SCIENCE EDUCATION AND GUIDANCE IN SCHOOLS: THE WAY FORWARD

Firenze, October 21-22, 2013
Auditorium Sant'Apollonia, via San Gallo 25 A

The workshop aim is to promote discussion at international level on science learning, teaching methodologies and ICT for scientific learning in schools. The main themes will be: Science education experiences; technology in Science education and guidance; Assessment of student learning in Science education; new guidance intervention evidence-based in Science field.

Official language: English

Contacts: workshop@ibimet.cnr.it, tel. 0039 055 3033711, fax 0039 055 308910

Costs: The “Acariss project” www.acariss.it covers the costs of the workshop

How to reach the venue from Santa Maria Novella Central Station
SCIENCE EDUCATION AND GUIDANCE IN SCHOOLS: THE WAY FORWARD

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Workshop Committee
Dr. Antonio Raschi, Institute of Biometeorology-NRC, Firenze
Prof. Luca Sebastiani, Scuola Superiore Sant'Anna, Pisa
Prof. Annamaria Di Fabio, Department of Education and Psychology – University of Firenze

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Dr. Anna Grimaldi, Department of Labour Market and Social Policies - ISFOL, Rome, Italy
Prof. Alexander Lux, Dept Plant Physiology, Comenius University, Bratislava, Slovakia
Prof. Arianna Menciassi - BioRobotic Institute, Scuola Superiore Sant’Anna, Pisa, Italy
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Dr. Philippe Saugier, Independent consultant, former CarboSchools coordinator, France
Dr. Sally Soria-Dengg, GEOMAR - Helmholtz Centre for Ocean Research, Kiel, Germany

Organizing Committee
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Luca Sebastiani, Scuola Superiore Sant’Anna, Pisa
Annamaria Di Fabio, Department of Education and Psychology – University of Firenze
Elisa Buselli, Scuola Superiore Sant’Anna, Pisa
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Alessandra Francini, Scuola Superiore Sant’Anna, Pisa
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Graziella Rossini, Institute of Biometeorology- NRC, Firenze
Francesca Ugolini, Institute of Biometeorology- NRC, Firenze

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Carolina Vagnoni, Institute of Biometeorology - NRC, Firenze
Francesca Martelli, Institute of Biometeorology - NRC, Firenze
PROGRAMME

21 OCTOBER, MONDAY

8:30 – 9:30 REGISTRATION

9:30 – WELCOME TO PARTICIPANTS

Stella Targetti, Vice president of Regione Toscana
Francesco Loreto, Director of the Bio-Agrofood Department - NRC
Anna Nozzoli, Deputy Rector Academics and Student Services, University of Florence
Enrico Pè, Director of the Life Sciences Institute - Scuola Superiore Sant’Anna
Antonio Raschi, Director of the Institute of Biometeorology - NRC

10:00 – 11:00 SESSION 1  chair: A. Di Fabio

10:00 – 10:30  PLENARY LECTURE
Guidance and career counseling for the promotion of scientific talents
A. Di Fabio

10:30 – 11:00
Alternative stages and tools for science.
M.J. Arévalo Caballero, V. Gil Álvarez, F. Cañada Cañada

Active learning spaces in schools and higher education
A. Torres, P. Castro

11:00 – 11:30 Coffee break

11:30 – 12:45 SESSION 2  chair: L. Sebastiani

11:30 – 12:00  PLENARY LECTURE
The educational activities of the European Geosciences Union
C. Laj

12:00 – 12:45
Eduscience project – Effective way of teaching natural sciences at Polish schools
A. Goździk

From school to university: a round trip
C. Grazioli, L. Pirovano, G. Viale, P. Plevani
ACARISS project: a two years experience of IBL method for Science teaching in secondary schools


13:00 – 14:30 Lunch

14:30 – 15:15 SESSION 3 chair: S. Soria Dengg

Communicating science to high school pupils by video
S. Soria Dengg, J. Dengg

Gamification in education: hints and examples
T. Sviridova, U. Marikutsa

Teaching informatics for fun and profit
C. Bellettini, V. Lonati, D. Malchiodi, M. Monga, A. Morpurgo, M. Torelli

15:15 – 15:45 Coffee break

15:45 – 16:45 SESSION 4 chair: A. Raschi

Particular qualities of development of school students’ reflective abilities
T. Mukii, O. Siurin

Elaboration of models as didactic project for teaching knowledge of the natural environment in primary education
G. Martinez Borreguero, F.L. Naranjo Correa

Generic competences and science and mathematical education
J.F. Zorrilla Alcalá

Brief Italian RIASEC scale: preliminary results
M. Martini, P. Gatti, C. Ghislieri

POSTER SESSION 17:00 – 18:00

20:00 DINNER
22 OCTOBER, TUESDAY

9:00 – 10:15 SESSION 5  
chair: A. L’Astorina

9:00 – 9:30  
PLENARY LECTURE
Enhancing students’ participation in the scientific debate
T. Castellani, A. L’Astorina, A. Valente

9:30 – 10:15  
Teaching early mathematic in school using Information and communications technology. Intervention evidence-based
J.I. Navarro, E. Aragon, M. Aguilar, R. Howell

Evaluation of the effectiveness of ACARISS project: New perspectives for developing talents in the field of science

Evolution of alternative conceptions on pure substances and mixtures of Primary Education students’
F. Cañada, C. Pizarro, L. Melo, J. Cubero, M.J. Arévalo

10:15 – 10:45 Coffee break

10:45 – 13:00 SESSION 6  
chair: S. Panzavolta

10:45 – 11:15  
PLENARY LECTURE
DESIRE: Disseminating Educational Science, Innovation and Research in Europe
S. Panzavolta

11:15 – 13:00  
Teaching scientific methodology on the examples of yeast protocols
J. Lilpop, B. Ostrowska

Case study, resources, ideas and practice to bring Inquiry-based Polar Sciences into Italian classrooms
M. Macario, C. Invernizzi, E. Paris, F. Talarico

Effect of teaching with kitchen resources on students' academics performance and retention in thermochemistry in cross river state, Nigeria
C.O. Nja, H.A. Neji

Meteorology and Climatology education: an Experience with young people in Friuli Venezia Giulia – Italy
S. Nordio, A. Pucillo, S. Micheletti, M. Gani
Serious games and intergenerational learning for nature conservation volunteers
F. Ugolini, L. Massetti, G. Rossini, L. Pellegrino, A. Lucarelli, M. Demi, A. Raschi

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<th>13:00 – 14:30 Lunch</th>
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<th>14:30 – 15:45 SESSION 7</th>
<th>chair: A. Valente</th>
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<tr>
<td>Research on mobile learning scenarios in science education in Europe</td>
<td>E. Kurilovas, V. Birenienė</td>
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<td>Teaching Earth science: a web site for teachers</td>
<td>L. Lancellotti, C. Invernizzi, E. Paris</td>
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<td>The role of textbooks in science education: a case study on human migrations</td>
<td>A. Valente, T. Castellani, S. Caravita</td>
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<td>Who want to be a weather forecaster? Meteorology and education activities at LaMMA Consortium, Tuscany weather service</td>
<td>V. Grasso, V. Capecchi, G. Bartolini, R. Benedetti, G. Betti, R. Magno, A. Orlandi, F. Piani, C. Tei, T. Torrigiani, F. Zabini</td>
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16:00 Conclusions and greetings and coffee break

17:30 Guided visit at the Ximenian Observatory - the historical meteorological observatory in the hearth of Florence.
POSTERS:

*Alium cepa* as an environmental bioindicator

Inquiry based science education in virtual world
A. Boniello, M. Gallitelli

Inquiry approach in robotics education
E. Buselli, F. Cecchi, L. Sebastiani

The module Eutrophication in the experience of ITIS L. da Vinci, Pisa
P. Caroti, F. Scimonelli, Students of classes 2A and 3BTA

Helping Italian science teachers to make earth and climate active lessons. Results of 3 years support with the ICLEEN project
M. Cattadori, A. Pontalti, M. Macario

Emotional intelligence and success in mathematics: An empirical study
A. Di Fabio, O. Bucci

Decisional styles and success in mathematics in high school students
A. Di Fabio, S. Pini

Smart trees, smart kids-empowering a generation through the science of sap flow
A. Downey

The experience of teaching module related to Eutrophication into ACARISS project
A. Francini, A. Minnocci, L. Sebastiani

“Plants and Salinity” a didactical module of the ACARISS project
A. Francini, A. Minnocci, L. Sebastiani

Electronic corpora as ICT tools in ESP classrooms
M. Grazib

Effective methods to study ionization and charge - Exchange processes in Rb^+++ Ar, Xe collisions in 0.7-10 KeV
R. Lomsadze, M. Gochitashvili, N. Mosulishvili

Inquiry based learning and landscape appreciation
L. Massetti, F. Ugolini, M. Lanini, G. Tagliaferri, A. Raschi
Engage students in the design of simulation models in Acariss project
L. Massetti, F. Ugolini

The use of e-learning technologies in medical science
L. Montaser

Active learning, iniciative and autonomy in virtual environments: the perception of higher education students
J. A. Moreira, A.G. Ferreira

Advanced computer technologies as an instrument for student's virtual reflection development
T. Mukii, O. Siurin

Educational project on island ecosystem and invasive alien species
A. Naldi, M. Ugolini

Concept mapping strategy, lecture method and students' academic performance in Calabar Municipality, CRS, Nigeria
H.A. Neji, C.O. Nja

Possible health hazards on use of computer based systems by library and information science professionals in tertiary institutions: way forward
A.P. Oduroye, O. Aramide, A.A. Elusoji

The role of Drosophila in teaching life sciences
M.E. Pasini, Y. Intra, P. Fasano

Comparison of four brands of culture medium used in the valuation of the total microbic count
G. Taccetti, J. Fantoni, D. Rezi, C. Amelio, A. Pinzani

Teachers’ evaluation of the 5e learning cycle model IN ACARISS project