



tackling today's world of environmental and medical challenges

Welcoming the New Year With New Students

We welcomed the New Year at Oak Crest with a new cohort of students, so we thought this would be a good time to introduce some of them. In this issue we feature two young Latinas training to become biomedical scientists. They attend Citrus College and when not there, you will find them in our labs at Oak Crest. Both have extensive laboratory skills and will soon transfer to their 4-year college of choice. They will introduce themselves.

Destiny (at Oak Crest for 1 year)



Destiny showing a young student how the electron microscope magnifies bacteria.

I first discovered I had a passion for research when I participated in my second internship as a Rose Hills Fellow at Oak Crest Institute of Science. The project that sparked my interest was an attempt to manipulate bacteria to produce phosphorus-containing crystals. The goal was to create a source of phosphorus using a

more natural and efficient process to reduce the amount of environmental pollution. If successful, this could potentially reverse phosphorus depletion and the amount of runoff that leads to our oceans and other bodies of water, thus providing sustainability in agriculture and preventing algal bloom formation and eutrophication.

It was during this time that I saw the potential in what this career path could provide me. I had acquired skills and knowledge that allowed me to not only help people, but our environment and the organisms that inhabit it. Much of what I aspire to do in the future, stems from what I was offered at Oak Crest. I was given the opportunity to perform actual research, work with professional scientists, and participate in events and workshops that have allowed me to teach and inspire young children within my community to become the next generation of scientists.

News & Events

Summer Internships at Oak Crest

Students from the local high schools and community colleges are invited to apply for our laboratory skills finishing school. Interested students should send a cover letter and resume to Dana Soto d.soto@oak-crest.org.

Junior Researcher Academy organized by Oak Crest and the City of Monrovia

The summer is also a time for students in grades 7 to 9 to get involved in science. Our two-week Junior Researcher Academy (JRA) is an ideal introduction to laboratory life for students curious about what it is like to be a scientist. The two-week sessions begin on July 1, July 15 and July 29. Registration begins on March 11th 2019. The JRA is organized in collaboration with the City of Monrovia.

Scholarships are available to qualified families.

For details, visit our [web page](#), or contact the Monrovia Community Center (626) 256-8246.

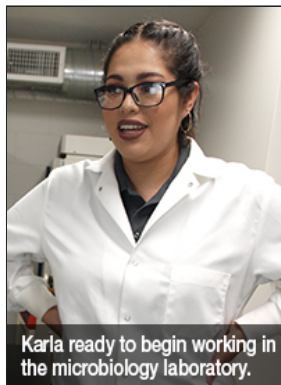
New Astrobiology Study Produces Amino Acid Under Early Earth Conditions

A team of JPL and Oak Crest researchers, supported through the NASA Astrobiology Institute by Icy Worlds, successfully reproduced in the lab a key reaction in the origin of life. The results of the [new study](#), published in the Proceedings of the

This upcoming spring will be my last semester as a community college student, and I will be graduating with my Associates Degree from Citrus College. I am a current [Jack Kent Cooke Scholarship](#) finalist and will be transferring to UC, Davis this upcoming Fall of 2019 to obtain my B.S. in Biology. Participating in undergraduate research has not only helped me grow as a scientist, but as an individual as well. I believe that the time I spent here at Oak Crest has made me a more competitive applicant and has overall prepared me for what's in store at the university level.

Karla (at Oak Crest for 2 years)

I am currently working at Oak Crest Institute of Science in the field of microbiology. I specifically work with bacteria and virus. My job involves performing experiments in order to understand the role these microorganisms play in the environment, and in the human body. This requires a lot of planning that I am responsible for. In order to have a successful experiment it is critical that I spend time reading articles, designing protocols and doing very fun math.



The Oak Crest faculty members are really great mentors and provide great support to students. They provide one-on-one training, but they also give you the opportunity to be independent and carry out your own experiments. I believe that this is very important when deciding if research is for you. There is more than one lab at the institute, which means there are many mentors who are all experts at something different. This gives you the opportunity to explore different fields like chemistry, molecular biology, microscopy, etc. These internships are great for students who want to obtain experience but also continue their education.

Closing words from Karla:

“Basic research is like solving a puzzle but with a scavenger hunt added to it. The puzzle pieces don’t all come in the box - you have to go off and find them first.”

National Academy of Sciences, offer clues to how life may have started on Earth and where else in the cosmos we might find it. The researchers recreated in the laboratory a complex mineral system that emulates hydrothermal vents on the ocean floor and found that this mixture generated significant quantities of the amino acid alanine from simple starting materials. A more detailed media release can be found on the [JPL website](#).

Barge L.M., E. Flores, M. M. Baum, D. G. VanderVelde & M. J. Russell. 2019 Redox and pH gradients drive amino acid synthesis in iron oxyhydroxide mineral systems. PNAS March 12, 2019 116 (11) 4828-4833; published ahead of print February 25, 2019
<https://doi.org/10.1073/pnas.1812098116>.

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ANNOUNCEMENTS

Innovation Through Research Symposium

The Oak Crest inaugural symposium “Innovation Through Research” will be held on June 20th at the [Los Angeles Arboretum](#) in Arcadia. This is an all-day event of student presentations, talks, and exhibits. The keynote speaker will be [Dr. Jerome Zack of UCLA](#). Check out our [web site](#) for more details

If you would like to sponsor this event, please send your donation to the Oak Crest Institute of Science, 132 W. Chestnut Ave, Monrovia, CA 91016, or contact Dana Soto at d.soto@oak-crest.org, phone (626) 817-0883. All donations are tax deductible.

