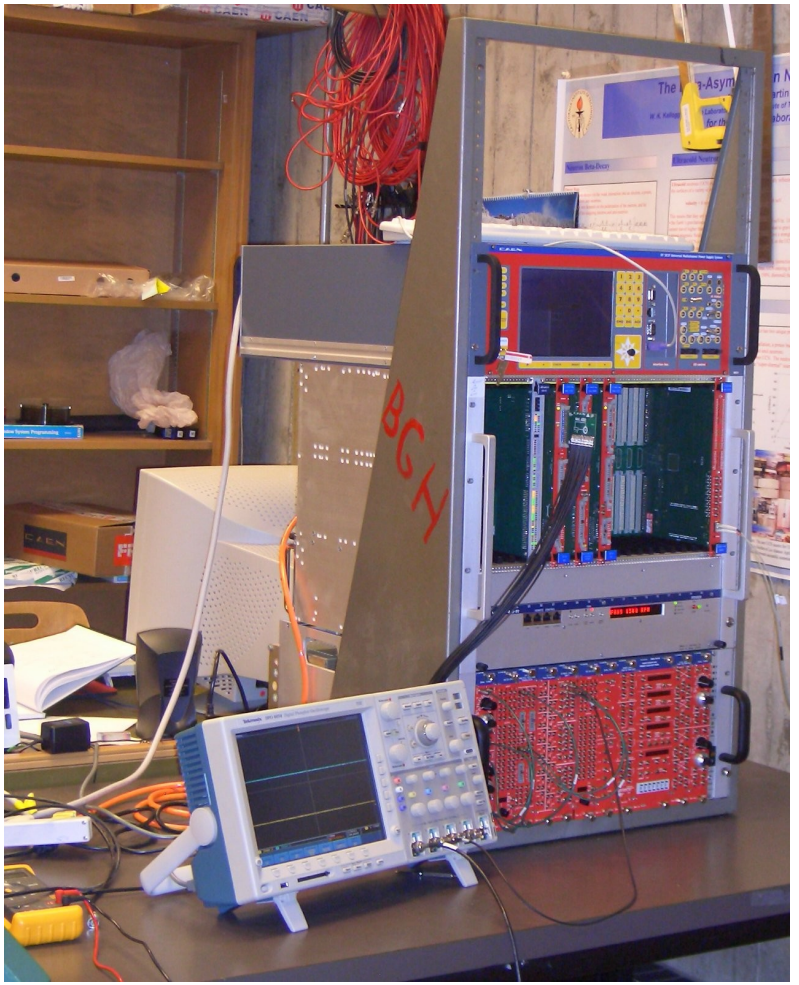
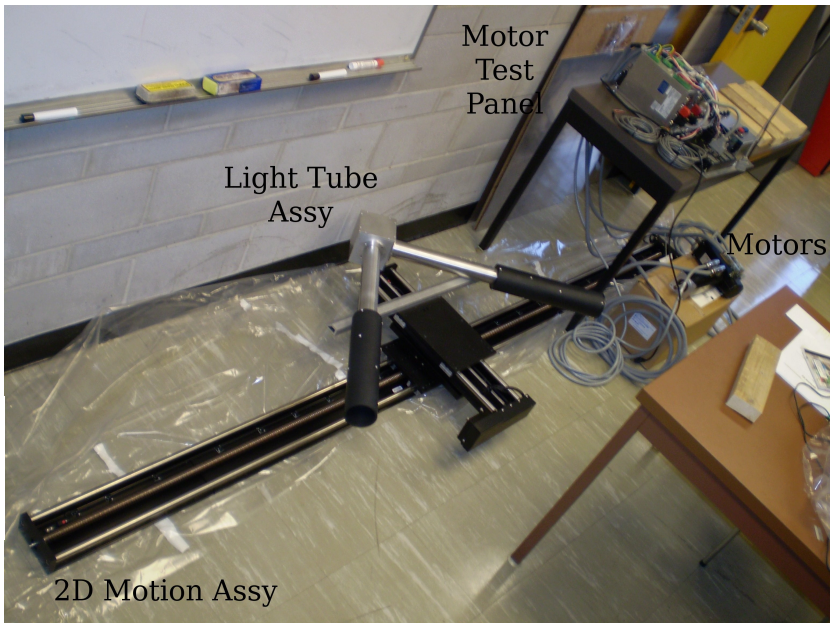
Subatomic Physics Detector Lab

Canada Foundation for Innovation
Fondation canadienne pour l'innovation

- Design, construction and testing of particle detectors for physics
- Two detector projects funded by NSERC nearing completion
- Trainees (since 2006): one postdoc, three grad students, and six undergraduates
- Linkages with other local CFI projects:
  - Nanosystems Fabrication Lab at UM EE (C. Shafai)
  - Detector Lab at UM Physics (M. Gericke)
- Other local linkages: PET imaging at HSC





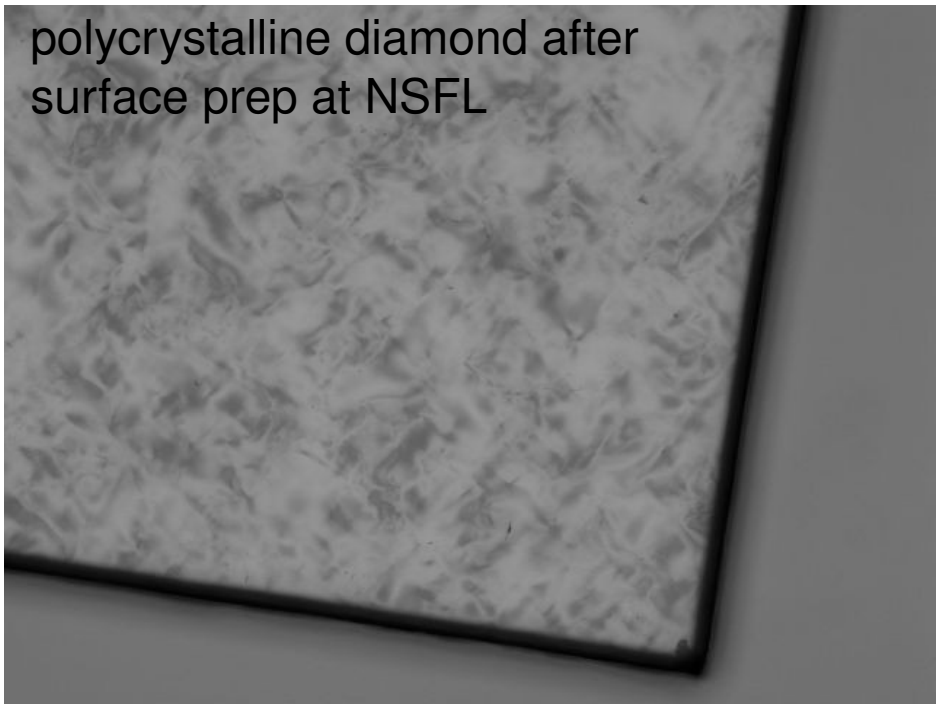
NSERC CRSNG

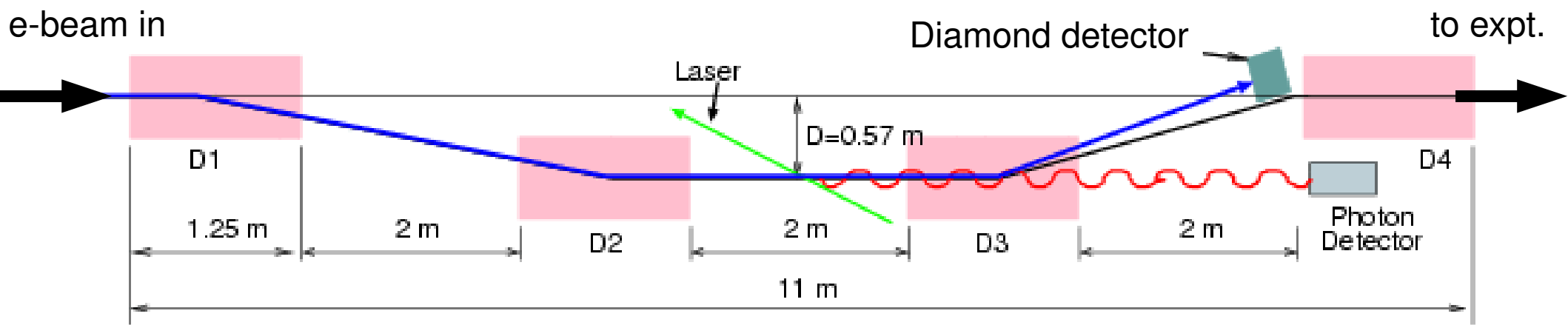
Diamond Detectors for Particle Physics

J.W. Martin et al, U. Winnipeg

Canada Foundation for Innovation
Fondation canadienne pour l'innovation
NSERC CRSNG

- Detectors of ionizing radiation for electron beam polarimeter for "Q-weak experiment", Jefferson Lab, Newport News, VA.
- Synthetic diamond used as a semiconductor detector (e-h pair creation)
  - fast response, low noise
  - very radiation-hard
- Careful surface prep, and lithography to get ohmic contacts in strips with pitch of 200 um for position sensitivity.





Notice of Intent in preparation through U. Winnipeg for this year's CFI NIF competition

TRIUMF

CANADA'S NATIONAL LABORATORY FOR PARTICLE AND NUCLEAR PHYSICS

Owned and operated as a joint venture by a consortium of Canadian universities via a contribution through the National Research Council Canada

Canadian Spallation Ultracold Neutron Source

Jeff Martin (U. Winnipeg)

Collaborators: J.D. Bowman, J. Birchall, L. Buchmann, L. Clarke, C. Davis, B.W. Filippone, M. Gericke, R. Golub, K. Hatanaka, M. Hayden, T.M. Ito, S. Jeong, I. Kato, S. Komamiya, E. Korobkina, E. Korkmaz, L. Lee, Y. Masuda, K. Matsuta, A. Micherdzinska, W.D. Ramsay, S.A. Page, B. Plaster, I. Tanihata, W.T.H. van Oers, Y. Watanabe, S. Yamashita, T. Yoshioka

(Winnipeg, Manitoba, ORNL, TRIUMF, NCSU, Caltech, RCNP, SFU, LANL, KEK, Tokyo, UNBC, Osaka, Kentucky)

LABORATOIRE NATIONAL CANADIEN POUR LA RECHERCHE EN PHYSIQUE NUCLÉAIRE ET EN PHYSIQUE DES PARTICULES

Propriété d'un consortium d'universités canadiennes, géré en co-entreprise à partir d'une contribution administrée par le Conseil national de recherches Canada

We propose to construct the world's highest density source of ultracold neutrons and use it to conduct fundamental and applied physics research using neutrons.