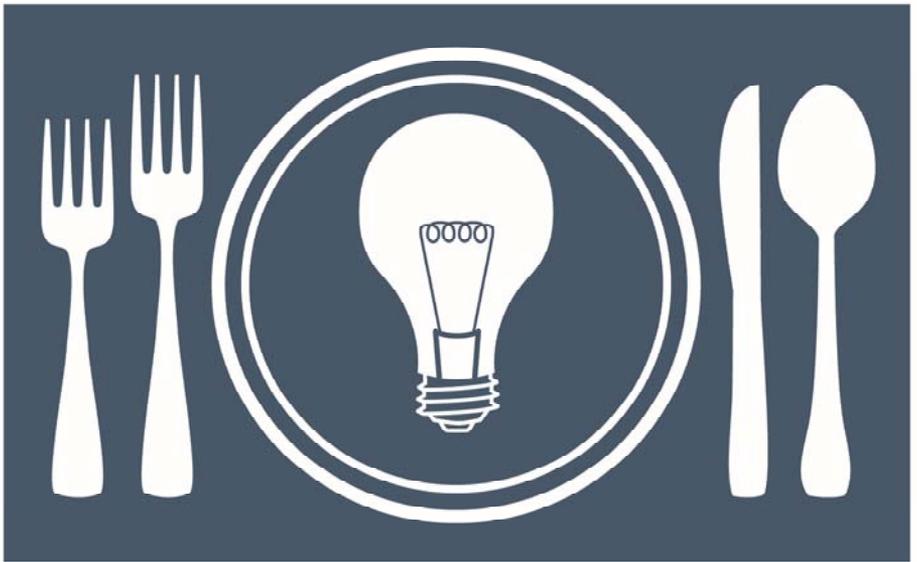

Oakland Unified School District



DINNER with
a **SCIENTIST**

May 28, 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
Sonnie Dae
Science Specialist, OUSD
Bo De Long-Cotty
Director of Education, Oakland Zoo
- 5:50 Dinner & Conversation with Scientist #1
- 6:20 Aspiring Scientist Panel
Emily Kearney, UC Berkeley
Michelle Smith, Oakland Technical High School
- 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

Emily Kearney

Graduate Student, UC Berkeley

Emily Kearney is a Ph.D. student at UC Berkeley where she studies native bees in the Central Valley and the pollination of chocolate trees in Ecuador. She went to Cornell University for her undergraduate degree and calls Connecticut home. She would like to work at the UN with their Environmental Program as a researcher in their agricultural unit after graduating.

Michelle Smith

High School Student, Oakland Tech HS

Michelle Smith is a sophomore at Oakland Technical High School. She grew up in El Sobrante where she attended a Christian elementary school. She went to several science and math camps growing up and became interested in health sciences when she was exposed to different health fields in 7th grade. Michelle is taking AP Chemistry this year in high school. She wants to pursue a career in nursing.

Scientist Biographies

Adam Zeilinger

Postdoctoral Scholar, UC Berkeley

Tables 10, 11, 12
arz@berkeley.edu

I am an agricultural ecologist at the University of California Berkeley. I study why some insects cause lots of damage to the plants that we grow and eat and why others don't. I love my work because it can enhance the amount of food produced by farmers and protect the environment at the same time. Additionally, I find the complexity of the interactions between insects and plants to be exhilarating. And I love all the great foods that plants produce!

Ben Tantanella

Scientist 1, UC Berkeley

Tables 18, 16, 17
ben.tantanella@clorox.com

As a young boy I always performed "experiments" around the house. Most of the time it involved putting my toys in water and freezing them or growing something under my mom's bed. I always told my mom I wanted to be a Scientist. I went to Georgia Tech and got my Bachelor's Degree in Mechanical Engineering and now I am working on REALLY cool experiments where I make MILLIONS of products in a year.

Christine Beavers

Beamline Scientist,
Lawrence Berkeley National Lab

Tables 14, 15, 13

cmbeavers@lbl.gov

I am a beamline scientist at Lawrence Berkeley National Lab. I grew up in the Bay Area and I received my BS and PhD from UC Davis in Analytical Chemistry. I have always enjoyed looking at how things work, and taking them apart. In my job, I work with the Advanced Light Source and get to see the 3-D structure of molecules that no one has seen before.

Cynthia Cudaback

Physics Teacher, Bentley

Tables 7, 8, 9
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.

Danny Hellebusch

Graduate Student, UC Berkeley

Tables 11, 12, 10

djhellebusch@gmail.com

As a child, my parents would take my family on long camping trips all across the US which exposed me to the awe-inspiring natural world. In high school I discovered the excitement of applying math to chemistry and physics problems which led me to pursue chemical engineering in college. Throughout high school and college, I realized that climate change is threatening the preservation of our natural world which inspired me to pursue my PhD in applied science for clean technology. Currently, I study materials for solar cells.

Elizabeth Carlen

Graduate Student,

California Academy of Sciences

Tables 4, 5, 6

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 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.

Frederick Moore

MESA Director,

City College of San Francisco

Tables 1, 2, 3

flmoore@gmail.com

My science background is in human genetics. I studied and discovered genes that play a role in infertility in humans. What fascinated me about science was developing the ability to understand the rules of how mother nature works, and then breaking those rules to help mankind. I attended Solano Community College, UC Berkeley and UC San Francisco, for my academic and scientific training.

Geoff Marcy

Professor of Astronomy, UC Berkeley

Tables 21, 22, 19

For my job, I hunt for planets around stars you see in the night sky. I wonder if there are other planets like our Earth. I also wonder if those planets have animals and intelligent life on them. I wonder if someday we can discover other intelligent beings somewhere in our Milky Way Galaxy. If so, I wonder if we can communicate with them to share our music, knowledge, and ideas.

Ina Reichel

Tables 22, 19, 20

Physicist,

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.

James Valenti-Jordan

Tables 12, 10, 11

Project Engineer,

Del Monte Foods, Inc.

james.valenti-jordan@delmonte.com

I went into engineering to figure out tough logic problems using science. I chose the food industry because it is something real that you can touch, and when you are done with your experiments, you can eat them! I work on all sorts of projects from solar panels to soup, so it is something new every day. Before Del Monte, I worked for Campbell Soup, General Mills, and Pillsbury.

Jeremy Nowak

Tables 2, 3, 1

Graduate Student Researcher,

UC Berkeley

jnowak01@berkeley.edu

In high school I combined my love of science with my love of nature by learning about environmental chemistry. I am currently at UC-Berkeley as a graduate student in chemistry, studying environmental impacts of oil spills. I studied physical chemistry at Tufts University, and I interned for a year at the Walt Disney World Resort in the Department of Water Sciences, where I learned how to chemically maintain ecosystems for aquatic and terrestrial animals.

Jessie Gridley

Tables 20, 21, 22

Senior Scientist, Clorox

jessica.todd@clorox.com

I have always loved figuring out how and why things work and, growing up, asked my parents and teachers a ton of questions (even before Google!). Now I work as a Scientist at Clorox which means I help create new products that you would find in a store. I still ask "why?" and "how?" just about every day and now I get to come up with new ways to answer these questions too!

Katelynn Greer

Tables 6, 4, 5

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!

Ke Xu

Tables 8, 9, 7

Professor, UC Berkeley

xuk@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!

Kevin Metcalf

Tables 5, 6, 4

Graduate Student, UC Berkeley

kjmetcalf@berkeley.edu

When I decided to become a scientist, I knew that I wanted to help people who are sick. Now, I study bacteria, a type of organism that lives almost everywhere, even inside you! We even use bacteria to help people who are sick; I am studying how to make proteins that you use every day with bacteria. In fact, many of us already use these proteins in our medicine, food, and even in our laundry!

Lucy Chang

Tables 13, 14, 15

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.

Maria Schriver

Tables 9, 7, 8

Mechanical Engineer, LightSail Energy

mcschriver@gmail.com

I studied physics in college because I loved learning how the world works. In physics classes, I learned why the sky is blue and why metals are shiny. I moved to engineering in graduate school so I could solve big problems and help people. I wanted to help keep the natural environment clean, so I chose to work in clean energy. I help design and test an air compressor that will store energy produced by wind and solar farms so it can be used when people need it, instead of when it happens to be sunny and windy outside.

Michelle Moy

Tables 17, 18, 16

Food Technologist,

Del Monte Foods, Inc.

michelle.moy@delmonte.com

I am a food scientist working at Del Monte Foods, Inc. in Vegetable Research and Development creating new products. I received a Bachelor's Degree in Food Science from the University of Illinois at Urbana-Champaign. Food science combines my interest in cooking and chemistry. Understanding the science behind food products makes walking through the grocery store an adventure.

Natalie Winkler

Tables 15, 13, 14

Scientist 1 - Packaging R&D,

The Clorox Company

I am a graduate from the Michigan State University School of Packaging with a specialization in Environmental Studies. I love science because it allows you to think critically and creatively! You can think outside the box to solve problems and see how things work. As a kid I loved to get my hands dirty and really get involved with things to help be better understand things in the classroom. I think science is a very important part of life and all people should get involved.

Nelson Coates

Tables 3, 1, 2

Assistant Professor,
California Maritime Academynelson.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.

Sheila McCormick

Tables 16, 17, 18

PI & Adjunct Professor,
UC Berkeleysheilamc@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

Tables 19, 20, 21

Post-Doctoral Research Fellow,
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.

Participating Schools

*Allendale Elementary, Bridges Academy,
Brookfield Elementary, Burckhalter Elementary,
Cleveland Elementary, EnCompass Academy, Esperanza Elementary,
Grass Valley Elementary, Greenleaf Elementary, Horace Mann Elementary,
Howard Elementary, La Escuelita Elementary, Markham Elementary,
New Highland Academy, Parker Elementary,
Reach Academy, RISE Community School*

Acknowledgements

Oakland Zoo

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Featured Scientists

*Adam Zeilinger, Ben Tantanella, Christine Beavers,
Cynthia Cudaback, Danny Hellebusch, Elizabeth Carlen,
Frederick Moore, Geoff Marcy, Ina Reichel, James Valenti-Jordan,
Jeremy Nowak, Jessie Gridley, Katelynn Greer, Ke Xu,
Kevin Metcalf, Lucy Chang, Maria Schriver, Michelle Moy,
Natalie Winkler, Nelson Coates,
Sheila McCormick, Sowmya Ravikumar,*

Panelists

Emily Kearney, Michelle Smith

Oakland Unified School District

*Caleb Cheung, Christine Chen,
Don O'Connell, Herberta Zulueta,
Ricky Logan, Rosita Young, Sonnie Dae*

Other

*Sara Rusche, Photography
Espresso Gourmet (Catering)*

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