VOL. 11, No. 1, 2012

ISSN 1648-3898

Journal of Baltic Science Education





THE INTERNATIONAL JOURNAL OF THE SCIENTIFIC METHODICAL CENTRE "SCIENTIA EDUCOLOGICA"

Vol.11, No.1, 2012 ISSN 1648-3898

Journal of Baltic Science Education



The International Journal of the Scientific Methodical Center "Scientia Educologica"

Editorial Board	
Editor-in-Chief	
Prof., Dr. Vincentas Lamanauskas	Siauliai University, Lithuania
Deputy Editor-in-Chief	
Prof., Dr. Andris Broks	University of Latvia, Latvia
Deputy Editor-in-Chief	
Prof., Dr. habil. Aarne Tõldsepp	Estonian Chemistry Teachers Association, Estonia
Executive Secretary	
Dr. Laima Railienė	Scientific Methodical Center "Scientia Educologica", Lithuania
Editors:	
Prof., Dr. Martin Bilek	University of Hradec Králové, Czech Republic
Dr. Bulent Cavas	Dokuz Eylul University, Turkey
Prof., Dr. Hana Čtrnáctová	Charles University, Czech Republic
Dr. Peter Demkanin	Comenius University, Slovakia
Prof., Dr. Jānis Gedrovics	Riga Teacher Training and Educational Management Academy, Latvia
Prof., Dr. Ryszard M. Janiuk	Maria Curie Sklodowska University, Poland
Dr. Rita Makarskaitė-Petkevičienė	Vilnius Pedagogical University, Lithuania
Dr. Todar Lakhvich	Belarusian State Pedagogical University named after Maxim Tank, Republic of Belarus
Prof., Dr. Jari Lavonen	University of Helsinki, Finland
Prof., Dr. Aadu Ott	Göteborg University, Sweden
Dr. Paul Pace	Malta University, Malta
Prof., Dr. Valfrids Paškevičs	Daugavpils University, Latvia
Prof., Dr. Jongwon Park	Chonnam National University, Korea
Dr. Raffaele Pisano	European Society for the History of Science, Italy
Dr. Pavol Prokop	Institute of Zoology, Bratislava, Slovakia
Dr. Miia Rannikmäe	Tartu University, Estonia

Klaipėda University, Lithuania Kiel University, Germany

Helsinki University, Finland University of Oregon, USA

Herzen State Pedagogical University of Russia, Russia Sofia University, Bulgaria

University of Ioannina, Greece

Zirve University, Turkey

A scientific journal JBSE issued by the SMC *Scientia Educologica*, in cooperation with Scientia Socialis, UAB, Lithuania, emphasizes theoretical, experimental and methodical studies in the field of science education. JBSE is an international academic journal. In order to maintain the high standards appropriate to such a journal, all contributions received are submitted for anonymous review by two experts, additionally to review by the Editor. The decision of the Editor on the acceptance of articles is final and no correspondence can be entered into on reasons for rejection of a submitted contribution.

Published since 2002

Dr. Alona Rauckienė

Prof., Dr. Heimo Saarikko

Prof., Dr. Valery P. Solomin

Prof., Dr. Borislav V. Toshev

Dr. Uladzimir K. Slabin

Dr. Georgios Tsaparlis

Dr. Muhammet Usak

Dr. Kurt Riguarts

The journal is published four times per year in March, June, September and December.

Address:

Scientific Methodical Center "Scientia Educologica"Donelaičio Street 29, LT-78115 Siauliai, LithuaniaE-mail:mail.jbse@gmail.comPhone:+370 687 95668Home page:http://www.jbse.webinfo.lt

ISSN 1648-3898

© Scientific Methodical Center "Scientia Educologica", Lithuania, The Associated Member of Lithuanian Scientific Society, European Society for the History of Science (ESHS) and ICASE

The articles appearing in this journal are indexed/abstracted in British Education Index (http://www.leeds.ac.uk/bei/bei.htm), Copernicus Index (http://journals.indexcopernicus.com), The Asian Education Index (http://www.asian-education-index.com/sciences_index.php), EBSCO: Academic Search Premier (http://search.ebscohost.com), Social Scisearch (Thomson Reuters) (http://science.thomsonreuters.com/index.html), Journal Citation Reports / Social Sciences Edition (Thomson Reuters) (http://thomsonreuters.com/products_services/scientific/Journal_Citation_Reports), and SCOPUS (http://www.scopus.com)