The 8th International EPCC Workshop
Les Diablerets, June 5-8, 2005

EPFL
School of Engineering
At the Crossroads of Research and Education

Professor Michel Declercq
Dean
EPFL (Swiss Federal Institute of Technology, Lausanne)
EPFL (Swiss Federal Institute of Technology, Lausanne)
EPFL (Swiss Federal Institute of Technology, Lausanne)
EPFL (Swiss Federal Institute of Technology, Lausanne)

Panorama

6'400 engineering & science students
(60% increase in 10 years)

3120 employees, including 200 professors

12 engineering & science degrees

Rated among the top 10 european universities by independant surveys (Times Higher Education 2004)
EPFL (Swiss Federal Institute of Technology, Lausanne)

Number of students: relative evolution 1990 - 2003

1990: 3'518 students

2004: 6'400 students

31.6% foreigners
105 nationalities on campus
Number of PhD students: tripled over the last 10 years

1990: 354 PhD students

2003: 1'230 PhD students
EPFL (Swiss Federal Institute of Technology, Lausanne)

Origin of Faculty

- Switzerland: 50%
- USA: 25%
- Europe: 20%
- Rest of world: 5%
EPFL’s NEW STRUCTURE

From Departments to large « Schools »

BASIC SCIENCES

ENGINEERING

INFORMATION & COMMUNICATION SYSTEMS

NATURAL & BUILT ENVIRONMENT

LIFE SCIENCES (NEW)
The School has ...

- an orthogonal structure (research / education)
  - 8 Institutes (research entities)
  - 4 Sections (education entities)

- 987 staff

- 62 professors

- an annual budget of 90 M$
EPFL SCHOOL OF ENGINEERING (STI)

4 sections

Electrical and electronic engineering

Mechanical engineering

Materials science and engineering

Microtechnical engineering
EPFL SCHOOL OF ENGINEERING (STI)

8 research institutes

- Materials science
- Microelectronics & microsystems
- Production and robotics
- Energy science
- Signal processing
- Applied optics
- Transmission, waves and photonics
- Systems engineering
EPFL SCHOOL OF ENGINEERING (STI)

8 research institutes
4 sections

Education

Research

other schools

SCHOOL OF ENGINEERING

Section MT
Section GM
Section EL
Section MX

Project 1
Project 2
TRANS-DISCIPLINARY CENTRES & PROJECTS

Objective: support interdisciplinary projects
Financing: seed money for a limited time
Flexibility: no permanent staff positions

SPACE CENTRE  BRAIN & MIND  BERNOULLI CENTRE  BIOLOGICAL ENGINEERING AND BIOTECHNOLOGY  ENERGY CENTRE (in creation)
SPACE RESEARCH – AUTONOMOUS MICROSYSTEMS

Systems design and integration
Communication
Pico-satellites
Intelligent control
Information processing
Energy supply and conversion
Reliability
Micro-sensors
Imaging

Mars solar glider (2007)

Exploration Rover for Mars (2007)
EDUCATION in the SCHOOL OF ENGINEERING (STI)

STI offers 4 Bachelor and Master Degrees

1st year 2nd year 3rd year 4th - 5th year

Bachelor Degrees

Common to 4 Sections

Specific

Master in EE

- Electronics
- Signal Processing
- Energy

Doctoral Schools

PhD in EE

Strong scientific background
Polytechnic profile

Science Technology Methodology
Research projects with industrial partners

- European projects
- CTI projects
- Direct industrial partnership

Technology transfer & licensing
(65 licence contracts + 130 patents in 4 years)

Start-ups (22 start-ups created in 4 years)

Generic funding from an industrial group of partners (Space Centre)

Continuous Education (summer courses)

PhD candidates from industry / hiring of PhD by industry