

# PRO: Design and management of R+D+i

## MSc Bioinformatics for Health Sciences (UPF/UB) 2011-2012

May 21th-25th, on-line sessions

May 28rd-June 1stth, personal/group work

June 3rd, deadline for submission of research projects or business proposals

June 6th, feedback from course teachers

June 10th, corrections submitted

June 13th, global evaluation session

### Lecturers

- Jordi Villà-Freixa (course director), JVF, Associate professor at the Department of Experimental and Health Sciences at the Universitat Pompeu Fabra and co-founder of aScidea. S.L. (<http://www.ascidea.com>), a start-up that deals with the use of bioinformatics tools in biomedicine and biotechnology.
- Albert Mascarell, AM, co-founder and CEO of aScidea Computational Biology Solutions, S.L., (<http://www.ascidea.com>).
- Melquíades Calzado, MC, technology transfer manager for Health Sciences at the Universitat Pompeu Fabra (UPF).
- Marc Gràcia Solé, MGR, technology valorisation project manager at the technology transfer office in ACC1Ó, Generalitat de Catalunya.
- Antonio Ruiz Martínez, ARM, technology valorisation analyst at the technology transfer office in ACC1Ó, Generalitat de Catalunya.
- Martina Gasull, MGA, project management office at GRIB.
- Ismael Tejero, IT, business developer at Intelligent Pharma and freelance coach.

### Syllabus PRO: Design and Management of R+D+i

This course aims at providing future researchers with some basic knowledge about project management, with specific emphasis on proper design and implementation of research projects. Additionally, due attention is given to aspects related to the use of research results after the project is finished, as a key topic for ensuring long-term financing and expansion of the researchers' career.

The sessions will be divided into different aspects related to R+D+i, with the objective of helping developing a vision on how to transform knowledge into action.

## Sessions of the course

1. Session 1. May 21th, morning, Introduction to the course and the material (JVF)
2. Session 2. May 22nd, morning, Creativity, Leadership and Career development (IT)
3. Session 3. May 22nd, afternoon, Technology Valorisation and tools for entrepreneurship at the GenCat (MGR/ARM)
4. Session 4. May 23th, morning, Design and Management of publicly funded research projects (MGA)
5. Session 5. May 23th, afternoon, Technology transfer (MC)
6. Session 6. May 24th, morning, Developing ICT projects; case studies: O2 Health Link and aScidea (JVF,AM)
7. Session 7. May 24th, afternoon, technical details on the project presentation and the evaluation process (JVF)
8. Session 8. May 30th, afternoon, update on the project progress (JVF)
9. Session 9. June 13th, global evaluation sessions (AM,JVF)

**Session 1:** The MSc on Bioinformatics for Health Sciences has, since it started, three different final tracks that appear to be quite mixed: research, academia, and industry. The first is clear as most of the students end up taking it as their choice. The second is also an option, although at this time the academic system in our universities mixes teaching with research in an undistinguishable way. The last one, though, implies the use of your skills into other fields, not always in performing research in a daily basis. The PRO course in the master was initially conceived as a way to introduce the students in the world of project development, management and exploitation, a task some of you will engage in the future. However, it is becoming more and more important acquiring other type of skills, those that will allow you to put forward your business ideas. If I have an idea, what is next? how do I recognize it is worth? what are the steps I need to follow to succeed? Thus, the PRO course has now two targets, that will exclusively depend on the student's objectives:

1. to learn developing a grant proposal OR
2. to learn building a business idea

In this session we will discuss practicalities of the course and solve doubts, in order to be ready for the sessions that will start on Wednesday 18th.

**Session 2:** This session is totally interdisciplinary and many of the questions below could probably scare you. However, they are planned to give you inspiration and motivation in your future professional steps.

What do you want? Who do you want to be?

You will get tools to identify your passion and create results from it.

You will learn about creativity and innovation while watching real examples on Youtube. We all need inspiration!

Have you ever wondered how some organisations manage to stay consistently ahead using innovation? What sets them apart? Could it work for you and your organisation?

Do you feel like creating your own business?

You will get some tips about the skills you need to strengthen in order to become an entrepreneur or a leader in your professional career

You will know the importance of defining goals in a proper way if you want to finally achieve them

And, finally, but not less important, you will find answers about life out of academics, alternative careers for scientists, and plenty of interesting job tips and sites for your next career move.

**Session 3.** I've made a master or a phd, what's next? Research by itself makes the science advance, but now we need research to generate innovation and to improve the welfare of the society. There is a big opportunity to transform research in applied technology useful for the market. This process is called technology valorisation and it has different ways. Either you can produce cutting edge technology that can be licensed or that can generate a new company. In this session there would be an explanation of what valorisation is, what means to be an entrepreneur and which are the key factors to create a technology based company-

This process of technology valorisation comprises different actions, some of them could be:

- Protection of the technology
- Elaboration of a business plan / case
- Market study (align your technology with the market needs, identify alternatives already available, key players, size, trends---)

Public tools for the valorisation process and technology entrepreneurship.

**Session 4.** This session will give a first overview to the public funding map for R+D+I projects.

It will provide the principal guidelines to prepare a good R+D+I project proposal, in a practical and European point of view.

Finally, will show some aspects of project management needed to success in R+D+I project development.

**Session 5.** In this session we will go through the Technology Transfer concept. We will analyze the role of the Technology Transfer Offices in particular the connexion between the University and the industry. In the second part, we will summarise the principal concepts of Intellectual Property (IP), this is: what is IP, different IP classifications, what is a patent, the patent or publish dilemma, etc. In the last part, we will discuss about the process of Technology Transfer, related with the valorisation session. For this last part, we will use case study examples.

**Session 6.** We will introduce two use cases of ICT and bioinformatics based companies already working or in the process of being built.

**Sessions 7-9.** Details on how to write the projects and the intermediate and final evaluations of the documents you will produce.

## Structure

The course is completely non-presential, as it is being included in the [MSc on Bioinformatics for Health Sciences](#) at the UPF/UB currently engaged in research projects, often abroad. The schema we will follow is a series of online sessions to discuss aspects of previously handled material.

The students will produce (in groups of 2-3) a final document with either a **research project** or a **simplified business plan** for their idea. The documents will have no more than 10 pages, although will contain the relevant structure of such 2 types of documents. The documents will be accompanied by a short letter describing the contributions of each member of the team in the project or business proposal description.

You can access the moodle page for the course at <http://cbbl.imim.es/moodle>. Please, contact [jordi.villa@upf.edu](mailto:jordi.villa@upf.edu) for details on how to access the course page.

## Collaborators

The course constitutes an external subject at the MSc on Bioinformatics for Health Sciences. The course is open to participants from origins other than the MSc program.