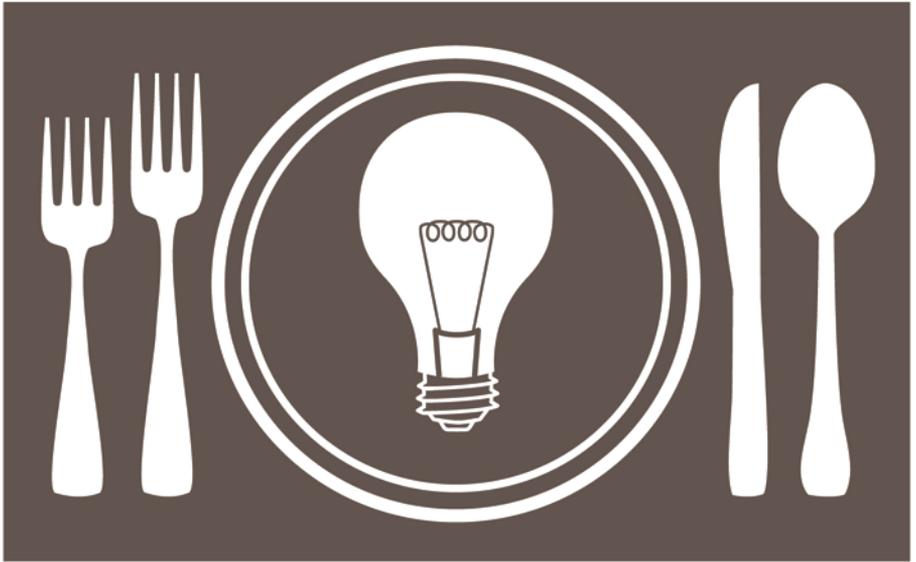

Oakland Unified School District



DINNER with
a **SCIENTIST**

May 23, 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
- Felicia Walker*
Program Director, Education Animals & Children's Zoo Outreach, Oakland Zoo
- Stanze Quezada*
Program Associate, S. D. Bechtel Jr. Foundation
- 5:50 Dinner & Conversation with Scientist #1
- 6:20 Keynote
- Omoju Miller*
Data Scientist and Advisor, Learners Guild
- 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
Random Quotes in a Warped Surface

Scientist Biographies

Omoju Miller

Keynote

Data Scientist and Advisor, Learners Guild

Omoju Miller is a Data Scientist and Advisor at Learners Guild. While finishing her PhD, she co-lead non-profit investment in Computer Science Education for Google. During her time in grad school at Berkeley, she founded TEDxEuclidAve, advised the White House Presidential Innovation Fellows, whilst conducting her research. Before graduate school, she worked as a software engineer and also spent four years as a stay-at-home mom to her son. She has been named as one of the folks to watch, as part of Bloomberg's Beta Future Founders program. Omoju's personal mission is designing learning technologies for the next billion. She is an avid reader and writer, who regards her books as her friends. She buys an average of 1 book every two weeks. Omoju lives with her son in Oakland, CA.

Ana Lyons

Tables 13, 14, 15

Graduate Student, UC Berkeley

lyonsa@berkeley.edu

I am a first-generation college student who graduated from MIT. I grew up in a rural village in Michigan with only 300 residents. However, my pursuits in science have allowed me to travel to Australia, Israel, Germany, Italy, and China, often free of cost. As a PhD student, I am passionate about understanding how living organisms, tissues, cells, and proteins survive environmental extremes. Prior to my graduate studies, I worked as a 7th grade science teacher in the Bronx. New York.

Audrey Ford

Tables 15, 13, 14

Graduate Student Researcher,

Medical Polymer Group, 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.

Carolyn Walsh

Graduate Student, UC Berkeley

Tables 1, 2, 3

carolyn.walsh@berkeley.edu

I'm a graduate student in the molecular and cell biology program at UC Berkeley. I love science because it gives me the opportunity to work on fascinating projects with interesting people while giving back to my community!

Chloe Higgins

Scientist, The Clorox Company

Tables 5, 6, 4

chloe.higgins@clorox.com

I am a Scientist at the Clorox Company where I work on Hidden Valley Ranch. I am a process developer, which means that I take new products from a lab to a factory and play a huge role in putting products in your grocery store! I chose a career in science because I wanted the chance to work on improving products that are used every day. In my job, I face challenges, but being able to overcome those challenges and succeed makes all of the hard work worth it!

Erik Sathe

Graduate Student, UC Berkeley

Tables 19, 20, 21

eksathe@berkeley.edu

I grew up and went to college in Minnesota and now I am a first year graduate student at UC Berkeley. I have always been interested in animals and love figuring out why they look the way that they do and how their bodies allow them to move in different ways. I like science because I can explore these things and never stop learning about animals.

Gian Garriga

Professor, UC Berkeley

Tables 2, 3, 1

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.

Howard Matis

Staff Physicist Affiliate,
Lawrence Berkeley National Laboratory

Tables 18, 16, 17

hsmatis@lbl.gov

I am a Physicist at Lawrence Berkeley National Laboratory. I earned my BS from Rensselaer Polytechnic Institute and my PhD from the University of Chicago. I do most of my research using accelerators, a large machine that allows scientists to study sub-atomic particles. Presently I am working at an accelerator in New York and at Switzerland's Large Hadron Collider. I have also worked at the South Pole to observe neutrino production from outer space.

Jamie Schwendinger-Schreck

Scientist, UC Berkeley

Tables 16, 17, 18

I decided to become a scientist in high school, when I created a report on vampire squids and realized that the oceans and animals were so cool! Ever since then, I've been learning about how the world works. In college, I studied the genes that cause neurodegenerative disease like Huntington's. I then went to graduate school at Yale University and studied the genes that enable fish embryos to develop. Now, I'm a postdoctoral student studying what makes people itchy!

Katie Pfeiffer

Biochemical Engineer, 10X Genomics

Tables 10, 11, 12

kpfeif@gmail.com

I grew up in rural Nebraska and I became a scientist because I always wanted to understand the world around me. I became an engineer because I like to solve technical problems and help people. I went to school at UC Berkeley and have worked for Pfizer and Genentech, helping to make drugs for people with cancer. Now I work for 10X Genomics, a company that specializes in DNA sequencing. 10X Genomics is a small company that uses chemistry, biochemistry, computer science, and genetics to help understand the complexity of the human genome and to provide tools to researchers trying to find causes of and treatments for human diseases.

Kenneth Wesson

Tables 4, 5, 6

Educational Consultant, School Specialty Science kenawesson@aol.com

I am a former faculty member and administrator in higher education, who now delivers keynote addresses on the neuroscience of learning for educational organizations and institutions throughout the United States and overseas. My international audiences have included educators and administrative officers from six of the world's seven continents, and my work is frequently referenced in Parents Magazine, HealthNet, and the journal Brain World. I speak on the subject of "brain-considerate" learning environments, early brain development, STEM and ST2REAM. I currently serve on the advisory boards for the Korean Institute of Brain Science, Kids at Science, and the International Association of STEM Leaders. I am also an active member of Scientists without Borders and I can be seen on PBS specials on human learning and the teenage brain. Since I was a child, I have always been fascinated by "how the brain thinks and how it works." I have been fortunate that my childhood interests are now central to my adult work.

Lauren Borja

Tables 14, 15, 13

Graduate Student, UC Berkeley

laurenjborja@gmail.com

I am a fifth year graduate student at UC Berkeley in the department of chemistry. I've always been curious about the world around me, especially in light and how it interacts with atoms. Atoms are the basic unit of all things including us! As a graduate student, I built a laser that I use to control the electrons inside atoms. That way, we can understand how they move through computer chips! Besides getting to learn a lot of math and chemistry, I also turn wrenches and get to be creative on a day to day basis.

Megan Pendleton

Tables 3, 1, 2

Graduate Researcher, UC Berkeley

mpendleton3@berkeley.edu

I am a native Texan who has attended school all across the country. I studied Aerospace Engineering at Georgia Tech for my undergraduate degree and am currently studying Mechanical Engineering at UC Berkeley for my PhD. Mechanical engineering is a very broad field, encompassing topics like robotics and manufacturing. Biomechanics is also part of mechanical engineering that focuses on the human body. My research at Berkeley and NASA focuses on evaluating the strength of your bones. Did you know that when astronauts go to space they lose bone tissue and this makes the bone weak? We do not want astronauts to break a bone when they are in space or when they come back to Earth. So as a scientist and engineer, I investigate what happens to the astronauts' bones in space and how we can keep them strong.

Michael Starkey
Ecologist, Save the Frogs!

Tables 7, 8, 9
Starkey@savethefrogs.com

I am an ecologist, activist, and public speaker who educates and involves the public in animal rights and wildlife conservation issues. My work has taken me around the world working with a wide diversity of wildlife including the endangered San Francisco garter snake, giant garter snake, California tiger salamander, bats, ringtails, and even Yucatán black howler monkeys! I serve as an ecologist for Save the Frogs! an organization that informs the public about the threats facing amphibians. In this position I rally scientists, volunteers, and others to help broaden the conservation mission of Save the Frogs! By giving presentations around the world to inform and help nurture a society that respects and appreciates nature and wildlife.

Monica Lin
Graduate Student, UC Berkeley-UCSF

Tables 6, 4, 5
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.

Nelson Coates
Assistant Professor,
California State University Maritime

Tables 9, 7, 8
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 (testing ideas with data) is a powerful way to find answers to these 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 current scientific research is focused on making new materials that can turn heat into electricity.

Nicholas Esker Tables 17, 18, 16

Graduate Student Researcher,

UC Berkeley, Lawrence Berkeley National Lab

nesker@berkeley.edu

I am a sixth year graduate student at UC Berkeley studying nuclear chemistry. Specifically, I am focused on the heaviest possible atoms. At the center of every atom is a nucleus, and my research is related to making them as big as possible. I get to figure out how to make new elements using a big machine called a cyclotron. My playground is the very bottom of the periodic table, and I get to play with radioactivity!

Randolf Klein

Instrument Scientist, NASA Ames

Tables 12, 10, 11

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 scientist responsible for FIFI-LS. Apart from working on the instrument software and with astronomers from all over the world, I research how massive stars form.

Rebecca Hartman-Baker

Computational Scientist,

Lawrence Berkeley National Laboratory

Tables 21, 19, 20

rjhartmanbaker@lbl.gov

I am a Computational Scientist who works with some of the most powerful computers in the world. These supercomputers help scientists solve problems that are too hard, expensive, or dangerous to do in the lab. My job involves helping scientists use supercomputers efficiently. Supercomputing is an international field. I worked in Australia for a few years before moving here. I earned a PhD in Computer Science from the University of Illinois, specializing in the math that scientists use in their simulations.

Song Lin

Tables 8, 9, 7

Postdoctoral Researcher,
Lawrence Berkeley National Laboratory

songlin@lbl.gov

I earned a BS degree from Peking University in China and my PhD degree in Chemistry from Harvard University. Now, I am a postdoctoral researcher at Lawrence Berkeley National Lab. In the summer, I will start my work as an Assistant Professor at Cornell University. I am particularly interested in chemical research and education. To understand how things work on a microscopic, molecular level is one of the most fascinating topics to me because it allows modern chemists to create medicine and materials with great precision.

Sumin Lee

Tables 20, 21, 19

Graduate Student, UC Berkeley

sumin425@berkeley.edu

I am third year graduate student at UC Berkeley studying Chemistry. My research focuses on developing porous material that can intersect effectively with metal ions that exist in living things.

Tuan Tran

Tables 11, 12, 10

Graduate Student, UC Berkeley-UCSF

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.

Notes

Participating Schools

Bella Vista Elementary, Chabot Elementary,
Cleveland Elementary, Crocker Highlands Elementary,
Emerson Elementary, Franklin Elementary, Hillcrest Elementary,
Hoover Elementary, International Community School,
Joaquin Miller Elementary, Kaiser Elementary, Lincoln Elementary,
Martin Luther King Jr. Elementary, Montclair Elementary,
Peralta Elementary, Piedmont Avenue Elementary,
PLACE @ Prescott, Thornhill Elementary

Acknowledgements

Oakland Zoo

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

Keynote Scientist

Omoju Miller

Volunteer Scientists

*Omoju Miller, Ana Lyons, Arun Agarwal, Audrey Ford,
Carolyn Walsh, Chloe Higgins, Erik Sathe, Howard Matis,
Jamie Schwendinger-Schreck, Katie Pfeiffer, Kenneth Wesson,
Lauren Borja, Megan Pendleton, Michael Starkey, Monica Lin,
Nelson Coates, Nicholas Esker, Randolph Klein, Rebecca Hartman-Baker,
Song Lin, Sumin Lee, Tuan Tran*

Oakland Unified School District

*Brenda Tuohy, Caleb Cheung, Christine Chen,
Claudio Vargas, Herberta Zulueta, James Narvaez, Laura Prival,
Ricky Logan, Rosita Young, Sarah Pipping, Sonnie Dae Ross*

Other

*Tyler Chuck, Community Resources for Science (Setup)
Marlene Wilson (Setup)
Sara Rusche (Photography)
Espresso Gourmet (Catering)*

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