



Science
Societies

Inspiring Middle School Girls to Pursue STEM Careers

Society Member Teaches About the Amazing Properties of Soils

March 11, 2024



Scenes from February 2024 GEMS event at the Whitaker Center in Fort Meyers, FL where students learned about soils through various activities.

On February 24, Society member Dr. Vanaja Kankarla, Assistant Professor of Soil Science at Florida Gulf Coast University (FGCU), led an event on the topic of soil science that was designed to inspire, excite, educate, and empower budding soil scientists. The event, called GEMS (Girls in Engineering, Math, and Science), is an outreach program of FGCU that seeks to inspire middle school girls in Southwest Florida to pursue STEM careers. The Whitaker Center at FGCU facilitates hands-on, inquiry-driven activities with the help of faculty from across STEM disciplines.

During the February event, students learned how amazing soils are and how they provide various ecosystem services that support life on Earth. They took soil samples using augers, observed layers and colors in a soil profile, and enjoyed getting their hands dirty as they wetted and molded the soils for a textural classification activity. Students were thrilled to discover microorganisms, roots, plant material, and minerals as they observed their soil samples under a microscope to assess soil health. Finally, they created soil art paintings establishing an artistic connection with the soil.

“It was striking to see the transformation from initial hesitation to expressive and empowered girls,” noted Kankarla’s graduate student Madeleine Tenny, who closely assisted the program. The students seemed to have found a new connection with the soils in their natural surroundings.

The GEMS program is supported by the American Association of University Women in Lee County among others and aims to reduce the gender gap in STEM jobs, address gender stereotypes, and encourage women who have historically been excluded from STEM majors and careers. The GEMS event takes place four Saturdays per academic year, reaching a total of 400 middle school girls, 84 FGCU STEM undergraduates, and 24 middle school teachers.

“GEMS is so impactful due to the faculty and FGCU students who give their time and expertise for our middle schoolers,” said Dr. Heather Skaza Acosta, Whitaker Center Director. “When girls can see STEM professionals that reflect their own experiences, they are more likely to aspire to similar roles.”

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