

**EDUCATIONAL CONFERENCE “TEACHING SCIENCES IN SCHOOLS WITH  
CREATIVITY AND INNOVATION: TRANSFORMING THE THEORY INTO  
PRACTICE”, Crete 6-11 December 2017, Greece**

<https://teachscisch.wordpress.com/>

**PROGRAM**

**WEDNESDAY 6 DECEMBER**

**Amphitheatre of 1<sup>st</sup> Lyceum of Rethymnon**

**SESSION 1. OPENING OF THE CONFERENCE**

**CHAIR Giannela Stella**

16.30 WELCOMING AND INTRODUCING OF THE PARTICIPANTS

**SESSION 2.**

**CHAIR Tsigkris Miltiadis**

17.00 Giannela Stella ACTIONS-PROFESSIONAL ORIENTATION PROGRAMS IN THE CENTERS FOR COUNSELING AND VOCATIONAL GUIDANCE (KE.SY.P.) OF SECONDARY EDUCATION

17.15 Meogrossi Pierro, LE FORME PREFERITE DELLA MENTE- THE LABORATORIUM IN VENICE 2017

17.30 Drakaki Maria, YOUTH IN GREECE IN THE ERA OF THE CRISIS: THE STATE OF PLAY

17.45 Demetriou-Chatzichristou Chrysoula THE ROLE OF TEACHER IN STUDENT ASSESSMENT IN CYPRUS EDUCATIONAL REFORMATION

18.00 Kasimati Aikaterini FOSTERING 21ST CENTURY SKILLS THROUGH AN AUTHENTIC LEARNING AND ASSESSMENT FRAMEWORK

18.15 Kalathaki Maria THE TEACHERS' TRAINING IN THE REGIONAL TRAINING CENTERS OF GREECE-25 YEARS EXPERIENCE

18.30 Round Table TRAINING AND RE-TRAINING OF SCIENCE TEACHERS, Coordinator: Tsigkris Miltiadis,

19.30 CONCLUSIONS AND SUGGESTIONS

**THURSDAY 7 DECEMBER 2017**

**Polykentro of Platanias Municipality, Chania**

**SESSION 3.**

**CHAIR Malandrakis I**

09.00 Arrivals of the Students and Teachers. Welcoming by Simandirakis Panagiotis, Appointed Counselor for Education of Chania prefecture, Region of Crete

09.30 Malandrakis I THE VISION FOR THE EDUCATION OF PLATANIAS MUNICIPALITY TO AVOID THE STRONG CONSEQUENCES OF THE ECONOMICAL CRISIS (in Greek)

10.00 Malandrakis S WHAT THE STUDENTS NEED FROM THEIR LOCAL COMMUNITY-DISCUSSION WITH STUDENTS (in Greek)

10.30 Zorbas K, THE EDUCATIONAL WORK OF ORTHODOX ACADEMY OF CRETE

11.00 BRAKE WITH THE MUSIC SCHOOL OF CHANIA

**SESSION 4.**

**CHAIR Kalathaki M**

11.30 Demetriou-Chatzichristou C, THE ROLE OF PROJECT IN STUDENT ASSESSMENT IN MATHEMATICS AND SCIENCE EDUCATION

12.00 Adamidis A & Students of Lyceum Voukolies, APPLYING THE KNOWLEDGE OF CHEMISTRY AND BIOLOGY OF THE LYCEUM TO PRODUCE BIODIESEL FROM USED COOKING FATS AND SPIRITS OF FALLEN ORANGES

12.15 Meogrossi P, THINKING BEYOND THE USUAL: THE SAME SUNLIGHT NATURALLY ACCORDED TO AN ANCIENT CODE HERITAGE (in English)

**13.00 BRAKE**

#### **SESSION 5.**

**CHAIR Chatzichristou Chrysoula**

15.00 Kalathaki M, TRANSFORMING THE SCHOOL SCIENCE LABORATORIES INTO CIVIC TECH HUBS FOR SHARING KNOWLEDGE AND IDEAS (In Greek)

15.30 WORKSHOP with the subject 'UTOPIA & REALITY'. Coordinator Piero Meogrossi (in English and Greek)

16.30 DISCUSSION, CONCLUSIONS, SUGGESTIONS FOR SCIENCE FUTURE TEACHING IN SCHOOLS

### **FRIDAY 8 DECEMBER 2017**

**1<sup>st</sup> Public Institute of Vocational Training in Heraklion-Library**

#### **SESSION 6**

**CHAIR Saitakis Artemis**

14.30-15.30 WORKING LUNCH ON "BUILDING PARTNERSHIPS IN STEM EDUCATION & TRAINING FOR YOUTH ENTREPRENEURSHIP"

15.30 Honorary Reception Ceremony for the Volunteers of the LIBRARY OF REGIONAL TRAINING CENTER OF HERAKLION, donors of books and services

-Kalathaki Maria, INITIATIVES OF EDUCATIONAL ADMINISTRATION EXECUTIVES: CONSTRUCTION OF THE LIBRARY OF DIDACTIC AND PEDAGOGIC CONTENT, A CASE STUDY

### **FRIDAY 8 DECEMBER 2017**

**Regional Training Center of Heraklion-Classroom of History**

#### **SESSION 7**

**CHAIR Kalathaki Maria**

16.00 Chaimala F SUPPORTING STEM TEACHERS' COMPETENCE DEVELOPMENT THROUGH INQUIRY BASED LEARNING: THE ELITE PROJECT APPROACH

16.30 Argyropoulou E, APPROACHES TO DEVELOP ETHICAL LEADERSHIP IN SCHOOLS'

17.00 Podaras D, Plaiti W, Polychronaki T HELLENIC CENTRE FOR MARINE RESEARCH: AIMING TOWARD, A STUDENT CENTERED, INNOVATIVE AND INTERACTIVE TEACHING OF MARINE SCIENCES

17.30 Tzianoudakis G, Tzianoudakis L YOUNG ENTREPRENEURSHIP IN CRISIS SEASONS: LESSONS AND COMPLICATIONS

#### **SESSION 8**

**CHAIR Dimitriou Polyxeni**

17.45 Tsigkris M WE START FROM SCIENCE, LIKE...S.T.E.M.

18.00 Nadaban L NON-FORMAL TECHNIQUES IN TEACHING

18.15 Tsagkatakis I THE PHILOSOPHY OF "VRISKOUMENO" IN THE CRETAN NUTRITION

18.30 Owens G FROM LINEAR B TO THE PHAISTOS DISC

18.45 Discussion with Erasmus Students hosting by the Technological Educational Institute of Crete about the importance of students mobility in the framework of Erasmus projects

19.00 Team of Astronomy of the University of Crete STARS OBSERVATION

**21.30 DINNER**

## **SATURDAY 9 DECEMBER 2017**

### **Regional Training Center of Heraklion-Science Laboratory**

#### **SESSION 9.**

##### **CHAIR Ucar Sedat**

10.00 Fountoulakis A, Manouras F, Maroukli M A STEM SCHOOL PROJECT: ABOUT EVERYTHING UNDER THE SUN

10.15 Ucar S A MODEL OF TEACHING TIDES

10.30 Dimitriou P THE ROLE OF THE LEADERSHIP OF THE INSTITUTION OF VOCATIONAL TRAINING AND ITS IMPACT ON THE MOTIVATION OF ITS EDUCATIONAL STAFF

10.45 Paraschou T INQUIRE BASED LEARNING AND EXPERIMENTS WITH DAILY MATERIALS. THE EXAMPLE OF TOOTHPASTE

11.00 Archontaki N CHEMISTRY CREATES LIQUEUR- AN EDUCATIONAL SEMINAR IN SCHOOL

11.15 Schoinoplokaki E MAKING HANDMADE SOAPS AT HOME AND SCHOOL LABORATORY

11.30 BRAKE

## **SATURDAY 9 DECEMBER 2017**

### **Regional Training Center of Heraklion-History Classroom**

#### **SESSION 10.**

##### **CHAIR Cakmakci Gultekin**

12.00 Lampakis S DISASTER RESPONSE SKILLS AND ATTITUDES IN TEENAGE POPULATIONS: A SURVEY ON ADOLESCENT POPULATIONS

12.15 Rovithis M EFFECTIVE TEACHING SKILLS—HOW TO BECOME A BETTER EDUCATOR FOR HEALTH RELATED COURSES

12.30 Demetriou-Hadjichristou C, THE LAKATOSIAN METHOD FOSTERS TRANSITION FROM THE ALTERNATIVE CONCEPTIONS TO THE SCIENTIFIC CONCEPTS: AN EXAMPLE IN GEOMETRY OF THE COGNITIVE CONFLICT MAP BASED ON LAKATOSIAN METHOD.

12.45 Tsoutsoudakis A HIGH SCHOOL STUDENTS ON THEIR WAY TO SCIENCE—THE BEAMLINE FOR SCHOOLS COMPETITION

13.00 Zacharioudaki A DIOSCORIDES PEDANIUS, FATHER OF PHARMACOLOGY

13.15 Andreadis E, Xiraki Sofia SACRED? TRIANGLES OF ANTIQUITY

13.30 Meogrossi P, MEDITERRANEAN HERITAGE: A NOSTOS FROM CRETE TO ROME-L'ISOLA DI CRETA ESTREMITÀ E FUTURO DI EUROPA

14.00 BRAKE

#### **SESSION 11.**

##### **CHAIR Kalathaki Maria**

15.00 Workshop Coordinated by Kalathaki M & Nadaban Laura RETHINKING ON ESSEL: a European Project for collaborative didactic research and entrepreneurship in Education

## **SATURDAY 9 DECEMBER 2017**

### **EXCURSION TO EAST CRETE - Agios Nikolaos, Lasithi**

#### **SESSION 11.**

##### **CHAIR Tziotis Stavros**

16.00 Excursion to Agios Nikolaos, Elounda, Spinalonga

**21.30 DINNER**

## **SUNDAY 10 DECEMBER 2017**

### **Regional Training Center of Heraklion**

#### **SESSION 12.**

##### **CHAIR Kadir Demir**

09.30 Michailidi A, Eleftheriou M, Siligardou F SCIENTIX THE COMMUNITY FOR STEM EDUCATION IN EUROPE

10.00 Venetis C, Pentheroudakis G and Tsigris M "LAB-MADE" INSTRUMENTS IN BIOLOGY TEACHING

10.15 Chalkiadakis C WALKING AROUND THE SOLAR SYSTEM

10.30 Mavromatakis G A SIMULATION OF THE HUMAN DIGESTIVE SYSTEM

10.45 Altas E AN EXPERIENCE OF PARTICIPATING IN A ESA ROBOTICS TEACHER TRAINING WORKSHOP

11.00 Vogiatsi E, Deiktaki A, Katsarou V STUDENTS4EUROPE: EDUCATING/TRAINING STUDENTS AS CITIZENS THROUGH THE SIMULATION OF THE EUROPEAN PARLIAMENT, SCIENTIFIC LITERACY AND ACTIVE CITIZENSHIP

11.15 Zaneka S ASCLEPIUS AND THE HEALING CHARACTER OF THE TEMPLES OF ASCLEPIUS

11.30 BRAKE

#### **SESSION 13.**

##### **CHAIR Chaniotakis N**

12.00 Kadir D EXAMINING USA'S VISION OF STEM EDUCATION: ISSUES, CHALLENGES, AND PROMISES

12.30 Cavas B

13.00 Cakmakci G ENGINEERING PRACTICES IN EDUCATION: DESIGN THINKING

13.30 Ucar S THE CONNECTION BETWEEN THE STEM AND ENTREPRENEURSHIP EDUCATION

14.00 BRAKE

#### **SESSION 14.**

##### **CHAIR Cavas Bulent**

15.00 Round Table with Professors of Higher Education with the issue of "The future of Secondary Education Teachers' Training in Science Education: international trends, challenges and initiatives'. The professors will have a short presentation of 5 minutes and then discussion  
Coordinator: Bulent Cavas.

##### Professors Panel:

- Teacher training and beyond: Prof.Dr.Bulent Cavas, Dokuz Eylul University, Turkey, ICASE – Moderator
- Strengths and weaknesses in teacher training and challenges in USA: Assoc.Prof.Dr.Kadir Demir, Georgia State University, USA
- Strengths and weaknesses in teacher training challenges in UK: Assoc.Prof.Dr.Gultekin Çakmakçı, Hacettepe University, Turkey
- Preparing the new generation of Science Teachers: Chaniotakis Nikolaos, Dean of the School of Sciences & Engineering, University of Crete
- Beyond the teacher training: Professional Developments of Teachers: Assoc.Prof.Dr.Sedat Uçar, Çukurova University, Turkey
- Research tendencies on Science Teachers' Training: Foteini Chaimala, Postdoc Researcher, Educational Research & Evaluation (ERE) Group, Institute of Applied & Computational Mathematics (IACM), Foundation for Research and Technology Hellas (FORTH), Greece
- The past and the unknown future in teacher training in Greece: Maria Kalathaki, Director of the Regional Training Center of Heraklion, Greece

**SESSION 15.****CHAIR Tsigkris Miltiadis**

16.00 Award of honorary diploma for the retirement of the Head of the Laboratory Science Center of Chania Mr Markogiannakis Dimosthenis

**SUNDAY 10 DECEMBER 2017****GUIDED TOUR IN THE HISTORICAL CITY OF HERAKLION****SESSION 16.****CHAIR Papastefanaki A**

17.30 Papastefanaki A, Pantelaki E HISTORICAL BUILDINGS & DETERMINATIONS IN THE CITY OF HERAKLION

FREE NIGHT

**MONDAY 11 DECEMBER 2017****IN THE LABORATORIES OF THE TECHNOLOGICAL AND EDUCATIONAL INSTITUTE OF CRETE****SESSION 17.****CHAIR Xanthos Georgios**

09.30 Mavromatakis F, LABORATORY OF ENERGY AND PHOTOVOLTAIC SYSTEMS

10.30 Papadakaki M, LABORATORY OF HEALTH & ROAD SAFETY

**SESSION 18.****CHAIR Kalathaki Maria**

11.30 Ververidis Ph. Guide in the TEI FARM.

12.30 CONCLUSIONS & SUGGESTIONS CLOSING OF THE CONFERENCE, DEPARTURE OF DELEGATIONS

The diet of meetings is a voluntary affair of many locals

The participation is optional

**PARTICIPANTS WITH LECTURES**

1. Adamidis Adam, Chemist, Teacher in General Lyceum of Voukolies Chanion
2. Altas Evaggelos, Physicist, Teacher in 3<sup>rd</sup> Gymnasium of Rethymnon, Crete
3. Andreadis Emmanouel, Geologist, Teacher in Gymnasium Neas Kydonias, Chania, Crete
4. Archontaki Nectaria, Chemist, Teacher in Gymnasium of Vryses, Apokoronas, Crete
5. Argyropoulou Eleftheria, Assistant Professor [Organization, Management and Leadership in Education], University of Crete, Rethymnon
6. Cavas Bulent, Professor of Science Education, Dokuz Eylul University, Faculty of Education, Department of Science Education, President of the International Council of Associations for Science Education (ICASE), Board Member Council of Elementary Science International (CESI), Buca-Izmir, Turkey
7. Çakmakçı Gultekin, Assoc.Prof.Dr., Hacettepe University, Ankara, Turkey
8. Chaimala Foteini, Postdoc Researcher, Educational Research & Evaluation (ERE) Group, Institute of Applied & Computational Mathematics (IACM), Foundation for Research and Technology Hellas (FORTH), Heraklion, Crete
9. Chalkiadakis Konstantinos, Physicist, Teacher in 3<sup>rd</sup> Gymnasium of Rethymnon, Crete
10. Chaniotakis Nikolaos, Dean of the School of Sciences and Engineering, University of Crete
11. Deiktaki Anastasia, Teacher of Social Sciences, Experimental Lyceum of Rethymnon, Crete
12. Demetriou-Hatjichristou Chrysoula, Inspector of Mathematics Secondary Education of Cyprus

13. Dimitriou Polyxeni, Teacher-Economist, Adult Education, Director of Institute of Vocational Training of Epanomi, Thessaloniki
14. Drakaki Maria, School Advisor for Primary Teachers of Heraklion, Crete
15. Drakaki Maria, Sociologist, PhD Candidate at the Department of Political Science of the University of Crete and Researcher at the Centre for Political Research and Documentation (KEPET)/UCRC of the University of Crete
16. Eleftheriou Maria, Scientix Ambassador, STEM Secondary teacher, Heraklion, Crete
17. Fountoulakis Antonios, Physicist, Computing Science, Department of Electrical Engineering, Technological Educational Institute of Crete
18. Garancini Gian Andrea Paolo, Appointed Counselor for Tourism in Heraklion Municipality, Crete
19. Gianella Stella, Adviser on School Vocational Guidance, Center for Counseling and Vocational Guidance (KE.SY.P.) of Rethymnon, Crete
20. Kadir Demir, Associate Professor of Science Education, Associate Editor of School Science Mathematics, MSE- Department of Middle and Secondary Education, College of Education & Human Development, Georgia State University, Atlanta, USA
21. Kalathaki Maria, School Advisor for Science Teachers, West Crete prefecture, Director of the Regional Training Center of Heraklion, Regional Administration of Primary & Secondary Education of Crete
22. Kalogerakis Antonios, Head of the Institute of Theology and Ecology, Department of the Orthodox Academy of Crete (OAC)
23. Kampourakis Lampros, Appointed Counselor for Education of Heraklion prefecture, Region of Crete
24. Kasimati Aikaterini, Associate Professor, School of Pedagogical and Technological Education (ASPATE), Athens
25. Katsarakis Nikolaos, Professor, New Rector of the Technological Educational Institute (TEI) of Crete
26. Katsarou Vasiliki, Teacher of Social Sciences, Experimental Lyceum of Rethymnon, Crete
27. Kokolaki Zacharania, Kindergarten, Directorate of the Regional Training Centre of Heraklion, Crete
28. Kornilaki Maria-Erika, Director of the 1<sup>st</sup> Public Institute for Vocational Training
29. Lampakis Stylianos, Doctor, National Ambulance, Crete
30. Malandraki Sofia, Dentist, ex-President of the Parents' Association of Chania, Crete
31. Malandrakis Ioannis, Mayor of Platanias Municipality, Chania, Crete
32. Manouras Faidonas, Teacher in Lyceum of Archanes, Heraklion, Crete
33. Markogiannakis Dimosthenis, Chemist, retired Head of the Laboratory Science Center of Chania
34. Maroukli Maria, Mathematician, Teacher in Archanes Lyceum, Heraklion, Crete
35. Mavromatakis Fotis, Professor, Laboratory of Energy and Photovoltaic Systems, Technological and Educational Institute of Crete
36. Mavromatakis Georgios, Biologist, Teacher in Alikianos Gymnasium, Chania, Crete
37. Meogrossi Piero, Architect, Speciale Soprintendenza Beni Archeologici Roma (SSBAR)/ Ministero Beni Culturali (MIBACT), Rome, Italy
38. Milathianaki Marilena, Primary Teacher, Regional Administration of Primary & secondary Education of Crete
39. Michailidi Afroditi, Scientix Ambassador, STEM Secondary teacher, Heraklion, Crete
40. Nadaban Laura, Linguistic Inspector, Arad County School Inspectorate, Romania
41. Owens Gareth, International Relations Office of Technological Educational Institute (TEI) of Crete
42. Pantelaki Eleftheria, Greek Literature Teacher in Archanes Gymnasium, Heraklion, Crete

43. Panteri Maria, Psychologist, Deputy Psychologist at the Center for Diagnosis, Differentiation & Support (KEDDY) of Heraklion, Crete
44. Papadakaki Maria, Professor, Laboratory of Health & Road Safety, Technological and Educational Institute of Crete
45. Papastefanaki Anna, Greek Literature Teacher in Meleses Lyceum, Heraklion, Crete
46. Paraschou Theodoros, Geologist, Teacher in 3<sup>rd</sup> Lyceum of Chania, Crete
47. Pentheroudakis Georgios, Biologist, Teacher in Experimental Lyceum of Rethymnon
48. Plaiti W, Cretaquarium
49. Podaras dimitrios, Cretaquarium
50. Polychronaki Thaleia, Cretaquarium
51. Rovithis Michael, Lecturer in Nursing Department, Technological Educational Institute (TEI) of Crete
52. Saitakis Artemis, Director of the Scientific & Technological Park of Crete (STEP-C), Foundation of Research and Technology-Hellas (FORTH), Heraklion, Crete
53. Schoinoplokaki Evaggelia, Chemist, Teacher in 1<sup>st</sup> Gymnasium of Kisamos, Chania
54. Siligardou Fotini, Scientix Ambassador, STEM Secondary teacher, Heraklion, Crete
55. Simandirakis Panagiotis, Appointed Counselor for Education of Chania prefecture, Region of Crete
56. Tsagtakakis Ioannis, Chemist, Trainer at the 1st Public Institute of Vocational Training (IEK) of Heraklion, Crete
57. Tsigkris Miltiadis, Chemist, Head of the Science Laboratory Center of Rethymnon, Crete
58. Tsoutsoudakis Astrinos, Physicist, Teacher in General Lyceum of Gazi, Heraklion, Crete
59. Tzianoudakis Georgios, owner of the Cretan Organic Olive Oil Company 'Cretanthos', Rethymnon, Crete
60. Tzianoudakis Leonidas, Chemist, Retired Teacher of Secondary Education of Rethymnon, Crete
61. Tziotis Stavros, Geologist, Teacher in Meleses Gymnasium, Heraklion, Crete
62. Ucar Sedat, Associate Prof. Dr., Cukurova University, Faculty of Education, Department of Mathematics and Science Education, Elementary Science Education, Saricam-Adana, Turkey
63. Venetis Konstantinos, Biologist, Member of the Pedagogical Team of SLC-R
64. Ververidis Philipos, Professor, Dean of the School of Technology for Farming and Food of the Technological and Educational Institute (TEI) of Crete
65. Vogiatzi Eirini, Teacher of Greek Language, Experimental Lyceum of Rethymnon, Crete
66. Xanthos Georgios, Assistant Professor and Scientific Coordinator of the Interconnection Office of Technological Education Institute (TEI) of Crete
67. Xiraki Sofia, Mathematician, Teacher in Gymnasium Neas Kydonias, Chania, Crete
68. Zacharioudaki Adroniki, Doctor of Haematology, ex-Director of the Blood Bank of the General Hospital of Chania Crete
69. Zaneke Stergiani, Greek Literature Teacher in 1<sup>st</sup> Lyceum of Chania, Crete
70. Zormpas Konstantinos, General Director of the Orthodox Academy of Crete, Colibari, Chania