The 2024 Lee Teng Internship in Accelerator Science and Engineering

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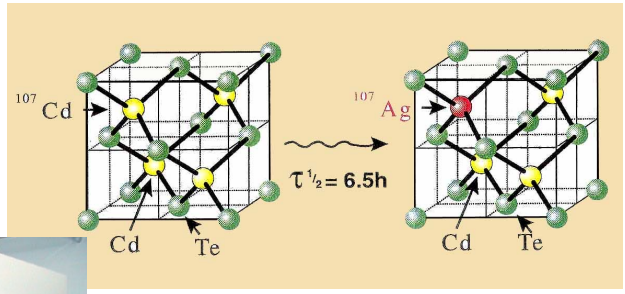
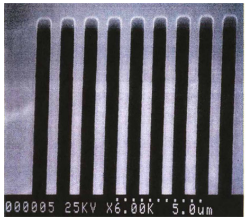
Application Website: www.anl.gov/aai/lee-teng-undergraduate-fellowship
Apply before 1 March 2024

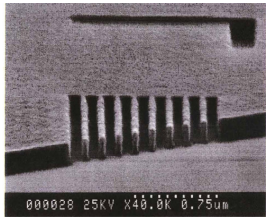
Argonne NATIONAL LABORATORY Fermilab U.S. Particle Accelerator School

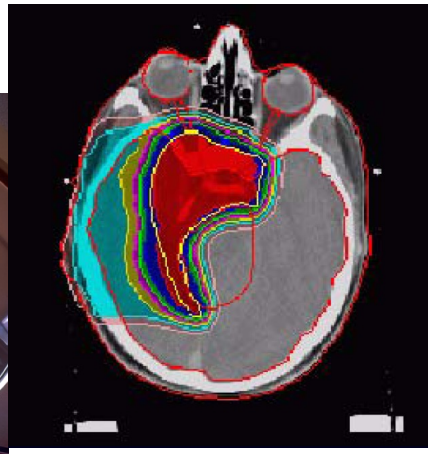
1001 uses for ~26,000 particle accelerators worldwide

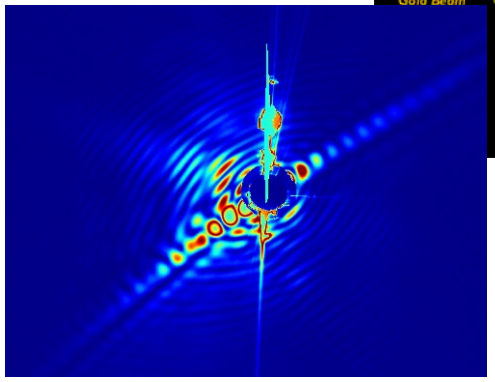
- Scientific research (BES, HEP, NP, …) (~5%)
- Medical treatment and diagnosis (~45%)
- Industrial applications (~50%)

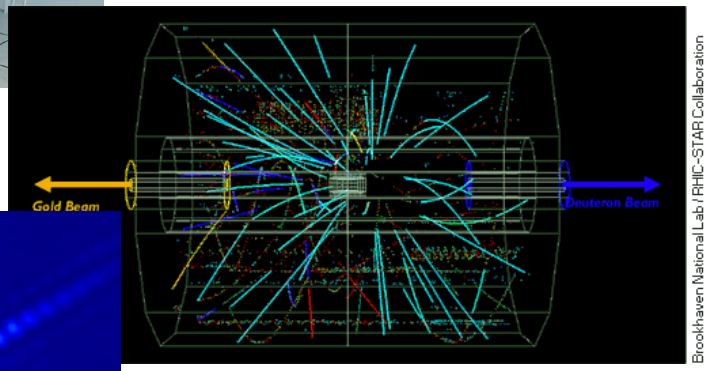








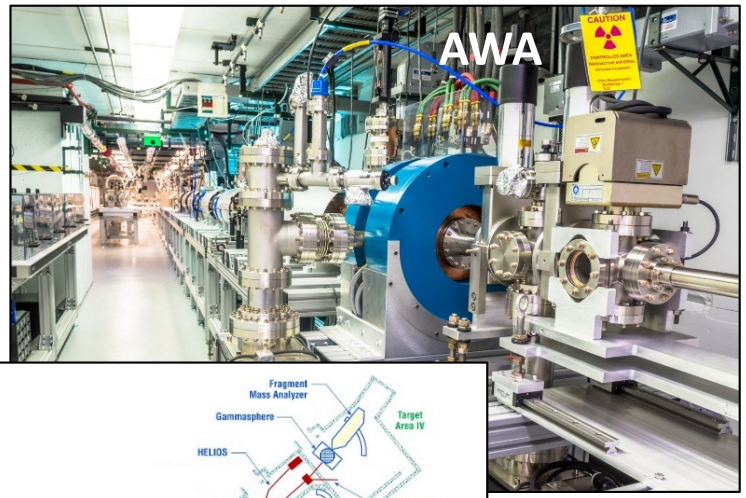


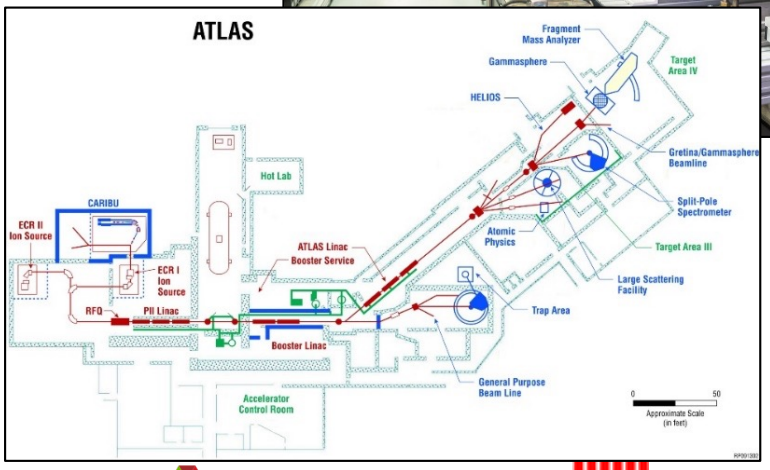


Sources: W. Maciszewski & W. Scharf, L. Rivkin, EPP2010, R. Hamm

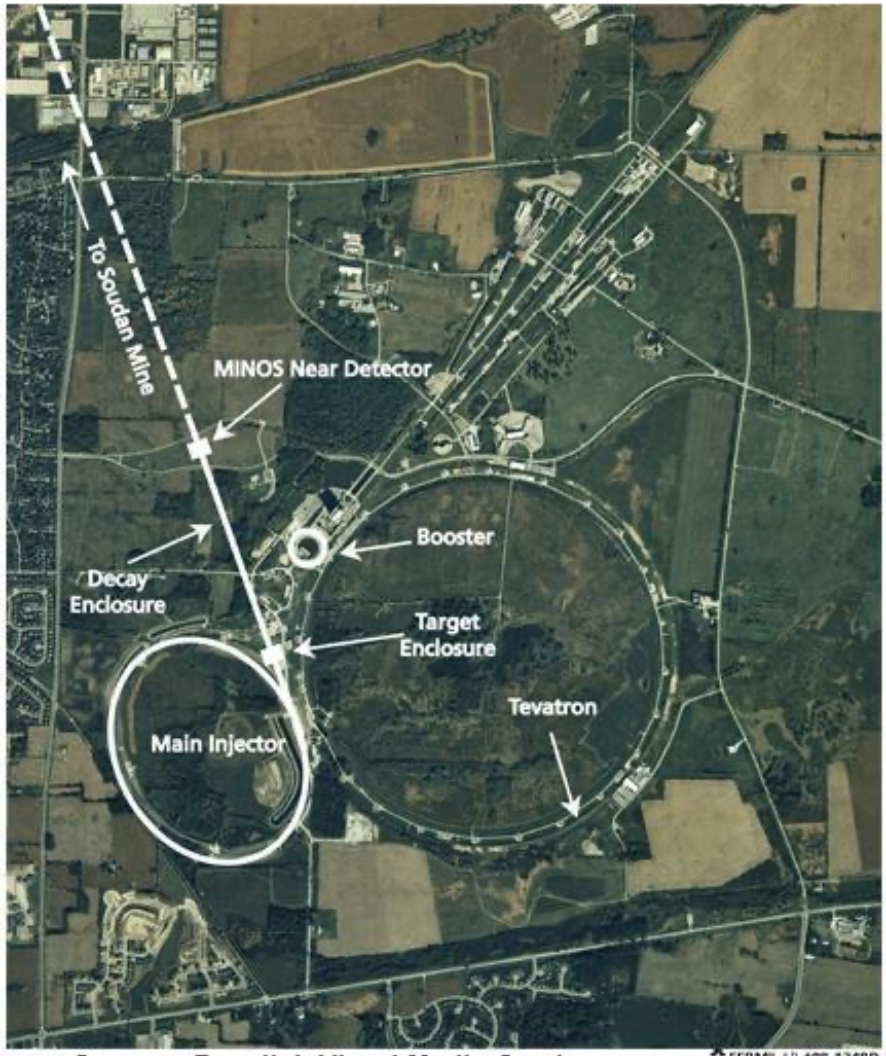
Argonne accelerators

www.anl.gov





Fermilab particle accelerator complex



Courtesy Fermilab Visual Media Services

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Lee Teng Internship details

- Goal is to engage undergraduate and graduate students in the exciting and challenging world of accelerator science and technology.
- 10-week program administered as a partnership between Argonne, Fermilab, and U.S. Particle Accelerator School (USPAS, uspas.fnal.gov)
- Open up to 10 upper-level undergraduate and new graduate students selected into the program.
- Successful candidates have the option to attend the USPAS Summer Session in July 2024.
- For the remainder of the summer, interns will work closely with a mentor and a project at either Argonne or Fermilab.
- Program includes a generous stipend, housing, and all travel expenses.
- Apply here (https://www.anl.gov/aai/lee-teng-undergraduate-fellowship). Open until 1 March 2024.
- For more details, contact Branko Popovic (bpopovic@anl.gov)

Argonne NATIONAL LABORATORY Fermilab U.S. Particle Accelerator School

Design, research, and operation of accelerators requires broad range of skills

Program is open to students interested in the following fields:

- Physics
  Electricity and magnetism, linear and nonlinear mechanics, optics, and computational physics. Hands-on experiments.
- Electrical Engineering
  Digital and analog, low- and high-power radio frequency (rf) systems, high precision power supplies, advanced analog and digital diagnostics electronics.
- Computing and Controls Systems
  Advanced controls systems to monitor, model, and control the hardware that influences the behavior of the particle beam. Machine learning and artificial intelligence.
- Mechanical Engineering
  Finite element analysis, high heat load materials, cryogenic systems, magnet design, ultrahigh vacuum systems, and structural design.
- Material Science
  Superconducting magnets and rf cavities; surface properties in ultra-high vacuum systems.