

Challenges for the Health sector within the scope of the research agenda and current definition of European policies for Science, Technology and Innovation...

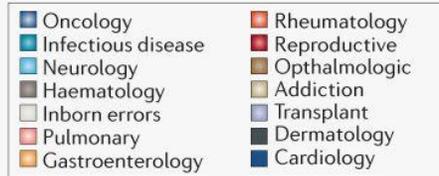
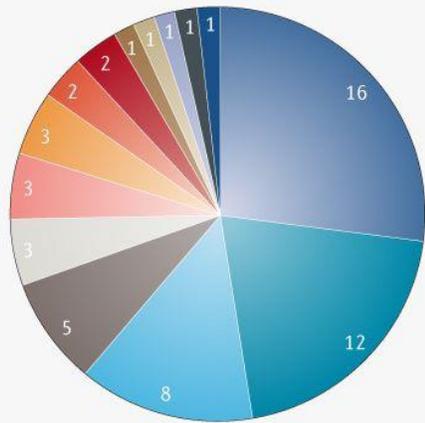


Rogério Sá Gaspar (Vice-President of EUFEPS)

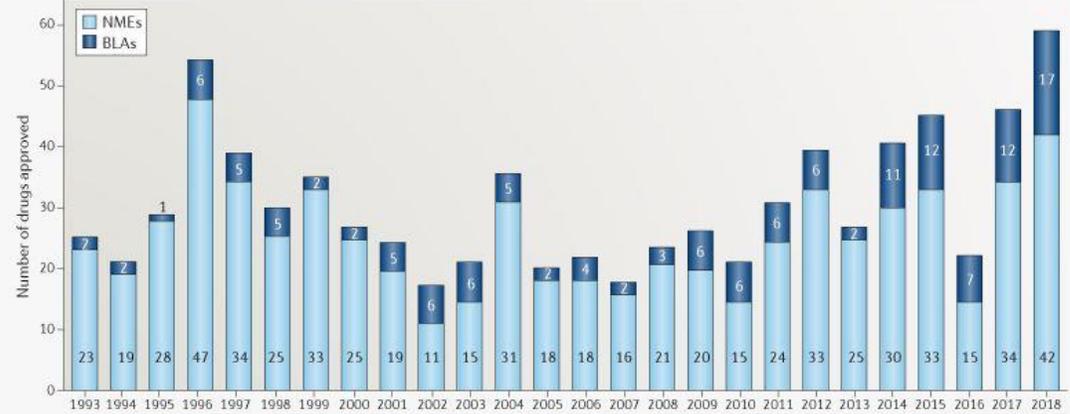
Faculdade de Farmácia da Universidade de Lisboa, rgaspar@ff.ulisboa.pt

& **IBB (Institute for Bioengineering and Biosciences)** <http://ibb.tecnico.ulisboa.pt/RG.html>

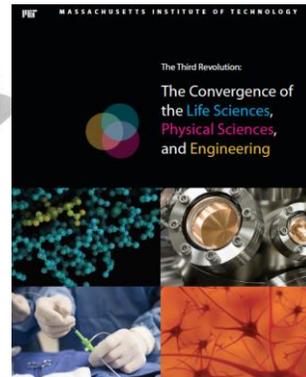
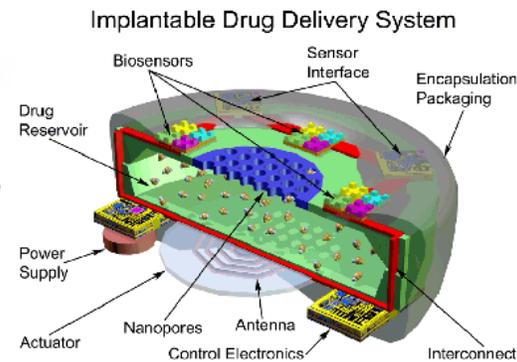
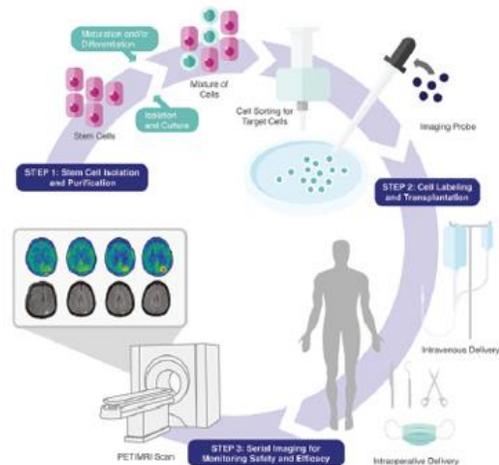
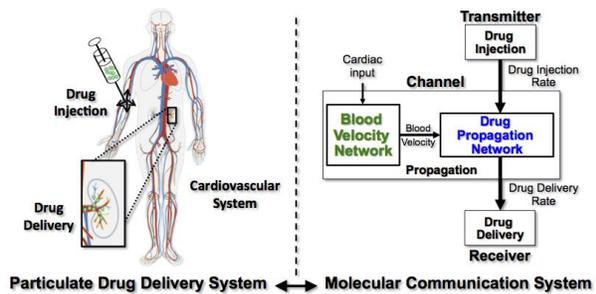
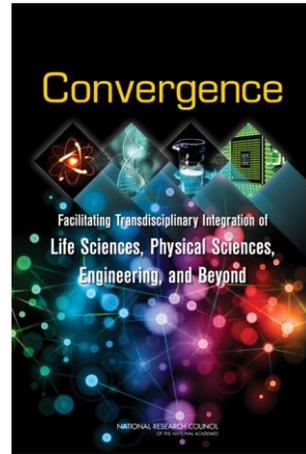
From Science to Technologies... integration and convergence



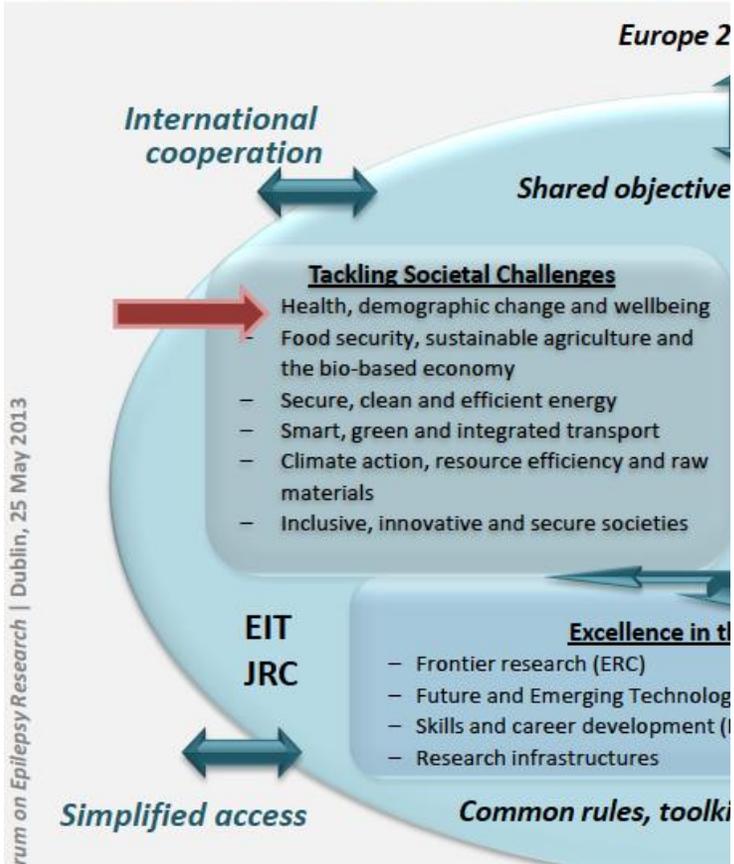
Nature Reviews | Drug Discovery



Nature Reviews | Drug Discovery

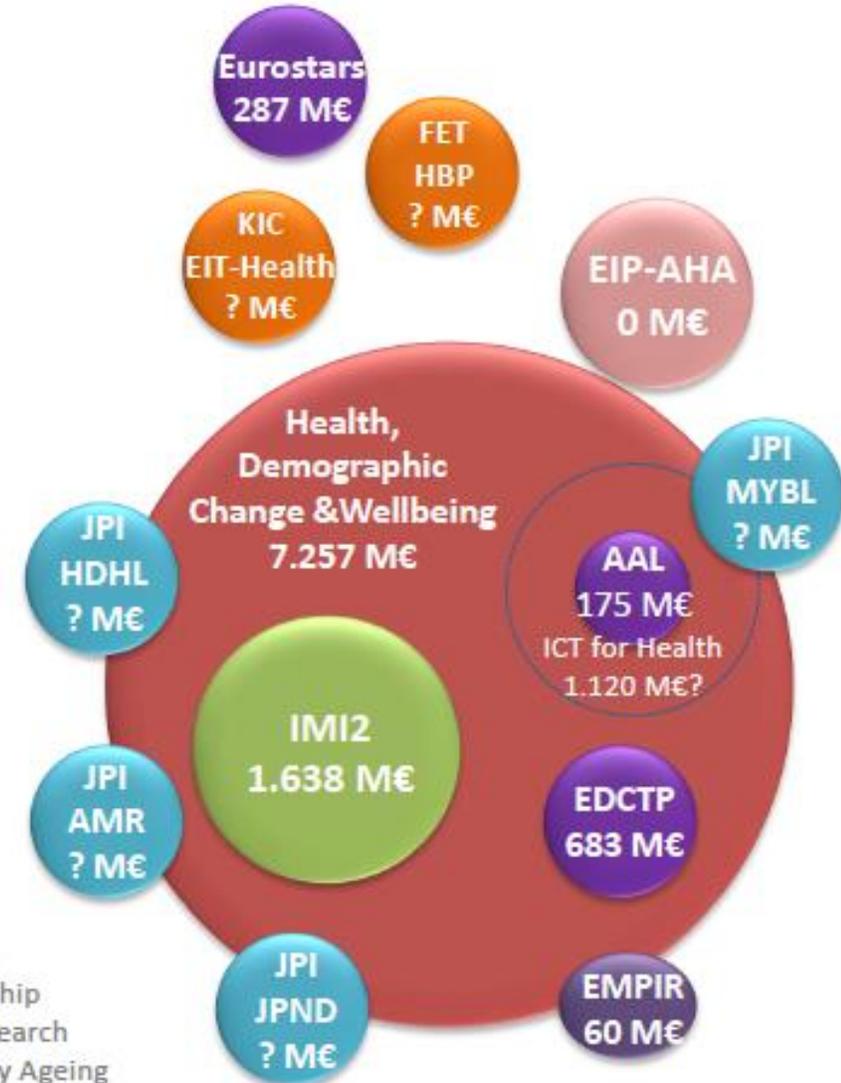


Horizon 2020 (2014-2020) – Objectives and



Health

- HBP: Human Brain Project
- JPI: Joint Programming Initiative
- IMI: Innovative Medicines Initiative
- AAL: Active and Assistive Living programme
- KIC: Knowledge and Innovation Community
- FET: Future and Emerging Technologies
- JPI MYBL: More Years, Better Lives
- JPI HDHL: Healthy Diet for Healthy Life
- JPI AMR: Joint Programme in Antimicrobial Resistance
- JPND: Joint Programme in Neurodegenerative Disease Research
- EDCTP: European & Developing Countries Clinical Trials Partnership
- EMPIR: European Metrology Programme for Innovation and Research
- EIP-AHA: European Innovation Partnership on Active and Healthy Ageing



From FP8 to FP9... Horizon 2020 moving to Horizon Europe

Horizon Europe, 2021-2027 (as per April 2nd, 2019)

- ✓ **European Research Council**
- ✓ **European Innovation Council**
- ✓ **Grand challenges**

- **Missions (first set of 5)**

1. Adapting to climate change, including societal transformation;
2. **Cancer;**
3. Healthy oceans, seas, coastal and inland waters;
4. Climate-neutral and smart cities;
5. Soil health and food

- **Partnerships**

1. **Faster development and safer use of health innovations for European patients, and global health.**
2. **Advancing key digital and enabling technologies and their use, including but not limited to novel technologies such as artificial intelligence, photonics and quantum technologies.**
3. European leadership in metrology, including an integrated metrology system.
4. Accelerate competitiveness, safety and environmental performance of EU air traffic, aviation and rail.
5. Sustainable, inclusive and circular bio-based solutions.
6. Hydrogen and sustainable energy storage technologies with lower environmental footprint and less energy-intensive production.
7. Clean, connected, cooperative, autonomous and automated solutions for future mobility demands of people and goods.
8. **Innovative and R&D intensive small and medium-sized enterprises.**

Horizon 2020 (2014-2020) – Objectives and structure



The commission has proposed a budget of €94.1 billion for the programme, while the parliament wants €120 billion.

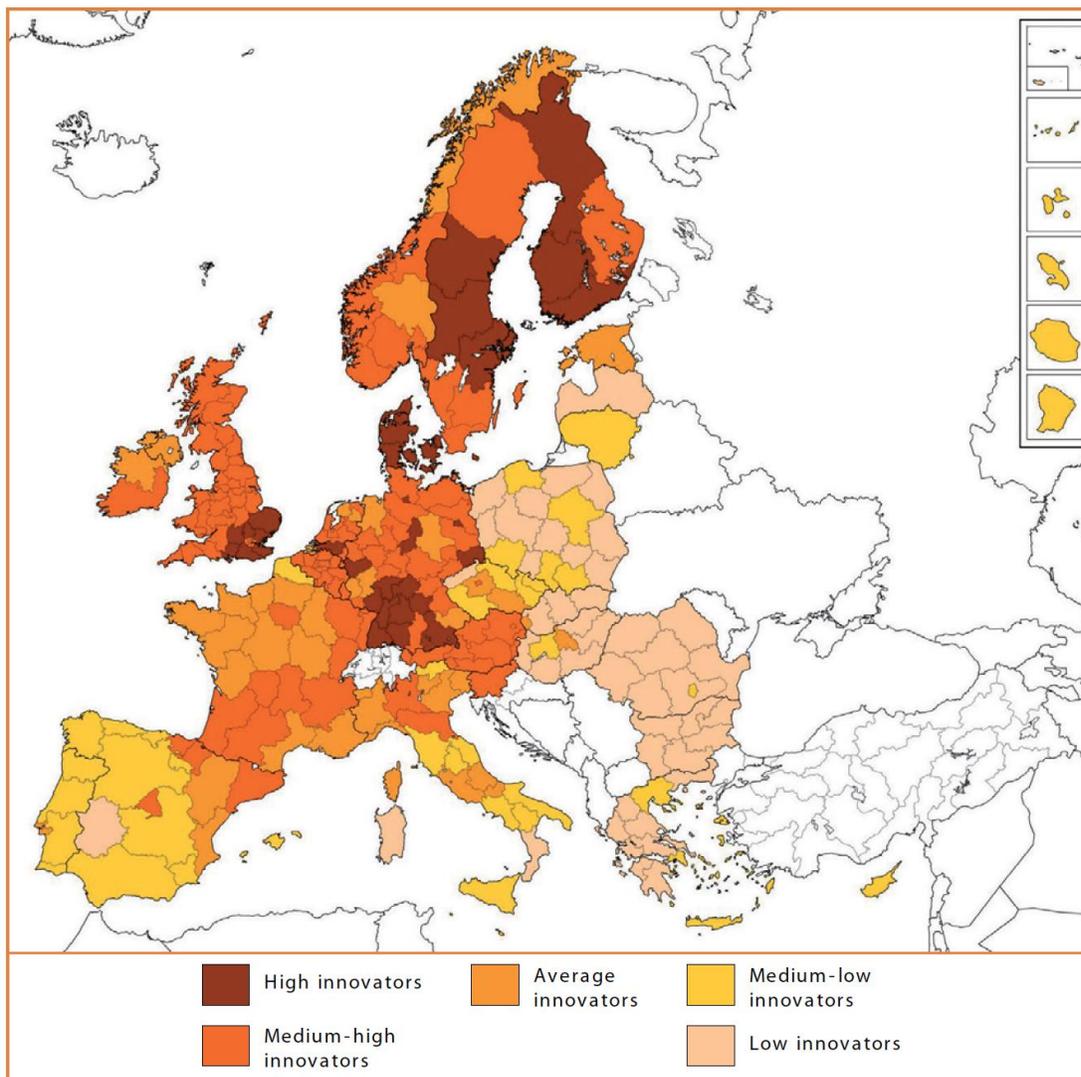
The amount won't be agreed until the end of 2019 at the earliest, because it depends on negotiations for the EU's long-term financial plan.

Europe's challenges (examples)...

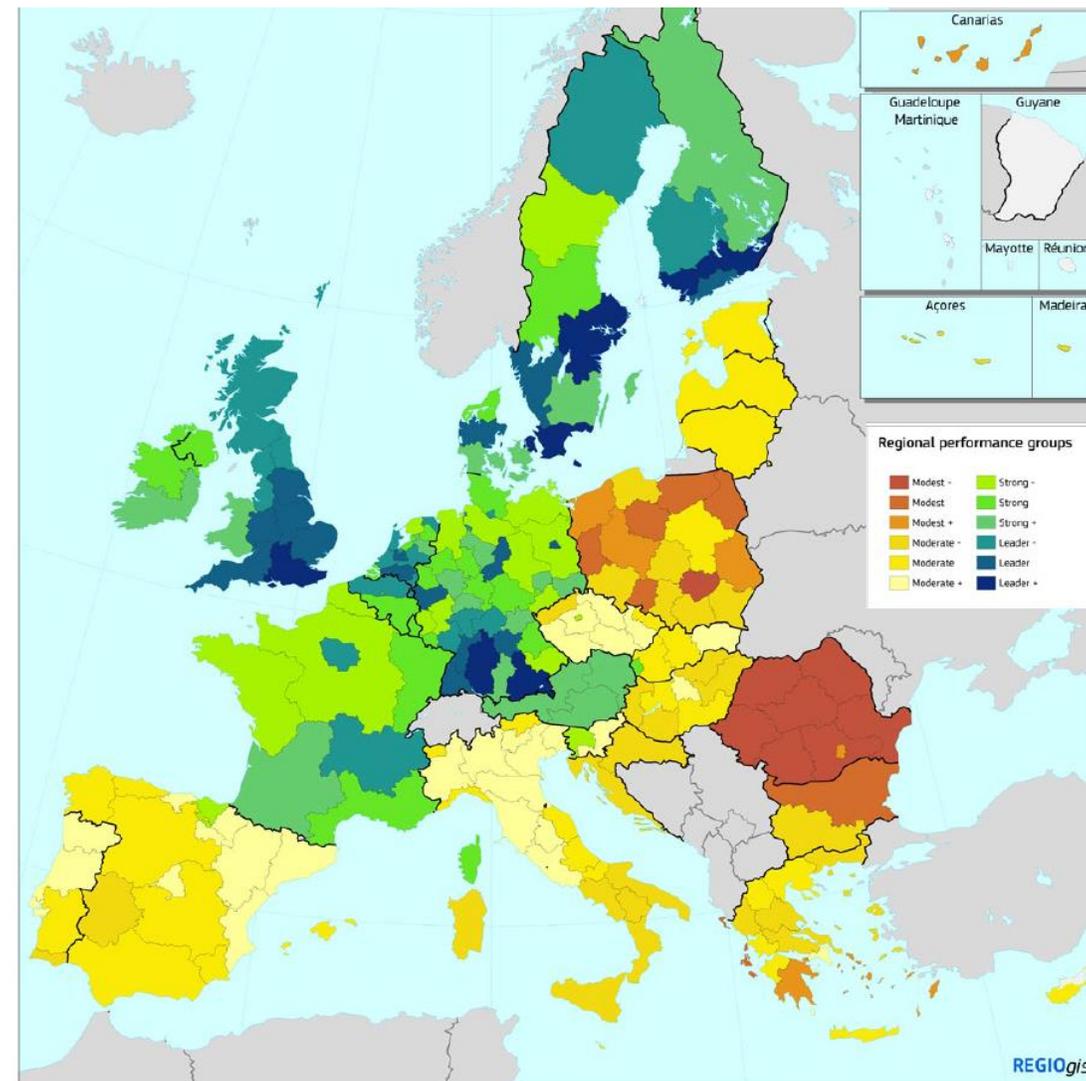
- ***Risk-management culture and risk-management based policies***
- ***Venture capital and lack of continuity in the financial cycle of innovation and entrepreneurship***
- ***Dual-use technologies (e.g. lack of DARPA-like programmes, management structures to be adequate, European Defence Union still incipient)***
- ***Digital Europe and cybersecurity***
- ***Coherence between European central policies (FP8/FP9) and regional/national policies***

Regional policies... (Regional Innovation Scoreboard)

2009



2017





FDI – target areas within Health sector @Lisboa region

- **Data / Digital Technologies**
- **Biopharmaceutical R&D+Innovation**

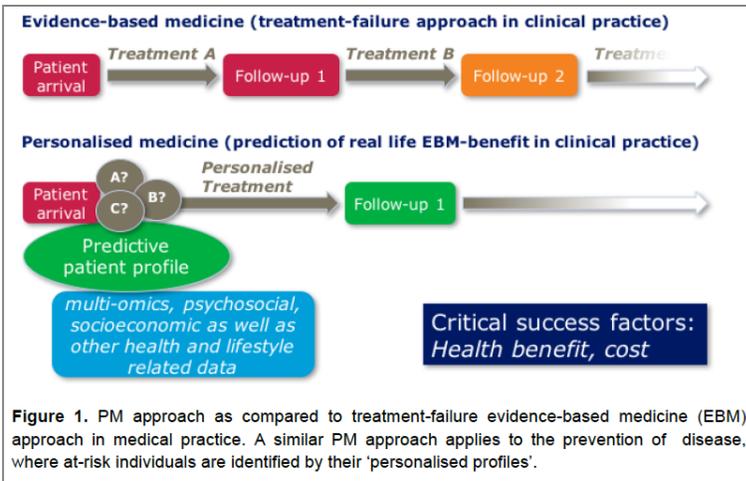
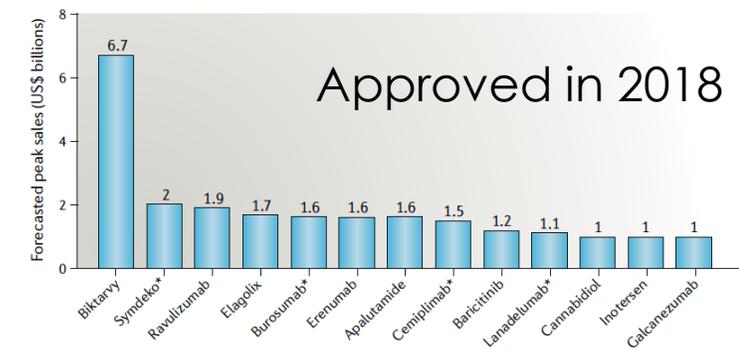
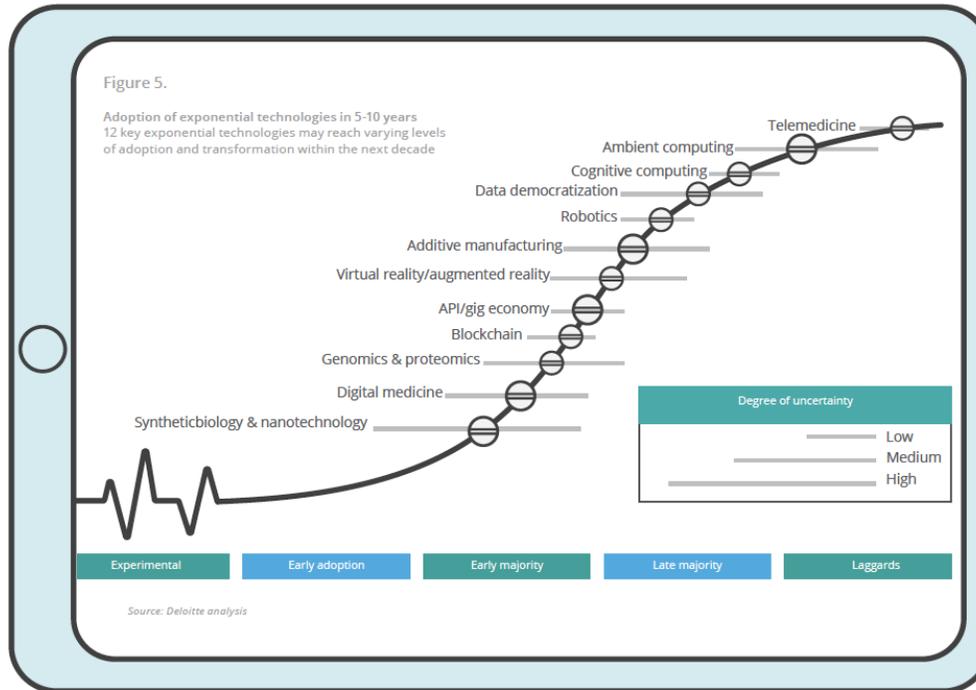
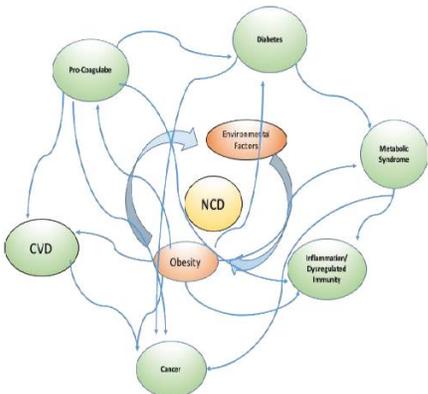


Figure 1. PM approach as compared to treatment-failure evidence-based medicine (EBM) approach in medical practice. A similar PM approach applies to the prevention of disease, where at-risk individuals are identified by their 'personalised profiles'.



R&D integration
Specialisation/Personalised care
Manufacturing capacity



LISBOA

UNIVERSIDADE
DE LISBOA

Rogério Sá Gaspar

Faculdade de Farmácia da Universidade de Lisboa

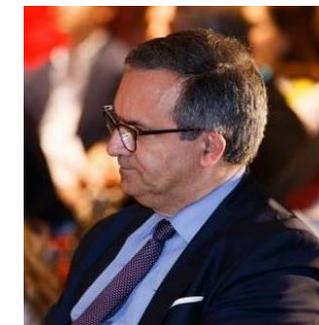
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Reference positions (last 5 years)

- **University Governance**
 - Pro-Rector (2016-2017), Vice-Rector R&D, University of Lisboa (ULisboa), Portugal (2013-2016)
 - General Council of University of Lisbon (UL, Portugal), 2008-2013
 - Vice-Dean, Research & Tech Transfer/ International Affairs (FFUL) 2012-2013
 - Head of Department
 - President Department of Pharmacy Practice, FFUL, 2017-2018 and 2018-2022
 - President School Council FFUL (2018-2022)
- **Research groups Leadership**
 - Group Leader “Nanomedicine & Drug Delivery Systems” (iMed.UL), 2007-2013
 - Group Leader “Intracellular Trafficking Modulation for Advanced Drug Delivery” (iMed.UL), 2013-2014
 - iBB (Institute for Bioengineering and Biosciences) @ IST since 2017 (member of scientific coordination board)
- **Scientific Societies / International bodies**
 - SPCF, President Portuguese Society for Pharmaceutical Sciences (since 2016)
 - Foreign member of the Spanish Royal Academy of Pharmacy (RANF, since 2017)
 - EUFEPS, Executive Committee (2009-2013 and 2016-2020), Vice-President for the mandate 2019-2020, EUFEPS Council representing SPCF (since 2016); EUFEPS, Chair of Regulatory Science Network (2011-2014 and since 2016), and representing EUFEPS at Board of Pharmaceutical Sciences, FIP (2019)
 - FIP, Vice-chair Regulatory Science Special Interest Group (2011-2014)
- **Advisory positions (international)**
 - External Advisory Board of RESTORE (Horizon 2020 project, NMBP, 2018-2022)
 - External Advisory Board of REFINE (Horizon 2020, project NMBP-761104, 2017-2021)
 - Advisory Board of NANOMED-ITN, (Horizon 2020, project Marie-Curie Action, MSCA-ITN-676137)
 - External Advisory Board of EuroNanoMedNet (ERA-NET in Nanomedicine, FP7/Horizon 2020, EU (active)
 - External Advisory Board of European Doctoral Program in Nanomedicine (NANOFAR, ERASMUS MUNDUS, 2011-2017)
 - Scientific Advisory Board of TRANS-INT (Large FP-7 project, 2012-2017, contract n° 281035)
 - Scientific Advisory Board of Z-Cube (Zambon group, Milano, Italy, 2011-2013)
- **Editorial Board/International Advisory Board:**
 - Nanomedicine: Nanotechnology, Biology, and Medicine (IF2015= 6.155, Elsevier, 2010-2015), WIREs – Nanomedicine and Nanotechnology (IF2015= 4.494, Wiley, 2009- today), International Journal of Nanomedicine (IF2015= 4.383, Dove Press, 2010-today), Drug Delivery and Translational Research (Controlled Release Society, Springer, 2011- today) (...)



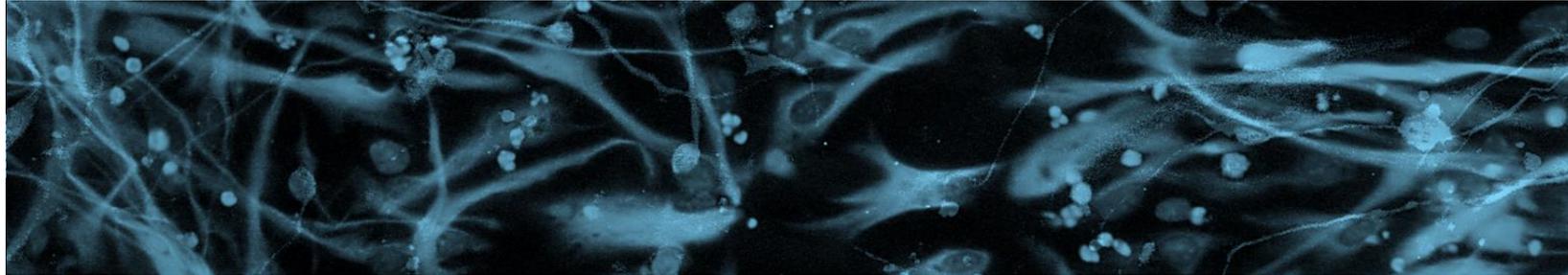
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SCIENCES





**iBB, Institute for Bioengineering and Biosciences
University of Lisbon, Portugal**



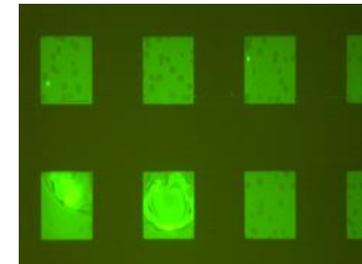
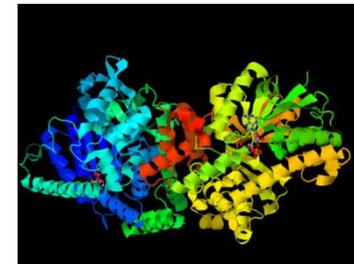
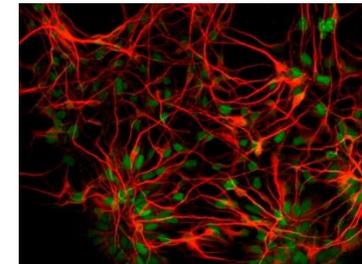


Bioengineering (BERG)

Biological Sciences (BSRG)

**Biospectroscopy and Interfaces
(BSIRG)**

Stem Cell Engineering (SCERG)



*The views and opinions (hereby expressed) reflect **only my personal opinion** and not the views of institutions or organisations with which I'm/I was affiliated either in the past or presently*