Research is key to the mission of GTL

- Within GT: Faculty issues (RPT)
  Graduate student issues: (GRA support)
- Outside GT: Hub for Research and Education

USA
- ATLANTA
  - Industrial partners
  - Academic partners

EU
- METZ
  - Industrial partners
  - Academic partners

Georgia Tech Lorraine European Campus
Current Status

- GTL Founded in 1988
- 1998: GTL-CNRS Telecom Lab formed (UMR-6603)
  UMR CNRS - GTL-Univ. Franche-Comté, Besançon (FEMTO)
  - 20 CNRS staff and doctoral students
  - Optical telecommunications, secure networks
  - Educational programs (joint PhD/Doctorat w/ SUPELEC, UFC)
- 1997-present: ME faculty develop research ties with ENSAM/LPMM/U-Metz - UMR 7454)
  - Mechanics of Materials
  - Joint special problems, co-supervision of MS students (1 sem.)
  - Bi-annual research workshops
- 2005: GT-CNRS *Unité Mixte Internationale* (UMI-2898)
  *Formal recognition of ECE and ME research activities*
Research Opportunities

- US funding agencies for GTL faculty and students?
  No difference between Atlanta and GTL. GTL is Georgia Tech!
- EU - 6th and 7th Framework. GTL is French!
- CNRS and the importance of UMR/UMI
- Industry (Taxe d’apprentissage; internships; “binômes” fellowships)
- NSF International Programs (2005: GT submitted 2.7 M$ proposal)
- Substantive collaborations with targeted EU partners
Research Vision and Goals

- Establishment of **GT International Research Center**
  - Located at two main hubs
    - Georgia Institute of Technology, Atlanta
    - Georgia Tech Lorraine, Metz, France
  - Funded by US, French, and EU partners
  - Eventually includes other US partner institutions

- Focus of the Center
  - Distributed learning and research
  - Mobility and outreach
  - Research expansion in several disciplines
    - Leverage current strengths
    - Expand in new areas
Distributed Learning and Research

- Enhance GTL as the international educational hub in Europe for the GT and other USA educational institutions.
  - Serve as the model for a truly immersive, international experience in engineering education, research, and culture.

- Develop infrastructure and conduct research as the leading international center in distributed learning and research.
  - Conduct research in a seamless, distributed network of researchers, students and faculty.
Mobility and Outreach

- Increase the mobility of researchers and educators between USA, France and other countries throughout Europe, beyond the one-on-one collaborations that may already exist.
  - Increase the mobility of undergraduate and graduate students between USA and Europe.
  - Increase the mobility of the top students from other continents to France and other countries throughout Europe.
- Engage corporations in international education and research experiences for undergraduate and graduate students.
New Thrust Area: Multifunctional Materials

**GT Atlanta**
- Mechanics of Materials
  McDowell, Cherkaoui, Lynch, Qu Zhou, Neu
  Acoustics/Vibrations/Ultrasonics
  Berthelot, Rogers, Qu
- Lighting, Energy, Photonics
  Ferguson, Kippelen, Citrin, Adibi

**Université de Metz, ENSAM, and CNRS**
- Physics and Mechanics of Materials
  Cherkaoui, Patoor, Berveiller, Daya, Benzineb, Molinari
  LPMM-UMR 7554 (CNRS)
  (also ENIM and INPL)

**U Metz**
- A Université de Metz, Supelec, and CNRS
  Ougazzaden
  LMOPS-new UMR (CNRS)
Thrust Area: Secure Networks

- **GT Atlanta**
  - Physical layer
    - McLaughlin, Barry, Achtenhagen
  - Network layer
    - Akyildiz, Owen, Zegura
  - Computing
    - McCracken, Foley, DeMillo

- **UFC**
  - FEMTO
    - Physical layer
      - Merolla, Larger, Hanna

- **Other UMRs and Institutions**
  - ULB
  - University of Porto
  - ENST?
  - LORIA?
Longer Term UMI Model

- FEMTO
  - UFC
- LMOPS
  - U Metz-SUPELEC
- ENST
  - Newcom
- LPMM
  - U Metz-ENSAM
- Other UMRs
- IRCOM
- Other EU Univ. and Labs
- ITT-Madras
- Princeton
- Other US Univ.
- GT Atlanta
- U Metz-ENSAM
- SUPELEC
GTIRC Vision: Research Funding and Partnerships

GT International Research Center

Research

Distributed Research and Education

Mobility and Outreach

UMI

EU

NSF

Industry

Smart Materials

Secure Networks

Future thrust area

Future thrust area

...
Key Challenges

- Constant need to **network** with French/EU authorities to ensure **support and funding** of GTL activities.
- As number of students grows **need more faculty** attached to GTL: *permanent and visiting*
  - One ME hired and one ECE about to be hired
  - Need a workload model that matches Atlanta

- **Infrastructure**
  - **Space** for new faculty and research programs
  - **Video conference**
  - Associated **living arrangements** for visitors