@fise group
@formal and informal science education group

Founding members

Katerina Plakitsi, Associate professor, University of Ioannina, Greece

Efthymis Stamoulis, PhD St., University of Ioannina
Charikleia Theodoraki, PhD St.
Eleni Kolokouri, PhD St.
Eftychia Nanni, PhD St.
<table>
<thead>
<tr>
<th>Name</th>
<th>Thesis (research done - final assignment)</th>
<th>Awards - Highlights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Doc Dr, Panagiotis Piliouras</td>
<td>Teaching explicitly and reflecting on elements of nature of science: A discourse focused professional development program</td>
<td>Ministry of Education, School Advisor</td>
</tr>
</tbody>
</table>
| Efthymios Stamoulis          | The historical and philosophical dimension of primary school science using ICT tools.                                                                                                                                                        | -Ms (ICT) & MA (Education)  
-Scholarship by the National Agency (I.K.Y.)  
Tools: WEB.2, data=log files                                                                                                                                                                                                                                               |
| Charicleia Theodoraki        | Designing and analyzing tasks for early grades using CHAT                                                                                                                                                                                   | -National Scholarship funded by the frame program HERAKLITUS  
-ISCAR Summer School Scholarship  
Tools: Nvivo 09                                                                                                                                                                                                                                                             |
| Eleni Kolokouri              | CHAT in formal and informal science education to pupils of 5-9 years old. The case of cartoon animations.                                                                                                                                  | -Scholarship for ISCAR Summer school in the Moscow City University of Psychology and Education  
Tools: Nvivo 09                                                                                                                                                                                                                                                             |
| Eftychia Nanni               | CHAT in primary school teachers training in science through formal and informal settings. The case of living things.                                                                                                                       | -Ms in Environment  
Tools: Moodle e-learning platform                                                                                                                                                                                                                                           |
<table>
<thead>
<tr>
<th>PhD researcher Name</th>
<th>Thesis (new research)</th>
<th>Awards - Highlights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ioanna Christonasi</td>
<td>The teaching of Optics to pre-service teachers through the lens of CHAT</td>
<td>- Primary school teacher&lt;br&gt;- St. of Physics&lt;br&gt;Tools: Second life</td>
</tr>
<tr>
<td>Liana Stylianou</td>
<td>Transferring good practices from the Environmental Education sector to Science Education sector</td>
<td>- MA (Science Education)&lt;br&gt;- Head of the Environmental Center of Naousa, Central Macedonia</td>
</tr>
<tr>
<td>Vasilis Wooseas</td>
<td>The fauna of Amvrakikos Lake Environmental education for children and lake’s habitats</td>
<td>- Ms (Environment)&lt;br&gt;- Discover of 3 new birds species&lt;br&gt;- Mensa member</td>
</tr>
<tr>
<td>Katerina Dalagianni</td>
<td>Science Education for children with special Needs</td>
<td>- Volunteer in various NGOs</td>
</tr>
<tr>
<td>Vangelis Tsarouchas</td>
<td>The science lab historical development</td>
<td>Awarded by Dublin City University (joint European PhD)</td>
</tr>
</tbody>
</table>
International Cooperation
<table>
<thead>
<tr>
<th>Experts name</th>
<th>Affiliation</th>
<th>Section of Cooperation</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wolff-Michael Roth</td>
<td>University of Victoria Canada</td>
<td>Co-authors Invited Speaker Honorable PhD by the UOI</td>
<td>2008-now</td>
</tr>
<tr>
<td>Kenneth Tobin</td>
<td>Graduate School of NY University, US</td>
<td>Cultural Studies of Science Education (Journal and Book series editor)</td>
<td>2009 - now</td>
</tr>
<tr>
<td>Catherine Milne, Mary Leou, Konstantinos Alexakos</td>
<td>Steinhardt School of Culture, Education, and Human. Development, NY University</td>
<td>Cultural Studies of Science Education (Book series editor, reviewer)</td>
<td>2009-now</td>
</tr>
<tr>
<td>Experts name</td>
<td>Affiliation</td>
<td>Section of Cooperation</td>
<td>Duration</td>
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</tr>
<tr>
<td>Sylvie Barma</td>
<td>Laval University of Quebec, Canada</td>
<td>Founding members of ISCAR-STEM <a href="http://www.iscar.org/el/Sociocultural_approaches_to_Science__Technology__Engineering_and_Mathematics_Education">link</a> Co-organizers co-chairs of Symposium at ESERA 2013 &amp; ISCAR 2014</td>
<td>2011 - now</td>
</tr>
<tr>
<td>Mattias Lundin</td>
<td>Linnaeus University of Kalmar Sweden</td>
<td>Co-teaching and co-researching ERASMUS INTENSIVE PROGRAM “LIGHT” ERASMUS INTENSIVE PROGRAM “SOCIAL RELATION IN SCHOOLS”</td>
<td>2009-now</td>
</tr>
<tr>
<td>Thomas McClouglin</td>
<td>St. Patrick’s College, Dublin City University</td>
<td>Co-teaching and co-researching Joint PhD ERASMUS INTENSIVE PROGRAM “LIGHT”</td>
<td>2009-now</td>
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Funding
<table>
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<tr>
<th>Funding Program</th>
<th>Role</th>
<th>Partners</th>
<th>Topic</th>
<th>Website</th>
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<tbody>
<tr>
<td>K. Plakitsi</td>
<td>K. Plakitsi</td>
<td></td>
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<tr>
<td>ERARMUS Intensive Programme - Social Relation in Schools 2013-2015</td>
<td>Partner-UOI</td>
<td>8 European Universities</td>
<td>Diversity</td>
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<td>Coordinato</td>
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<tr>
<td>CALLIOPE PROJECT: Communication for Adult Learning: Leveraging Innovative Options to Promote Effectiveness 2012-2013</td>
<td>Partner-UOI</td>
<td>5 European Institutions</td>
<td>Public Speaking</td>
<td>(<a href="http://calliope-project.org/">http://calliope-project.org/</a>)</td>
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<td></td>
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<tr>
<td>ISWA PROJECT: Immersion in the Science Worlds through the Arts. SiS-2010-3.0.3-1</td>
<td>Partner-UOI</td>
<td>16 European Institutions</td>
<td>Science and the Arts</td>
<td>(<a href="http://iswa.fisica.unina.it/index.php/">http://iswa.fisica.unina.it/index.php/</a> the-project)</td>
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<tr>
<td>New Greek Science Curriculum Reform 2011-</td>
<td>Co-ordinator K. Plakitsi</td>
<td>20 experts</td>
<td>Primary science curriculum</td>
<td>(<a href="http://www.meletiperivallontos.gr">www.meletiperivallontos.gr</a>)</td>
</tr>
<tr>
<td>New Greek Science Curriculum Reform 2011-</td>
<td>Co-ordinator K. Plakitsi</td>
<td>20 experts</td>
<td>Primary environmental science curriculum</td>
<td>(<a href="http://www.meletiperivallontos.gr">www.meletiperivallontos.gr</a>)</td>
</tr>
<tr>
<td>New Greek Science Curriculum Reform 2011-</td>
<td>Co-ordinator K. Plakitsi</td>
<td>20 experts</td>
<td>Secondary science curriculum</td>
<td>(<a href="http://www.meletiperivallontos.gr">www.meletiperivallontos.gr</a>)</td>
</tr>
<tr>
<td>New Greek Science Curriculum Reform 2011-</td>
<td>Co-ordinator K. Plakitsi</td>
<td>40 experts</td>
<td>Teachers Training</td>
<td>(<a href="http://www.meletiperivallontos.gr">www.meletiperivallontos.gr</a>)</td>
</tr>
<tr>
<td>New Greek Science Curriculum Reform 2011-</td>
<td>Co-ordinator K. Plakitsi</td>
<td>40 experts</td>
<td>Pilot of the primary science curriculum</td>
<td>(<a href="http://www.meletiperivallontos.gr">www.meletiperivallontos.gr</a>)</td>
</tr>
</tbody>
</table>
International Awards
<table>
<thead>
<tr>
<th>Year</th>
<th>Awards – Distinctions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>Organizer/chair of three international Symposia NFSUN 2014, and ESERA 2013 and one thematic event ISCAR 2014</td>
</tr>
<tr>
<td>2013</td>
<td>CALLIOPE project (<a href="http://calliope-project.org/">http://calliope-project.org/</a>) for Adult Learning</td>
</tr>
<tr>
<td>2012</td>
<td>Founding member of (ISCAR-STEM).</td>
</tr>
<tr>
<td>2012</td>
<td>Visiting Professor to St. Partick’s College (Dublin City University) Ireland.</td>
</tr>
<tr>
<td>2011</td>
<td>Discussant to the TRACES Symposium ESERA 2011</td>
</tr>
<tr>
<td>2011</td>
<td>Invitation from the editor in chief of the international journal Cultural Studies of Science Education, Ken Tobin, to write a review essay on Goulart and Roth’s article, in CSSE, 5(3): 577-590.</td>
</tr>
<tr>
<td>2010</td>
<td>Visiting Professor to Linnaeus University of Kalmar Sweden.</td>
</tr>
<tr>
<td>2011</td>
<td>Co-ordinator of seven successful bilateral agreements between University of Ioannina, University of Naples-Italy, Linnaeus University-Kalmar-Sweden, St. Patrick’s College-Dublin-Ireland, University of Cyprus, University of Minho-Portugal, Eindhoven University of Technology-The Netherlands.</td>
</tr>
<tr>
<td>2010</td>
<td>Awarded PhD by the Program HERACLITUS II (funded for three years)</td>
</tr>
<tr>
<td>2010</td>
<td>2nd honorary distinction of the short movie “Day Out” made by the ERASMUS IP 2009-2010 LIGHT students. Thessaloniki International Short Film Festival (<a href="http://www.azafestival.com/anl_2010winners.html">http://www.azafestival.com/anl_2010winners.html</a>).</td>
</tr>
<tr>
<td>2008</td>
<td>Session’s Best Paper of IIIS Conferences (EISTA 2008) titled “The Importance of Neuroscience Research in Science Education”.</td>
</tr>
</tbody>
</table>
New researching lines
A science teaching program for primary schools

Stages of expansive learning in activity of teaching of electromagnetism
Data

• «log file», were divided in episodes that corresponded to the different phases of the expansive learning

• the teaching was video-recorded and coded, in order to observe the students’ acts in every phase of the expansive learning
Outcomes of the fifth activity – lesson in which the students constructed a coil and an electromagnet
We propose

Using Cultural Historical Activity Theory (CHAT) to bridge the gap between theory and praxis.
PhD funded by Heraclitus program
cluster analysis of the activities nodes

Nodes Clustered by Word similarity

1. activity of interest
2. objective of activity
3. subject in this activity
4. tools mediating activity
5. rules & regulation mediating the activity
6. experimenting, classification
7. community in which activity is conducted
8. outcomes
9. the story of Archimedes
10. Archimedes’ principle of buoyancy
11. drawing Archimedes’ story
12. Expansion to different materials, 14. Archimedes’ principle of buoyancy through a cartoon
13. the king and the goldsmiths
01. the story of Archimedes
04. grandpa Archimedes’ thoughts
06. experimenting, classification
08. the crew of grandpa Archimedes
09. the story of Archimedes’ principle of buoyancy
10. Archimedes’ principle of buoyancy – the chain experiment
11. drawing Archimedes’ experiment
12. icebreaker game (getting to know each other)
13. the king and the goldsmiths

Nvivo 09 – Data analysis

October 23, 2013
Charikleia
seven frequent systems are identified, connect all factors in the triangle that lead to the outcomes of the activity (Theodoraki & Plakitsi, 2013)

sub-triangles that are identified, connect all factors in the triangle that lead to the outcomes of the activity
Figure 3: time of teacher-researcher participation

- For the first part of the sample, the researchers-teachers’ intervention was reduced.

- The teacher intervened for longer than 9:00 minutes only in a video which is equal to the activity of acquaintance with students and takes place during the first day of the intervention.

- Videos in which the researcher-teacher intervenes with time between 6:00 and 5:28 minutes in activities where storytelling...
Bob Sponge Square Pants and floating or sinking objects

Teacher in role

Bob’s mind

Eleni
Data analysis and Results - Figure 1: cluster analysis of the activities about floating and sinking concepts

This type of analysis shows the connections between the classroom activities and the frames of learning of the National Curriculum for Early Childhood.

- Activities 01, 02, 04, 08, 09 are connected with explorations and everyday-life situations.
- Activities 05, 07, 08 are organized learning activities while
- Activities 00, 03.12,13 involve routines that pupils usually do in their school life and the activities 10, 11 are games.
Following the CHAT theoretical framework, collaboration and interaction within the activity systems entailed communication regarding the use and effectiveness of mediating tools.

Within the CHAT framework, the analysis and interpretation of data concerns pupils’ selection and use of tools, the multiple mediations that take place within the classroom activity system and the way collaboration and contradictions affect the object and make visible the invisible changes within the activity systems.
Our research

- how the theoretical framework of activity theory can be applied to group work in a distance learning program

- explain the interactions among teachers

- how the tool of Virtual Learning Environments (VLE) mediate the way teachers and groups interact and support them in communicating, discussing, co-operating, learning and sharing.
Teacher Education - A Moodle platform

Topic: Living Things
The training program by using Moodle platform

• the online course lasted one month
• was comprised of six modules covered a range of in-depth topics that are related to the teaching of living things,

1. Life around us,
2. Develop skills and attitudes about life around us,
3. Teacher and social interaction
4. Didactical teaching scenario about teaching living things.

All modules
• improved the communication skills
• promoted the group work (work in groups of four to five members)
• the teachers were actively participated in many different actions
• communication in a number of ways: via email, forums, online chat, group discussion
• discussion- participation- co-operation-interaction with other groups.
3D learning: A Second Life virtual environment
Publications

Highlighting  Books
Διδασκαλία Φυσικών Επιστημών
Έρευνα & Πράξη

Το περιοδικό απευθύνεται σε όλους τους ερευνητές, εκπαιδευτικούς, μεταπτυχιακούς και προπτυχιακούς φοιτητές που συμμετέχουν στη διδασκαλία των Φυσικών Επιστημών σε όλες τις βαθμίδες της εκπαίδευσης. Το περιοδικό (τέσσερα τεύχη ετησίως) εκδίδεται από την Ένωση για τη Διδακτική των Φυσικών Επιστημών (Ε.Δ.Ι.Φ.Ε.), που αποτελεί ένα μη κερδοσκοπικό σωματείο ένωσης επιστημόνων που συμμετέχουν στη διδακτική των Φυσικών Επιστημών. Σας καλούμε να σημειώσετε την έκδοση του περιοδικού και να συμμετάσχετε με άμεσα στα αρθρά στα επόμενα τεύχη.

Το Διοικητικό Συμβούλιο της Ε.Δ.Ι.Φ.Ε.

Διδασκαλία Φυσικών Επιστημών - Έρευνα & Πράξη, ISBN 1790-2168

www.lib.uoi.gr/serp

Editor in chief
Collective issues

Socio-cultural Approaches to science education

Science Education in Early Childhood

Museum Education & Science Education
Πρόγραμμα Σπουδών Φυσικών Επιστημών Δημοτικού για το "Νέο Σχολείο"

ΕΠΙΣΤΗΜΟΝΙΚΗ ΣΥΝΤΟΝΙΣΤΡΙΑ
Κατερίνα Πλακώτη

Επίκουρη Καθηγήτρια Σχολής Επιστημών της Αγίας Παναγίας Σιωπηλής

ΕΜΠΕΡΩΝΟΜΕΝΟΙΣ
Ανδρέας Ιωάννου Κασιώτας,
Σαραφείλη Σαμουσέα,
Μαρία Διακοκάκη,
Νικόλαος Κανταρήκης,
Χρήστος Βανάτης.

Συνεργάτες και οι επιτροπογράφοι:
Οικολόγος Τραπεζίτσαλης,
Εκπαιδευτικός Διευθυντής Εκπαίδευσης
Λαυρή Παπαδάκη.

Επικοινωνία: κατερινα.πλακωτη@otenet.gr

ΑΘΗΝΑ, 2011

Πρόγραμμα Σπουδών Φυσικών Επιστημών Δημοτικού για το «Νέο Σχολείο»

ΕΠΙΧΕΙΡΗΣΙΑΚΟ ΠΡΟΓΡΑΜΜΑ ΕΚΠΑΙΔΕΥΣΗ ΚΑΙ ΔΙΔΑΣΚΑΛΙΟΥ ΜΑΘΗΤΩΝ ΝΕΟΥ ΣΧΟΛΕΙΟ (Σχολείο 21ος αιώνα) Νέο πρόγραμμα σπουδών στον Λόγο Προανακρίτης 120 000 από τον Περιφερειάρχη Α. Μακεδονίας Περιφερειακής Έδρας ΜΕΤΕ ΠΕΟ4

ΑΘΗΝΑ 25/9/2011
From 2006 till now...............  

............... in EVERY CHILD in Greece
ΠΕΡΙΒΑΛΛΟΝ
Η ΠΡΟΣΤΑΣΙΑ ΤΟΥ ΔΑΣΟΥΣ
Publications at a glance
Publications at a glance

@fise group_Publications_2009-2013
Conferences organized by the @fise group
5th Pan-Hellenic Conference with International Participation of Science in Early Childhood

@fise group
5ο ΠΑΝΕΛΛΗΝΙΟ ΣΥΝΕΔΡΙΟ
Επιστήμη και Κοινωνία:
Οι Φυσικές Επιστήμες στην προσωχολική εκπαίδευση

Οργάνωση:
Παιδαγωγικό Τμήμα Νηπιαγωγών
Σχολή Επιστημών Αγωγής, Πανεπιστήμιο Ιωαννίνων

7-9 Νοεμβρίου 2008
Ιωάννινα

Προσυνεδριακές/Παράλληλες Εκδηλώσεις
Φεστιβάλ Επιστήμης: 6-9 Νοεμβρίου 2008, Ιωάννινα
1st Science Festival

@fise group
5th Science Education PhD School

@fise group
20-22 Μαρτίου
5ο Χειμερινό Σχολείο
για υποψήφιους διδάκτορες
στη Διδακτική των Φυσικών Επιστημών
Ε.ΔΙ.Φ.Ε.
Παιδαγωγικό Τμήμα Νηπιαγωγών
Πανεπιστημίου Ιωαννίνων

5th
Winter
School
For
PhD
Students
in science education, culture, environment and society
LIGHT
Erasmus Intensive Programme
30 May - 10 June 2011
Participating Countries: Greece, Italy, Cyprus, The Netherlands, Ireland, Sweden, F
Participating Universities: UNIVERSITY OF IOANNINA, GREECE

programme includes:
- science education
- environment

Location:
University of Ioannina, Greece

Coordinator:
School of Education - Pre-School Education, University of Ioannina, Greece

For more, visit: http://erasmus-el.vol.gr/
LIGHT in Science & Society
Erasmus Intensive Program
University of Ioannina
JUNE 11-JUNE 22
2012

Coordinator
SCHOOL OF EDUCATION,
PRE-SCHOOL OF EDUCATION
Univeristy of Ioannina, Greece
Ταίνια μικρού μήκους
Day Out
O άνθρωπος ταξιδεύει πιο γρήγορα από το φως?

Δημιουργοί:
Νίκος Αποστολάκης, Κατερίνα Γεροβανά, Ελίζα Ηλία Γαμωνάδου
Προϊόντος: Κατερίνα Πλακίτση
Προπαγανδιστής: Χρήστος Σπαρίδης

"Εξ ολίγης προφοράς που δεν τιμητούν "

Στο πλαίσιο των εργασιών του Διεθνούς Θερινού Πανεπιστημίου –
Ευρωπαϊκού Προγράμματος ERASMUS-Ι.Ρ. "LIGHT",
το Παιδαγωγικό Τμήμα Νηπιαγωγών του Πανεπιστημίου Ιωαννίνων
ςας προσκαλεί στο Σάββατο 19 Ιουνίου και ώρα 21:00
στην Αίθουσα Αρχιεπισκόπου Σπυρίδωνος της Ζωοπαιδικής Παιδαγωγικής Ακαδημίας
στην πρεμιέρα της ταινίας μικρού μήκους
"Day Out".

Ομιλητές:
Πρύτανης Πανεπιστημίου Ιωαννίνων, Καθ. Ιωάννης Γεροβανάς.
Κοσμηματος της Σχολής Επιστημών Αγωνιάς, Καθ. Πολυαξήν Παγεί.
Πρόεδρος του Παιδαγωγικού Τμήματος Νηπιαγωγών, Καθ. Μαρία Καλλιρροιδά.
Συνεντευκτική Ερασμός-Ι.Ρ., Επ. Καθηγήτρια Κατερίνα Πλακίτση.
Φωτογράφοι – Δημιουργοί της ταινίας.

* Προσέλευση έως τις 20:45.
* Η ταινία είναι στην ελληνική γλώσσα με αγγλικός υπότιτλος.
* Επικοινωνία: 2651005771-2651005757 http://erasmus-ip.uoi.gr

Η πρεμιέρα της ταινίας “Day Out” αφιερώνεται στα Special Olympics Athens 2011
και για την πόλη των Ιωαννίνων στην ΕΛ.Ε.Ψ.Α.Π. και τη ΜΕΡΙΜΝΑ.

Ευγενικοί Χορηγοί:
-Ευρωπαϊκή Επιτροπή - Ι.Κ.Υ.
-Επιτροπή Λόγου και Τέχνης, Πανεπιστήμιο Ιωαννίνων
-Ιερό Μητρόπολις Ιωαννίνων
-Τράπεζα Ηπείρου
-Εργαστήριο Νεότητας Ελλάδας και Νεοελληνικού Πολιτισμού, Παιδαγωγικό Τμήμα
Νηπιαγωγών Πανεπιστημίου Ιωαννίνων
-Συνέντευξις Art Deco – Καφέ Σύννεφο 9
-Βιβλιοπωλείο ΕΛΕΥΘΕΡΟΥΔΑΚΗΣ
With unbelievable light.
Co-operation with NGO’s

Joint Workshops with Action Aid, WWF, Special Olympics AND Ioannina ELEPAP and MERIMNA
Co-operation with NGO’s with WWF in Vikos Gorge
The Flame of Hope

• special Olympics Athens 2011
CULTURAL COMMITTEE OF UOI –
project FEAR

What color is cancer?

An Interactive Project for Primary Education in five stations

1: ‘The Cell Dance’, where students represent Mitosis by dancing
2: ‘The Cell Mitos’, where students describe the interactions of cells using a ball of thread
3: ‘The Speech of Cells’, where students play roles and read theatrical dialogues
4: ‘Cells through the microscope’, where students watch cells of the human body
5: ‘Cells’ Faces’, where students create a collage with real pictures of skin cells
6: ‘Cells’ Fears’, where students write about their fears in small pieces of paper
Local primary schools go to the Science Lab
The Science Lab goes to local primary schools
@fise group
for revisiting Science Education

Thank you for your attention

kplakits@cc.uoi.gr
http://users.uoi.gr/kplakits
www.lib.uoi.gr/serp
www.meletiperivallontos.gr