2nd International Baltic Symposium on Science and Technology Education

BalticSTE2017

“SCIENCE AND TECHNOLOGY EDUCATION: ENGAGING THE NEW GENERATION”

12-15 June 2017

SYMPOSIUM PROGRAMME

Šiauliai, Lithuania
Symposium Organizer

Scientific Methodical Center „Scientia Educologica“ in cooperation with Faculty of Education Science and Social Welfare, Šiauliai University

Organizing Committee

Chairman

Prof. dr. Vincentas Lamanauskas, Šiauliai University & SMC „Scientia Educologica“, Lithuania

Members

Assoc. Prof. Dalia Augienė, Šiauliai University, Lithuania
Prof. Dr. Dagnija Cedere, University of Latvia, Latvia
Assoc. Prof. Dr. Erika Masiliauskiene, Šiauliai University, Lithuania
Dr. Laima Railienė, SMC „Scientia Educologica“, Lithuania
Prof. Dr. Miia Rannikmae, University of Tartu, Estonia
Judita Stankutė, SMC „Scientia Educologica“, Lithuania
Assoc. Prof. Dr. Violeta Šlekiene, Šiauliai University, Lithuania
Assoc. Prof. Dr. Loreta Ragulienė, Šiauliai University, Lithuania
Dr. Elena Vasilevskaya, Belarusian State University, Republic of Belarus

Scientific Committee

Prof. Dr. Boris Aberšek, University of Maribor, Slovenia
Prof. Dr. Agnaldo Arroio, University of Sao Paulo, Brazil
Prof. Dr. Martin Bilek, Hradec Kralove University, Czech Republic
Prof. Dr. Andris Broks, University of Latvia, Latvia
Prof. Dr. Marco Antonio Bueno Filho, Federal University of ABC, Brazil
Dr. Paolo Bussotti, University of Udine, Italy
Prof. Dr. Muammer Çalik, Karadeniz Technical University, Turkey
Prof. Dr. Dagnija Cedere, University of Latvia, Latvia
Prof. Dr. Metka Kordigel-Aberšek, University of Maribor, Slovenia
Dr. Todar Lakhvich, Belarusian State Medical University, Republic of Belarus
Prof. Dr. Vincentas Lamanauskas, Šiauliai University, Lithuania
Dr. Laima Railienė, SMC „Scientia Educologica“, Lithuania
Assoc. Prof. Dr. Loreta Ragulienė, Šiauliai University, Lithuania
Dr. Uladzimir Slabin, University of Oregon, USA
Assoc. Prof. Dr. Violeta Šlekiene, Šiauliai University, Lithuania
Prof. Dr. Milan Turčani, Constantine the Philosopher University, Slovakia

Symposium Website

http://balticste.com
Sunday  
11th June 2017

17.30 - 20:00  
**ICE-BREAKING**  
*(Room 115, Faculty of Education Science and Social Welfare, University of Šiauliai, P.Višinskio Street 25)*

Monday  
12th June 2017

8:00 - 9:30  
**REGISTRATION**  
*(Second Floor, Library of Šiauliai University, Vytauto Street 84)*

9:30-10:00  
**OPENING CEREMONY**  
*(Second Floor, Room 205, Library of Šiauliai University, Vytauto Street 84)*

Musical Greeting (Dept. of MP, Šiauliai University) Evaldas Vaikasas  
Rector of the University prof. dr. Donatas Jurgaitis  
Dean of Faculty of ESSW assoc. prof. dr. Erika Masiliauskienė  
International Greeting (Italy) Paolo Bussotti  
Symposium Chair prof. dr. Vincentas Lamanauskas

10:00-12:00  
**PLENARY MEETING (1)**  
*(Second Floor, Room 205, Library of Šiauliai University, Vytauto Street 84)*  
Chairmen: Miia Rannikmae, Vincentas Lamanaukas

1. **Jonas Jasaitis.** The role of scientists in formation of state strategy (Lithuania)
2. **Miia Rannikmae.** Incorporating career awareness with motivational education through science approach: two alternative foci (Estonia)
3. **Raffaele Pisano.** On the epistemic interplay between physics and mathematics such as a dynamical framework within nos–research teaching science (Italy)

12:00-14:00  
**LUNCH**

14:00-16:00  
**WORKSHOP (1)**  
*(Second Floor, Room 205, Library of Šiauliai University, Vytauto Street 84, Šiauliai)*  
Chairmen: Angela James, Boris Aberšek

1. **Marcus Vinicius Pereira, Agnaldo Arroio.** Analysis of science videos produced by Brazilian Ministry of Education (Brazil)
2. **Alvin U. Ugwu.** Locating evidences of education for sustainable development in Sub-Saharan African science and technology education curricular: a comparative analysis of Nigerian and South Africa (South Africa)
3. **Pavels Pestovs, Dace Namsone.** National level test in science in Latvia for assessing how students explain phenomena scientifically (Latvia)
4. **Renata Stasko, Karolina Czerwiec, Katarzyna Potyrała, Emanuel Studnicki, Anna Michniewska.** Education in the area of new new media on the example of youtube and interdisciplinary workshops (Poland)
5. **Solange W. Locatelli, Paulo H. Gomes, Agnaldo Arroio.** The influence of chemical language in the reworking of basic concepts in electrochemistry (Brazil)

16:00-16:30  
**POSTER PRESENTATIONS**  
*(Fourth Floor, Hall, Library of Šiauliai University, Vytauto Street 84, Šiauliai)*
1. **Snježana Smerdel, Meliha Zejnilagić-Hajrić.** Pre-learning activities using a textbook: a Croatian view (Croatia, Bosnia and Herzegovina)

2. **Miroslav Prokša, Zuzana Haláková, Anna Drozdíková.** Chemical equilibrium in terms of its conceptual understanding in the context of submicroscopic, macroscopic and symbolic interpretation by learners (Slovakia)

3. **Violeta Šlekienė.** Lithuanian non-formal educational school of young physicists “Photon” (Lithuania)

4. **Zuzana Balázsiová.** How much do nurses remember from school physics? Some results of comparing analysis (Slovakia)

5. **Violeta Šlekienė, Loreta Ragulienė.** Experimental physics activities using inquiry based approach (Lithuania)

6. **Rita Makarskaitė–Petkevičienė.** Natural science lessons: pre-service primary teachers' experience (Lithuania)

7. **Vincentas Lamanaukas, Violeta Šlekienė, Loreta Ragulienė.** Math and science teachers collaboration: MaT²SMc project experience (Lithuania)

8. **Natália Karásková, Rafael Doležal, Nadezhda Maltsevskaya, Karel Kolář.** Didactic capacity of selected Czech and Russian secondary school textbooks of organic chemistry and their mutual comparison (Czech Republic, Russia)

9. **Katarzyna Potyrała, Karolina Czerwiec, Renata Staśko.** Natural history museums as a space of science education in the knowledge-based society (Poland)

10. **Anna Michniewska, Karolina Czerwiec, Katarzyna Potyrała, Renata Staśko, Emanuel Studnicki.** Increasing youth's ecological awareness of air pollution with the use of new media (Poland)

---

**Tuesday**

13th June 2017

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 –</td>
<td>OUTDOOR WORKSHOP</td>
</tr>
<tr>
<td>17:00/18.00</td>
<td>Historical Aspects of Science &amp; Technology</td>
</tr>
</tbody>
</table>
Wednesday
14th June 2017

09:00-10:30
PLENARY MEETING (2)
(Second Floor, Room 205, Library of Siauliai University, Vytauto Street 84, Šiauliai)
Chairmen: Metka Kordigel-Aberšek, Martin Bílek

1. Angela James. Science education in South Africa: engaging the new generation of student teachers in service-learning for sustainable development (South Africa)
2. Agnaldo Arroio. Scientific Media literacy and young generation (Brazil)

10:30-11:00
COFFEE BREAK

11:00-12:30
SECTION 1
General S&T Education Issues
(Fourth Floor, Room 411, Library of Siauliai University, Vytauto Street 84, Šiauliai)
Chairmen: Dagnija Cedere, Bulent Cavas

1. Ineta Helmane, Dagnija Cīedere, Vilija Targamadze, Inese Jurgena. Students’ interest in the science subjects and mathematics in schools of Latvia and Lithuania: a comparative study (Latvia, Lithuania)
2. Elena Vasilevskaya. University natural science education: current state and modern trends (Republic of Belarus)
3. Cagla Bulut, Bulent Cavas, Kadir Demir. A reflection of preservice science teachers' views of open access dimension of responsible research and innovation (Turkey, USA)
4. Rita Birzina, Dagnija Cedere, Līva Petersone. The first year students’ adaptation to natural science studies in higher education (Latvia)
5. Loreta Juškaitė. Comparison of the national diagnostic paper-based and online tests (Latvia)
6. Eva Kralova. Motivation and attitudes of medical students towards teaching and learning natural sciences (Slovakia)

11:00-12:30
SECTION 2
S&T Education Approaches and Praxis
(Fourth Floor, Room 412, Library of Siauliai University, Vytauto Street 84, Šiauliai)
Chairmen: Mónica Baptista, Jack Holbrook

1. Boris Aberšek, Kosta Dolenc, Andrej Flogie. Research based learning and proprioception (Slovenia)
2. Martin Bílek, Jiri Rychtera, Katerina Chroustová. Identification of key and critical points in early chemistry curriculum in Czech Republic (Czech Republic)
3. Liberato Cardellini. Deliberate practice: how to teach problem solving in a meaningful way (Italy)
5. Metka Kordigel Aberšek. Writing versus typing in the biology classroom: a case study in Slovenia (Slovenia)

12:30-14.00
LUNCH
14:00 - 15:00

SECTION 1
General S&T Education Issues
(Fourth Floor, Room 411, Library of Siauliai University, Vytauto Street 84, Šiauliai)
Chairmen: Elena Vasilevskaya, Katarzyna Potyrala

1. Vincentas Lamanauskas, Dalia Augienė. Scientific research activity of students pre-service teachers at university: comparative analysis of understanding, interest and career aspects (Lithuania)
2. Alex Wirth, Boris Aberšek. Discipline in schools: some actual issues (Slovenia)
3. Şule Bayraktar, Zeynep Kuvvet. Preschool children’s ideas about living things (Turkey)

14:00 - 15:00

SECTION 2
S&T Education Approaches and Praxis
(Fourth Floor, Room 412, Library of Siauliai University, Vytauto Street 84, Šiauliai)
Chairmen: Karolina Czerwiec, Monica Baptista

1. Antti Rissanen, Kalle Saastamoinen. Challenges in assessment and guidance in study group based learning (Finland)
3. Lukáš Richterek, František Látal. Various kinds of problems in an electricity and magnetism assessment within an introductory physics course for chemistry majors (Czech Republic)

15:00 - 15:30

COFFEE BREAK

15:30 - 16:30

SECTION 1
General S&T Education Issues
(Fourth Floor, Room 411, Library of Siauliai University, Vytauto Street 84, Šiauliai)
Chairmen: Elena Vasilevskaya, Katarzyna Potyrala

1. Anna Klim-Klimaszewska, Stanisława Nazaruk. Implementation of geometrical concepts in kindergarten (Poland)
2. Bülent Cavas, Cagla Bulut. Students’ perceptions toward science course and inquiry based science education (IBSE) implementation in schools study earthquakes (SSE) Project (Turkey)
3. Meliha Zejnilagić-Hajrić, Adel Polutak, Ines Nuić. Group work in evaluation of primary school students’ knowledge about carbohydrates (Bosnia and Herzegovina)

Discussion

15:30 - 16:30

SECTION 2
S&T Education Approaches and Praxis
(Fourth Floor, Room 412, Library of Siauliai University, Vytauto Street 84, Šiauliai)
Chairmen: Teresa Conceição, Maciek Janiuk

1. Oxana N. Ryzhova, Elizaveta A. Belevtsova, Nikolay E. Kuz’menko. Chemistry and mathematics: mathematical content of chemical tasks (Russia)
2. Teresa Conceição, Mónica Baptista, João Pedro da Ponte. Lesson study as a professional development process of preservice physics and chemistry teachers (Portugal)

Discussion

19:00 - 21:30

SYMPOSIUM DINNER
Thursday
15th June 2017

09:00-10:30

INTERACTIVE PLENARY
(Second Floor, Room 205, Library of Siauliai University, Vytauto Street 84, Šiauliai)
Moderator: Vincentas Lamanauskas

Andris Broks. Systems thinking: Joint philosophical and psychological basis for modern science and technology education (Latvia)

Reviews to the theme:
  Raffaele Pisano, Italy
  Angela James, South Africa
  Jack Holbrook, Estonia
  Bulent Cavas, Turkey
  Boris Aberšek, Slovenia

Discussion

10:30-11:00 COFFEE BREAK

11:00-12:30

WORKSHOP (2)
S&T Education Challenges and Insights
(Second Floor, Room 205, Library of Siauliai University, Vytauto Street 84, Šiauliai)
Chairmen: Agnaldo Arroio, Vincentas Lamanauskas

1. Uladzimir Slabin. Verkhovskyy Eponyms in the Epoch of Educational Ethnocentrism (USA, video presentation)
2. Suriya Gilmanshina, Aygul Gayfullina, Iskander Gilmashin. The formation of the environmentally directed thinking as the necessary quality of personality in modern conditions (Russia)
4. Vyacheslav Kazarenkov, Saulius Mickevičius. The significance of self-education in professional training and personal development of future specialist at university (Russia, Lithuania)
5. Hae-Ae Seo, Hye-Sook Lee, Soonok Kim. Influence of nanotechnology related SSI program on competencies of high school students in Korea (South Korea)
6. Vyacheslav Kazarenkov, Tatyana Kazarenkova. Fostering skills of cross-cultural communication within university education (Russia)

Discussion

12:30-13:00

SYMPOSIUM CLOSING
(Second Floor, Room 205, Library of Siauliai University, Vytauto Street 84, Šiauliai)

What Do We Do NEXT?

MAIN SPONSORS
Scientific Methodical Centre “Scientia Eduologica” & Scientia Socialis, Lithuania