

Education:**3rd Summer Workshop in Synthetic Biology**

Mexico is a country that does not count with an appropriate number of full-time synbio researchers needed to have similar progress in this area to other developing countries such as Brazil and India. Recently, some universities and institutions in Mexico have come up with classes and conferences to catch student's attention.

Nonetheless, this is not enough if we want to be competitive in the developing of synbio-based projects and enterprises. For this reason, every year, the Center for Research and Advanced Studies organizes a Synthetic Biology Summer Workshop, where undergrad students from all the country take part in the creation, design and development of new synbio projects during the summer. Some members of our team guided the new students in this workshop.

The main objective of this workshop is to educate and train young scientist in the management of lab techniques, protocols, equipment, software and other skills for experimental work in a lab. Besides, the students receive a quick training in mathematical modeling, systems biology and mathematical biology.

This year, 13 students took part in a 6 week-summer internship in the Systems and Synthetic Biology Lab (SSBL) in the 3rd SynBio Summer Workshop (3SBSW). They made 5 teams, 3 of them collaborated in the design of new biobricks and devices with the iGEM Team and the last 2 teams participated in ambitious projects with SSBL members.

More than knowledge, we tried to form a different kind of scientist: Creativity, Boldness and Passion are the most important skills for us.

We hope this workshop could cause impact in short term. Actually our team emerged as a result of the great experience of some participants of the 2nd Synbio Summer Workshop (2011 edition).

2012 Projects:

- Construction of a light-dependent control device for LacZ expression
- Construction of a Butanol-production device
- Characterization of a fluorescent-based measurement protocol for promoter functioning
- Design of a tryptophan-dependent promoter
- Isolation of





2012 Experiences

Synthetic biology is a new field of research whose main objective is the creation of new biological systems. During the 3rd Synbio Workshop I learned the rules and techniques of this discipline. I learned firsthand the important contributions they have to do with other areas of science like physics or engineering.

It was fascinating to learn that, from a problem or need, you can search information from different organisms, combine, modify, etc., to create new organisms on demand with new unique features. My work in 3SBSW was on the construction of a reporter attached to a synthetic regulatory system in E. coli. The 3SBSW was a unique experience that left me a broad overview of the things you can imagine, develop and create.

Pedro Jimenez
Chemical Engineer, University of Guadalajara

This workshop exceeded my expectations, it gave me the opportunity to work in SynBio with great advisors, partners and in first-class laboratories. The most valuable for me is that I learned teamwork, I could establish professional relationships and I could interchange academic and non-academic experiences.

Synbio is a field that is taking a great impulse, is compulsory for Mexico to count with trained professionals capable to work in the topic

Daniel Torres-Osorio
Biological and Pharmaceutical Chemistry, National University of Mexico

Image Gallery



It's hard to say goodbye!





Trying to make a DNA molecule! ... close enough!





The 3BSW assistants and instructors. From left to right: Miguel Ramos (Morelia, Michoacan), Alberto Camas PhD (instructor), Orlando (Campeche, Campeche), Marissa (Hidalgo City), Pedro (Teocaltiche, Jalisco), Alejandro (Mexico City), Fabiola (Irapuato, Guanajuato), Rafael (Juarez City, Chihuahua), Raquel (Morelia, Michoacan), Lilian (Mexico City), Ana Lilia (Instructor), Agustino Martínez PhD (Group Leader), Manuel (Morelia, Michoacan), Eduardo (Morelia, Michoacan), Miguel Ávalos (Morelia, Michoacan). Just left Daniel Torres (Mexico City). Special thanks to our handsome photographer.





We tried to write III TBS (Stands for Tercer Taller de Biología Sintética, 3rd Synthetic Biology Summer Workshop in Spanish)





We will miss Cinvestav Irapuato, thanks for everything!

