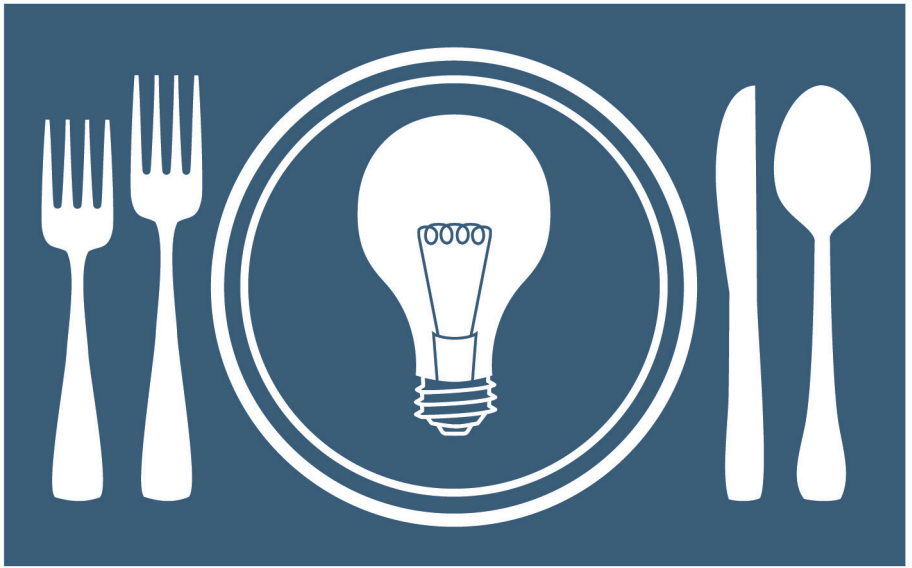

Oakland Unified School District



DINNER with
a **SCIENTIST**

April 25, 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
Brenda Tuohy
Elementary Science Coordinator
Science Department, OUSD
Adam Tobin
Executive Director
Chabot Space & Science Center
- 5:50 Dinner & Conversation with Scientist #1
- 6:20 Keynote
Vernard R. Lewis
Cooperative Extension Specialist & Faculty,
UC Berkeley
- 6:45 Dinner & Conversation with Scientist #2
- 7:15 Raffle
- 7:25 Dessert & Conversation with Scientist #3
- 7:55 Appreciations & Conclusion
-

Menu

Random Leaves & Solutions
Wheat, Yeast, & Garlic Mixture
Extract of Newton's Favorite Fruit
Dihydrogen Monoxide in Two States with Citrus Accents
Sodium Chloride & Piper nigrum
Steamed Random Plant Parts
Grass Seeds & Random Plant Parts
Grilled Poultry with Fungus & Roots
Herbivore Option: Plant Pasta with Marinara Sauce
Heat-Treated Cacao Carbohydrate Solids with Ripened Plant Ovaries
Random Quotes in a Warped Surface

Scientist Biographies

Vernard R. Lewis

Table 3

Cooperative Extension Specialist & Faculty,
UC Berkeley

urbanpests@berkeley.edu

I am a Cooperative Extension Specialist and faculty in the Department of Environmental Sciences, Policy and Management at UC Berkeley where I also received my B.S., M.S. and Ph.D. degrees in Entomology. I joined the Berkeley faculty in 1990 and specialize in Urban Entomology. I have authored and co-authored more than 150 publications and given hundreds of lectures and presentations. I also have two structural pest control licenses for the State of California. My current research interests involve developing methods of detection and nonchemical control for termites and bed bugs. My research, extension, and activities at diversifying and increasing underrepresented groups in Entomology are featured at <http://cnr.berkeley.edu/upmc/>. Lastly, was inducted into the Pest Control of Fame in 2016.

Alec Christian

Table 26, 25, 27

Graduate Student Researcher,
UC Berkeley

alec.christian@berkeley.edu

I went to college at Wake Forest University and now attend UC-Berkeley for my Ph.D. in organic chemistry. I grew up wanting to be a medical doctor, but once I went to college, I realized that I loved chemistry and wanted to pursue it for my career. I love how chemistry allows you to identify and solve problems as well as see the world in a completely different way!

Audrey Ford

Table 27, 26, 25

PhD Student, UC Berkeley

audrey.ford@berkeley.edu

I use mechanical engineering, creative design, and problem solving to address problems in medicine. As a PhD student at UC Berkeley, I study how hip and knee implants break. Previously, I worked as an engineer designing artificial blood vessels. When I was in high school, I really liked biology but thought engineering was only about building bridges. I want to make sure that other students learn about all the cool opportunities in engineering.

Audrey Nelson

Table 23, 22, 24

Chemical Engineer, Chevron Corporation audrey.nelson@chevron.com

I work as an engineer making the fuels that make your car, truck and planes go! I've always enjoyed solving puzzles, building things with my hands, and figuring out how things work. Engineering lets me do all of these things on a much bigger scale. I love learning and am always a student! I earned my Bachelor's degree in Chemical Engineering at Colorado School of Mines and now I'm taking classes at night to earn my Masters degree in Business Administration (MBA) at UC Berkeley.

Barbara Ekerdt

Table 2, 1, 3

Scientist, The Clorox Company barbara.ekerdt@clorox.com

I have always been fascinated by the wonders of science in our daily lives, from modern medicine to the design of consumer products. I was constantly trying to learn more about how things worked and how I could make them even better. This brought me to Chemical Engineering for my BS and PhD. I now work at Clorox developing new products to improve people's everyday lives and help prevent them from getting sick in hospitals.

Benjamin Horst

Table 10, 12, 11

Graduate Student, UC Berkeley bghorst@berkeley.edu

I am a third-year biochemistry graduate student at UC Berkeley. I always wanted to know the nitty-gritty details of how a human body worked. There are millions of chemical reactions your body does every minute to keep you alive! I study a chemical reaction that regulates blood pressure which uses a special gas as a start signal. I love science because I get to discover new things about the world around me, which is fun!

Christopher Emerling

Table 15, 14, 13

Zoologist,
Museum of Vertebrate Zoology caemerling@berkeley.edu

I use DNA to understand what makes animals different from each other. I have loved animals since I was a very young, and I always wanted to learn how each animal excels at their particular way of life. While a student at the University of California, Santa Barbara, I had my first scientific research experience. I loved how science was like doing detective work: putting together clues to answer a question. I've never looked back!

Eva Nichols

Graduate Student, UC Berkeley

Table 20, 19, 21

eva.nichols@berkeley.edu

I am a PhD student at UC Berkeley in the chemistry department. I work on transforming carbon dioxide, a gas in our atmosphere that contributes to global warming, into useful chemicals like fuels or even medicines! I enjoy being a chemist because I get to create substances that no one has ever made before and I get to work with my hands every day--it's actually a lot like cooking!

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.

James Valenti-Jordan

Food Engineer, Hampton Creek

Table 9, 8, 7

jvalenti-jordan@hamptoncreek.com

I am a Food Engineer with Hampton Creek, which is a startup food company. I've worked at General Mills, Campbell Soup, and Del Monte previously. I studied engineering (applied math) and food science (applied biology and chemistry) in school because I really like eating my lab experiments. As a food engineer, I take new food products from the kitchen and figure out how to make them thousands at a time using really big equipment.

Jenna Franke

Chemistry PhD Student, UC Berkeley

Table 17, 16, 18

jfranke@berkeley.edu

I grew up in the Chicago area, was a chemistry major at Northwestern University, and now I'm in the Chemistry PhD program at UC Berkeley! I love chemistry because it gives me the opportunity to be very hands-on, stirring chemicals together to make beautiful colored molecules. Chemistry also involves a lot of creativity and problem-solving, figuring out how to best make a molecule or what kind of molecule to design to fix a problem. My lab creates molecules that blink when neurons fire if you put them in the brain, so they help us see how neurons communicate and how activity of the neurons changes in diseases like Alzheimer's, epilepsy or Parkinson's.

Jessica Almeida

Table 6, 5, 4

Certified Latent Print Examiner II,

Oakland Police Department Criminalistics

jalmeida@oaklandnet.com

I specialize in observing the tiny minutiae present on the friction ridge skin of our hands and feet. Latent (invisible) prints are chance impressions we may or may not leave behind when we touch a surface. This area of work encompasses many sciences including biology, embryology, anatomy, anthropology, and genetics to name a few. In my job, I testify in court as an expert in this science for mostly criminal cases.

Julie Rorrer

Table 14, 13, 15

PhD Candidate, UC Berkeley

jrorrer@berkeley.edu

I am a 3rd year chemical engineering PhD student at the University of California, Berkeley. I grew up in Oregon, where natural beauty is everywhere. I decided to study chemical engineering because I have always had a passion for protecting the beautiful world we live in. The goal of my research is to find ways to turn agricultural waste, like corn husks and dead plants, into clean and renewable fuels.

Lucy Chang

Table 4, 6, 5

Graduate Student, UC Berkeley

luchang@berkeley.edu

I am a graduate student at UC Berkeley studying how ocean-dwelling animals were affected by environmental change millions of years ago. In college, I studied earth science and visited places like the Bahamas and Nevada desert to learn about the fossils found there. I've always loved mysteries, and fossils provide major clues that help us better understand why life looks the way it does today and what will happen to it as environments change in the future.

Madeleine Jensen

Table 13, 15, 14

Graduate Student, UC Berkeley

mkjensen@berkeley.edu

I have always wanted to understand how our bodies work. How are our cells organized to make our organs? What do structures look like inside those cells? How does a single molecule inside a cell do its job? I started doing scientific research to find answers to these questions and am now a graduate student studying how the proteins in your cells are made.

Mark Lescroart

Postdoc, UC Berkeley

Table 16, 18, 17

mark.lescroart@gmail.com

I study how our brains allow us to see objects in the world around us. I scan people's brains while they watch movies, and then try to figure out why their brains respond the way they do. I've been interested in science all my life, and after years of trying to figure the world out, I got my PhD from USC in 2011. I've been working in Jack Gallant's lab at UC Berkeley since.

Matthew FillingimResearch Physicist, UC Berkeley, Space Sciences
Laboratory

Table 24, 23, 22

matt@ssl.berkeley.edu

I am a research physicist at the Space Sciences Laboratory at UC Berkeley where I study the upper atmosphere and space around Earth, Moon, and Mars. I try to understand the information that comes back from satellites. I have always been fascinated by other planets. I can remember seeing pictures from the surface of Mars taken by Viking and pictures from Voyager as it flew by planets never seen up close before and thinking, "I want to know more about those places." I also like to tell people about the neat things we've found.

Midori Greenwood-Goodwin

Scientist, BioTime

Table 7, 9, 8

midorigg@gmail.com

I received my degrees in Chemical Engineering from Northwestern University (near Chicago) and Bioengineering from Stanford University. I've always been interested in asking questions about how our minds and bodies work and now I get to work in stem cell research to find ways to make them work better. Thanks to my background in engineering I get to build new tools and do biology research in order to help people lead happier, healthier lives!

Morgan Shirley

Table 5, 4, 6

Research Chemist,

Chevron Corporation

morgan.shirley@chevron.com

I had wanted to be a lawyer my whole life until I was exposed to all the possibilities and ways that science impacts our lives. My excitement for problem solving and learning about the world and how things are made caused me to pursue science. I decided to become a chemist in college after pursuing many different sciences doing archaeology in Alaska, meteorology in Kansas, biochemistry in Taiwan, and marine biology in Bonaire. I then continued to get my PhD in organic chemistry where I learned to make drugs and pharmaceutical compounds, and also worked with Pantene making shampoo additives. Now I work with making lubricants for Chevron here in California. Science has literally taken me on a journey through the world and can for you as well!

Nicole Fannin

Table 8, 7, 9

Process Engineer,

Chevron Corporation

NicoleFannin@chevron.com

I am a Process Engineer working for Chevron at the Richmond Refinery. I graduated with a BS in Chemical Engineering and a BA in Economics from the University of Rochester in 2015. Before my senior year of college I completed a summer internship with Chevron, which resulted in my full time employment. In my current role I work on monitoring, troubleshooting and optimization of processing units. I have the opportunity to work closely with Operations, Maintenance, other Engineers and Subject Matter Experts. In my free time I like to rock climb, hike, and volunteer. I am also involved with the local SWE chapter.

Padraic Shafer

Table 3, 2, 1

X-ray Scientist,

Lawrence Berkeley National Laboratory

pshafer@lbl.gov

I am a research scientist at the Advanced Light Source, an ultra-bright x-ray source in Berkeley that researchers from around the world visit to investigate the chemical and magnetic properties of new materials. My job allows me to discover interesting physics, build new tools for x-ray science, and I also get to work with many brilliant people on a daily basis.

Rebecca Coutant

Table 21, 20, 19

Latent Print Examiner,

Oakland Police Department Criminalistics

rcoutant@oaklandnet.com

I graduated from Syracuse University in New York with a degree in Chemistry and a minor in Forensic Science. I always knew I wanted to help solve crime, and really enjoyed my science classes! Forensics seemed like the perfect solution. I work at the Oakland Police Department, where I receive fingerprints lifted from crime scenes and it is my job to find out who left them there. Every case is like a little puzzle that I get to figure out, and I really enjoy knowing that my work helps keep the streets safer.

Riva Bruenn

Table 19, 21, 20

Graduate Student, UC Berkeley

rivabruenn@gmail.com

Even though my best class was always literature, science was my favorite because it constantly surprised me. I kept choosing science classes in high school and college because I always had more questions. I never thought I would be a scientist, but every time I thought about not taking any more science classes I felt so disappointed. Even in 21st grade, I am still constantly surprised!

Sheila McCormick

Table 22, 24, 23

Adjunct Professor Emeritus,

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.

Sowmya Ravikumar

Table 12, 11, 10

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.

Stacey Sargent Frederick

Table 18, 17, 16

Fire Social Scientist and Outreach,
UC Berkeleyssfrederick@berkeley.edu

I've always loved both the liberal arts and the sciences and combining these passions into a career in science outreach has been great! Growing up in Oregon with parents who were both hobby-naturalists meant that the inspiration of nature and science has always been a part of me. Today, I work on connecting scientists and people who manage our natural resources. These means writing summaries of science papers, getting scientists to make videos, and hosting field trips where people can connect.

Tianjiao Zhang

Table 25, 27, 26

PhD Student, UC Berkeley

t.zhang@berkeley.edu

I am a PhD student at UC Berkeley studying neuroscience, particularly vision and navigation. Computers are these amazing machines that can solve almost any problem. But despite all the advances we've made in computer engineering, computers don't even come close to what our brains can do at a fraction of the cost and time. So I went into neuroscience, so I can help understand how this squishy "computer" in our heads work!

Tyler Hurlburt

Table 11, 10, 12

Graduate Student, UC Berkeley

hurlburt@berkeley.edu

I am a fourth year PhD student studying physical chemistry at UC Berkeley. Before coming to California, I got my bachelor's degree in chemistry from Whitman College in Walla Walla, Washington (that is a real place!). My research focuses on sticking proteins on surfaces and then shooting them with lasers and X-rays! Growing up, I was always curious about the world around me and how everything worked; science is what allows us to figure out the answers to these questions on our own!

Participating Schools

Allendale, Bridges Academy, Community United, Esperanza, Fruitvale, Futures, Garfield, Global Family School, Hoover, International Community, Korematsu Discovery Academy, Lafayette, Manzanita Community School, Manzanita SEED, Markham, Martin Luther King Jr., Melrose, PLACE @ Prescott, REACH, Sankofa, Sequoia

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Chabot Space & Science Center

Adam Tobin, Caleb Cheung, Alejandra Frias, Dan Stanton, Eric Havel, Greg Breit, Julia DeMarines, Karen Fong, Kimberly Moody, Lisa Hoover, Meg Martin, Sam Bell (Facilities, Donations, Registration, Setup, & Activities)

Keynote Scientist

Vernard R. Lewis

Volunteer Scientists

Alec Christian, Audrey Ford, Audrey Nelson, Barbara Ekerdt, Benjamin Horst, Christopher Emerling, Eva Nichols, Gian Garriga, James Valenti-Jordan, Jenna Franke, Jessica Almeida, Julie Rorrer, Lucy Chang, Madeleine Jensen, Mark Lescroart, Matthew Fillingim, Midori Greenwood-Goodwin, Morgan Shirley, Nicole Fannin, Padraic Shafer, Rebecca Coutant, Riva Bruenn, Sheila McCormick, Sowmya Ravikumar, Stacey Sargent Frederick, Tianjiao Zhang, Tyler Hurlburt

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

Michelle Fabros, Tyler Chuck, Traci Grzymala, Community Resources for Science (Setup) Caleb Cheung (Photography) Espresso Gourmet (Catering)

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