IITE in Action

UNESCO Institute for Information Technologies in Education

Activity Report

2010-2011

United Nations
Educational, Scientific and
Cultural Organization

UNESCO Institute
for Information Technologies
in Education

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Foreword by Governing Board Chairman

The biennium 2010-2011 has become a period of significant transformation of activities of the UNESCO Institute for Information Technologies in Education (IITE). These changes have been made possible thanks to the guidance of the UNESCO Director-General and Assistant Director-General for Education based on precise vision of IITE's mission and its role within the Organization. The transitional processes were inspired by the IITE Medium-Term Strategy for 2008-2013 developed with the intellectual contribution of the IITE Governing Board.

The Governing Board is pleased to note that the delivery capacity of the Institute has reinforced and the impact of its activities has broadened. The geographical scope of IITE activities has been significantly expanded during the last two years: 56 countries have been covered by recent IITE activities. Through its diverse actions IITE managed to improve its performance in providing Member States with policy advice, capacity development and knowledge services in the field of ICT in education. During 2010-2011 the Institute has considerably diversified and intensified its partnerships with various stakeholders, including other UNESCO bodies, research and academic institutions and private sector. The results obtained by IITE during the recent biennium are to a great extent due to the competence and commitment of the Institute Director and staff.

The Governing Board members appreciated the opportunity to get actively involved in the Institute undertakings: participate in IITE conferences, attend expert meetings and contribute expertise to IITE projects. This close involvement and regular reporting by IITE facilitated fulfilling of the GB mandate in defining Institute's strategy and monitoring its programme activities.

On behalf of the Governing Board members, I would like to express confidence that the positive dynamics acquired by IITE during 2010-2011 is a prerequisite for becoming a global institute serving as a centre of excellence and a provider of professional expertise to Member States in the field of ICT in education. We wish the Institute every success in promotion of ICT use targeted to the achievement of global development goals set in the field of education.

Bernard Cornu
CNED, France
IFIP TC3 Chairman
UNESCO IITE Governing Board Chairman

Foreword by Director

For the Institute the biennium 2010-2011 has been a period of transitional arrangements aimed at revitalizing IITE activity. Considerable efforts have been invested in strengthening IITE capacity to deliver the Institute mandate. In line with the IITE Medium-Term Strategy for 2008-2013, IITE has been focusing its actions on several priority areas:

- providing policy advice to Member States in the field of ICT in education;

- serving as a laboratory of ideas, centre of excellence as well as a standard-setter both regionally and globally;

- developing teacher training opportunities and professional development, and building teachers' ICT competencies;

- contributing to knowledge sharing and opening up educational resources.

The Policy and Research Team concentrated its activities on organizing high-level policy meetings, providing technical assistance and expert support to Member States, and implementing projects facilitating policy dialogue. The Capacity Development Team dealt with creating professional development opportunities for teachers and establishing active cooperation with relevant networks (ASPnet, UNESCO Chairs, UNITWIN and UNEVOC, and others), private companies (Cisco, HP, Microsoft, etc.) and experts in ICTs in education from IFIP, European Agency for Development in Special Needs Education and ISTE. The Knowledge Services Team worked to ensure visibility of the Institute through publications and website and to promote the use of open educational resources to foster ICT-enhanced learning.

To maintain its stance as a centre of excellence, IITE has launched new series of publications: Policy Briefs, Analytical Surveys, Best Practices of ICT Use in Education, and Theoretical Aspects of ICT Use in Education. The publications cover a wide range of topics concerning ICT use in education and serve both as policy advocacy mechanisms and reference materials.

In achieving its objectives the Institute is assisted by the National Commissions for UNESCO, partner professional and international organizations, UN agencies, universities, research centres as well as private companies. Their reliable partnership is highly appreciated. Particular credit should be given to the Government of the Russian Federation which supports the Institute both financially and technically and advocates for further development of IITE as a global institute. We would like to show our appreciation of the IITE Governing Board members for their contribution to the revitalizing of the Institute through active involvement into the development of the IITE Medium-Term Strategy 2008-2013, collaboration in the framework of IITE programme activities and intellectual input to planning and implementation of Institute's projects.

Dendev Badarch
UNESCO IITE Director a.i.

IITE GOVERNING BOARD

The UNESCO Institute for Information Technologies in Education is administered by a Governing Board which consists of 11 members appointed by the Director-General of UNESCO and meets at least once a year:

Board members:

Prof. Bernard CORNU (France), Chairperson of the Board

Prof. Fatma ABDULLAZADE (Azerbaijan)

Mr Vladislav NICHKOV (Russian Federation)

Prof. Jianzhong CHA (China)

Prof. Stoyan Georgiev DENCHEV (Bulgaria)

Prof. Dae-Joon HWANG (Republic of Korea)

Prof. Ivan KALAS (Slovakia)

Prof. Donald G. KNEZEK (USA)

Prof. Diana LAURILLARD (United Kingdom)

Prof. Inna MALYUKOVA (Ukraine)

Prof. Tapio VARIS (Finland)

POLICY ADVOCACY AND RESEARCH

In accordance with the growing requirements for modernization of the education system by means of ICTs, IITE provides support to educational planning and policy implementation in UNESCO Member States with respect to ICT use in education. The Institute provides assistance in formulation, assessment and implementation of advanced legal, managerial, pedagogical, psychological and ethical principles of ICT-enhanced education. IITE uses a variety of supporting advocacy instruments: organization of high-level policy meetings, implementation of projects facilitating policy dialogue and publication and dissemination of policy briefs and analytical surveys.

Policy Support

In 2010-2011, IITE prepared and published a set of policy briefs (in Russian and English). Ten briefs have already been published; eight more are expected to be out of print by the end of 2011. The thematic areas covered by policy briefs include but are not limited to the usage of state-of-the-art ICT technologies in education, electronic, mobile, open and distance learning, ICT for inclusion, teacher ICT competencies, OER, etc.

The International Conference IITE-2010 "ICT in Teacher Education: Policy, Open Educational Resources and Partnership" was organized by the UNESCO IITE and the UNESCO Moscow Office in close cooperation with the Herzen State Pedagogical University of Russia, St.Petersburg State University of Aerospace Instrumentation, State University of Information Technologies, Mechanics and Optics, and with the support of CISCO. The Conference took place on November 15-16, 2010, in St.Petersburg, Russian Federation. Over 120 participants from more than 20 countries attended the event, which provided an intellectual platform for open dialogue between policy makers, teachers, practitioners, experts from public and private sectors, and representatives of educational, scientific and professional institutions and organizations. The goals of the Conference were to share the best

practices in ICT application in teachers education, discuss major problems of ICT use in education, formulate the strategy aimed at creation of a common informational and educational environment for ICT based teachers' education and professional development of the new generation of teachers for the Knowledge Society.

Expert and Technical Assistance

In accordance with its status and competency IITE provides expert and technical support to UNESCO Member States in assessment of national policies on ICT application in educational systems and development of strategies in this area. In 2010-2011, IITE was approached by the Ministry of Education and Science of the Republic of Armenia, the Ministry of Education of the Azerbaijan Republic, and the Ministry of Education, Culture and Science of Mongolia with a request to provide technical assistance in strategy development. Fact-finding missions were carried out by IITE experts to Armenia and Mongolia, the missions resulted in assessment reports and recommendations for ICT in education strategies.

In March 2011, IITE launched a three-year project "ICTs in Primary Education" to facilitate policy dialogue and build foundation for effective ICT-enhanced primary education by means of ICTs. The project team is comprised of experts in ICT in primary education from Chile, Hong Kong, Hungary, Jordan, Russian Federation, Slovak Republic, South Africa, UK and USA. The project implementation strategy was discussed at the expert meeting, organized on April 17-18, 2011, in cooperation with the French National Centre for Distance Education in Poitiers, France.

In 2010-2011, IITE took part in organization of the International Conference on Application of Information and Communication Technologies (AICT). Within the 4th AICT held on October 12-14, 2010, in Tashkent, the Republic of Uzbekistan, IITE organized a session "ICT for Inclusive Knowledge Society Development" devoted to the use of ICT potential for promoting accessibility and raising the quality of education for all, including persons with special educational needs.

In 2011, IITE jointly with the International Telecommunication Union launched the project on the establishment of IT center for visually impaired persons in the Republic of Armenia. The project is aimed at promoting inclusive policies and creating accessible information and education environment by means of ICTs for people of this kind of disability. The project envisages the development and dissemination of instruction and support materials for policy- and decision-makers, IT and educational specialists.

Within a joint project with the Intergovernmental Foundation for Educational, Scientific and Cultural Cooperation, IITE promotes the use of ICTs in Technical and Vocational Education and Training (TVET) in CIS countries and Ukraine, contributes to strengthening the CIS national policies on ICT use in TVET and to enhancing the interaction between the Ministries of Education of the CIS Member States, academic institutions, TVET establishments and other interested parties. Under IITE overall coordination and moderation a comparative study was carried out by national experts on current trends of ICT use in TVET in CIS and Ukraine, an online seminar was held in May 2011, and an expert meeting was organized within the UNEVOC CIS Regional Network Meeting "Networking and Building Capacity for TVET and Education for Sustainable Development in the CIS" (Ufa, the Republic of Bashkortostan, Russia, 29 June - 1 July, 2011). The project team developed an analytical paper, which describes the best practices of ICT use in TVET and provides recommendations for its further development in the CIS and Ukraine.

The International Conference "Emerging Information and Communication Technologies in Higher Education-2011" was organized on July 8-10, 2011, at the Mongolian University of Science and Technology in Ulaanbaatar, Mongolia, by the University and IITE. The Conference was aimed: (1) to raise awareness of emerging ICTs in higher education in the developing countries; (2) to discuss best practices and (3) strengthen partnerships for establishing a strategy for quality higher education. Parallel sessions were focused on application of the emerging ICT in higher education; open educational resources and university management information systems. The event hosted more than 70 delegates representing the Mongolian universities, the Mongolian National Commission for UNESCO, the Ministry of Education, Culture and Science of Mongolia and leading experts from China, Japan, France, Mongolia, Russia and UK.

TEACHERS OF THE ARCTIC

In promotion of Education for All Goals, 2003 WSIS principles, as well as in the framework of the Second International Decade of the World's Indigenous Peoples and the UN Decade of Education for Sustainable Development, a flagship project "Teachers of the Arctic" was launched jointly with the Ministry of Education of the Republic of Sakha (Yakutia) at the Interregional Research and Practice Conference "Educational Space of the Arctic: Development through Dialogue and Cooperation" in Yakutsk, Republic of Sakha (Yakutia) in August 2010. The overall goal of the project is to modernize the education system through support of teachers working in the circumpolar region. In particular, the project is aimed at capacity development of the Arctic Region teachers by means of adequate teachers training and application of ICTs, distance and mobile learning technologies, as well as at providing easier assess to high quality basic education for indigenous peoples of the Arctic. In pursuance of the project aims, the workshop "Key Components of the Teachers of the Arctic Project as a Basis for Creation of an Innovative Learning Environment for Professional Development of Arctic Region Educators" was held in Yakutsk in March 2011. The participants of the workshop revised current practices of teacher training, shared effective approaches of using ICT in education, discussed professional teacher certification based on the use of ICTs, assessed learning achievements, impacts, progress and needs, and revealed challenges for teachers and schools in the Arctic region. As a result, the requirements for ICT competency model for Arctic teachers have been defined based on UNESCO ICT-CFT, general specifications for the model of multiclass/multigrade Arctic schools proposed, and technical specifications for the project information-educational portal elaborated. IITE has also been engaged in the development of training courses for Arctic teachers, including the ones prepared jointly with Cisco.

IITE OER PROJECT

Recognizing the potential of opening up educational content for use and adaptation by everyone as one of the great opportunities in achieving quality education for all, IITE launched a project on OER as one of its flagship projects to advocate non-English-speaking countries' concerns and aspirations in open educational resources. The main objective of the project is the promotion of the OER movement based on the exploration of the needs and opportunities for the production and use of OER in non-English-speaking countries.

Main results:

• Analytical survey of the state-of-the-art of OER in the Republic of Azerbaijan, the Republic of Armenia, the Republic of Belarus, the Republic of Kazakhstan, the Republic of Moldova, the Russian Federation, Ukraine, Uzbekistan, and Baltic States (Latvia and Lithuania), and other non-English-speaking countries, such as Japan, China, Brazil, Turkey and Vietnam provided an insight into the OER-related patterns in these countries. A cross-national review of the development of OER in several countries identified examples of best practices and different patterns of OER movement – from national initiatives on localization of English-language OCW/OER or establishment of national repositories to the efforts of individual professors who publish their lectures on the Internet;

• IITE OER gateway, which provides hundreds of links to OER in national languages of CIS countries, was launched in 2011;

• Issues related to copyright and licensing with respect to OER were considered in the context of legal regulations on intellectual property rights in CIS at an international workshop organized in Moscow (May 2011); and

• An online training course, including a special tool for OER development was elaborated and published at the IITE website.
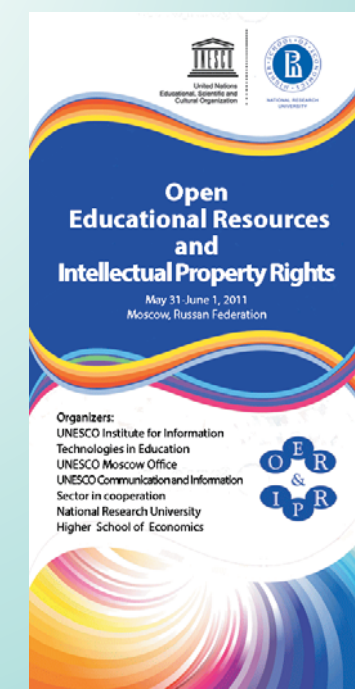
CAPACITY DEVELOPMENT

IITE develops courses and training materials and implements capacity building projects for educational personnel at all levels. In addition, the Institute concentrates its efforts on outreaching at regional and sub-regional levels to professional communities and building partnership with private and academic sector.

Training Courses and Educational Programmes

A feasibility study on establishment of an International Master Course on ICT and Teacher Professional Development was completed in close cooperation with leading partner universities. The concept, structure and content of the Programme were discussed during the Conference of UNESCO Chairs in May 2011. The Curriculum and detailed description of Programme modules are being prepared.

An online training course "Management of e-Content", as well as short multimedia courses for teachers "Presentation Technique. Basic Course" and "Interactive Educational Technologies" are being developed by IITE and partner organizations. Multimedia lecture based on Policy Brief "Social Media for Learning by Means of ICT" was composed. Special course for ASPnet schools "History of Library Science and Information Literacy" is to be developed by the end of 2011. Special efforts are taken to develop the capacity of educators in OER production and re-use. For this purpose, an online training course, including a special tool for OER development has been elaborated and made openly available at the IITE website.

IITE supported the development and strengthening of competency-based models of modern teachers, namely by being proactively involved in the UNESCO Working Group on ICT in Education and Global Coordination of UNESCO's intersectoral initiatives in the area of ICT applications in education. IITE will contribute to translation, adaptation and publication of UNESCO ICT-CFT in Russian.

To establish a network of UNESCO Chairs under general coordination of the Institute, IITE together with the UNESCO Moscow Office and the St. Petersburg State University of Aerospace Instrumentation organized the International Conference of the UNESCO IITE and UNITWIN/UNESCO Chairs "UNESCO Chairs Partnership on ICTs Use in Education: Innovations and Best Practices" (May 30 - June 3, 2011, St.Petersburg, Russia), during which an MoU on establishment of the International network of UNESCO Chairs operating in the field of ICTs in education was signed by 22 UNESCO Chairs and universities from 13 countries.

IITE pays close attention to reinforcing UNESCO ASPnet schools. Their role in integrating principles, values and best practices of sustainable development into education and use of ICTs was defined and the opportunities to expand partnership of UNESCO ASPnet schools for their sustainable development were assessed at the International Conference "ICTs and Quality of Education: UNESCO ASPnet on the Way towards a School of the Future" organized by IITE in Kazan, Russia, in April 2011. The Conference participants have decided to create an interregional sub-network of UNESCO ASPnet schools of the Russian Federation, the CIS and Baltic countries coordinated by IITE. The aim of this network is to form a unified informational, educational and cultural environment and virtual community of practices for sharing ICT application experience in school education as a part of IITE and UNESCO Associated Schools pilot project "Smart School of the Future".

KNOWLEDGE SERVICES

IITE Web Portal

In order to enhance UNESCO's overall visibility, outreach and impact, as well as to share training, methodological and information materials on ICT usage in education globally, IITE uses its e-representation tools. A new IITE web portal was launched in June 2010 to improve access to policy documents, research findings, training materials, OER, information on IITE projects and to provide a forum for discussions on various aspects of ICTs in education. Special attention is paid to the development of online communities of practice and professional network of ASPnet, UNESCO Chairs/UNITWIN and experts in ICT in TVET.

IITE Publications

Policy Briefs

To promote and disseminate knowledge on the major trends on ICT in education, IITE publishes monthly Policy Briefs, which help decision-makers to shape their

attitude towards penetration of ICT into the learning process. Policy Briefs provide sound recommendations for national authorities and educational practitioners in elaborating strategies to harness the power of innovative technologies for societal needs and set up an ICT-enabled educational environment in their own countries. Policy Briefs (in English and Russian) on a wide range of topics have been printed: "Cloud computing in education", "ICT for inclusion: reaching more students more effectively", "Global trends in the development and use of open educational resources to reform educational practices", "Mobile learning for quality education and social inclusion", "Open educational resources and intellectual property rights", "ICTs for new engineering education", "Social media for learning by means of ICT", "Cost-benefit modelling for open learning", "Digital literacy in education", and "Diversification of learning platforms". Until the end of 2011 several more Policy Briefs will be published: "ICTs and teacher competencies", "ICTs and indigenous people", "ICT in TVET", "Multimedia educational resources", and "Digital natives in education".

Analytical Surveys

An in-depth review *Recognizing the Potential of ICT in Early Childhood Education* was published by IITE and presented at the World Conference on Early Childhood Education and Care (ECCE) in Moscow in September 2010. The review provides an evidence-based analysis of the impact of ICTs on early childhood education, a clear overview of best practices and policy recommendations for potential use of ICTs in ECCE. Being the first global study in the area, it covers the issues of strategy development on ICT usage in early childhood education, children's health and safety in a digital world and professional development of preschool educators. The review has been translated into Slovak and Russian and highly appreciated by specialists.

Within the IITE OER project, the synthesis report *CIS on the Way towards Open Educational Resources* was produced by IITE in close cooperation with the experts from Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Uzbekistan, the Russian Federation and Ukraine. The study includes the analysis of the current national policies on education in these countries, as well as best practices, emerging trends, challenges and prospects for development of open content in the Commonwealth of Independent States.

Theoretical Aspects of ICT in Education

The monograph *Media Literacy and New Humanism* investigates the philosophical concept of digital culture as one of the key competences in a rapidly changing globalized world in the context of 'new humanism', a new UNESCO credo, which suggests creation of a more inclusive society in which all humans have a chance to access knowledge and quality education and every word being heard in the universal dialogue.

The book *ICTs in Secondary Schools. Russian Experience* is being prepared for publication in late 2011. The study generalizes the recent trends of ICT application in educational system of the Russian Federation emphasizing the issues of transformation
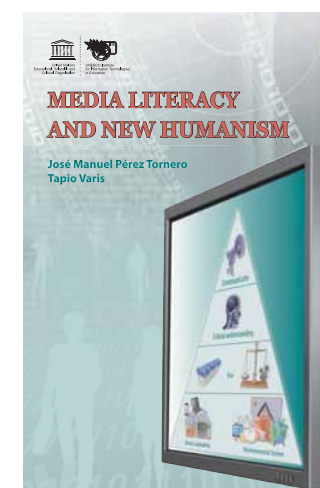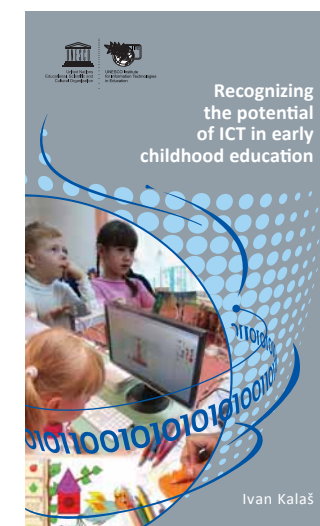
of the pedagogical techniques and practices in ICT-enabled environment. Special attention is devoted to the questions of development of contemporary ICT-enhanced learning models, elaboration of multimedia educational resources, as well as improvement of teacher computer literacy and ICT competences.

ICTs in Education: Best Practices
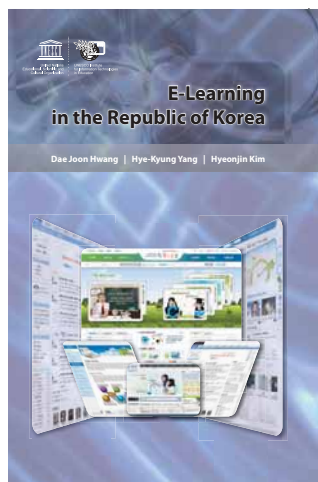
The study *E-learning in the Republic of Korea* reveals state policy implementation activities on ICT in education in ROK, in particular, the initiatives aimed at the development of infrastructure, curriculum, teachers' training, standards, quality assurance, monitoring and evaluation systems. The survey can serve as a useful reference to UNESCO Member States to help them integrate innovative technologies into learning and teaching processes.

The review of innovative practice *ICTs in Education for People with Disabilities* was commissioned by IITE in close cooperation with the European Agency for Development in Special Needs Education. The publication presents examples of the use of ICTs for people with disabilities in various educational contexts and settings worldwide, including Europe, Asia, Latin America, the CIS and Baltic States.
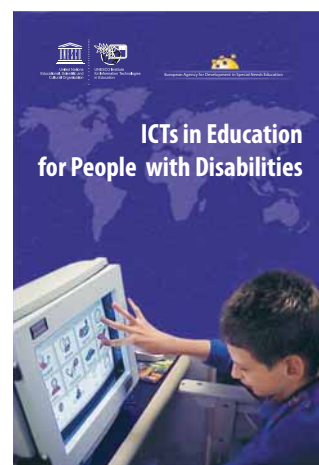
Conference Proceedings
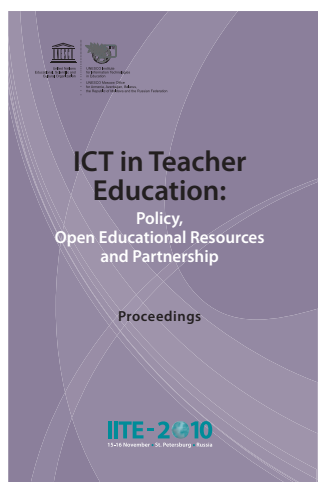
The book of Proceedings includes the papers presented at the International Conference IITE-2010 "ICT in Teachers' Education: Policy, Open Educational Resources and Partnership" held in 2010, in St.Petersburg, Russia. The topics of the papers cover the best practices of ICT application in teacher education, improvement of IT-literacy and the use of Open Educational Resources, as well as the benefits of partnerships between IITE, leading IT companies, UNESCO ASPnet Schools and UNESCO Chairs.

PARTNERSHIP AND COOPERATION

During the biennium, IITE activities have covered 56 Member States, of which 43 countries contributed to or are reflected in IITE publications, the representatives of 42 countries participated in IITE events, and 26 countries are involved in IITE projects. In addition, IITE has established cooperation with international expert networks such as the International Federation for Information Processing (IFIP), the International Society for Technology in Education (ISTE), etc.

Private sector, universities, public academic institutions and professional associations are pivotal partners of IITE. Throughout the biennium, the Institute concentrated its efforts on developing partnership arrangements and extending its network. Some illustrative examples are a joint project with Hewlett Packard and the St.Petersburg State University of Information Technologies, Mechanics and Optics on establishment of a research and educational center, and a project on creation of the Innovative Centre for Educational Technologies jointly with Microsoft, the Federal Institute for Education Development and the National Training Foundation. Other successful cooperation initiatives include joint activities with Cisco, Kaspersky Lab and LANIT Network Academy. Moreover, working contacts with IBM, Intel, Oracle, SMART Technologies, the Russian Aerospace Agency and some other companies and institutions have been established to identify concrete options and directions of cooperation in the framework of IITE activities.

Upon the request of the Republic of North Ossetia-Alania, the Russian Federation, IITE participated in a feasibility study mission to Vladikavkaz in September 2010 in order to expand the Avicenna Virtual Campus (AVC) project implemented by UNESCO SC/PSD to the Caucasian Region and to neighboring countries.

UNESCO IITE Staff	Position
Office of the Director	
Dendev Badarch	Acting Director
Elena Tarasova	Secretary to the Director/1st Category Specialist
Policy and Research Team	
Natalia Tokareva	Senior Specialist/Team Leader
Tatiana Shavrova	Leading Specialist
Capacity Development Team	
Alexander Khoroshilov	National Programme Officer/Team Leader
Ekaterina Kuzina	Senior Specialist
Larisa Kuzmina	Senior Specialist
Vadim Khaladzhiev	Senior Specialist/Webmaster
Knowledge Services Team	
Svetlana Knyazeva	Advisor for CI/Team Leader
Yuliya Melnikova	Leading Specialist
Administration	
Elena Panfilova	Leading Specialist/Team Leader
Eduard Toulokhonov	Leading Specialist/System Administrator
Yuri Ryzhov	Leading Engineer
Alexander Plugotarenko	Commandant

UNESCO IITE Interns	Duration of Internship
Ayumi Uchida (Japan)	2 August – 17 December 2010
Melody Wenz (France)	8 June – 8 August 2011
Sophie Aubert (France)	30 May – 31 August 2011