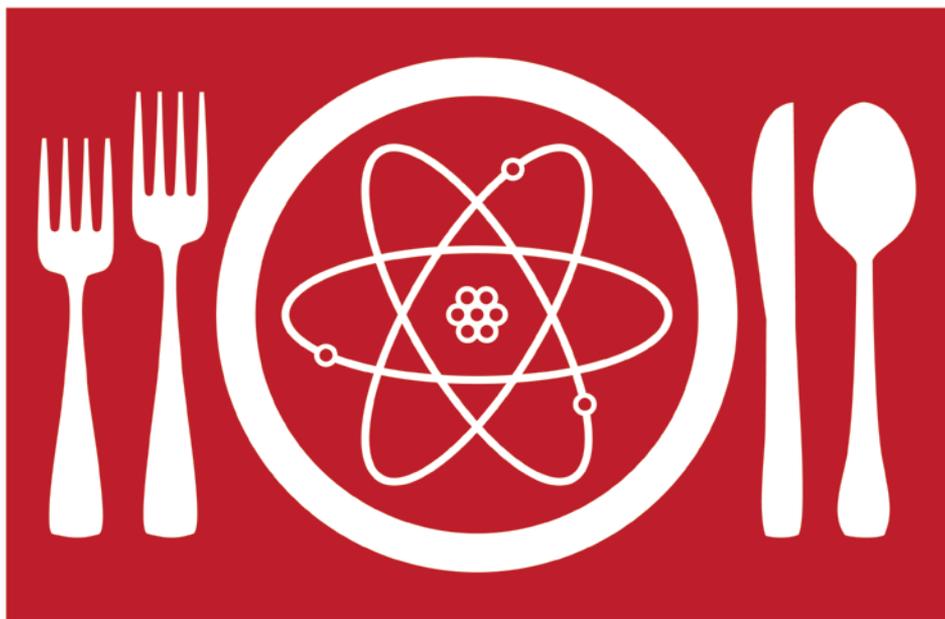

Oakland Unified School District



DINNER
— with a —
SCIENTIST

May 6, 2009
Chabot Space and Science Center

Welcome and thank you for attending Oakland Unified School District's first annual Dinner with a Scientist! We are proud to collaborate with the Chabot Space & Science Center and many organizational partners in the Bay Area to offer an evening of 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.

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

A handwritten signature in black ink that reads "Caleb Cheung". The signature is fluid and cursive, with a long, sweeping underline that extends to the right.

Caleb Cheung
Science Manger, OUSD

Program

- 5:00 Registration and Museum Exhibits Open
- 5:30 Welcome and Ice Breaker (Astronomy Hall)
Caleb Cheung, Science Manager, OUSD
- OUSD Welcome
Mary Buttler, Executive Officer, OUSD
- 6:00 Dinner and Conversation with Scientists
- 6:30 Keynote Introduction
Etta Heber, Director of Programs, CSSC
- Keynote
Margaret S. Race, SETI Institute & NASA
- 7:00 Scientist Introductions
Desserts and more Conversation with Scientists
Anthony Cody, Science Content Coach, OUSD
- Teachers help clear tables and serve desserts*
- 7:30 Planetarium Show (Planetarium)
- 8:00 Conclusion
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Menu

- Grilled *Gallus gallus* with *Allium cepa* and Fungus
Bos taurus Lasagna
Herbaceous Lasagna
Oryza sativa and Vegetables
Allium sativum and *Triticum* Globules
- Turbulent 530 nm Salad with Suspensions and Emulsions
Malus domestica Extract
Dihydrogen Monoxide
Heat Treated Carbohydrate Disks
Random Ripened Plant Ovaries

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!

Ailey Crow

Table 1

PhD Candidate, UC Berkeley

I am a Biophysics student at UC Berkeley. I study how cells interact with their mechanical environment. Only recently have we started to study not only how drugs influence cell behavior, but also how physical forces and the hard or softness of tissue surrounding cells can alter behaviors such as cancer metastasis and stem cell differentiation. I also enjoy visiting 3rd grade classrooms in Alameda County through UC Berkeley's CRS (Community Resources for Science) program.

Darcie Collins

Table 2

Habitat Restoration Director, Save The Bay

I have a Ph.D. in Environmental Science and Management, focusing on estuarine systems. With 12 years of environmental policy experience and 10 years of coastal ecosystem monitoring and management, I have participated in environmental advocacy in both California and Washington D.C. I am the former Executive Director of Shorelines and Watersheds, a non-profit organization. A Lake Tahoe native, I have studied watershed ecology and human impacts on these systems in both the Sierra Nevadas and coastal regions. At Save The Bay, I work to strengthen restoration goals and develop a comprehensive long term monitoring program for numerous restoration sites.

David Sequeira

Table 3

Global Logistics Engineer, Chevron

I have recently graduated from California Polytechnic State University, San Luis Obispo with a degree in Civil Engineering. In December, I started my professional career working for Chevron. Before I worked for Chevron, I had two internships; one at PG&E and another at Aera Energy. Throughout my college career I have been part of the Society of Hispanic Professional Engineers (SHPE) which has helped me immensely. I went into science because I wanted a challenge as well as to gain an understanding of how the world works. Pursuing degrees in engineering and the sciences will very important in the future and drive innovations and new technologies for the future. The best jobs and opportunities will be in these fields.

Denise Della Santina

Table 4

Native Plant Nursery Manager, Save The Bay

I have a B.S. in Conservation Biology from the University of Wisconsin-Madison. I was born and raised in Redwood City. I have five years of nursery management experience and seven years of habitat restoration planning and implementation. Prior to joining Save The Bay, I renovated nursery facilities, propagated plants, developed and implemented restoration projects, and inspired and trained volunteers at Audubon Canyon Ranch. For five years, I worked in the ecological restoration of both Yosemite and Lassen Volcanic National Parks through the National Park Service.

Fred Schlachter

Table 5

Scientist, Lawrence Berkeley National Laboratory

I am a physicist at Lawrence Berkeley National Laboratory, where I have worked with particle accelerators to study the fundamental properties of atoms and molecules, including work with an ultrabright source of x rays. My background includes graduation from UC Berkeley and a PhD from University of Wisconsin, plus work in France, Germany, and presently in Thailand, where I am a visiting professor at Chiang Mai University. My recent work has focused on energy efficiency, global climate change, and how we can revolutionize the way we power our cars to eliminate the use of fossil fuels in transportation. I give popular lectures on "light: a user's guide to the universe" and on energy: "our sun, our friend."

Gale Wichmann

Table 6

Research Scientist, Amyris Biotechnologies

I have a Ph.D. in Genetics from the University of Chicago and worked at the UC Berkeley before moving into biotechnology. I am currently working on engineering microbes to produce renewable biofuels. I have always wanted to apply my love of science and biology to improve our world and work for environmental or public health causes. In my work, I manipulate the genes and proteins within microorganisms so that they can create important products from a renewable plant source, instead of making those same products from oil.

Hattie Carwell

Table 7

Director, Museum of African American Technology Science Village

After 38 years of service, I retired as a senior physical scientist. I worked for the U.S. Department of Energy (DOE) Berkeley Site Office at the Lawrence Berkeley National Laboratory holding such positions as senior health physicist, Operations Lead, Program Manager for High Energy Physics and Nuclear Science. Basically, I made sure that research was performed safely. During that time, I worked for the International Atomic Energy Agency (IAEA) in Vienna, Austria, the same Agency charged to look for weapons of mass destruction after 9/11. In Vienna, I served as a nuclear safeguards inspector and group leader performing inspections throughout Europe assuring that special nuclear materials were not diverted for weapons use. I have written over 50 safety related articles and commentaries on technical issues. Also, I authored a book entitled, "Blacks in Science: Astrophysicist to Zoologist". Currently, I am Director and co-founder of the Museum of African American Technology (MAAT) Science Village, located in Oakland. The Museum archives the achievements of African American scientists and engineers and hosts seminars, science carnivals and exhibitions to encourage under representative youth to pursue careers in science and technology.

James Fine

Table 8

Economist & Policy Scientist, Environmental Defense Fund

I work on state-based initiatives to address global warming. My areas of research and advocacy include design and implementation of cap-and-trade and other market-based policy, modeling the economic, air quality, and health risks of policy decisions, and facilitating the involvement of public stakeholders in environmental planning.

Jeff Toman

Table 9

Senior Staff Scientist, Chevron Oronite Company

I have a PhD in chemistry from UC Berkeley. I have worked as a chemist for Chevron for over 26 years, most of it in the field of fuel and lubricating oil additives. I helped to develop the Techron additive that was introduced at the same time as the Chevron cars! I was inspired to go into science by the space program in the 1960's, and remain inspired by the thought that I have participated in developing many products that make everyone's lives better.

Jennifer Yaung

Table 10

Genomic Systems Account Manager, Roche

After receiving my Ph.D. in Pathobiology, I decided to embark deeper in the business route of life sciences. Now, my job with Roche Diagnostics is to help other scientists meet and exceed their genomic research goals. The best part is that I get to work with many scientists with diverse interests in biotech, academia, and government - it's amazing how much fascinating science is out there!

Laura Kogler

Table 11

Graduate Researcher, Lawrence Berkeley National Laboratory

I am a graduate student in physics at UC Berkeley. I study fundamental particles and the forces between them. The main experiment I work on is studying a kind of particle called a neutrino. The experiment is located in a special laboratory in Italy and is a collaboration between about 100 Italian and American scientists. We are trying to discover whether or not the neutrino is its own anti-particle by looking at very rare reactions involving neutrinos. Studying neutrinos and their properties can give us more insight the physics of particles and how the world works on very small scales.

Laura Silva

Table 12

Criminalist, Oakland Police Department Crime Lab

I have a MS and MPH in infectious diseases and immunity. I am a Criminalist in the Biology/DNA unit of the Oakland Police Department Crime Lab. Scientific evidence related to crime is an important tool to help solve crime and bring justice to the community. I am responsible for the examination of items involved in major crimes such as homicide, sexual assault and burglary. I look for biological evidence on these items, collect the DNA and compare it to suspects and victims or enter it into a searchable national DNA database (especially in cases when there is no suspect). Other areas of the lab examine similar items to obtain firearms, fingerprint, and narcotic evidence. We also testify as scientific experts in the courtroom and explain our results to juries. My job is a unique way for me to use my love of science and my desire to make a positive difference in the community.

Laura Verduzco

Table 13

Carbon Management Advisor, Chevron

After completing her Chemical Engineering degree at the "Universidad Nacional Autonoma de Mexico" in Mexico City, I received a Fulbright scholarship to pursue doctoral studies in Environmental and Energy Management at the George Washington University in Washington, DC. Throughout graduate school, I researched several environmental and energy-related topics and their economic and societal impact. I currently work as a Carbon Management Advisor in the Corporate Health Environment and Safety (HES) group of Chevron Corporation where I serve as a representative on global climate change, energy use and greenhouse gas emissions management. Further, I coordinate the sustainability policy work of Catchlight Energy, a joint venture between Chevron and Weyerhaeuser to produce sustainable biofuels. Previously, she supported the Hydrogen Fuel Cells and Infrastructure Technologies (HFCIT) group of the US Department of Energy (DOE).

Patrick McDougall

Table 14

Research Chemist, Chevron

I received my Ph.D. in organic chemistry from the University of North Carolina in 2006. I was fascinated with the science of creating highly complex molecules in the laboratory and with the ability to mimic nature's most beautiful molecular designs. I later became interested in the question of how chemistry can help address the climate change our planet is currently facing. As a result, I recently started a job with Chevron working on molecules that will improve fuel economy and lessen the environmental impact of our motor oils and gasolines.

Rebecca Zuckerman

Table 15

Owner, DownStream Pathways

I have a Ph.D. in Chemistry from U.C. Berkeley and I have worked for many years as a medicinal chemist in the biotech industry. I have carried out research in several therapeutic areas including oncology, cardiovascular disease, chronic pulmonary disease, Type 2 Diabetes and inflammation. I always loved the sciences and I enjoy the quest for new knowledge and discoveries.

Richmond Sarpong

Table 16

Assistant Professor, UC Berkeley

I am a synthetic organic chemist, which means I like to make small organic compounds like the ones that are the active component in medicines like glucocorticoid steroids for asthma. You can think of these like a house which you have to build. So I like to build things that can help people, which is why I went into science. I grew up in Ghana, West Africa where there was a major disease called river blindness. This was cured by chemists from a company called Merck who gave people a drug called ivermectin. This made me want to be a chemist.

Robert G. Bergman

Table 17

Professor of Chemistry, UC Berkeley

I am a professor of chemistry at UC Berkeley. My research involves the development of new catalytic reactions and the study of their mechanisms. Such reactions allow chemical processes to be carried out more efficiently, which provides substantial energy and environmental benefits. I teach a range of graduate and undergraduate courses and direct a group of about 20 graduate students, postdoctoral fellows and undergraduates in my research laboratory, many in collaborative projects with other UC Berkeley chemistry professors.

William Thur

Table 18

Mechanical Engineer, Lawrence Berkeley National Laboratory

I am a mechanical engineer who has worked with scientists for 23 years at Lawrence Berkeley Laboratory, for much of that time at the Advanced Light Source. I also have an MBA and I have worked in industry. I have always been interested in how things work, design, and building. Engineering was a natural choice for me, combining math and science with practical objectives. I am conversant on a wide variety of energy subjects, and as a small demonstration I could bring a tabletop working model steam engine, for discussion of heat engine principles.

Participating Schools

Alliance Academy
Castlemont Business Information & Technology School
East Oakland School Of The Arts
Edna Brewer Middle School
Frick Middle School, Madison Middle School
Mandela High School, Media College Preparatory
Melrose Leadership Academy, Montera Middle School
Oakland High School, Oakland Technical High School
Roosevelt Middle School, Skyline High School
Street Academy, United For Success Academy
Westlake Middle School
Youth Empowerment School

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New Teacher Center
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Chevron
Janet Auer & Debrah Cook (Gifts)

Chabot Space and Science Center
Etta Heber, David Fong & Staff (Facilities)

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

Other
Jessica Neely, KQED (Setup)
Heather Rowe, Bay Bridge (Setup)
Rebecca Cheung (Flowers)
Eric Saddler (Sound)
Espresso Gourmet (Catering)