

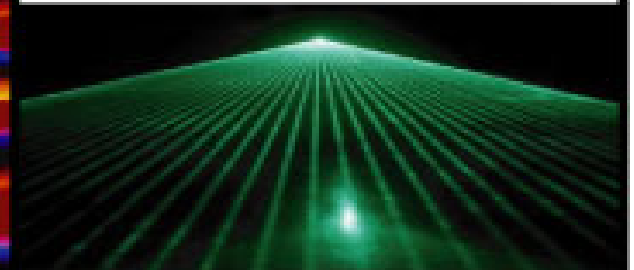
City College of San Francisco



**Computer Networking &
Information Technology (CNIT)**



**Institute for Convergence
of Optical & Network
Systems (ICONS)**



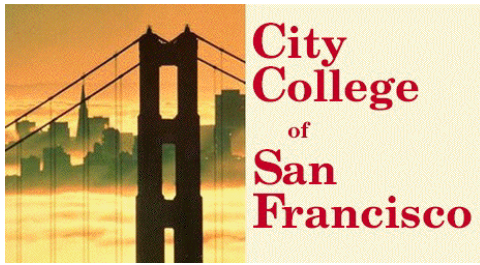
2nd ICONS Advisory Panel Meeting

City College of San Francisco, Cloud 218

May 3rd, 2006, 11am to 5pm



This material is funded in part by the National Science Foundation
under Grant Number DUE 0501703



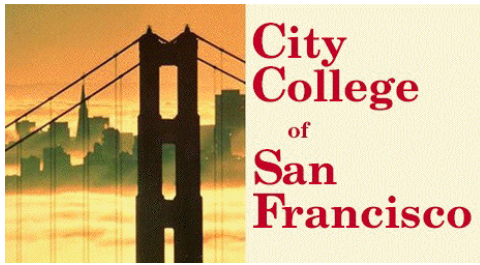
Presentation & Facilitation By

- **Ann Beheler**, Facilitator, PI Convergence Technology Center, Dean of Engineering and Emerging Technology, Collin Community College, Frisco, TX
 - beheler@comcast.net
- **Dr. Pierre Thiry**, ICONS Principal Investigator & CNIT Instructor
 - pthiry@ccsf.edu, (415) 239-3594
- **Tim Ryan**, Network Manager & ICONS Co-Principal Investigator
 - tryan@ccsf.edu, (415) 452-5352
- **Carmen Lamha**, Chair CNIT Dept. & ICONS Co-Principal Investigator
 - clamha@ccsf.edu, (415) 239-3396
- **James Jones**, Consultant, Photisis Consulting
 - james@photisis.com, (415) 867-6616



City College of San Francisco, CNIT/ICONS,
50 Phelan Ave, Box S-107, San Francisco, CA 94112,
Tel: (415) 452-5323, Fax: (415) 239-3314,
Email: icons@ccsf.edu , www.ccsf.edu/cnit, www.ccsf.edu/icons





One of the World's Largest Colleges

> 106,000 Students Annually (>3x UCB, >5x Stanford, >35x UCSF, >3.5x SFSU)

> 50 Academic Programs & Over 100 Academic Disciplines

> 4,700 Courses Offered

9+ Major Neighborhood Campuses

> 150 Other Instructional Sites Citywide

710 Full-time & 1,126 Part-time Faculty

- 95% with Master's Degrees
- Almost 250 Ph.D.s

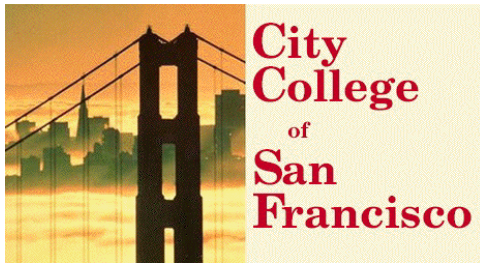
46 Administrators & 882 Classified Employees

2-Year Public College

Accredited by the Western Association of Schools & Colleges (WASC)

Associate of Arts (AA) & Associate of Science (AS) Degrees





Incredible Value

\$26 Per Unit!

- For Credit Course California Resident Tuition
- Applies to Students with BA/BS & Higher Degrees Also

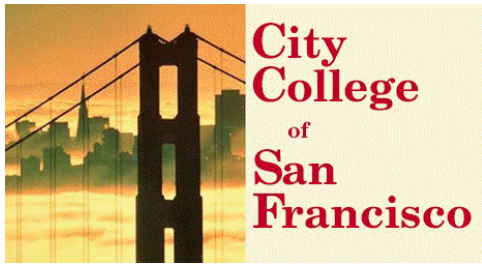
\$678 Per Year

- Full-Time, In-State Tuition & Fees

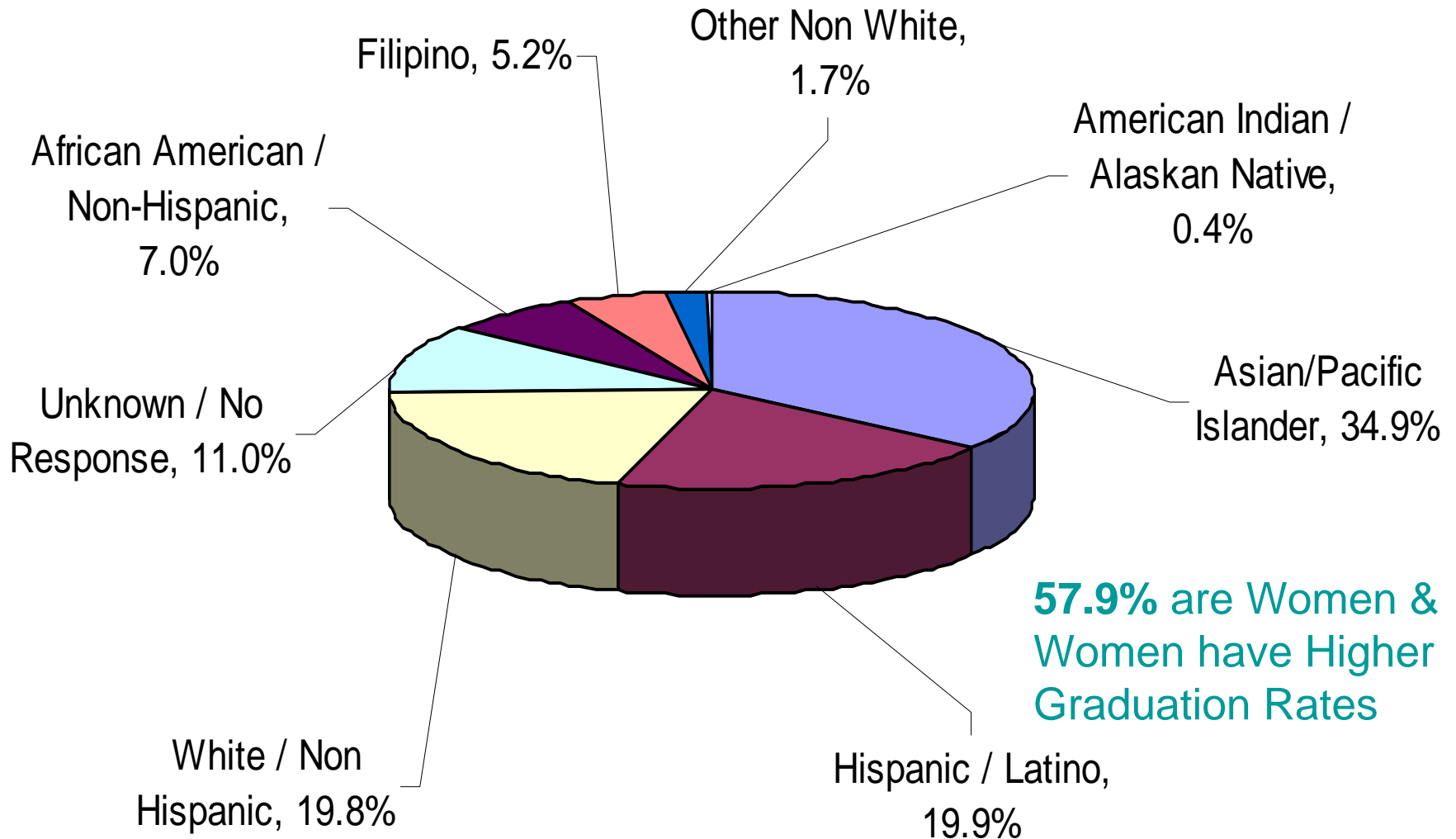
\$0 Per Unit!

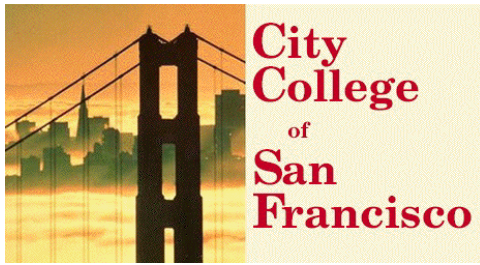
- Non-Credit Courses are Free

San Francisco's Best Higher Ed Value!



Ethnicity of CCSF Students Summer 2004 - Spring 2005 (Credit and Non-Credit)





Tremendous Community Support

2001 – Proposition A

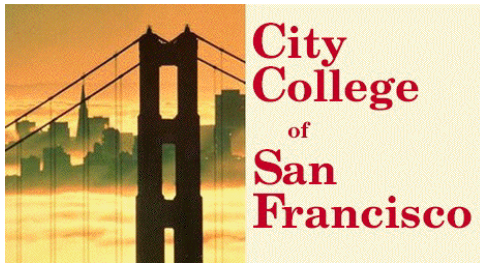
- Overwhelmingly Approved \$195m General Obligation Bond for Facilities Upgrades

2005 – Proposition A Phase II

- Approved \$243.6m Bond for Additional Upgrades
- One of few propositions passed in the last, contentious special election

Information Technology Services (ITS)





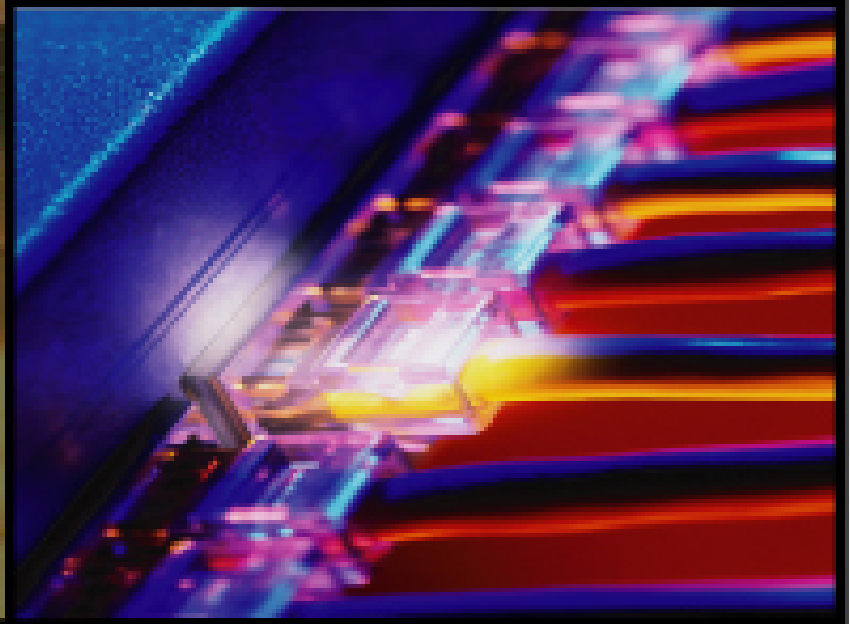
ITS Overview

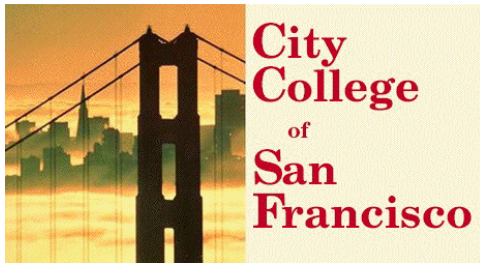
- Modern Cabling Infrastructure Upgrade
- New VoIP/TDM Telephone System Alcatel OmniPCX
 - 10 Subsystems with 2,000+ Telephones
- 30 Mile Fiber Optic Metro Network Connecting 9 Campuses
- High Performance Connections to CENIC Network
 - 100Mbps Commercial Internet Access & 1Gbps Internet2 Access
- Initial WLAN Deployment, Campus Hotspots
- Exploring SIP Trunking Implementation Pilot Project
- Planned Ethernet Switch Infrastructure Replacement
- Designing Video-Based Distance Learning Systems

City College of San Francisco



**Computer Networking &
Information Technology
(CNIT)**

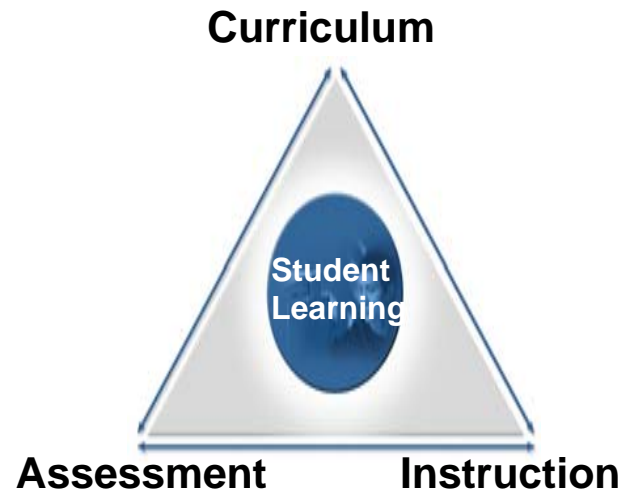
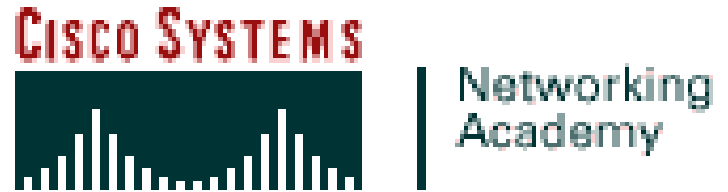


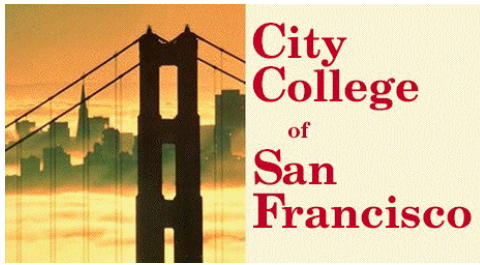


CNIT Department

www.ccsf.edu/cnit

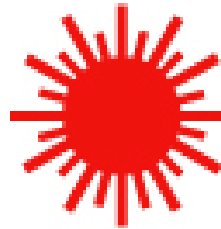
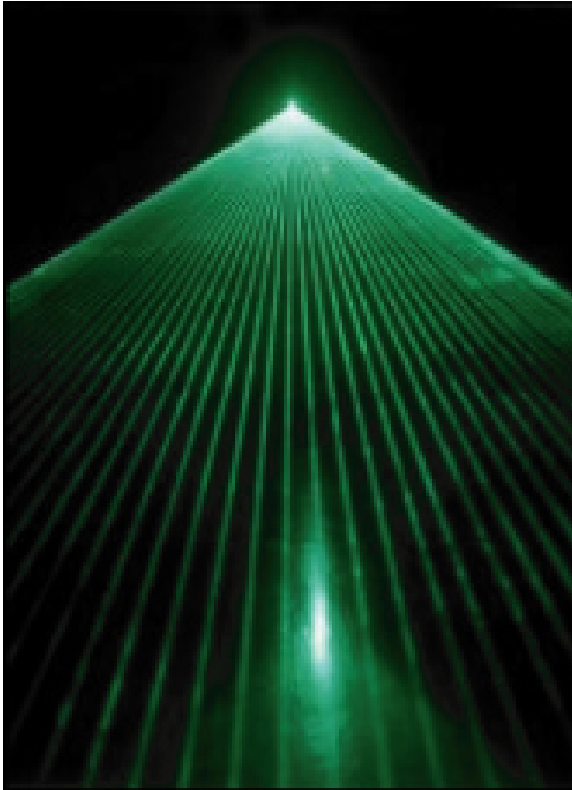
- **Created in 2002**
- **1775 Students**
- **Faculty and Staff**
 - 8 Full-time instructors
 - 13 Part-time instructors
 - 1 Part-time secretary
- **56 Courses:**
 - Classroom: 49 sections
 - Online: 19 sections





CNIT Certificates

- **Academic Certificates**
 - Computer Technical Support
 - Routing and Switching
 - Computer Technician
 - Windows Networking
 - Web Site Development
 - Fundamentals of Networking
 - Wireless Networking
- **Industry Certificates**
 - **Cisco Systems**
 - CCNA, CCNP, PIX, WLAN, VoIP
 - **CompTIA**
 - A+, Network+, Security +
 - **Microsoft**
 - MCP, MCSA, MCSE, MCDBA,
 - **CWNA**
 - Certified Wireless Network Administrator



ICONS

**Institute for Convergence of
Optical & Network Systems**

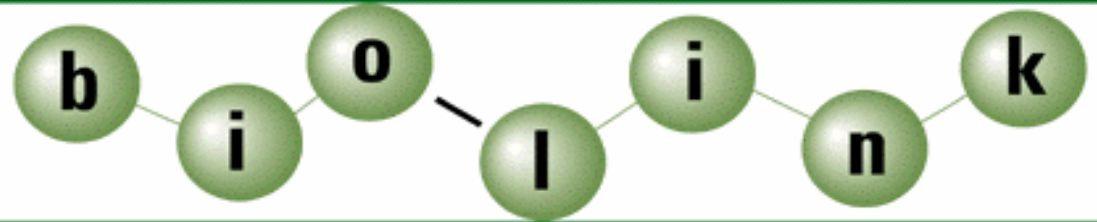
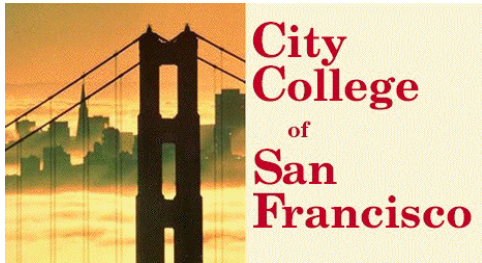


This material is funded in part by the
National Science Foundation
under Grant Number DUE 0501703



Designed to promote the education & training of technicians in the US to improve the productivity of American workers. The structure of the ATE program encourages innovations, information sharing, & collaborations that cross disciplines & geographic boundaries.

- ***ATE Centers of Excellence*** have broad, comprehensive missions & utilize multiple strategies to respond to national industry needs.
- ***ATE Regional Centers*** work with IT & mfg. industries to increase enrollment & improve employers' satisfaction with graduates.
- ***ATE Resource Centers*** serve as clearinghouses for exemplary instructional materials, best practices, & professional development.
- ***ATE Projects*** focus on specific aspects of technician education.



Educating the Biotechnology Workforce

- National ATE-Center since 1998
- 7 Regional partners nationwide
- Assist ICONS by sharing best practices, experiences & resources
- Big Role in Developing SF Biotech Industries



Dr Elaine Johnson



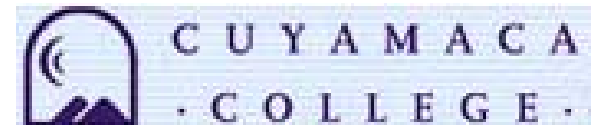
- **ATE Project**
 - **Dr. Pierre Thiry**, Principle Investigator
 - **Carmen Lamha**, Chair CNIT Dept & Co-Principle Investigator
 - **Tim Ryan**, Network Manager & Co-Principle Investigator
- **\$750,000 over 3 years**
- **National Center for Telecommunications Technologies (NCTT)**
 - Director: Gordon Snyder
 - Springfield Technical Community College (STCC), Springfield, MA
 - established in 1997



NCTT Regional Partners

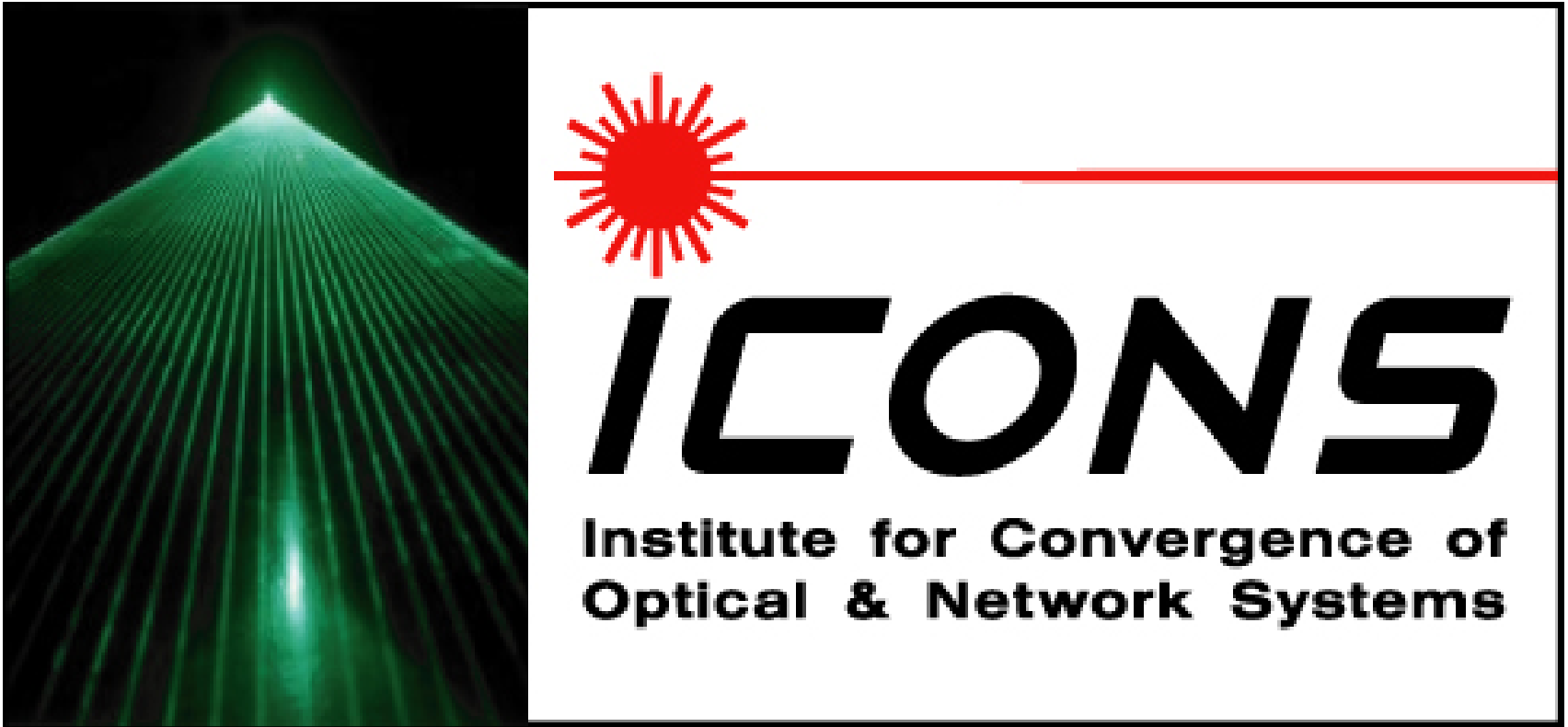


THE COUNTY COLLEGE OF MONMOUTH



GOALS

- **Modernize the CNIT Department**
- **Develop New Courses and Certificates**
- **Develop AS Degree**
- **Expand Articulation & Transfer Opportunities**
- **Expand Marketing Efforts**
- **Recruit Under-Represented Students**
- **Develop & Utilize Technology Infrastructure**
- **Expand Internship & Job Placement Opportunities**
- **Provide Staff Development**
- **Provide Seminars & Workshops**



Interim Activities

Since Last Advisory Panel Meeting

GOAL

Develop New Courses



- 6 new CNIT courses between 10/2005 & 10/2008
- 2 developed & delivered this Spring already:
 - Fiber Optics Technology (18 Students)
 - Providing training to understand & work with fiber
 - Voice over IP (VoIP) Fundamentals (20 Students)
 - Providing training in IP telephony
- Projected for Spring 2007:
 - VoIP advanced
 - Others?



GOAL

Develop New Certificates



- **At least 1 new CNIT certificate between 10/2005 & 10/2008**

- **Ideas being currently entertained:**

- **Metro Optical Networking**
- **Convergence Technologies**
- **Home Technology Integrator (HTI)**
- **Others?**



GOAL

Develop New AS Degree



- **Currently in CNIT**
- **Exploring Information & Communication Technology (ICT)?**
- **42 units General Education & 18 CNIT Units**
 - **3 Core & 3 Elective CNIT Courses**
- **Process Begun with Curriculum Review Committee**
- **Introductory Faculty Preparation Event Conducted**
- **Advisory Panel Demand Exercise Today!**
- **Faculty Design Exercise Planned 5/23**



GOAL Expand High School Outreach



- Expand outreach to High Schools – SFUSD’s School to Career office coordinates IT Academies in several High Schools: Galileo, Lincoln and Balboa. Promote access to an education in ICT starting at CCSF.
- Presented ICONS & Promoted Summer Convergence Workshops to High School Faculty
- CNIT 131 Course (Internet Basics & Beginning HTML) Scheduled for Fall 2006 Targeting 50-100 HS Students



GOAL

Expand Articulation & Transfer Opportunities



- Develop and promote transfer relationships in which CNIT students transfer credits & continue study for BS degree
 - California State University – Channel Islands (CSU-CI)
 - California State University – Monterey Bay (CSU-MB)
- New Bachelor of Science Degree in Computer Science & Information Technology (Fall 2006) at CSU-MB

GOAL

Improved Marketing



- **Program Development & Marketing Plan Drafted**
- **2 Iterations of ICONS website Completed**
www.ccsf.edu/icons
- **Plans for CNIT website upgrades (summer 2006)**
- **Initial CNIT & ICONS Brochures**
- **1 Page Descriptions of new Fiber & VoIP Courses**
- **Large Display in Science Building (Late May 2006)**
- **Traveling display kit for remote seminars, shows, recruiting events & workshops (summer 2006)**



GOAL

**Recruit & Serve More
Under-represented Students**



- **Summer & Fall 2006**
 - **Study Statistics**
 - **Targeted Marketing**
 - **Other Languages & Cultural Sensitivities**
 - **Promote Affordability of CCSF**
 - **Via Advisory Panel Network**
 - **Attending Specific Events**
 - **Others?**

GOAL

Develop & Use Computer & Network Infrastructure



- Ethernet LANs
- Metro Area Optical Network Utilized in Fiber Course
 - Extended into Classroom for 30mile OTDR Trace Exercises
- Voice over IP (VoIP) Telephone Systems
 - Production ITS System Presented in VoIP Course
- Network With Other Educational Institutions via CENIC
- Network Monitoring & Administration Tools
- **Develop Modern Labs**
- **Develop Remote Classroom Instruction & Lab Access**
- Others?

GOAL

Secure Additional Funds



- **NSF STEM Scholarship Grant Application Submitted by School of Science & Math Departments**
 - \$500K for 5 years
- **NSF ATE Project on HDTV & IPTV in Collaboration with Film and Broadcasting Departments**
 - Submission Planned for Fall 2006

GOAL

Expand Internship Opportunities



- **Internship & Work for Credit Options**
 - Utilizing Existing Course System
 - Via Advisory Panel Network
 - Via Proactive Efforts to Seek & Build New Relationships
- **SeaKey relationship where CNIT students assist in Neighborhood Network Centers to Benefit Digital Divide Public Service Goals**
 - Alice Griffith Community Center WiFi Installation
 - Classroom delivery at Neighborhood Network Centers where 3 students work



GOAL

Develop Seminars & Workshops



- **Summer Communications Convergence Workshop**
 - 6 topics in convergence technologies (6/6 – 7/20)
- **NCTT Summer Workshop**
 - Presentation on IPTV, Springfield, MA in July
- **NSF ATE National Conference**
 - Washinton, DC in October
- **League of Innovations CIT Conference**
 - Charlotte, NC in October
- **Globecom2006 (IEEE)**
 - Official Patron and Tutorial Presenter, San Francisco, CA in November

GOAL

Develop Faculty & Staff



- CENIC Annual Event (March 2006)
- Corning TS LAN 500 training (November 2006)
- First Mile.US Broadband Conference (April 2006)
- IEEE Globecom 2005 (November 2005)
- Cisco Wireless Training (June 2006)
- Juniper Training (May 2006)
- Convergence Technology Center Training (July 2006)
 - Collin County Community College, Frisco, TX



Convergence Workshop Overview

- **Scheduled for Summer, 2006 (6/6 – 7/20)**
- **One Credit Course, \$26 + Registration Fees**
- **Non-credit Option Available for FREE**
- **Lecture and Lab Exercises**
- **Provide Overview of Convergence Technologies:**
 - **Fiber Optics**
 - **Voice over IP**
 - **Metro/Wide Area Ethernet**
 - **Video Networking**
 - **Juniper Routers & JUNOS**
 - **Wireless LANs**

ICONS GOAL



Develop Advisory Panel

- The Advisory Panel is to obtain input, perspective & collaborative efforts from diverse viewpoints to make ICONS successful.
 - CCSF Administration, Faculty & Staff
 - Other Educational Institutions
 - IT & Networking Equipment Manufacturers
 - Communications Technology Service Providers
 - Private Enterprises
 - Communications Technology Standards Bodies
 - Government
 - Community Non-Profits
- 1st Advisory Panel meeting was 1/20/06
- 2nd Meeting Today (5/3/06)
- 1 other meetings in 2006: September?
- Ongoing communication & collaboration

Advisory Panel Welcome

- CCSF
- Educational Institutions
- Service Providers
- Equipment Manufacturers
- Private Enterprises
- Standards Bodies
- Government
- Community Non-Profits

National Institute for Women in Trades, Technology & Science



NSF

CALIFORNIA STATE UNIVERSITY Monterey Bay

hp

ipnetworks

Juniper® NETWORKS

EDD Employment Development Department State of California

invent CISCO SYSTEMS

at&t

IEEA

Community Technology Foundation of California

NCTT cenic Corporation for Education Network Initiatives in California

SeaKey

Comcast

Cabrillo College est. 1959

METRO Ethernet Forum

PHOTISIS CONSULTING

SFUSD

Met-Net SCALABLE BANDWIDTH

verizon

TSI The Saffund Institute

Dandin Group

NATOA Hotwire.com

ALCATEL

DTIS Telecommunications & Information Services

Sprint Together with NEXTEL

CUYAMACA COLLEGE

Biotechnology Institute Educating the Biotechnology Workforce

Broadwing Connecting with Customers at the Speed of Light

TELEKENEX