INTERNATIONAL ACADEMIC COLLABORATION --
INDIAN EXPERIENCES AND PERSPECTIVES

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THE EVOLUTION OF INTERNATIONAL ACADEMIC COLLABORATION IN INDIA

- Now a part of the strategic plan of a University and of the University President’s Agenda.
- Earlier perceptions or paradigms of international academic collaboration:
  - in terms of aid, assistance, direct support, grant, donation of equipment, and secondment of faculty and technicians.
- Normally valid for a specified duration, sometimes extended for a further period.
Most universities have full-fledged Offices of International Relations, headed by a Dean.
Simultaneous prevalence of excess demand in (population-rich) developing countries, and excess capacity in developed countries,
Several developed countries are holding ‘Education Fairs’ in developing countries to attract their (fee-paying) students;
for example, Australia, Canada, Germany, France and USA.
Seeking strong and ’meaningful relationships’, adding value, not just signing MoUs.

Opportunities to access third-party funding agencies, such as EU, WB, ADB.

Exchange of undergraduate students for summer internship, earning credits, or pursuing project work; often supported by well-placed alumni.

Donee countries also have begun to share the funding requirements.
Exploiting the time differences between appropriate time zones (such as, for example, India and the US), 24/7 R and D can be pursued.

Remote experimentation enables more intense international collaboration between researchers.
EARLY MODELS

- Between **Donor institution** (or country) and a **Donee institution** (or country).
- Result of a **bilateral agreement** between governments or institutions, through an MoU, for example.
- **International Fellowship programs** in developed countries; such as for example, Humboldt Fellowships (Germany); Fulbright Fellowships (USA); and Commonwealth Fellowships (Commonwealth Countries).
I **Consortium mode collaboration**: Two groups of institutions from two countries entering into an *umbrella agreement*, enabling a more effective and significant impact; such as for example:

- **G-8 Canadian research universities with 5 IITs** (for comprehensive collaboration);
- **6 German universities with 5 IITs** (for exchange of postgraduate scholars);
5 ATN Australian Universities with 5 IITs (for comprehensive collaboration);

Australian research universities with 5 IITs and I.I.Sc. (for research collaboration);

EPFL and ETH, the two Swiss Federal Institutes of Technology, with the IITs and IISc. (for comprehensive collaboration).
II **Twinning arrangements** between two universities, for offering joint degrees, single/double degrees.

III **Grouping or Consortium of universities** (of similar nature and quality):

- of the same country; e.g. G-8 of Canada, G-8 of Australia, ATN of Australia, IIT system of India;
- or of different countries; e.g. Universitas-21, Association of Commonwealth Universities, …
IV Collaboration between Open Universities / Virtual Universities.

V Networking: This is different from consortium-mode collaboration.

➢ If institution A in country A has collaboration with institution B in country B and institution C in country C, and if this promotes collaboration between institution B and institution C, then a network is created.
A RECENT SYSTEMATIC STUDY TO PROMOTE INDO-CANADIAN RESEARCH COLLABORATION


- As a precursor to the establishment and promotion of research collaboration between Canadian and Indian institutions.
The **ToR** for this overview was:

- to perform “a feasibility study of the overall assessment, mapping of interests and identification of a common coordinating mechanism of academic, government and private partnerships”.

The **ultimate objective** of the study was “to serve as a stepping stone in establishing a solid ‘industrial technology exchange’ pipeline between the two countries through innovative research”.
As a part of the mapping study, a scientometric and technometric study was contracted to Science-Metrix Inc., Montreal; and involved data analysis for the 10-year period, 1990-2001.

It was aimed at determining “the interest, quality, specialization and impact on S&T outputs in both Canada and India, and the nature and volume of collaborative efforts by institutions and individuals in the above 10-year period”.
The scientometric study employed the Thomson-ISI’s Science Citation Index (SCI) database for output indicators, and the SCI Expanded database for Indo-Canadian collaboration indicators.

The technometric analysis employed the US Patents and Trademark Office (USPTO) database for patents.
The study examined two indices:

- *The specialization index*, as an indicator of the relative intensity in a given field; and

- *The average relative impact factor (ARIF)* as an indicator of the general quality or importance of the journals in which the papers are published in a given field or sub-field.
Among the significant findings are:

- Canada has a low specialization index, but a very strong impact factor in the fields of chemistry and physics; while

- In India, these disciplines have high specialization and low impact,

- Representing a complementary pattern that merits collaboration for mutual benefit.
In addition, it was possible to devise a **matrix of complementary strengths, interests and future plans** of the G-10 (research-intensive) universities of Canada and five IITs and IISc.

As a part of this effort, a group of senior academics from the Canadian universities visited the Indian institutes during 26 March – 4 April, 2004.

A significant outcome of this initiative was the signing of several MoUs between the participating institutions of the two countries.
The enthusiasm with which MoUs are sought and signed is often not matched by sustained interest and activities.

Incompatibility between national systems (e.g. 4 year UG programs in India and the US vs 5 year first-degree Master’s programs in Germany); and different media of instruction (English vs German/French…) pose difficulties for establishing collaboration.

When symmetry (or balance) between the partners does not exist, sharing of resources, credit, IPR, responsibilities….. becomes contentious.
It is essential to ensure commitment at both levels – both at the top, at the level of the VC/Director, as well as at the level at which real action takes place – among the faculty, research scholars, students.

The interface between the partner institutions must be carefully designed and managed – by persons with competence, commitment and care.

In order to create sufficient enthusiasm among the faculty and ensure their support and cooperation, appropriate incentives, procedures and reward systems must be put in place.
(IUCCEE) was formed, as a global initiative of American Society for Engineering Education (ASEE), with the mission of improving the quality and global relevance of engineering education in US and in India through collaborations.

Two Forums were held in order to develop an Action Plan:

The first at the Infosys Mysore Campus in India from June 3 to 5, 2007.

The second at the National Academy of Engineering in DC from August 29 to 31, 2007.
Participants at both Forums included leaders from academic, business and government agencies.

The Forums were sponsored by several Indian and International corporates.

Four Thrust Areas were identified:
- Research & Development
- Curriculum Pedagogy and Delivery
- Innovation & Entrepreneurship
- Quality & Accreditation
- Industry – Institute Collaboration
As part of Singh-Obama Initiative –
$10 million for increased university partnership and junior faculty development.

The objective of the summit is to further strengthen higher education collaboration and exchange between institutions in the United States and India through exploration of topics of mutual interest such as:

- joint degrees, research partnerships, accreditation and quality assurance
SOME VERY RECENT INITIATIVES

- **US-India Higher Education Research Conference**
  Hosted by Penn Stat Univ, 14 October 2011
  This conference was organised by the Faculty Implementation Team of Penn State’s Global Engagement Network with special focus on India

- **India-Yale Higher Education Leadership Program**, 14 October 2011
  **Vehicle**: MoU between Yale Univ, IIT Kanpur, IIM Kozhikode
INTERNATIONAL PROFESSIONAL ORGANIZATIONS AND GOVERNMENT PARTNERSHIPS

- CAETS, WFEO, IFEES …
- India-China Eminent Persons Group
- Indo-German S&T Cooperation
- Obama-Singh Initiative