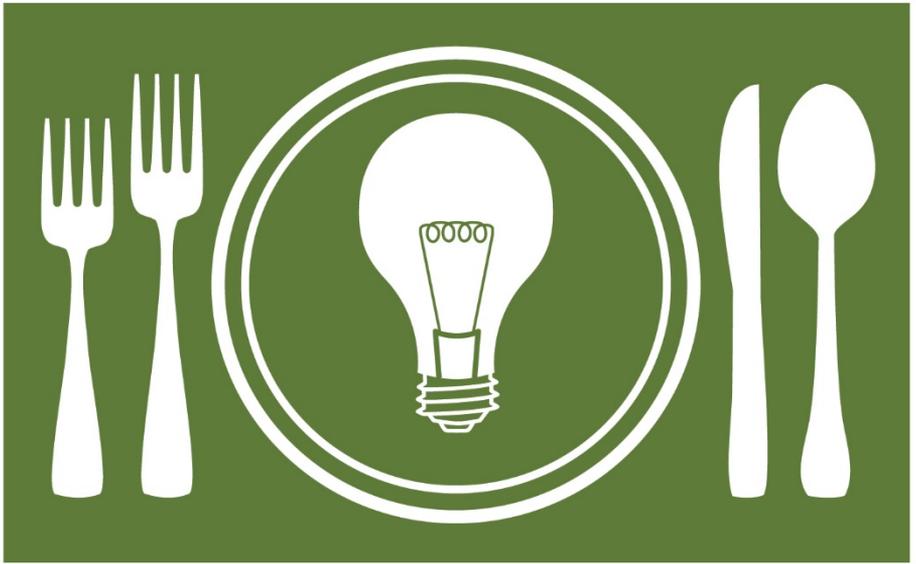

Oakland Unified School District



DINNER with
a **SCIENTIST**

April 27, 2016, 5-8 pm

Welcome to Oakland Unified School District's eighth annual Dinner with a Scientist! We are proud to collaborate with Chevron Corporation, Oakland Zoo, S. D. Bechtel, Jr. Foundation, 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.

Caleb Cheung
Science Manager, OUSD

On behalf of the Oakland Zoo, we would like to thank the Oakland Unified School district for organizing this inspiring, exciting event. We are honored to be a part of an evening that brings together teachers, students, and scientists who are interested and energized about science. Among us are current and future leaders of the scientific community. Also among us are the tireless, extraordinary mentors, the ones that have brought all of us to where we are now - teachers.

Whether you are aspiring to become a biologist, chemist, veterinarian, green engineer, or simply a nature lover, we invite you to explore the Oakland Zoo and be inspired by our animals, research, programs, and plans for the future. 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 passionate about science and have a wonderful evening.

Dr. Joel Parrott
Executive Director, Oakland Zoo

Program

- 2:00 Visit Zoo (optional)
- 5:00 Registration & Live Animal Encounters
- 5:25 Welcome & Ice Breaker
- Caleb Cheung*
Science Manager, OUSD
- Katie Garchar*
Program Director for Teen Volunteers and Secondary School Outreach, Oakland Zoo
- Melissa Stone*
Global Social Investment Advisor, Chevron Corporation
- 5:50 Dinner & Conversation with Scientist #1
- 6:20 Keynote
- Vanessa Tolosa*
Chemical Engineer
Lawrence Livermore National Laboratory
- 6:45 Dinner & Conversation with Scientist #2
- 7:15 Raffle
- 7:20 Dessert & Conversation with Scientist #3
- 7:50 Appreciations and Conclusion
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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

Vanessa Tolosa

Keynote

Chemical Engineer,

Lawrence Livermore National Laboratory

tolosa1@llnl.gov

I received my degrees in Chemical Engineering from the University of Florida and UCLA. Now I get to make probes that get implanted into brains! Sometimes the probes become medical devices that improve quality of life, and sometimes they become tools used to help us understand how the brain works. Thanks to Science, every day I get to do something exciting and new!

Ari Martinez

Tables 13, 14, 15

Tropical Ecologist,

San Francisco State University

arimartinez043@gmail.com

I am a Tropical Ecologist. At my field site in the Amazon rainforest, I evaluate how different bird species use vocal signals from other bird species and how this might explain why different species associate with one another. I have always loved being outdoors ever since I first explored the Sierra Nevada mountains as a teenager. Throughout my years in college, I worked as an assistant to university scientists and this allowed me to explore all kinds of places. A lot of those folks were really important mentors who made me realize that exploring not only meant going to new places and seeing new things: they taught me that a major part of exploration is the discovery of new processes about organisms that you are already familiar with!!

Deanna Quon

Tables 5, 6, 4

Research Analyst,

Chevron Corporation

deannaquon@chevron.com

I graduated from Oakland public schools and then studied at UC Berkeley. There, I earned two bachelor degrees: one in genetics and a second in molecular cellular biology. At Chevron, I work as a Research Analyst. It is my job to analyze products using a high powered X-Ray instrument. Last year, I graduated with a Master's degree in Business Administration from Saint Mary's College of California. In my spare time I enjoy indoor rock climbing, bike riding, and volunteering at various STEM events.

Francisco Lopez-Linares

Tables 2, 3, 1

PhD Senior Chemist,
Chevron Corporation

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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.

Fred Schlachter

Tables 15, 13, 14

Scientist, American Physical Society,
Lawrence Berkeley National Laboratory

fsschlachter@gmail.com

I am a physicist, working with atoms, lasers, particle accelerators, and fun large tools. I have always been interested in how things work. Now I have understand how things work at all size levels down to atoms. I was good in math and made my own mechanical and electrical toys and radios when I was a kid. I just kept studying math and science. Finally, I realized that experimental physics was what I wanted to do for my career. I always loved it. Now, I am mostly interested in the future of transportation.

Hubert Chan

Tables 8, 9, 7

Scientist, Clorox Company

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!

Ina Reichel

Tables 6, 4, 5

Senior Scientific Engineering Associate,
Lawrence Berkeley National Laboratory

IReichel@lbl.gov

I'm a physicist from Germany. I specialize in particle accelerators. Those are large machines that are used for a variety research projects with particles smaller than an atom. They are really fascinating and I get to work with scientists from all over the world.

Jillian Holloway

Environmental Project Manager,
Chevron Corporation

Tables 22, 19, 20

jillianholloway@chevron.com

I am a Project Manager working for Chevron on remediation projects related to soil and groundwater cleanup. After I earned my degree in Environmental Engineering at Penn State, I moved to California to work for Chevron. I work on projects all over California and help to clean up gas stations that used to have leaking underground storage tanks. I am currently pursuing a Master's degree in Business Administration part-time at UC Davis and like to go hiking and backpacking on the weekends.

Julie Yu

Senior Scientist, Exploratorium

Tables 3, 1, 2

jyu@exploratorium.edu

I am naturally curious and found the perfect blend of science, education, and play at the Exploratorium, a science museum in San Francisco. My PhD is in chemical engineering, and my graduate research involved modifying viruses, using genes as medicine, and performing rat brain surgeries. Now I work with teachers to develop the best way to share science with their students. I love to cook and think of the kitchen as a laboratory where you're allowed to eat.

Ke Xu

Assistant Professor, UC Berkeley

Tables 21, 22, 19

kuk@berkeley.edu

I'm a chemistry professor at UC-Berkeley. We work at the interface between chemistry, biology, and physics: biophysical chemistry! Basically, we are using the tools from physics (lasers and optics) and chemistry (dyes and labeling methods) to study the wonderful world of biology, with a focus on subcellular structures in cells at the nanometer-scale. Science is fun: state-of-the-art equipment is our toy, and the nature is our playground!

Kimberly La Pierre

Postdoctoral Fellow, UC Berkeley

Tables 20, 21, 22

kimberly.lapierre@berkeley.edu

Looking around the beautiful hills of the Bay Area, where I grew up, I always loved seeing plants of all types. But what are these plants? Many are invasive species that are bad for farmers, ranchers, and people who just want to enjoy nature. My job as a scientist at UC Berkeley is to understand where these plants come from, what allows them to invade our landscape, and how to prevent them in the future.

Laura Verduzco

Senior Planning Engineer, Chevron Corporation

Tables 17, 18, 16

laurav@chevron.com

I graduated with a BS in Chemical Engineering from the National Autonomous University of Mexico (UNAM) in 1998 and attained my doctoral degree in Environmental and Energy Management from The George Washington University in 2006. I started my career at Chevron in 2007 as a Carbon Management Advisor in Corporate HES. In that role, I was involved in a number of projects related to greenhouse gas emissions mitigation and carbon markets. I moved on to the Energy Technology Company in 2010 where I have been working on low carbon energy technologies.

Misha Leong

Postdoctoral Researcher,

California Academy of Sciences

Tables 1, 2, 3

MLEong@calacademy.org

Insects (and their arthropod cousins) are everywhere! Growing up right here in Oakland, I enjoyed looking for roly pollies under stepping stones, tempting ants with treats on the schoolyard, and observing spiders build their webs from my front porch. I became even more excited about them through classes in college (I went to UCLA, San Francisco State University, and UC Berkeley), field excursions (including trips to the Sierra Nevada, Mexico, Mojave Desert, Costa Rica, and Cameroon), and learning from many other people who are also excited about these little animals. Now, I am studying the arthropod community that lives with us (inside our homes!) as a postdoctoral researcher at the California Academy of Sciences. Over the next two years, my team and I will explore the diversity of homes on all 7 continents to better understand how insects and humans coexist around the globe.

Nicolas Pégard

Postdoctoral Scholar, UC Berkeley

Tables 18, 16, 17

npegard@berkeley.edu

I grew up in France and I came to the USA to earn a Ph.D. at UC Berkeley. I am an expert in optics and I build new types of microscopes, not just to get a picture of small things, but specifically to study how the brain works. I also use computer programming to extract and process very large amounts of data. My experiments are currently tested on mice, but might one day help us understand the human brain and find new cures for brain-related injuries and diseases.

Sarah Bell-West

Healthcare Product Manager,
Clorox Company

Tables 16, 17, 18

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 with hospitals to provide solutions to keep these environments clean and free of disease-causing pathogens.

Scott Mobley

Regulatory Scientist, Clorox Company

Tables 19, 20, 21

scott.mobley@clorox.com

A love of science can open up a limitless number of opportunities in life. For me, it was an early appreciation of nature that fueled my interest in biology, but it was a high school teacher that inspired me to make science a career. I ended up getting a Ph.D. in Pharmacology & Toxicology. Many people who earn this degree go to work for pharmaceutical companies, but I chose a different path. My career has been mostly with companies that make products used in every household, every day (e.g., household cleaners, foods, pet care products, etc.). My job is to work with a team of scientific and regulatory professionals to make sure that these types of products are safe and compliant with the law. Growing up I never even knew that this type of science job even existed. Because I was interested in science and stuck with it, I was able to "power through" and find a career that is interesting with new challenges every day.

Scott West

Research Engineer, Chevron Corporation

Tables 11, 12, 10

sp.west@gmail.com

Creating and developing new molecules and materials to solve challenging problems is why I enjoy being a chemist/chemical engineer. I studied chemical engineering at Tufts and then organic chemistry for my PhD at UC Berkeley. My career has focused on chemical process development of agrochemicals and surfactants which involves developing chemistry on lab-scale (under 1 gallon) and implementing it in commercial reactors (500 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.

Scott Young

Tables 9, 7, 8

Energy Researcher,

Lawrence Berkeley National Laboratory

sjyoung@lbl.gov

I am an Energy Researcher, focusing on the energy efficiency of refrigerators and other household appliances. Previously, I worked on technology for growing food and treating brain disorders. I went into engineering and science because I like solving problems and learning how things work.

Sheila McCormick

Tables 7, 8, 9

Professor, UC Berkeley

sheilamc@berkeley.edu

I am from Illinois and received my Ph.D. in Plant Genetics from the University of Missouri. I have worked in two biotech companies and am now a professor at UC-Berkeley and a researcher at the USDA/ARS Plant Gene Expression Center in Albany. My lab works on plant reproduction. We are specifically interested in pollen tube growth. I teach graduate students how to be scientists (e.g. how to design experiments and how to write about their findings). I have had more than 200 undergraduates work in my lab. For many years I have been a judge and on the interview team for the Bay Area Science Fair.

Tomer Langberg

Tables 10, 11, 12

Neuroscience PhD Student, UC Berkeley

tomer.langberg@berkeley.edu

I am a student at UC Berkeley studying neuroscience, specifically sensory perception. Neurons "talk" to each other with electricity, and I use electrodes to "listen" to them as rodents feel objects with their whiskers. How do we perceive what is around us? I find brains fascinating because they recreate our environment, the true and illusory. We really don't know how our brains process and accomplish such a magnificent feat.

Tyler Troy

Tables 12, 10, 11

Postdoctoral Fellow,

Lawrence Berkeley National Laboratory

tylertroy@gmail.com

I grew up in Australia and came to the US to study at UC Berkeley. Now, I that I have finished my PhD, I am a post-doctoral researcher at the Lawrence Berkeley National Laboratory's Advanced Light Source. During my doctoral studies, I was a Physical Chemistry major who focused on solving a long standing astrophysical problem relating to identifying exotic space molecules such as long sticks of carbon and radical hydrocarbons. Today, I use synchrotron and laser radiation to probe fundamental chemistry related to hydrocarbon combustion. I have long been fascinated by science especially since it has always challenged my expectations and assumptions about reality.

Yaya Zhu

Chemist, Chevron Corporation

Tables 14, 15, 13

yayazhu@chevron.com

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.

Zixiang Zhang

PhD Student,

UC Berkeley, Museum of Paleontology

Tables 4, 5, 6

zixiangz@berkeley.edu

I am a second year PhD student studying evolution and paleontology at UC Berkeley. I grew up in New York City and always dreamed of exploring the vast American West. I came to California to study geology as an undergraduate, and through exposures to natural history and scenery of the West, developed an interest in the fossil record. I want to understand the evolution of animal skeletons, and tell stories about how the shape of living animals came to be. In the meantime, I write poetry, grow cacti and succulents, and disappear into the wilderness as often as I can!

Notes

Participating Schools

Bret Harte MS, Edna Brewer MS,
Elmhurst Community Prep, Fremont High, Fremont HS,
Greenleaf, La Escuelita, Life Academy, Madison Park Academy,
McClymonds HS, Melrose Leadership Academy,
Oakland Technical HS, Roosevelt MS,
Roots International Academy, Skyline HS,
Street Academy, United For Success, Urban Promise Academy,
West Oakland MS, Westlake MS

Acknowledgements

Chevron Corporation

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Oakland Zoo

Bo De Long-Cotty and the Education Department
(Facilities, Donations, Planning, & Activities)

Keynote Scientist

Vanessa Tolosa

Volunteer Scientists

*Ari Martinez, Deanna Quon, Francisco Lopez-Linares,
Fred Schlachter, Hubert Chan, Ina Reichel, Jillian Holloway, Julie Yu,
Ke Xu, Kimberly La Pierre, Laura Verduzco, Misha Leong, Nicolas Pégard,
Sarah Bell-West, Scott Mobley, Scott West, Scott Young, Sheila McCormick,
Tomer Langberg, Tyler Troy, Yaya Zhu, Zixiang Zhang,*

Oakland Unified School District

*Brenda Tuohy, Caleb Cheung,
Christine Chen, Herberta Zulueta, James Narvaez,
Ricky Logan, Sarah Pipping, Thom Reinhardt*

Other

Espresso Gourmet (Catering)
Lauren Hermele (Photography)

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