SDSU Science & Engineering Sampler • March 19th 2011 • 9am–2pm

Presented by: San Diego State University, College of Sciences & College of Engineering • "Rain or Shine" • http://sci.sdsu.edu/sampler • 619.594.5142

BYOB (Build Your Own Butadiene) Chemistry on the Computer — GMCS-245a
Use molecular modeling software to construct a molecule and test it for stability.

Computational Science Research Center Showcase — EBA-110
Computational Science in cell biology, oceanography, geological sciences, physics, and chemistry. Stop-by and pick-up a free 2011 calendar featuring the accomplishments of Graduate Students from the CSRC.

Computer Science and Sound: Dolphins and You — GMCS-405
Visit the Audio Lab where we use computer science to analyze dolphin and whale sounds. See interactive kiosks from our collaborators at Scripps Institution of Oceanography, periodic demonstrations of research tools, and you can learn how to visualize your own voice using spectrograms.

Conservation with Critter Transmitters — PS-157
Learn how we keep track of animals in our studies. One of the most difficult parts of studying animals is keeping track of them – they hide, move, and sometimes travel really long distances. We will show you how to use radio telemetry equipment and lead you on the chase to help us find an animal right here on campus.

CSI meets CSU — CSL-226
Learn about Forensic Science, detect blood, develop fingerprints, and discuss DNA.

DNA Sequencing Facility — CSL-326
View a Genetic Analyzer in the Biology Department's DNA Sequencing Facility. Scientists will discuss the production of DNA sequence data.

Electron Microscope Facility — PS-1
View a transmission electron microscope, a scanning electron microscope, and other high and low-tech light microscopes in operation.

Exploration of the Human Body — LSN-223
Explore the amazing world of the Human Body. Look into a microscope to see the incredible organization and beauty behind bone and muscle. Observe healthy hearts and brains, and compare those with a diseased heart and brains. Watch healthy lungs expand, and contrast them with the lungs from a smoker.

Flying and Chasing Robots! — GMCS-555
See several robot projects including: (a) helicopter robot for monitoring natural reserves/ habitats, (b) an assistant robot that follows a walking person, and (c) several guard robots working together to secure a building.

I Want My Scientific MTV — Family Village
Come see self-produced, viral music videos created by SDSU's biology students during the Fall 2010 semester.

Laser Applications in Chemistry and Biophysics — CSL-302
A wide range of lasers, used in multi-photon nonlinear laser techniques for biomedical and environmental applications, will be on display.

Make and Measure Your Own Weather — LSN-219
Learn how a weather tower works by creating their own weather and seeing sensors record their responses.

Mass Spectrometer Laboratory — GMCS-132
Tour and presentation in the Nu Plasma Mass Spectrometer Laboratory highlighting the instrumentation and associated Geochemical research.

Planetarium Show — PA-209
Come to the planetarium and see the night sky as you have never before. We will take you on a tour of the stars and answer your questions about the universe. (20-minute shows)

RP Oceans Land Cruise: Wave tanks to see what waves do — GMCS-108
Demonstration of wave tanks, a beach tank, and a Foucault pendulum.

SDSU BioScience Center Tour — LSN Lobby
Come tour our innovative research facility whose mission is to understand how chronic infections contribute to cardiovascular disease and other chronic, age-related diseases. (Tours meet at Life Sciences North Entrance)

SDSU VizCenter Helping the World — CSL-120
See how the VizCenter helps with disasters such as earthquakes, tsunamis, volcanoes, fires, floods, and diseases like Cholera and Malaria.

See Inside the Human Brain — CSL-422
See how magnetic resonance imaging (MRI) can be used to image the human brain. They will also see the ways that scientists are using MRIs to examine how the structure of the brain and patterns of activity change in children as they mature into adulthood.

Show-Me Geology — ITS Front
Rocks and Minerals: hands-on identification and demonstration of common and industrial minerals. Earthquakes: hands-on models to demonstrate the properties of earth movement.

Spilling the Beans: What Do You Know About Your Favorite Thing? — LSN-132
Using a computer-based semantic-networking tool to capture how and what you are thinking.

Super-Cool IceCream: The Cool World of Cryogenics — PA-215
Liquid nitrogen instant ice cream, balloon freezing, superconducting levitation, and much more.

Telescopic Views of the Sun — PA Roof
View the Sun (safely!) though telescopes; hopefully see sunspots. Brief, informal presentation about the Sun and stars, and how "space weather" can affect the Earth.

The Sciences of Complexity: Old Questions and New Answers — P-148
Explore: Origins-of-order in the universe, developmental biology, sources of fluctuations in the stock market, and the sudden rise and fall of civilizations.

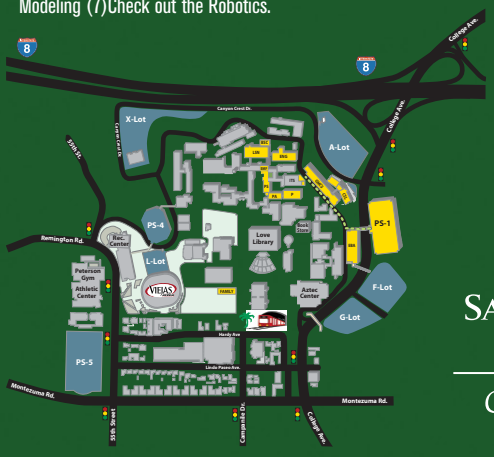
Vortex Breakdown on a Delta Wing — Engineering
We conduct an experiment in SDSU's water tunnel to understand strong tip vortices on delta-wings. Injection of dye particles will visualize the tornado-like vortices that appear under mild-angled attack. (Engineering Village)

Through the Looking Glass: Explore Patterns with Math Tools — ITS Front
Examine mathematical principles through hands-on explorations of projective geometry, prime numbers, and similarity.

Who Cheated? Find out by using Chromatography — CSL-524
Five students are suspected of forging the answers to an exam. You need to determine if one of the pens found on a suspect matches the ink from the exam. Use the same technique the police use to analyze ink.

X-ray Crystallography — CSL-231
Chemists and biologists learn how a molecule works by studying its three-dimensional structure, even the largest molecules are too small to be directly observed by the most powerful light microscopes. The solution? Prepare a crystal of the sample and use x-rays!

Engineering Village: 7 Events! — Engineering
(1)Aerospace Engineering Wind Tunnel (2)Visualization of Space Shuttle Aerodynamics (3)Witness an Earthquake in Action (4)Real-time Rainfall and Erosion; (5)Fabrication/Manufacturing (6)Design & Modeling (7)Check out the Robotics.



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College of Sciences

FREE Activities for the Entire Family!