

VOL. 12, No. 2, 2013

ISSN 1648-3898



JOURNAL
OF BALTIC
SCIENCE
EDUCATION

Journal of Baltic Science Education

ISSN 1648-3898



9 771648 389000

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

Vol.12, No.2, 2013
ISSN 1648-3898

Journal of Baltic Science Education



JOURNAL
OF BALTIC
SCIENCE
EDUCATION

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

Editorial Board

Editor-in-Chief

Prof., Dr. Vincentas Lamanaukas Siauliai University, Lithuania

Deputy Editor-in-Chief

Prof., Dr. Andris Broks University of Latvia, Latvia

Deputy Editor-in-Chief

Prof., Dr. habil. Aarne Töldsepp Estonian Chemistry Teachers Association, Estonia

Executive Secretary

Dr. Laima Raiilienė Scientific Methodical Center "Scientia Educologica", Lithuania

Editors:

Prof., Dr. Agnaldo Arroio University of Sao Paulo, Brazil
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 Skłodowska University, Poland
Dr. Rita Makarskaitė-Petkevičienė Lithuanian University of Educational Sciences, 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
Dr. Alona Rauckienė Klaipėda University, Lithuania
Prof., Dr. Heimo Saarikko Helsinki University, Finland
Dr. Uladzimir K. Slabin University of Oregon, USA
Prof., Dr. Valery P. Solomin Herzen State Pedagogical University of Russia, Russia
Prof., Dr. Borislav V. Toshev Sofia University, Bulgaria
Dr. Georgios Tsaparlis University of Ioannina, Greece
Dr. Muhammet Usak Zirve University, Turkey

A scientific journal JBSE issued by the SMC *Scientia Educologica* in cooperation with *Scientia Socialis*, 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

The journal is published bimonthly.

IF-0.226 (2010), 0.425 (2011)

Address:

Scientific Methodical Center "Scientia Educologica"

Donelaičio Street 29, LT-78115 Siauliai, Lithuania

E-mail: mail.jbse@gmail.com

Phone: +370 687 95668

Home page: <http://www.scientiasocialis.lt/jbse/>

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>)