

CFNS workshop: EIC Theory in the next decade, Sep. 20-22, 2022, MIT

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#participants: 65

<https://indico.bnl.gov/event/16740/>

Goal: review the needs and challenges for EIC theory including interdisciplinary aspects, 15 talks (5 by young faculty), 7 open mic discussion sessions

Resolution:

“We recommend the establishment of a national EIC theory alliance. This alliance will enhance the collaboration between different institutions working on EIC theory, and significantly contribute to workforce development, diversity, equity, inclusion in EIC theory, through the national EIC theory fellow program and tenure-track bridge positions at universities, including minority serving institutions and national laboratories across the U.S.”

Why theory alliance ?

The time scale of EIC, 10+ years for construction and possible 20+ year of operations calls for long term coordinated developments of theory efforts with appropriate workforce development plan:

- Breadth and depth of of theory problems related to EIC cannot be effectively by individual theory groups or by other existing mechanisms (e.g. topical collaboration); activities span several possible topical collaborations
- We need more engagement from universities, new mechanism for workforce development with special attention to DEI issues and cross-cutting, effective international engagement to maximally leverage the available resources
- Need a long term and sustained efforts (beyond 5 years)
- The most effective way to address the DEI issues in EIC theory community

What ?

Fellows (3 or 5 years), bridge faculty/lab positions. Help to promote EIC theory at universities, help to build a diverse workforce

Graduate and undergraduate internships (student programs) to ensure the pipeline for a diverse workforce

Organize topical workshop schools on main theory thrusts (leveraged by CFNS, INT, ECT* ...)

Previous experience:

All major facilities : Jlab, RHIC, FRIB came with their own theory initiatives: Jlab Theory Center, RIKEN-BNL (**ends in 2023**), FRIB Theory Alliance that turned out to be essential in covering the theory needs of the facilities in longer terms and created the corresponding theory communities

Possible model to follow: FRIB Theory Alliance

Membership organization that elects an executive board to make decision on bridge positions and fellow position, and determines the main theory thrusts (like FRIB Theory Alliance)

Could be implemented in a staged manner:

Starting with 1 fellow and one bridge position and ramping up to 5 fellow and 5 bridge positions over the course of several years (based on 50%-50% split), similar to FRIB Theory Alliance

Other community models to follow includes USQCD, which also has an external Advisory Committee consisting of experimentalist and theorists from other fields

This workshop summarized theory developments of 6+ CFNS and INT workshops

More details in Workshop summary

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