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2 Decades at GE and Harvard: What I've Learned about Academic Industrial Collaboration

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3 May 2012

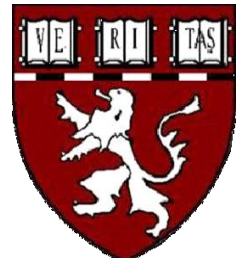*Clinical Image Guidance Laboratory*   http://cigl.bwh.harvard.edu

Thanks to

- ❖ Jim Ellsmere
- ❖ BioMedic and the School of Biomedical Engineering
- ❖ Professors Cheryl Kozey and Greg Maksym
- ❖ Eleanor Seaman-Bolton

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Who I am

- ❖ Scientist (6 years)
  - PhD Physics
  - Post doc: high energy and heavy ion physics
- ❖ Industry: medical imaging and other fields
  - Applied Researcher (6 years)
  - R+D Manager/Executive (22 Years)
- ❖ CIMIT (10 years)
  - R+D Administration
  - Science Portfolio Management
- ❖ PI for Innovative Surgery and Endoscopy   (10 years)
  - (overlap with CIMIT)

Clinical Image Guidance Laboratory

Some elements of tech transfer

- ❖ Successful teams
- ❖ Validation
  - ▪ See work of Pierre Jannin
- ❖ Comments on industry
- ❖ Comments on academia
- ❖ My day at Dalhousie

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Successful Teams

- ❖ Mutual Understanding.
  - ▪ Don't assume anything you haven't discussed and agreed on.
- ❖ Understand that Physicians and Technologists work in very different cultures
- ❖ Lead by a pro.
  - ▪ Maybe a pro wannabe with a mentor
- ❖ Personally committed to the same goals and plan to meet them
- ❖ Skills coverage
- ❖ Adequate infrastructure, particularly an advisor network.

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Validation

❖ Attack, in order, the pacing issues to reduce commercial risk.

❖ Be sure the test models and patients are relevant to understanding and resolving the key functional and transition issues in a conventional way, and that the whole team buys in.

  ▪ Often test patient cohorts are different from real patient cohorts

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Comments on Industry

❖ Big industry strategies are based on sales offerings and technology platforms. These may be clunky and may not have real economies of scale.

❖ Business are supposed to make and deliver products that support and improve care, behave ethically, and follow the laws. They are not supposed to set policy, and don't seek to "do the right thing."

❖ Big industry wants employees with good fundamental training. They may work there for a long time.

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Comments on academia

- ❖ Don't always do homework
- ❖ Intellectual property is overrated by academic tech transfer offices.
- ❖ Can forget that one fundamental understanding is more important than lots of development work.
- ❖ Can oversell student projects

My day at Dalhousie

- ❖ This is a terrific school and program
- ❖ It has been a pleasure to visit.

❖ Thanks!

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