Teaching Intellectual Property and Patents in an Engineering Physics Master

Prof. M. Inés Torres

Manager of the Course

Prof. Jose Manuel Tarela and Prof. Fernando Legarda

Directors of the Engineering Physics Master

Estibalitz Asua

Lecturer

University of the Basque Country

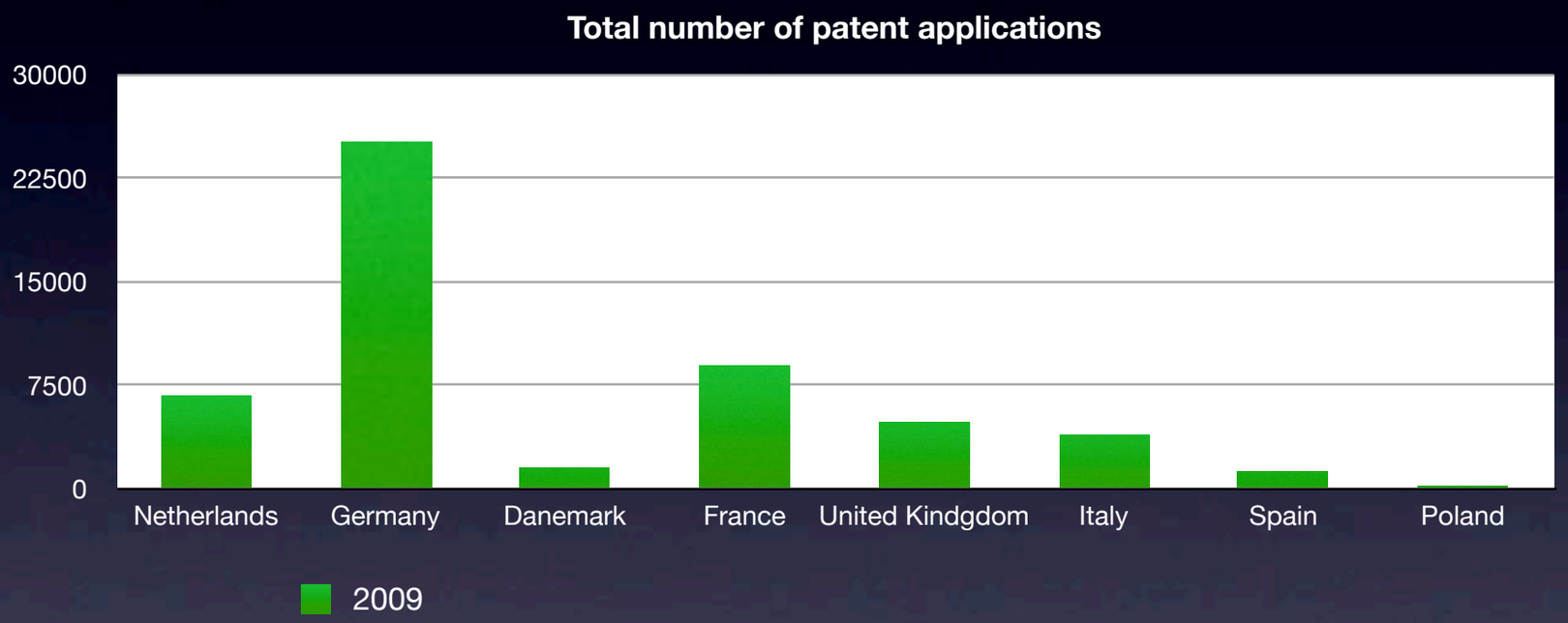
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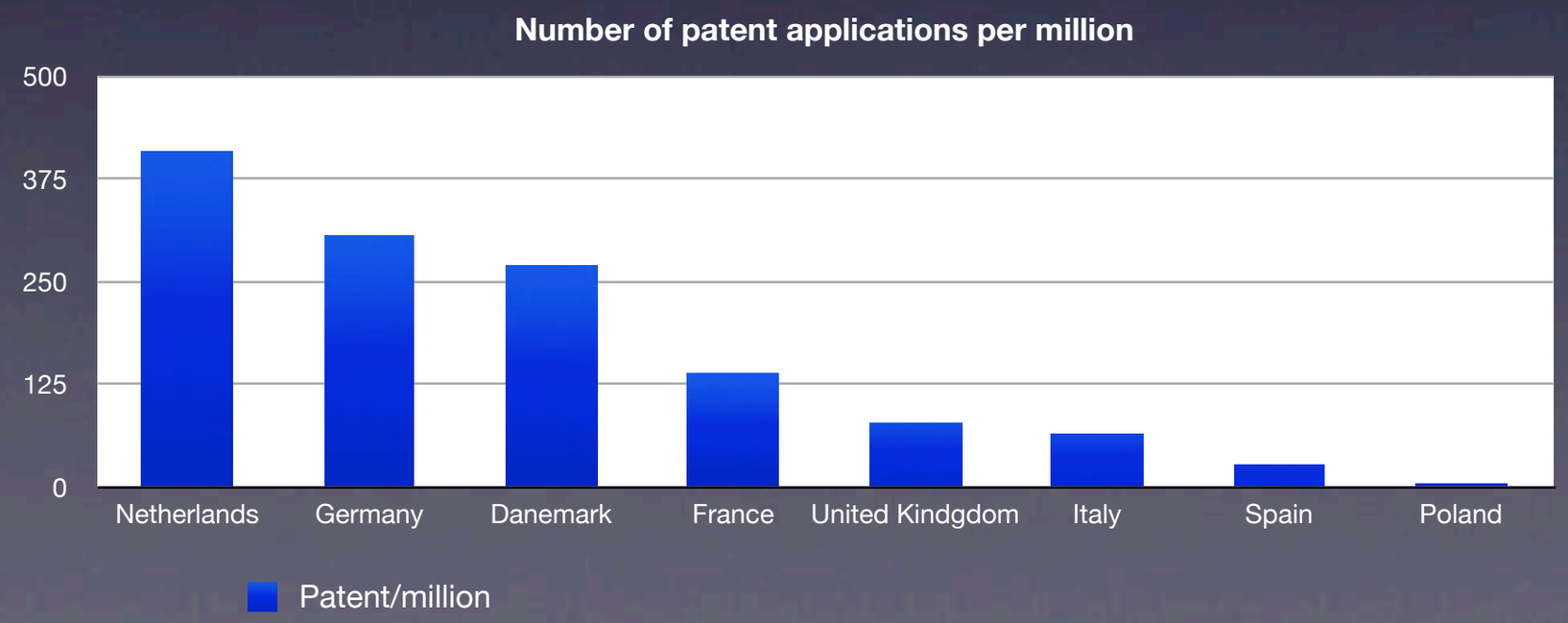
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Facultad de Ciencia y Tecnología

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.

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EUSKAMPUS Campus of International Excellence

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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.