Teaching Intellectual Property and Patents in an Engineering Physics Master

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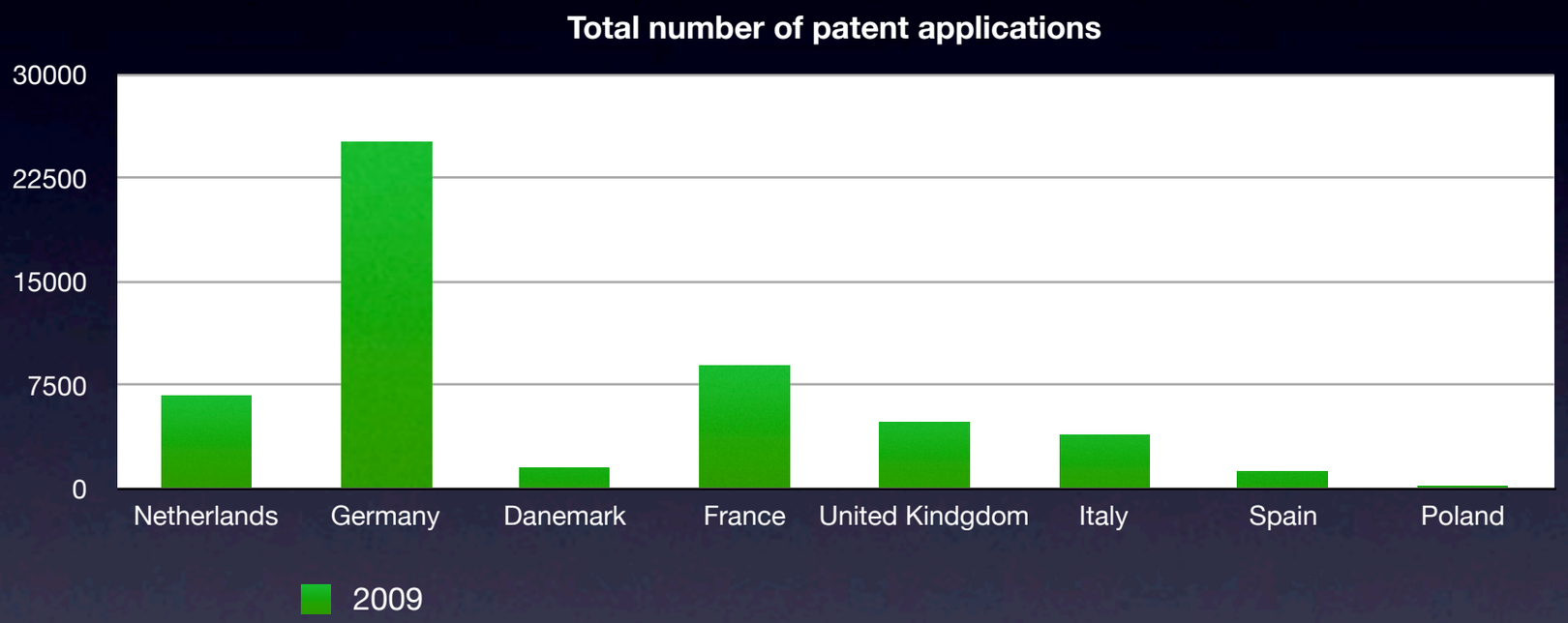
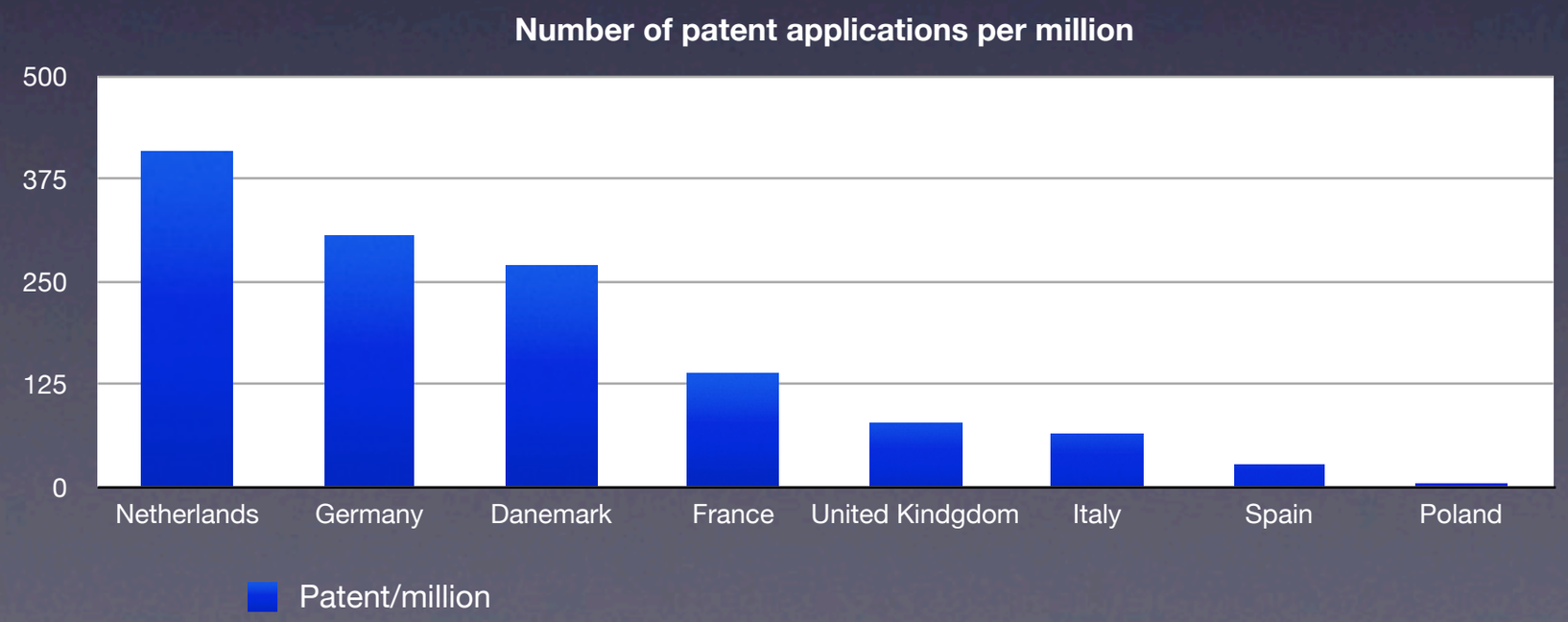
My background

- Teaching: Artificial Intelligence, Algorithms, ...
- Research Group: Pattern Recognition and Speech Technology.
- No previous knowledge on IP.
- Member of the Curriculum Committee for the Engineering in Electronics Degree.

Motivation: Spanish patent applications





Motivation: EPA plan

- Workshop on Dissemination of IP knowledge in Spanish Universities. Madrid, November 2008.
- PanEuropean Project: patent teaching kit.
- Lecturing with the patent teaching kit: Alcalá, November 2009

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- Introducing the IP knowledge in Electronic Engineering BS: testing the teaching-kit
- Design of a specific course for the Engineering Physics Master.

Universidad del Pais Vasco · Euskal Herriko Unibertsitatea

EUSKAMPUS Campus of International Excellence

ZTF-FCT Zientzia eta Teknologia Fakultatea Facultad de Ciencia y Tecnología

Engineering Physics Master

- 60 ECTS 25h/ECTS
- research-oriented Master
- multidisciplinar Master
- academic, scientific and professional activities

Structure of the Master Program

- Module I: Nuclear and Radiological Engineering
- Module II: Control Engineering and advanced instrumentation.
- Module III: Electronic and Information Technologies.
- Module IV: Applicable Physics

Supplementary Modules

- Module V: Complementary Training
  - Additional Mathematics
  - General Training in Research Methods
  - Theoretic, practice and business application of research results
- Module VI: Master Project

Engineering Physics Master: main goals

- ...
- "Encouraging Entrepreneurship trough a high sensitivity to the relationship among knowledge, technology and intellectual property and patents. Accompanying and orienting any vocation to the University units aimed to promote Spin-off companies and youth entrepreneurs."

Module V: core goal and competencies

- ....
- Introduction to research, innovation and intellectual property.
- Promotion of entrepreneurship, technology transfer process, from intellectual property to spin-off companies.

Student Profile

- Bachelor of Engineering: Electronics, Aeronautical, Computer, Communications, Materials,..... BEng
- Bachelor of Science: Physics, Mathematics,...MSc

Students' and Staff' attitudes

- Students: low knowledge, low entrepreneurial motivation, some preventions.
- Researchers and University staff: low interest but, maybe, increasing.
- Companies, technological centers and authorities: increasing interest.

Intellectual Property and Patents: goals

- Introduce knowledge about IP.
- Introducing discussion to question prejudices.
- Introduce the patent system as a source of scientific knowledge.
- Promote entrepreneurship and University Spin-off companies.

Intellectual Property and Patents: methodology

- 3 ECTS = 30 hours at University, 45 hours at home.
- Lecture: up to 60%,18 hours.
- Seminars: 3 hours. Discussion sessions.
- Exercices: 4 hours. Patent search.
- Practical: 5 hours. Case of study

Teaching organization

	Class hours	Home hours	Total
Lecture	18	27	45
Seminar	3	4,5	7,5
Practical	4	6	10
Case of study	5	7,5	12,5
Total	30	45	75

Intellectual Property and Patents: program I

- Introduction: basic concepts; ethics and intellectual property.
- Industrial Property: patents, trade marks, registered designs and trade secrets. Examples and discussion exercices.
- Intellectual Property: Copyright, Licensing, Open Source, etc.

Intellectual Property and Patents: program 2

- The intellectual and the industrial property in the knowledge economy: protection of knowledge and competitiveness, United States and Europe, Counterfeit and Emerging Economies.
- The patent system: regulations, how to write a patent, litigation, cases of study.

Intellectual Property and Patents: program 3

- The patent system as a source of scientific and technological knowledge: scientific information in patents, databases, how to conduct a patent search. Exercices.
- Patent and University Spin-off: patents and High Technology companies. Case Studies.
- Invited lecturers: local IP consultant, UPV/EHU Spin off experience, ...

Discussion seminars

- Software patents and open source licenses.
- Medicament patents.
- Counterfeit.
- Copyright: music, films, literature, science, ...
- Protecting small or big companies.
- University and copyright.
- University and patents.

Practical

- Famous litigations.
- Successful companies.
- Famous Unversity Spin-off.
- New business models.
- Controversial practices.