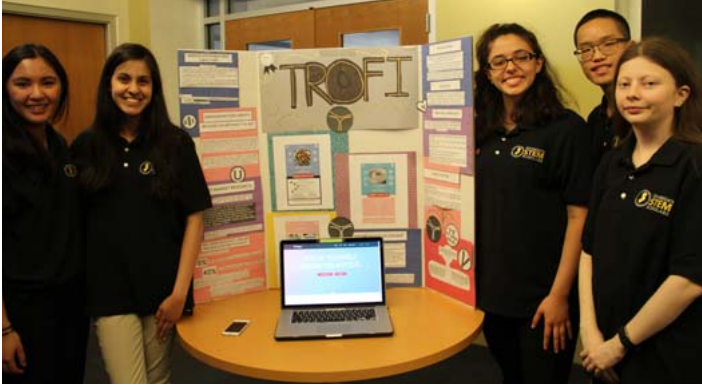
This team tested improvements and mechanisms in Lycopene Isomerization for prostate cancer reduction.



This team found that thieving and pulling essential oils are effective agents against e. coli.



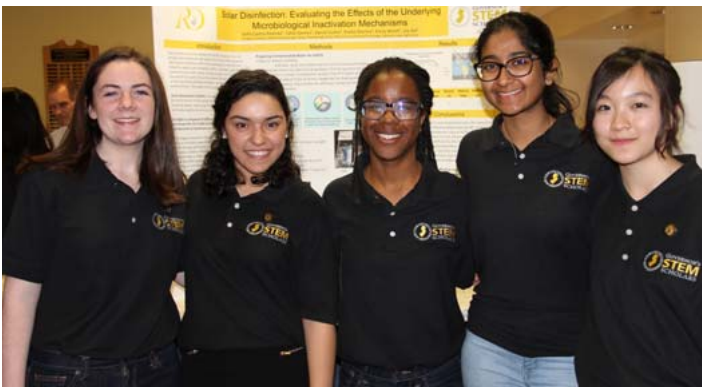
This team tested arsenic removal from contaminated water using adsorbents.



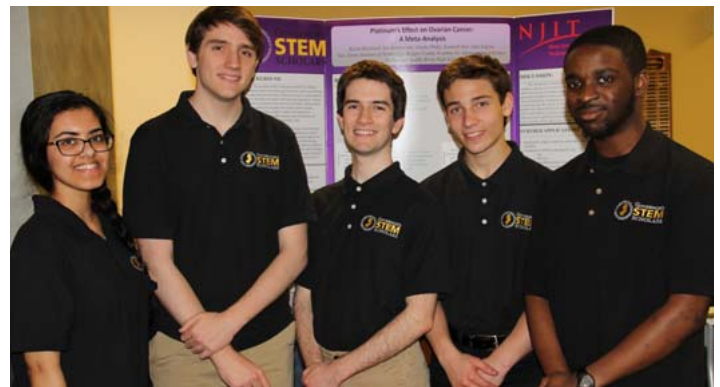
This team developed a fully-functioning mobile application to change the way we eat.



This team studied the incorporation of Buffers and pH Indicators for use in Laboratory PPE.



This team evaluated the Effects of the Underlying Microbiological Inactivation Mechanisms.



This team analyzed the efficiencies of platinum-based chemotherapies in extending survival rates.