



# Big Data & Intellectual Property Rights in the Health & Life Sciences



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## Introduction



- **Big Data = challenges & opportunities for health & life sciences**
- **Sharing is caring: Paradigm shift demands co-operation & data sharing**
- **IPRs relevant when R&D translated into "real world"- applications**
- **Availability, benefits & draw-backs of IPRs? Re-calibration required?**
- **Different choices for different areas of Big Data Science**





## Agenda



### 1. Most relevant IP & "sui generis" rights in Big Data

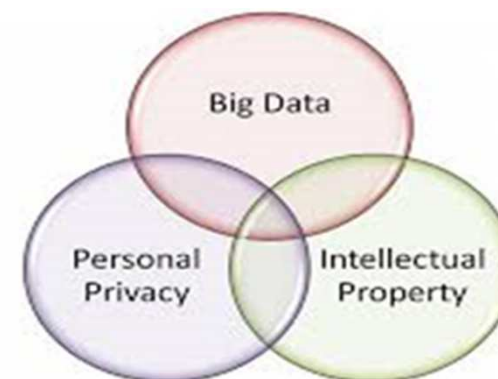


### 2. 5 selected problem areas in health & life sciences



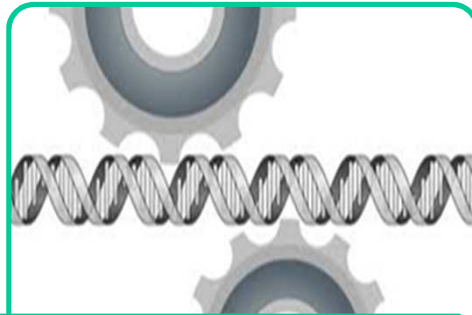
### 3. Potential remedies

### 4. Conclusions





# 6 overlapping IPRs & "sui generis" IPs relevant for Big Data



**PATENTS**



**Copyrights**



**TRADEMARKS**



**Data Base Protection**



**Trade Secets**



**Regulatory Exclusivities**





# 5 overlapping problems at the interface of Big Data & IPRs in health & life science



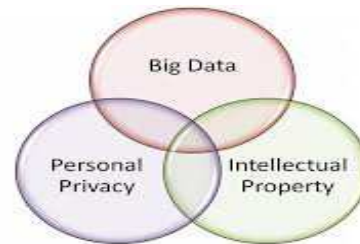
**1. IPRs, standardization & competition law**



**5. R&D incentives in Precision Medicine**



**2. Large research infrastructures**



**4. IPRs, data transparency & sharing initiatives**

**3. Public involvement & IPRs**





## Potential remedies



Faculty of Law

### P1-Standards & competition

- Transparency, better patent-search tools & high quality patents
- Better training and involvement of scientific community
- Clarify research exemptions & open innovation-platforms
- User-generated models (FRAND, pat-pools & clearing houses)

### P2-Research Infrastructure

- See above- plus case-dependent IP user-modalities
- Clear IP & data policy (cf. ESS-ERIC & BBMRI-Eric)
- Grant-back clauses, non excl. & non-discr. licensing
- Clarify international guidelines on co-authorship & data transfer

### P3-Public Involv.

- Coherency between open data policies & public IPR ownership
- Case-by-case decisions on (1) Pure Open Data models, (2) Conditioned models & Proprietary models.
- Better sharing platforms.

### P4-Transparency & sharing

- Re-consider interplay between transparency with IPRs & TS
- Facilitate complementary & alternative incentives
- Safe-guards with regard to misuse & privacy
- Improved fair use clauses & research exemptions
- New licensing regimes & better tools for FTO analysis

### P5-Incentives in precision medicine

- Changes in patent law unlikely.
- Alternative incentives for data-sets, algorithms & validation.
- US data base protection
- More flexibility with regard to reg. exclusivities & prizes



## Conclusions



- **Paradigm shift results in overlapping Big Data- IP challenges on different levels**
- **Interplay of IPRs with new policies & business strategies requires further studies**
- **Trad. IP system fails to support Big Data due to law, business & tech. changes**
- **Results: both lack of IP incentives & potential blocking effect by new IP strategies.**
- **Recalibration of substantial & procedural IP rules + governance necessary**
- **Need for cross (Atlantic)-fertilization , studies & alignment of strategies**





## Conclusions II



- **Sustainability of Big Data?**
- **Privacy, Competition, regulation of services, sharing tools & data quality crucial**
- **Public support for legislation crucial (erosion of gate-keeper barriers)**
- **Education, communication & sufficient transparency are the key**



*Safe Harbor & Privacy Shield*  
(what's going on?)







**Thanks for your attention !**



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