

Improving access to careers within HEP 4-yr institutions

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It is known that new HEP faculty and scientists positions per year do not keep up with young postdocs seeking to be hired and less than one third get hired into these positions. It is also known that due to this factor and other reasons, young postdocs and PhDs seek employment outside academia. Some that go into academia take positions at 4-year institutions, where a higher teaching load and disadvantages in receiving guidance and competing for research funding (compared to their peers at R1-type institutes) put the continuity of their research path at risk. HEP experiments also provide hurdles (in terms of joining fees or authorship fees) to the hires at 4-year institutes. While getting faculty positions at R1-type institutions is a desirable path and there is a lot of guidance available for that, ***this LOI focuses on the challenges, skill-building and mentoring required for a faculty job with HEP research at a 4-year institution.***

Challenges, Skills and Mentoring

Getting a faculty position at an undergraduate institution is highly attractive for postdocs who are passionate about teaching in addition to research, and is becoming a new norm. However there is no guidance from the HEP community on how to succeed in this path. On the contrary, it is thought of as a path that should be easy to follow, but it is absolutely not the case. In addition, after a faculty joins there are several challenges and some of them could be beyond the power of the faculty member to address. Due to the very nature of the job, commitment to teaching is a requirement. This means up to 50% FTE of teaching load, leaving very little time to do research. Faculty members find themselves in a tug of war where their new institution may not care for their research while they themselves work overtime to fulfill research commitments, especially to stay afloat in the first few years of actively seeking funding for research.

Since there is rarely an established HEP research group to guide the faculty member they are left to fend for themselves. In this context, there is a complete lack of guidance on how to present the case of a new single-PI research group to the funding agencies, who generally find it administratively easier to deal with the more common scenario of new faculty members joining established groups (ex: at an R1-type institution). In addition, some experiments may have a hefty joining fee and an annual authorship fee. The young faculty member may not have startup funding to cover these costs until they secure a grant, or the use of startup funding might be restricted for other purposes. Given that 4-year institution positions could help HEP retain postdocs, we must study in detail how to solve the issues collectively by working with experiments and funding agencies.

Most 4-years institutions are focussed on teaching. Hence building a postdoc portfolio demonstrating teaching skills can be very helpful, but opportunities are few and this work is typically not supported by supervisors. Also, 4-year institutions may not have experience evaluating CVs from HEP

research (ex: lack of “first author” concept), so the considerable time spent on physics analysis as a postdoc might be under-valued. While applying for such a job an appropriate preparation of the CV, highlighting the required teaching skills, is needed. This required serious and vested mentoring on the part of postdoc supervisors. In addition, newly-hired faculty members need guidance on securing funding for research and access to a collaboration on an HEP experiment. Mentoring is therefore essential for success.

[1]<https://www.insidehighered.com/advice/2018/03/13/applying-community-college-faculty-position-opinion>

[2]<https://www.mla.org/About-Us/Governance/Committees/Committee-Listings/Professional-Issues/Committee-on-Community-Colleges/A-Community-College-Teaching-Career>

[3] <https://www.princetonreview.com/careers/127/professor>

[4] <https://career.berkeley.edu/PhDs/PhDtransition>

[5] <https://classicalstudies.org/faculty-positions-colleges-and-universities-1>