

Computing Research Association

Conference at Snowbird 2000



Slides from a workshop
on the topic of

"IT, Informatics, and
Computer Science:
Experience With New and Existing Programs"

presented by

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3:00 pm

<http://www.cra.org/Activities/snowbird/00/wk2-2.html>

Information Technology

A Rensselaer Perspective

Boleslaw Szymanski

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Rensselaer Polytechnic Institute

- ◆ Oldest Technological University in the nation
- ◆ Two campuses: traditional in Troy, NY State and professional degrees oriented in Hartford, CT
- ◆ About 5000 undergraduate students and 2000 graduate (MS, PhD, others) in Troy and 1000 MS/MBA students in Hartford
- ◆ Five academic schools (Engineering, Science, Humanities & Social Sciences, Architecture, and Management) as well as the IT degree program and research (“virtual” IT School)

Information Technology Degree Programs

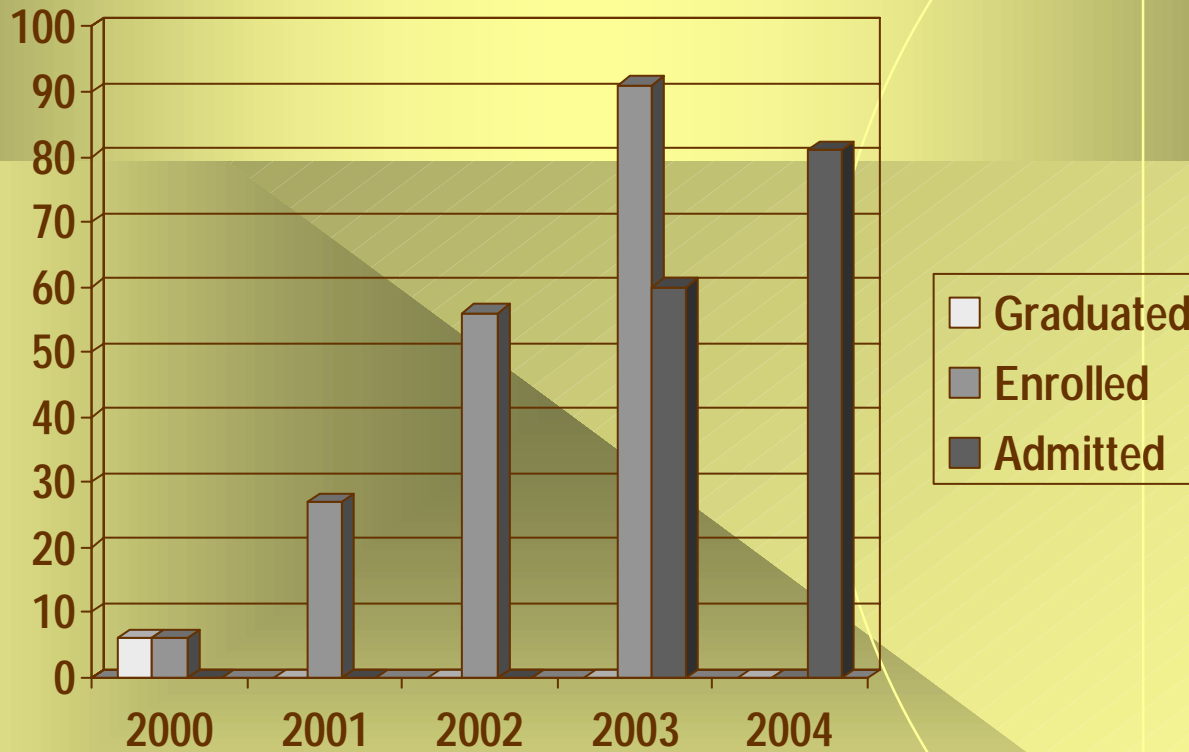
- ◆ BS/IT and MS/IT Degrees now offered
- ◆ Ph.D. in IT under development
- ◆ Interdisciplinary Research Program :

Faculty from traditional departments contribute to the teaching and research in IT

The **BS/IT at RPI**: Brief History

- ◆ Spring 1997: “Key Executives” urge a BS degree for IT Professionals
- ◆ Summer 1997: Curriculum designed
- ◆ Fall 1997: Rensselaer approval process
- ◆ Spring 1998: NY State approval
- ◆ Fall 1998: Class of 2002 arrives

BS/IT at RPI: Enrollments



BS/IT Curriculum

- ◆ Programming (Two)
- ◆ Architecture (Two)
- ◆ Web-based systems
- ◆ Technical elective (Choice from Three)
- ◆ Capstone project
- ◆ IT Revolution
- ◆ Politics/Econ of IT
- ◆ Intro to HCI
- ◆ Creativity / AI
- ◆ Managing IT Resources

*Plus Eight Courses in a
“Second Discipline”*

Second Disciplines

◆ MIS	45	◆ Economics	3
◆ Comm & Networks	18	◆ Entrepreneurship	3
◆ Electronic Arts	18	◆ Software Usability	3
◆ Finance	8	◆ Aeronautical Eng	3
◆ e-Commerce	8	◆ Bioinformatics	2
◆ Communications	7	◆ Industrial Eng	2
◆ Psychology	6	◆ Multimedia Data	2
◆ Medicine	6	◆ Ecoinformatics	1
◆ Computer Hardware	3	◆ Undecided	43

Other Related Undergraduate Degrees at Rensselaer

- ◆ Computer Science (School of Science)
- ◆ Computer and Systems Engineering (School of Engineering)
- ◆ Electronic Media, Arts, and Communication (School of H&SS)
- ◆ Management & Technology/MIS (School of Management)

Graduate Degrees

- ◆ Professional MS/IT
 - ◆ Approved by NY State in May 2000
 - ◆ Core courses with Application Areas
 - ◆ Offered also at Hartford and via Distance
 - ◆ Expect 25 to 30 students in Fall 2000
- ◆ Research Oriented MS/PhD
 - ◆ Planning stage

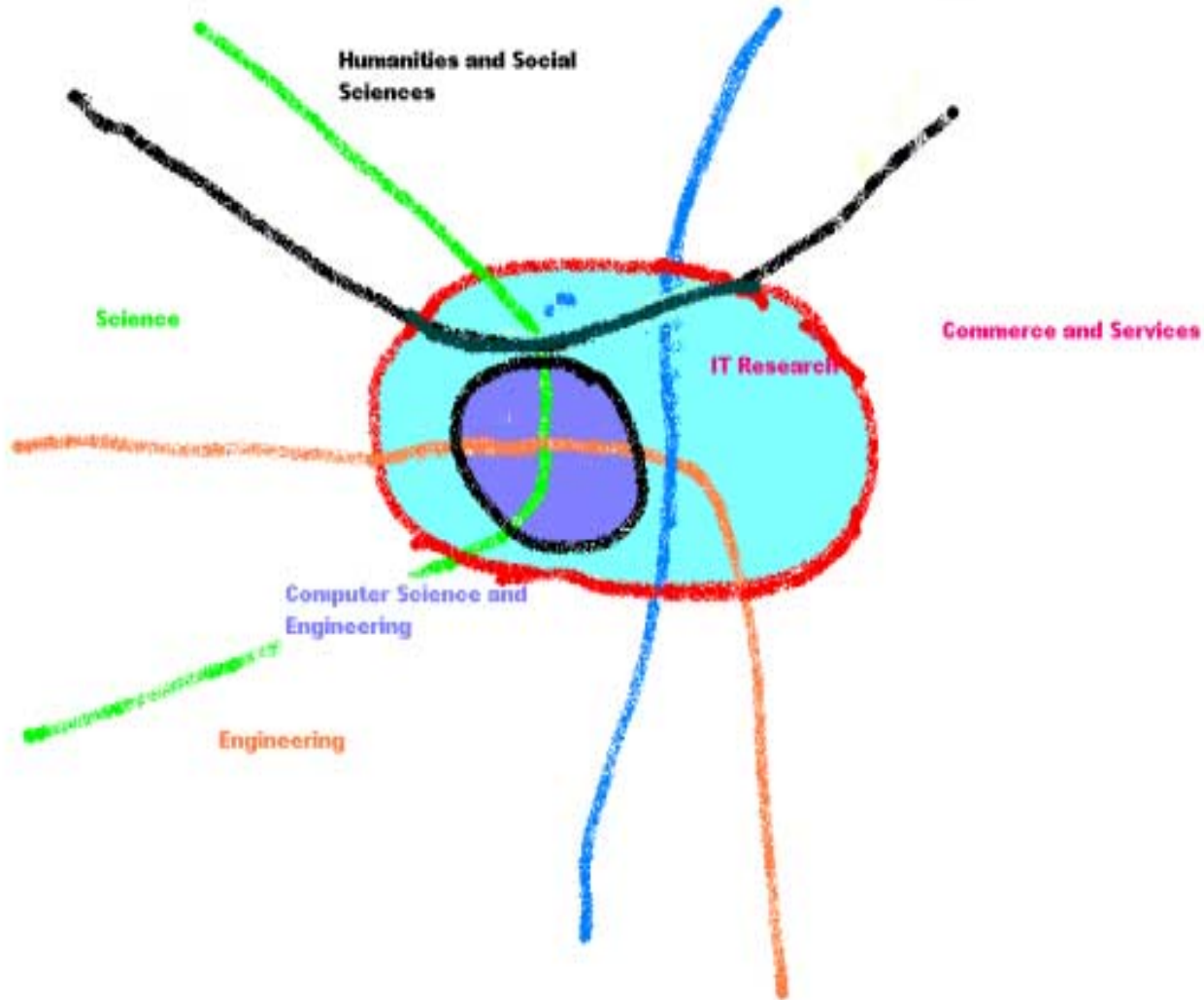
Research: MS/PhD in IT

- ◆ New template in preparation:
 - ◆ coursework stressing interdisciplinary proficiency and research
 - ◆ Ph.D. qualifying exam based on two disciplines
 - ◆ co-advisors from different departments
- ◆ Targeted students with CS/CE undergraduate or graduate degrees and interested in other disciplines

MS/PhD in IT: Existing Programs

- ◆ George Mason University, Founded 1985: School of Information Technology and Education
- ◆ UNC Charlotte, Founded 1998: School of Information Technology, College of Engineering
- ◆ Similar programs at CMU, NJIT

Interdisciplinary Nature of IT Research



Examples of IT Research Focus at RPI

- ◆ *Biotechnology*
- ◆ *Materials for Information Technologies*
- ◆ *Networking*

- ◆ *Software Engineering*

Based on existing strength in

- ◆ *Computational Science*
- ◆ *Educational Innovation*
- ◆ *Physical Properties of Materials*
- ◆ *Experimental Computer Science*

Administration & Personnel

- ◆ Vice Provost for Information Technology
- ◆ Associate Dean of Science for IT
- ◆ IT Curriculum Chair
- ◆ Program Manager
- ◆ Admin Asst & Graduate Coordinator
- ◆ “Faculty of IT” as instructors, advisors

Other Significant Units

- ◆ The Five Schools
- ◆ Computer and Information Services
 - ◆ Separate Dean, reports to Provost
- ◆ Vice President for Research
- ◆ Corporate & International Advancement
- ◆ Career Development Center
- ◆ Alumni Relations

Conclusions and Questions

- ◆ Degree programs are easier to start than coordinated research program
- ◆ Virtual School with a thin administrative structure is an efficient way to start the program
- ◆ Clear distinction between IT degree and existing degrees is important for the success
- ◆ What is the best administrative structure for the established IT program ?
- ◆ Is Ph.D. in IT needed ?
- ◆ What is an intellectual core of IT and how it differs from CS/CE core ?