

The conference was divided into five topics: the protection of research tools, the protection of databases, IPR policies in universities, IP and piracy in cultural and artistic industries, and other IPR issues. Here a brief overview of the main messages of the papers. For more information, the readers are invited to read the papers and the slides of the presentations that are available on the EPIP website.

Patenting of research tools

John Walsh presents a paper, jointly written with Ashish Arora and Wesley Cohen, where he explains the changes that took place in the area of biomedical research over the last twenty years and the potential problems of anticommons (from the multiplicity of research tool patents) and restricted access (to upstream discoveries) that are due to the patenting of research tools in this industry. From a series of interviews conducted with various actors (IP attorneys, business managers, scientists, university researchers, technology transfer officers, government officials and members of trade associations) the authors conclude that drug discovery and university research have not been largely impeded by the concerns of patenting of research tools.

Sandy Thomas presents a study done by the Nuffield Council on Bioethics on research tools in genetics. It is well established that patents in biotechnology and genomics have encouraged investment. The point is to protect investment and information but not inventions. The report recommends that, in general, the granting of patents which assert rights over DNA sequences as research tools should be discouraged, that the grounds for eligibility should be reexamined, that non-exclusive licenses be granted whenever possible, that research exemption should be extended, the scope of protection should be limited to specific designed uses and applications.

Protection of databases

Paul Uhlir reminds us of the US legal and policy regime towards open availability, unfettered use, and wide dissemination and sharing of data produced by government funded sources. The justification for this stance are the absence of legal incentives for the government to create information, the need for transparency of governance, the absence of extra financing of research already paid out of taxpayers money, and the presence of numerous externalities. As a telling example of public sector information, Paul Uhlir contrasts the ten times higher economic value from public dissemination of weather information in the US compared to the EU. He proposes the following legislative principles regarding protection of public-domain databases: preservation of non-copyrightable status, achievement of a reasonable balance of interests between all stakeholders, promotion of healthy competition in the information industry, avoidance of exclusive control by some parties, and effective exemption for research and education. The EU Database Directive is highly defective in this regard.

Peter Schröder presents possible OECD guidelines regarding access to research data from public funding. The basic principles are that public funded research data should be openly available to society subject only to legitimate restrictions (national security, privacy,

trade secrets); documentation of the data should be accessible internationally; conditions of access and use of the data should be properly institutionalized; professionalism in the management of digital research data; respect of intellectual property right laws when applicable; respect of relevant international standard requirements for multiple use; explicit control of quality in terms of authenticity, integrity and security of data; promoting cost effectiveness in data management and support services; and rendering public account for the performance of data access regimes.

Bertrand Warusfel presents the basic principles of the EU Directive on databases. First, it offers copyright protection on the structure (but not the content) of the databases if there was intellectual creation, and on creative data (as opposed to factual data). Second, it offers a *sui generis* protection, which is a protection for the maker/producer of the database (not the intellectual author), necessitating “substantial” investment, and protecting against unauthorized extraction or utilization of a “substantial” part of its contents. Now copyright exceptions can be invoked, for instance for “fair use” or “research exemption”, and *sui generis* rights can be circumvented by negotiating specific agreements with the producer of the database. The database protection gives the scientific public producer legal protection against unauthorized commercial re-use of his data, informal secrecy practices between researchers, and negotiations of licenses with the private sector in order to refund research programs.

Stephen Maurer examines the possibility of open source biology, an open source method of doing research akin to the open source tendency in software development. He compares the strengths and weaknesses of different experiments of databases in biology. Government-funded databases are better at eliciting community-wide information and accessible at nominal cost. Commercial databases tend to be better funded, but large firms usually disclose to the academic community databases with small potential of commercial exploitation. He proposes a model of open source biology for developing treatment to Third World diseases, such as malaria, claiming that it would substantially reduce the cost of producing drugs, because it would attract highly trained, unpaid manpower, because R&D costs being known research costs would not suffer from the appropriation of informational rents by drug developers, and production being in the public domain, drugs could be manufactured at marginal cost.

Anselm Kamperman Sanders explains that the EU Database directive applies to a collection of independent data, arranged in a systematic way, and individually accessible. If the database is provided as a byproduct of another activity, it does not qualify for a substantial investment. Numerous examples are provided to illustrate the interpretation of the EU Directive, e.g. when data search engines infringe the rights of database holders.

IP and piracy in cultural and artistic industries

Pierre-Jean Benghozi analyses the existence of different organizational models of the design industry as they relate to IP issues. The designer can be anonymous or the labeled creator, designers can be external or in-house, the design can be made on the producer’s, the distributor’s or the designer’s initiative, the designer can be producer, subcontractor

and even distributor. Different integrated configurations can exist regarding R&D, manufacturing and distribution. There may be various contracting modes, different degrees and forms of commitment, and different valorization processes of the artistic creation.

Patrick Waelbroeck presents joint work with Martin Peitz regarding the technology, the legal aspect, and the internet piracy in the digital music distribution industry. He presents some data on the digital music market, the different types of media, the types of artists, some facts about internet piracy, the type of downloads and downloaders. He then goes on to present a panel data analysis of the determinants of CD sales and in particular of the market stealing effect from internet piracy on CD sales. The authors find that illegal downloading through peer-to-peer (P2P) networks has caused a reduction of CD sales, but that it is likely to be temporary. From a theoretical point of view P2P may provide uninformed consumers information on new CDs and actually increase CD sales.

University patenting and licensing

Mario Cervantes presents an OECD survey on university patenting and licensing. After presenting some facts about academic patenting as policy and about the legislation in different countries regarding academic patenting, he concludes from a survey of the literature that there are no clearcut results regarding crowding out of publication by patenting, that universities patent more research output that was previously released in the public domain and that most academic licenses involve embryonic inventions. On the basis of two surveys administered in 13 countries, it appears that IP policies are not well disseminated among universities, that administrative requirements for disclosing inventions are lacking and that non-IP barriers remain, that most technology transfer offices in universities are small, internal to the university and not dedicated to technology transfer, that most university patents are in health, and that there is no consensus on good licensing practices.

Denis Dambois presents the EU Commission's DG research initiatives to foster R&D, in particular the actions and recommendations regarding IP and technology transfer: management of IPR in public research institutions, closer university/industry cooperation and partnership, development of entrepreneurial culture at universities, training at universities regarding IP and technology transfer. In future applications of the 6th Framework program, dissemination of results and management of IP are part of the criteria of evaluation of the proposals.

René Vleugels presents the technology transfer policy, the patent portfolio and the licensing revenues at the University of Maastricht's technology transfer office. He confirms the results presented by the OECD: the staff is small and the means for supporting patent applications and licensing agreements for faculty members is limited.

Other IPR challenges

Stefan Wagner presents a joint paper with Dietmar Harhoff on the determinants of the duration of patent applications at the European Patent Office. The authors notice that the average patent examination time has increased in the last 20 years. They conduct an econometric analysis about the determinants of the duration of patent applications on the basis of roughly 1.25 million patents between 1978 and 2002. Decisions on more complex patents require more time and the number of examiners is an important determinant of grant lags. Duration is also affected by the endogenous behavior of applicants.

Elad Harison presents a simulation analysis of an endogenous model of patent applications in a market of heterogeneous users and firms. He finds that in general technical quality decreases when patent lifetime increases, and increases with the minimal inventive step. The propensity of firms to imitate (innovate) increases (decreases) with the minimal inventive step and decreases (increases) with patent duration. Shorter duration of patents fosters competitiveness in software markets and increases the technical quality and performance of released products. He also concludes that the present legislation is over-protective and may slow down the evolution of software products and technologies in the long term.

Jean-Michel Dalle synthesizes some results of recent research on open-source software and tries to determine from various case studies what are the characteristics of open-source technology transfer. For instance, developers are more attracted by preliminary work when their own contribution is more visible. The author evaluates through analyzing a series of case studies whether transfer of computer programs from the academy to businesses can be successfully accomplished and can be assisted by implementing the Open Source model. However, academic software that is distributed as Open Source does not only encompass major advantages of advanced technological solutions and low implementation and development costs, but also suffers significant shortcomings of unfriendly design and lack of service and support. To overcome those difficulties and to enable transfer of qualitative software to the public sector, the author suggests a new licensing scheme, the Academic Public License, which distinguishes between academic and non-academic users. Doing so, academic developers are free to use APL applications and to further them, while generating revenues from private sector users in order to maintain costly services of technical support and consumer-vendor relations.