

Letter of Intent for Snowmass2021: CEF4 Physics Education Topical Group

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### **Study of New Mechanisms for Faculty Collaboration across Academia**

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#### **Abstract:**

The field of Particle Physics has successfully brought many young researchers through the post-doctoral ranks, at which time these individuals are then searching for more permanent positions in academia, National Laboratories and in the private sector. In the domain of academia, many may consider positional opportunities at R1 universities as well as other institutions including undergraduate-serving colleges and universities as well as community colleges. For those seeking these latter positions, the potential exists to attract a broader geographic and demographic base of students to the particle physics field, and this affords the possibility of strengthening the participation of underrepresented groups in the particle physics research program. Engaging those teaching at undergraduate institutions in front-line particle physics research will strengthen our academic workforce.

#### **Content:**

Among the facets of this proposed study:

1. A needs analysis to assess the needs of faculty at such undergraduate institutions in order for them to be successful in conducting vibrant research programs, whilst maintaining a significant teaching load characteristic of such institutions.
2. Survey of institutional collaborations of Undergraduate Serving Institutions (USI) with R1 and laboratory groups that have proven successful so far, to assess lessons learned.
3. Study of new models of collaboration or cooperation that would allow USI faculty and their students to collaborate in demonstrably effective ways in experiments - to be effective leaders, rather than simply being regarded as followers.
4. Survey of R1 institution and research laboratory physicists who might share an interest in collaboration with USIs.