CRAG “Severo Ochoa” Summer Internship Program for Undergraduate Students of the Center for Research in Agricultural Genomics (CRAG) is a 4 weeks international excellence program that aims to provide an introductory and practical formation in animal and plant molecular biology to undergraduate students with a genuine interest in the field of life sciences. Stages should take place from 1 July to 26 July 2019.

Ten (10) undergraduate students will have the chance to become familiar with a broad variety of laboratory techniques and bioinformatics tools aimed to understand the structure, function and variation of plant and animal genomes.

Program Description

Each fellow will be allocated in a scientific group at CRAG under the supervision of a principal investigator with the support of postdoc and/or experienced PhD students. She/He will be involved in a research project and will complete a brief experimental work to be presented in a program seminar at the end of the stage (26th July 2019).

The Program includes training in transversal skills as bioinformatics, dissemination and project management given by CRAG members.

In addition, fellows will be invited to attend weekly seminars organized by CRAG and presented by prestigious international scientist in the fields of plant and animal genetics.

Participating Labs

We have 10 groups offering a position, please see below for further details:

- **Regulatory Mechanisms in Dark/Light Growth and Development** – Title of the project: Algae communication – Elena Monte (elena.monte@cragenomica.es)
- **Role of SUMO in plant development** – Title of the project: Protein Regulation in plant development and stress – Maria Lois (maria.lois@cragenomica.es)
- **Plant immune responses to pathogen infection. Antimicrobial peptides for crop protection** – Title of the project: Production of antifungal proteins in plant biofactories – Maria Coca (maria.coca@cragenomica.es)
- **Genomics of ancient crops and domestication** – Title of the project: Next generation sequencing analysis of ancient crops from Egypt – Laura Botigué (laura.botigue@cragenomica.es)
- **Bacterial pathogens and plant cell death** – Title of the project: Study of bacterial pathogen proteins secreted in the tomato xylem – Marc Valls (marc.valls@cragenomica.es)
- **Light Regulation In Plant Development** – Title of the project: Understanding how plants respond to each other’s proximity – Jaume Martínez-García (jaume.martinez@cragenomica.es)
- **Genomics of dairy traits in goats** – Title of the project: Genomic analysis of the genetic determination of milk yield, composition and body condition and viability in Murciano-Granadina goats – Marcel Amills (marcel.amills@cragenomica.es)
• **Molecular Reprogramming and Evolution (MoRE)** – Title of the project: Devicing a CAS-mediated system for controlling gene expression in plants – Ignacio Rubio (ignacio.rubio@cragenomica.es)

• **Isoprenoid Metabolism in Tomato: involvement in development and stress response** – Title of the project: Conjugated sterol metabolism as a promising target to improve tomato tolerance against biotic stress – Albert Ferrer (albert.ferrer@cragenomica.es)

• **Bacterial pathogens and plan cell death** – Title of the project: Plant nano-healing: understanding the molecular basis of tissue regeneration in plants – Nuria Sánchez-Coll (nuria.sanchez-coll@cragenomica.es)

Information about the research groups and CRAG is available at [http://www.cragenomica.es](http://www.cragenomica.es)

**Benefits**

• Housing: Students from outside Barcelona will be housed free of charge in student accommodations

• Travel costs to and from Barcelona will be covered by CRAG.

• Personal accident and civil liability insurances will be paid by CRAG. No medical insurance will be provided, so students from foreign countries must bring the European Health Insurance Card and/or a private medical insurance covering the period of the internship.

**How to apply**

We encourage applications from undergraduates (students from any academic program up to the level of a bachelor’s degree, including students who finish their bachelor degree in 2019) from the European Union.

**Application deadline is March 31, 2019.**

Applicants should complete and submit the on-line application through [CRAGjobs](http://www.cragenomica.es).

Applicants will be asked to upload the following documents:

• Academic Records

• A motivation letter, including an expression of interest of the candidates in life sciences and the expected outcomes and benefits of their stay at CRAG.

If available, the applicants may also provide the following documents:

• English certificate or documentation demonstrating previous stays in English speaking countries

• Documentation related to previous stays in a research organism (e.g. letters of recommendation, presentations to meetings, etc).
Applicants will be asked to specify the names of three of the participating labs in their order of preference. While we cannot guarantee that an applicant will be assigned to any of these labs, we will make our best efforts to achieve this goal.

Applicants must upload all the required documents as PDF files of less than 10 MB.

Please note that all information must be submitted by March 31, 2019. Incomplete applications will not be considered.

**Selection Procedure**

Candidates will be selected on the basis of their academic achievements. Fluency in English and previous experience in research will be taken into account during the selection process. Preference will be given to candidates who have not done any previous stay at CRAG.

Candidates might be interviewed by the investigator offering the position. The hosting principal investigator will make the final decision about the admission of the applicant. No selection criteria for positive or negative discrimination will be applied.

Candidates will be duly notified about the results of their application no later than the 30 April, 2019.