



PRESS RELEASE
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BARCELONA HOSTS, FOR THE FIRST TIME, THE SCHOOL OF MOLECULAR AND THEORETICAL BIOLOGY FOR SECONDARY SCHOOL STUDENTS

- **The school funded by the Zimin Foundation will be held with the support of the Centre for Genomic Regulation (CRG), the Pompeu Fabra University (UPF), the Pere Tarrés Foundation, and the Howard Hughes Medical Institute (HHMI) in Barcelona, Spain.**
- **It will bring together 80 secondary school students worldwide, who for three weeks will work on real scientific projects together with outstanding scientists.**

Being a researcher requires motivation, creativity, critical thinking and dedication, which are qualities found in abundance in many secondary school students. Taking this premise as starting point, the School of Molecular and Theoretical Biology brings together intellectually restless and talented secondary school students with outstanding scientists. All of them will work together in real scientific experiments, which may lead into novel results.

Fyodor Kondrashov, ICREA research professor at the Evolutionary Genomics laboratory in the Centre for Genomic Regulation in Barcelona, is the scientific director of the School of Molecular and Theoretical Biology and was one of the driving forces of this initiative. *“Unlike other workshops and summer school programmes, this school fully integrates the students in a research project. We believe that many high school students are ready to participate, intellectually and through work in the laboratory in real science. This experience will make a difference in their lives, so they are respected and considered as if they were adults. It will help them deciding whether science is for them or not,”* explains Kondrashov. *“Participants will hear lectures, learn how to perform different techniques and calculations, and explore or discuss current ideas in the molecular and theoretical biology fields. We do not offer any coaching or training aimed at improving scores of standardized tests or Olympiads. Our work and studies are focused purely on the scientific questions addressed in real laboratories,”* he adds.

The International School of Molecular and Theoretical Biology will take place will take place from 2 to 18 of August at the Centre for Genomic Regulation (CRG) and the Pompeu Fabra University (UPF) in Barcelona, Spain. 80 students world wide will arrive in Barcelona from several different countries including remote small towns in Russia or big cities such as Boston in the United States. They will spend three days just discovering the different labs participating in the summer course, so they can later choose the scientific project in which they are interested. The registration is now open for ten Spanish participants.

Molecular and Theoretical Biology: why?

Within a wide diversity of topics in the natural sciences and mathematics the school is deliberately focused on molecular and theoretical biology. Molecular biology as a field continues to be at the forefront of modern science. Many areas of biology and medicine are using methods on the molecular level, providing a new dimension to research even in traditionally non-molecular fields as in ecology and animal behaviour. The school focuses on



molecular biology to expose high school students to the field that is currently dominating biological research throughout the world.

On the other side, quantitative thinking and computational analysis are rapidly becoming more relevant to many areas of biology. In addition to quantitatively oriented fields such as biochemistry and biophysics, many aspects of high-throughput genomic analyses rely on mathematics and computational analyses. However, quantitative sciences and mathematics remain broadly separated from biology on the level of high school education. Thus, the union of molecular and theoretical biology within this school was in part created to facilitate the joint study of these disciplines by their participants.

Beyond the summer

Even the School in Molecular and Theoretical Biology is a summer course, the scientific projects continue beyond the summer. Since participants are totally integrated in the research laboratories, they would be able to keep posted and involved in the scientific projects started during the summer school. Some examples of such integration and real motivation of participants can be found in previous editions with several testimonials of young participants as well as with scientific papers published later on.

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