



# TALETE

Teaching mAthS through innovative Learning approach  
and conTEnts

LIFELONG LEARNING PROGRAMME  
COMENIUS

Coordinated by Università degli Studi "G.Marconi"

*International Conference "New  
Perspective for Science Education"*



*This project has been funded with support from the European Commission. This communication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*

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Elaborated by (Name of the organization)	Università degli Studi "G. Marconi"
Conference Name	International Conference "New Perspective for Science Education"
Date	8 - 9 march 2012

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## *Conference Objectives and Topics*

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The “New Perspective in Science Education” conference has had the aim to promote transnational cooperation and share good practice in the field of innovation for Science Education.

The conference focused on the following topics:

- Enhancing students’ motivation
- New Technologies for Science Teaching
- Science Communication
- Science Education and Disabled People
- Science Education Projects and Initiatives
- Science Education Resources and Activities
- Studies on Science Education
- Science Teaching Methods
- Training of Science Teachers



Fig.1 Plenary Session

### *Conference date and venue*

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The International Conference New Perspectives in Science Education took place in Florence, Italy, on 8 -9 March 2012.



Fig.2 Florence City

The Conference was arranged by Pixel (<http://www.pixel-online.net>).

Pixel is an education and training institution based in Florence (Italy). Pixel promotes internationalization and European Cooperation in the fields of Education, Training and Culture.

Pixel has significant experience in the following areas:

- Direct submission as promoter or coordinator of European Projects.
- Consultancy, support and advice for planning and managing transnational projects for European Universities and public bodies.
- In Service Training and Assistance addressed to Public Authorities, Universities, Schools, Training Institution, Cultural Associations in the field of European cooperation.
- Direct submission as promoter or coordinator of Projects funded by the European Social Fund.

Pixel has developed cooperative agreements and partnerships throughout Europe with over 400 institutions. Pixel's European partners are: ministries, universities, schools, regions, provinces, municipalities, training institutions, research centres, cultural institutions, schools, hospitals etc. in 30 different European countries.

## Conference themes and structure

The conference was divided into four sections

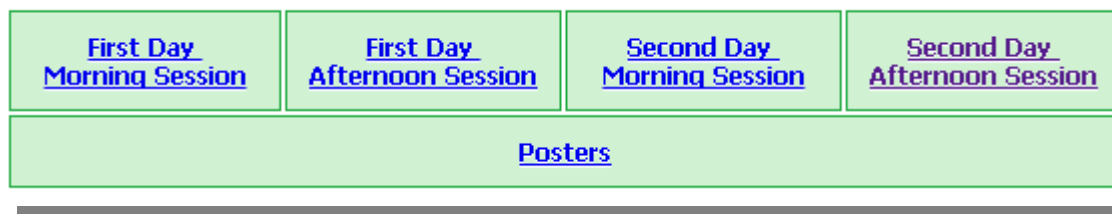


Fig.3 Conference Schedule

Please, see the programme enclosed to this report.

## TALETE presentation

During the first morning session on 8th March 2012 was presented the paper "Science in virtual reality: Examples from the Euroversity Network" within the TALETE project was introduced.

The image shows a presentation schedule for Room A. It starts with a green header 'Room A - 9:00' followed by a light green box 'Introductory Speech, Practicalities and Ice Breaking Session'. Below that is another green header 'Thursday 8 March 2012 First Morning Session' and a light green box 'Room A - 9:30 - 11:35 New Technologies for Science Teaching Moderator: Magdalena Galaj - W5JNF (Poland)'. The main content area lists several presentations with their titles and authors. The presentation 'Science in Virtual Reality: Examples from the EUROVERSITY Network' by Luisa Panichi is highlighted with a red border.

**Room A - 9:00**  
Introductory Speech, Practicalities and Ice Breaking Session

**Thursday 8 March 2012  
First Morning Session**  
Room A - 9:30 - 11:35  
New Technologies for Science Teaching  
Moderator: Magdalena Galaj - W5JNF (Poland)

[An Evaluation of using Web 2.0 Technologies to Develop International Science Study Partnerships Between Students in Africa, Europe and North America](#)  
Roger Cutting- Plymouth University (United Kingdom)

[Science in Virtual Reality: Examples from the EUROVERSITY Network](#)  
Luisa Panichi- University of Hull (United Kingdom)

["The Hunt For Harald" - 3D Immersive Language and Culture Learning Through Gaming and Speech Recognition](#)  
Thomas K. Hansen- Resource Center for Integration (Denmark)

[Development of Digital Educational Resources for Education for Sustainable Development: The Courseware Sere](#)  
Patrícia Sá- University of Aveiro (Portugal)

[Enlightening Zoology Classification Using the Information Architecture Approach](#)  
Simona Butò - Junior High School S.Carlo Borromeo (Italy)

Fig.4 TALETE Presentation



Fig.5 TALETE Presentation

The paper was published in the following publication:

*Conference Proceedings*

Edited by Pixel

ISBN 9788876477577 euro 50,00 (i.i.)

New Perspectives

in Science Education - In ENGLISH

Florence, Italy 8-9 March 2012

pages 436 - Simonelli Editore - University Press.

During the conference the TALETE project brochures have been handed out.

## *Annexes*

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1. Conference program
2. TALETE Abstract

International Conference

# NEW PERSPECTIVES IN SCIENCE EDUCATION

## Conference Programme

8 - 9 March 2012

Grand Hotel Mediterraneo

*Lungarno del Tempio, 44 – Florence - Italy*



Education and Culture DG

Lifelong Learning Programme



518300-LLP-2011-IT-COMENIUS-CNW



## Thursday 8 March 2012

Room A 9:30 – 11:35	Room B 9:30 – 11:35
New Technologies for Science Teaching	Studies on Science Education

Coffee Break 11:35 - 11:45

Poster Session: 11:45 – 12:25
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Room A 12:25 – 13:15	Room B 12:25 – 13:15
New Technologies for Science Teaching	Science Education Projects and Initiatives

Lunch 13:15 – 14:45

Poster Session: 14:45 – 15:15
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Room A 15:15 – 17:20	Room B 15:15 – 17:20
New Technologies for Science Teaching	Science Teaching Methods

Coffee Break 17:20 – 17:30

## Friday 9 March 2012

Room A 9:00 – 11:05	Room B 9:00 – 11:05
Enhancing Students' Motivation	Training of Science Teachers

Coffee Break 11:05 – 11:15

Poster Session: 11:15 – 12:00
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Room A 12:00 – 13:15	Room B 12:00 – 13:15
Studies on Science Education	Science Education Projects and Initiatives

Lunch 13:15 – 14:45

Poster Session: 14:45 – 15:15
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Room A 15:15 – 17:20	Room B 15:15 – 17:20
Science Teaching Methods	Science Education Projects and Initiatives

Coffee Break 17:20 – 17:30

# International Conference

# NEW PERSPECTIVES IN SCIENCE EDUCATION

**Thursday 8 March 2012**

**Morning Session: 9:00 – 13:00**

**Room A - 9:00 – 9:30**

**Introductory Speech, Practicalities and Ice Breaking Session**

**Room A 9:30 – 11:35**

## **New Technologies for Science Teaching**

*Moderator: Magdalena Galaj - WSINF (Poland)*

An Evaluation of using Web 2.0 Technologies to Develop International Science Study Partnerships Between Students in Africa, Europe and North America

*Roger Cutting - Plymouth University (United Kingdom)*

Science in Virtual Reality: Examples from the EUROVERSITY Network

*Luisa Panichi - University of Hull (United Kingdom)*

"The Hunt For Harald" – 3D Immersive Language and Culture Learning Through Gaming and Speech Recognition

*Thomas K. Hansen - Resource Center for Integration (Denmark)*

Development of Digital Educational Resources for Education for Sustainable Development: The Courseware Sere

*Patrícia Sá - University of Aveiro (Portugal)*

Enlightening Zoology Classification Using the Information Architecture Approach

*Simona Butò - Junior High School S.Carlo Borromeo (Italy)*

**Room B 9:30 – 11:35**

## **Studies on Science Education**

*Moderator: Philippe Remy - Haute Ecole Paul-Henri Spaak (Belgium)*

Current and Future Methodologies for Improving Teacher and Student Experiences of Chemistry in Schools: an Irish Perspective

*Marie Walsh - Limerick Institute of Technology (Ireland)*

Changing the Culture of Science Education

*Marco Vencato - Swiss Science and Technology Council (Switzerland)*

The Level of Science Process Skills of Science Students

*Murat Demirbaş - Graduate School of Natural and Applied Sciences (Turkey)*

Teaching Values at School

*Gabriele Harecker - Pädagogische Hochschule Niederösterreich University of Education (Austria)*

Students' Motivation to Learn Chemistry: The Greek Case

*Dionysios Koulougliotis - TEI of Ionian Islands (Greece)*

**Coffee Break 11:35 – 11:45**

**Poster Session: 11:45 – 12:25**

**Room A 12:25 – 13:15**

## **New Technologies for Science Teaching**

*Moderator: Murat Demirbaş - Kırıkkale University, Education Faculty (Turkey)*

A Study of the Application of the CASE Methodology into Second Level Science Lessons and the Evaluation of it's Effects on Students' Cognitive Development

*Lorraine McCormack - Plymouth University (United Kingdom)*

Scientific Visualization: a Promising Tool for Marine Habitats Management

*Giovanni Landi - UBICA srl (Italy)*

**Room B 12:25 – 13:15**

## **Science Education Projects and Initiatives**

*Moderator: Milena Koleva - Technical University of Gabrovo (Bulgaria)*

X\_Science: Communicating Science through Cinema and Science Fiction

*Paolo Piccardo - University of Genoa (Italy)*

*Marilena Carnasciali - University of Genoa (Italy)*

Sharing Good Practice Examples and Tips from European Science Education Projects: Scientix, Nanochannels,

UniSchoolLabS, XploreHealth and InGenious

*Eloïse Gérard - European Schoolnet (Belgium)*

**Lunch 13:15 - 14:45**

International Conference

# NEW PERSPECTIVES IN SCIENCE EDUCATION

**Thursday 8 March 2012**

**Afternoon Session: 14:45 – 17:30**

**Poster Session: 14:45 – 15:15**

<b>Room A</b> 15:15 – 17:20	<b>Room B</b> 15:15 – 17:20
<b>New Technologies for Science Teaching</b> <i>Moderator: Dionysios Koulougliotis - TEI of Ionian Islands (Greece)</i>	<b>Science Teaching Methods</b> <i>Moderator: Marie Walsh - Limerick Institute of Technology (Ireland)</i>
<p>Young Learners Accessing Digital Media to Supplement Experiences using 'The Internet of Things' <i>Oliver Quinlan - Plymouth University (United Kingdom)</i></p> <p>New Media-Driven Re-Discovery of Science, Technology and Society in the Information Age <i>On-Kwok Lai - Kwansai Gakuin University (Japan)</i></p> <p>Effectiveness of Flash-Based Summative Assessment Using the Anchor Items on the Learning Of Science <i>Yetti Supriyati - State University of Jakarta (Indonesia)</i></p> <p>Distance Learning Methodology Applied to a Technological Subject in Higher Education <i>Luis Mediero - Technical University of Madrid (Spain)</i></p> <p>GO - Mobility in Education (geo-referencing and experiment in context) <i>Luís Noivo - Rainha Santa Isabel School (Portugal)</i> <i>Paulo Ferreira - Rainha Santa Isabel School (Portugal)</i></p>	<p>Insights into Science Students' Problem-Solving Strategies in the Chemistry Laboratory <i>Orla Kelly - Plymouth University (United Kingdom)</i></p> <p>Tangible Visualization as Bridge for Barkhausen Effect <i>Gerald Tembrevilla - Okayama University Graduate School of Education (Japan)</i></p> <p>Knowledge Restructuring of Meaningful Learning and Rote Learning Groups in Selected Topics in General Chemistry using Constructivist's Approach <i>Carmencita G. Palanca - Palawan State University, College of Sciences (Philippines)</i></p> <p>Assessing the Influence of Student Oriented Instructional Setting on Performance of Science Students with Different Cognitive Engagement Orientation <i>Hassan H. Tairab - United Arab Emirates University (United Arab Emirates)</i></p> <p>Mind Maps and Scoring Scale for Environmental Gains in Science Education <i>Özgül Keleş - Aksaray University (Turkey)</i></p>

**Coffee Break 17:20 – 17:30**

**End of the 1st Conference Day**

# International Conference

# NEW PERSPECTIVES IN SCIENCE EDUCATION

**Friday 9 March 2012**

**Morning Session: 9:00 – 13:15**

**Room A 9:00 – 11:05**

## Enhancing Students' Motivation

*Moderator: Marilena Carnasciali - University of Genoa (Italy)*

ICT in Physics Teaching for Secondary Schools and Colleges

*Beata Jarosievitz - Dennis Gabor College, SEK Budapest International School (Hungary)*

Evaluation of Students' Opinion for Enhancing Their Motivation in Learning Chemistry at Technical Universities

*Lilyana Nacheva-Skopalik - Technical University of Gabrovo (Bulgaria)*

*Milena Koleva - Technical University of Gabrovo (Bulgaria)*

DNA Notes

*Gizem Merve Baykal - Terakki Foundation Schools Private Sisli Terakki High School (Turkey)*

Improvement of Continuous Assessment in Large Groups.

Application to a Technological Subject in Higher Education

*Alfredo Granados - Technical University of Madrid (Spain)*

Environmental Projects to Motivate Science Learning in Primary Schools

*Ioana Stoicescu - University of Bucharest (Romania)*

**Room B 9:00 – 11:05**

## Training of Science Teachers

*Moderator: Roger Cutting - Plymouth University (United Kingdom)*

Teacher Education Towards Sustainability: Strategies in Elementary Science

*Alexander K. Lautensach - University of Northern British Columbia (Canada)*

Beyond Quantitative Results towards Deep Understanding in Science Learning

*Gabriela Nausica Noveanu - Institute of Educational Sciences (Romania)*

Tutoring between Future Teachers Stakes and Perspective in a Potential Learning Process

*Philippe Remy - Haute Ecole Paul-Henri Spaak (Belgium)*

The Potential Problems that Pre-Service Science Teachers may Experience during Project Guidance in Turkey

*Dilek Zeren Özer - Uludag University Elementary Science Education Department (Turkey)*

Station Experiments for Effective Teaching in Physics

*Demet Karakaş - Sisli Terakki Private School (Turkey)*

**Coffee Break 11:05 - 11:15**

**Poster Session: 11:15 – 12:00**

**Room A 12:00 – 13:15**

## Studies on Science Education

*Moderator: Massimo Olivetto - University of Florence (Italy)*

Strategies for Conceptual Change in School Science

*John Paul Riordan - Canterbury Christ Church University (United Kingdom)*

Participatory Process in Science Education Practices

*Emilio Balzano - Università degli Studi di Napoli Federico II (Italy)*

Assessment of the Turkish Teachers' Views on Making and Using Analogies in Teaching of Science

*Burhan Akpınar - Firat University (Turkey)*

**Room B 12:00 – 13:15**

## Science Education Projects and Initiatives

*Moderator: Mustafa Bayrakci - Sakarya University (Turkey)*

Teachers' Views on the Practice of Project – Based

Learning Approach in Primary School Science Education

*Yunus Doğan - Firat University (Turkey)*

Early Childhood Education Student Teachers Cross the Cultural Borders Between Science and Shadow Theatre

*Vasilis Tselfes - University of Athens (Greece)*

*Antigoni Paroussi - University of Athens (Greece)*

Education Through Participation: The Role of Citizen Science in Marine Habitat Conservation

*Martina Milanese - Studio Associato Gaia (Italy)*

**Lunch Break 13:15 - 14:45**

International Conference

# NEW PERSPECTIVES IN SCIENCE EDUCATION

**Friday 9 March 2012**

**Afternoon Session: 14:45 – 17:30**

**Poster Session: 14:45 – 15:15**

<b>Room A</b> 15:15 – 17:20	<b>Room B</b> 15:15 – 17:20
<b>Science Teaching Methods</b> <i>Moderator: Alexander K. Lautensach - University of Northern British Columbia (Canada)</i>	<b>Science Education Projects and Initiatives</b> <i>Moderator: Luisa Panichi - University of Hull (United Kingdom)</i>
<p>Implementing Creative Drama and Game Based Activities to Attain Permanent Learning of the Subject “Nomenclature of Compounds” <i>Çiğdem Nilüfer Umar - Terakki Foundation Private Şişli Terakki High School (Turkey)</i></p> <p>Science and Technology Teachers’ Proficiency for Analogy-Making <i>Bahadır Köksalan - Inonu University (Turkey)</i></p> <p>Teachers' and Students' Requirements on Geomatics and Geoinformatics Education <i>Otakar Čerba - University of West Bohemia in Pilsen (Czech Republic)</i></p> <p>Moral Implementation Through Physical and Sports Education for Olympics <i>Mulyana - State University of Jakarta (Indonesia)</i></p>	<p>It’s Lab Time – Connecting Schools to Universities’ Remote Laboratories <i>Anne-Christin Tannhäuser - ScienTer (Italy)</i></p> <p>Small-Scale, Low-Cost Analytical Instruments Extended Opportunities for Learning Analytical Chemistry <i>Nataša Gros - University of Ljubljana (Slovenia)</i></p> <p>Analysis of Current Situation for Stress Prevention and Curriculum for Stress Prevention Activities of Road Transport Drivers and SME <i>Ivan Kolarov - Higher School of Transport (Bulgaria)</i></p> <p>A Study on Insecticide Potential of Sepiolite <i>Ahu Binici - Terakki Foundation Schools Private Sisli Terakki High School (Turkey)</i></p>

**Coffee Break 17:20 – 17:30**

**End of the 2<sup>nd</sup> Conference Day**

# International Conference NEW PERSPECTIVES IN SCIENCE EDUCATION

## Posters

<p>Teamteaching Chemistry: A Concept to Promote the Acquisition of Professional Knowledge in the Context of University Internships <i>Katja Riehm - Georg-August-Universität Göttingen (Germany)</i></p>	<p>Actimath: a Remedial Course in Mathematics Adapted to the Needs of the Student and their Chosen Field of Study <i>Annemie Vermeyen - KAHO Sint-Lieven (Belgium)</i></p>
<p>Polymer Laboratory: Teaching Polymer Chemistry <i>Olga Ferreira - Polytechnic Institute of Bragança (Portugal)</i> <i>Maria Filomena Barreiro - Polytechnic Institute of Bragança (Portugal)</i></p>	<p>How Students Can Understand Sampling Within Finite Populations in Statistics <i>Tanja Van Hecke - University College Ghent (Belgium)</i></p>
<p>13 Years of Street Physics: What We Have Learnt from Street Physics Activities in Taiwan <i>Chien-Ho Chou - National Kaohsiung Normal University (Taiwan)</i></p>	<p>Students' Misunderstanding of Galileo's Experiment on the Leaning Tower of Pisa <i>Yun-Ju Chiu - Chang Gung University (Taiwan)</i></p>
<p>Investigations of Interdisciplinary Learning in Teachers Training at University as Preparation for Interdisciplinary Teaching in School <i>Jennifer Blank - Justus-Liebig-University (Germany)</i></p>	<p>Self-Assessment and Differentiated Exercising as Promising Combination for Test Preparation – A Case Study <i>Karsten Fink - Georg-August-Universität Göttingen (Germany)</i></p>
<p>The Value of Chemistry in Students' Media Reception <i>Kai Wolf - Georg-August-Universität Göttingen (Germany)</i></p>	<p>POPUCH – Popularization of Chemistry <i>Hana Bartková - ICT Prague (Czech Republic)</i></p>
<p>A Case Study on Practising in Chemistry Lessons <i>Stephanie Mika - Georg-August-Universität Göttingen (Germany)</i> <i>Thomas Waitz - Georg-August-Universität Göttingen (Germany)</i></p>	<p>Analysis of an Experience of Problem Based Learning in a Physics Course of Technical Telecommunications Engineering Degree <i>Erica Macho-Stadler - Escuela Técnica Superior de Ingeniería de Bilbao (Spain)</i></p>
<p>A New Approach for the Generation of Dynamic Learning Environments <i>Ciro Gutierrez Ascanio - Universidad de Las Palmas de Gran Canaria (Spain)</i></p>	<p>Science Data Navigation Systems to Enhance Student's Motivation <i>Tomoko Kajiyama - Aoyama Gakuin University (Japan)</i></p>
<p>Small Particles – Big Impact: Nanomaterials in Chemistry Class <i>Timm Wilke - Georg-August-Universität Göttingen (Germany)</i></p>	<p>Teaching Modern Physics Considering Different Learning Styles of Students <i>Hande Özer - Sisli Terakki Private School (Turkey)</i></p>
<p>Analysing Technological Pedagogic Content Knowledge of Science Teacher Candidates According to Various Variables <i>Mehmet Barış Horzum - Sakarya University, Education Faculty (Turkey)</i> <i>Murat Demirbaş - Kırıkkale University, Education Faculty (Turkey)</i> <i>Mustafa Bayrakci - Sakarya University, Education Faculty (Turkey)</i></p>	<p>Making Chemistry an Attractive Subject for Lifelong Learning: Interactive Approach in Presenting Educational Content <i>Milena Koleva - Technical University of Gabrovo (Bulgaria)</i> <i>Lilyana Nacheva-Skopalik - Technical University of Gabrovo (Bulgaria)</i></p>
<p>Connectivism and University: Educational Synergies <i>Marco Pozzi - University of Florence (Italy)</i></p>	<p>Causal Explanation and Predictive Explanation in Primary Science Textbooks <i>Jun-Yi Chen - National Chiayi University (Taiwan)</i></p>
<p>The Use of Weblectures and its Effect on Learning in Higher and University Education <i>Johan Van den Bossche - University college KAHO-HUB (Belgium)</i></p>	<p>Popularizing Science via Science Demonstration Outreach Program <i>Ching Chi Chu - National Central University (Taiwan)</i></p>
<p>HEPPY Project. HEalthcare: Parents PathwaYs and Functional Profile <i>Sabrina Grigolo - Presidio Sanitario Gradenigo (Italy)</i></p>	

## Virtual Presentations

(available on the conference web site)

<p>Teachers as Life-Long Learners. Quality Teacher-Quality Education?  <i>Jana Petnuchová - Slovak University of Technology in Bratislava (Slovak Republic)</i>  <i>Petra Stefkova - Slovak University of Technology in Bratislava (Slovak Republic)</i></p>	<p>Computer Simulations in Science Learning: Some Conclusions from the European Project "SPICE"  <i>Daniel Aguirre-Molina - Colegio Pedro Poveda (Spain)</i></p>
<p>Enlightening Zoology Classification - a New Tutorial System for Computer Science and Telecommunication Engineering Students  <i>Nuria Rico Castro - University of Granada (Spain)</i>  <i>Pedro Ángel Castillo Valdivieso - University of Granada (Spain)</i>  <i>Miguel Ángel Rubio Escudero - University of Granada (Spain)</i>  <i>Patricia Paderewski Rodríguez - University of Granada (Spain)</i>  <i>María Isabel García Arenas - University of Granada (Spain)</i>  <i>Eva María Ramos Ábalos - University of Granada (Spain)</i>  <i>Jesús García Miranda - University of Granada (Spain)</i>  <i>Manuel Rodríguez Álvarez - University of Granada (Spain)</i></p>	<p>Greek High School Students' Biological Science Knowledge and Their Attitudes about Biotechnology and Biological Applications  <i>Helen Andressa - National &amp; Kapodistrian University of Athens (Greece)</i>  <i>Konstantinos Gkagkavouzis - National &amp; Kapodistrian University of Athens (Greece)</i>  <i>Eleni Tsilivi - National &amp; Kapodistrian University of Athens (Greece)</i>  <i>Evangelia Mavrikaki - National &amp; Kapodistrian University of Athens (Greece)</i></p>
<p>From the Study of the (Chemical) Solution to the (Mathematical) Concept of Ratio  <i>Nadia Zamboni - Istituto comprensivo di Cogoletto (Italy)</i></p>	<p>Comparison of Primary Science Education in the Three EU countries  <i>Monika Szimethová - Comenius University in Bratislava (Slovakia)</i>  <i>Adriana Wiegerová - Tomas Bata University in Zlín (Czech Republic)</i></p>
<p>Students' Difficulties in Biology and Geology Project Work, in Portuguese Secondary Education  <i>Ana Rola - University of Coimbra (Portugal)</i>  <i>Isabel Abrantes - University of Coimbra (Portugal)</i>  <i>Celeste Gomes - University of Coimbra (Portugal)</i></p>	<p>Using of ICT in Classroom – The Development of Students' Skills  <i>Martin Podařil - Slovak University of Technology in Bratislava (Slovak Republic)</i>  <i>Martina Klierová - Slovak University of Technology in Bratislava (Slovak Republic)</i>  <i>Erika Záhorcová - Slovak University of Technology in Bratislava (Slovak Republic)</i></p>
<p>Concept of Non-exactness in Science Education  <i>Ilya Levin - Tel Aviv University (Israel)</i></p>	



### Conference Secretariat

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 Conference web site: <http://www.pixel-online.net/science/>



## Science in virtual reality: Examples from the Euroversity Network

Luisa Panichi<sup>1</sup>, Miriam Reiner<sup>2</sup>, Cristina Stefanelli<sup>3</sup>, Michela Tramonti<sup>4</sup>

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<sup>4</sup>Università degli Studi "Guglielmo Marconi" (Italy)

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### Abstract

The EUROVERSITY network is co-funded under Key Activity (ICT) of the Lifelong Learning Programme (LLP) of the EACEA and pools together resources on education in virtual worlds and virtual reality from different subjects and across all LLP sectorial programmes. The network puts into place transfer strategies so that knowledge is made available to other educators. This paper presents examples of how virtual reality and virtual worlds are used in science education.

The first example is the "embodied physics" project carried out at Technion, Israel Institute of Technology, within the EU 6th Framework PRESENCCIA project. The project explored the role of multisensory virtual reality (VR) in coping with learner misconceptions in physics. A highly immersive, multisensory learning environment for catching a ball was created. While interacting with the environment, participants were connected to an EEG 64 channel Biossemi system. Results show that in action the brain identifies the correct physics, even if verbal expressions are incorrect.

The second example the Talete (Teaching mAthS through innovative LEarning approach and conTEnts) project, a multilateral project under the LLP targeting primary and secondary school learners. Results from international surveys of school students' performance in mathematics show that students in many European countries do not perform satisfactorily. Talete addresses mathematics instruction in some of the underperforming EU countries. The project looks at the use of virtual reality for the teaching of geometry.

The third set of examples come from the AVATAR (Added Value of Teaching in a Virtual World) project, a European co-funded project under the LLP Comenius. AVATAR introduced secondary school teachers to virtual worlds for education through a moderated online course, the culmination of which was project work involving pupils in activities in a virtual world. This paper documents some of the case studies completed by teachers for virtual world activities with students in Mathematics, Chemistry, Ecology, Science and Astrophysics.