Information & Telecommunication Technology Center

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ITTC Mission

- **Research** - To create and disseminate fundamental knowledge and new technologies
- **Education** - To educate the next generation of technology workers, leaders and educators
- **Economic Development** - To transfer knowledge and technologies into the economy

University Research Organization

Chancellor / President/COO, KUCR
Bernadette Gray-Little

Provost
Jeffery Vitter

Deans of Colleges and Professional Schools

Chairpersons of Academic Departments

Faculty

KU Center for Research / Office of RGS
Steven Warren, President/Vice Provost
Joseph Heppert, Vice Pres./Assoc. Vice Provost
Joshua Rosenbloom, Vice Pres./Assoc. Vice Provost

Research Centers and Institutes

KU INFORMATION & TELECOMMUNICATION TECHNOLOGY CENTER
The University of Kansas

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The University of Kansas

ITTC History

- **Established in 1995 merging RSL and TISL**
  - Telecommunication and Information Sciences Laboratory (1985)
  - Remote Sensing Laboratory (1962)
- **State and National Center**
  - KTEC Center of Excellence in Information Technology
  - NSA/DHS Center of Excellence in Information Assurance Education
- **Over $4M per year in external funding**
  - Sponsors include NSF, DARPA, AFOSR, ONR, NASA, NIH, ORNL, KTEC, industry...
  - KU RGS supported Research Center

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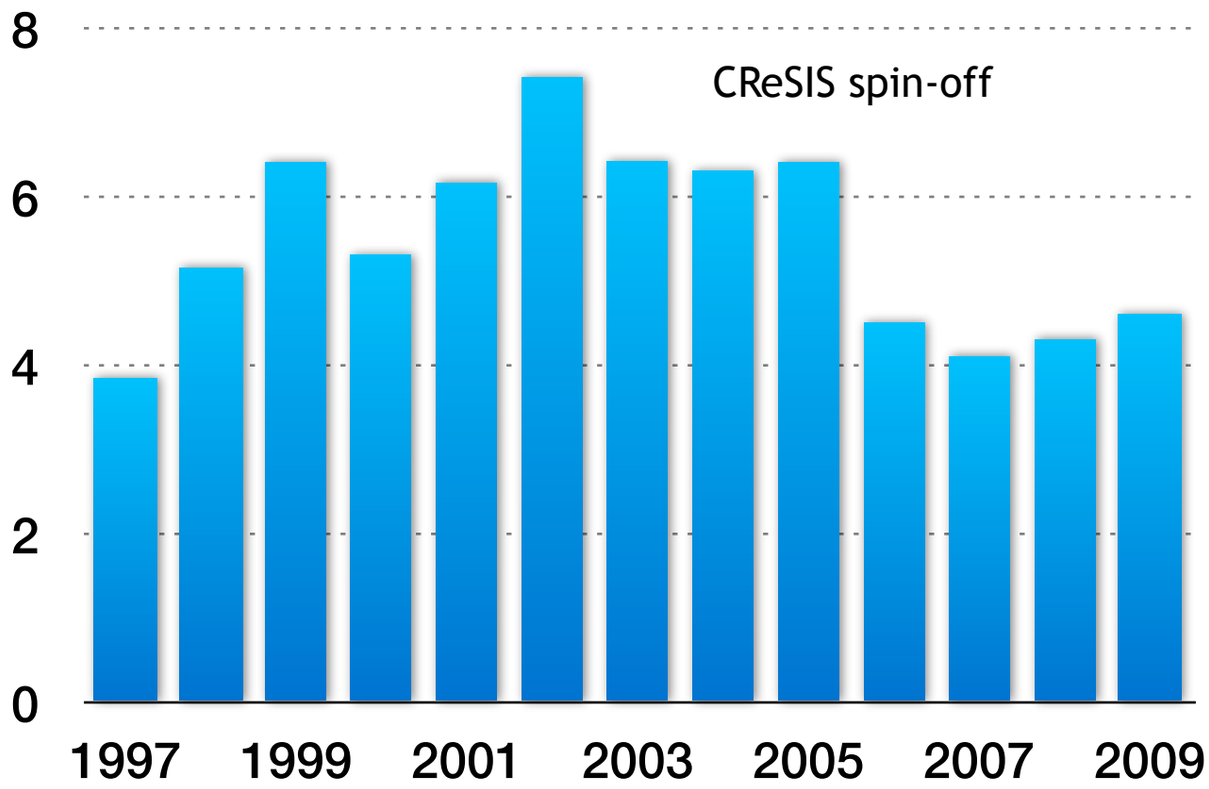
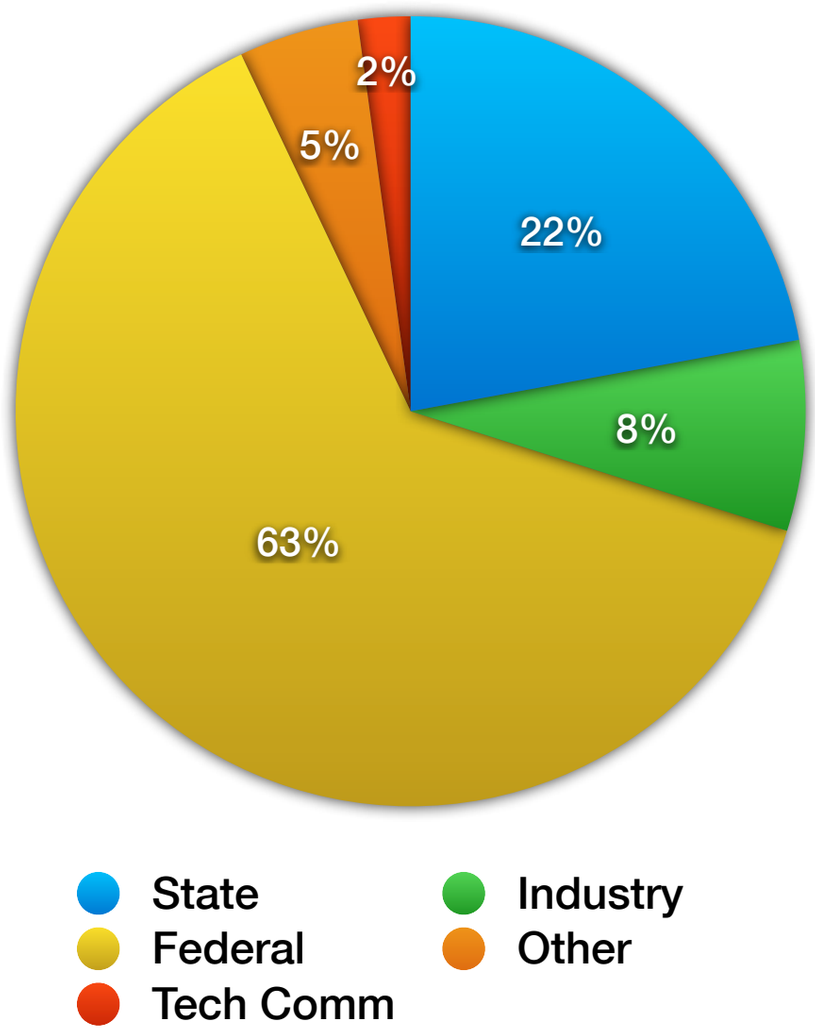
ITTC People

- **Researchers, Technical and Support Staff**
  - 35 Tenure-track faculty
  - 1 research faculty
  - 8 technical staff
  - 6 support staff
- **105 Students from EE, CS, CoE, Math, Education**
  - 42 PhD students
  - 47 MS students
  - 14 BS students

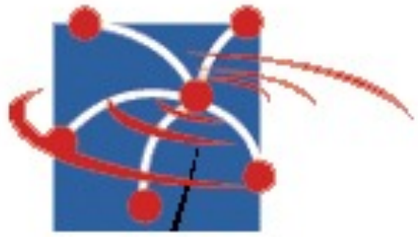
ITTC Expenditures





ITTC Laboratories

Communications & Networking Systems
(Gary Minden)



Radar & Remote Sensing
(Jim Stiles)

Computer Systems Design
(Perry Alexander)

Interdisciplinary Systems Approach

Intelligent Systems
(Arvin Agah)

Information Assurance
(Perry Alexander)

Bioinformatics
(Xue-wen Chen)

e-Learning
(Ed Meyen & Jim Miller)

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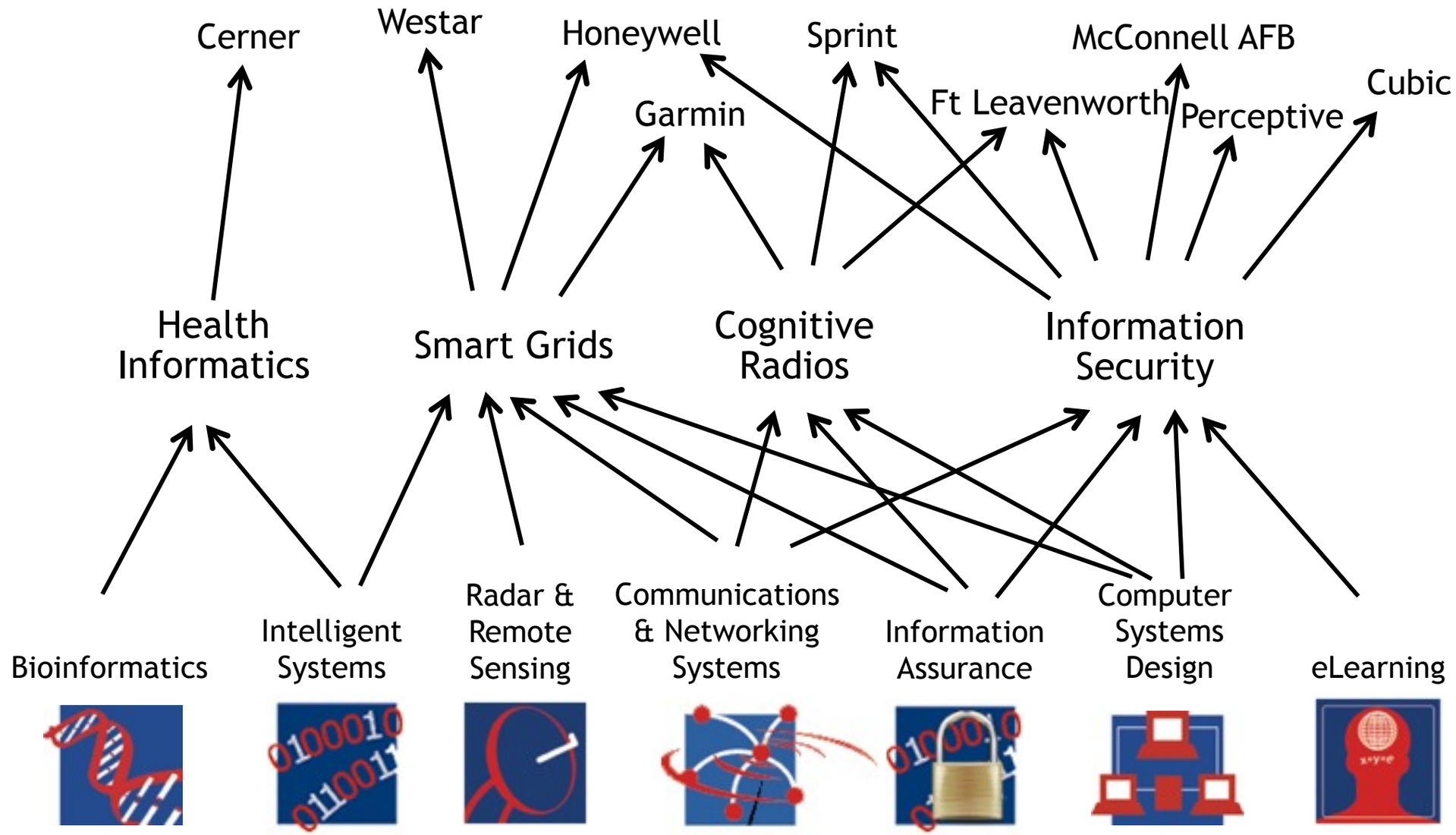
ITTC Commercialization Clusters



ITTC Approach

Theory	Mathematics Engineering	
Modeling	Formal Analysis Simulation	
Prototyping	Testing Field Experiments	Demonstration
Commercialization	New Companies Licensing	Patents

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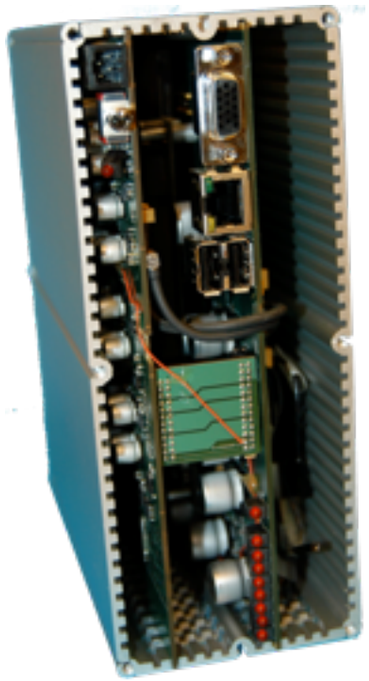
ITTC Facilities



Software Radios

Computer Cluster
(1000+ cores, 35 TB)

Core Network and Experimental Fiber Links

RFID Designs

Optical Systems Laboratory

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ITTC in Washington

- **Current Program Managers**
  - Victor Frost - Program Director, NSF Computer and Network Systems, Directorate of Computer & Information Science & Engineering
  - Glenn Prescott – NASA Program Executive for Technology
- **Past Program Managers**
  - Ron Hui - Program Director, NSF Electronics, Photonics and Device Technologies
  - Joe Evans - Program Director, NSF Computer and Network Systems, Directorate of Computer & Information Science & Engineering
  - Gary Minden - Program Manager, DARPA Information Technology Office

ITTC Achievements

- **Significant Research Awards**
  - $4.7M NIH Award for cold room expansion
  - 3 NSF CAREER Awards
  - 1 AFOSR Young Investigator Award
  - $1.75 million in airborne telemetry projects
  - NSF GENI and MRI Awards
- **National Designations**
  - NSA/DHS Center of Excellence in Information Assurance Education
  - International Foundation for Telemetering Partnered University
  - ICFP International Programming Competition Host

ITTC Achievements

- **Fellowships and Scholarships**
  - NSF GK-12 Fellowship
  - Google Anita Borg Fellowship
  - Google GRAD Fellowship
  - DoD SMART Fellowship
- **Computing Partnerships**
  - KU Microscopy Center
  - KU Center for Research Methods
  - RGS Graduate Computing

ITTC Moving Forward

- **Revisit and realign laboratories**
  - Optimize for existing faculty
  - Invert structure to expose laboratories
- **Examine grant writing efforts**
  - Improving submission and hit rates
  - Looking at larger, center-level grants
- **Establish a computing services organization**
  - Deliver high-end computing services outside ITTC
  - Establish interdisciplinary partnerships across KU

Charge to the IAB

- **How do we better engage industry?**
  - As research sponsors and affiliates
  - As research partners
- **What are viewed as "hot" areas?**
  - Emerging research areas
  - Emerging areas for commercialization
- **Can we do our job more effectively?**
  - Efficient use of scarce resources
  - Better targeting our efforts