

## PREPARING THE FUTURE OF ASTRONOMY PHDS IN FRANCE

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**Abstract.** The numbers of doctors in astronomy formed in France has been increasing for 15 years, a time during which the number of openings for permanent positions has remained constant. As it is well known by the young generations, the pressure on the research position is high, putting many post-doctoral researchers in difficult situations for up to 10 years after their defence. We have to prepare students and post-doctoral researchers to maximize their chances for both academia and the private sector. In this spirit, the 2015 SF2A conference included a lunch meeting with former members of hiring committee and a workshop on the valorization of the astronomy thesis. We believe awareness of both young and senior researchers is important to provide PhDs with a robust background and modern methods, valuable in their future, whichever it is.

Keywords: formation, education

### 1 Introduction

During the conference, an e-poster was presented in session S06 ([http://sf2a.eu/semaine-sf2a/2015/posterpdfs/2\\_9\\_25.pdf](http://sf2a.eu/semaine-sf2a/2015/posterpdfs/2_9_25.pdf)) from which the figures are not reproduced here. In section 2, we remind the evolution of some numbers. In section 3, we stress two actions that were undertaken during the conference in favour of young researchers.

### 2 Evolution of the number of astronomy PhDs and positions in academia

A compilation of PhDs awarded (or started) in various institutions shows that the number of thesis has been increasing in the last 15 years, at an average rate of 0.63 thesis/years in Paris, 0.2 in Marseille, and 0.25 in Toulouse. There is annual variations and the statistics at any institution is relatively small but the trend is real (likely linked to the possibility to create PhDs fellowship from ANR, ERC, LABEX, etc and to the constant pressure of the community towards its permanent researchers to form students). About 100 thesis in astronomy are started each year in France (D. Mourard\* at this conference has indeed given the approximate number of 300 PhD students in INSU laboratories).

In the same period, the number of opened positions has been of around 20 per year for the total of CNRS, CNAP and universities. Perspectives given during the week let us think that this number may not be maintained in the future. We note that due to the autonomy accorded to universities, it is sometimes difficult to have reliable numbers for the university positions.

### 3 Actions

While many researchers (senior or young) do perform actions in their own laboratories, the SF2A week is the opportunity for them to meet and discuss about them. It is also the unique opportunity to propose new actions at a national level, opened to all.

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### *3.1 Lunch meeting on the French permanent positions*

A lunch meeting was organised in the presence of several former members of the hiring committees. The application and presentation in front of such committees require young researchers to know a certain number of untold “codes” in order to maximise their chances. It is thus fair that they are discussed with all future candidates (and not just a few chose ones behind closed doors). The lunch meeting was well attended and very successful from this point of view.

### *3.2 Workshop on the valorization of the astronomy PhD outside academia*

Several presentations were given in this workshop, by Bruno Roussel (Toulouse University), Stéphanie Godier (Recherche et Avenir) and Olivier Iffrig (AUDDASS), showing structures exist to help young researchers to find interesting positions outside academia. An open discussion followed. The workshop was less attended than the lunch meeting presented before because of the occurrence of scientific workshops at the same time, and probably showing that the real goal of young researchers is academia (at odds with the numbers of PhDs we form). We especially encourage AUDDASS in its effort to create a national listing of astronomy PhDs that should help us to keep contact with former students and understand what we (senior scientists) need to include in the formation we provide to them. A real effort on the part of PhD supervisors is may be needed.

## **4 Conclusion**

With the current situation, it is clear that young researchers will have a hard time defending themselves on the academia job market. We have to help all of them to prepare so that the selection process is further improved (all candidates should have access to the same level of information in all fairness). Many of them will have to move to another field of work. It is thus important that the formation delivered during the PhDs provide them with arguments for the private market (modern methods, or tools), and boost their level of confidence. SF2A should play a continuing role in these aspects.