



tackling today's world of environmental and medical challenges

Monrovia High School Hosts MASA Science Fair



Paul Webster

Monrovia High School had a MASA (Math and Science Academy) science fair specifically for 11th graders on May 21st. Our esteemed Dr. Paul Webster was one of the judges. There were a total of 28 projects that spanned a range of interesting topics. A few representative projects are showcased here.

One project was entitled "Battery Voltage Testing" by Bryen Gracia and Aaron Bailey. These students chose 4 brands of

AA lithium batteries and compared average voltage capacity and life span. The batteries chosen were Energizer, Duracell, Sunbeam and Kodak. All the batteries are listed as 1.5V but some proved to have a bit more voltage. And then, they were tested for battery life in 2 categories, Xbox and flashlight usage. While Duracell and Kodak were the clear winners for voltage and life span, Sunbeam proved to be a better deal for the money since they were significantly cheaper. Sunbeam did not have the highest voltage or the longest life but were available at the 99 cent store for a much more affordable price.

Oak Crest's own Simon Webster is featured in one of the junior projects in this competition. Monrovia student, Valeria Marquez, shadowed Simon in the lab to learn about microbiology and tissue culture techniques in a lab setting. She learned about aseptic techniques, growing cells in monolayers and multi-layered transwell membranes, as well as DNA extraction on preclinical samples infected with herpes simplex virus. Valeria hopes to join the next YES (Youth Engagement through Science) program at Oak Crest and is interested in a career in the field of biology.



Simon Webster

Students Isabella Damasco and Kimberlie Nordahl conducted a project on the "Measurement of Cell Phone Electromagnetic Radiation". They compared iPhones and Androids of different models and makers to measure the amount of microwave radiation absorbed by the body. The radiation emitted by cell phones is called non-ionizing radiation; it does not damage genetic material in the body's molecules. However, if the exposure is intense enough for an extended period of time, it can cause

News & Events

2018 Summer Schedule at Oak Crest

June 21st is Rose Hills Seminar day.

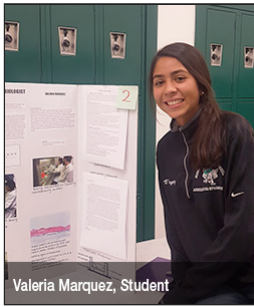
June 12: 4 YES interns join Oak Crest for Summer academy Training June 18: 9 Summer Interns, 4 PCC Upward Bound, 3 PCC NSF-ATE, 4 Citrus College SRE students join Oak Crest (20 total) June 18: Megan Amerson visits from UTMB - microscopy training (1 week) June 25: Session 1 Summer Academy begins July 9: Session 2 Summer Academy begins July 23: Session 3 Summer Academy begins August 3: Summer Academy Ends August 9: YES Internships End August 8-9: YES Internship Presentations (Monrovia Council Chambers) September 4: YES Internship Graduation.

June 23: Oak Crest has been invited to participate in the Arcadia Performing Arts Center STEAM-M program <http://www.arcadiapaf.org/steam> on Saturday June 23rd. The region's first STEAM + M Festival (STEM + Art + Music) is FREE made possible by Apple Beats and City of Arcadia. Saturday, June 23, 2018 from 5-9pm at the Arcadia Performing Arts Center outdoor courtyard. Parking is on-site and free.

MADIA Partnership



OCIS & City of Monrovia announce

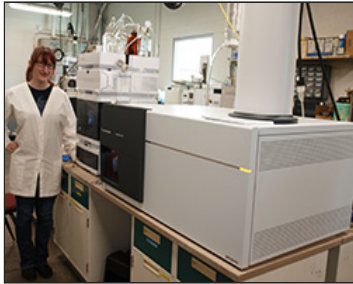


Valeria Marquez, Student

cataracts and burns. The students used an electro-magnetic frequency meter to measure the amount of microwave radiation emitted from a cell phone in texting and calling modes. By changing the distance between the cell phone and the radio frequency, they observed the change in electro-magnetic radiation with regards to distance. The final analysis proved that the radiation intensity is lessened significantly by using a hands-free option. Also, it was discovered that iPhones emit significantly more microwave

radiation than Androids.

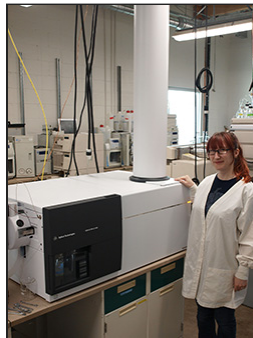
Oak Crest Acquires Agilent Q-TOF LC/MS System



Oak Crest has recently acquired an Agilent Q-TOF LC/MS system. The Q-TOF is a hybrid quadrupole time-of-flight mass spectrometer with MS/MS capability. Time-of-flight mass spectrometry (TOFMS) is a method of mass spectrometry in which an ion's mass-to-charge ratio is determined via a time-of-flight measurement. Ions are accelerated by an electric field

of known strength. A collision cell is located between the quadrupole and the TOF analyzer to induce fragmentation in MS/MS experiments. The final detector is a microchannel plate with extremely high mass accuracy.

The instrument will allow Oak Crest scientists to analyze samples for thousands of compounds. The accurate mass capabilities of the Q-TOF allow Oak Crest scientists to identify the molecular composition of unknown compounds using only the mass with a high degree of confidence. The resolving power of the Q-TOF will allow Oak Crest scientists to analyze very complex mixtures and identify compounds of very similar composition and structure, that otherwise would not be resolvable. With the accompanying software, Oak Crest scientists can therefore identify, quantify, and statistically categorize the contents of highly complex samples such as the human and microbial samples that are processed at Oak Crest with more chemical coverage in a fraction of the time it would take by traditional methods.



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partnership at the MADIA <http://www.madiatech.org> monthly meet-up on June 13.

The event was focused on Biotech Angel investment, with presentations by Dr. Molly Schmid of Tech Coast Angels and USC's Alfred E. Mann Institute (ami.usc.edu) and Dr. Robert "Bud" Bishop of Pasadena Angels and Pasadena Bio Collaborative (pasadenabio.org). The panelists explained the Angel Investor's point of view and highlighted the differences in scientific presentations and pitching a business idea.

Science & Technology Incubator Program (STIP)



This was the perfect setting for a joint announcement by Oliver Chi (Monrovia City Manager) and Chris Buser (OCIS) on our Science & Technology Incubator Program (STIP). The primary goal of STIP is to expand the science and technology ecosystem in Monrovia by outreach activities (Junior Researcher Science Academy), workforce development (OCIS internship programs) and access to high-end laboratory equipment and facilities for start-up businesses in the fields of chemistry and biology research. Incubator space at OCIS is now available for early and mid-phase start-up firms, which also includes access to OCIS expertise, technology and skilled workforce. OCIS is ideally positioned to support the ecosystem by accelerating the start-up's R&D, providing job opportunities for our trainees and growing the recognition of Monrovia as a local biotech hub.

ANNOUNCEMENTS

Arcadia Performing Arts
Center STEAM-M Program

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USA

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