2015 STEM Conference

Reedley College

STEM
Science • Technology • Engineering • Math

April 25, 2015
8 a.m. to 3 p.m.
Reedley College

EECU
Smarter banking
Educational Employees Credit Union (EECU) is the proud presenter of the 2015 Women in STEM presenters:

Nuria Denis-Arrue *SCIENCE*  
Rosemarie Elizondo *SCIENCE*  
Julissa Gonzalez *SCIENCE*  
Dr. Petia Gueorguieva *SCIENCE*  
Dr. Beth Weinman *SCIENCE*  
Kerry Workman Ford *SCIENCE*  
Bethany Bush *SCIENCE*  
Yareli Magana *TECHNOLOGY*  
Janice Ledgerwood *TECHNOLOGY*  
Sintia Torres *ENGINEERING*  
Denise Soria *ENGINEERING*  
Blanca Madrigal *ENGINEERING*  
Sarid Quiroz *ENGINEERING*  
Nancy Miller  
Kelsey Friesen  
Elaina Aceves  
Jennifer Elder  
Lina Obeid  
Maria Ortiz  
Pilar De La Cruz  
Alicia Elizondo  
Cyndi Guerra  
Monique Molina  
Chenille Rivera  
Sara Hart  
Dr. Ann Fallon  

[EECU Logo]
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FOUNDATION

ERIC

FRESNO STATE
Mathematics & Science Teacher Initiative
It is my pleasure to welcome you to the 7th Annual Science, Technology, Engineering and Math Conference at Reedley College.

At this conference, you will discover that we are supported by a team of dedicated staff, students and professionals from a variety of STEM fields. This is a unique gathering for many in the Central Valley. Students will hear from keynote speakers and meet panelists who are in STEM careers. Today, we will also be providing students hands-on opportunities with various STEM activities.

We understand what an incredible impact this opportunity will have on our students. STEM is their future as our society continues to evolve.

The ability to select the right career option is enhanced by conferences like ours. Personally, I am a product of STEM career pathways with a bachelor’s degree in Mathematics Education and a master’s degree in Statistics. As such, I know first-hand that careers in STEM can be challenging and fun at the same time.

We need to continue to encourage our current and future students on the importance of STEM.

Sincerely,
Dr. Sandra Caldwell
Reedley College President
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**Schedule of Events**

**Registration**
8 - 8:30 a.m.  
Gym

**Activities**
8:30 - 9 a.m.  
Gym

**Opening**
9 - 9:20 a.m.  
Gym

**Session 1**
9:30 - 10:20 a.m.  
Various Locations:  
*High School/College students, page 7*  
*Middle School students, page 9*  
*Parents/Teachers, page 11*

**Session 2**
10:30 - 11:20 a.m.  
Various Locations:  
*High School/College students, page 8*  
*Middle School students, page 10*  
*Parents/Teachers, page 11*

**Lunch**
11:30 a.m. - 12:30 p.m.  
South Lawn

**Keynote Speakers**
12:45 - 2:30 p.m.  
Gym

**Closing**
2:30 - 3:00 p.m.  
Gym

See the map on the back cover for more information.
Juan Martinez is a National Geographic Emerging Explorer and The North Face ambassador. Growing up in South Central Los Angeles, he had a choice between detention and the Eco Club. Today his passion to empower youths led him to direct the Sierra Club’s first environmental justice youth leadership academy in Los Angeles. He is a graduate of California State University, Los Angeles and a recipient of Congresswoman Hilda Solis’ Environmental Youth Leadership Award.

Dr. Skateboard, aka, Dr. William H. Robertson has been an educator for more than 20 years; he has taught at the middle school, high school, and university levels. Dr. Robertson holds a Ph.D. in Multicultural Teacher and Childhood Education with an emphasis in science and technology. A skateboarder for over 35 years, Dr. Skateboard has entertained thousands of spectators at schools, special events and festivals throughout the United States (http://www.drskateboard.com).
# High School/College Sessions

|-------------|---------------|----------------|

## Session 1: 9:30 to 10:20 a.m.

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Read session descriptions on pages 12-17.
## Session 2: 10:30 to 11:20 a.m.

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Read session descriptions on pages 18-23.
# Session 1: 9:30 to 10:20 a.m.

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<td>Forest Service: Cool Jobs Outdoors!</td>
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<td>Doodling in 3D: These Ain’t No Napkin Sketches!</td>
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<td>Rock Detectives: Geology is Everywhere!</td>
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Read session descriptions on pages 24-27.
# Middle School Sessions

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Read session descriptions on pages 28-31.
**Parent/Teacher Sessions**

*Recommended for Parents and Teachers*

**Session 1: 9:30 a.m. to 10:20 a.m.**

**Session Title**
STEM: Science, Technology, Engineering and Mathematics:
What You Need to Know to Help Your Student Succeed

**Room**
FORUM

**EN ESPAÑOL: Recomendado para padres y maestros**

**Sesión 2: 10:30 a.m. a 11:20 a.m.**

**Titulo de la Sesión**
STEM: Ciencia, Tecnología, Ingeniería y Matemáticas:
Lo que usted necesita saber para poder impulsar el éxito académico de su estudiante

**Salón**
FORUM

*Read session descriptions on page 32.*

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**Reedley College STEM STUFF**

*The Reedley College STEM Ambassadors:*
The STEM Ambassadors are Reedley College students majoring in various STEM fields. They organize and lead outreach activities with local schools, community groups, and host on-campus activities that are designed to engage younger students and teach them about the many exciting STEM career opportunities and educational pathways.

During the 2014-15 academic year, the STEM Ambassadors visited 22 local schools and participated in nine community events. They also participated in 19 on-campus events, four of which they planned and presented to the local community (three “SciFri” events and one “Introduce a Girl to Engineering Day” event.)
Session 1: 9:30 to 10:20 a.m.

**Engineering Internships 101: Earn Academic Credits and $$$**

*Description:* Interested in completing an internship? Have no idea what an internship is but want to learn more? Come to an information session to learn more about the benefits of an internship, how to apply, how to put your best foot forward and get some professional experience before you graduate. A mechanical engineering student intern will share her experience through the Valley Industry Partnership for Cooperative Education (VIP Program) and the opportunities this experience opens. The purpose of the VIP Program is to give engineering and computer science students at Fresno State real-world work experience while getting paid a competitive salary.

*Presenter:* Sintia Torres  
*Location:* CCI 200

**Latinos in Physics**

*Description:* Two Latino students working toward bachelor's and master's degrees in physics at Fresno State will be giving advice on choosing a major in physics and will be explaining the hidden truths about succeeding in this field. They will share their internship experiences on the ATLAS experiment at the Large Hadron Collider (LHC) of the European Organization for Nuclear Research (CERN), located near Geneva, Switzerland. Their goal is to motivate underrepresented minorities and first generation students who want to pursue a career in science, but lack knowledge of how to apply to college and funding. As students from low-income families, they would like to shed light on the matters of “funding yourself through college” and instill the idea that money should not be a barrier for getting an education.

*Presenters:* Victor Ruelas and Jimmy Gonzalez  
*Location:* CCI 201
Mathemagic
*Description:* Mathematics and magic may seem a strange combination, but many of the most powerful magical effects performed today have a mathematical basis. This workshop will show you how to perform some magical tricks to impress and entertain your friends. But it will also explain the mathematics behind the tricks and how that same math is used in the real world. But please remember the Magicians Code: never reveal the workings of magic tricks to your audience!
*Presenter:* Maria Ortiz
*Location:* CCI 202

Nursing Opportunities
*Description:* The nursing profession offers a variety of opportunities and it is important for students to learn about the different areas available to them. In this session, a panel composed of members of the National Association of Hispanic Nurses will provide an introduction to their field. The speakers will describe the various opportunities and share their own experiences. If you are interested in a career as a nurse—this is the workshop for you!
*Presenters:* Pilar De La Cruz, Alicia Elizondo, Peter John Garcia, Cyndi Guerra, Monique Molina, Chenille Rivera
*Location:* CCI 203

Geomatics Engineering: Cool Toys for Mapping!
*Description:* Are you ready for a class selfie? In this workshop you will learn and see in action LIDAR: Light Detection and Ranging. This cool technology bounces laser light pulses off the ground to generate precise pictures. LIDAR and photogrammetry are used in landscape and construction surveying, as well as in self-driving cars. But other fields are using these cool toys: archaeologists are using LIDAR to look at Mayan cities; police are mapping crime scenes for judges and jurors in courtrooms as a futuristic crime-solving technology. Don’t forget to say cheese!!!
*Presenter:* Scott Peterson
*Location:* CCI 204
Sports Medicine: Not Just Taping Ankles and Handing Out Water
Description: As the sports industry grows and becomes more complex, it requires the skills of a growing number of experts, uniting biomedical engineers with sports medicine professionals. Sports medicine uses the problem solving skills of engineers in developing new technologies and systems and integrates these with the human performance expertise of sports medicine, which in turn help athletes go higher, faster and further. An overview of sports medicine as a whole will be discussed, highlighting the widely varied group of components of sports medicine, such as athletic training, physical therapy, personal training, and strength and conditioning.
Presenters: Michael Kaufman and Sara Hart
Location: CCI 205

Civil Engineering: Building and Improving the World
Description: If you look around, civil engineering is all around you! Whether it’s roads, structures, or meeting the water needs of communities, civil engineering plays a huge role in our daily lives. In this workshop you will discover the tools needed to become a civil engineer. The speaker will be sharing a story of surviving high school, the ins and outs of college, the various technical areas within civil engineering, how to transition from college to the workforce to become a professional engineer, and the benefits of obtaining a STEM career.
Presenter: Denise Soria
Location: CCI 206

Designing and Building a Formula-Style Race Car – What Does It Take?
Description: Love cars? Come and learn about the Society of Automotive Engineers (SAE) Formula Car Competition. Engineering students must function as a team to not only design, build, test, promote, and race a vehicle within the limits of the rules, but also to generate financial support for their project and manage their educational priorities. Students from Fresno State’s Mechanical Engineering Program will present their project on the design of the Formula SAE race car. Find out that mechanical engineering is way more than cars!
Presenter: Walter Mizuno
Location: CCI 207
Bitwise Industries: Building a Technology Hub One Geek at a Time
Description: Bitwise Industries is a technology hub in downtown Fresno that is home to 28 technology companies. Startups ranging from agricultural technology to general software development in an atmosphere adorned with brightly painted walls, pinball machines and community gardens. Geekwise Academy teaches technology skills that you can use to make money. Bitwise Industries empowers the next generation of ambitious people to do awesome stuff in Fresno.
Presenter: Jed Soberal
Location: FEM 4

Making and Breaking Secret Codes
Description: When you think of spies and secret agents, you might think of secret missions, cool gadgets, and fast cars. You probably wouldn't think of mathematics. But you should. Cracking codes and unraveling the true meaning of secret messages involves mathematics, from simple addition and subtraction, to data handling and logical thinking. What do you get when you cross a mathematician with James Bond? Cryptography: the method of storing and transmitting data in a particular form so that only those for whom it is intended can read and process it. This workshop is an introduction to cryptography and ciphers. Students will engage in mathematical concepts and techniques that would allow them to make and to break “secret” messages.
Presenter: Lina Obeid
Location: FEM 4E

Soil: Get your hands dirty!
Description: While it may be easy to dismiss the importance of dirt, it is a fact that soil is vital to humankind. Soil supports the growth of most of our food, so its productivity is a major factor in the economy of central California, “the food basket of the world.” This workshop will provide practices and technologies of future agricultural production systems and will showcase work that is being done right here in our valley to improve crop production systems. There will be a hands-on set of activities related to soil functional quality that students will conduct. Are you ready to get your hands dirty?
Presenter: Dr. Jeff Mitchell
Location: FEM 7

So You Want to be a Crime Scene Investigator?
*Description:* Television makes forensic science seem trendy and cool, but this workshop will make the job real. Join us as we discuss the skills needed to survive in this field, the academic requirements, and a look at some of the areas like: blood analysis, fingerprints, and unknown fibers within the broad Crime Scene Investigator (CSI) field.
*Presenter:* Rosemarie Elizondo
*Location:* FEM 8

Air Force Technical Degree Sponsorship Program
*Description:* Are you interested in electrical and computer engineering? Come to an information session to learn more about this outstanding Air Force Program. The Air Force Technical Degree Sponsorship Program (TDSP) provides an excellent way to earn money while you finish your education. Upon graduation, you will be commissioned as an officer and get started in an Air Force job that uses your technical skills. If you are looking for a life full of opportunity, where freedom and honor is a part of everything you do, become part of the Air Force team!
*Presenter:* MSgt. Steven Drew
*Location:* FEM 12

Want to Make a Difference in Your Community? Grab Your Friends and Start Planting Trees! And be Water-Wise, Too!
*Description:* Tree Fresno is inspiring the next generation to take responsibility for the environment and become community leaders by planting over 40,000 trees in Fresno, Madera, Kings and Tulare counties. If you are a lover of trees and the environment, and you are a leader who wants to help in your community, than become a part of the Reedley Community Landscapes Plan, the first-ever citywide tree planting program in the San Joaquin Valley. Find out how trees are the answer for reducing the use of water for landscaping.
*Presenters:* Lee Ayres and Bernie Nunez
*Location:* AGR 1
I Scream, You Scream for Ice Cream!
Description: Students will learn the theory on making ice cream, and there will be a hands-on session of ice cream delicious works of art. The science behind why we love ice cream is called dairy science. This field explores the technology and science behind the production of milk and milk products like cheese, yogurt, butter, and ice cream. Dairy science professionals must learn everything from raising cattle to managing a dairy plant. If you scream for ice cream, then create your very own hand-made ice cream at the end of this session!
Presenter: Martin Castro
Location: AGR 2

Why We Vaccinate: Superhero Germ Fighting Powers in a Shot
Description: What is a vaccine, anyway? How is it different from other medicines? Could movies with disease outbreaks like Super Flu and Ebola could be real? This workshop will discuss the science behind immunology and controlling of infectious disease through vaccination. We will discuss the reproductive value of infectious diseases and precisely how vaccines have the potential to eradicate disease.
Presenter: Dr. Jared Rutledge
Location: AGR 15

Fresno State’s Physics Outreach Team
Description: Are you ready for spins and acceleration? This team knows how to add a little bit of fear and danger to the excitement the physics way! Through a variety of hands-on activities, you will use fundamental physics laws and, most importantly, have fun!
Presenters: Don Williams and Fresno State Physics Outreach students
Location: South Lawn

Young Makers with SAM Academy
Description: Learn how to build a Nerdy Derby car, tinker with circuits, build mini bots, launch rockets, and learn from a variety of science exhibits on the Mobile Science Classroom. The PG&E Safety Team will also join us to demonstrate electrical and gas safety through a unique and memorable demonstration.
Presenters: Dr. Jerry Valadez and SAM Academy
Location: South Lawn
The Cost of (Not Doing) Quality: Is 99.9% Good Enough?

Description: Think about it. Even being 99.9% right is not good enough. If it were, then banks would deduct 22,000 checks from the wrong accounts each hour, 810 commercial airline flights would crash every month, and hospitals would give 12 babies to the wrong parents every day! Learn about the presenter's job as a quality assurance manager at Beckman Coulter, a leading manufacturer of biomedical testing instrument systems. Discover her career pathway in the manufacturing sector with degrees in electrical and industrial engineering.

Presenter: Sarid Quiroz
Location: CCI 200

ENGINEERING

My Job as an Environmental Geologist Rocks!

Description: Learn how environmental geologists help to save the environment by analyzing soils, rocks, and groundwater. Environmental geologists help clean up contamination from leaking underground gasoline storage tanks, old mines or chemical spills from dry cleaners. Did you know that dry cleaners use cleaning chemicals that can harm people, animals and plants if there is a spill? Dry cleaning chemicals if released to the environment contaminate the soil and water that can last tens to hundreds of years. Just another day's work for the environmental geologist!

Presenter: Chad Neptune
Location: CCI 201

SCIENCE

Mathemagic

Description: Mathematics and magic may seem a strange combination, but many of the most powerful magical effects performed today have a mathematical basis. This workshop will show you how to perform some magical tricks to impress and entertain your friends. But it will also explain the mathematics behind the tricks and how that same math is used in the real world. But please remember the Magicians Code: never reveal the workings of magic tricks to your audience!

Presenter: Maria Ortiz
Location: CCI 202

MATH
**Nursing Opportunities**

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*Presenters:* Pilar De La Cruz, Alicia Elizondo, Peter John Garcia, Cyndi Guerra, Monique Molina, Chenille Rivera

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**Geomatics Engineering: Cool Toys for Mapping!**

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*Presenter:* Scott Peterson

*Location:* CCI 204

**Sports Medicine: Not Just Taping Ankles and Handing Out Water**

*Description:* As the sports industry grows and becomes more complex, it requires the skills of a growing number of experts, uniting biomedical engineers with sports medicine professionals. Sports medicine uses the problem solving skills of engineers in developing new technologies and systems and integrates these with the human performance expertise of sports medicine, which in turn help athletes go higher, faster and further. An overview of sports medicine as a whole will be discussed, highlighting the widely varied group of components of sports medicine, such as athletic training, physical therapy, personal training, and strength and conditioning.

*Presenters:* Michael Kaufman and Sara Hart

*Location:* CCI 205
Breathing the Worst Air in America: The Importance of Regulation and Air Quality Engineer’s Role in Central California Public Health Prevention

*Description:* You could go days without food and hours without water, but you would last only a few minutes without air. You must have air to live. However, did you know that breathing polluted air can make you sick? People in the Fresno-Madera area suffer the nation’s worst air pollution. No matter who you are, where you live, or how healthy you are, the quality of the air you breathe each day can affect you. In this workshop the presenter will teach about the air you breathe, how to protect your health and take steps to make the air cleaner and healthier. Learn about his job as an air quality engineer at San Joaquin Valley Air Pollution Control District. Discover his career pathway with degrees in chemical engineering and materials science to improve the health and quality of life for all valley residents.

*Presenter:* Thom Maslowski  
*Location:* CCI 206

**ENGINEERING**

Designing and Building a Formula-Style Race Car – What Does It Take?

*Description:* Love cars? Come and learn about the Society of Automotive Engineers (SAE) Formula Car Competition. Engineering students must function as a team to not only design, build, test, promote, and race a vehicle within the limits of the rules, but also to generate financial support for their project and manage their educational priorities. Students from Fresno State’s Mechanical Engineering Program will present their project on the design of the Formula SAE race car. Find out that mechanical engineering is way more than cars!

*Presenter:* Walter Mizuno  
*Location:* CCI 207

**ENGINEERING**

Bitwise Industries: Building a Technology Hub One Geek at a Time

*Description:* Bitwise Industries is a technology hub in downtown Fresno that is home to 28 technology companies. Startups ranging from agricultural technology to general software development in an atmosphere adorned with brightly painted walls, pinball machines and community gardens. Geekwise Academy teaches technology skills that you can use to make money. Bitwise Industries empowers the next generation of ambitious people to do awesome stuff in Fresno.

*Presenter:* Jed Soberal  
*Location:* FEM 4

**TECHNOLOGY**
The Intersection of Math, Art, and Design

*Description:* The intersection of math, art, and design is evident in the brilliant work of M.C. Escher. During this session, discover Escher’s bizarre landscapes, surreal dimensions, and impossible buildings. Also, learn how to design some of his artwork. His pieces are very relevant to mathematics and to optical illusions: a flat surface becomes deep and three dimensional as well as infinite; up is down; ceiling transforms into a floor. Amazing! At the end of this workshop, you will leave with your own artistic Escher creation, as well as greater confidence in your mathematic abilities. If you like drawing, this workshop is for you!

*Presenter:* Lina Obeid  
*Location:* FEM 4E

Soil: Get Your Hands Dirty!

*Description:* While it may be easy to dismiss the importance of dirt, it is a fact that soil is vital to humankind. Soil supports the growth of most of our food, so its productivity is a major factor in the economy of central California, “the food basket of the world.” This workshop will provide practices and technologies of future agricultural production systems and will showcase work that is being done right here in our valley to improve crop production systems. There will be a hands-on set of activities related to soil functional quality that students will conduct. Are you ready to get your hands dirty?

*Presenter:* Dr. Jeff Mitchell  
*Location:* FEM 7

Careers in Public Health: Ensuring a Healthier America

*Description:* From identifying diseases to creating public policy to helping refugees integrate into new communities, public health careers help to prevent epidemics and improve the health of entire nations. Public health initiatives have improved lives worldwide, including increasing life expectancy. Public health focuses on preventing disease and injury by promoting healthy lifestyle, implementing educational programs, developing policies, administering services, conducting research, etc. If you like the intersection of science and politics, and the relationships between culture and health, then public health is your field. This presentation will allow students to know the wide-range of careers that are available in public health, and some of my experiences as a public health physician in the U.S. Navy.

*Presenter:* Dr. Ann Fallon  
*Location:* FEM 8
**Air Force Technical Degree Sponsorship Program**

*Description:* Are you interested in electrical and computer engineering? Come to an information session to learn more about this outstanding Air Force Program. The Air Force Technical Degree Sponsorship Program (TDSP) provides an excellent way to earn money while you finish your education. Upon graduation, you will be commissioned as an officer and get started in an Air Force job that uses your technical skills. If you are looking for a life full of opportunity, where freedom and honor is a part of everything you do, become part of the Air Force team!

*Presenter:* MSgt. Steven Drew

*Location:* FEM 12

**Boosting STEM Achievement at UC Merced**

*Description:* This workshop will provide a venue for participants to learn about the STEM Resource Center at University of California, Merced. The STEM Resource Center builds a learning community to enhance academic and social experiences for UC Merced undergraduates pursuing degrees in science, technology, engineering and math. The STEM Resource Center works with students individually to help them flourish in intellectual endeavors and take personal responsibility for their own successes. They support students in finding research and internship opportunities and building lifelong skills needed for advancement and leadership in STEM careers.

*Presenter:* Dr. Petia Gueorguieva

*Location:* AGR 1

**I Scream, You Scream for Ice Cream!**

*Description:* Students will learn the theory on making ice cream, and there will be a hands-on session of ice cream delicious works of art. The science behind why we love ice cream is called dairy science. This field explores the technology and science behind the production of milk and milk products like cheese, yogurt, butter, and ice cream. Dairy science professionals must learn everything from raising cattle to managing a dairy plant. If you scream for ice cream, then create your very own hand-made ice cream at the end of this session!

*Presenter:* Martin Castro

*Location:* AGR 2
Session 2: 10:30 to 11:20 a.m.

**聽(Ting), 說(Shuo), 讀(Du), 寫(Xie) (Listen, Speak, Read, Write) Mastering the Anatomy and Physiology**

*Description:* The anatomy & physiology (A&P) students of today are the nurses, doctors, physician assistants, and physical therapists of tomorrow! These classes are difficult and require a lot of time to understand. If you want to survive a human anatomy or human physiology course, the presenter has implemented an old Chinese method called 聽(Ting), 說(Shuo), 讀(Du), 寫(Xie) to master the contents. He will explain the importance of the course, describe basic concepts of organ systems, highlight key study habits, and give an open discussion on how to succeed in these classes. This workshop may include a circulatory system related rap song written by Joseph Lin to teach you about the heart.

*Presenter:* Joseph Lin  
*Location:* AGR 15

**Fresno State’s Physics Outreach Team**

*Description:* Are you ready for spins and acceleration? This team knows how to add a little bit of fear and danger to the excitement the physics way! Through a variety of hands-on activities, you will use fundamental physics laws and, most importantly, have fun!

*Presenters:* Don Williams and Fresno State Physics Outreach students  
*Location:* South Lawn

**Young Makers with SAM Academy**

*Description:* Learn how to build a Nerdy Derby car, tinker with circuits, build mini bots, launch rockets, and learn from a variety of science exhibits on the Mobile Science Classroom. The PG&E Safety Team will also join us to demonstrate electrical and gas safety through a unique and memorable demonstration.

*Presenters:* Dr. Jerry Valadez and SAM Academy  
*Location:* South Lawn
Yeast: The Fun in Fungus!
Description: Did you know that yeast loves sugar and starch? This process called fermentation makes the bread rise. Come and join us to design experiments using yeast while having fun...gus!!
Presenter: Ray Dressel
Location: PHY 70
SCIENCE

Is Your Bridge Strong Enough?
Description: Do you think that you can design a strong bridge? In this workshop, you will build your own bridge, testing its strength by how much weight it can hold while floating on water!!
Presenter: Yareli Magana
Location: Business BUS 43
ENGINEERING

It's A Bird... It's A Plane... It's a Glider!!!
Description: If you want to learn how things fly in air, or the science behind aeronautics, come to this workshop to design and build a glider. We will be launching gliders to test how far they can go!
Presenter: Nancy Miller
Location: BUS 42
ENGINEERING

Fibonacci: Mystery Numbers of Art and Nature!
Description: Fibonacci numbers are nature's numbering system. They appear everywhere in nature, creating spirals and interesting shapes in flowers and shells. In this workshop, you will create a math art project on paper, using the repeating pattern of Fibonacci numbers.
Presenter: Kelsey Friesen
Location: SOC 30
MATH
**Chemistry and the World of Cool Concoctions!**
*Description:* Have you ever wanted to mix different liquids and powders in your kitchen just to see what happens? What about learning funky fun experiments with cabbage? Would you like to learn how to make Elephant’s Toothpaste? This chemical concoction is a large foamy mess that looks like toothpaste squirting out of a tube. It is so big that only an elephant could use toothpaste this large!
*Presenters:* Fresno City College Science and Engineering Club
*Location:* LFS 17

**Forest Service: Cool Jobs Outdoors!**
*Description:* Do you dream of a job where you could be outdoors all the time? Then working for the Forest Service could be for you. Join us for this presentation to learn about STEM career opportunities available within the Forest Service, while playing a guessing game.
*Presenter:* Julissa Gonzalez
*Location:* SOC 39

**What’s Up in Our Solar System?**
*Description:* Did you know that star gazing is the oldest scientific hobby on earth? Would you like to learn how telescopes operate? Explore the universe with this “out of this world” presentation about comets, asteroids and the recent space missions to Pluto.
*Presenter:* Steven Harness
*Location:* PHY 77

**Doodling in 3D: These Ain’t No Napkin Sketches!**
*Description:* Ever dreamed of drawing in 3D? The 3Doodler is a printing pen that allows you to draw in 3D. If you can scribble, trace, or raise your finger in the air, you can use a 3Doodler. It is like a magic wand that form shapes before your eyes! In this workshop, you will be able to draw up into the air and create anything you can think of; your imagination is the limit!
*Presenter:* Janice Ledgerwood
*Location:* ART 154

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**MIDDLE SCHOOL SESSION DESCRIPTIONS**

**Session 1: 9:30 to 10:20 a.m.**
When Life Gives You Lemons, Keep Them to Make Your Own Battery!

*Description:* This totally shocking and electrifying STEM overview using electrical circuits, lemon batteries, and other hands-on activities will be explained by high school students to show you the fun side of science and technology and will positively spark your STEM interest!

*Presenters:* Brian Emerson and Center for Advanced Research and Technology (CART) students.

*Location:* LFS 11

**ENGINEERING**

Solar-Powered Boat Race Competition

*Description:* Come and learn the secrets behind how solar panels turn the sun's light into electricity! You will be amazed at how powerful the sun's rays could be, and this energy can be used to power many cool toys. In this workshop, being the best boat racer means being the best engineer, as solar-powered boats will compete in an inflatable pool.

*Presenters:* Dr. Ajith Weerasinghe and Fresno State Sundogs students.

*Location:* SOC 36

**ENGINEERING**

Rock Detectives: Geology is Everywhere!

*Description:* In this cool workshop, you will learn about geology, the study of rocks and minerals. If you are curious, like to experiment with unknown minerals, and like to analyze mystery rocks, then you are ready to become a rock detective!

*Presenters:* Kerry Workman Ford, Dr. Beth Weinman and Fresno State Earth and Environment students

*Location:* SOC 31

**SCIENCE**

Lego Mindstorms Robots

*Description:* This workshop will allow future robot builders to bring their designs to life. You will have fun building and programming robots, while learning programming skills to teach robots to “think.”

*Presenter:* Rafael Enriquez

*Location:* SOC 35

**TECHNOLOGY**
**Fresno State’s Physics Outreach Team**
*Description:* Are you ready for spins and acceleration? This team knows how to add a little bit of fear and danger to the excitement the physics way! Through a variety of hands-on activities, you will use fundamental physics laws and, most importantly, have fun!
*Presenters:* Don Williams and Fresno State Physics Outreach students
*Location:* South Lawn

**Young Makers with SAM Academy**
*Description:* Learn how to build a Nerdy Derby car, tinker with circuits, build mini bots, launch rockets, and learn from a variety of science exhibits on the Mobile Science Classroom. The PG&E Safety Team will also join us to demonstrate electrical and gas safety through a unique and memorable demonstration.
*Presenters:* Dr. Jerry Valadez and SAM Academy
*Location:* South Lawn

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**Reedley College STEM STUFF**

**Reedley College STEM SUMMER CAMP:**
For students entering 6th-9th grades
July 27-30, 2015  •  8:00 a.m. to 12:30 p.m.  •  Cost $100

*Students will take part in two activities each day:*
- Engineering Robotics Design
  This workshop will allow future robot builders to bring their designs to life! You will have fun building and programming robots to solve an engineering challenge, while learning programming skills to teach robots to “think.”
- Drawing and Animation using JavaScript
  Do you like computers? Are you interested in learning how to program? This first course in Drawing and Animation using JavaScript will get you started with the fundamentals of the programming language of the Web. You will be learning computer programming concepts of functions, decision making, looping, and arrays.
Yeast: The Fun in Fungus!
_Description:_ Did you know that yeast loves sugar and starch? This process called fermentation makes the bread rise. Come and join us to design experiments using yeast while having fun...gus!!
_Presenter:_ Ray Dressel
_Location:_ Physical Sciences PHY 70
_SCIENCE_

Is Your Bridge Strong Enough?
_Description:_ Do you think that you can design a strong bridge? In this workshop, you will build your own bridge, testing its strength by how much weight it can hold while floating on water!!
_Presenter:_ Yareli Magana
_Location:_ Business BUS 43
_ENGINEERING_

It's A Bird... It's A Plane... It's a Glider!!!
_Description:_ If you want to learn how things fly in air, or the science behind aeronautics, come to this workshop to design and build a glider. We will be launching gliders to test how far they can go!
_Presenter:_ Nancy Miller
_Location:_ BUS 42
_ENGINEERING_

Shhh….Can You Keep a Secret?
_Description:_ Spy students must be able to secretly exchange messages. Cryptography, the mathematics of secret codes, will help you to send messages to friends that no one else could read!
_Presenters:_ Elaina Aceves and Jennifer Elder
_Location:_ SOC 30
_MATH_
**Chemistry and the World of Cool Concoctions!**
*Description:* Have you ever wanted to mix different liquids and powders in your kitchen just to see what happens? What about learning funky fun experiments with cabbage? Would you like to learn how to make Elephant’s Toothpaste? This chemical concoction is a large foamy mess that looks like toothpaste squirting out of a tube. It is so big that only an elephant could use toothpaste this large!
*Presenters:* Fresno City College Science and Engineering Club
*Location:* LFS 17

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*Description:* This workshop will allow future robot builders to bring their designs to life. You will have fun building and programming robots, while learning programming skills to teach robots to “think.”
*Presenter:* Rafael Enriquez
*Location:* SOC 35

**Green Club: Eco-Friendly Cool Ideas**
*Description:* Reedley College’s Green Club inspires students to protect the planet using eco-friendly cool ideas. At the annual Trashion Fashion Show, students create and model their own fashion designs made with discarded materials. In this workshop, heat from the sun will be used to cook food.
*Presenters:* Bethany Bush and Reedley College Green Club students
*Location:* SOC 39

**What's Up in Our Solar System?**
*Description:* Did you know that star gazing is the oldest scientific hobby on earth? Would you like to learn how telescopes operate? Explore the universe with this “out of this world” presentation about comets, asteroids and the recent space missions to Pluto.
*Presenter:* Steven Harness
*Location:* PHY 77
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*Presenters:* Dr. Jerry Valadez and SAM Academy
*Location:* South Lawn

**Reedley College STEM STUFF**

*Reedley College Spring 2015 STEM Ambassadors are:*  
Lorenzo Alvarado  
Elias Bonomi  
Lorne Briones  
David Castellano  
Erika Chavez  
Juan Cordova  
Daphne Cuaresma  
Jeff Cuaresma  
Austin Gutzmer  
Alejandro Guzman  
Mark Huerta  
Dennis Lancaster  
Molly Lasslett  
Anahi Martinez  
Hanna Millares  
Nicholas Perez-Aguilar  
Carlos Romero  
Maria Santoyo Perez  
Henry Torres  
Jose Torres  
Gerardo Vega  
Aaron Villarreal  
Leslie Wilson
Parent/Teacher Session
Descriptions

*RECOMMENDED FOR PARENTS AND TEACHERS*

**STEM: Science, Technology, Engineering and Mathematics: What You Need to Know to Help Your Student Succeed**

*Description:* A workshop designed to inform parents and teachers about career possibilities in science, technology, engineering and mathematics (STEM). STEM careers are among the highest-paying positions in any field. Moreover, jobs in the STEM fields are projected to grow about twice as fast as those in other industries. A panel of experts will be discussing the importance of STEM, its myths, advice on selecting the right high school path, how to encourage minority students and girls to pursue careers in STEM, and many other topics will be covered.

*Presenters:* Nuria Denis-Arrue, Dr. Edbertho Leal-Quiros and Blanca Madrigal

*Location:* Forum Building

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*EN ESPAÑOL: RECOMENDADO PARA PADRES Y MAESTROS*

**STEM: Ciencia, Tecnología, Ingeniería y Matemáticas: Lo que usted necesita saber para poder impulsar el éxito académico de su estudiante**

*Descripción:* Este taller está diseñado para informar a padres y maestros sobre las oportunidades en las carreras de ciencias, tecnología, ingeniería y matemáticas, mejor conocido por sus siglas en inglés como STEM. Las profesiones mejores pagadas hoy en día son las relacionadas con carreras en este campo. Además, se pronostica que el crecimiento en la oferta de trabajo de carreras en STEM sea el doble comparado al de otras industrias. Un panel de expertos le hablará de la importancia de STEM, sus mitos, consejos de cómo seleccionar el mejor camino durante la preparatoria, cómo alentar a estudiantes de grupos minoritarios y niñas a que estudien profesiones STEM, entre muchos otros temas más.

*Presentadores:* Nuria Denis-Arrue, Dr. Edbertho Leal-Quiros y Blanca Madrigal

*Lugar:* Edificio Fórum
Elaina Aceves graduated with her B.A. in mathematics from Fresno State in 2014. She is currently a part-time lecturer at Fresno State and a full-time graduate student in mathematics at Fresno State.

Lee Ayres is the chief executive officer of Tree Fresno. He has a master's degree in public administration and is dedicated to the Tree Fresno mission to transform the San Joaquin Valley with trees, trails, greenbelts and beautiful landscapes.

Center for Advanced Research and Technology (CART) is located in Clovis, CA. Students include, Kasani Wise, Bullard High School: she has been accepted to Cal Maritime for mechanical engineering; Ricardo Maldonado, Bullard High School: he has been accepted to Fresno State for mechanical engineering; Kyel Robbins, Bullard High School: he will be attending Fresno City College; Felicia Perez, Clovis High School: she has been accepted to Fresno State for mechanical engineering; Katlynn Walker, Clovis West High School: she has been accepted to Fresno State for mechanical engineering; Timofey Volkov, Buchanan High School: he will be attending the Clovis Community College Center; Patrick Kong, Clovis West High School: he has been accepted to UCLA for environmental engineering.

Martin Castro was raised in Coalinga, CA. After graduating from high school he received his associate degree in animal science from Reedley College. While at Reedley College he served in numerous leadership capacities. He earned the Reedley College Outstanding Student Leader award and Ag Backers Council Outstanding Animal Science Student award. Martin went on to receive his bachelor of science in the field of agriculture education from Fresno State where he was recognized as the Outstanding Student for the Jordan College of Agriculture in the area of beef cattle production. Currently Martin teaches for Reedley College and Reedley Middle College High School and is an advisor for the Reedley Middle College High School FFA Chapter.

Nuria Denis-Arrue is a biology professor at Fresno City College. She moved from El Salvador to the United States to escape from her country's civil war. She struggled as a student in her own country, where many students were being killed at the time, and then moving to this country in her pursuit of academic success. Mrs. Nuria Denis-Arrue attended Fresno City College as a student, and now she is a full-time biology professor at the same institution. Nuria is a strong advocate of higher education; she is a mentor for many students and a leader who works toward increasing the academic success and engagement of underrepresented students in STEM fields.

Ray Dressel received his B.S. in biology with an emphasis in evolution and ecology from California State University, Fresno in 2007. Mr. Dressel has served as the department chair for the Reedley High School Science Department. Mr. Dressel began his teaching career at Reedley High School in 2007 and has been a full-time biology teacher ever since.
**MSgt. Steven Drew** graduated from Community College of the Air Force with an associate of applied science degree in social science and an associate applied of science in human resource management. He will be graduating from Brandman University with a B.A. in sociology this May. He spent 11 years in the Air Force as a chaplain assistant in Germany, Colorado and Hawaii. He then volunteered to be an active duty air force recruiter, which he has been doing for three years now in Modesto, CA.

**Jennifer Elder** graduated with her B.A. in mathematics from Fresno State in 2014. She is currently a full-time graduate student in mathematics at Fresno State. In her spare time she tutors upper division math classes, and works part-time at the Downing Planetarium.

**Rosemarie Elizondo** graduated from UC Davis with a bachelor of science degree and master of science degree in biological science with an emphasis in microbiology and parasitology. She is a licensed clinical laboratory scientist and has worked on and understands the human body. She has been teaching at Reedley College for 21 years. She has taught all the biology classes, initiated the DNA research project, taught in Upward Bound Programs, and has been an advisor and mentor students in the Pre Professional Health Club. She also volunteers in the community and helps her students in this endeavor.

**Brian Emerson** teaches applied physics, engineering, and robotics at the Center for Advanced Research and Technology (CART) in Clovis, CA. He brings to this position over 10 years in the engineering field and nearly 25 years of drafting/CAD experience. He holds a B.S. in physics and is presently completing coursework for a M.S. in mechanical engineering.

**Rafael Daniel Enriquez** is the STEM specialist for Pro-Youth, a non-profit organization that serves over 10,000 students annually after school in Tulare County. Pro-Youth’s STEM program began during the Jumpstarting STEM Initiative in 2011 that sought to bring high quality STEM lessons to after school. For the past four years, Enriquez has helped facilitate, design, and implement STEM curriculum and has reached over 3,000 students the current school year at over 30+ schools in Tulare County. Rafael Enriquez is the current Region 7 STEAM Awardee and has presented at multiple Region 7 conferences. He graduated with his degree in liberal studies from Fresno Pacific University.

**Dr. Ann P. Fallon** received her B.A. in biology from Washington and Jefferson College, and received a M.D. and M.P.H. from Uniformed Services University of the Health Sciences, board certified in general preventive medicine and public health. Dr. Fallon served in the U.S. Navy as a public health physician for 27+ years stationed throughout the United States and the world. Dr. Fallon retired in 2009 and then began teaching biology at Reedley College and Clovis Community College Center. Currently, she is a full-time biology instructor at Clovis Community College Center.
The Fresno City College Science and Engineering Club is a group that is dedicated to the discussion, practice and celebration of all topics relating to science and engineering. They have weekly meetings in which they do various activities and experiments, have guest speakers come and talk about science and engineering topics, and encourage each other's success in their fields of study. They also do a significant number of fundraising events such as car washes and food sales in order to fund an academic scholarship for STEM students. Students: Michelle Hernandez, George T. Yang, Adam Talib, Edgar R. Juarez Jr., Jonah Rodriguez, and Josh Quintanilla.

In Fresno State’s Earth and Environmental Department, there are three clubs/chapters that are open to all students. Each club or chapter focuses on different aspects of geology and environmental science, but unite together for meetings, networking, conventions, volunteer opportunities, and good times. American Association of Petroleum Geologists (AAPG) is a chapter that focuses on the energy industries and encourages students to attend conferences and short courses. The Association of Environmental and Engineering Geologists (AEG) club also encourages students to network and learn more about possible work opportunities with guest speakers monthly presenting. Finally the Geology Club is an overall interest club that helps tie the clubs together with fund raising, traveling speakers, and field trips. Composed by Dr. Beth Weinman and Kerry Workman Ford (faculty); Alexandra Pytlak, Ray Bargas, Scott Yuen, Casey Polon, Yvan Mendoza (students).

After graduating Reedley High School, Kelsey Friesen participated in the Reedley College Pete P. Peters Honors program for two years and then graduated with her associate degree in math in May of 2012. While attending Reedley College, she worked as a tutor for math and science in the Reedley College Tutorial Center. After graduating from Reedley College, Kelsey transferred to Fresno State where she completed her B.A. in math in May 2014. Currently, she is a substitute teacher and a graduate student at Fresno State. She is expected to receive her M.A. in math in May 2016.

Jimmy Gonzalez was a student at Fresno City College before transferring to Fresno State. He will be graduating with two different degrees at the end of this semester. Jimmy will receive a bachelor’s degree in mathematics, and a bachelor’s degree in physics. Currently Jimmy is already taking classes at a master’s level. He had the opportunity to travel twice to the Large Hadron Collider (LHC) in Geneva, Switzerland as part of the ATLAS program at Fresno State. This summer, Jimmy will be conducting more physics research at LHC in Switzerland for the third time.
**Julissa Gonzalez**, USDA, Forest Service - Central California Consortium (CCC), coordinates the CCC student employment program by conducting strategic and targeted outreach and recruitment at numerous educational institutions. She provides career and professional development counseling and informs students about the Forest Service and natural resource opportunities considered to be non-traditional careers. Julissa has worked for the Forest Service for over 11 years. She has a B.S. degree in business administration with a human resource management option and a M.A. degree in communication from Fresno State.

**Dr. Petia Gueorguieva** is the Science, Technology, Engineering and Mathematics (STEM) resource center coordinator at University of California, Merced. She is a lecturer teaching chemistry classes at UC Merced. Dr. Gueorguieva holds a doctoral degree in inorganic chemistry from Louisiana State University, Baton Rouge. Dr. Gueorguieva obtained her master's in science education from Sofia University in Sofia, Bulgaria.

**Steven Harness** received his B.A. in geology from Bradley University and his M.A. from Fresno Pacific College. He has twice been president of the Central Valley Astronomers and is currently a club officer. He has taught astronomy classes at Chapman University and Fresno Pacific University. As part of the Teacher Training Astronomy Program (TLRSBE), he spent two weeks at Kitt Peak National Observatory. He is a project astro astronomer with the Astronomical Society of the Pacific as well as a solar ambassador with the Jet Propulsion Lab in Pasadena, and coordinator with the Night Sky Network. Steve currently teaches earth science, chemistry, and astronomy at Kingsburg High School.

**Sara Hart** is a fourth year student at Fresno State. She is in her last year of the Athletic Training Education Program at Fresno State. Sara has worked as the senior student with the women's swim and dive team at Fresno State over the last year. She also serves on the National Athletic Training Students Committee as the student representative for California, Nevada, and Hawaii (District 8 of National Athletic Trainers' Association).

**Michael Kaufman** graduated from Sierra College with an associate of liberal arts in 2008. He graduated from Cal State Fullerton's College of Health and Human Development with a B.S. in athletic training. He then did a four-month internship with USA Volleyball as well as worked in various settings such as community college, high school, and physical therapy. Michael is currently a graduate assistant intern at Fresno State.

**Dr. Edbertho Leal-Quiros** holds a doctoral degree in nuclear engineering from University of Missouri, a master's degree in physics from UCLA, another master's degree in physics, and bachelor's degree in physics from the National University of Colombia. Dr. Leal-Quiros was born and raised in Colombia. He designed several analyzers and probes for plasma research and has participated in several research projects at Los Alamos national lab, NASA, NRL, UCLA, Polytechnic University of Puerto Rico and University of California Merced. Lately he has contributed with applications of Plasma Engineering to generate clean water.
and also using plasma processing of municipal solid waste. Professor of physics, and engineering courses for many years, he is currently at Fresno State. Dr. Leal-Quiros has more than 50 journal publications, several patents and many international technical presentations.

Janice Ledgerwood received her M.F.A. in printmaking with an emphasis in digital technology from California State University, Fullerton. Prior to teaching full-time at Reedley College, Ms. Ledgerwood taught printmaking and design at the University of Southern California as well as Photoshop, Illustrator, and Dreamweaver at El Camino Community College in Los Angeles. She has a passion for exploring new technology and testing its limits.

Joseph Lin is a temporary full-time instructor at Reedley College and a part-time lecturer at Fresno State. He received his bachelor's degree in biochemistry from the University of Washington Seattle and master's degree in biotechnology from Fresno State. He has taught eight different biological courses in the past two years of teaching in the valley. During the past two summers, he has successfully taught both anatomy and physiology in a condensed three-week/six-week time frame. Originally from Taiwan, and living in the United States since 2005, he is fascinated with how cultures blend and diversity flourishes in the U.S. education. He is also interested in educational processes and approaches that engage new generations in learning.

Blanca Madrigal was born in Illinois. She was raised in California and lived in Mexico for a few years, returning to central California where she attended Madera High School. She received her bachelor's degree in psychology from University of California, Los Angeles (UCLA) and her master's of public administration from California State University, Northridge (CSUN). Mrs. Madrigal has served various roles in the UCLA Henry Samueli School of Engineering's Center for Excellence in Engineering and Diversity (CEED). Currently she serves as the manager of grants and program administration. Through her job at UCLA CEED, she promotes engineering to underrepresented communities and provides support to undergraduate students to succeed in engineering. Blanca is also an avid photographer, and enjoys traveling to different countries. She is fully bilingual English-Spanish and is currently learning French.

Yareli Magana grew up in the city of Tulare. She attended College of the Sequoias and earned her associate degree in liberal arts. Yareli completed her bachelor’s degree in sociology at Fresno State. After graduation, she has attended many trainings, but her absolute favorite has been the STEM Rich Maker Training at the San Francisco Exploratorium! She believes that students learn better when they are having fun and in a welcoming and safe environment! That is why she is thrilled to have the opportunity of working for Tulare County Office of Education as CHOICES site coordinator II for the after school program! Her favorite thing about her job is working with students because they make every day interesting and fun!
**Thom Maslowski** graduated from Reedley College with an associate of science degree in mathematics and biology and an associate of arts in general studies in 2003. He graduated from UC Berkeley’s College of Chemistry and UC Berkeley’s College of Engineering with a B.S. in chemical engineering and material science and engineering. He spent six months as a sales representative with Baker Petrolite while attending college. After graduation he worked a year as a research engineer for Chevron on well site development. Over the last seven years he has served as an air quality engineer with the San Joaquin Valley Air Pollution Control District dealing with rule regulation in the role of public health protection.

**Nancy Miller** graduated from California Polytechnic State University, San Luis Obispo with a B.S. degree in animal science and agricultural business management. She also received MAT from National University. She has been teaching biology for KCUSD at Grant Middle School for the past nine years and has also been a MESA (Math, Engineering, Science Achievement) adviser for Fresno State. She also volunteered for Fresno County 4-H as a youth leader for the past 12 years. She joined Upward Bound at Reedley College last year.

**Dr. Jeff Mitchell** works with the University of California, Davis in the Department of Plant Sciences as a cropping systems researcher. He works with farmers to develop information that will help them improve the efficiency, economics and conservation of their crop production systems. He graduated from Taft High School and was captain of his basketball team there. He played basketball in college before going to UC Davis to earn his master’s and Ph.D. degrees in plant physiology. He wishes all of the STEM Conference students great success with their science and leadership programs and their personal development.

**Walter Mizuno** was born and raised in Reedley, CA. After attending Reedley College, he received his BSME and MSME degrees from UC Berkeley. He has held a lecturer’s position in the Mechanical Engineering Department of the Lyles College of Engineering at Fresno State from 1979 to 1991 and from 1995 until the present time. He is currently serving as a member of PG&E’s Energy Workforce Sector Strategy Advisory Board promoting progress toward California’s carbon reduction goals through workforce development in the Commercial Energy Efficiency Sector. His current research is with the California Department of Water Resources developing technology to reclaim agricultural irrigation tailwater. He is also serving on the High Speed Rail Committee to address meeting the engineering and construction management educational needs as the project moves forward. He is currently serving as the co-director of the University Center to Advance Manufacturing. He is affiliated with the Fresno State UAS project and is active in fresh fruit production, farming in the Reedley area. He has three grown children and a wife of 32 years, Emy.
The National Association of Hispanic Nurses (NAHN) is composed by Alicia Elizondo, RN, PHN, BSN, RN, Community Regional Medical Center; Pilar De La Cruz, RN, BSN, MSN, director of Central California Center for Excellence in Nursing, Fresno State; Chenille Rivera, RN, BSN, nurse educator, Community Regional Medical Center; Monique Molina, RN, BSN, RN II, Saint Agnes Medical Center/Telemetry; Cyndi Guerra, DNP, FNP-C, MSN, RN, assistant professor, Fresno State School of Nursing; Peter John Garcia, DNP, FNPC, MSN, RNFA, assistant professor, Fresno State School of Nursing.

Chad Neptune is a recent graduate of California State University, Fresno with a bachelor’s of science in geology. Mr. Neptune is a California Department of Public Health (CDPH)-licensed lead-related construction inspector assessor and OSHA-certified asbestos sampling technician. Mr. Neptune has worked on a wide variety of environmental projects related to lead and asbestos abatement, site waste characterization, ground water remediation and monitoring, etc. Mr. Neptune also has experience with XRF analysis and soil quality analysis, gained while working as an intern on projects with the USDA Forest Service and U.S. Department of Defense. Mr. Neptune likes STEM, but he loves art, thus, he is a strong advocate for STEAM. In his spare time, Mr. Neptune volunteers helping kids with drama and acting techniques, playing music with his band, and enjoys drinking Kona coffee.

Bernie Nunez is the volunteer coordinator for Tree Fresno. He grew up in Parlier and lives in Reedley. Bernie will graduate from Fresno State in May. He is committed to making our community more beautiful for future generations, especially for his daughter!

Lina Obeid has enjoyed teaching mathematics for over 17 years, with the last 10 years being at Reedley College. She is involved in a variety of departmental, collegial, and extra-curricular activities including, but not limited to advising clubs, serving on committees, and participating in various educational events or workshops. She is also the department chair for math, computer science, and engineering at the college. Lina was born and raised in Africa. She speaks several languages among them French, her first language. Her favorite pastime is traveling around the U.S. and the world – from Asia and South America to Europe and Africa – experiencing in depth the beautiful cultures, nature, music, and foods the world has to offer.

Maria Ortiz earned her B.S. degree from California Polytechnic State University, San Luis Obispo and her M. A. from California State University, Fresno. She has taught mathematics for the past 36 years (five at the high school level and 31 at the college level), and has taught at Reedley College for the past 25 years, serving six years as department chair of the Math/Science/Engineering Department. Maria’s hobbies include traveling, gardening, biking and reading.
Scott Peterson is an assistant professor of the Department of Civil and Geomatics Engineering at Fresno State. He is committed to increase the number of students in this discipline, and he does outreach in many schools throughout the Central Valley. Mr. Peterson is currently working on his dissertation toward his doctoral degree in geomatics engineering from Purdue University, where he also obtained his master's degree in the same discipline. Mr. Peterson holds a bachelor's degree in biology from Brigham Young University. He found his passion in geomatics engineering after working as a land surveyor, and then enrolling in classes at a community college to obtain his associates degree in surveying technology.

Physics Outreach, composed by Don Williams and Fresno State Students, generates excitement about physics and science within the general public and kindergarten through 12th grade students, recruiting new physics and science majors, and training the next generation of science teachers. Service-learning outreach promotes community interest in physics, and other STEM courses.

Sarid Quiroz works in Porterville as a quality assurance manager at Beckman Coulter, a leading manufacturer of biomedical testing instrument systems. She has vast knowledge of quality assurance working for many years in the manufacturing sector. Mrs. Quiroz holds a master of science degree in industrial engineering from the University of Texas at El Paso, and bachelor of science degree in electrical engineering from Instituto Tecnologico de Ciudad Juarez, Mexico.

The Reedley College Green Club is composed by Bethany Bush (faculty) and Reedley College students. The purpose of the Green Club is to promote awareness environmental awareness in the surrounding communities by teaching everyone that conserving our planet is not limited to just recycling, but rather showing everyone that by reducing their carbon footprint, they can create a positive impact on the environment.

Victor Ruelas-Rivera emigrated from Mexico with his family at the age of 14. He attended high school in the bay area and continued on to college and received a B.A. in astrophysics from Whitman College, a small private liberal arts in Walla Walla, WA. While working on his bachelor's degree, he worked as a research assistant on the chemical composition of space dust, gaining experience in computational physics. After graduation Victor worked as a physics and math high school instructor. Currently Victor is working on his master's degree in physics at Fresno State. Victor has traveled to the Large Hadron Collider (LHC) in Geneva, Switzerland as part of the ATLAS program at Fresno State to perform research on a piece of custom electronics to reconstruct particle tracks after they collide with one another. This summer, before Victor graduates he'll be traveling to the LHC for the second time to continue his research.
Dr. Jared Rutledge is an epidemiologist for Fresno County Public Health Department. He has his Ph.D. in public health with emphasis in epidemiology. While Jared Rutledge was trained in multiple sub-disciplines in epidemiology, he favors communicable diseases. His current research has focused on Hepatitis C in incarcerated populations and HIV/AIDS in Fresno County. Jared is currently engaging in population based research with Gilead Pharmaceuticals, as well as various academic and private institutions. Jared specializes in analysis of secondary data analysis and building of predictive epidemiological models. Dr. Rutledge is also an adjunct biology instructor at Clovis Community College Center.

Jed Soberal is Bitwise Industries Business development manager, and a Fresno State business student. He has a passion for the technology community in downtown Fresno, and seeks to further its reach with low cost technology education.

Denise Soria was born in Turlock, CA. She graduated from Roosevelt High School in Fresno. Despite obstacles, she was the first in her immediate and extended family to pursue a higher education. She received a bachelor of science degree and master of science degree in civil engineering from California State University, Fresno. She currently works for the State Water Resource Control Board protecting waters of the state. As a strong advocate of higher education, she actively promotes STEM careers among the youth in her community.

Sintia Torres is currently a student at Fresno State earning her bachelor of science degree in mechanical engineering. As a student, she joined several student organizations, including Pi Tau Sigma, a mechanical engineering honor society. While earning her degree, Sintia has interned with three different companies: International Paper in Visalia, E&J Gallo Winery in Fresno, and MBT Steam Technologies. She has done both design work and project management.

Dr. Jerry Valadez is executive director/CEO of SAM Academy whose mission is to provide community-based programs that allow under-served youth a fun and safe way to explore science, technology, engineering and mathematics (STEM) and the arts. SAM Academy is a 501(3) public non-profit organization.

Dr. Ajith Weerasinghe is a solar energy and mechanical engineering assistant professor at Fresno State. He is passionate about doing outreach to local schools to promote energy education and solar energy among school children. Dr. Weerasinghe started Sundogs Solar Energy Society to promote solar power activities and make students aware of the job opportunities in this booming area. He holds a doctoral degree in solar cells, a master’s degree in solar power electronics and a bachelor’s degree in mechanical engineering.
Middle School Sessions

• Bus Drop-Off
• Registration
• Keynote Speakers
• Closing
• Food Vendors
• Bus Parking

High School/College Sessions

• Registration
• Keynote Speakers
• Closing

Parent/Teacher Sessions

• Bus Drop-Off
• Registration

SOUTH LAWN

• SAM and Fresno State Sessions
• Food Vendors

Middle School Sessions

• Bus Parking

College Sessions

• Registration
• Keynote Speakers
• Closing

Bus Parking

Bus Parking

Bus Parking

Bus Parking