Cooperation @ epfl
Vice Presidency for Institutional Affairs

UNESCO Chair in Technologies for Development

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Certificate of Advanced Studies in

Sustainable Development and the Role of Technology

Innovative Approaches for Emerging Countries

12 April – 21 May 2010 → E-learning
31 May – 26 June 2010 → IISc, Bangalore, India

With the support of :
Swiss Agency for Development and Cooperation (SDC) and
United Nations Institute For training and Research (UNITAR)

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GENERAL INFORMATION

Introduction ↘

Technology has been identified with a host of problems and solutions that are closely linked with aims for sustainable development in low- and middle-income countries. It is an essential enabling feature of globalization, and local applications of technology offer possibilities for building infrastructures and creating opportunities. The impact of new technologies on society and development affects various interests and domains, and the effective and appropriate use of technology requires consideration of social, cultural, economic, political, and environmental contexts and effects. The opportunities and challenges applying the technologies to old problems require the guidance from a new breed of professionals and policymakers who can integrate technological expertise and a clear understanding of its wider ramifications as a guide to strategies for applying technology to the tasks of achieving sustainable development.

Objectives ↘

Recognizing the need for a broad-based appreciation of the need to understand technology in the context of development, the Indian Institute of Science Bangalore, India, (IISc) and the Swiss Federal Institute of Technology, Lausanne, Switzerland, (EPFL) have developed this Certificate of Advanced Studies in Sustainable Development and the Role of Technology (CSDRT) to serve a diverse group of professionals directly concerned with the role of technology for sustainable development.

The course will examine the role of technology and how it may contribute most effectively to sustainable development. It will consider approaches to soundly integrate technology into a specific environment, rather than the technical details, with particular attention to social, economic, and environmental impact of new technologies and the contexts that affect innovation and creativity. Relying on the experience of the faculty and participants and case studies, the course will present a framework for relating technology and development focussing on developing countries, especially India and other Asian countries, and considering the interplay between national and local priorities, resources, and policies. Recognizing the role of various social, cultural, environmental, and political contexts of development and the value of an interdisciplinary approach, the course will enable participants to work more effectively with others to promote the development and application of new technologies for sustainable development.

Key Questions ↘

Several key questions will be examined in formulating a framework for applying new technology to the interests of sustainable development:

- What is the meaning of sustainable development with respect to the priorities of low- and middle-income countries?
- How may the technological potential of developing countries be applied to better meet basic human needs – alleviating poverty, creating

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« The 20th century's unprecedented gains in advancing human development and eradicating poverty came largely from technological breakthroughs. »

« In the network age, every country needs the capacity to understand and adapt global technologies for local needs. »

Human Development Report 2001: Making Technologies Work for Human Development (UNDP 2001)

improved livelihood opportunities, reducing inequities, building infrastructures, and so forth?
- What are the main obstacles to a complementary relationship between the interests of technology and development?
- What are or what should be appropriate technologies in regard of development problems?

Target public↘

The course is primarily intended for professionals, researchers or managers called upon by their profession to make decisions concerning technological solutions to development problems. Participants are required to have a university degree or equivalent. Their background could be in environmental sciences, engineering, architecture, physics, or mathematics, but also human sciences, such as sociology, geography, and international relations. This list is not exhaustive.

ORGANISATION

Location and dates↘

The first part of the course is given in e-learning. It will last six weeks. The second part will take place in Bangalore, India for four weeks. Bangalore is particularly appropriate because of the resources of the institute and the development challenges of that region with immense social and economical disparities; the juxtaposition of levels of education from illiteracy to world-class expertise; and a mix of livelihoods, ranging from agricultural subsistence to hi-tech techno-parks. The combination of experience with the application of technologies for development and the experience and expertise of an academic centre provides a unique opportunity to examine the relationship of theory, policy, and practice, and to consider implications for other settings facing similar dilemmas with potential for technological solutions.

The course will be organised in 2 parts :
- The first part, organised in partnership with UNITAR, will consist of 6 weeks of e-learning,

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representing the equivalent of 2 weeks full-time and going from 12 of April 2010 to 21st of May 2010
- The second part will be held in India, at the Indian Institute of Sciences (IISc) in Bangalore, from 31st of May 2010 to 26th of June 2010.

Teaching staff are drawn from the organising institution (EPFL), the Indian partner institution in Bangalore (IISc), Swiss, Indian and foreign universities and institutes, international organisations, NGOs, and the private sector.

Course organiser↘

The CSDRT is organised by Cooperation@epfl, which is attached to the EPFL Vice-Presidency for Institutional Affairs, in partnership with the Indian Institute of Science – Bangalore.

This course is organised with the active support of the United Nations Institute for Training and Research (UNITAR). UNITAR is a leading provider of short executive training to national and local government officials of UN Member States and civil society representatives around the world.
The CSDRT is directed by Prof. Jean-Claude Bolay, director of the Cooperation@epfl unit.
The course organiser is assisted by an **Organising Committee** comprising representatives of EPFL and the partner institution involved in the programme.

Members of Organising Committee↘
(in alphabetical order):

- Prof. Jean-Claude Bolay, EPFL, Cooperation@epfl, CSDRT Director
- Mr Yuri Changkakoti, EPFL, Cooperation@epfl, CSDRT coordinator
- Prof. Arthur Dahl, International Environment Forum, Coordinator of Module 2.
- Prof. H.S. Jamadagni, IISc, CEDT, Co-coordinator of Module 3
- Dr. André Pittet, IISc, CEDT, Logistic Coordinator
- Dr. Pierre Rossel, (MER), EPFL, College of Management of Technology, Co-coordinator of Module 3

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COURSE CONTENT

Features↘
The course is based on the **North-South scientific partnership**. The CSDRT gives professionals an opportunity to improve their knowledge in the field of technologies for Development directly linked to reality and actual experience.

Interdisciplinarity is also a very important component of the course, with a dialogue between the exact and human sciences being encouraged for a truly integrated and global approach.

Multi-culturality is an integrated aspect of this course. As the problems of sustainability and technology for it are somewhat dependent on the geographical and cultural context of any given region, it is extremely rewarding to learn lessons from these diversities.

Teaching methods↘
The objective is to link theory and practice, involving the use of a wide range of tools: lectures, case studies, round-table discussions, workshops, field trips and visits, individual projects, report writing, presentations.

Module 1: Introduction to Development↘
This e-learning module will be organised in partnership with UNITAR and will cover different aspects of development and enable participants to get a good understanding of the concept of sustainable development, of the main issues that are faced by developing countries and of the key actors involved and their roles.

Module 2 : Development reality↘
This first face-to-face module will enable participants to get in touch and experience the development realities of a country such as India. Participants will confront what they learned during the first module to concrete situations and environments. Beside some introductory lectures, there will be an in-depth field trip that will enable participants to experience and study different development

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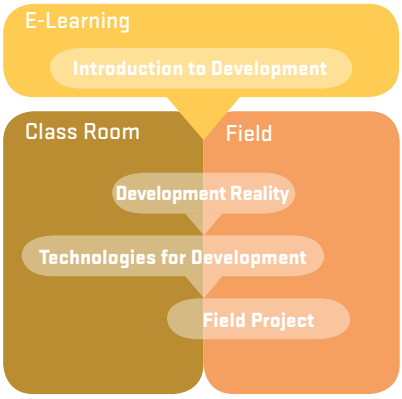
issues. Some methodological aspects will also be introduced during this module.

Module 3: Technology for Development ↘
This module will focus on what technology is, how it can be developed to suit particular needs and contexts and how its introduction can be properly assessed and put into perspective so as to maximise the chances that the technological solutions adopted meet the goals and usages they were intended for.
Several areas presenting development issues, such as water, energy or information technology for development will be introduced. Then some technological solutions to these problems will be presented and studied through case studies and field visits.

Module 4: Field project ↘
The project, based on the themes of the course, will involve close work with a company, a voluntary organisation or a government agency to study the innovative use of a technology for sustainable development. Each project will be undertaken by an interdisciplinary and multicultural group of 3 participants.



« If the development community turns its back on the explosion of technological innovation in food, medicine and information, it risks marginalizing itself and denying developing countries opportunities that, if harnessed effectively, could transform the lives of poor people and offer breakthrough development opportunities to poor countries. »

Mark Malloch Brown, Former Administrator, UNDP

PRACTICAL INFORMATION

Language ↘

A good knowledge of both oral and written English is required, as all courses will be in this language.

Applications ↘

The deadline for receiving applications is 21st of February 2010.
For their application to be considered, candidates should have a degree from a university or institute of technology.
In all cases, two or more years of work experience will be an advantage.
A maximum number of 30 participants will be accepted, with roughly equal numbers from Switzerland, India and the rest of the world.

The following documents are required :

- Completed application form
- Curriculum vitæ
- Motivation letter (personal and professional objectives and expectations)
- Copies of certificate, university degrees and/or equivalent titles
- Copy of ID card or passport and 1 passport photo

All applications will be reviewed by the course organiser (EPFL) and are then submitted to the School of Continuing Education and the Registrar's Office for approval.

The course organiser reserves the right to cancel this course if the number of enrolments is insufficient and to modify the present programme at any time.

Applications are to be submitted online on the website : **http : //cooperation.epfl.ch/**

Rules and Regulations ↘

A copy of the « CSDRT Course Rules and Regulations » will be distributed to applicants upon confirmation of their acceptance for the course.

A jury consisting of 3 persons, including at least one representative of the CSDRT organiser, assesses the dissertations and oral examinations.

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Qualification ↘

Participants who successfully fulfil all the requirements of the course will obtain a Certificate of Sustainable Development and the Role of Technology. This represents 16 credits as per the European Credit Transfer System (ECTS), corresponding to 400 hours of work (approximately 220 hours of classes, plus participants' individual work).

Tuition ↘

The total tuition fee is CHF 3,400.- (enrolment fee: CHF 580.- plus course contribution: CHF 2,820.-). Please note that travel and board and lodging expenses are not included.

Enrolments are considered official only after payment of the tuition fee to the institution responsible for the participant's acceptance.
In case of withdrawal after official enrolment on the course, but prior to the beginning of the course, an administrative fee of CHF 1,000.- will be charged.
No refunds will be made to participants after the course starts.

Living expenses and Budget[1] ↘

The cost of food in India is already included in tuition fee. Basic accommodation on campus will be available for approximately CHF 10.- per day, i.e. CHF 300.- for the entire stay. A total budget of approximately CHF 1000.- should therefore be allowed for living expenses.
The plane ticket from Switzerland to India costs between CHF 1,500.- and 1,700.-.

Financial support ↘

In exceptional cases, financial support may be offered to participants who are unable to meet the total costs of enrolment (limited number of grants). Priority will be given to Indian participants. Applications must be submitted to the course organiser.

Passport and insurance ↘

European participants wishing to obtain a visa for India require a passport that is valid for a period of at least six months.
Health and accident insurance is obligatory for all participants.

[1] Costs are given as an indication and cannot be guaranteed

COOPERATION @ EPFL

EPFL ↘

With more than 250 laboratories and research groups, EPFL (Swiss Federal Institute of Technology Lausanne) is one of Europe's most innovative and productive technology institutes. The school's structure facilitates transdisciplinary research and encourages partnerships with other institutions in both fundamental research and engineering applications.

About Cooperation@epfl ↘

Since 2004, Cooperation@epfl has been attached to the Vice Presidency for Institutional Affairs. Cooperation@epfl's mission is to contribute to offering a response to the most pressing world challenges. This is achieved by encouraging scientific partnership, research and education that will help adapt appropriate technologies to developing countries, based on a cooperation approach centered on scientific development and the fostering of North-South collaborations. In March 2007, Cooperation@epfl was recognized as a UNESCO Chair in Technologies for Development, becoming the 4th UNESCO Chair in Switzerland.

The priority fields of the Chair are:

- Technologies for sustainable habitat and cities
- ICTs for the environment
- Science and technology for disaster risk reduction
- Technology for sustainable energy production

Activities ↘

To achieve its objectives, Cooperation@epfl has 5 types of activities:

- Research
  - Interschool projects in four priority fields of the UNESCO Chair
  - Own research
- Programme Management
  - SDC-EPFL Fund
  - Seed Money Programme
  - ISCB
- Education
  - CAS in Disaster Risk Reduction
  - CAS in Sustainable Development and the Role of Technology
  - Support to the Master « Innovation, Development and Societies »
- Scientific Services & Institutional Partnerships
  - Consultancies
  - Monitoring
  - Evaluations
  - Institutional collaborations at Swiss and international levels
- Communication & Information
  - Publications
  - Organisation of events, raising awareness

For further information ↘

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