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SDJA Receives Top Award At San Diego Science Fair Two Years In A Row

For the second year in a row, a San Diego Jewish Academy student has received the Sweepstakes Award at the Greater San Diego Science and Engineering Fair. The winning entries were developed in a unique program called Science Technology Engineering and Math (STEM).

San Diego, CA – March 28, 2012 – “Phenomenal,” stated Dr. Jane Willoughby after being asked how she felt about another one of her students receiving the Sweepstakes Award (highest available award) at the Greater San Diego Science and Engineering Fair. Dr. Willoughby is the director of the Science Technology Engineering and Math (STEM) program at the San Diego Jewish Academy (SDJA). In just two years, the program has produced four Sweepstakes Award winners who received invitations to the Intel International Science and Engineering Fair, which is the top high school science fair in the world.

“I am so proud of my students and this program,” continued Willoughby. “The students who entered their projects were only the third group to complete the full STEM program. Students spend two years researching their projects, often work with local scientists and focus on creating projects that allow them to compete at the highest levels. To have four students receive the Sweepstakes Award in two years is truly remarkable.”

SDJA’s Melissa Fagan, an eleventh grade student, received the Sweepstakes Award and invitations to the California State Science Fair and the Intel Science and Engineering Fair for her project *The Creation of Alginate Microparticles as a Novel Drug Delivery Vehicle*. “Silver is increasingly being used to treat chronic wounds due to antibiotic resistant infections. The challenge is that silver is rapidly converted to inactive silver, so it is used in large concentrations. At this high level, silver can become toxic and cause problems for patients,” said Fagan.

Fagan embedded silver based anti-microbials into alginate particles, which is the cell wall of brown seaweed, to release the silver in smaller sustained doses. “The sustained doses help alleviate the problem of toxicity and has the potential to save the medical industry millions of dollars,” said Fagan.

SDJA juniors Matan Kaminski and Ari Colton also went through the STEM program and their project *Development of Algae as a Biofilter for Phosphate Reclamation* received a first place award and an invitation to the California State Science Fair. Their project sought to recover and recycle phosphorous, which is becoming dangerously depleted. Phosphorus, in the form of phosphate, is used in food production and is lost in large quantities to fresh water. The two students used algae as a biofilter to reclaim phosphorous from fresh water.

In all, SDJA students were given 10 first place awards, 20 professional society awards, 10 invitations to the California State Science Fair, seven invitations to the Broadcom Masters Competition and one Sweepstakes Award and an invitation to the Intel International Science and Engineering Fair. In addition to the student awards, SDJA teacher Sarah Rines also received the San Diego County Science Teacher of the Year award for middle school teachers.

“Without the STEM program, there would be no project,” finished Fagan. “My accomplishments are 100 percent because of Dr. Willoughby and the STEM program.”

About SDJA:

San Diego Jewish Academy offers infants to high school seniors a unique environment that challenges students to achieve their full academic potential and become individuals of strong character, while inspiring them to make Judaism a vital and relevant aspect of their lives.

For more information about San Diego Jewish Academy, visit www.sdja.com.

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Photo Caption: Melissa Fagan and her mother celebrate winning the Sweepstakes Award at the Greater San Diego Science and Engineering Fair.