CSIC-UIMP Master on Integrative Synthetic Biology

Engineering Molecular and Cellular Systems

FREQUENTLY ASKED QUESTIONS

Why should I choose misb over other masters?

misb is a pioneer master in our country on advanced integrated training in synthetic biology. Its format is different to most masters, as it is not a mere set of theoretical classes and complemented with a few practical sessions. Rather, it aims to provide the student an **integral training** in synthetic biology and related areas, involving:

- • The theoretical formation in a diversity of scientific disciplines;
- • Joint critical discussion of articles;
- • Participation in workshops;
- • Incorporation into the day-to-day laboratory routine through rotations in various groups;
- • Intense training in scientific writing & oral presentation, entrepreneurship and dissemination;
- • And, above all, a personalized support by a dedicated, first-rate faculty - the ratio professor:student is one of the highest you may find.

Moreover, although one of the most cost-effective masters in Spain, misb is organized by very prestigious institutions such as the **Menéndez Pelayo International University (UIMP)** and the **Spanish National Research Council (CSIC)**. This creates a particularly attractive environment that not only ensures the direct contact with worldwide renowned CSIC scientists, but also allows the discovery of a wide set of international interactions through a panoply of networks in which they participate (European projects, international training networks for pre-doctoral students, etc...).

I have seen the program. There is too much fundamental aspects (or biotechnology, or computational aspects, or you name) for my taste.

At this point in your career you should not be too restrained. It's better to have a broad vision of the whole field before deciding where to specialize in. Besides, all disciplines are interlinked in a way or another. Having a strong basis in all fields provide you with un-valuable tools to tackle any biological problem with a wide, multidisciplinary perspective. Keep in mind that **one of the missions of the master is to prepare the next generation of synthetic biologists to master the intrinsic capabilities of biological systems to understand biological complexity and provide novel solutions for global wellbeing**. This require a novel way of exploring and studying biological systems.

Most masters last for one year and they give me the 60 credits I need to start my doctorate in Spain (I already have 240 credits from my degree). However, misb will give me 120 credits and lasts for two years. I do not need so many credits and I do not want to wait for so long to begin my Ph.D. Isn't that a disadvantage?

Not at all! misb is structured in 60 credits (first year) plus 60 credits (second year), half of the latter representing the Master Research Project ("Trabajo fin de máster" or TFM). This means that, **right after you complete them, you may use the first 60 credits to register in any doctorate program** and begin your doctorate simultaneously with your TFM. This is, **you do not need to finish misb completely to begin your Ph.D.** In addition, having a 120 credit masters will qualify you to do a Ph.D. in **other European countries.**

misb TFM's are expected to last for about one year, as part of the integrated lab activities of the first semester of the second year will partially consist on an introductory project previous to the TFM. This is longer than other masters. Isn't it a bit excessive?

misb does not consider TFMs as a mere formality. On the contrary, it constitutes the most important part of the master. In fact, TFM is seen as a serious introduction to research within a prestigious laboratory, so that the student will become a truly member of the group and will acquire, at the end of the stay, a high level of research independence. On this basis, **the aim of misb** is that the **TFM leads to at least one published work in a relevant scientific journal, in which the student displays a prominent role**, thus **adding a special value to the purely theoretical training**. Based on previous experiences, it is considered that a 1-year period is optimal to tackle this goal.

Most classes are in English. This seems a bit nonsense, especially if most students are Spanish. This adds some unnecessary difficulty.

First of all, to ensure that knowledge transmission is not compromised, only professors with a minimum level of English will lecture in this language. In any case, we cannot overlook the fact that **English is the language of Science**. Scientific articles, congresses, meetings, workshops, courses...English is the tool that allows world scientists to communicate. Therefore, the earlier the student confronts this fact, the better for his/her training will be. misb considers that the humanistic formation of the student in aspects that surround the purely scientific contents is equally important.

I understand everything above and agree that the objectives of mib are high-level, but it seems a lot of work, and I know that other masters are easier to attend. After all, I only want to get away with my 60 credits...

mib is aimed to students with a scientific ambition. "You reap what you sow" means, in this case, that invested effort will be unvaluable to prepare the mib student **to succeed** in her/his scientific career. At your age, you should not be afraid to work hard, but instead feel **strongly motivated** to get involved in Molecular Biology at the deepest level. The faculty will be there to help you advance step by step.

Where are the mib graduates now?

As mib will begin in October 2021, we cannot yet answer this question. However, we can give you information about the master mib replaces – the master Mcib on Molecular and Cellular Integrative Biology, organized by the same team during five editions, two of them still on-going). The students of the three promotions already finished have more than **fulfiled our expectations**. Most of them (around 80% of the total) are carrying out their **Ph.D. in highly recognized research centers both in Spain** (*CIB-CSIC, CNIC, CNIO, CBPG, Navarrabiomed*) **and abroad** (*Germany: Max Planck Inst. Biochemistry, Martinsried; Molecular Medicine, Univ. Dresden; Inst. Immunology, Univ. Münster; Universitätsklinikum Würzburg; Austria: TU-Wien; The Netherlands: Univ. Gröningen*). Many of them have published their work in prestigious journals. The fact that other students are currently working in biotech companies demonstrates the **technology transfer potential** of **this novel format of advanced training.**