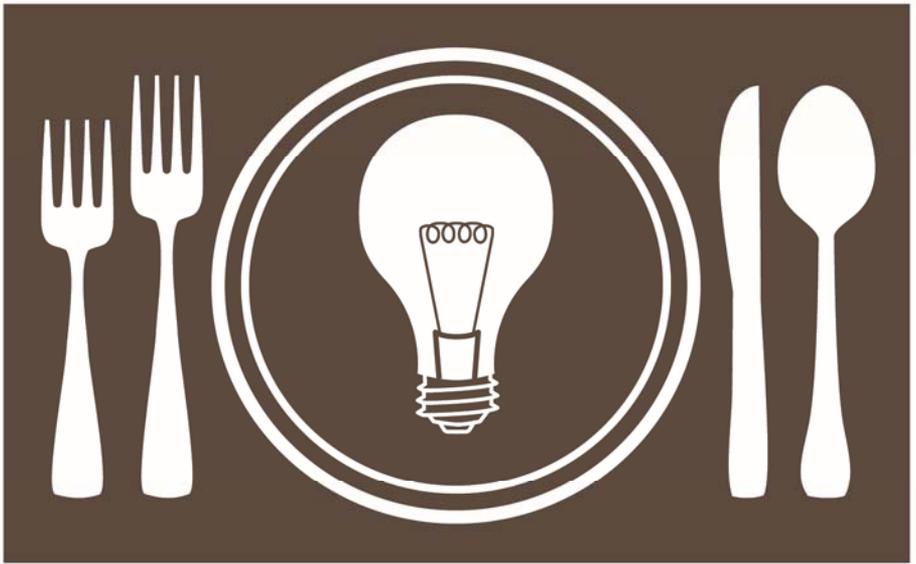

Oakland Unified School District



DINNER with
a **SCIENTIST**

May 26, 2015, 5-8 pm

Welcome to Oakland Unified School District's seventh 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
Bo De Long-Cotty
Director of Education, Oakland Zoo
- 5:50 Dinner & Conversation with Scientist #1
- 6:20 Aspiring Scientist Panel
Maricarmen Hernandez, UC Berkeley
Naylani Allen, Castlemont HS
Sandra Vivian-Calderon, Castlemont HS
Vania Baltazar, Castlemont HS
- 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

Random Leaves and Solutions
Wheat, Yeast, and 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 and Random Plant Parts
Grilled Poultry with Fungus and Roots
Herbivore Option: Plant Pasta with Marinara Sauce
Heat-Treated Cacao Carbohydrate Solids with Ripened Plant Ovaries
Wrapped Cacao with Metha or Rubus

Panelist Biographies

Maricarmen Hernandez

Undergraduate Student, UC Berkeley

Maricarmen is a junior at UC Berkeley. She grew up in South Gate, in the greater Los Angeles area with her parents and two younger sisters. She is the oldest of the three and a first generation college goer. She is involved and active in many different spaces because she truly enjoys learning. Her drive comes from her strong desire to explore the world, learn about different cultures, and see different faces. Her ultimate career goal is to become a neuroscientist.

Naylani Allen

Student, Castlemont High School

Naylani is a junior at Castlemont High School. She was born in Oakland, and grew up in Hayward. She returned to Oakland for high school in 2013. She has a single mom and two sisters. Naylani is the middle child. She is taking AP Bio this year and hopes to become a doctor. Teachers made a difference in her life.

Sandra Vivian-Calderon

Student, Castlemont High School

Sandra is a senior at Castlemont High School. She grew up in Oakland and attended Oakland public schools all her life. Sandra will be attending UC Davis this fall and will be a computer science major. She is the oldest child in her family and is the first to go to college. Sandra is interested in computer science and is fascinated by what coding can accomplish and how it can change a community.

Vania Baltazar

Student, Castlemont High School

Vania is a senior at Castlemont High School. She came with her family from Mexico when she was three years old. She is the oldest of four children and the first in her family to go to college. Her teacher, Ms. Shorall, inspired her and helped her discover her love for coding. Vania will be attending Humboldt State University in the fall and will double major in computer science and biology. She hopes to pursue a career in bioengineering.

Scientist Biographies

Charlene Betts-Ng

Assistant Professor, Mills College

Tables 15, 13, 14

cbettsng@gmail.com

I grew up near the California coast where the beach is a fascinating place to learn about new plants and animals. I am now an aquatic ecologist, and I study how rivers affect the ocean. My current research looks at how freshwater algae growing in coastal rivers drift downstream to the marine environment. I am also interested in the fate of the algae once in the estuary.

Christoph A. Maurath

Scientist, Livermore Software Technology Corp

Tables 20, 21, 22

chris@lstc.com

I am a scientist at Livermore Software Technology Corporation where I create virtual finite element models of crash test dummies which our customers use to design safer cars. As a kid I was always interested in how things worked and took many of my toys apart to see how everything looked inside. Most of the time I could put them back together again. My biggest inspiration to pursue science and technology was my dad who is also an engineer. Now, I have a Doctor of Science in Transportation Safety Engineering.

Cynthia Cudaback

Physics Teacher, Bentley

Tables 22, 19, 20

cynthia.cudaback@gmail.com

When I was just 6 or 7 years old, my father used a blowtorch to show me why blue stars are hotter than red stars. I have spent my life since then (40 years!) learning and teaching science. I got a physics degree at UC Berkeley, then sailed around the world as an officer on a research ship. Eventually, I returned to school at the University of Washington, where I met my husband, became a storyteller and got a PhD in geophysics. I like to combine my passions for science, education and storytelling.

Elad Inbar

Chief Operating Officer, RobotsLAB US Inc.

Tables 3, 1, 2

elad@robotslab.com

I am the founder and CEO of both www.RobotAppStore.com the first marketplace for apps or robots, and www.RobotsLAB.com the educational department of Robot App Store dedicated to teaching science and math using robotics platforms. I am passionate about robotics and have shared my expertise with schools, science museums, and research groups at prominent universities around the world, including teaching algebra and physics using robots. With parallel careers in academia and technology, I am able to bridge the cutting-edge robotics industry and the educational market.

Elizabeth Carlen

Graduate Student,

California Academy of Sciences

Tables 7, 8, 9

ecarlen@calacademy.org

I went into biology because I liked animals and I wanted to study them in the wild. I earned a B.S. in Biology from California Polytechnic State University, San Luis Obispo where I studied African ecology. Currently I'm working on the molecular phylogenetics of elephant-shrews, which is a fancy way of saying I sequence DNA and use the differences in the DNA to see which animals are more closely related to each other. I love being a scientist because I get answer questions that no one previously knew the answer to.

Erin Brandt

Graduate Student, UC Berkeley

Tables 5, 6, 4

eebrandt@berkeley.edu

I've always been interested in science, especially animals. I learned in school that being a scientist lets you ask interesting questions about animals, and then discover the answers yourself! I also learned that insects and spiders have some of the most interesting stories. I study spiders that sing and dance. My research takes me to beautiful desert field sites. Everyone can do science: it's all about having curiosity about your world!

Gian Garriga

Professor, UC Berkeley

Tables 19, 20, 21

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.

Heather DePaul

Associate Scientist, Amyris

Tables 4, 5, 6
depaul@amyris.com

I am an associate scientist at Amyris Biotechnologies where we use synthetic biology to make renewable products. I earned a Bachelor of Science degree in Biology with a minor in Chemistry from Sonoma State University. I have been in love with science from a young age. Science is so intriguing to me because it is all around us, and there is always something new to discover!

Jackson MoffettBrand Ambassador,
Back to the RootsTables 8, 9, 7
jackson@backtotheroots.com

I am a recent UC Berkeley graduate with a degree in Global Sustainability where my research focused on climate change solutions. I currently work for Back to the Roots, an urban farming company that is passionate about “undoing food” and reconnecting families to it through fun and sustainable “ready to grow” and “ready to eat” products!

Janice KolbergClinical Research Scientist,
Science Horizons, Faith Network

Tables 18, 16, 17

janicekolberg@comcast.net

I have recently retired after more than 25 years of working in medical diagnostics. I led a research group with responsibility for the development of assays for measuring the amount of HCV and HIV in blood and other agents of infectious disease. More recently I worked on the development of tests to assess the risk of developing diabetes. I received my BS and PhD in Biochemistry. I was not particularly interested in science until my senior year in high school when I had a teacher who made chemistry interesting because he taught us by doing experiments rather than just memorization.

Jessica AlmeidaLatent Print Examiner,
Criminalistics Laboratory,
Oakland Police Department

Tables 6, 4, 5

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.

Katelynn Greer

Tables 12, 10, 11

Research Physicist,

Space Sciences Laboratory, UC Berkeley

greer.katelynn@gmail.com

When I was little growing up in Colorado, I was fascinated by our weather: tornadoes, lightning and snow-storms! I also liked figuring out how things worked and became notorious for taking things apart (especially when I couldn't put them back together)! I worked hard in school and when I went to college I studied Aerospace Engineering Sciences so that I could help make the instruments that investigate the weather. I was good enough at it that I was paid to go to graduate school and get my PhD. I got to do my field-work in Greenland and now I get to travel all over the world for science!

Katie Pfeiffer

Tables 9, 7, 8

Postdoctoral Scholar, UC Berkeley

kpfeif@gmail.com

I am a graduate student at UC Berkeley in the field of Chemical Engineering. My job is to develop new technologies that allow us to use grass, wood, waste paper, and other biomass to produce renewable fuels. I work in science and engineering because it is one way to address problems in our society and make people's lives better. It is important to have people of diverse backgrounds working in science because different perspectives helps us ask better questions and discover better solutions.

Leslie Storer

Tables 1, 2, 3

Senior Zookeeper, Oakland Zoo

lstorer@oaklandzoo.org

I am a zookeeper at the Oakland Zoo. As a junior volunteer at the San Francisco Zoo, I realized that I enjoyed caring for animals and sharing my enthusiasm with others. I have a degree in zoology, and I have worked with a wide variety of amphibians, reptiles, mammals, and birds. In addition to feeding and cleaning up after animals, which requires knowledge of biology, I also train them, which involves knowledge of psychology, to perform behaviors that allow us to take better care of the animals and keep them mentally and physically active.

Matt Schalles

Cognitive Neuroscientist, UC Berkeley

Tables 14, 15, 13

matt.schalles@gmail.com

I grew up helping my dad measure light reflected from water, to measure algae and look at how farm fertilizers pollute water in Nebraska. In San Diego, I earned my doctorate measuring electricity generated by the brain and muscles, to figure out how we coordinate our movements, and if we can hack the brain to directly control things like computers and prosthetics. Now in the Bay, I work for the Veteran's Hospital studying what happens to the brains of people with head trauma, or post traumatic stress, and see if we can invent new ways to treat them.

Morgan Dill

Naturalist, East Bay Regional Park District

Tables 17, 18, 16

mdill@ebparks.org

When I was a kid, I used to spend all of my time exploring outside, turning over logs, building forts, finding flowers and letting bugs crawl on me. I've made it my mission to share science and nature ever since, starting as a nature center volunteer in high school, and after getting a BS in Environmental Science from the University of Notre Dame, migrating to California to share everything from the forest to the ocean at outdoor school, California State Parks, and now as a naturalist at East Bay Regional Park District.

Nelson CoatesAssistant Professor, California Maritime
Academy

Tables 11, 12, 10

nelson.coates@gmail.com

From galactic superclusters, to subatomic particles, I love asking questions and learning about how the universe works. Many questions about the way things work however don't have complete answers. I became a scientist because the scientific method (gathering and analyzing data, formulating and testing hypotheses) is a powerful way to advance our knowledge and find answers to our questions. I received my PhD in Physics from the University of California, Santa Barbara where I studied next-generation solar cells. Now, I am an Assistant Professor of Physics at California State University, Maritime, which is a small, residential campus of the California State University System. My research is focused on making new materials that can turn heat into electricity.

Randolf Klein

Instrument Scientist, SOFIA @ NASA Ames

Tables 13, 14, 15
rklein@sofia.usra.edu

I received my doctoral degree from the University in Jena, Germany, in 1999. There I started working on FIFI-LS, a camera which takes images and spectra simultaneously of thermal radiation for the US-German airborne observatory SOFIA. That is a Jumbo Jet with a 100' telescope in it observing the stars while flying at 40000' and higher. Now, I am working for SOFIA as the responsible scientist for FIFI-LS. Apart from my work on the instrument (mostly software) and working with astronomers from all over the world who want to use our instrument, I research how massive stars form.

Rosemary Romero

Graduate Student, UC Berkeley

Tables 16, 17, 18
rromero@berkeley.edu

I am a graduate student at UC Berkeley where I study seaweeds and the animals that eat them. I became a marine biologist because I loved exploring tide pools when I was a kid. I learned to SCUBA dive when I was an undergraduate at UC Santa Cruz and have been fascinated by seaweeds since my first dive in a kelp forest.

Sarah Richardson

Postdoctoral Fellow,

Lawrence Berkeley National Laboratory

Tables 2, 3, 1
Smrichardson@lbl.gov

When I was a little girl in Baltimore, I wanted to explore outer space and find aliens. Then I discovered that bacteria is the strangest living thing on earth. Now my job is to 'train' bacteria to solve human problems. This is similar to the way we use horses to travel and cats to catch mice. I am studying how to use bacteria to make fuel or clean up oil spills. While it seems like an odd idea, we already use them to make foods like bread and cheese!

Sheila McCormick

PI & Adjunct Professor, UC Berkeley

Tables 21, 22, 19
sheilamc@berkeley.edu

I am from Illinois and I received my Ph.D. in Plant Genetics from the Univ. Missouri. I worked at two biotech companies. Now I am 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 and for many years I have been a judge at and on the interviewing team for the Bay Area Science Fair.

Traci Grzymala

Graduate Student, UC Berkeley

Tables 10, 11, 12
mala@berkeley.edu

I am a graduate student at UC Berkeley and I study insects. Specifically, I want to know how different types of insects are related to each other and why there are so many of them! I started studying insects when I was a college undergraduate in Florida. I was so excited that there were so many insects, but also excited because we know so little about them!

Participating Schools

*Bella Vista Elementary, Chabot Elementary,
Cleveland Elementary, Crocker Highlands Elementary,
Emerson Elementary, Garfield Elementary, International Community School,
Joaquin Miller Elementary, Kaiser Elementary, Lafayette Elementary,
Lincoln Elementary, Martin Luther King Jr. Elementary, Montclair Elementary,
Piedmont Avenue Elementary, PLACE @ Prescott, Sankofa Elementary,
Sequoia Elementary, Thornhill Elementary*

Acknowledgements

Oakland Zoo

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Volunteer Scientists and Panelists

*Charlene Betts-Ng, Christoph A. Maurath, Cynthia Cudaback,
Elad Inbar, Elizabeth Carlen, Erin Brandt, Gian Garriga, Heather DePaul,
Jackson Moffett, Janice Kolberg, Jessica Almeida, Katelynn Greer,
Katie Pfeiffer, Leslie Storer, Maricarmen Hernandez, Matt Schalles,
Morgan Dill, Naylani Allen, Nelson Coates, Randolph Klein, Rosemary Romero,
Sandra Vivian-Calderon, Sarah Richardson, Sheila McCormick,
Traci Grzymala, Vania Baltazar*

Oakland Unified School District

*Caleb Cheung, Christine Chen, Claudio Vargas,
Don O'Connell, Duffy Ross, Herberta Zulueta, Laura Prival,
Ricky Logan, Rosita Young, Sonnie Dae*

Other

*Aaron Vanderwerff, Lighthouse Charter School (Setup)
Teresa Barnett, Community Resources for Science (Setup)
Espresso Gourmet (Catering)*

Photos from tonight's event are available at
<http://science.ousd.k12.ca.us>