

ECNP Research Internship 2019

02/09/19 - 13/09/19

Host:

**Prof. Gitte Moss Knudsen, MD,
DMSc**

Copenhagen University Hospital,
Neurobiology Research Unit (NRU)
Rigshospitalet,
Copenhagen, Denmark

Intern:

Daniel Porta Casteràs

Parc Taulí University Hospital,
Institute for Research and
Innovation Parc Taulí
(I3PT), Neurosciences and Mental
Health Group
Sabadell, Catalonia (Spain)

I was honoured with the chance to spend two weeks as an intern at the Neurobiology Research Unit (NRU), Rigshospitalet, Copenhagen University Hospital, under the supervision of Prof. Gitte Moss Knudsen and her outstanding team.

During this ECNP research internship I was introduced to a novel experimental medicine approach employing positron emission tomography (PET) to extract repeated measures of psilocybin's pharmacodynamics and examine the role of 5-HT_{2A}R (serotonin receptor) through the 5-HT_{2A}R radioligand Cimbi-36. I was genuinely impressed by the capability of this method to, along with psychological assessments, follow the drug's dose-response curve in a multimodal manner. It was a great opportunity to learn about the potential of such a complex approach as well as the challenges it presents.

Regarding magnetic resonance imaging (MRI), I was given practical explanation on the use of statistical tools to assess volumetric and thickness values in structural images (FreeSurfer), and to model functional connectivity changes with state-of-the-art software (CONN toolbox). Building on my previous experience in the field, I might consider using some of these resources during my PhD in neuroimaging of affective disorders.

It was also interesting to witness the setup and pilot run of a fMRI paradigm for a starting study about entrepreneurship, where extra caution and preparedness can improve the quality of the data and avoid complications after the data acquisition (pre-processing).

Last but certainly not least, I would like to thank all the members of NRU for the warm and friendly welcome they gave me and for the learning opportunities they provided, with special thanks to Gitte Moss Knudsen, Dea Stenbæk, Martin Korsbak Madsen, Camilla Borgsted Larsen, Patrick Fisher and Birgit Tang.