



tackling today's world of environmental and medical challenges

Oak Crest Open House . . . **You're Invited Inside a Thriving, Working Science Research Lab**



Interns at Oak Crest work side-by-side with professional scientists to solve compelling problems in environmental and medical science.

The Oak Crest Institute of Science is pleased to be participating in the inaugural citywide [CONNECT Weekend](#) hosted by Innovate Pasadena.

[Innovate Pasadena](#) is a new organization committed to advancing greater Pasadena as a center of technology and design innovation by promoting collaboration across business and education to attract companies, entrepreneurs, innovators and investment capital to operate and develop in Pasadena. The group will promote local opportunities, share

resources and foster connections between local institutions, businesses and investors.

In support of this new organization and the CONNECT Weekend, Oak Crest is opening its doors to entrepreneurs, small science start-ups, university faculty, high school and college students, as well as K-12 teachers for guided tours and presentations inside this thriving working and teaching chemistry research laboratory. The free event will be held **Friday, March 14 from 10 a.m. to 4 p.m. at 2275 E. Foothill Blvd., Pasadena, CA 91107.**

This one-of-a-kind opportunity will allow visitors an inside look at this special research facility comprised of a group of visionaries, innovators, collaborators, educators and mentors who are passionate scientists and caring researchers dedicated to making the world a better place.

Unlike most large research facilities and university labs, the professional scientists at Oak Crest have the freedom to both conduct research and mentor students in a creative and intimate environment.

News & Events

ROSE HILLS FELLOWS BEGIN LABORATORY RESEARCH

The eight interns selected to participate in environmental research program supported by The Rose Hills Foundation have now completed their safety and basic lab skills training at Oak Crest. With the foundation set, these students have moved on to the laboratory research phase of the program.

The community college students are focusing on the following areas of study: microbial ecology in extreme environments, plant extract natural products as new antimicrobial compounds and on-road emissions in the exhaust of light duty motor vehicles. They spend a total of 20 hours per week working in teams of two, or more, on various research projects assigned by senior faculty and research scientists at Oak Crest. Each student also receives individualized mentoring throughout the course of the program.

"It has been our experience that participation in rigorous, original research provides students with a realistic sense of how exciting a career in science can be," says Dr. Marc M. Baum, senior faculty. "We also hope that this program will build self-confidence while offering strong motivation for these

At Oak Crest, students engage in **real-world research**, *not textbook experiments with predetermined outcomes!* It's a place where the unknown is explored with great passion. Oak Crest's individualized approach to hands-on, in-lab education fills a unique niche: fostering an interest and participation in science research by the local community.

Find out how Oak Crest is helping shape the future while inspiring today's students with tomorrow's science through mentored research and internships that will benefit us all for generations to come!

To register for this free event, go to [Eventbrite](#).

Join us for a tour on your way to the other CONNECT Weekend events and be sure to visit the *Pasadena Bioscience Collaborative* right next door who will also be having their own Open House at the same time!

About CONNECT Weekend

CONNECT Weekend will celebrate innovation in the Greater Pasadena area by showcasing the inventors, scientists and designers that make Greater Pasadena a prime place for difference makers and disruptors. Event programming will include talks, panels, hack and code events, fast-pitch competitions, open houses and mixers. For more information, visit innovatepasadena.org/connect. Remain in the know about Innovate Pasadena by subscribing to the Innovate Pasadena e-newsletter [here](#).



Oak Crest Celebrates 15 Years Of Success and Innovation



Dr. Marc M. Baum, Oak Crest's founder, leads the festivities at the 15th Anniversary Celebration.

According to the National Center for Charitable Statistics, 1.5 million nonprofit organizations are registered in the U.S. This number includes public charities, private foundations, and other types of nonprofit organizations, including chambers of commerce, fraternal organizations and civic leagues. Of those, nearly half (some 46%) have less than three months of operating reserves in the bank leaving them vulnerable to failure.

Why is this number so important? Because it shows that it takes much more than just a good cause and

willing volunteers to enable a nonprofit to succeed.

Oak Crest Institute of Science is one of those rare finds that illustrates how a nonprofit can not only survive . . . but grow! Since its formation in 1998, Oak Crest has built upon the vision and experience of its founder, Dr. Marc Baum, and has opened its doors to faculty, staff and students who have an insatiable passion for science.

It is the dedication and perseverance of all who work, study and volunteer their time at Oak Crest that has allowed the organization to succeed. Since its early days, Oak Crest has added many new programs, expanded others and tripled the number of staff. Along with this growth, the facilities have grown to match.

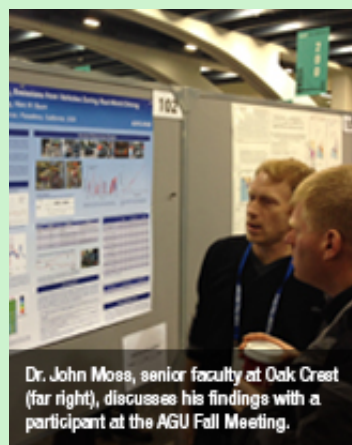
In recognition of its 15th anniversary, friends and family of Oak Crest gathered to celebrate and to share some Holiday cheer. This festive occasion took place on December 13, 2013, at the historic [Maxwell](#)

students to continue and excel in their studies."

RESEARCH, PUBLICATIONS AND SPECIAL EVENTS

Professional Development Workshop for STEM Teachers-
Jan. 25, 2014, Pasadena, CA,
"Understanding Immunology."
Coordinated by Sherry Tsai.

Air Pollution Study Results Presented at AGU Meeting



Dr. John Moss, senior faculty at Oak Crest (far right), discusses his findings with a participant at the AGU Fall Meeting.

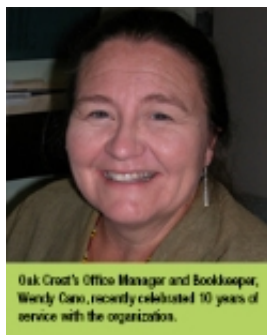
Dr. John A. Moss, senior faculty at Oak Crest, presented important new findings relating to the existence of hydrogen cyanide (HCN), ammonia (NH₃), and methylamine in vehicle emissions and their impact on air pollution at the Fall Meeting of the American Geophysical Union (AGU). This prestigious event, held December 9-13, 2013 in San Francisco, CA, attracts some of the top atmospheric scientists from around the world. This year, more than 22,000 earth and space scientists, educators, students, and other leaders attended.

Dr. Moss' poster presentation entitled "On-board Measurement of HCN and NH₃ Emissions from Vehicles During Real-World Driving," focused on research conducted in Southern California by the Oak Crest team of Dr. Moss and Dr. Marc M. Baum, president and senior faculty at Oak Crest.

"This research is significant in a number of ways," explained Dr. Moss. "We developed a suite of custom instruments and exhaust collection devices that are placed

House in Pasadena, CA. The event was a huge success starting with the mellow ambiance created by the beautiful venue and the smooth jazz of [Jim Jedeikin](#) and his quartet. [Sweet & Savory Bakery](#) catered the exquisite, seemingly never-ending food. Together with an open bar, the party was sustained until closing at around 10 p.m.

The open layout of the 1929 Mediterranean Italianate style Maxwell House allowed guests, including Oak Crest staff, students, Board Members, collaborators as well as friends and family, to mingle and catch up. At one point, [Dr. Marc Baum](#), Oak Crest's president, interrupted the jazz to deliver a short welcome speech. In his salute to 15 years of growth by the Institute, he also acknowledged a key member of the team, [Wendy Cano](#), Oak Crest bookkeeper and administrator extraordinaire, for 10 years of dedicated service. An emotional and surprisingly concise Wendy then said, "It has been nothing short of 'a passion' to work with Oak Crest and I can only hope it continues in perpetuity!"



The future of Oak Crest seems bright as the organization continues to conduct groundbreaking environmental and biomedical research; gains recognition within the scientific community, and nurtures the next generation of scientists through its programs and internships.

Here's to many more years!

Oak Crest Welcomes NEW BOARD MEMBER



National Park Service Executive, Charles Thomas, Jr., joins the Oak Crest Board of Directors.

Charles Thomas, Jr., is Pacific West Regional Manager of Youth Programs for the National Park Service. He is responsible for establishing strategic youth engagement initiatives in six western states and 59 National Parks and managing \$4,000,000 in congressionally appointed funds to support youth outreach programs throughout the Pacific West Region.

Charles is a man with a long history of firsts in promoting diversity and inclusion in the outdoor world. In the early eighties, he was the first

person of color in the history of Southern Oregon University to graduate with dual degrees in Physical Geography and Environmental Studies. While at the university, he fought tirelessly with the administration to diversify its student body. Ultimately, the administration created the Minority Student Program, for which Charles became the chief recruiter. Also while at the university Charles created the Third World Union, a club for American minorities and students of color from around the world to share their common culture and experiences. During his college years Charles approached the U.S. Forest Service and assisted in the design of a program that recruited African-American students into seasonal employment positions in the Gifford Pinchot National Forest in the state of Washington.

In graduate school Charles worked as a naturalist for the Los Angeles County Outdoor Schools where he wrote the section of the staff handbook on "how to work with ethnically diverse students." Later as an ecologist for the U.S. Army Corps of Engineers, he was honored by

in a car to measure pollutants while driving a 30 minute route. This allowed us to obtain emission rates of HCN, NH₃, and methylamine during real-world driving. We measured for the first time an emission rate for methylamine and showed that it correlated strongly with the NH₃ emission, indicating they are both most likely formed by a similar mechanism in the emission control system of modern cars," he added.

"We also obtained temporally resolved data from a tunable diode laser absorption spectrometer designed and built at Oak Crest that demonstrated HCN emissions occur predominately during specific modes of driving. This research is continuing with efforts to improve the sensitivity of the HCN spectrometer, and to develop methods for measuring methylamine and other amine compounds at low-levels in air in preparation for a roadside measurement of several thousand vehicles planned for early summer," added Dr. Moss.

Supporting Research

Oak Crest is a young, growing, dynamic organization with a highly personal touch. Because of this, your donation can have a significantly larger impact on a single researcher's or student's work at Oak Crest than at a larger institution.

As one of our philanthropic partners, you will be playing a crucial role in helping Oak Crest to fulfill its mission of benefiting humanity by conducting cutting edge scientific research and by fostering tomorrow's scientists, one student at a time.

Your financial generosity helps us to maintain the highest standards of research and education, and directly provides advanced research equipment, supplies, salaries, scholarships, and stipends to our teams of faculty and students so that they can continue working to solve the environmental and medical challenges affecting our global community.

the Federal Equal Employment Opportunities Commission for designing a program that introduced urban youth of color to the environmental work of the Army Corps.

Following his work at the Army Corps of Engineers, Charles became the City of Pasadena's first Environmental Affairs Coordinator, managing the largest environmental restoration project in the history of the city. Charles holds the distinction of being the principal author of the City of Pasadena's Environmental Charter, a document that is used today to guide the city's development and environmental initiatives.

Throughout his life his work has revolved around Outward Bound Adventures (OBA), where he worked seasonally and part-time for nearly 20 years, and worked full-time as Executive Director for 16 years. During that time he created several award-winning programs dedicated to enriching the lives of underserved urban populations, especially high-risk youth and their families, by introducing them to the therapeutic value of spending time in wild places and open spaces including our National Parks. Over the years Charles has received numerous awards and recognition for his work- he has been a White House invitee, honored by his Congressman, honored by the State Senate, County Board of Supervisors, Board of Education, City Council and honored by numerous Community Base Organizations. His favorite award so far has been the National Mosaic Conference Award given him in 2000, because it was given by a jury of his peers and the populations he serves.

Charles continues his tireless efforts to ensure all youth have access and opportunity to engage in meaningful nature based programs through his consulting work and his position with the National Park Service. Currently he is working on a book that will assist others in designing relevant youth programs that connect urban youth to nature.

Oak Crest's approach has clear, tangible benefits to society and to the individual students we serve. You'll feel immense personal satisfaction when you support Oak Crest because the Institute has a proven track record in conducting both applied and fundamental research in the environmental and medical sciences. The Institute also invests a significant amount of time and resources in training and encouraging the world's future scientists, not only at the undergraduate and post-graduate levels, but also at the high school and community college levels. Students who might not otherwise have the opportunity to conduct research are presented with life-changing opportunities at Oak Crest.

Oak Crest is a 501(c)(3) nonprofit organization, and most donations are fully tax deductible. There are many ways to support Oak Crest. Please call 626-817-0883 or contact us by email at giving@oak-crest.org for more information. Thank you for your generosity.

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ANNOUNCEMENTS

PREMIERE OF NEW VIDEOS

After months of planning and anticipation the new Oak Crest videos are now live on our website. The videos offer an inside look at the history of the organization, the philosophy of its founder, Dr. Marc Baum, and the application of high level chemistry research in the fields of environmental and biomedical research.

"We're especially proud of these videos because they tell the Oak Crest story in a way that is understandable and meaningful to those who are outside the scientific field," says Dr. Baum. "Oak Crest is a valued community resource and through these videos we hope to spread the word about our cutting-edge research and the exciting world of science."

[Click here](#), sit back, and enjoy our new videos!