Preparing Engineering Students to be a Part of the Global Technical Workforce: Education and Training Needs

Keynote Speech
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A bulk of engineering graduates go to work right after graduation. How do you get them ready for work?

Only a small fraction goes to graduate school. How do you get them ready for international competition?
An engineer is supposed to be ready to start working right when he/she enters the job market. It is a common practice for the employer to offer some on-the-job training. But the training is more effective if the recent graduate has some training and exposure to how things are done in the industrial setting where he/she is entering.
For this reason it is very important to have industry engineers become involved in the training of engineering students as they pass through universities/colleges.

Internships

Outcome-based Education (OBE)
Need an Ecosystem involving teaching, research and training where universities, industry and government have a role.
Examples of Industry-academy collaboration

- US National Science Foundation GOALI program
  (Grant Opportunities for Academic Liaison with Industry)
- US Government RANN Program in the 70’s
  (Research Applied to National Needs)
- US, EU and UK run the US-India, US-China, EU-China, UK-India joint research programs with industry participation
- Japan Society for Promotion of Science (JSPS) supports for industry-academy collaborative work
- GIAN program in India works with scholars/researchers in developed countries.
  (Global Initiatives of Academic Networks)
A roadmap
For Bangladesh

Facilitate industry’s appreciation of academia beyond producing graduates

Develop a GOALI-like program in Bangladesh

Encourage and reward student and faculty participation in industry (UGC)

Facilitate industry contribution in academic programs

Use elements of 4IR as building blocks for the industry-academy collaboration (deal with complexities)
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IEEE PRESIDENT-ELECT 2022
Questions

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