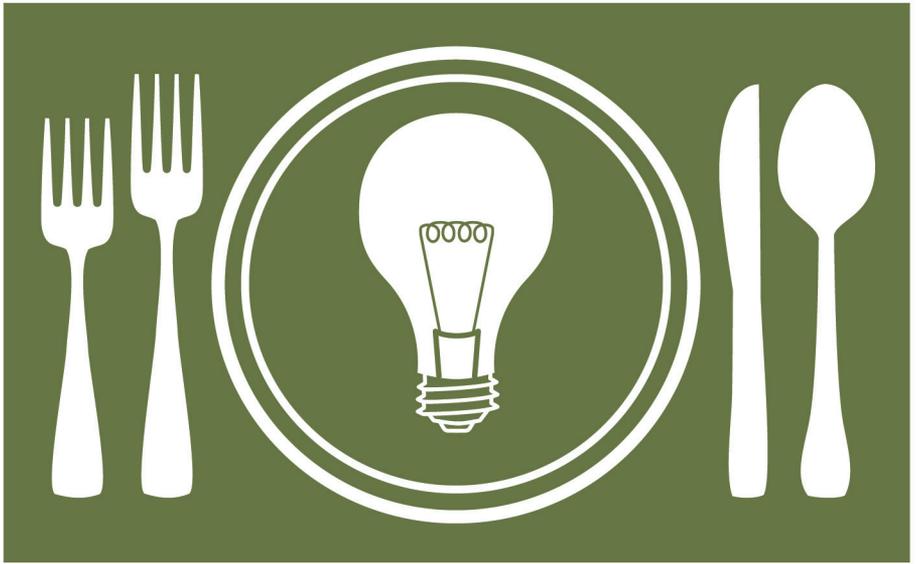

Oakland Unified School District



DINNER with a SCIENTIST

April 26, 2017, 5-8 pm

Welcome to Oakland Unified School District's ninth annual Dinner with a Scientist! We are proud to collaborate with Chevron Corporation, S. D. Bechtel, Jr. Foundation, Chabot Space & Science Center, and many other science organizations in the Bay Area to offer an evening of science exploration and conversation. Science teaching and learning occurs daily in our schools, but seldom do we have the opportunity to connect scientific concepts with the real work of scientists. Tonight is that rare opportunity to converge education with the local scientific community.

I want to especially thank all the scientists, volunteers, and teachers who made this event possible. The field of science is ever changing as evidenced by the diverse group of scientists in attendance. Whether you are a student interested in science, a science teacher, or a scientist working to improve our understanding of the world around us, my hope is that you broaden your perspective through this evening's activities.

Thom Reinhardt
Science Director, OUSD

On behalf of the Chabot Space and Science Center, we would like to thank the Oakland Unified School District for organizing this inspiring and exciting event. We are honored to be a part of an evening that brings together teachers, students, and scientists who are interested and passionate about science. Among us are current and future leaders of the scientific community.

Whether you are aspiring to become a biologist, astronomer, engineer, or just curious about this amazing universe in which we live, we invite you to use the Chabot Space & Science Center to learn more about our world and create solutions to challenging problems. We hope this evening will help fuel new ideas for learning and bring about career opportunities that many youth have never explored or thought about. Thank you for being curious explorers of our world. Have a wonderful evening!

Adam Tobin
Executive Director, Chabot Space & Science Center

Program

- 4:00 Visit Chabot (optional)
- 5:00 Registration & Science Activities
- 5:25 Welcome & Ice Breaker
- Thom Reinhardt*
Science Director, Science Department, OUSD
- Caleb Cheung*
Director of Education, Chabot Space & Science Center
- Melissa Stone*
Global Social Investment Advisor, Chevron Corporation
- 5:50 Dinner & Conversation with Scientist #1
- 6:20 Keynote
- Jeff Kirschner*
Founder & CEO, Litterati
- 6:45 Dinner & Conversation with Scientist #2
- 7:15 Raffle
- 7:25 Dessert & Conversation with Scientist #3
- 7:55 Appreciations & Conclusion
-

Menu

- Turbulent 530 nm Salad with Various Suspensions & Emulsions
Triticum Globules with Lipid Spread
Malus domestica Extract
- Dihydrogen Monoxide in Two States with Citrus Accents
Sodium Chloride & *Piper nigrum*
Steamed Random Plant Parts
Oryza sativa Seeds & Plant Material
- Grilled *Gallus gallus* with *Allium cepa* & Fungus
- Herbaceous Durum Forms with *Solanum lycopersicum* Sauce
- Heat-Treated Cacao Carbohydrate Solids with Ripened Plant Ovaries
Random Quotes in a Warped Surface

Scientist Biographies

Jeff Kirschner

Table 3

Founder & CEO, Litterati

When his 4-year old daughter saw a plastic tub of cat litter in the woods, little did Jeff Kirschner realize that it would be the spark for creating Litterati - a global movement that's "crowdsource-cleaning" the planet one piece of litter at a time. Featured in National Geographic, Time Magazine, Fast Company, and USA Today, Litterati has become a shining example of how communities are using technology to solve our world's most complex problems. Jeff has shared the Litterati story at Fortune 500 companies such as Google, Facebook, and Uber, keynoted environmental summits at the Monterey Bay Aquarium & Smithsonian, and universities including Stanford, MIT, and the University of Michigan. Jeff was recently a TED Resident where Litterati developed into an "idea worth spreading."

Alexandre Tiriac

Table 16, 18, 17

Researcher, UC Berkeley

atiriac@berkeley.edu

I am a trained chemist who ended up as a neuroscientist because I am fascinated with how the brain develops. For my thesis work, I studied how the limb twitches we make during sleep are processed by the developing brain. Now, I am studying how the neurons in the eyes prepare themselves for the day they first see light in animal's life.

Bob Bianchini

Table 7, 9, 8

VP Research & Innovation,
Rodan + Fields

rbianchini@rodanandfields.com

I have been a Scientist and Research Investigator for over 30 years. I have worked for several large multinational companies mainly in skincare and pharmaceuticals. I have a Ph.D. in Chemistry and degrees in Biology and Chemistry. I also conducted post graduate research in materials science. I have lectured globally on the importance of hygiene and nutrition for optimum health and wellness.

Claudia Munoz

Table 3, 2, 1

Naturalist, East Bay Regional Park District

cmunoz@ebparks.org

Most people don't know what Naturalists do and neither did I growing up in the East Bay. If you have ever been to a park like Tilden, Crab Cove, or Coyote Hills and had someone take you on a hike or talked to you about the plants and animals then you have met a Naturalist. I have always loved science, so I studied Biology at UC Santa Barbara. Today, I continue to love teaching science outdoors.

Danielle Boikanyo

Table 8, 7, 9

Engineering Lead, Chevron Corporation daniboikanyo@chevron.com

I was raised in Oakland. In high school, I decided to pursue a field of study that would somehow involve math and science. I earned bachelor's degrees in Chemistry and Chemical Engineering from Spelman College and Georgia Tech respectively. I went back to school, and have recently earned my MBA from Pepperdine University as well. I work as a Process Engineering Team Lead at the Chevron Richmond Refinery, where every day is a new adventure.

Deanna Quon

Table 2, 1, 3

Research Analyst, Chevron Corporation

deannaquon@chevron.com

I am a research analyst at Chevron and I analyze products using a high powered X-Ray instrument. I received my K-12 education from Oakland public schools, a double bachelor degree in genetics and molecular cellular biology from UC Berkeley, and a MBA from Saint Mary's College of California. AP chemistry sparked my interest in science because it was the hardest class I had ever taken, and for someone that is used to getting A's and B's, a C was devastating, and I was not going to quit until I got an A or a B. The lab experiments was where I really got to connect what I learned in lecture to what I was doing in lab and I was fascinated with what was taking place in front of me. In my spare time I do indoor rock climbing, bike riding, and volunteering at various STEM events.

Dimitri Smirnoff

Table 19, 21, 20

Researcher,

California Academy of Sciences

dsmirnoff@calacademy.org

I am a student researcher at the California Academy of Sciences focusing on the diversity of nudibranch sea slugs. My passion lies in understanding how the natural world works and sharing these wonders with others, from students to professional to the public at large. My career focus is the topic of Biomimicry – a problem solving methodology that seeks inspiration from nature for sustainable and innovative design. What can a mussel teach us about adhering under water? Or a plant about capturing sunlight to gather energy? Or spider silk about making materials stronger than steel? These are questions that biomimics – biologists, engineers, architects, designers, business people – ask of nature every day. When not practicing biomimicry, you will find me enjoying the outdoors with a camera in hand, cooking with friends, or partner dancing late into the night.

Francisco Lopez-Linares
Team leader , Chevron Corporation

Table 5, 4, 6
Flhu@chevron.com

I was a very curious kid that wanted to know how the human body worked. I wanted to be a medical doctor until I discovered chemistry during my high school. Then, I became more interest on how elements combine to make molecules and how these molecules can be transformed into others. I did my undergraduate in chemistry, isolating very useful compounds from Venezuelan Amazonian trees and preparing compounds that could control eye pressure. I decided to move to the petroleum field on my Ph.D., researching how to make cleaner fuels, understanding different petroleum constitution to help to select the best processes for gasoline and diesel production. I have been working in this field for more than 20 years. I'm always learning how important chemistry is in our lives.

Gian Garriga
Professor, UC Berkeley

Table 1, 3, 2
garriga@berkeley.edu

I went to graduate school after working several years in an unrelated area. For the first time in my life, I could not wait to get to work. I had found my passion. After studying gene expression as a graduate student, I switched fields as a postdoctoral fellow to study how animals develop a nervous system. My students and I continue to study nervous system development in my lab at Cal.

Hubert Chan
Scientist, The Clorox Company

Table 14, 13, 15
hubert.chan@clorox.com

I'm a San Francisco native who graduated with a chemical engineering degree at UC Berkeley before completing my PhD at UC Irvine. Even when I was a kid, I've always wanted to walk down a supermarket aisle and think "Hey, I made that!" My education in science and engineering makes that possible, and I think it's great fun to develop products to help people enjoy everyday life a little more!

Jillian Holloway
Project Manager, Chevron Corporation

Table 18, 17, 16
jillianholloway@chevron.com

When I was a kid, I loved playing with K'NEX and doing puzzles, so I became an engineer! I earned my degree in Environmental Engineering at Penn State and moved to California to work for Chevron. Now, I am a Project Manager working on environmental cleanup projects (soil, air and water). I am also pursuing a Master's degree in Business Administration part-time at UC Davis and like to go hiking and backpacking on the weekends.

Julia DeMarines

Table 6, 5, 4

Science Instructor; Research Scientist,
Chabot Space & Science Center

Julia.demarines@gmail.com

I am a Science Instructor at the Chabot Space & Science Center as well as a researcher for the Blue Marble Space Institute of Science, a virtual non-profit research institute. My research has been primarily in the field of Astrobiology (the study of life in the Universe) focusing on biosignature (signs of life, like oxygen coming from plants) detection methods. I am also an avid science communicator, and I am always doing my best to share cutting-edge science to the public and with my peers. When I was six, I was first inspired to study Astronomy by having astronomy lessons in our school's little planetarium. I followed that passion to high school and then college, where I studied Astronomy, Math, and Geology at the University of Colorado. Since then, I have worked on Astrobiology research at the Denver Museum of Nature & Science, sailed on two research expeditions on ships, and even toured with an Astrobiology funk band.

Karthik Kashinath

Table 9, 8, 7

Scientist, Lawrence Berkeley National Laboratory

kkashinath@lbl.gov

My training is in aerospace engineering and rocket science. After introspection about the motivation and long-term satisfaction of my work, and it's impact on the environment and humanity, I decided to switch to environmental sciences. Today I work as a climate scientist. I build models to understand how extreme weather and climate events are changing in a warming world, and how we can best inform policy-makers and planners of water and energy systems on how to prepare for climate change, especially extreme events such as drought, floods, heat waves etc. I love science because it keeps me curious & innovative. I find the challenges exciting and even thrilling. I also find it to be deeply satisfying because I'm helping understand how nature works and finding ways to make use of that information for the well-being of human-kind and the environment.

Kelly Markello

Table 13, 15, 14

Researcher, California Academy of Sciences kmarkello@calacademy.org

I am a researcher at the California Academy of Sciences, where I study feather stars, a marine invertebrate related to starfish. I became fascinated by feather stars while SCUBA diving on a research expedition in the Philippines. Using a scanning electron microscope, I study the different types of tiny claws on feather stars' arms to identify new species. Locating areas with a high diversity of species pinpoints which reefs to protect as marine sanctuaries.

Michael Martin

Table 12, 11, 10

Senior Staff Scientist,

Lawrence Berkeley National Laboratory

mcmartin@lbl.gov

I received his Ph.D. in Physics in 1995 from Stony Brook University in New York. I then worked at Brookhaven National Laboratory and the University of California, Berkeley. I joined the scientific staff at the Advanced Light Source, Lawrence Berkeley National Laboratory in 1997 and continued research activities there as Scientific Support Group Deputy Leader and Senior Staff Scientist leading the synchrotron infrared programs. I develop new techniques to do spectroscopy and imaging with infrared light and makes these available to scientists from all over the world to come to Berkeley and use my beamlines for their cutting edge science.

Monica Lin

Table 4, 6, 5

Graduate Student, UC San Francisco

monica.lin@berkeley.edu

I was first introduced to science through events like this! I remember extracting DNA from strawberries in an afterschool science program, and catching and observing tadpoles in the neighborhood creek. Now that I'm a graduate student studying Bioengineering, I work on building medical devices with engineers and doctors to solve clinical problems. The best part is knowing that you can improve or save someone's life.

Sarah Bell-West

Table 17, 16, 18

Healthcare Product Manager,
The Clorox Company

sarah.bellwest@clorox.com

I am always excited about science related to human health. For my PhD, I studied chemistry and biology at UC Berkeley where I studied ion channels, the proteins involved in transmitting electrical signals in living organisms. I wanted to develop new solutions for real-life problems, so I decided to work in industry. I'm currently a scientist at Clorox where I work on the marketing team and partner with hospitals to provide solutions to keep healthcare environments clean and free of disease-causing pathogens.

Scott West

Table 11, 10, 12

Research Engineer, Chevron Corporation

sp.west@gmail.com

Creating new molecules and materials to solve challenging problems is why I enjoy being a chemist. I studied chemical engineering at Tufts and then organic chemistry for my PhD at UC Berkeley. My career has focused on chemical process development which involves developing chemistry on lab-scale (under 1 gallon) and implementing it in commercial reactors (300 gallon reactors or larger). I enjoy using chemistry and chemical engineering to transform an initial idea of a new chemical or material into a commercial product.

Sowmya Ravikumar

Table 21, 20, 19

Clinician Scientist, UC Berkeley

I am an optometrist by training. I started doing research on how well the eye focuses an image. This work was done for my thesis at Indiana University. I have since worked on how well the two eyes work together. I am working on how eyes develop near-sightedness and what happens to the structure and vision when eyes grow out of proportion.

Stanley Cheng

Table 15, 14, 13

I&E Engineer, Chevron Corporation

stanleycheng@chevron.com

I graduated from USC with a degree in Electrical Engineering - Electric Power in 2016. I'm now an Instrumentation and Electrical Engineer at Chevron. I got into the STEM field when I started learning how things worked by taking things apart. I further developed my interest when I volunteered at Chabot Space & Science Center explaining different science topics/experiments to younger children. Teaching helped me learn more and the intricate details only strengthened my interest!

Stefanie Garcia

Table 24, 25, 22

Graduate Student, UC Berkeley

stefanievgarcia@berkeley.edu

I am an Electrical Engineer at UC Berkeley, and I work on tiny silicon devices that go inside the body to detect radiation for cancer applications. My undergraduate degree was in physics/biophysics. I have a lot of experience working with radiation for health applications, and doing mathematics for both semiconductor device physics and medical physics. In high school, physics became really interesting to me because it is a mathematical way that humans describe the observable universe and the world that we live in. I really enjoy travel, hiking, backpacking, and astronomy, and I think that all of my outdoor activities really sparked my overall interest in science, especially interdisciplinary science.

Teresa Eaton

Table 25, 22, 23

Postdoctoral Fellow,

Lawrence Berkeley National Laboratory

teaton@lbl.gov

The goal of my research has been to explore the properties of radioactive elements for applications in storage, separations and recycling. I recently completed a PhD at Florida State University in inorganic chemistry, my work included synthesizing new crystal types, learning how their atoms are arranged, and studying their chemical properties. Currently I am studying the behavior of radioactive elements in the gas-phase. Becoming a scientist allows you to use your knowledge and curiosity to make the world a better place.

Timothy Falla

Table 10, 12, 11

VP Research & Development,

Rodan + Fields

tfalla@rodanandfields.com

I am VP of R&D at Rodan + Fields. For 25 years I have worked in the discovery and development of prescription and OTC drugs and skincare products. I have a degree in Applied Biology from the University of Wales and a PhD in Molecular Epidemiology from Oxford University. I did post-doctoral research at the University of Leeds and the University of British Columbia. I get to develop products that people use and that help them everyday.

Tuan Tran

Graduate Student, UC San Francisco

Table 22, 23, 24

tuantran@berkeley.edu

I am a Bioengineering student at UC Berkeley-UCSF where I get to make discoveries every day by making my own instruments to analyze millions of biological reactions at a time. My love and curiosity for science started when I was young. I remember asking my dad to take me to the local library where I checked out numerous books on solar cells. In high school, I built a furnace in my backyard to melt metal so I could make my own radio-controlled racecar. Now, my studies continue that journey of curiosity and learning.

Winnie LieuBiofuels Project Manager,
Chevron Corporation

Table 20, 19, 21

winnie.lieu@chevron.com

I am a chemical engineer. I graduated with B.Sc/M.Eng from the University of Alberta (Canada) and a MBA from Cornell University. At Chevron, my team and I are working on new technologies to produce biofuels. I love engineering because it is truly a mix of science, technology and business. I believe that people and technology are the key to innovation and ingenuity that will drive our society forward. As an engineer, I get to work with lots of different people, apply different sciences, solve different types of problems, build technologies and even grow businesses that will change the world. I'm always

Yaya Zhu

Chemist, Chevron Corporation

Table 23, 24, 25

I am a Research Chemist at Chevron Energy Technology Company in Richmond. This is my 10th year working at Chevron. I graduated from SF State with bachelor's degrees in both chemistry and marketing. Then I went back to graduate school at Cal State East Bay to study chemistry after working for 5 years. I do mainly analytical work on different kinds of materials (not just oil or gasoline), troubleshooting instruments, and help engineers solve problems. I have always enjoyed solving puzzles and this quality has helped me learn science ever since I was a kid.

Participating Schools

*Bret Harte MS, Castlemont HS, Dewey Academy,
Edna Brewer MS, Fremont HS, Frick MS, Greenleaf,
Madison Park Academy, Melrose Leadership Academy, Oakland HS,
Oakland International HS, Oakland Technical HS, Roosevelt MS,
Roots International Academy, Skyline HS, Street Academy,
United for Success, Westlake MS*

Acknowledgements

Chabot Space & Science Center

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Karen Fong, Kimberly Moody, Lisa Hoover, Meg Martin, Sam Bell
(Facilities, Donations, Registration, Setup, & Activities)*

Keynote Scientist

Jeff Kirschner

Volunteer Scientists

*Alexandre Tiriac, Bob Bianchini, Claudia Munoz, Danielle Boikanyo,
Deanna Quon, Dimitri Smirnoff, Francisco Lopez-Linares, Gian Garriga,
Hubert Chan, Jillian Holloway, Julia DeMarines, Karthik Kashinath,
Kelly Markello, Michael Martin, Monica Lin, Sarah Bell-West, Scott West,
Sowmya Ravikumar, Stanley Cheng, Stefanie Garcia, Teresa Eaton,
Timothy Falla, Tuan Tran, Winnie Lieu, Yaya Zhu*

Oakland Unified School District

*Thom Reinhardt, Beth Keer, Brenda Tuohy, Claudio Vargas,
David Avery, James Narvaez, Laura Prival, Ricky Logan,
Sarah Pipping, Sonnie Dae*

Other

*Joshua Tworig, UC Berkeley (Setup)
Lauren Hernele (Photography)
Espresso Gourmet (Catering)*

Photos from tonight's event will be available at
<http://science.ousd.org>