



## International Forum on Science Education

April 9, 2018

Islamabad Pakistan

### Concept Note

Science, Technology and Innovation are critical inputs for sustainable economic development and poverty alleviation. Advances in scientific and technological knowledge made possible the significant reductions in poverty and improvements in the quality of life in both developed and developing countries throughout the 20<sup>th</sup> century. In future, the ability of countries to access, comprehend, select, adapt, and use scientific and technological knowledge will increasingly be the determinant of well-being and quality of life for the generations to come. Science education is one of the most important subjects due to its relevance in our lives and the universally applicable problem-solving and critical thinking skills it uses and develops. These are lifelong skills that enable us to generate ideas, weigh decisions intelligently and even understand the evidence behind public policy-making. Teaching technological literacy, critical thinking and problem-solving through science education, gives students the skills and knowledge they need to succeed in school and beyond. Science Education for sustainable economic development is about the need to maintain and improve our quality of life and the generations to come. It is about equipping youth, individuals, communities, groups, businesses and government to live and act sustainably; as well as giving them an understanding of the environmental, social and economic issues involved.

### International Forum on Science Education 2018

Realizing this need to invest more in science education with its significance and promotion of this important subject; the Economic Cooperation Organization Science Foundation (ECOSF), Higher Education Commission (HEC) of Pakistan, the InterAcademy Partnership Science Education Program (IAP SEP) and Pakistan Academy of Sciences (PAS) have joined together to organize an **International Forum on Science Education** to debate what efforts should be invested to make science advance in response to the expectations of society and to address the challenges posed to human and social development. The Forum will be held in Islamabad, Pakistan on 9 April, 2018 and would provide an opportunity for the global scientific community interested in the multifaceted world of science education for developing adequate skilled workforce to respond to future challenges and sustainable economic development.

The main theme of the Forum is “Quality Science Education at Schools- A Must for Quality Higher Education and Economic Development” focusing on thematic and social aspects of some the most burning issues of science and society. There is no denying the fact that an effective science education at school level is the fundamental and building block to produce quality higher education, which is critical to achieve sustainable economic development. Realizing this need to invest more in science education at all levels especially at the school level, this forum is being called to discuss as to how science education should play its role. The Forum would also contribute to initiating the debate in Pakistan on science education, sharing of global experiences and the understanding of new paths for improvement of human life, sustainable economic growth and policy making by employing effective science education approach such as the **Inquiry Based Science Education (IBSE)**.

IBSE is an approach to teaching and learning in general but especially the Science, Technology, Engineering and Mathematics (STEM) subjects at all levels particularly the schools. It is well

understood and recognized by the IAP SEP which has been pursuing it around the globe over the last 15 years. This approach to teaching relies on teachers recognizing the importance of presenting problems to students that will challenge their current conceptual understandings so that they are motivated to reconcile anomalous thinking and construct new understandings.

A Workshop on “Fusion of OBOR Civilizations School Curriculum Design” and meeting of Global Council of IAP SEP, are also scheduled to take place in conjunction with the International Forum on Science Education. Concept notes and tentatives programmes of the events are attached.

### Promotion and Implementation of Inquiry Based Science Education in the ECO region

As an initiative of the ECOSF, IBSE programme was launched in the ECO region in June 2015 with an IBSE Capacity Building workshop held in Astana-Kazakhstan, for national programme leaders to improve the quality of science classroom teaching practice in the 10 member countries of Economic Cooperation Organization- ECO (<http://www.eco4science.org>). The programme was launched with collaboration and cooperation of national governments/organizations and international partners; viz., *La main à la pâte* of France, the International Science, Technology and Innovation Center for South–South Cooperation under the auspices of UNESCO (ISTIC) Kuala Lumpur- Malaysia and the Inter- Academy Partnership (IAP) Science Education Programme (SEP). Subsequently, the national capacity building workshops have been organized in Pakistan (Sept 2016), Iran (Jan 2017), holding of a High Level Forum on IBSE in Pakistan (May 2017) and follow-up Capacity Building Workshop on IBSE in Sukkur Pakistan (Dec 2017). The events on 9-10 April 2018 are thus continuity of the efforts of ECOSF for promotion of ECOSF in the region.

### Organizers

- ECO Science Foundation (ECOSF)
- High Education Commission of Pakistan (HEC)
- Inter Academy Partnership – Science Education Programme (IAP-SEP)
- Pakistan Academy of Sciences (PAS)

**Venue & dates:** Auditorium of Higher Education Commission (HEC), H-9 Islamabad, Pakistan, 9 April 2018

- Notes:**
1. All the participants would arrive on 8 April Sunday evening or early morning on 9th.
  2. Opening of the Forum will be jointly held on Monday 9 April 2018 at 09.30 hours.
  3. The Workshop on Fusion of OBOR Civilizations School Curriculum Design (by invitation only) would be held on 9-10 April, 2018 at HEC.
  4. IAP SEP Global Council (members only) meeting will be held on 10 April at 14.30 hours at Islamabad Marriott Hotel (after lunch at HEC).
  5. Member of Global Council and those joining the Fusion of Civilizations Curriculum Design Workshop will stay three nights (8-10 April). Beyond three nights, the individuals would pay for themselves.

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