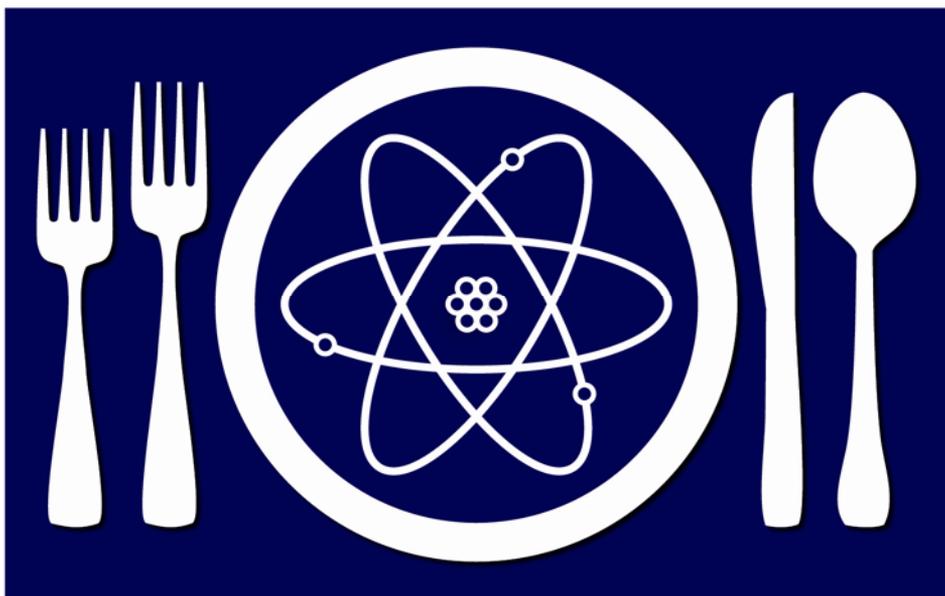

Oakland Unified School District



DINNER

— with a —

SCIENTIST

May 28, 2009, 5-8 pm
Chabot Space and Science Center

Welcome and thank you for attending Oakland Unified School District's first annual Elementary Dinner with a Scientist! We are proud to collaborate with the S. D. Bechtel, Jr. Foundation, Chabot Space & Science Center, and many organizational partners 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 have 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.

We are very grateful you are able to join us. Enjoy!

A handwritten signature in black ink that reads "Caleb Cheung". The signature is fluid and cursive, with the first name "Caleb" and last name "Cheung" clearly distinguishable.

Caleb Cheung
Science Manger, OUSD

Program

- 5:00 Registration and Museum Exhibits Open
- 5:25 Seating (Astronomy Hall)
Table assignment on name tags
- Welcome and Ice Breaker
Caleb Cheung, Science Manager, OUSD
- 5:50 Dinner and Conversation with Scientist #1
- 6:20 Dinner and Conversation with Scientist #2
- 6:40 OUSD Welcome
Dr. Roberta Mayor, Superintendent, OUSD
- Keynote Introduction
Etta Heber, Director of Programs, CSSC
- Keynote
Margaret S. Race, SETI Institute & NASA
- 7:00 Desserts and Conversation with Scientist #3
Teachers help clear tables and serve dessert
- 7:25 Planetarium Show (Ask Jeeves Planetarium)
- 8:00 Conclusion
-

Menu

Grilled Poultry with Fungus and Roots
Herbivore's Lasagna
Carnivore's Lasagna
Grass Seeds and Random Plant Parts
Wheat, Yeast, and Garlic Mixture
Random Leaves and Solutions
Dihydrogen Monoxide
Extract of Newton's Favorite Fruit
Heat-Treated Cacao Carbohydrate Solids

Scientist Biographies*

Margaret S. Race

Keynote

Planetary Protection Research Scientist, SETI Institute and NASA

I'm a marine biologist by training and I'm also an astrobiologist. As a young competitive swimmer long ago, I just loved beaches and SCUBA diving. I eventually got my Ph.D. at UC Berkeley specializing in marine ecology and environmental management. Over the years I've studied many different environments and organisms. Currently, I work with NASA and rocket scientists planning space missions to Mars! My specialty is "planetary protection"--making sure that we don't contaminate other planets and moons when we search for extraterrestrial life in the solar system. As a young girl, I never dreamed I'd use my biology and science training to study other planets. You can never guess where a science education will take you!

Amy Gotliffe

Tables 2, 3, 1

Conservation Manager, Oakland Zoo

I am the Conservation Manager for the Oakland Zoo. My biggest goal is to inspire zoo guests to care about animals and the planet. I connect to Wildlife Conservation Projects around the world and give them support, like money, medical supplies and educational supplies. I lead trips for adults and teenagers to Africa and Central America to visit our projects. I teach classes about animals and conservation, as well as how to be green. I also ensure the zoo is taking part in sustainable practices. I have a degree in communications, education and ecology.

Danika L. LeDuc

Tables 1, 2, 3

Assistant Professor, California State University East Bay

I am an assistant professor in Chemistry at California State University, East Bay. I earned my doctorate in chemistry at U.C. Berkeley. I research biochemical mechanisms of plant species that accumulate and detoxify pollutants using a variety of molecular biology and analytical chemistry techniques. I hope that the knowledge I gain through this research will be used to provide a cost-effective and environmentally friendly means of remediating polluted soil and water. I especially enjoy sharing my love of chemistry with my students and others and collaborating with scientists all over the world.

*alphabetical by first name

Emily Lindsey

Tables 5, 6, 4

Paleontology Graduate Student, UC Berkeley

I am a graduate student in the Department of Integrative Biology and the Museum of Paleontology at UC Berkeley. I study the late-Quaternary megafaunal extinctions, a time when most large mammals on earth (including woolly mammoths, saber-toothed cats, giant sloths, cave bears, glyptodons, giant lemurs, and many other animals) went extinct. I am trying to understand the roles that humans and climate changes had in these extinctions; how ecological communities changed as a result of these extinctions; and how this information can help us better understand and respond to the changes that are happening in ecological communities today due to human pressures and global warming.

Eric Bunnelle

Tables 16, 17, 18

Organic Chemistry Graduate Student, UC Berkeley

I am a graduate student in organic chemistry at UC Berkeley, and I will get my Ph.D. in August. My graduate work has been based around making molecules that have importance in investigating and curing diseases. In August, I will be starting work at an energy company, developing lubricants and fuels. I got interested in science because I really like uncovering answers to questions that have never been looked at before. I also really like being able to have a job where I get to learn many new things every day.

Erika Gasperikova

Tables 3, 1, 2

Geophysicist, Lawrence Berkeley National Laboratory

I am a geophysicist at Lawrence Berkeley National Lab. I have always liked math and physics. I love the outdoors and I love archaeology. Studying geophysics allowed me to combine all of these together. I get to travel to interesting places. For example, one of our projects took us to the Big Island of Hawaii, where we studied Kilauea volcano.

Gautham Venugopalan

Tables 6, 4, 5

Cell Biology Graduate Student, UC Berkeley

I'm a PhD student at UC-Berkeley. I research how growing cells interact physically with their surroundings to develop into complex, organized structures. Understanding the role of mechanics in this process is important for cancer biology and tissue engineering. It's really exciting to develop new technology and to try answering questions to which nobody knows the right answer. It's also really fun to play with fancy and expensive scientific instruments.

Glen Dahlbacka

Tables 4, 5, 6

Senior Physicist, Lawrence Berkeley National Labs

I am a physicist at Berkeley Lab and earned a PhD from the University of Minnesota. My dad was a carpenter and education has given me a life they could not imagine. I started out in astrophysics (gamma ray astronomy for black holes) and moved into x-ray and plasma science related to fusion and x-ray lasers. I became interested in how x-rays can be used in industrial applications in microelectronics, micromachining and drug discovery. For the last ten years I have managed up to 800 scientists and engineers in the former Soviet Union and have traveled extensively around the world. I have always loved the natural world and became interested in science as a method to figure it out in the sixth grade. I love that ah-hah moment when you understand something new. I think scientists should also be active in the community, so I was a co-founder of the new CSSC in the early 90's. Right now I am working on a wind energy project. Never been bored!!

Grady Hart

Tables 9, 7, 8

Transportation Engineer, San Francisco-Oakland Bay Bridge

I started my Engineering career with the California Department of Transportation in 2000, after passing the Engineering Fundamental Exam in 1999. I received my Bachelors of Science degree in Civil Engineering at the California State University Sacramento in 2002. My first six years with the Department was in Traffic Operation Systems, Headquarters, before briefly joining the District 3 North Design. In 2006 I joined the San Francisco-Oakland Bay Bridge Self-Anchored Suspension Projects as an Assistant Resident Engineer.

Gwynn Simon

Tables 8, 9, 7

Infectious Disease & Internal Medicine Physician, Kaiser Permanente

I decided to go to medical school because I like science and math, I wanted to help people and I realized that it was best to have skills and training that would make me useful to others. I also liked the idea of having flexibility and many options open to me such as clinical medicine, research, teaching, or working in foreign countries. I love being a doctor because it is so interesting and it allows me to meet all sorts of people whom I otherwise might never meet. Being an infectious disease doctor is like being a detective trying to figure out the cause of a patient's illness which is often mysterious and then figuring out the best way to treat it. I have always loved learning about bacteria and viruses and other microorganisms and being an infectious disease doctor allows me to combine that interest with the enjoyment of working with people.

Jenny McGuire

Tables 11, 12, 10

Doctoral Candidate, UC Museum of Paleontology

I am a paleoecologist working on my PhD at UC Berkeley. I study how we can use fossils and events of the past to predict how we might expect animals to react to future climate change. I became interested in this research because I want to conserve the planet for future generations, and I want to be able to inform policymakers how best to do so.

Jonathan Slack

Tables 12, 10, 11

Senior Scientific Engineering Associate,
Lawrence Berkeley National Laboratory

Our research group at Lawrence Berkeley National Lab applies physics and materials science to the development of next-generation, electrochromic "smart windows". These dynamic windows, to be demonstrated during dinner, can alter their optical properties in real-time to respond to ambient conditions, allowing for more energy efficient and comfortable buildings. A lifelong curiosity in physical phenomenon, biological and ecological systems, and interactions between them led me to study physics, chemistry, and biology at UC Santa Cruz. Following graduation I worked at Genetics Institute (Cambridge, MA), developing experimental systems for human diagnostic tests. At Berkeley Lab I have been able to continue

developing experimental and materials systems with the goal of creating new technologies to enhance the energy performance of our homes and commercial buildings.

Laura Miller

Tables 7, 8, 9

Doctoral Candidate, Chemistry, UC Berkeley

I am an organic chemist working toward my PhD at UC Berkeley. I synthesize biologically active compounds that could potentially be used to treat conditions like cancer, bacterial infections, and neurodegenerative disorders. I've always been interested in the power of medications to treat disease.

Lauren Tompkins

Tables 15, 13, 14

Graduate Student Researcher, Lawrence Berkeley National Laboratory

I am a graduate student working on my PhD in physics at UC Berkeley. I study the interactions of fundamental particles, the building blocks of matter, at energies which occurred fractions of a second after the Big Bang. My research is being done at the Large Hadron Collider, an international project of thousands of physicists in Geneva, Switzerland. I am studying particle physics because if you keep asking "why?" you end up asking the questions we are trying to investigate. However particle physics offers a lot more than just the study of the way the universe is structured. It has given me the opportunity to work with people from all over the world which I wouldn't have in almost any other field.

Lee Bishop

Tables 10, 11, 12

Chemistry Graduate Student, UC Berkeley

I am a graduate student in Chemistry at UC Berkeley, studying under Professor Robert Bergman. My research is focused on the development of methods for the depolymerization of the biopolymer lignin for the purposes of developing alternative energy sources. I love science because it helps me to understand what our world is made of and why it behaves the way it does. I believe chemistry is a great area to research because our bodies and our whole world is made of chemicals.

Lisa Fernandez

Tables 14, 15, 13

Entomology Graduate Student, UC Berkeley

I am a graduate student in the Environmental Science, Policy and Management Department. I study the transmission of Grapevine Leafroll Virus by different species of insects, known as mealy bugs. I also conduct fieldwork in Napa Valley, where I test for the presence of the virus in vineyards. I have always been interested in plants and insects; so much of my research feels like a hobby rather than work. Additionally, I grew up in an agricultural community, so I am particularly interested in helping farmers manage crops sustainably.

Melissa M. Chila

Tables 13, 14, 15

Criminalist, Oakland Police Department- Crime Lab

I have a BS in Forensic Chemistry from West Chester University and an MS in Biotechnology from Johns Hopkins University. I've worked in forensics for about 5.5 years. For three years I worked for the Federal Government and identified remains from military conflicts. Since then I've worked in a private lab and for the city of Oakland doing criminal casework. My parents played a large part in sparking my interest in science by buying me science oriented toys when I was younger. By the time I reached high school, I found a love for chemistry and decided to pursue that as a career. The best advice I can give young people who wish to enter the science field is "don't give up...scientists make positive differences in world and peoples' lives." The educational requirements to achieve a science degree can be daunting, but in the end, I'm sure you'll love your profession as much as I do.

Mike Whiteside

Tables 18, 16, 17

Bridge Engineer, CalTrans Toll Bridge Program

I got my degree from UC Davis in Civil Engineering in 1988 and went directly into the CalTrans Bridge Design. I was inspired to become a Bridge Engineer because I grew up in Oakland and was amazed by the huge and beautiful bridges of the Bay - the Golden Gate, SF-Oakland Bay Bridge, and others. I work designing and constructing the New SF-Oakland Bay Bridge. I asked to work on this because it's a great opportunity to help create a world famous landmark for California and the Bay Area. This bridge will be very safe, include the latest technology, and be very beautiful. .

Nicki Norman

Co-Director, Community Resources for Science

I helped found Community Resources for Science to strengthen science education in Alameda County 11 years ago, and currently serve as a Co-Director. As a Co-Director I provide science professional development for teachers, create new educational resources, and help scientists become role models for the classroom. Prior to CRS, I worked on reducing the environmental impacts caused by energy development. During my 20 years in this field I managed studies of ecosystems, assessed impacts of geothermal, hydroelectric, coal, and gas-fired power plants, worked with engineers to change design and operation plans, and helped develop regulatory policies. My degrees are in Biology from Davis and Energy and Resources from UC Berkeley. I believe science is a powerful vehicle for engaging students in active learning and that curiosity, inquiry, and understanding how the world works is everyone's birthright.

Rebecca Abergel

Tables 19, 20, 21

Chemist, Lawrence Berkeley National Laboratory

I am a scientist and have a PhD in chemistry from UC Berkeley. The goal of my research is to design and develop new therapeutic drugs for the decontamination of toxic metals in humans. I hope that this drug will one day improve the life of people who suffers from metal overload or contamination. I went into chemistry because I get to try different experiments every day, and while these experiments are exciting and sometimes fun, they still have an important purpose. I also hope I can show young students that science has many applications in everyday life.

Richard Novak

Tables 21, 19, 20

Bioengineering Graduate Student, UC Berkeley

I am a second-year PhD student in Bioengineering, working on developing technologies for analyzing single cancer cells. I use microfluidic systems to be able to manipulate single cells, so that we may be able to better understand the disease. I also started Future Scientist, an organization that provides project-based science education to resource-poor communities. We will be conducting our pilot program by setting up a solar power system and teaching relevant science lessons at an orphanage in the Peruvian Amazon.

Stacy R. Month

Tables 17, 18, 16

Pediatric Hematologist-Oncologist, Kaiser Permanente

I trained at Duke University Hospital and at Children's Hospital of Philadelphia to become a pediatric hematologist / oncologist. I have always loved biology. I treat patients with cancer and also with sickle cell disease. I am part of a Children's Oncology Group that does basic and clinical research. The cure rates for many childhood cancers are now excellent. I love taking care of patients and their families and being there through both the good and bad times. Hematology/ oncology is a great field for those who love science and also love working directly with people whose lives are improved by scientific advances.

Theresa Grieco

Tables 20, 21, 19

Integrative Biology Graduate Student, UC Berkeley

I am studying to earn my PhD in Integrative Biology from UC Berkeley. I have a B.S. in Biology from Caltech, and I'm originally from outside of Chicago. My research involves studying how developmental processes work together to pattern the dentition of animals and how those processes can explain the great diversity of tooth patterns we see in nature. I do this by connecting lab work in gene expression and embryology, quantification of phenotypes, and knowledge of the pathways and processes that operate during development and evolution. I also teach introductory courses in human biological variation and general biology at UC Berkeley.

Participating Schools

Allendale Elementary, Bella Vista Elementary,
Crocker Highlands Elementary, Encompass Academy,
Esperanza Elementary, Franklin Elementary, Fruitvale Elementary,
Garfield Elementary, Global Family School, Grass Valley Elementary,
Hillcrest Elementary, Horace Mann Elementary,
International Community School, Jefferson Elementary,
Kaiser Elementary, La Escuelita, Lakeview Elementary,
Laurel Elementary, Lazear Elementary, Lincoln Elementary,
Manzanita Seed Elementary, Markham Elementary,
Montclair Elementary, New Highland Academy, Parker Elementary,
Piedmont Elementary, PLACE at Prescott,
Redwood Heights Elementary, Rise Elementary,
Santa Fe Elementary, Sequoia Elementary, Sobrante
Park Elementary, Thornhill Elementary

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SETI Institute and NASA
Margaret S. Race (Keynote)

Science Partner Organizations and Volunteer Scientists

Oakland Unified School District
*Caleb Cheung, Anthony Cody, Ricky Logan,
Phuong Ly & Mary Buttler (Event Planning & Setup)*

Other
*Anthony DeCicco, David Kafton, Heather Rowe, Claudio Vargas (Setup)
Rebecca Cheung (Flowers), Eric Saddler (Sound)
Espresso Gourmet (Catering)*