

Challenges and Opportunities in University-Industry Collaborative Research

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Topics

- University-industry interaction in Brazil and in the State of SP
- The role of Fapesp in fostering university-industry collaborative research in the state of SP

University-Industry relations in Brazil

- U-I relations in developed National Systems of Innovation
 - Articulation between actors is time-intensive
- Late character of Brazilian development
 - Institutional formation
 - Late industrialisation

University-Industry relations in Brazil

- A number of successful cases of interaction*:
 1. Health sciences (IOC, Butantan)
 2. Agricultural sciences (IAC, Embrapa)
 3. Mining, metallurgy (UFMG)
 4. Aeronautic engineering (CTA, ITA)
 5. Geosciences, oil and gas (COPPE-UFRJ, Unicamp)

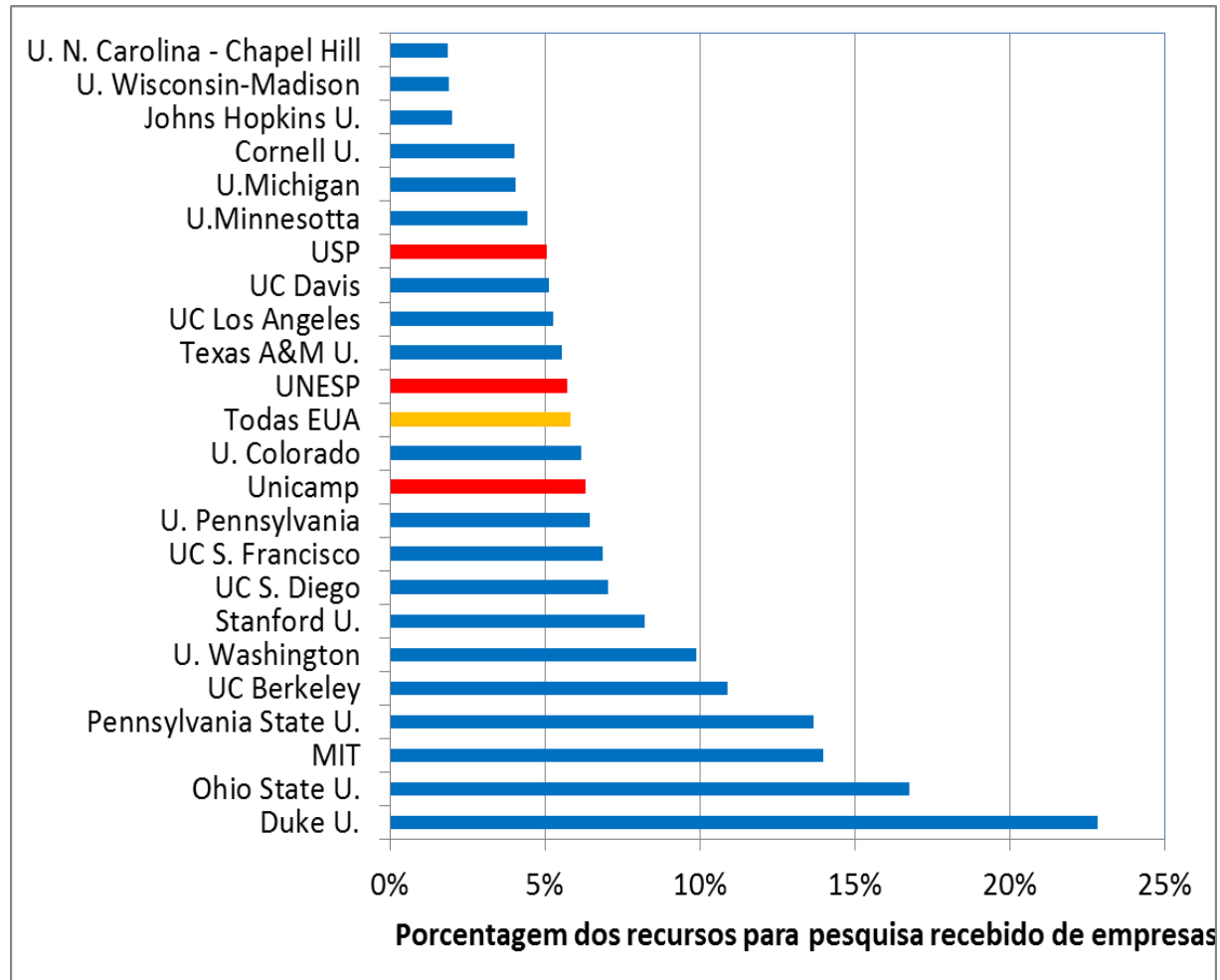
University-Industry relations in Brazil

- Challenge: to broaden the types of University-Industry interaction and increase the number of successful cases
- Universities: complementary or substituting research?
- Low level of business R&D expenditure in Brazil (higher in the State of SP)

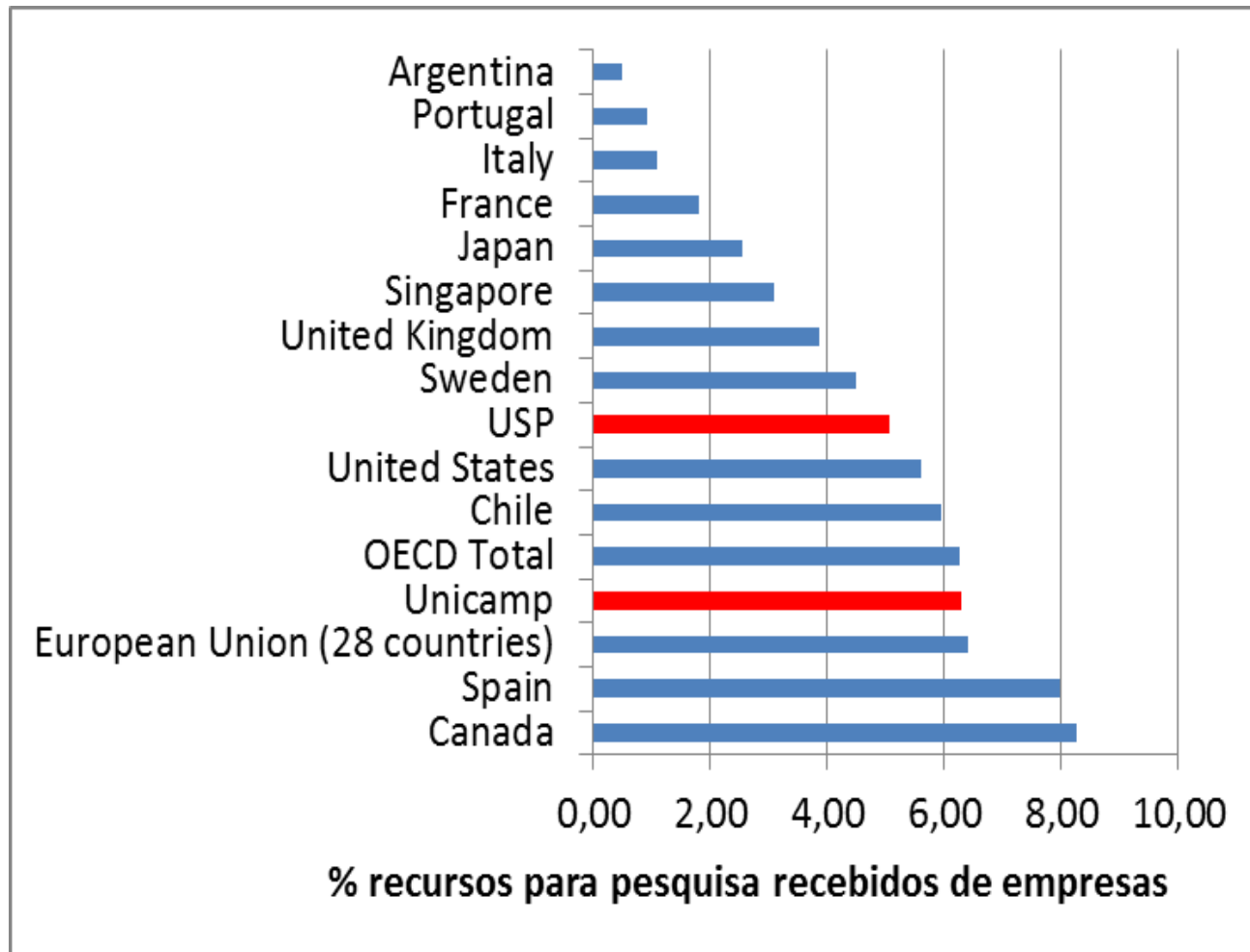
Towards a more mature pattern of U-I collaboration

- Industry
 - Needs access to trained personnel
 - Exploration of risky scientific opportunities
 - Find new transformative ideas
- Universities
 - Good research challenges in industry
 - Opportunities for better training students

Percentage of research expenditure in SP State universities funded by firms



U-I interaction intensity, 2009



FAPESP contribution for university-industry collaborative research in the state of SP

Research-Innovation Relationship

- “Research is the transformation of money into knowledge. Innovation is the transformation of knowledge into money”

Geoffrey Nicholson, former research and development director at 3M

Research for Technological Innovation

- PIPE – The Research for Technological Innovation in Small Businesses Program
 - Research projects developed by researchers in small companies
- PITE – The Partnership for Technological Innovation Program
 - Research projects developed in partnership with R&D institutions in the State of São Paulo and businesses located in Brazil and abroad

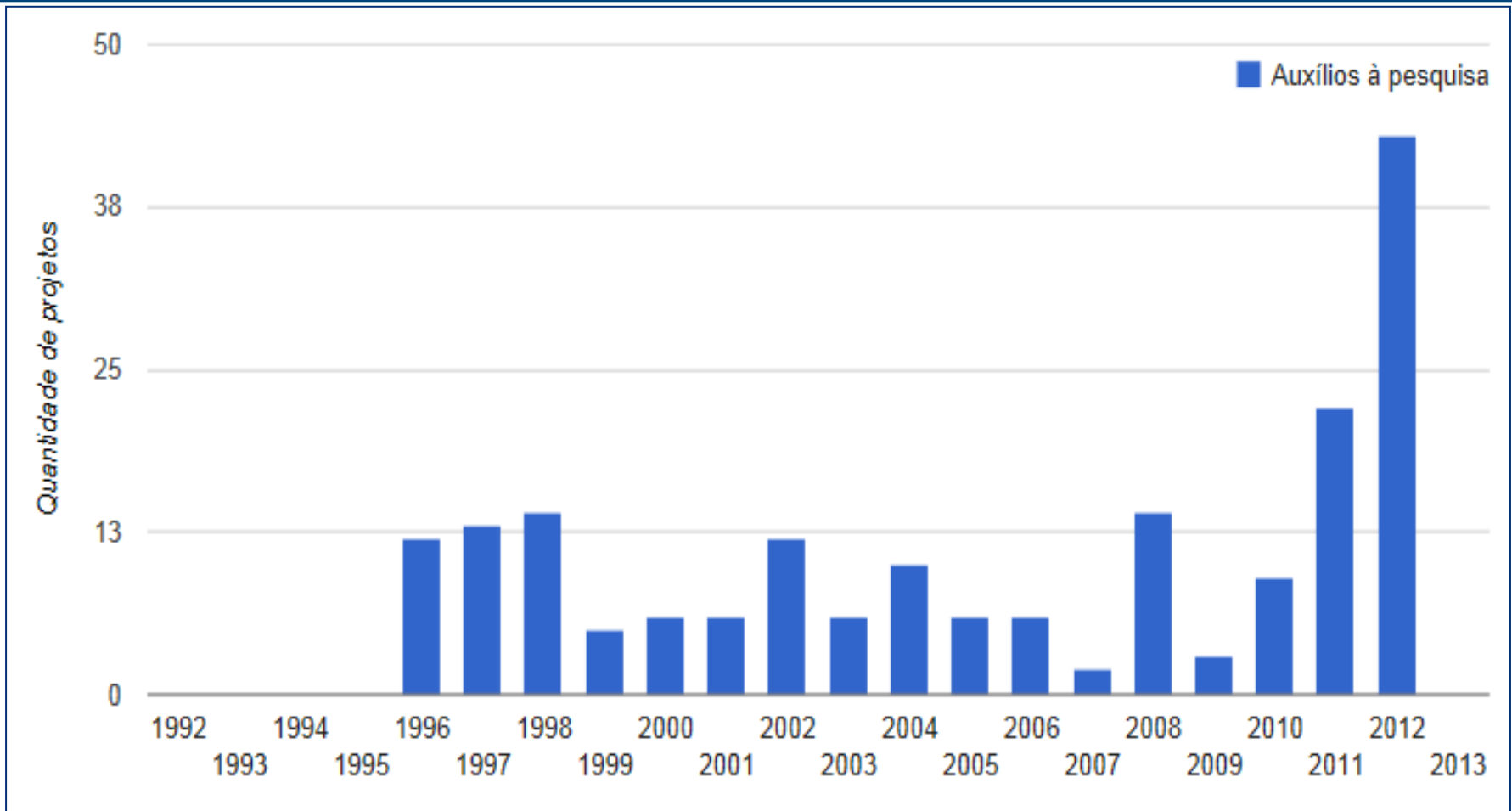
Partnership for Technological Innovation (PITE)

- Cooperative R&D
 - University/Research Institutes - Industry
 - Fapesp funds (non refundable) - 20 to 70%
 - Industry funds the complement
- PITE Proposals
 - Industry-University demand (since 1995)
 - Joint calls Fapesp-Industry (since 2006)

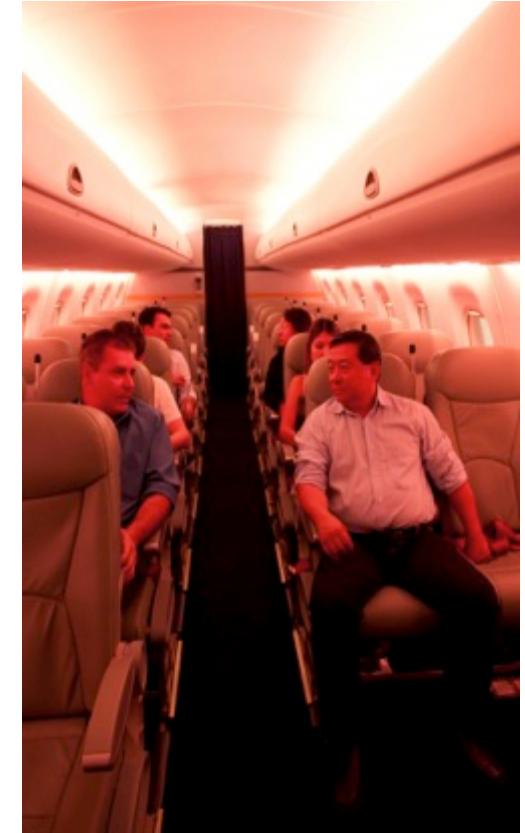
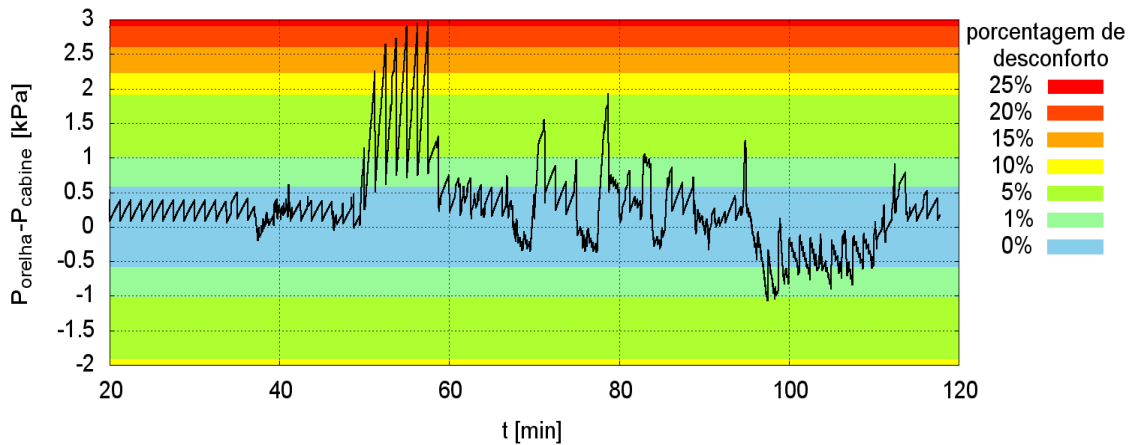
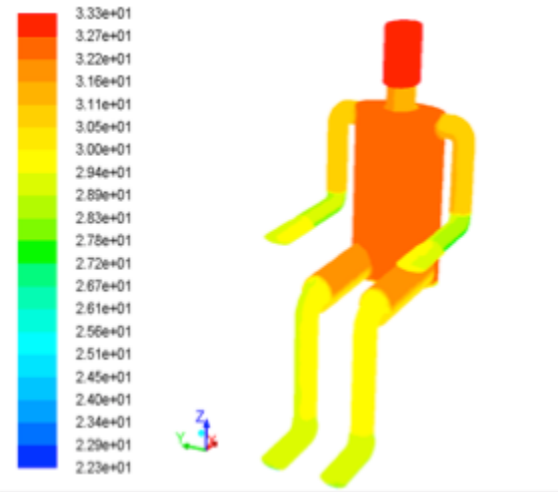
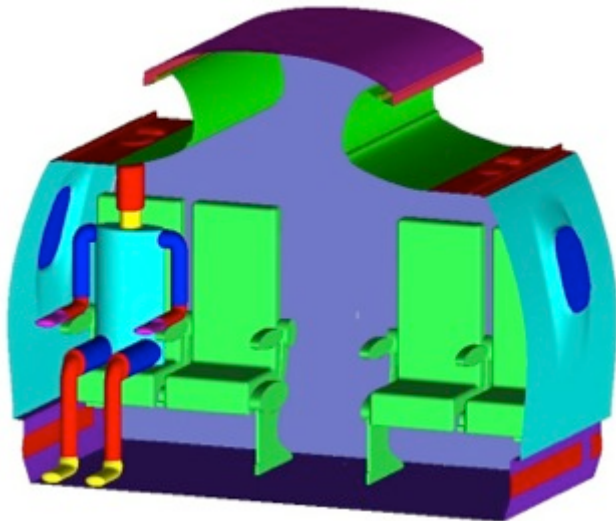
Fapesp – Industry joint calls for proposals

- Fapesp and a company issue a joint call for proposals
 - Themes proposed by industry
 - Exploratory R&D
 - Joint Steering Committee
 - Merit reviewed by FAPESP together with the partnering company
- Embraer, Natura, Ouro Fino, Oxitenno, Microsoft Research, Telefonica, Dedini, PadTec, Ci&T, Braskem, Whirlpool, Sabesp, Boeing, ETH, Agilent, GSK, Biolab, Vale, BP Biofuels, Peugeot-Citroen, BG...
 - With BP Biofuels: 2 Engineering Research Center for Bioenergy research: 10 years, US\$ 50 million
 - With Peugeot-Citroen: Engineering Research Center; 10 years, R\$ 16 million

U-I collaborative research projects funded by Fapesp



Result: FAPESP-Embraer-Poli/USP Research Center for Comfort Engineering



FAPESP: Supporting Research in São Paulo

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