



## Status – Past and Present

### Previous 5-Year Program

Our previous award ended on August 31, 2023

Spending on the NSF base grant (\$3.0M over five years) was in line with our budget, except that we were overspent by ~\$50k due to the costs of the unanticipated upgrade to the QuarkNet website. We requested and received a \$72k supplement last month to cover costs already incurred and finish the upgrade

We also wound up pretty much on budget with respect to our other sources of funding – CMS and ATLAS operations.



## Status – Past and Present

### New Award

QuarkNet received new NSF funding starting September 1, 2023

- Good news – the annual amount is now **\$670/year** vs **\$600/year** in the previous award
- Not so good news – the award is for three years rather than five (more on this later)
- This funding will support:
  - Staff at Notre Dame (Cecire, Griffith, Zakas)
  - Other key staff (McCauley, Wood)
  - Evaluation (Race)
  - Travel for staff teachers
  - Maintenance of servers and website
  - Fabrication of 24 Cosmic Watches per year

## **New Award (cont.)**

- In addition to the NSF base grant, other funding includes:
  - **\$150k/year** from CMS Operations in support of teachers at the QuarkNet Centers and other activities
  - **\$100k/year** from ATLAS Operations in support of QuarkNet Fellows, education specialists, teachers and Data Camp
  - In kind support from Fermilab for several key staff (Adams, Hoppert, Pasero and Peronja)
  - Cost share support from Notre Dame (50% of Griffith and Zakas)
  - In kind support from more than 50 centers participating in the program

## NSF Panel Review

Following the submission of our proposal at the end of 2022, the NSF convened a review of the program, via Zoom, on May 17, 2023

- Our reviewers included Kathy McCloud, Jim Shank and Kaushik De from the NSF along with four panelists from varied backgrounds
- The agenda included the following presentations from the QuarkNet team:
  - Organization and Connections
  - Workshops
  - Data Camp, Coding Camps 1 & 2
  - Data Activities Portfolio
  - Masterclasses
  - Broadening Participation
  - Evaluation
  - Resources and Funding

## NSF Panel Review (cont.)

- The reviewer’s ratings ranged from “Fair” to “Excellent”
- The panel summary recommendation was to “Fund if possible”
- Comments were as wide-ranging as the reviewer’s ratings
  - “This proposal is exactly what is needed for our field. First of all, it gets young students excited about science and particle physics. It uses a proven method to engage active researchers in the field with science teachers from around the country.”
  - “This is a strong proposal that I feel is timely, needed, and that I support.” “At this post-covid moment, we have a responsibility to provide teachers with support. A well-tested system of professional development and support will be more important than ever.”
  - “Currently, there are many younger/newer teachers who need this type of experience and information, however ways to recruit and retain those teachers into the program are not identified.”

## NSF Panel Review (cont.)

- More reviewer comments:
  - “The evaluation component needs to be re-evaluated in order to determine specific components of the program that are successful, who was/is impacted by these efforts, and identify ways needed for continuous improvement. For example, it is unclear as to whether this program impacted teachers, students, or the workforce for the past 25 years.”
  - “What has been the overall impact over time on the teachers and the students these teachers have instructed? What has been the impact of this project on the field?”
  - “A serious deficiency in the proposal is the lack of any extensive discussion to address diversity, equity and inclusion (DEI) issues. There is only a brief mention of addressing this issue with little concrete activities spelled out. A much more robust effort needs to be done in terms of the teacher and student selection, participation and retention.”
  - “It is unclear as to how the new project will increase or continue to push broader impacts. There was little mention of how it will increase diversity, equity, age of participants, or confidence for teachers.”

## Responding to the Panel Review

- Even though the panel review recommended funding QuarkNet, we cannot ignore the criticisms raised by the reviewers. To quote our program officer, reducing the current program from five to three years was a “shot across the bow.”
- We are asking the Advisory Board to help us answer two critical questions:
  - How can QuarkNet better demonstrate the impact of our program on teachers and students?
  - How do we address the issue of diversity in QuarkNet?