

**Belarus**

**UNITWIN/UNESCO Chairs Program**

**Progress Report**

**Period of activity: 2006-2007**

**UNESCO Chair in Radiation and Environmental Management**

**Host institution: International Sakharov Environmental University**

**Report established by: Prof.essor Nadezhda Goncharova, UNESCO Chairholder**

**I. Activities**

**1. Education/Training/Research**

*Education:*

The UNESCO Chair has contributed to designing relevant Masters programs related to the field of environmental training and to international development and intercultural exchanges.

*Research:*

**TEMPUS JEP – 27177-2006 “University Curriculum in Ecology for Belarusian Universities”**

Objectives: to develop and implement a new curriculum in landscape ecology and environmental monitoring at PSU and ISEU in Belarus

Coordinator: Kungliga Tekniska Hoegskolan, Stockholm , Sweden

Partners: International Sakharov Environmental University, Minsk (BY)  
Polotsk State University, Novopolotsk (BY), University of Patras, Patras (GR)

Duration of the project -2 years

- Building a research Team:

Participants: three Masters and four Ph.D students

Objective: is to undertake inter-disciplinary scientific projects in the sphere of environmental education, environmental management and information technologies, as well as environmental monitoring

PhD students Viktorya Putyrskaya and Tatjana Semizhon took part in the project between the Federal Office for Civil Protection, represented by the Spiez Laboratory (Switzerland) and the Fachhochschule Ravensburg-Weingarten, University of Applied Sciences, IAF Radioecology «Radioecological studies and research (Yenisei, Lago Maggiore)», 2004–2007.

PhD student Darya Bairasheuskaya with thi financial support IAEA working in probation in Josef Stefan International Postgraduate School (Ljubljana, Slovenia).

Fourth year education student Ina Vernikouskaya did her thesis work “Modelling of 137Cs activity concentration behavior in wild boar in Southern Germany” in Radioecology Laboratory of the University of Applied Sciences Hochschule Ravensburg-Weingarten under the direction of Prof. Eckehard Klemt, 2007.

## 2. Conferences

Work on the organizing team of the International conference Sakharov readings 2006 and 2007: Environmental problems of the XXI century (Minsk. May 2006, May 2007);

The Chairholder was member of the organizing committee NATO ARW Strategies to Enhance Environmental Security in Transition Countries, 5-8 September in Sibiu, Romania 2006 and NATO Advanced Institute on Uncertainties in Environmental Modeling and Consequences for Policy Making, Vrsar, Croatia, September 30 to October 11, 2007. Six PhD students from ISEU took part in this conferences.

The Chairholder Nadezhda Goncharova took part to “Environmental Science BUP Teaches” Conference. Date and Place: Molo, Poland, 7-10 February 2007

One student from ISEU took part in the Baltic University Program Sailing Course board STS Fryderyk Chopin, the Baltic Sea, August, 2007

Four student from ISEU took part in the BUP seminar “Sustainable development and environmental quality management” 6-11 October 2007, Zittau, Germany

## 3. Inter-university exchanges

- UNESCO Chair Nadezhda Goncharova and 3 professors has been appointed as TEMUS project participants one week Tekniska Hogskolan, Stockholm, Sweden
- Two PhD students and one student has scholarships in the University of Applied Sciences, Ecology laboratory in Rawnesburg-Weingarten (Germany);
- Student from Picardy University of Jules Verne (Amien, France) Jerom Pohn has 3 month study visit to the ISEU

## 4. Publications:

### Books

1. Ecotoxicology, Ecological Risk Assessment and Multiple Stressors  
Proceedings of the NATO Advanced Research Workshop on Ecotoxicology,  
Ecological Risk Assessment and Multiple Stressors, Poros, Greece, 12- 15 October  
2004  
Series: [NATO Security through Science Series](#)  
Subseries: [NATO Security through Science Series C: Environmental Security](#), Vol. 6  
Arapis, Gerassimos; **Goncharova, Nadezhda**; Baveye, Philippe (Eds.)  
2006, XVI, 382 p., Hardcover ISBN: 1-4020-4474-7
2. Phytoremediation of Metal-Contaminated Soils  
Proceedings of the NATO Advanced Study Institute on Phytoremediation of Metal-  
Contaminated Soils, held in Trest, Czech Republic, 18-30 August 2002  
Series: [Nato Science Series: IV: Earth and Environmental Sciences](#), Vol. 68  
Morel, Jean-Louis; Echevarria, Guillaume; **Goncharova, Nadezhda** (Eds.)  
2006, X, 360 p., Softcover ISBN: 1-4020-4687-1
3. Strategies to Enhance Environmental Security in Transition Countries  
Proceedings of  
the NATO Advanced Research Workshop on Strategies to Enhance Environmental  
Security in Transition Countries, held in Sibiu, Romania, 6-9 September 2006

Series: NATO Science for Peace and Security Series

Subseries: <http://www.springer.com/east/home/environment?SGWID=5-198-69-173624899-0>

Hull, Ruth N.; Barbu, Constantin-Horia; **Goncharova, Nadezhda** (Eds.)  
2007, X, 444 p., Hardcover ISBN: 978-1-4020-5994-0

### Papers:

4. Goncharova N.V., Bairasheuskaya D.A. Risk assessment: radioactive contaminated food products and exposure dose of the population// G. Arapis et al. (eds.), Ecotoxicology, Ecological Risk Assessment and Multiple stressors – 2006 Springer, P. 181–189.
5. Goncharova N., Bairasheuskaya D., Laberch J.-C., Pohu J. Environmental monitoring and management of contaminated territories for clean product production // Thesis of the International Scientific Conference “Sakharov readings 2006: environmental problems of XXI century: 18-19 May 2006, Minsk, Belarus”. – Minsk, ISEU, 2006. – P.I. – p. 178-180.
6. Lopareva A. Study of Cd accumulation by *Thlaspi caerulescens* under presence of glucuronic acid containing exopolysaccharides / J.-L. Morel et al (Eds) // NATO ARW series “Phytoremediation of metal-contaminated soils”. – 2006. – P. 307-314.
7. Semizhon T., Klemt E. Cs-137 run-off from the watershed of Lago Maggiore: measurement and modeling // Abstracts of the International conference «20 Jahre wissenschaftliche erkenntnisse nach der reaktorkatastrophe von Tschernobyl”. – Heidelberg, 13-16 Marz, 2006. – P. 51.
8. Klemt E., Putyrskaya V., Semizhon T. Migration of Cs-137 in lake sediments and binding to different geochemical fractions // Book of abstracts of 10th International symposium on Environmental radiochemical analyses 13–15 September, 2006, Oxford, England. – Oxford. – 2006. – P. 9.
9. Goncharova N., Bairasheuskaya D., Putyrskaya V. Pollutant uptake on agricultural land: practical modeling// R.N. Hull et al. (eds.). Strategies to Enhance Environmental Security in Transition Countries – 2007, Springer, pp. 387-399
10. Lopareva E., Goncharova N. Plant-Microbe Symbiosis for Bioremediation of Heavy Metal Contaminated Soil: Perspectives for Belarus . Strategies to Enhance Environmental Security in Transition Countries, Series C: Environmental Security, , 2007. Springer.pp 401-411
11. Klemt E., Semizhon T. Sr-90 in Sedimenten des Jenisei // Verhandlungen der Deutschen Physikalischen Gesellschaft. 71<sup>st</sup> Annual Meeting of the DPG and Spring Meeting of the Condensed Matter Division. –Regensburg, 26-30 March, 2007. – P. 734
12. Klemt E., Roellin St.Semizhon T. Discharge and transport of artificial radionuclides in the river Yenisei // Proceedings book of the 9<sup>th</sup> International Conference on the Biogeochemistry of Trace Elements: Environmental protection, remediation and human health. – Beijing July 15-19, 2007. – P. 410– 411
13. Putyrskaya V., Klemt E. Modeling Cs-137 processes in lake sediments// J. of Environ.Radioactivity. V. 96, Issues 1-3, 2007, pp. 54-62

## **II. Impact**

The *central activity* has been a series of stock-taking events contributing to knowledge development on the field of environmental education.

The *networking activities* have developed a coherent set of local, national and international support networks and working partnerships that could link the theme of intercultural education to innovative curriculum initiatives and to field -oriented research cooperation activities.

The *framework-creating activities* have been integrated to diverse international research themes and research cooperation activities of the chair holder. Nadezhda Goncharova initiated a new international doctoral program in intercultural education by designing an application to EC, DAAD, NATO and IAEA

*Research activities* have been focused on comparisons on education and training systems to the extent to which they promote parity of esteem between different groups of people and between different path ways . The second, teacher's intercultural competences, and the third sustainable development have been investigated. Teaching and research done in 2005 have brought another aspect to international education policies and practices in Belarus and Europe.

## **III. Forthcoming Activities**

The forthcoming activities focuses on (a) research, (b) thematic networking among the experts from developing countries, and (c) a new international Master and Doctoral programs in intercultural education.

## **IV. Development Prospects**

The UNESCO professorships are intended to promote *academic collaboration and solidarity* worldwide with a view to diminishing disparities in educational levels and technological and scientific expertise.

Higher environment education establishments are believed to produce and develop knowledge that modern societies can use in *endeavors to solve the problem of inequality*.