

**KIMBERLY TE**, Manhasset Senior High School, Manhasset, N.Y.

**CHRISTINE YOO**, Manhasset Senior High School, Manhasset, N.Y.

**PROJECT:** Natural, Cost-Effective Anodes for Optimized Sediment Microbial Fuel Cells: Engineering a Novel Approach to Harvesting Energy and Cleaning Up Oil Spill Regions

**FIELD:** Engineering

**MENTORS:** Alison Huenger and Peter Guastella, Science Educators, Manhasset High School

*“The device we created helps to clean up oil pollution and create a cleaner energy source to power remote sensors.”*

Kimberly and Christine have engineered a device made of natural, sustainable materials that cleans up oil-polluted areas and uses that otherwise unusable oil to generate clean energy to be used to power remote sensors. Kimberly and Christine had previously studied the biological effects of pollution on organisms and wanted to focus their research on cleaning up pollutants, specifically oil. They devised an efficient and cost effective device that could degrade hydrocarbons, while also producing electricity.



**KIMBERLY TE**

**YEAR:** Senior

**HOMETOWN:** Manhasset, N.Y.

Kimberly Te hopes to become an environmental engineer to design solutions to our planet’s environmental challenges. She hopes to help create new green energy technologies and find ways to sustain the Earth. Kimberly currently has a patent pending for a sustainable, cost-effective microbial fuel cell (MFC) designed for energy production and oil spill remediation.

Outside of the classroom, Kimberly is a staff illustrator and reporter for the Kidsday section of *Newsday*, a New York daily regional newspaper. She is also an assistant at the Science Museum of Long Island, teaching children about STEM.

Kimberly is Editor-in-Chief of her school newspaper and plays varsity tennis.



**CHRISTINE YOO**

**YEAR:** Senior

**HOMETOWN:** Manhasset, N.Y.

Ever since she was in eighth grade and was selected to participate in the Science Research Program at her high school, Christine has been hooked on science. She hopes to become a chemical engineer, or even a professor. She was a finalist for the International Science and Engineering Fair. Christine likes that science is constantly changing because it allows us to continually learn more about how the world works.

Outside of the classroom, Christine participates in Science Olympiad. She is also president of the Breast Cancer Society fundraising group and section leader of her school's marching band. Christine plays the flute, piccolo and piano. She is also a tutor through TASSEL, a program dedicated to teaching English to Cambodian children.