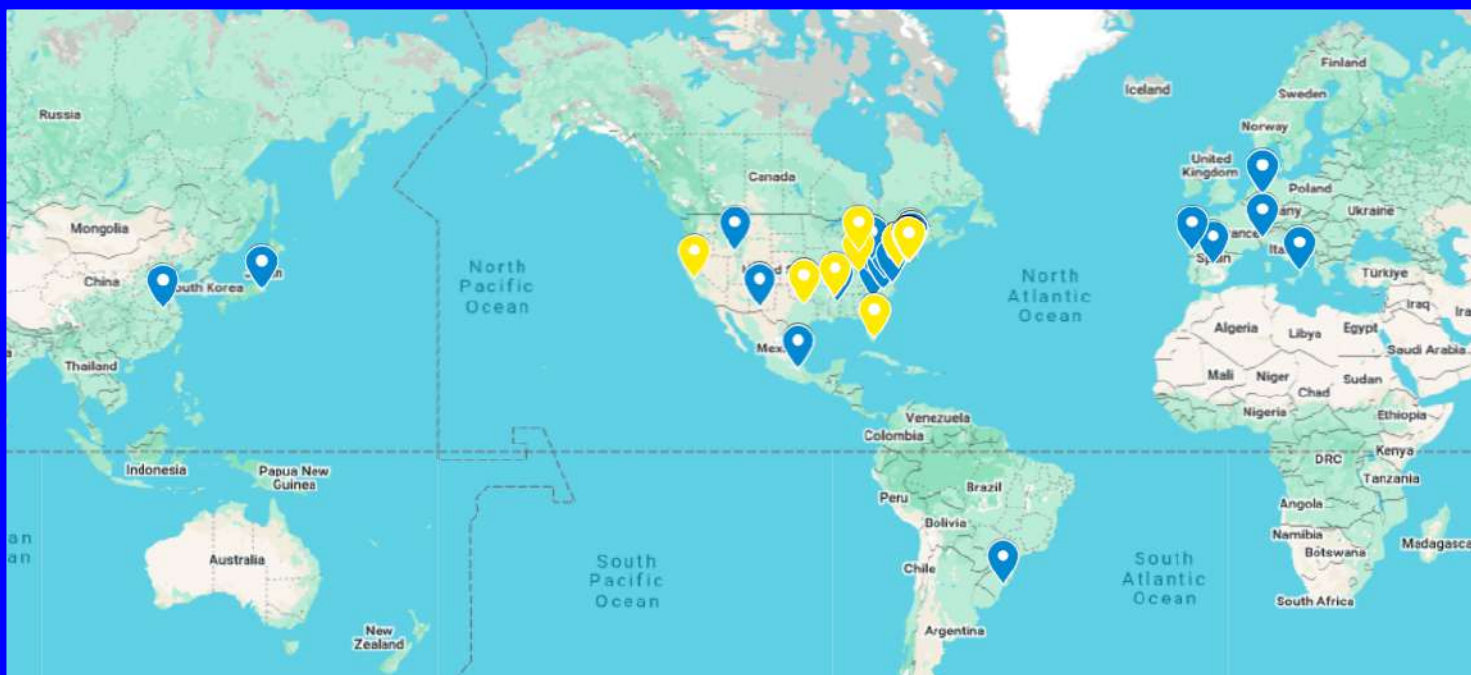


The 2026 CFNS Summer School on the Physics of the Electron-Ion Collider



2026 CFNS Summer School

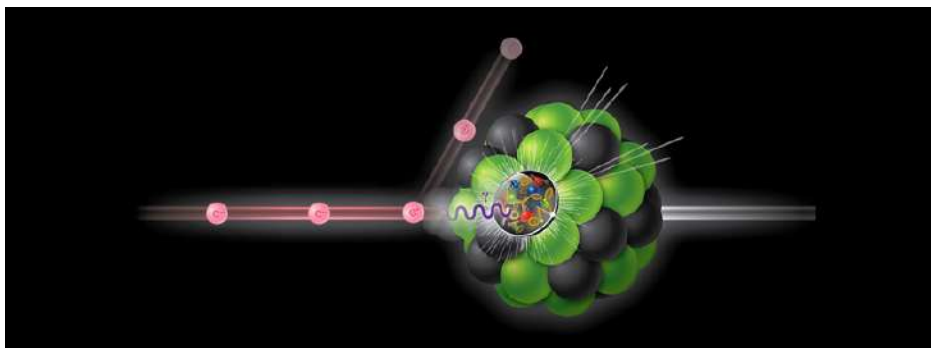
on the Physics of the Electron-Ion Collider (EIC)

Stony Brook University hosted the 2026 CFNS-SURGE Summer School on the Physics of the Electron-Ion Collider (EIC) during the period 1-12 June 2026. The school was organized by **Center for Frontiers in Nuclear Science (CFNS)** at Stony Brook University.

The **CFNS** is dedicated to advancing our understanding of quantum chromodynamics (QCD), with a focus on the role of gluons and sea quarks in the structure of nucleons and nuclei. Its mission is to promote and facilitate the realization of the U.S.-based Electron-Ion Collider (EIC) by strengthening the scientific case and fostering global collaboration among researchers engaged in EIC-related science.

This school provides the participants with a deeper understanding and improved competency of the fundamental ideas, tools, and techniques that serve as the foundation for investigations of current and future experimental facilities, including the upcoming Electron-Ion Collider (EIC) experiment.

The 2026 CFNS School addressed the pressing educational needs of junior physicists involved in forefront research investigations. The format of this program fosters student—lecturer interaction. This experience prepares our students for successful careers both within the physics discipline, and beyond.



Schedule Overview

Week #1	Mon 01	Tue 02	Wed 03	Thu 04	Fri 05
9:00	Theory Intro Olness	Theory Intro Olness	Accelerator Science Christoph Montag	PDFs Nadolsky	PDFs Nadolsky
10:30	EIC Intro Tu	EIC Intro Tu	EIC Intro Tu	Forward Physics Li	Forward Physics Li
13:00	EIC Phys & Detector Surrow	EIC Phys & Detector Surrow	EIC Perspectives (Abhay)	3D Structure Metz	3D Structure Metz
14:30	Tutorial 1 Ilten	Tutorial 2 Ilten	Tutorial 3 Ilten	Tutorial xFitter	Student Talks
19:30	Discussion	Discussion	PJ Dinner 6pm	Discussion	BBQ 5PM
Week #2	Mon 08	Tue 09	Wed 10	Thu 11	Fri 12
9:00	Calorimetry/ Polarimetry Corliss	Calorimetry/ Polarimetry Corliss	Jets & IR Safety Sterman	Particle ID Hemmick	Particle ID Hemmick
10:30	Lattice Siritsyn	Lattice Siritsyn	Jets at the EIC Ringer	Heavy Quarks Vogt	Heavy Quarks Vogt
13:00	Small x Schenke	Small x Schenke	EIC Accelerator Fischer	BSM @ EIC Davoudiasl	BSM @ EIC Davoudiasl
14:30	Tutorial xFitter	Tutorial 1 Szumila-Vance	Tutorial 2 Szumila-Vance	Tutorial 3 Szumila-Vance	Student Talks
19:30	Discussion	Discussion	Free night	Discussion	BBQ 5PM

The schools consist of ten days of lectures and discussions where students interact closely with distinguished experts with a broad range of expertise. The audience for these schools is primarily the younger generation of physicists—typically advanced graduate students and postdocs, and the group includes students from both experimental and theoretical disciplines.

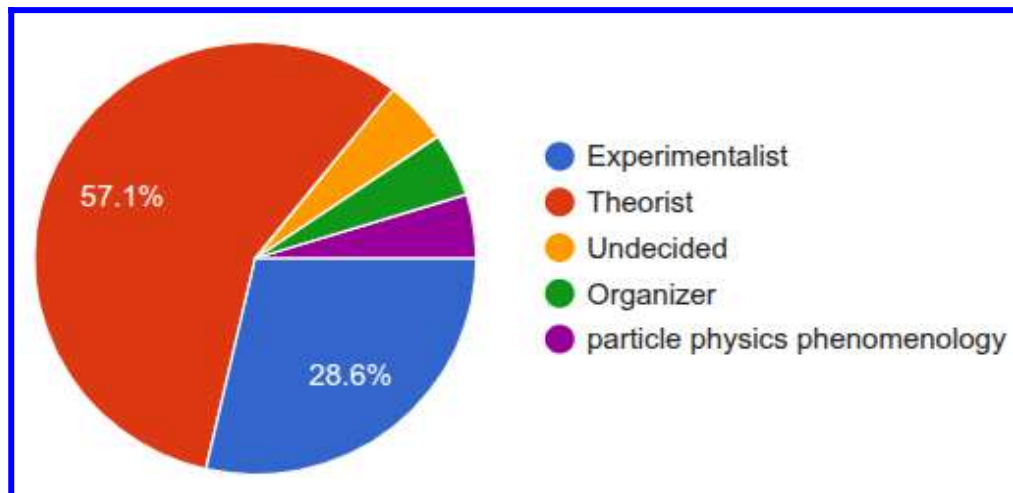
Venue:



The school was held at the [Center for Frontiers in Nuclear Science](#) (CFNS) at **Stony Brook University**.

Participants:

This year's school hosted 34 students from 10 countries, including North & South America, Europe, and Asia.



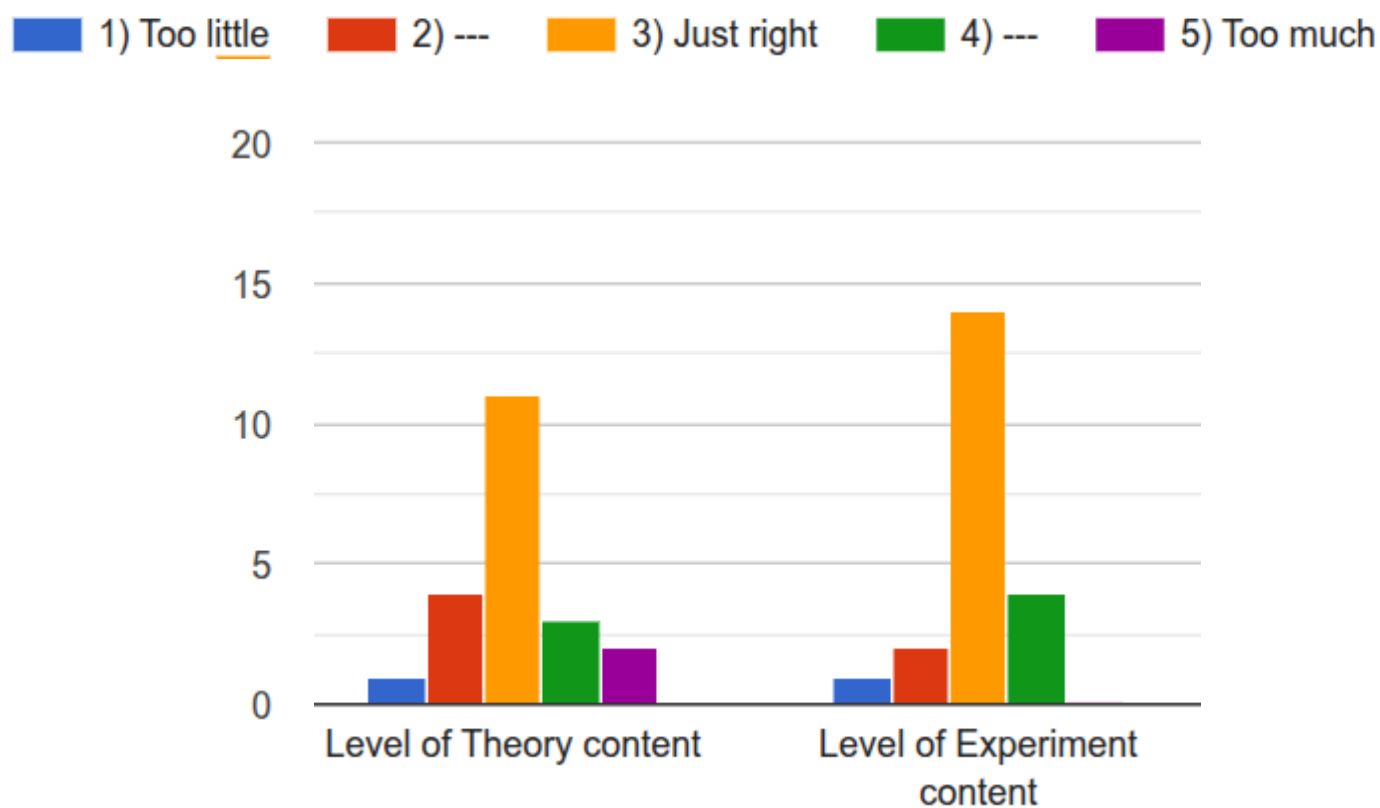
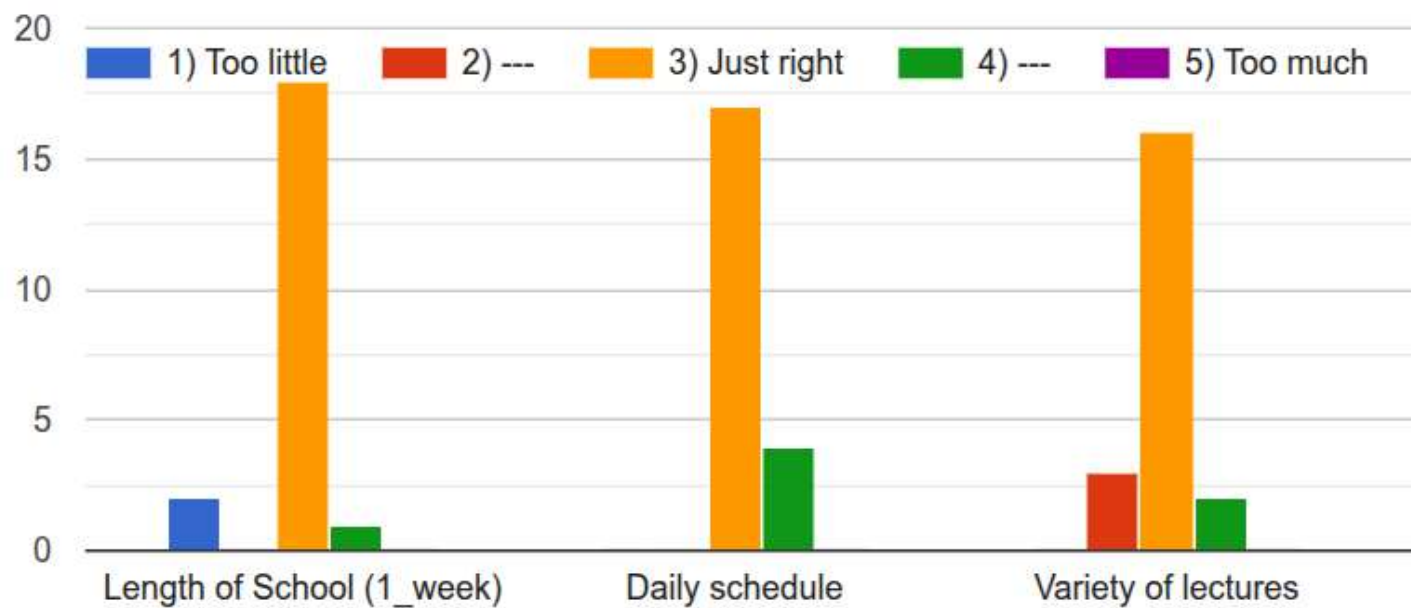
Organizing Committee:

Ross Corliss (CFNS, Stony Brook University)
Socorro Delquaglio (CFNS, Stony Brook University)
Abhay Deshpande (CFNS Director, Stony Brook University & BNL)
Melissa Laguerre (CFNS, Stony Brook)
Fred Olness (SMU, and CTEQ Collaboration)
Alexei Prokudin (Committee Chair, and Penn State University Berks)

Lecturers & Topics:

Overview			
	EIC Physics Intro	Zhoudunming (Kong) Tu	Brookhaven Nat. Lab
	QCD Introduction	Fred Olness	SMU
	EIC Physics and Detector	Bernd Surrow	Temple U
	EIC Perspectives	Abhay Deshpande	Stony Brook
	Collinear Structure/PDFs	Pavel Nadolsky	Michigan St. U
Experimental			
	Accelerator Science	Christoph Montag	Brookhaven Nat. Lab
	Forward Physics	Bill Li	Mississippi St.
	Calorimetry/Polarimetry	Ross Corliss	Stony Brook
	Particle ID	Thomas Hemmick	Stony Brook
In Depth			
	3D Structure	Andreas Metz	Temple U
	Small x	Bjoern Schenke	Brookhaven Nat. Lab
	Lattice QCD	Sergey Siritsyn	Stony Brook
	Jets & IR Saftey	George Sterman	Stony Brook
	Jets & AI	Felix Ringer	Stony Brook
	Heavy quarks	Ramona Vogt	LLNL
	BSM @ EIC	Hooman Davoudiasl	Brookhaven Nat. Lab
Tutorial			
	ML/AI Tutorial	Phil Ilten	Cincinnati U
	Tutorials: xFitter/PDF	Fred Olness	SMU
	EIC Software	Holly Szumila-Vance	Florida International U

Feedback On School Logistics:



Overall impression of the school:

Complete and unedited comments

- My overall impression of the school was very positive. It was a great experience, and I learned a lot about the EIC. The lectures and discussions helped me understand the overall operation of the EIC much better, including how the different systems work together. Many of the talks were relevant and useful for my research because they provided valuable background knowledge and a broader understanding of the accelerator and its associated technologies. Overall, the school gave me a much clearer picture of the EIC as a whole and how my work fits into the larger project.
- Extremely useful! Small x talks was very helpful for my next steps in research, understanding the basics of PDFs, structure functions and form factors gave me a lot of ideas on how to improve my current research.
- The school is well structured and well balanced between theory, experiment, and hardware topics. Given my background (detector instrumentation), I would like to hear more on the instrumentation efforts for EIC or in general for particle physics experiments. Also it would be nice if we can have some lab visit also during the school
- I thought it was overall really good. There were plenty of talks that either built on knowledge I already had and deepened it, and plenty of others that taught me about things I had very little information on. I thought there was not enough technical theoretical content such as outlines of QCD factorization, although Sterman alluded to it. Otherwise, the only truly technical talks were Metz's and Schenke's, and I thought they could have been more technical.
- An incredibly well-rounded experience. Not only educational but also created networking opportunities.
- This school was better than expected- the contents of school were very useful for my thesis writing also.
- Overall, I had a very positive impression of the school. The program was well-structured, offering a comprehensive overview of the field while maintaining a high academic standard. It was also a great opportunity for networking with peers and experts. Regarding my research, several talks were highly relevant. In particular, the sessions on EIC physics provided me with new insights and valuable methodologies that I can directly apply to my current project on DDIS.
- The school was well organized and the talks were useful for my research
- Overall, I really enjoyed my time at the school and thought that it exposed me to many aspects of EIC physics I was not familiar with. I thought on the whole things were pretty balanced.
- The most important point was the variety of the topics for me. On the other hand, if I select one, Tu's lecture was helpful for me.
- The school provided me with fresh perspectives and deepened my understanding of general physics relevant to my research. Because of this, the experience was incredibly valuable. Furthermore, attending lectures led by top professionals in the field was highly inspiring.

- Yes, there were many highly relevant talks. I work on a physics analysis with the STAR experiment, and the EIC is the next detector facility we will utilize for our analyses. The theory talks explained exactly what I needed to know to understand the physics related to my work, while also clearly laying out the physics case for the EIC. Specifically, the talk by Prof. Pavel Nadolsky was directly applicable to the W cross-section ratio analysis I am currently working on. The experimental and detector talks were also very useful. They explained how and why the detector systems are being constructed, the current timeline for the EIC, its physics reach, and how it compares to its DIS predecessor, HERA at DESY. The discussion sessions were extremely valuable; I got to meet and chat with many experts in the field, as well as my peers. My only complaint is that the discussion sessions at 7:30 PM felt very late, and I would have preferred if they were held earlier in the day. Overall, I am very satisfied with the summer school and want to thank the organizers for giving me the opportunity to attend.
- The program was very good. There was a lot to do though; and sometimes felt overwhelmed by the amount of meetings. It was a wonderful opportunity though, and I appreciate it very much.
- This was a very nice summer school that works quite complimentary to the HUGS (or now CNUGS). I generally think the talks were nice and informative. The first week had a little too much overlap on DIS, which is wonderful but some of us JLab folks would have preferred one less series on DIS and one more on heavy-ion stuff. There were certainly complimentary components between the overlapping topics, but I would argue that exposure to additional topics would have been more valuable. I think lecturers should be reminded to stick to their nominal time frame, because the knock-down effects of multiple lectures running late causes mental fatigue.
- The content is diverse, but I would expect more from experimental side.
- It was really useful and wonderful experience, I got an ample opportunity to learn about the advance Physics and what is going to happen in future in next 25 to 20 years. I can decide that how can I be the part of that. Thanks to CNFS for this wonderful opportunity.
- everything related to PDFs, and the analysis of the theory using experimental data
- I have loved the school for the last 9 years!
- The summer school was great! Yes a few lectures were especially useful.
- The overall impression of the school is highly positive. The program provided a comprehensive and well-structured overview of both the theoretical foundations and the upcoming experimental milestones for the EIC. A few of the lecture series were particularly relevant and useful for my own research, specifically the sessions detailing small-x physics by Bjoern. The balance between morning lectures and afternoon hands-on tutorials made the dense material much more digestible and directly applicable to the problems I am tackling in my work. Overall, it was an excellent opportunity to connect with experts and peers in the community."
- Most of the talks were highly relevant to my research, and I learned a great deal about QCD throughout this summer school. I believe this program is particularly valuable for advanced graduate students in high-energy nuclear physics, as it helps them deepen their understanding of the field and explore its current frontiers.

External Resources:

The full Indico page:

<https://indico.cfnssbu.physics.sunysb.edu/event/604>



Links to YouTube lecture recordings:

<https://www.youtube.com/playlist?list=PLMWOHGJUmRm5f87rcbmcNTjRHPJyWNqUV>

