"Calit2-Living in the Future"

Keynote
Sharecase 2006
University of California, San Diego
March 29, 2006

Dr. Larry Smarr
Director, California Institute for Telecommunications and Information Technology
Harry E. Gruber Professor,
Dept. of Computer Science and Engineering
Jacobs School of Engineering, UCSD

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A Necessary Partnership:
Campus IT Specialists and Faculty, Staff, and Students

Source: Enabling the future: IT at Purdue

Enabling learning, discovery, and engagement is more than just offering compute cycles.

It requires creating a collaborative environment where

IT specialists collaborate with faculty, staff, & students

so that computing is transparent."

-- James Bottum,

VP for Information Technology, CIO,

Purdue University

The View From Outside: "Calit2 is all about collaboration"

ECAR
EDUCAUSE CENTER FOR APPLIED RESEARCH

Calit2: A Case Study in a Next-Generation Research Environment

Donald Spicer, ECAR
Bruce Metz, ECAR

ECAR Case Study 1, 2006

Case Study from the
EDUCAUSE Center for Applied Research

- **"Calit2 is a partnership between faculty, students, and technical professionals developing a next generation technology-enabled research environment."**
- **"Support staff enhance researchers ability to work."**

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Unique Collaboration Facilities and Laboratories: The Calit2 Buildings at UCSD…



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Richard C. Atkinson Hall Dedication Oct. 28, 2005
Photo by John Durant

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…and the Calit2 Building at UC Irvine



The Big Table moves into Calit2's Photonics Testbed: Saturday March 25th 2006



Saturday morning matinee



Calit2's freight elevator



Tight alignment tolerances!



Mail call…



The boss watches

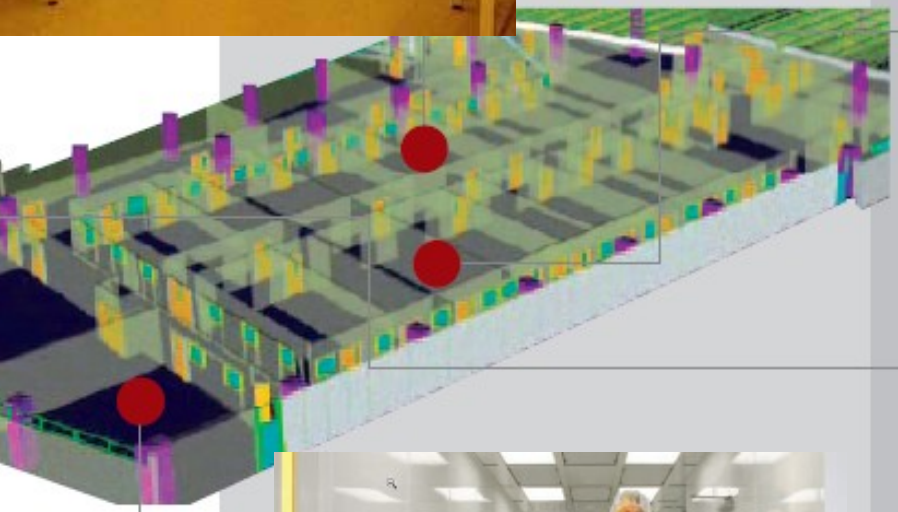


Home sweet home

Calit2 Has Created New Facilities for Nanoscience, Nanoengineering, Nanomedicine



Clean Rooms
Calit2@UCSD





Class 100 Clean Room Modules: Nano/microlithography

Areas with no more than 100 particles larger than 0.5 microns per cubic foot of air. Facilities include e-beam lithography and photolithography modules.

Class 1000 Clean Room Modules: Nano/microfabrication

No more than 1,000 particles larger than 0.5 microns per cubic foot of air. Areas include metallization/thin film deposition, advanced dry etching, metrology, thermal and back-end processes.

Advanced Structural Characterization

Techniques include scanning electron microscopy (using electrons rather than light to form an image) and scanning probe microscopy. Ultrahigh vacuum surface analysis. Optical characterization.

OTHER FACILITIES INCLUDE:

Metal-Organic Chemical Vapor Deposition Facility

MOCVD technique used for thin film growth in advanced, compound semiconductors and nanostructures.

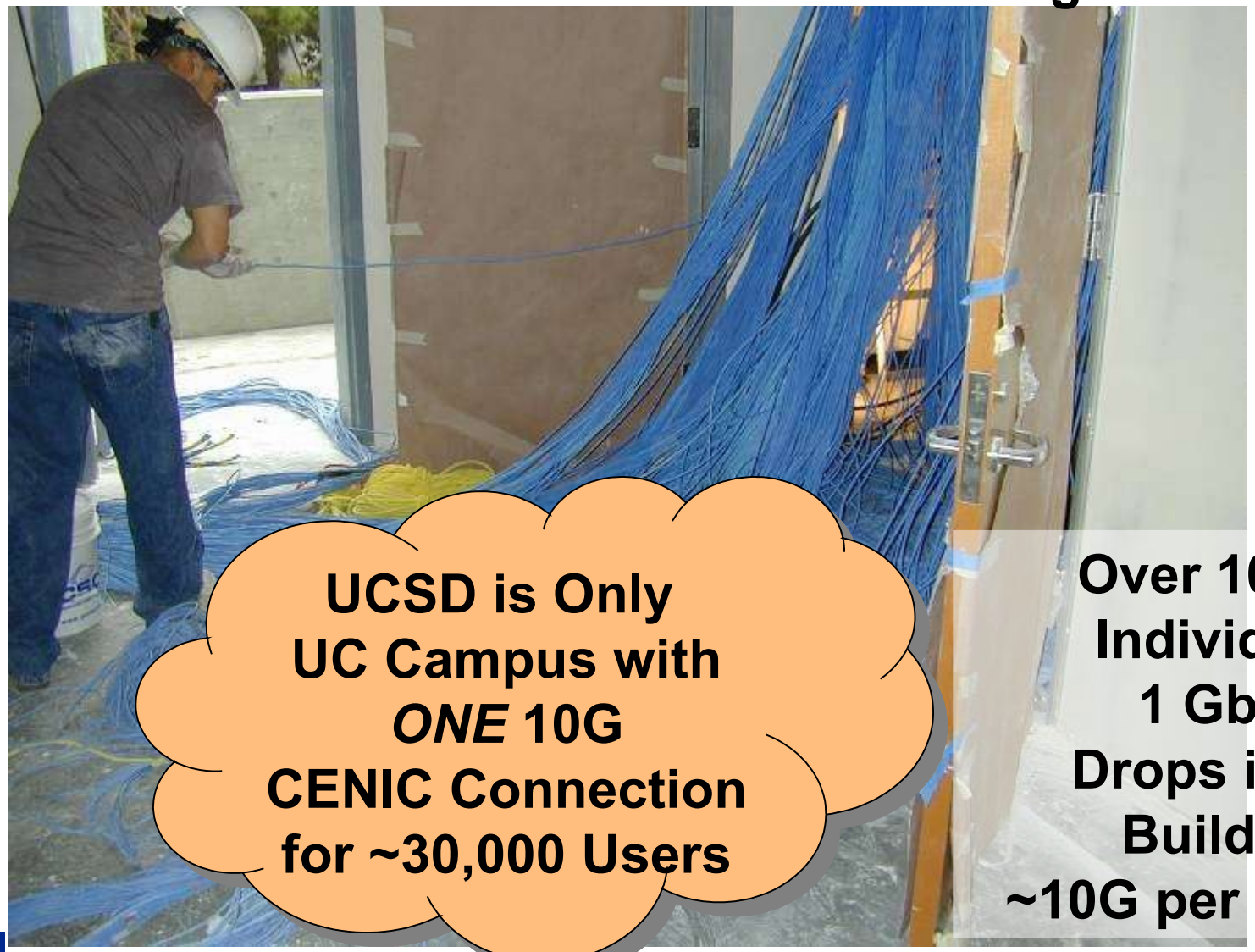


Zeiss Microscope
Calit2@UCI

Photo Courtesy of Bernd Fruhberger, Calit2

The Calit2@UCSD Building is Designed for Prototyping Extremely High Bandwidth Applications

1.8 Million Feet of Cat6 Ethernet Cabling



UCSD is Only UC Campus with *ONE* 10G CENIC Connection for ~30,000 Users

Over 10,000 Individual 1 Gbps Drops in the Building ~10G per Person

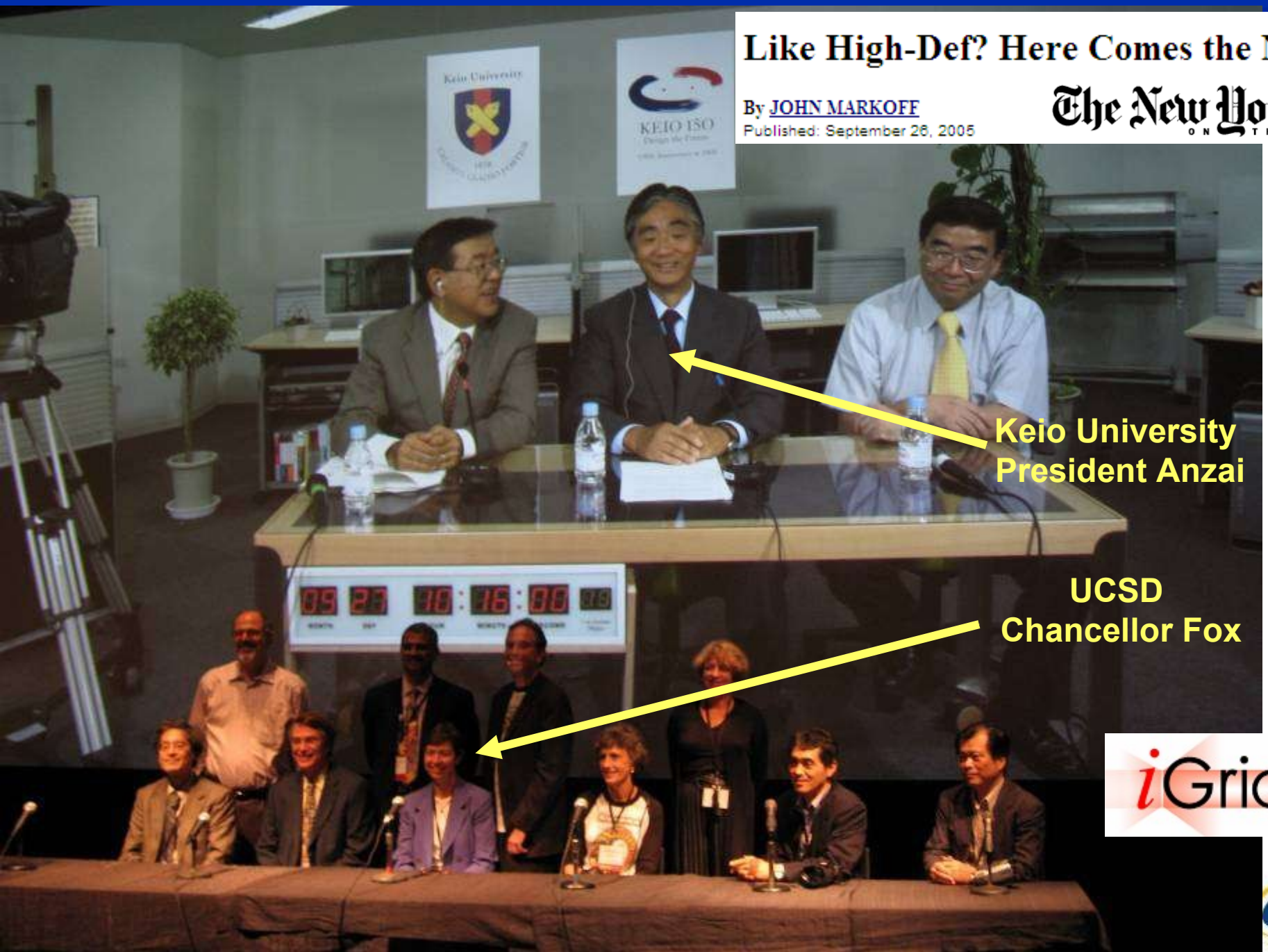
Photo: Tim Beach, Calit2

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One of the Most Advanced Digital Theatres in the United States



First Trans-Pacific Super High Definition Telepresence Meeting in New Calit2 Digital Cinema Auditorium



Like High-Def? Here Comes the Next Level

By JOHN MARKOFF
Published: September 26, 2005

The New York Times ON THE WEB

Keio University President Anzai

UCSD Chancellor Fox

Lays Technical Basis for Global Digital Cinema

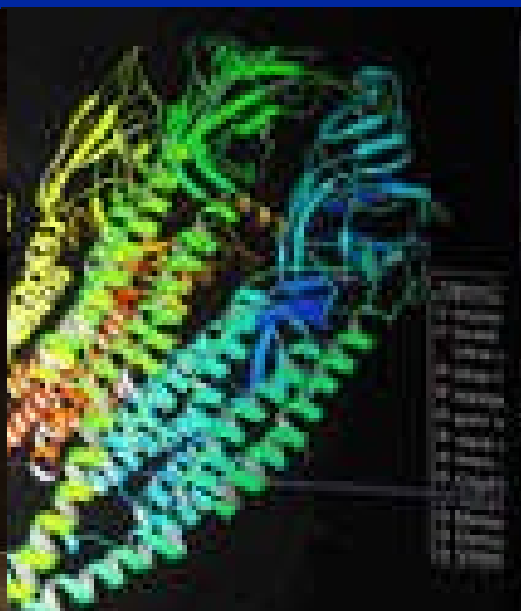
Sony
NTT
SGI

iGrid 2005

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Leading Edge Visualization Facilities

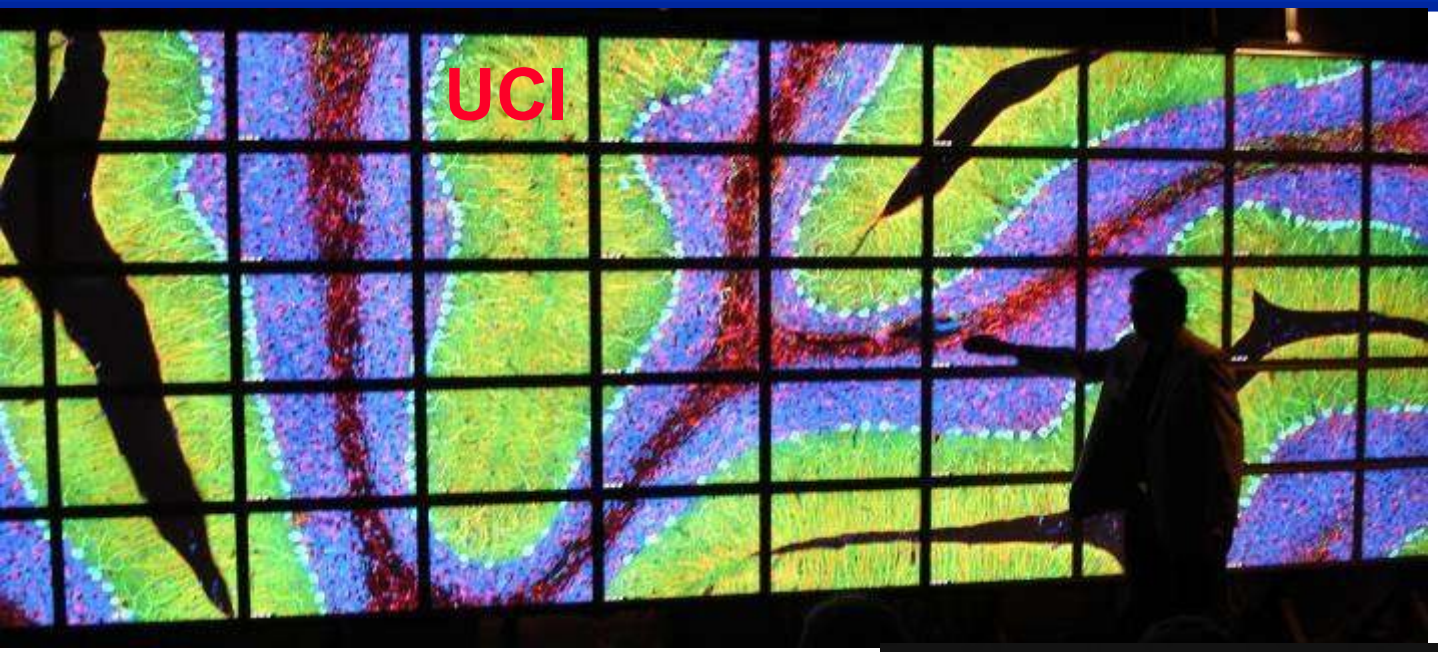








The OptIPuter Enabled Collaboratory: Remote Researchers Jointly Exploring Complex Data



OptIPuter

OptIPuter will Connect
The Calit2@UCI
200M-Pixel Wall to
the 100M-Pixel Display
at Calit2@UCSD
With Shared Fast Deep Storage



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CalViz--
HD Streaming Internationally



Photo: Courtesy of Harry Ammons

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Studio on 4th Floor of Calit2@UCSD Building
Two Talks to Australia in March 2006

Calit2 is Experimenting with Open Reconfigurable Work Spaces







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Photos by John Durant; Barbara Haynor, Calit2

Calit2 Buildings Have Attracted Many Events -- Support Staff Are Key



Mayor Gavin Newsom (right) accepts his Big Broadband award from FirstMile.US president Susan Estrada and Calit2 director Larry Smarr.
(Photos by Barbara Haynor)



AUTOMOTIVE SOFTWARE WORKSHOP SAN DIEGO 2006

Calit2@UCSD Hosts Over Two Events Per Week

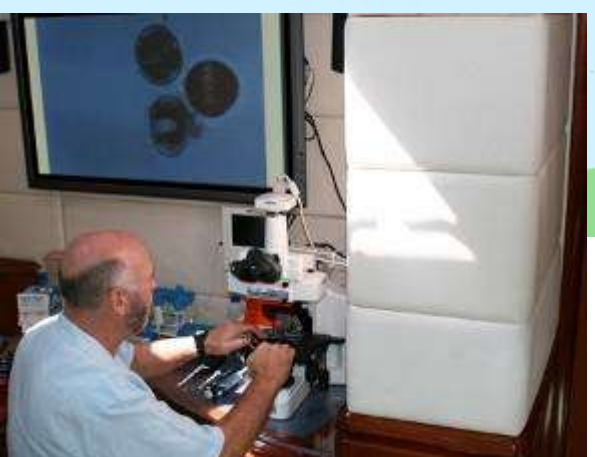


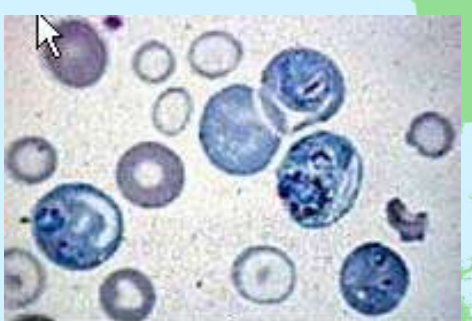
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Marine Genome Sequencing Project Would Not Have Been Possible Without Staff Team







Canada
United States
Mexico
Puerto Rico
Honduras
Costa Rica
Panama
Galapagos Islands
x 10 samples
Tanzania/ Zanzibar
x 7 samples
Seychelles
Madagascar
South Africa
Cocos-Keeling Is.
Vanuatu
x 17 samples
Fiji
Tonga
French Polynesia
Cook Islands
Australia
New Caledonia
x 8 samples
Analyzed
Sampled, but not Analyzed

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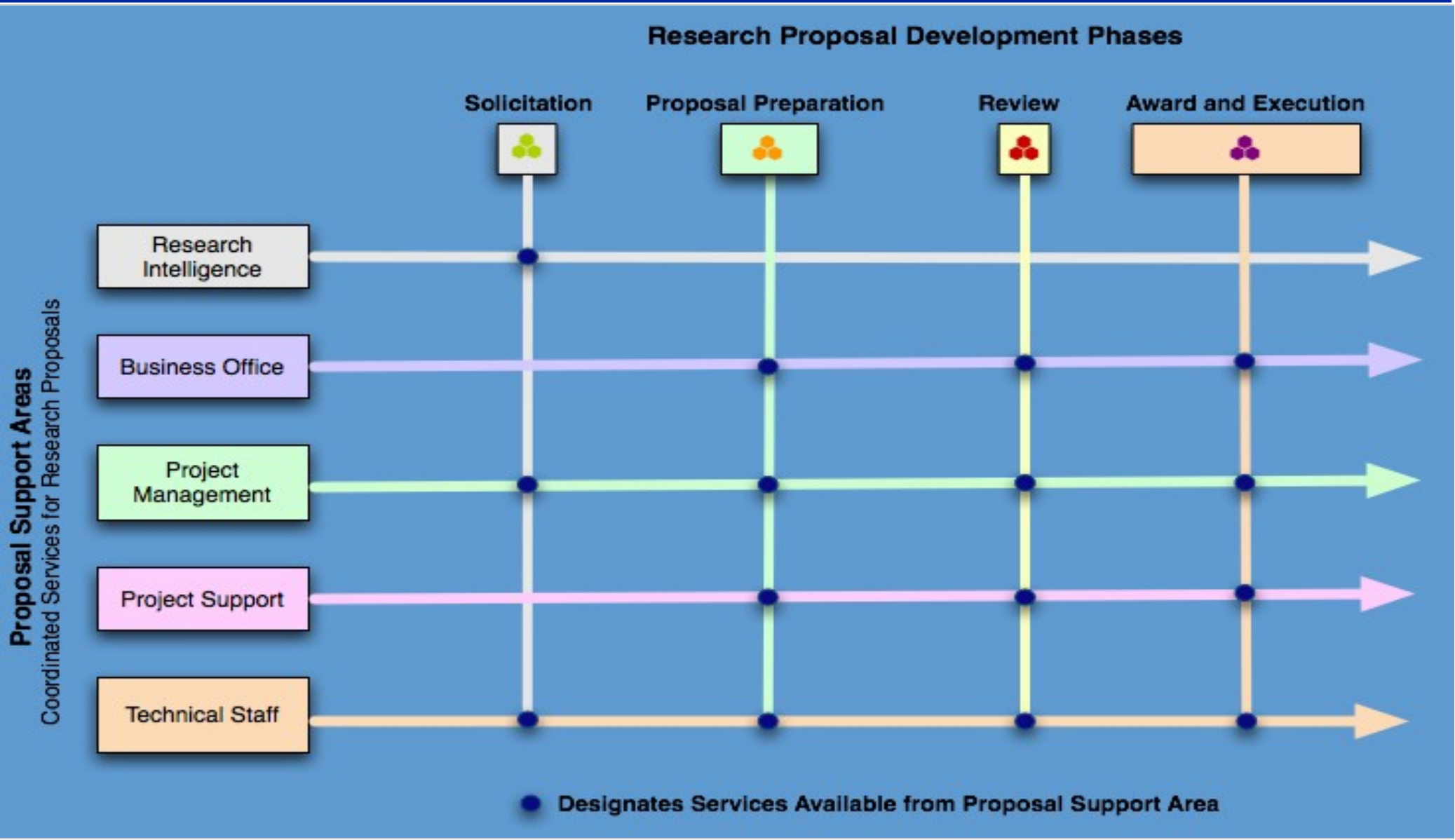
MARINE MICROBIOLOGY INITIATIVE
Gordon and Betty MOORE FOUNDATION

Announced January 17, 2006
$24.5 M Over Seven Years

J. Craig Venter INSTITUTE

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Calit2 Staff Help Faculty Move Quickly to Apply for Large Grants



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Source: Jerry Sheehan, Calit2

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Calit2@Sharecase:
Presenters in the Research Track

Making the Match-
Funding Opportunities and Principal Investigators

March 29, 2006

9:15-9:45

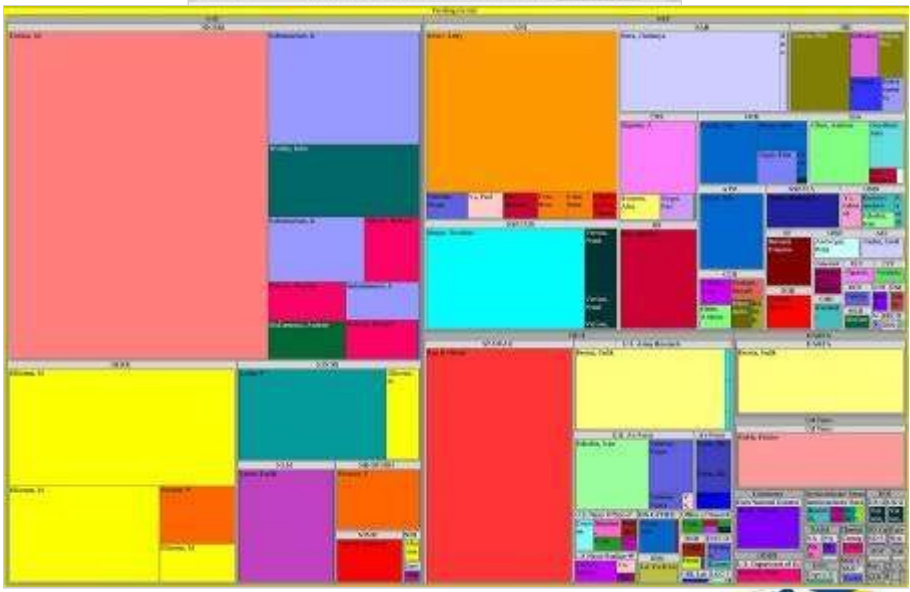
Research Track

Gallery A

Jerry Sheehan,

Manager for Government Program Development





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Calit2 @ Sharecase 2006
Please Come by For More Information

