



## **International Council of Associations for Science Education**

### **Position Paper on ICASE Science and Technology Education Centres (ISTECs)**

#### **Rationale**

With the ICASE strategic plan calling for ICASE leadership in the field of science and technology education, especially geared to the role of science teachers and teacher educators, there is a clear need for ICASE to plan a more positive role than the hitherto following-up of initiatives proposed by its member organisations. While the leadership provided by the member science teacher associations served ICASE well in the past, in its role as coordinator and disseminator of developments, this has not worked well in developing countries, or in regions where Science Teacher Associations have struggled to exist. The demise of voluntary organisations and the growth of professional centres offering support and guidance for teachers have eroded the functioning of STAs and with this the effectiveness of ICASE to function.

There is a need to review the way in which ICASE functions to serve science teacher organisations and, through them, the science teachers themselves. A stronger leadership role for ICASE requires a bold strategy to promote the ideas, strategies and operational functioning of new directions in keeping with the changing vision of science and technology education today. This functioning can take place through ICASE Science and Technology Centres on a regional and/or sub-regional basis.

#### **Operation and Procedures**

The establishment of ISTECs will be via an ICASE Science and Technology Education Centres (ISTEC) Standing Committee. The committee will approve ISTECs, based on specific criteria which will not exclude the idea of a virtual ISTEC. These centres will form a network and maintain regular contact with the ISTECs standing committee. The standing committee will be the coordinating body.

An ISTEC can be a centre operating completely independently from other bodies within the country/region, or can function in conjunction with other organisations, or institutions. ISTECs can offer events and activities as the sole operator, and/or can function in conjunction with others as the major, equal, or minor partner. Events and activities can be ICASE derived and initiated, or can be those coming for other partners. Personnel running each ISTEC can be ICASE officers, members of the ISTECs standing committee, or personnel recognized by the

ISTECs standing committee as suitable in ensuring quality leadership. Such personnel may have a dual function of serving both the ISTEC plus the institution(s) with which the ISTEC is co-operating for a particular event or activity.

The particular focus for each ISTEC will be two major functions: (a) provide continuous professional development to science teachers, and (b) initiate, coordinate and evaluate ICASE projects. In both aspects the ISTEC will only promote activities and events in line with the ICASE strategic plan and will seek guidance and direction from the ISTECs standing committee. In turn, the ISTECs standing committee will seek guidance and direction from the ICASE Executive Committee, with policy matters being put to the ICASE Management Committee.

Each ISTEC will be non-profit making, but self-financing and will be eligible to charge for its services. The ISTECs standing committee, in working with the ISTEC as a network, will be directly eligible to apply for GSEF funds under the auspices of ICASE to support ISTEC operations, including evaluation of the functioning of ISTECs. In fact, the GSEF is seen as crucial for the effective functioning of ISTECs in developing countries.

Initially the centres will be established in Thailand (Bangkok), China (Guilin), Estonia (Tartu), Ireland (Cork) and Turkey (Ismir), with each involving a member of the ISTECs standing committee. The initial CPD activities will be associated with initiating and running three ICASE projects - motivational approaches to education through science (education for sustainable development); incorporating engineering design within science lessons; raising the popularisation of science (*these are not the actual project names*). Each project will be nationwide within a country, with the potential to be regional; however the CPD and running of the projects will be undertaken as a network of ISTECs, with the expectation, where feasible, for common activities taking place across the ISTEC network, and even involving personnel from one ISTEC leading activities in another.

Where appropriate, each ISTEC will form a base for the ICASE STA member within that country and will be expected to strongly promote its leadership plans through the STA. Collaborative partner institutions will be ICASE associated university members, or similar.

### **Aim of ISTECs**

The aim of ISTECs is to enable ICASE to better impact on STE worldwide. In striving towards this impact, the ISTECs standing committee intends to play its role in supporting the ICASE mission and strategic plans of ICASE and in particular, enhance the ICASE role of undertaking leadership in the STE arena, provide professional development opportunities for science teachers and educators and, by running projects, ensure ICASE is able to fulfill its desired goal of promoting excellence and global coordination in STE.

The ISECs standing committee intends that each ISTEC meets this aim by:

- (i) identifying professional development needs and practices for teachers of science and science educators, with particular reference to updated views on 'education through science';

- (ii) undertaking professional development of teachers of science and science educators with a focus on the three ICASE/ISTEC projects;
- (iii) promote innovative science and technology teaching strategies and philosophical concepts, curriculum initiatives, developments and policies, advances in education systems including those of science education in informal settings, as well as materials and resources for science teaching geared to ICASE/ISTEC projects;
- (iv) disseminating coordinated research in STE, especially where this impacts on classroom science teaching and learning related to ICASE/ISTEC projects;
- (v) raising awareness of methods of exchange to maximising input, sharing, networking and continued communication in science education between ISTECs and others worldwide;
- (vi) initiate and run ICASE.ISTEC projects; and
- (vii) enact and promote further activities stemming from ICASE standing committees and ICASE regional representatives.



Prof. Jack Holbrook  
ICASE, Past President  
Chair,  
International Projects



Dr. Janchai Yingprayoon  
ICASE, Past President  
Chair,  
Science and Technology  
Education Centres