# Vamos a Fermilab

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# General background

- Minerba, Juan, and I were awarded a DOE Workforce Development for Teachers and Scientists (WDTS) grant sponsored by the Fermilab EDI office with the goal to develop and execute outreach activities aimed at promoting a more diverse spectrum of applicants to WDTS's Science Undergraduate Laboratory Internships (SULI) program, Community College Internships (CCI) program, and the Office of Science Graduate Student Research (SCGSR) program.

- Vamos a Fermilab (Let's go to Fermilab), targets Hispanic American students in STEM enrolled in Community Colleges and Universities in the Chicago area. It consists of a couple of recruitment events to be held at Fermilab during the Summer-Fall of 2022.

- The distinctive characteristics of the program are the establishment of strong and long-lasting partnerships with the educational institutions (who selected the students), a mentoring team for each student (a Fermilab STEM professional and a professor), and a preference for underprivileged students.

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# SULI/CCI internships selection guidelines

- Fermilab receives many applications, internships are very competitive
- The candidates are evaluated using
  - Overall GPA
  - GPA in STEM courses
  - Letters of recommendation
  - Essays
  - College tiers
  - Background and family situation
- Mentor assistance through application process could include
  - Providing a letter of recommendation
  - Providing feedback with the essay: research interests, personal experience, professional goals

Again: https://science.osti.gov/wdts/suli, https://science.osti.gov/wdts/cci, https://science.osti.gov/wdts/scgsr

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# Vamos a Fermilab program details

- Nine partner institutions have signed up for 2022: University of Illinois at Chicago, Northern Illinois University, Dominican University, DePaul University, Harold Washington College, Waubonsee College, Moraine Valley Community College, Joliet Junior College, Kennedy-King Community College. (Only four, in green, are sending students.)

- They recruited a total of 32 students who we have matched with Fermilab mentors following, as much as possible, their technical/research interests.

- The main event of the program is the opportunity to shadow a Fermilab STEM professional over a three days period.

- Other events will include talks about the CCI and SULI programs, tours of Fermilab facilities, and a half-day in-person session for faculty devoted to networking and exploring collaboration opportunities among partner institutions

- The program will cover the cost of transportation and pay a per diem to the students when visiting Fermilab for the tours and shadowing event.

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# Mentoring teams

- Each student will be assigned a mentoring team composed by a faculty at their institution and a STEM professional at Fermilab.

- The ***responsibility of Fermilab STEM professionals (Mentors)*** *is*
  - *Actively monitor the student as they fill out access and travel forms*
    - *Reduce probability of "drop out"*
  - *Provide the student a shadowing experience.*

- The ***responsibility of mentoring team*** *is to actively recruit the student for the DOE internship programs (SULI, CCI, SCGSR) and assist them in the preparation of the application material*
  - *Deadlines for SULI and CCI are mid January 2023*
  - *Deadline for SCGSR: May and November 2023*

- During the **shadowing**, the student will follow and observe the STEM professional while they do their job. The STEM professional will describe their everyday work, show their equipment, illustrate what they do with examples or demonstrations, answer questions, share stories, advertise CCI/SULI, etc. [We will discuss concrete ideas at the end of this presentation.]

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# Special arrangements due to COVID restrictions

- In the proposal, the summer recruitment event was going to be held on a fixed date during three consecutive days with in-person attendance to the talks, tours, and shadowing experience.

- Due to COVID related constraints, the program was modified as follows:

  - For the **shadowing** experience, the Fermilab mentor will agree with the student the days/times most convenient for them during the Summer-Fall 2022, not necessarily contiguous.

  - Faculty are not required to shadow the STEM professionals, but a visit of the teacher (and some overlap) is encouraged.

  - **Students and teachers will be made Fermilab visitors for a period of 6 months** starting in the early summer so that they have the necessary flexibility to visit the lab, and the students can receive a per diem paid by the program.

  - **The talks, the tours, and the half-day in-person partners meeting** will be held on different days/times in the future - Minerba, Juan, Daniel will start organizing this shortly
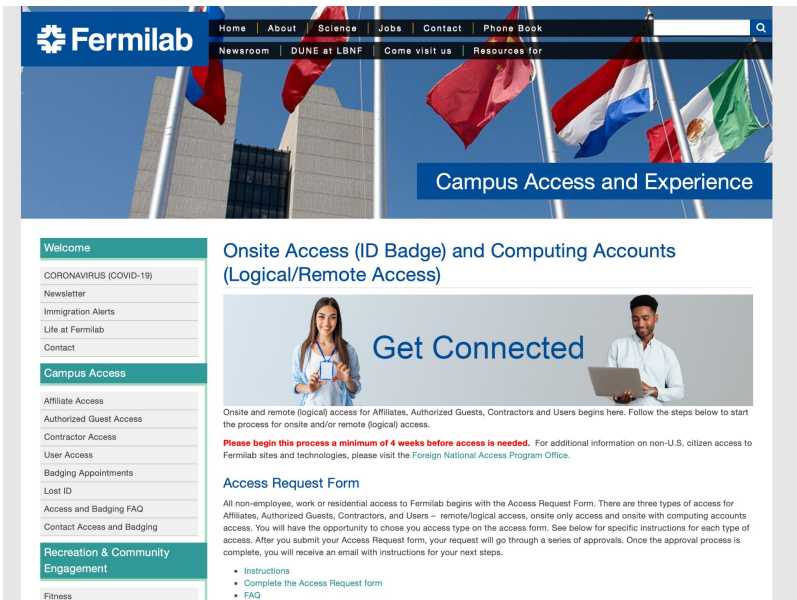
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# Miscellaneous

- Paid shadowing experience lasts three days, your responsibility continues with recruiting for SULI/CCI, ends coaching for application. However, …

  - You can choose to offer the student to work on a small project during a period within the 6 months they will have access to Fermilab if there is good chemistry and you evaluate that the student and your project would benefit. (No pay provided by the Vamos program.)

- Some of the students are not Hispanic/Latinx

  - Student selection was exclusively performed by the teachers. Some non-hispanic students were considered a perfect match for the program, and admission was based on criteria such as socio-economic background or belonging to other underrepresented groups.

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# Becoming a FNAL User

All the student and faculty participating in this program will become Fermilab affiliate/users. This has several advantages:

- Easy to get access to FNAL computers. (They may not need an account.)
- Flexibility to access the FNAL site.
- Facilitates longer term engagement with FNAL.



Fermilab access form:

https://get-connected.fnal.gov/accessandbadging/instructions/

Detailed, step-by-step instructions on how to fill out the form is in **FermilabAccessForVamos.pdf** (linked to Indico Agenda)

Ask questions to Kimberley Pearce:

kpearce@fnal.gov (Fermilab Global Services)

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# Next steps for Fermilab Mentors

1. **Contact the student and their professor** and have an initial conversation if possible - *before the end of the week of* <u>*May 6th*</u>

2. **Share the Fermilab site access instructions** (PDF file) with the students and professors and ask the student to fill the form out within the next few days - *ASAP after initial conversation, form submitted by* <u>*May 13th*</u>
   a. Avoid delays since the process typically takes 4-6 weeks, but up to 3 months. (Predictions vary.)
   b. The students may ask questions to <u>kpearce@fnal.gov</u> (Global Services), but please actively monitor the process and let us know of any problem and when completed

3. **Travel paperwork** - once affiliate/user status is approved and the dates of the shadowing are fixed. (Please fix the dates ASAP.)
   a. Needed so that we can pay the students per diem and transportation
   b. Students will provide the information to Julie Saviano, admin, <u>saviano3@fnal.gov</u> through a google spreadsheet/form which we will provide at a later time.
      i. Much faster than (2), simpler than our typical business trips, hopefully

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# Ideas for the shadowing experience

Here the goal is to brainstorm with you guys a little bit, exchange ideas we could pick up from each other. Mostly, the student would be observing, chatting with you, asking questions, listening to your professional/life stories, performing simple hands-on activities, having lunch with you and others

**We recommend that you plan ahead rather than improvise**, be prepared to the possibility that you do not get any of your usual daily workload done

- Design, assemble, install or test a component of a detector, an electronic board, cryogenic systems, astronomical instruments
- Look at modern computing hardware, watch demonstration of how it is programed and operated
- Visit experiment control rooms, see how a physics event looks like in a display, simple explanation of how data is analyzed
- Participate in scheduled meetings with colleagues of yours who could spend a few minutes explaining what they do and answer questions
- Advertise SULI and CCI

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