

BOURNS COLLEGE OF ENGINEERING 20TH ANNIVERSARY

INSPIRATION FOR A NEW GENERATION

Susan Hackwood

DREAM UP THE FUTURE

Engineering offers more career options than any other discipline. It's a profession that can take you from the depths of the ocean to the far reaches of outer space, from within the microscopic structures of the human cell to the top of the tallest skyscrapers. These are some of the most popular engineering disciplines:

- AERONAUTICS**: Moon, Mars, & Beyond
- AGRICULTURE**: Thought for food
- ARCHITECTURE**: Build a greener world
- BIOMEDICAL**: Miracle workers
- CHEMICAL**: All the right elements
- CIVIL**: Structuring the world
- COMPUTER**: Programmed to succeed
- ELECTRICAL**: Connect to the future
- ENVIRONMENTAL**: Clean & Green
- MANUFACTURING**: Got it made
- MATERIALS**: New ingredients
- MECHANICAL**: Wheels in motion
- PETROLEUM**: Can you dig it?
- NUCLEAR**: Power on
- OCEANOGRAPHIC**: Explore the depths

Autodesk | www.egfi-kt2.org | eGFI



IEEE statistics
Name: Susan Hockwood
Date of birth: May 23, 1955
Place of birth: Luton, England
Height: 163 cm
Weight: 60 kg
Family: husband: Gerardo Benito; daughter: Katherine Elizabeth; age 17y years
Childhood home: Winston Church; Spock on Star Trek: The Original Series; Captain, the anthropologist in Keanu's I Robot
Education: B.Sc., MSc, and Ph.D., 1976; Leicester Polytechnic Institute, England
Parents: none
Spoken job: security director
Favourite authors: C.S. Lewis, Philip Dick, Robert Heinlein
People you most respect: Douglas, Pascal, Sir Isaac, Alan Turing, Alan Turing
Favourite book: program, Java, Java
Favourite music: 2001 Space Shuttle
Favourite expression: "Use a library and keep on looking"
Put anyone: people who say "It can't be done"
Personnel growth: into the most people who can, inevitably smaller than plus, and all from the
Membership: the IEEE, American Society for Engineering Education, American Society of Mechanical Engineers
Favourite award: technology transfer award at Bell Laboratories
Life-time activities: since having a child, "What's new?" (parent) using building, gardening

IEEE Spectrum 1990 - a million years ago



Reason
Logic
Science
Technology
Engineering

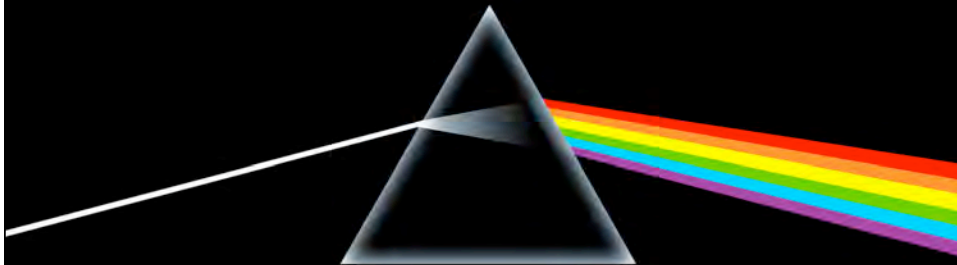
Triumph of man's reasoning mind

2001 A Space Odyssey

“Let the Awe and
Mystery of a
Journey Unlike
Any Other Begin”



And everything under the sun is in tune
But the sun is eclipsed by the moon





1960's Science and Technology are seen as the bad guys

“Materialistic society based on engineering and technology driven by capitalist interests”



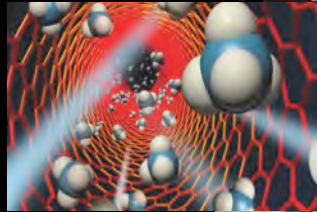
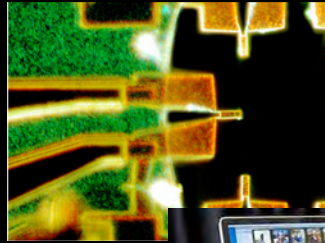
1970's Energy Crisis: S&T a menace to the planet



Since the eighties:

Appeal of S&T
driven by
computers and
biotech

Practical utility,
health and comfort,
and entertainment



Triumphs of science and
technology do not inspire a
sense of Man's greatness

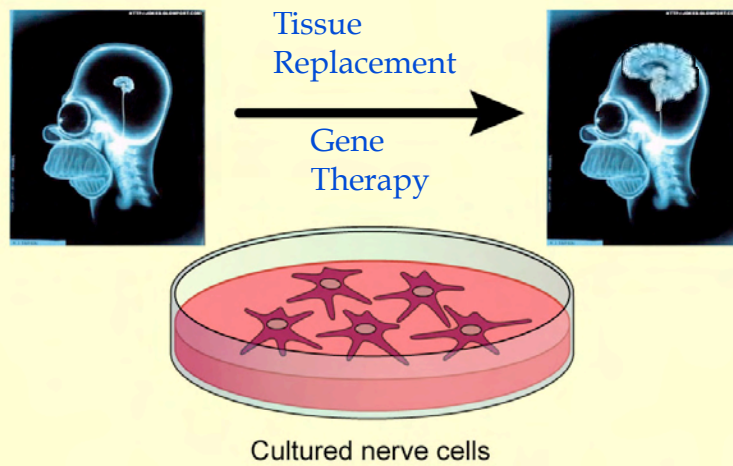
- Man's technology destroys the environment
- Man's technology risks catastrophes
- Man's technology leads to wars
- Man's technology creates an alienating society



The 'Wonders' Of Technology Not Only Entertainment



Potential of Stem Cell Research



slide by G. Sambamurti

CIRM

Wonders Natural and Man-Made



Curiosity, Wonder, Exploration are Celebrated







**What should be
the inspiring
theme for STEM
students?**

Cal TAC member Janet
English, science
teacher, Serrano
Intermediate School
at Northrop
Grumman Zero
Gravity event



What should be the inspiring theme for STEM students?

Boyle Heights LA -- Stem Up integrates Science Technology Engineering and Math (STEM) career pathways into schools and local communities, to increase and expand America's home-grown technical talent.

MUSIC IS STEM

Science, Technology, Engineering, and Math don't always get the credit. Why? Well, they're not as glamorous as music. Can't you imagine and not the point? Before anyone could rock, sit electric guitar, or electrical engineers had to make sure the amps didn't explode. And just like everything else in our lives, computers have changed music forever. Today all great bands like the Black Eyed Peas have music videos, engineering, digital audio technology and music production software. If they want to be successful, without STEM, what would music be?

TRAVIS OF THE BLACK EYED PEAS

WWW.STEMUP.ORG

STEMUP
SCIENCE TECHNOLOGY ENGINEERING MATH
IT'S YOUR FUTURE. IT'S OUR FUTURE.

What should be the inspiring theme for STEM students?

PERFORMANCE IS STEM

A finely built automobile is like an elite cast of Science, Technology, Engineering and Math performers. It took teams of mechanical engineers to design and build the V12 high performance engine and the Grouped all-wheel drive transmission in the Lamborghini. Generations of material scientists have discovered and refined the steel and carbon alloys that make the chassis and body both strong and light weight for added safety and increased performance. Chemists are responsible for the fuel and the fluids & lubricants without which a car's thousands of moving parts would grind to a halt. And it's electrical engineers and computer scientists that design the control systems for everything from the hydraulic suspension to the integrated on-board communications.

Without STEM, what would cars be?

WILMER VALDERRAMA
RIDER / PRODUCER

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