POSTDOCTORATE AND PREDOCTORAL FELLOWSHIP OPPORTUNITY in Remote Sensing and Signal Processing at the *CommSensLab* Excellence Unit of the Universitat Politècnica de Catalunya (UPC) in collaboration with the Department of Earth, Atmospheric, and Planetary Sciences (EAPS) at Purdue University, U.S.A.

Remote Sensing data processing and fusion: Atmospheric Boundary-Layer monitoring in the context of severe storm hazards

Description

Synergetic remote sensing of the atmosphere, combined with adaptive/data-fusion techniques, offers unprecedented opportunities to characterise the evolution of the Atmospheric Boundary Layer (ABL) and its critical role in the development of severe storms and associated hazards. Using long-duration, high-resolution, vertically pointing observations from active and passive ground-based remote sensing systems including, e.g., ceilometers, Doppler lidar, FMCW radar, and new technologies of microwave radiometers, it is expected to characterise ABL development over distinct regions that are well known for their relatively high tornado frequency.

The candidate, working at UPC, will address data-fusion techniques based on adaptive estimation and/or machine learning that are to provide automated or semi-supervised identification of ABL top in non-precipitation observations, as well as classification metrics. Verification of ABL heights against independent observations from a wealth of remote-sensing instruments across collaborating U.S. research institutions (including e.g., Purdue University, NOAA and Univ. of Massachusetts) will also be a goal. A collaborative visit to Purdue University with a duration of 3-6 months is anticipated. Larger mobility periods to the US can be envisaged upon criteria of productivity, excellence and candidate's needs (on a case-by-case basis, e.g., US residents). The proposed work is expected to fill knowledge gaps related to characterisation and forecasting of ABL phenomena.

The preferred funding instrument for this position is the La Caixa bank-foundation fellowship (see below). This program emphasizes heavily the importance of high-quality, scholarly publication. Tentatively, Ph.D. fellows are expected to publish no fewer than three (3) papers in top-tier journals in their respective fields during their tenure, on topics related to their fellowship-funded research.

Candidate requirements:

(i) **Post-doc profile:** Recent Ph.D. in telecommunications, electronic engineering, or physics with application to atmospheric remote sensing and data processing. Good English speaking and writing skills.
(ii) **Ph.D. profile:** Candidates should meet the academic requirements to enter the UPC Ph.D program. They should hold a degree in telecommunications, electronic engineering, or physics with clear motivation to study atmospheric remote sensing and data processing. Good English speaking and writing skills are preferred.

Contact persons (Ph.D. advisors):

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http://www.tsc.upc.edu/en/research/commsenslab/grants#boundarylayermonitoring

About CommSensLab http://www.tsc.upc.edu/en/research/commsenslab (see also Remote Sensing Lab. activity at http://www.tsc.upc.edu/en/research/rslab

1. POSTDOCTORAL OPENINGS via

Call: Junior Leader "La Caixa" bank-foundation fellowship - Reserved for Excellence Centers

Description: The new postdoctoral fellowships programme, Junior Leader "la Caixa", is aimed at hiring excellent researchers—of any nationality—who wish to continue their research career in Spanish territory, in any discipline. Sponsored by Obra Social "la Caixa", the objectives of this programme are to foster high-quality, innovative research and to support the best scientific talents by providing them with an attractive, competitive environment in which to conduct excellent research. Modalities: *Incoming* (for researchers of all nationalities who must not have resided or carried out their main activity in Spain for more than 12 months in the 3 years immediately prior to the call deadline) and *retaining*.

Conditions: Competitive stipend and a complementary training and mentoring programme. Gross annual average wages of EUR 42.307,69, subsidy for employer hiring costs, coverage of annual research project costs (38.500 EUR) plus family/mobility assistance.

Application deadline: Please refer to the announcement at the URL below.

Details: https://obrasociallacaixa.org/en/investigacion-y-becas/programa-de-becas-de-posgrado/becas-de-posgrado/becas-postdoctorales-junior-leader/descripcion-del-programa

2. PhD OPENINGS via

Call: INPhINIT *"La Caixa" bank-foundation fellowship* - Reserved for <u>Excellence Centers</u>

Description: INPhINIT is a new doctoral fellowship programme devoted to attracting international early-career researchers to the top Spanish research centres and offering them an attractive and competitive environment for conducting excellent research.

Conditions: 3-year contract. Gross annual salary EUR 34.800 + EUR 3.564 annual additional funding to the hosting center. Award of EUR 7.500 if the research fellow submits the thesis within 6 months subsequent to the end of the fellowship's third year. <u>Mobility rule:</u> Candidates must not have resided or carried out their main activity (work, studies, etc.) in Spain for more than 12 months in the 3 years immediately prior to the recruitment date.

Deadline: Feb. 1, 2018 (call opened now). Please refer to the announcement at the URL below.

Details: https://obrasociallacaixa.org/en/investigacion-y-becas/programa-de-becas-de-posgrado/inphinit/programme-description