Engineer's Week

STEM IN THE PAST-NOW

With Mary Jackson

By Lincoln SWE

01 MARY JACKSON

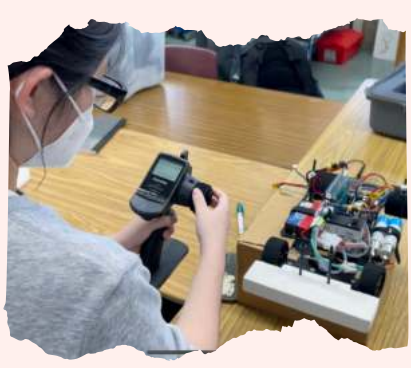
Mary Jackson was an aerospace engineer, mathematician, and NASA's first black female engineer. She joined NASA's Langley Research Center in 1951, computing mathematical calculations and working on the supersonic wind tunnel team. Mary worked in the Compressibility Research, Full-Scale Research, High-Speed Aerodynamics, and Subsonic-Transonic Aerodynamics Division. Many people questioned her calculations during her career due to the underrepresentation of colored women in STEM. Nevertheless, Mary assured her calculations were correct and proved herself accurate.

02 INSPIRATION

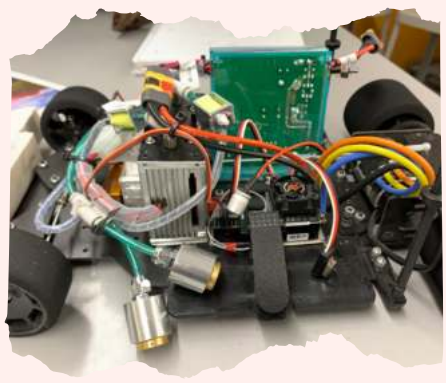
She inspired us not only to start this program because of the importance of including and encouraging women in stem but also to encourage people of color and people that are classified in minority groups/areas.

03 TECHNOLOGIES AND PROBLEMS

Problems: Ongoing emissions from aircraft and vehicles change the concentration of greenhouse gases. Soaring satellites around our planet are disrupting Earth's ozone layer, climate, and living things. Antibiotic-resistance has led to reduced cures for tuberculosis, pneumonia, and gonorrhea.



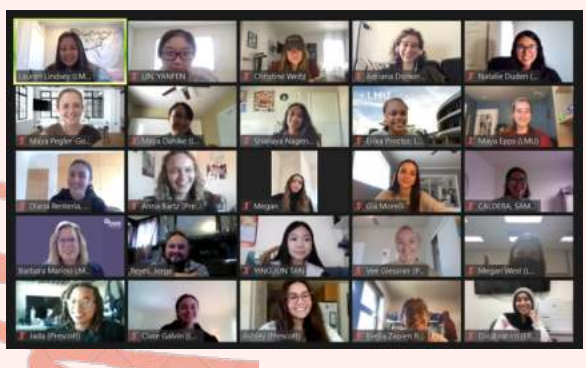
Lincoln SWE member working on hydrogen powered vehicle



Solution - Technologies: The zero-fuel aircraft aims to reduce a large amount of emissions with aviation fuels such as hydrogen. Structural Health Monitoring allows for the monitoring of systems and structures (i.e. bridges, airplanes). Nanotechnology focuses on the use of nano particles to advance therapeutic drug delivery and use of environmentally friendly hydrogen fuel cells.

04 MARY JACKSON'S SOLUTION

If Mary Jackson were here today, she would work with NASA and focus on aerospace engineering. She would take part in designing and calculating equations related to the zero-fuel aircraft. She would continue to encourage women and people of color to consider the engineering/STEM route. Our SWE members have worked on building structures and hydrogen-powered vehicles to become the next engineer to solve world problems.



05 OUR SWE LEGACY

Mission: To provide an engaging program with the necessary resources and support to break gender and racial barriers females of this generation may experience

Actions: Lead collaborations and connections with local colleges such as Cal State LA, UCI, and LMU and offered community building activities, Q&A sessions and panel discussions

Impact: Our activities have not only contributed to more girls joining our program but it has allowed members to develop passion and objectives in the STEM field. We are proud to proclaim that our SweNext program has more to offer to females of this generation from elementary schools, secondary schools, to high school students.