



**TELENCEPHALIC DEVELOPMENT:
CEREBRAL CORTEX AND OLFACTORY SYSTEM, Cajal Institute, CSIC**

PI: Juan A. de Carlos, PhD.

Internship type: Basic research

Internship Language: English

Location: The Cajal Institute is located at the Avenue of Dr. Arce 37, which is at 20 min. metro ride from the Foundation Ortega y Gasset-Gregorio Marañón. <http://www.cajal.csic.es/index.html>

Summary

The telencephalon is also known as the cerebrum, and it comprises the largest part of the brain. It contains the cerebral hemispheres, and thus includes the cerebral cortex and a number of subcortical structures. Our group focuses on the study of the Telencephalon at the anatomical, cellular and molecular level, as well as on the migration routes and destination of different neuronal populations during the early development of the telencephalon.

Methodology

Our research employs a multidisciplinary approach by combining cutting-edge imaging techniques and conventional cellular/molecular methodologies such as: experimental embryology (intracerebral injections guided by ultrasound and embryo culture in toto); cellular transplants and organotypic cultures; immunohistochemistry, classical histology (Golgi stain), synthesis of gene probes, in situ hybridization, vector construction, electroporations of intrauterine plasmids guided by optical, fluorescence and confocal microscopy.

Activities

Depending on their previous experience/knowledge, curiosity and time dedication, students will have the opportunity to learn about, observe and/or participate in different activities of our laboratory. They will have a chance to attend and participate in our weekly and monthly scientific seminars; they will get familiar with some of the research techniques we use, with the concept of experimental design and with the process of acquiring and analyzing experimental data. Finally, they will learn how to evaluate the data and write short scientific reports.

Requirements

Students should have passed an introductory biology/neuroscience course. Even though they will work on research questions formulated by the senior researchers, approaches and methods employed are feasible for students participating in research for the first time.