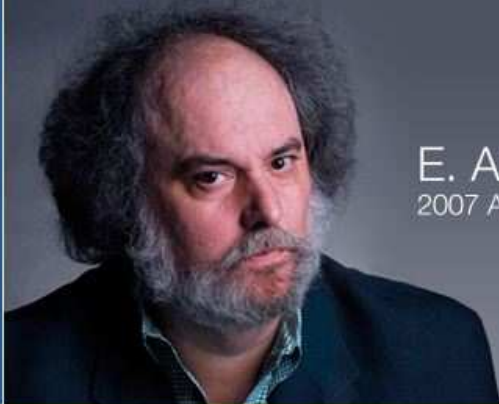


The Role of the US Department Chair

J Strother Moore
Department of Computer Sciences
University of Texas at Austin

ECSS 2008
9–10 October 2008
Zurich



E. Allen Emerson
2007 A.M. Turing Award Winner

Featured Spotlight

2007 A.M. Turing Award

The Association for Computing Machinery, has named Edmund M. Clarke, E. Allen Emerson, and Joseph Sifakis the winners of the 2007 A.M. Turing Award, widely considered the most prestigious award in computing.

[Read more about the Turing Award Winners](#)



Undergraduates

Computer Scientists have enormous opportunities to change society and to shape the world of the future. Computer science impacts technology, commerce, culture, biology, and space exploration.

[Learn more about our Undergraduate Program](#)



Graduates

The Computer Science Department offers two graduate programs. Both are designed to meet the needs of those interested in research or furthering their studies in computer science.

[Learn more about our Graduate Program](#)



Research

The foundation of the department's graduate program is its research. The department is currently ranked 9th among research departments in the U.S.

Spotlights

04/14/08 - [UTCS Student wins \\$327,000](#)

04/11/08 - [View photos from Gates talk](#)

04/08/08 - [Prof awarded Guggenheim Fellowship](#)

03/27/08 - [NSF highlights UTCS students](#)

03/11/08 - [NCWIT Fund New Program](#)

[More Spotlights](#)

Upcoming Talks & Events

Information for UTCS Careers and Recruiting

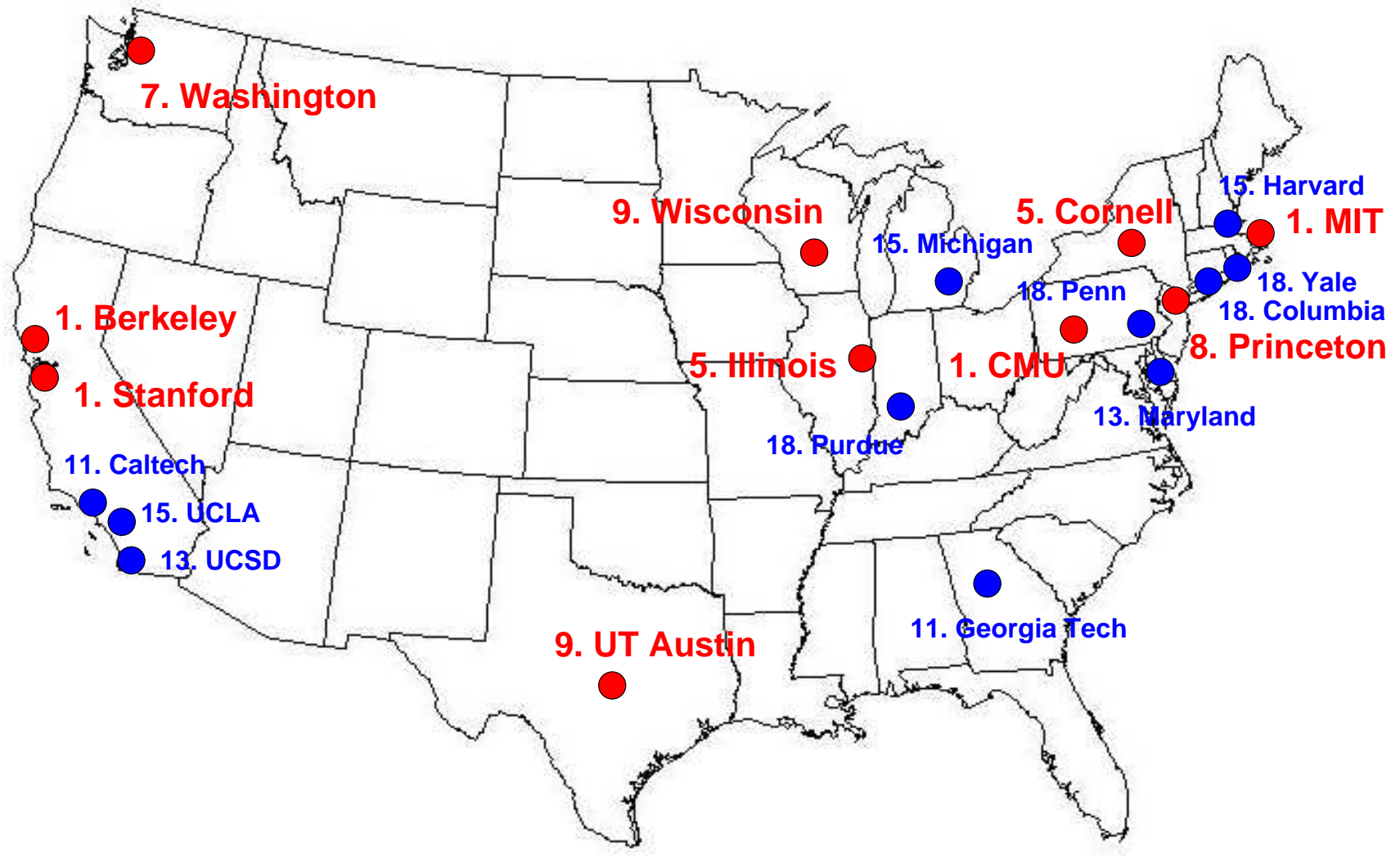
<http://www.cs.utexas.edu/oea/services/career/>

Sanjay Patel, Univ of Illinois at Urbana/Champaign, "1000-core Computing for the Masses"

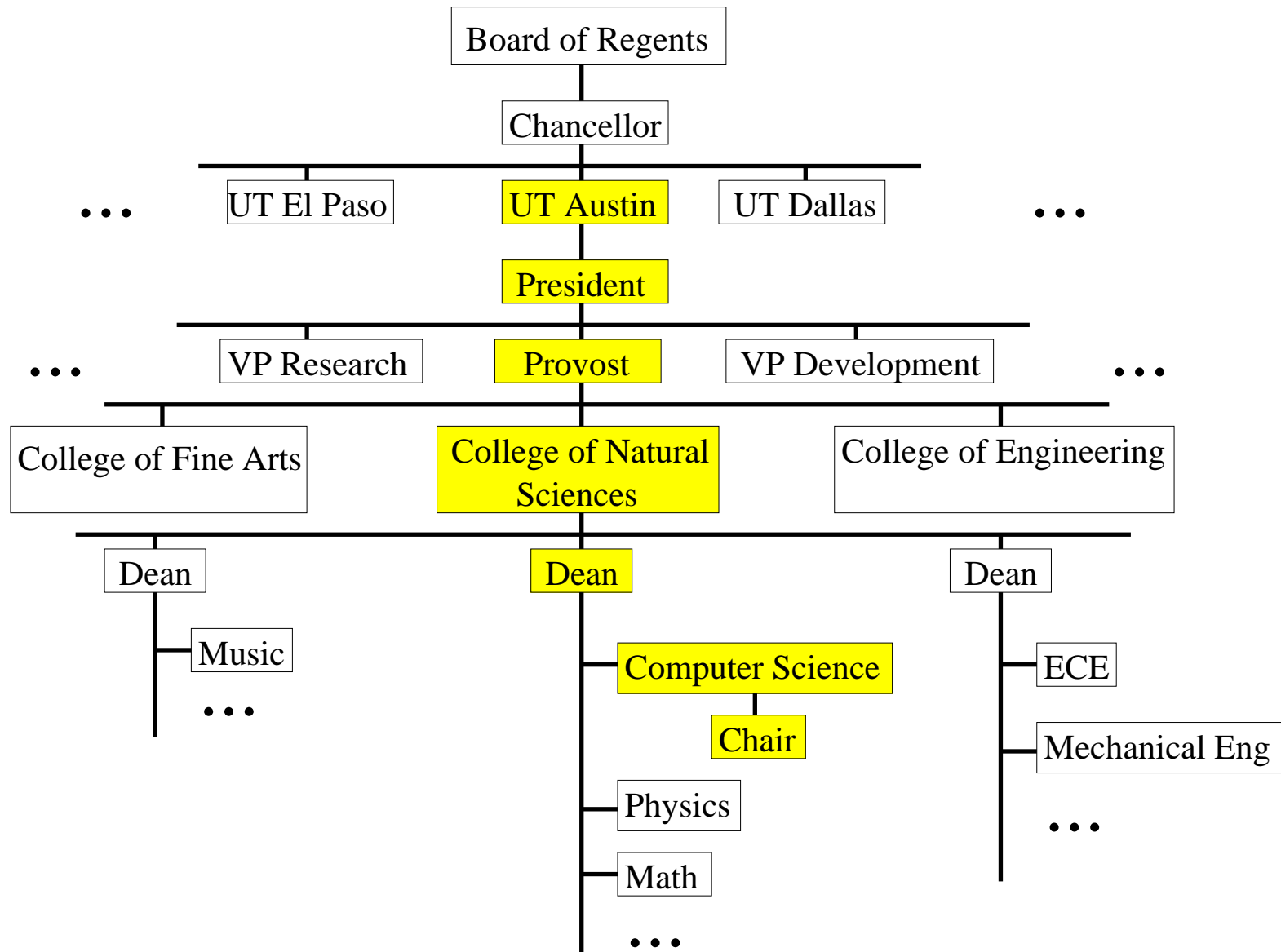
Thurs, Sept 18, 3:30 p.m. - 5 p.m. ACES 2.302

Ganesh Ramanarayanan, Cornell Univ, "Visual Equivalence - A New Standard of Image Fidelity for Computer Graphics"

Fri, Sept 19, 3:00 p.m. ACES 6.304



The University of Texas System



Definitions

Chair – leader of an academic department, generally elected by the faculty, serving a fixed term, with limited budget authority

Head – leader of an academic department, generally hired by the Dean (with faculty input), serving indefinitely, with significant budget authority

US Academic Ranks

- Lecturer (non-tenure)
- Assistant Professor (tenure-track, 6 year appointment)
- Associate Professor (tenured)

- Full Professor (tenured)
- Endowed Chair (tenured)

Degrees

- BS - 4 years after entering the university
- MS - 2 more years
- PhD - 5 more years (average)

Special Considerations

- the US system
- Bayh-Dole Act requiring exploitation of intellectual property (patenting and licensing)
- the Texas university System

- a Science college (not Engineering and not a School of Computing)



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Chan-Byoung Chae



Chan-Byoung Chae, a Ph. D. candidate supervised by Prof. Robert W. Heath, Jr., has been awarded the 2008 IEEE VTS Dan E. Noble Fellowship Award. The fellowship recognizes an individual most likely to impact the areas of concentration of the IEEE Vehicular Technology Society including "wireless", and mobile radio. This is the most prestigious award a graduate student in wireless communications can receive. The award will be presented at the IEEE VTS Conference (VTC) in Calgary, Canada on September 23rd.

Mr. Chae was the recipient of the Gold Prize in the 2007 Humantech Paper Contest, the KSEA-KUSCO scholarship in 2007, and the Korea Government Fellowship (KOSEF) in 2005.

Schlumberger Day 2008



FREE TRIP TO ENERGY FAIR SEPT 27

9th Annual Renewable Energy Roundup & Green Living Fair
Saturday, Sept 27 in Fredricksburg

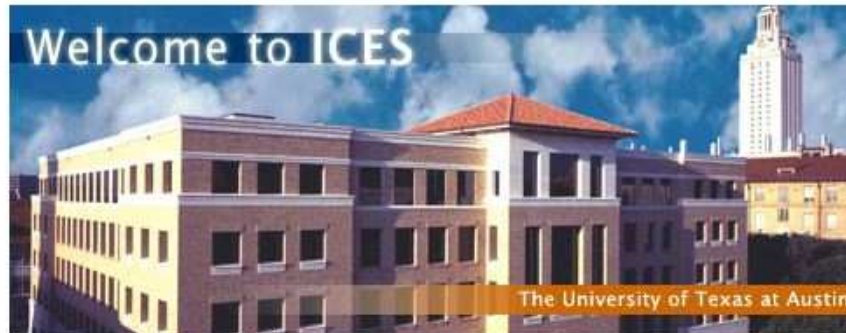
Bus leaves UT campus (Dean Keeton overpass) @ 10 am, back around 7 pm

- FREE admission
- FREE lunch
- FREE ride
- \$5 deposit (refunded)

See Melody Singleton ENS 439
sponsored by IEEE Power Engineering Society

More...

INSTITUTE FOR COMPUTATIONAL ENGINEERING AND SCIENCES (ICES)

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ACE 4.102
[map](#)

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Fax: (512) 471-8694

Welcome Message

The Institute for Computational Engineering and Sciences was created at the University of Texas at Austin to provide the infrastructure and intellectual leadership for strong interdisciplinary programs in computational engineering and sciences...

Read the [Welcome Message](#) from ICES Director and Associate Vice President for Research, [J. Tinsley Oden](#)

Download the [ICES Brochure](#) (pdf, 12mb)

ICES Mission

The mission of the Institute for Computational Engineering and Sciences is to provide the infrastructure and intellectual leadership for developing outstanding interdisciplinary programs in research and graduate study in

Programs

Computational and Applied Mathematics Program



Postdoctoral Program



Employment Opportunities at ICES

Seminars

Unless otherwise noted, all seminars take place in ACE 6.304 from 3:30 – 5:00 PM.

Fri, Sep 26

Prof. Tom Hou — Dept. of Applied and Computational Mathematics, Caltech

ICES Seminar:

"A New Multiscale Finite Element Method for High-contrast Elliptic Interface Problems"

Tue, Sep 30

Ronald H.W. Hoppe — Dept. of Math., Univ. of Houston, Houston, TX 77204-3008, U.S.A. Inst. of Math.,



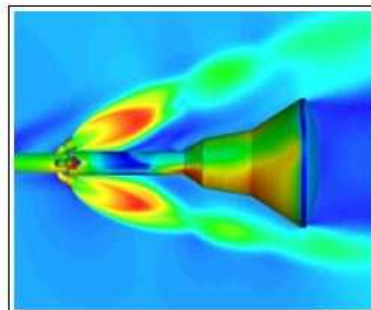
Powering Discoveries

Science at the Center of the Storm



As Hurricane Ike barreled towards the Texas coast, and millions moved inland to escape the storm, National Oceanic and Atmospheric Administration (NOAA) scientists and their university colleagues flew bravely into the center of the storm, hunkered down at operations centers, and manned the massive supercomputers at TACC to enable storm prediction and evacuation monitoring. [Read More]

Strengthening Industry Connections



The Texas Advanced Computing Center (TACC) conducted the first workshop for its new Science and Technology Affiliates for Research (STAR) program in mid-August.

TACC and the STAR partners, including BP America Inc., Chevron Corporation, and SiCortex, discussed how centers such as TACC could most effectively work with the growing number of companies utilizing advance computing technologies throughout their research and operations activities. [Read More]

Press

☆ "Ranger" Now Available To Researchers at Texas Higher Education Instit... [More]

☆ "Ranger" Supercomputer Gets Processor Boost ... [More]

☆ TACC Hosts 2nd Annual Summer Supercomputing Institute [More]

☆ "Ranger" Virtual Workshop Now Available ... [More]

☆ "Ranger" Supercomputer Marks New Era for Petascale Science [More]

[View All News](#)

See Our New Vis Lab!



Events

☆ The Austin Forum: Transcending the Traditional Organizational Chart [More]

[View All Events](#)

Special Considerations

-
- a Science college (not Engineering and not a School of Computing)

And of course, each of our departments has unique needs and a unique culture.

UT Austin is the largest top-10 computer science department in the US in terms of undergraduate majors.

	2001	2008
professors	35	47
lecturers	18	6
BS students	2,500	900
MS students	60	60
PhD students	170	190

Some Trends

- toward commercialization and away from state support (18% of UT's funding is from the State)
- shifting undergraduate enrollment
- explosive growth in the “market” for CS ideas and talent

- expanding breadth of CS curriculum

My Own Background

My research is in Formal Methods.

Specifically, I work in automatic theorem proving and its application to hardware and software verification.

My Own Background

- BS MIT, 1966–70 (Math)
- PhD University of Edinburgh, 1970–73
(Computational Logic)
- Xerox PARC, 1973–76
- SRI International, 1976–81

- UT Austin CS (Associate, then Full), 1981–87
- Computational Logic, Inc (Chief Scientist), 1987–97
 - wanted to move Formal Methods into industry
 - found UT too rigid
 - could not imagine *ever* serving as Chair

- UT Austin CS (Endowed Chair),
1997–present
- UT Austin CS (Endowed Chair and
Department Chair), *2001–present*

The Role of the Chair

The department is the most important unit in the university today.

Like all leadership positions in the university, CS chairs must balance the expectations of many players:

- students

- faculty
- staff
- Dean and other administrators
- Regents
- state legislature
- donors

- influential advisors
- industrial partners
- schools (“K-12”)



(Rembrandt, *The Storm on the Sea of Galilee*, 1633)

The Role of the Chair

to steer the department through a sea of conflicting forces

The Most Important Question

Where do you want to go?

My Goal

to move the department to the next level of excellence through

- faculty hiring
- more competitive graduate recruiting
- improved quality of undergraduate students and curriculum

(Yawn ...)

In the US such “plans” are said to be like
“motherhood and apple pie”

The real question is *how do you get the
resources?*

We need

- more and better space
- more faculty lines
- more graduate fellowships
- smaller classes

Vision without financing is hallucination.

To get the resources, we needed *advocates*.

Before I Took the Job

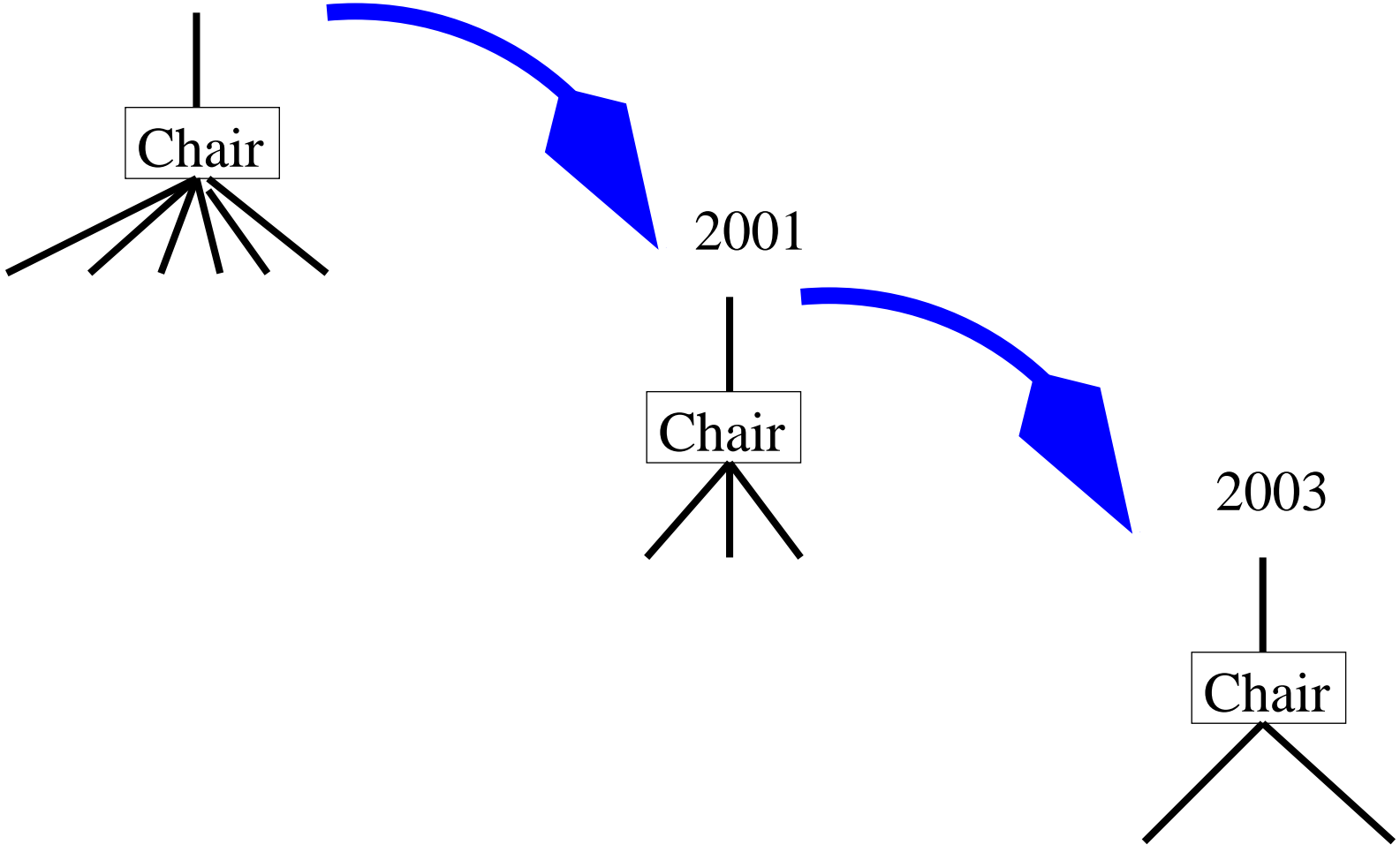
I told the faculty what we needed to do

I told them how I was going to go about it

I told them they would have to change:

No one is going to give us hundreds of millions of dollars just to be who we are today.

Step 1: Setting the Stage



Step 2: The Case for CS

- \$8.7B per year in strategic impact
- Texas high-tech economy 2nd only to California in US
- computing is revolutionizing every field

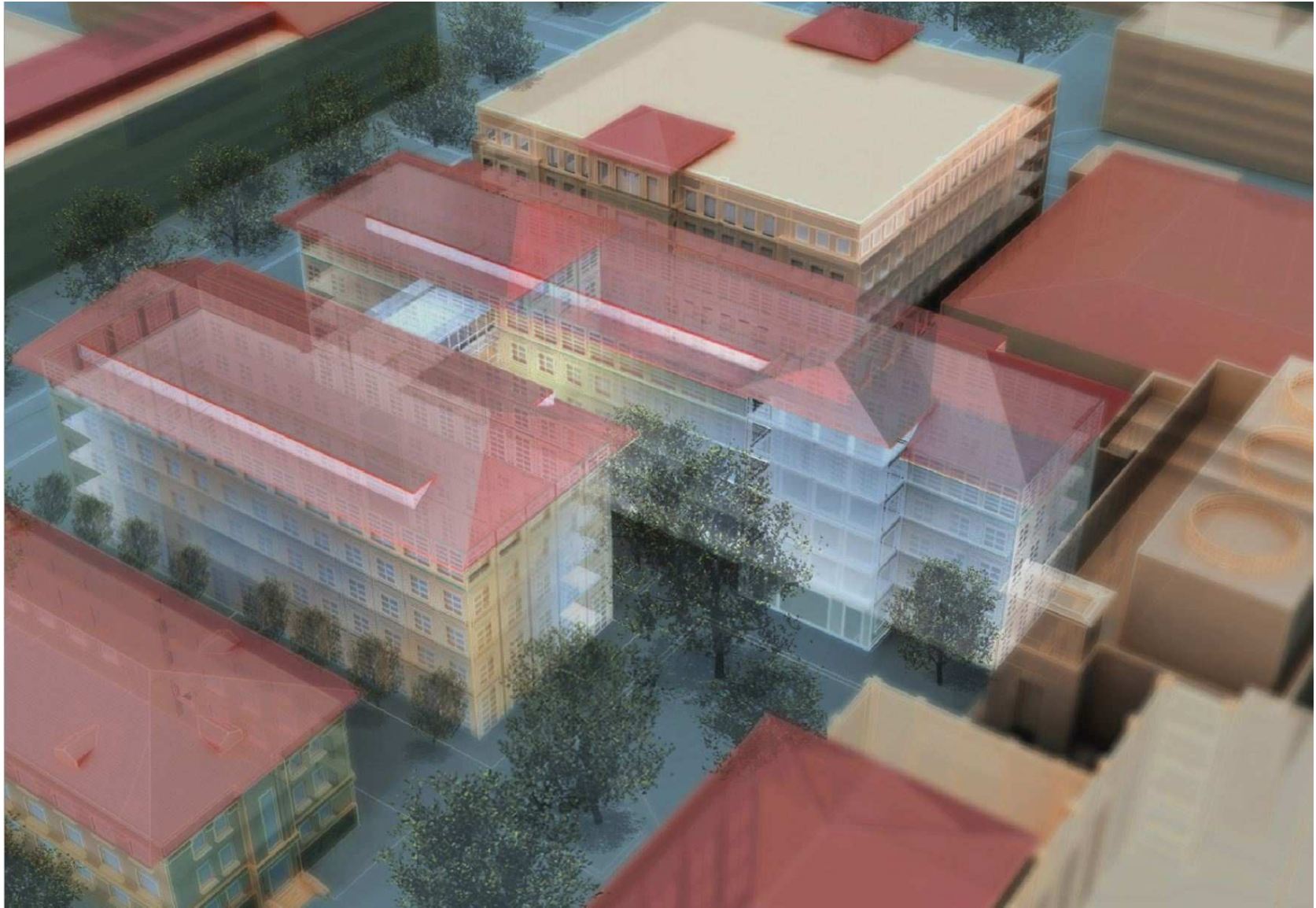
No university, region, or country can be competitive without innovative computer science.

Step 3: Advisory Committee

Formed a group of influential advisors
spent 2 years working with them on needs
and strategy

they convinced the President of the
University to launch a development
campaign for CS

Dell CS Hall





Other Major Issues

- drop in enrollment and elimination of lecturers
- salaries: dealing with a small “merit pool”
- more rigorous faculty evaluation process
- competitive hiring offers

- moving into new areas (for us) graphics, computational biology, robotics, security
- honors undergrad program
- industrial affiliates program (now with 28 partners)
- national recognition

Recent Awards

2008 *Turing Award*

Guggenheim Fellowship

2007 *US Congressional Commission
on Cybersecurity*

Computer Sciences and Telecomm Board

National Academy of Engineering

National Academy of Engineering

Computers and Thought Award

2006 *ACM Wilkes Award*

SIAM Linear Algebra Prize

2005 *ACM Software System Award*

2004 *ACM Software System Award*
SIGCOMM Award
IEEE McDowell Award
Guggenheim Fellowship

2003 *ACM Hopper Award*

2001 *ACM Karlstrom Award*

10 NSF Career awards, 5 Sloan Fellowships

A Critical Resource

The Computing Research Association
(CRA)

all PhD-granting CS departments and
major industrial research labs in US and
Canada

Snowbird Chairs' Conference

Taulbee Report (qv)

Intellectual Property



- About CRA
- Membership
- CRA for Students
- CRA for Faculty
- CRA-Women
- Computing Community Consortium (CCC)
- Awards
- Projects
- Events
- Jobs
- Government Affairs
- Computing Research Policy Blog
- Publications
- Data & Resources

Best Practices Memo: University-Industry Sponsored Research Agreements

Best Practices Memo:

- [HTML](#)
- [PDF](#) (20 KB)

The Memo stemmed from a paper by [J Strother Moore](#), which included a detailed discussion of the issues involved as well as sample wording for agreements:

- "Model Language for Patent and Licensing Agreements for Industrially Sponsored University Research in Information Technology" (140 KB [PDF](#))

The committee set up to investigate this issue was co-chaired by J Strother Moore (University of Texas at Austin) and Gabby Silberman (IBM TJ Watson Research Center).

<http://www.cra.org/reports/ip/>

Lessons Learned

- a department is organic
- respect (or at least acknowledge) department culture and change it slowly
- learn to work with the Dean
- delegate and support the decisions of your lieutenants

- either master the budget or find a person you trust absolutely
- decisions must be made without “adequate” data
- any decision is often better than no decision
- keep things in perspective – “nobody is

going to die”





- change the organization as necessary to support departmental goals
- join *and participate* in national leadership organizations
- network with other chairs – we're all in this together

Thank You