

KNOWLEDGE TRANSFER Roadmap 2022

Frequent communication with CBB partners at national laboratories and in industry to promote the transfer of technology and prepare graduate students for productive careers in these sectors.

FY 22 FY 23 FY 24 FY 25 FY 26

Objectives

Deliverables

Impact

CBB shares its knowledge with accelerator scientists and related disciplines

CBB knowledge shared through journal articles, conference proceeding articles, presentations, data sets, technical drawings and other media.

Strong engagement with the accelerator and end use communities through conference organization, community service, and research collaboration.



CBB graduate students present their research at conferences.

CBB discoveries and designs are incorporated into a new generation of accelerators and commercialized as products

Transfer of photocathode with MTE < 35 meV & QE > 10⁻³ at high laser fluence

Transfer of robust photocathode with MTE < 35 meV at high laser fluence and high field

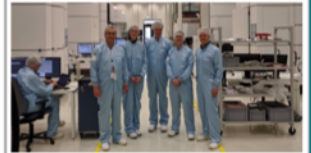
Transfer of robust photocathode with MTE <100 meV and QE>1% at high average current

Transfer of a photoemission source with sub-100 nm spot size.

Transfer of non-Nb, high efficiency or high field surfaces

Transfer of ML techniques for tuning the higher-order aberrations in electron microscopes

Incorporation of other discoveries into new accelerators or commercialization as products



Visit to FEI production clean room for testing high-brightness technologies.

Trained graduate students bring critical skills to industry & labs

55 trained graduate students who are able to transfer their skills to industry and national lab partners



A new generation of scientists