Information Science and Technology Center – ISTeC

brief overview

sample activities

details: ISTeC.ColoState.edu
university-wide organization to promote, facilitate, and enhance CSU’s IS&T research, education, and outreach activities

IS&T at CSU: pertaining to the design and innovative application of computer, communication, and information systems

Research Advisory Committee (RAC) & Education Advisory Committee (EAC)

- each has ~15 faculty, including representatives of all nine colleges

ISTeC Exec Com includes: Director, RAC & EAC Co-Chairs, VPIT

- faculty from four different colleges

ISTeC Industrial Advisory Council – over 35 active companies

- meet each semester for half day, advice on our activities
History of ISTeC

- Jan. 2000: CSU ISTeC formed
  established an IS&T minor
- Dec. 2001: Strategic Planning Com. charged to expand scope of ISTeC
- Dec. 2002: Strategic Plan approved, first ISTeC Director appointed
- May 2003: ISTeC’s main faculty working groups formed: RAC & EAC
- ISTeC Director reports to Sr. VP/Provost through VPIT
- Who is a member of ISTeC?
  anybody at CSU interested in “IS&T”
Example of ISTeC External Funding Received

- 5/04 – ISTeC grant from the state for high performance compute node
  - $2M equip., $50K staff support
  - 48 processors (Sun)
  - 192 GB of RAM (Hitachi)
  - cogrid.colostate.edu
- open to CSU faculty & students
- ISTeC courses to teach use (students from 14 different depts.)
- would not have without ISTeC
- total ISTeC “inspired” external funding:
  > $3.7M
Example of ISTeC Industry Workshop

IBM Day at Colorado State

November 11, 2004
Lory Student Center - West Ballroom

12:45 - Post-lunch Dessert

1:00 - Welcome/Program Introduction
HJ Siegel, Director - ISTeC, Electrical and Computer Engineering, CSU
Victor Walker, e-Business Strategy and Architecture, IBM Software Delivery and Fulfillment

1:05 - Big Blue Yesterday, Today and Tomorrow: An IBM Overview
Larry Longseth, Vice President, IBM Global Services Service Delivery Center - West, IBM Colorado Senior State Executive / IBM Boulder Senior Location Executive

2:15 - Blue and You: Using IBM as a Resource
Dr. Phil Farley, IBM Academic Initiative & Victor Walker, IBM Scholars Program and Academic Initiative, Curriculum Help, IBM Grants and Grant Processes, IBMers as Resources, TVC Grants, Linux Hub and other current initiatives

3:00 - Deeper Blue: IBM Research Initiatives
Dr. Brad Brooks, Manager - IBM Chemical & Toxicology Management
IBM Research and the Problems We Face, Introduction to IBM Research/Academy, The End of Scaling, Promise of Technology, Software Algorithms and Their Effect on Our Solutions, Exciting Developments, Research Reminders

4:15 - Becoming Blue: IBM Hiring & Internship Opportunities
Jolene Howells, IBM University Recruiting Program Manager
Heather Jackson, IBM Extreme Blue Placement & Recruiting Manager
Working at IBM, Internship Opportunities, Extreme Blue/Speed Teams, Hiring Process/Skills important to IBM

5:00 - Faculty & Student Reception with IBM Boulder Staff Members

- ISTeC allows interaction with multiple departments/colleges
  - “one stop shopping” for IS&T at CSU
- ISTeC IBM Day – 11/04
  - how CSU students & faculty can interact with IBM
    - grants, interns, jobs, etc.
  - 200+ faculty and students came and went during day
- also done with other companies, and will continue
  - ex. Apple, Cisco, SGI, Sun
- these university-wide IS&T industry days would not be without ISTeC

sponsored by

IBM

Colorado State University
Example RAC Activity: ISTeC Distinguished Lecturers

- IS&T speakers that faculty & students recommend
- internationally recognized
- two lectures:
  - broad “Distinguished”
  - narrow “discipline-specific”
- example “Distinguished” topics
  - Wireless Communication
  - High Perf. Computing
  - Computer Security
  - Human Genome
  - Business Technology
  - Semiconductor Trends
  - Data Mining
  - Robotics
  - Quantum Computing
  - DNA Computing
  - Grid Computing
- would not be without ISTeC
Example RAC Activity: CSU IS&T Expertise Database

- faculty expertise in uniform format
  - IS&T faculty in all colleges
  - research & teaching interests
  - seminars and tutorials available
- internal: aid forming multidisciplinary teams for research and proposals
- external:
  - “Coffee with CSU” industry talks
    - six so far – led to grants, consulting, PhD student
  - industry portal for consulting, tutorials, short courses, seminars
  - enhance IS&T web presence
    - impacts ranking and recruiting of students & faculty
  - expertise for media quotes
- without ISTeC this database would not be built

- web-based database
  - in progress
Example RAC Activity: ISTeC Research Retreats

- goal: facilitate and encourage multidisciplinary collaborations
- set of interdisciplinary meetings for faculty and students to explore common interests based on topic areas they suggest
- breakout topics and subtopics vary
- 2/07: 4th Annual Research Retreat
  - four breakouts
  - 50 faculty, 26 students, 3 industry
  - from 16 depts., 7 colleges
- example result from retreats: $334K “National Animal ID” project
- without ISTeC these retreats would not happen
Example RAC Activity: Proposed “PAR” Umbrella Lab

- proposed ISTeC People-Animals-Robots (PAR) Lab - umbrella research lab
- future: teams of people, animals, and robots working together
  - medical, disabled, and elderly care
  - search and rescue
  - disaster management
  - homeland security
  - military environments
- plan: form interdisciplinary research project groups under a unifying umbrella lab
- study how can teams of P, A, R can work together in an optimal way
- synergy & interaction among projects for improved research & funding
- Spring 2008: PAR Lab had four two-hour brainstorming sessions
  - successfully bringing faculty together
  - over 50 participants from 14 departments, 7 colleges
- identifying potential initial PAR research projects
- would not be without ISTeC
Example RAC Activity: CSU Campus-Wide HPC Study

- HPC (high performance computing) for research across all CSU colleges
- Spring 2008 survey is to determine:
  - systems now used across CSU
  - which available for sharing
  - how systems being used – projects and software packages
  - current HPC needs being met?
  - expected future HPC needs
- goal: potential enhancements
  - campus-wide HPC platform
  - link up individual clusters
  - desktop grids
  - national lab cycles
  - provide HPC consultancy
- HPC study would not be without ISTeC
Example EAC Activity: IS&T Programs Brochure

- undergraduate IS&T programs in all eight academic colleges
- to high school students and
  CSU students with undecided majors

- without ISTeC this brochure would not exist
Example EAC Activity: Annual High School Day

- ISTeC Annual IS&T High School Day for students and counselors
- bring Colorado’s brightest high school students to CSU
- present IS&T educational and career opportunities
- faculty propose and run stations with demos, activities, and contests
  - sponsor company representatives at each station discuss careers

- 11/07 – 4th Annual ISTeC IS&T H. S. Day
  - bused in over 275 high school students & counselors from 24 schools
  - 50 CSU faculty, staff, students from all nine colleges
  - 14 ISTeC IAC co-sponsors fully funded event: Agilent, AMD, Avaya, Cisco, Covidien, ESRI, Hitachi, HP, IBM, InfoPrint, Intel, Level3, Lockheed Martin, Microsoft

- without ISTeC this multidisciplinary event would not be happening
Example EAC Activity: FutureVisions Symposium

- biannual event for students
- started 2005
- state of IS&T in next 5-10 years
- topics proposed by faculty
- industry and academic speakers
- 9/07 – 2nd FV – with ~500 attendees
  - “The Merger of Designed and Real Worlds in Google Earth”
  - “Future of Innovation in IT” (IBM)
  - 3 concurrent topical tracks
  - 9 ISTeC IAC co-sponsors fully funded event: Accenture, Covidien, Hitachi, HP, IBM, InfoPrint, Lockheed Martin, Xilinx, Zolon
- would not be without ISTeC
Example EAC Activity: Fluency with IT (FITness)

- goal: to assess graduating CSU seniors’ fluency with information technology (FITness)
- conducting “iSkills”™ survey of 400 CSU seniors in Spring and Fall of 2008 to assess information processing and communication skills
- data will enable EAC to
  - compare CSU students’ fluency with that of other universities
  - determine any needed improvements to curriculum
- also working with local school district to assess K-12 preparation in IS&T, and how to improve if needed
- IT skills assessment would not be without ISTeC
Concluding Remarks

- sample ISTeC activities summarized
- ISTeC exists to provide added value to CSU
- bringing IS&T faculty together across department and college boundaries is critical if CSU is to compete with larger departments at other universities for ranking, funding, new students, new faculty, etc.
- ISTeC consists of active faculty from all colleges who care about CSU IS&T research and education
- built an inter-college IS&T people-infrastructure
- enhancing IS&T intellectual environment, reputation, and funding at CSU
- providing infrastructure to assist all colleges at CSU in the design and innovative application of IS&T