GT-SJTU Collaborative Opportunities

GT-SJTU Collaboration Working Committee
March 8, 2005
GT-China Model

- Selective partnership to reduce risk
- Geographical balance taking advantage of regional strength in economic development
- Assurance of access to best student talents
- Participation of (multinational) industrial sectors
Current Activities

- 8/2004 MOU with Shanghai Jiao Tong University (SJTU)
- 8/2004 MOU with Peking University (PKU)
- Educational partnerships
  - GT-SJTU Undergraduate Student Exchange Agreement
  - GT Shanghai Summer Program to begin 5/2005
  - Propose: GT-SJTU dual MS degree in ECE to begin 5/2006
  - Propose: GT-PKU Joint CoE (starting with MSE, BME)
- Research partnerships
  - Sino-US Logistics Institute, Sino-US Logistics Summit
  - Environmental Science & Engineering Research
  - Optoelectronics, etc
GT-China Leadership

- Overall Steering Committee
  - Co-chairs: Dr. Charlie Liotta, Dr. Don Giddens

- SJTU Working Committee
  - Chair: G. Tong Zhou, ECE

- PKU Working Committee
  - Chair: Z.L. Wang, MSE
GT-SJTU Collaboration Working Committee

- G. K. Chang (ECE / Optics & Photonics)
- Russ Dupuis (ECE / Nanotechnology)
- Pat McCarthy (ECON; 2005 Summer Program)
- Howard Rollins (OIE)
- Peter Webster (EAS & CEE)
- Chip White (ISyE / Logistics)
- G. Tong Zhou (ECE / DSP; chair of committee)
Facts on Shanghai

- Although approximately 1% of China's population lives in Shanghai, the city contributes more than 11% to the country’s total income.
- Its port ranks 3rd in the world in volume of cargo.
- Total area: 6,341 sq. meters (2,448 sq. miles).
- Permanent residents: 13 million.
Shanghai Jiao Tong University (SJTU)

- Founded in 1896
- Strengths in Engineering
- ECE is the largest school at SJTU
- Minhang campus occupies 824 acres
- Total number of students: more than 40,000
- Number of international students: ~2,000
Proposal for Dual-MS Degree Program

- **Benefits:**
  - Opportunity for extended interactions between GT and SJTU faculty; leads to future research
  - Access to outstanding graduate students
  - “Visible” impact; name branding
  - Can generate base funding to support research activities

- **Challenges:**
  - Will top students pay $9,600 for the GT MS tuition?
  - Industry scholarships for top students
  - Are the opportunities attractive to sustain faculty interest?

- Starting point: ECE (largest unit in GT, SJTU)
School of ECE @ SJTU
Proposal for Dual-MS Degree Program

- Dual degrees, not joint degree
- GT non-thesis MS, SJTU thesis MS degree
- Total required: 30 credit hours
  - 6 can be transferred from SJTU
  - 24 from GT faculty or adjunct faculty
  - remote course delivery if necessary
- SJTU will recognize all GT course credits
- Dual-MS degree program duration: 2-2.5 years (no extra time beyond the SJTU MS degree)
Proposal for Dual-MS Degree Program

- Space commitment in new building for GT-Shanghai
- Target roll-out date: May 15, 2006
- Optional one (spring) semester study at GT-Atlanta: pay out-of-state tuition, fees + living expenses
- Possible to have different “concentrations” for GT and SJTU degrees (e.g., GT DSP courses and SJTU power systems thesis)
- GT and SJTU MS degrees are granted at the same time in Shanghai
**Dual-MS Degree: GT Tuition**

- Faculty buy-out formula: teach 1 course = 1.5 months salary
- GT expenses: faculty salary, fringe benefits, travel, lodging, M&S, GT-Shanghai program manager
- Assume 50 new dual-MS degree students each year
- $400 per credit hour GT-Shanghai tuition → $9,600 for 8 GT courses
- Income = $T \times N$: $T \uparrow$ then $N \downarrow$, $T \downarrow$ then $N \uparrow$
- Students pay tuition directly to GT
Teaching Arrangement

- Need 4 GT faculty members during the summer semester: possibly 3 ECE + 1 CS
- Need 2 GT faculty members during the fall semester: possibly 1 ECE + 1 MATH
- Each faculty member teaches ≥ 1 courses
- Offer ≥ 8 courses / year on-site
- Broad-based faculty support: faculty rotations sustainable
Proposal Regarding Any Surplus / Loss

- Tuition income should first meet GT-Shanghai faculty costs
- >$100,000 Surplus is very likely after the first year
- Surplus should be kept for self insurance to cover future contingencies
- Annual assessment of surplus / loss: 70% (GT) - 30% (SJTU) split
- We can control the number of students in the program and thus the amount of surplus
Distinguishing Features

- Low risk entry – no infrastructure cost
- “Marriage model”: best protection from the local environment
- Faculty rotation model: no new faculty hires, no promotion / tenure issues
- Heavy during the summer, light during the academic year: complementary to GT-Atlanta
- Metropolitan location – repeat visits
School Calendar

- Spring semester: no GT courses in Shanghai due to the winter break around the Chinese New Year. Dual-MS degree students should concentrate on taking SJTU courses, to be completed before May. Or, make spring the optional semester at GT-Atlanta.
- Summer semester: the largest number of GT professors on-site. Dual-MS degree students should concentrate on taking GT courses.
- Fall semester: a small number of GT professors on-site.

Summary: No GT courses during Spring, most GT courses during Summer, some GT courses during Fall.
Proposal for Faculty Exchange

- SJTU sends selected faculty members to GT for research collaboration:
  - SJTU pays the faculty member’s normal salary
  - SJTU or the faculty member pays for the roundtrip airfare
  - GT provides allowance for lodging and meals expenses
  - Nominal duration is 6-12 months
- Reciprocal arrangement for GT faculty visiting SJTU
- Assume matching interests between research groups
- Jointly funded projects can have other arrangements
- Measure of success: jointly published papers or IP
Proposal for Joint PhD Student Advising

- Selected SJTU PhD students who have completed all course requirements may spend one year at GT on dissertation research
  - SJTU provides ≥ $7,500
  - GT advisor provides ≥ $7,500 depending on the student’s qualification and availability of funds
  - No GT tuition (visiting scholar, J-1 visa)
- Assume matching interests between the groups
- The student receives PhD degree from SJTU
- Measure of success: jointly published papers or IP