

UNIVERSITY PERSPECTIVE



Christopher White
Program Director, ICAR



A Brief History

- Most accelerator research done at Nat'l Labs
- Accelerator research feels the budgetary squeeze
- Belief held that universities should contribute
- Belief held that State of Illinois could help
 - FNAL brings in Federal \$\$ to state
 - FNAL enhances intellectual level – provides unique talent pool
 - A strong lab may/should attract new construction projects
 - Example of university-lab cooperation exists (EXCITE)
- Governor Ryan decides to invest in the state's universities

A Short Overview of Funding

- ICAR is funded by the State of Illinois at \$2.5M/yr
 - Illinois Board of Higher Education (IBHE)
 - Entering 4th year of 5 year grant - (Sept. through Aug.)
 - Will apply for a 5 year renewal
 - \$450k per university with \$250k allocated for administration

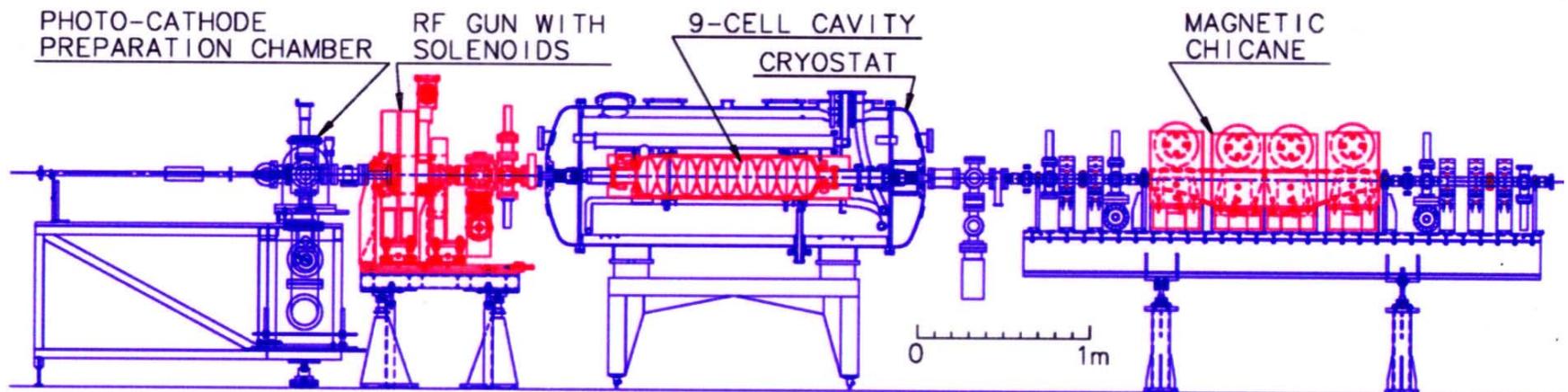
- NICADD
 - State of Illinois HECA Grant for ICAR
 - Dept. of Education Grant for NICADD 2001-2004
 - Dept. of Education Grant for NICADD 2003-2006
 - NSF: Muon cooling

Primary Mission

- Initiate basic accelerator research at local universities
 - Involve strengths of research universities in accelerator research
 - Provide independence that comes with university investigators
- Build accelerator groups at these universities
 - Leverage new faculty lines
 - Create Ph.D. programs in Accelerator Science
 - Attract research grants and other federal funds
- Promote Illinois as the location for future capital projects
 - Fermilab and Argonne are our future

Fermilab/NICADD Photoinjector Laboratory

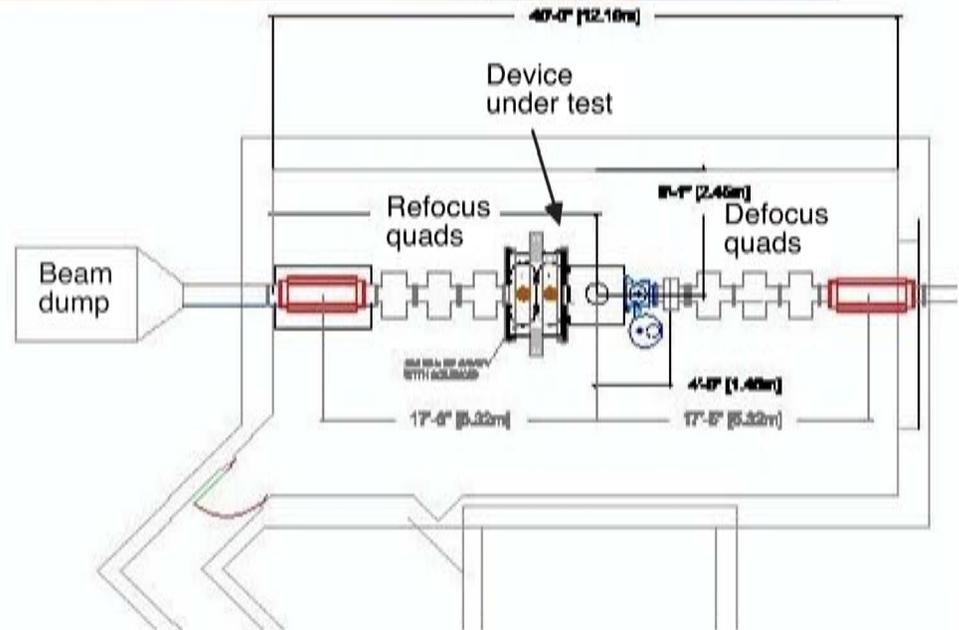
- Electron source at A0
- Jointly operated by Fermilab/NICADD
- Beam Physics
- International Facility (Chicago, Cornell, Georgia, Michigan, NIU, Rochester, UCLA, Fermilab, DESY, LBL, INFN Milan)



MuCool Test Area



- Need facility in which to test
 - absorbers
 - RF cavities
 - solenoids
- Show that cooling cell is operable in an intense beam (engineering test, not cooling demo)



- \exists convenient location: end of FNAL Linac has
 - sufficient space
 - 201 & 805 MHz RF power sources (Linac RF test stands)
 - 400 MeV beam up to 2.4×10^{14} p/s \rightarrow 570W in 35-cm LH₂ absorber (higher@lower E)

Other Activities

- Assisting with the formation of an Advisory Committee to help Fermilab work with local organizations and citizens in planning for the future.
- Collaborating with the NIU Geology department on hydrogeological and geological issues associated with LC siting issues.
- Fund various education and outreach activities

Where Are We Going?

- Universities should/will contribute to accelerator R&D at FNAL
 - Linear Collider
 - SCRF
 - Muon Collider / Neutrino Factory
- Universities have resources
 - Political
 - Students and Post-docs
 - Funding
- We need coordination....
 - Leadership and resources can leverage university participation
 - Successful example exist
 - We need a clear plan and focus around which we can coordinate
- We hope “to make northern Illinois a worldwide center of excellence in accelerator technologies.” Judy Jackson