

# HSCI2017 – Detailed Program

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**Monday, 10<sup>th</sup> July 2107**

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09.30 - *Registration*

11.00 - **Opening session**

11.30 - **Plenary lecture 1** – How to connect Makerspaces with hands-on science?, *Pedro Pombo*

12.15 - **Plenary lecture 2** - Augmented Reality in Learning Contexts, *Elsa Fernandes*

13.00 - **Lunch**

14.30 - **Plenary lecture 3** - Safety in School Practical Science; Does it Scare you?, *Robert Worley*

15.30 -

## **Oral Communications - Session 1**

(Chair: *Pedro Pombo*)

**OS1\_1-** Growing scientific thinking with fictional picture books: questioning and imagination in early years, *Sue Dale Tunnicliffe, Catherine Bruquiere*

**OS1\_2-** Physics education from the cradle to the grave, *Dana Mandikova, Zdenek Drozd*

**OS1\_3-** Hands on earth science in the primary school, *Denise Balmer*

**OS1\_4-** Multimedia Video-based: A Science Communication Tool, *Carla Sofia Farinha Barata, Pedro Pombo, Miguel Serra*

16.30 - **Coffee Break**

17.00 -

## **Oral Communications - Session 2**

(Chair: *Sue Tunnicliffe*)

**OS2\_1-** The use of the scientific monologue as a tool to spread the scientific knowledge in the society, *William Stebniki Tabora*

**OS2\_2-** Senior Citizen Science through Local Monumental Trees, *Ana Raquel Pires Lopes, Catarina Schreck Carmo dos Reis, Paulo Trincão*

**OS2\_3-** The use of educational games in the teaching of social sciences in first and second degree studies, *Kamil Stolarek*

**OS2\_4-** Civics-Physics knowledge may stimulate thinking and acting, *Radu Chisleag, Counsel Ioana-Roxana Chisleag Losada*

18.30 - **Welcome Reception**

19.30 - **Walking tour through Braga's Historical City Center**

## **Parallel Workshops**

**W03/W08\_PT** - *De onde vêm as cores? Como funcionam os nossos olhos/ Será verdade que o branco é a mistura de todas as cores?*, *Júlia Tovar, Sandra Franco (Room 2)*

**W13\_PT** - *Novas formas de olhar para a Física*, *Fernanda Neri (Room 1)*



## **Parallel Workshops (continuation)**

**W03/W08\_PT** - *De onde vêm as cores? Como funcionam os nossos olhos/ Será verdade que o branco é a mistura de todas as cores?*, *Júlia Tovar, Sandra Franco (Room 2)*

**W13\_PT** - *Novas formas de olhar para a Física*, *Fernanda Neri (Room 1)*



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**Tuesday, 11<sup>th</sup> July 2107**

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09.30 - **Plenary lecture 4** - Hands-on Interference in a soap thin film: nanoscience and nanotechnology, *Jose Benito Vázquez-Dorrío*

10.15 - **Plenary lecture 5** - Feeling Young and Positive Again with Hands-on: Program of In-Service Teachers Training at KhNU, *Alexander Kazachkov*

11.00 - **Coffee Break**

11.30 -

**Oral Communications - Session 3**

(Chair: *J Benito Vázquez-Dorrío*)

**OS3\_1**- Science in Eco Park: an Interdisciplinary Project, *Iuliia Pavichenko*

**OS3\_2**- Training Future Teachers to Introduce Microorganisms into a Primary Classroom through Hands-on Experiments, *José María Marcos Merino, Rocío Esteban Gallego, Jesús Gómez Ochoa de Alda*

**OS3\_3**- Geographical Information Technologies and Mobile Learning to Learn About Nature: PhenoloGIT Project, *María José Rodríguez Malmierca*

**OS3\_4**- “Virtual Laboratory of Nuclear Fission” as a new pedagogical tool for student training in the experimental nuclear physics, *Victoria Belaga*

12.30 - **Poster session\***

13.00 - **Lunch**

14.30 - **Plenary lecture 6** - How do we learn: a practical approach, *João Cerqueira*

15.30 -

**Oral Communications - Session 4**

(Chair: *Elsa Fernandes*)

**OS4\_1**- Using multimedia technologies to modern science popularization, *Victoria Belaga*

**OS4\_2**- Learning Sciences through a Robotics Project, *Sónia Matilde Pinto Correia Martins*

**OS4\_3**- A practical approach for learning robotics, *José Luís M. Cruz*

**OS4\_4**- Educational robotics today, *José Luís M. Cruz, João Costa, Bruno Costa*

**Demo**

**WS-1** - Demonstrations in Small Scale Chemistry: In a little you can see, *Robert Worley (Lab.1)*

**Parallel Workshops**

**WS-2** - Earth science that works in the classroom, *Denise Balmer (Room 1)*

**W04/W09\_PT** - *Submarino: Massa Volúmica / O Princípio de Arquimedes*, *Mário Rui Pereira (Lab.1)*

**W14\_PT** - *A natureza inspira a ciência - uma abordagem multidisciplinar*, *A. Mário Almeida, Isabel A-P Mina, Maria Antónia Forjaz, Jorge Pamplona, Isabel Correia Neves (Room 3)*

16.30 - **Coffee Break**

17.00 -

### **Oral Communications - Session 5**

(Chair: *Iryna Berezovska*)

**OS5\_1-** Online Science Classroom - Growing with Science, *Anna Komarova*

**OS5\_2-** Use of mobile applications in outdoor lesson, *Anna Michniewska*

**OS5\_3-** On the Determination Coefficient and Global Adjustment Test of Goodness of Fit, *Cecília Azevedo, Rita Silva, Ana Horta, Margarida Correia-Neves*

**OS5\_4-** Collective Metacognition in Improvised Music Ensemble, *Pedro Barreiros Pinto, Renato Soeiro*

### **Parallel Workshops (continuation)**

**WS-2** - Hands on earth science in the primary school, *Denise Balmer (Room 1)*

**W04/W09\_PT** - *Submarino: Massa Volúmica/ O Princípio de Arquimedes*, *Mário Rui Pereira (Lab.1)*

**W14\_PT** - *A natureza inspira a ciência - uma abordagem multidisciplinar*, *A. Mário Almeida, Isabel A-P Mina, Maria Antónia Forjaz, Jorge Pamplona, Isabel Correia Neves (Room 3)*

18.30 - **Jazz Session**

21.30 - **Visit to the Planetarium and Braga' Science House**

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## **Wednesday 12<sup>th</sup> July 2107**

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09.30 - **Plenary lecture 7** - Lively and Exciting Hand-on Experiments – Mechanics, *Norihiro Sugimoto*

11.00 - **Coffee Break**

11.30 -

### **Oral Communications - Session 6**

(Chair: *Xabier Prado*)

**OS6\_1-** Scientific routes for secondary and high school students, *Javier Redondas*

**OS6\_2-** Observations, Experiments and Measurements in the School Course of Physics, *Pavel Kochnev*

**OS6\_3-** Anti-Cancer Potential of Bi<sub>2</sub>O<sub>3</sub> Nanoparticles, *Defne Yigci*

**OS6\_4-** Hospital Information System as an Instructional Tool in Undergraduate Nursing Education, *Iryna Berezovska, Mariya Shehedyn, Natalya Dub, Ulyana Chernyaha, Lyubov Gasyuk, Vsevolod Kachmar*

### **Parallel Workshops**

**WS-3/W10\_PT** – Discovering Light and Optics/ *Descobrimos a luz e a ótica*, *Manuel FM Costa, J. Benito Vazquez-Dorrio (Room 2)*

**W01/W06\_PT** - *Escurecimento de frutas: como evitar?/ Prevenção da oxidação de frutas*, *Dulce Geraldo, Paula Bettencourt (Lab.1)*

**W02/W07\_PT** - *Bolas de sabão: como podem durar mais?/ Controlar a duração das bolas de sabão*, *Fátima Bento, Ana Esteves (Lab.2)*

12.30 - **Poster session\***

13.00 - **Lunch break**

14.30 - **Sightseeing Tour to Guimarães (UNESCO World Heritage)**

9.30 -

**Oral Communications - Session 7**

(Chair: William Stebniki Tabora)

**OS7\_1-** Euro4Science 2.0 –Promoting STEM Career Attractiveness and Societal values of European Students using a Forensic Educational Toolbox, *Luís Souto, Helena Moreira, Rosa Pinho*

**OS7\_2-** Invest in the Capacity Project and Project Erasmus + STEM For All Seasons An integrated and interdisciplinary approach in Education, *Maria de Fátima Almeida, Ana Lemos, Ana Céu, Aníbal Xavier, Carmo Sobral, Fernanda Tavares, José Sousa, Luís Carreiró, Natália Batista, Olga Carvalho, Rosália Sofia, Teresa Martins*

**OS7\_3-** How Kids Can Learn Sustainability through Hands-on Activities - a City under Construction, *Cristina Aguiar, M. Antónia Forjaz, M. Judite Almeida*

**OS7\_4-** MIP – a Project-based Learning experience in a Secondary School, *Rita Rocha*

**OS7\_5-** Crystallization of ADP in secondary schools, *Javier Redondas*

**OS7\_6-** Overcoming ‘Earth Science blindness.’ Earth science in action in natural history dioramas, *Sue Tunnicliffe*

11.00 - **Coffee Break**

11.30 -

**Oral Communications - Session 8**

(Chair: Alexander Kazachkov)

**OS8\_1-** Demonstration of an Electrical generator and Power plant, *Chien-Heng Chou*

**OS8\_2-** Implementation of Radioactivity Workshop in Science Center and its Improvements During the First Year in Action Research Design, *Karel Kolar*

**OS8\_3-** Pontareas' Science Week, *Cristina Fernández Davila*

12.30 - **Poster session\***

13.00 - **Lunch**

14.30 - **Science Fair\*\* & Poster Session\* (Refreshments)**

19.30 - **Conference Dinner**

**Workshops**

**WS-4-** Workshop in Microscale Chemistry Techniques, *Robert Worley (Lab.1)*

**Parallel Workshops**

**WS-5 -** Learning Computational Language with Robotics in Secondary Schools, *Antonio Muñoz Pancorbo (Computer Lab.)*

**W13\_PT -** *Novas formas de olhar para a Física, Fernanda Neri (Room 1)*



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## Friday 14<sup>th</sup> July 2107

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10.15 - **Plenary lecture 8** - Open science to students, *Josep M. Fernández Novell*

11.00 -

### **Oral Communications - Session 9**

(Chair: Robert Worley)

**OS9\_1**- A Tale from Theobromine Molecule, chocolate, *Josep M Fernández Novell, Carme Zaragoza Domenech*

**OS9\_2**- Chemistry for all, *Ana Ribeirinho, Pier Parpot*

**OS9\_3**- Light and Colour, *Carlos Lima, Mónica Costa, Francisco Pinheiro*

**OS9\_4**- Stratospheric Balloon, *Carlos Lima; Mónica Costa, Francisco Pinheiro*

**OS9\_5**- The role of creativity in the teaching and learning of science and mathematics, *Marta Marques, Paulo Machado, Manuel F. M. Costa*

**OS9\_6**- Physics Experiments Anywhere and with Anything, *Zdenek Drozd, Dana Mandikova*

### **Workshops**

**WS-6** - Standing on the Shoulders, *Alexander Kazachkov (Room 1)*

12.30 - **Closing session and prize ceremony**

13.00 - **Lunch**

### **\* POSTER PRESENTATIONS**

1. The Mures River Valley ecological status, *Elena Pop*
2. "Sunlight, may the leaf bring and translate": experience report of practical activities sequence of photosynthesis, food chain carried out with students of elementary school, *Oricchio-Rodrigues, B, Cláudia Aparecida Neves Almeida Ribeiro, Gonçalves Brito, A. Ernesto Cardoso da Silva Filho*
3. How to teach the dependence of the boiling point of water to the pressure, efficiently, *Hanieh Alinejad, Hassan Hazarkhani*
4. Explaining Molecular Genetics in Secondary School through a Linguistic Analogy: a Practical Activity to Work Mutations and Changes in Open Reading Frame, *José María Marcos-Merino, Rocío Esteban Gallego, Jesús Gómez Ochoa de Alda*
5. Cognitive and emotional learning of chemical reactions through lab activities in Secondary Education class, *Dávila Acedo, M.A., Borrachero, A.B., Sánchez, J., Airado, D., Cañada, F.*
6. A Plotter for a PV Diagram of the Working fluid in an Engine, *Chien-Heng Chou*
7. The emotional journal in physics classes as a strategy of cognitive self-regulation in teachers in training, *G. Martinez-Borreguero, F.L. Naranjo*
8. Integrated Teaching of Mathematics and Sciences, *Lucian Costantin Vladescu*
9. Learning to teach physics in primary school through hands on science experiments, *G. Martinez-Borreguero, F.L. Naranjo, M. Mateos Nuñez, J. Maestre Jimenez*

10. A light approach to the use and understanding of the internet in the Galician educational system, *Jose Benito Vazquez-Dorrio, Alfonso Pita, Nicolás Barcala*
11. Eukaryotic cell and factory analogy in Brazilian textbooks: is it still used?, *Amanda dos Santos Lima Marinho, Carla Medeiros Y Araujo*
12. Scientix, a Community for Science Education in Europe, *José Benito Vázquez-Dorrío*
13. Design and Develop an Effective Teaching Aid for Buoyancy, *Yi-Chia, Chang, Lance Horng*
14. Eco-Friendly Experiment for Determination of Iron(II) and Copper(II) Ions, *Hassan Hazarkhani, Zahra Arzani*
15. Production and visualization of recombinant proteins in agarose gels: an example with fluorescent mCherry and GFP, *Susana Pereira, Ana Séneca*
16. Game of Genomes: Didactic adaptation of the Nature's Dice Kit (NCBE), *Susana Pereira, Tiago Ribeiro, Marta Paz*
17. Current Status of Nursing Education in Ukraine, *Iryna Berezovska, Mariya Shehedyn, Natalya Dub, Tetyana Karpinska*
18. An Impressive and simple Hands-on Activity for Meaningful Teaching of Chemical and Physical Concept, *Hanieh Alinejad, Hassan Hazarkhani*
19. Drones in Schools – Demonstrating aerodynamic concepts, theoretical and experimental calculations using minidrone., *Abbas Endisha*
20. Positive APptitude “From Social Entrepreneurship to ICT programming”, *Victor Moreira Martins, Manuel F. M. Costa*
21. Scientific experiments with elementary materials in primary science teaching, *Paulo Varela, Sandra Simões da Costa*
22. Scientific documentation - natural reservations, *Filip Corneliu, Zidarescu Florin, Dumitrescu Valeriu*
23. Innovative Mathematics Teaching-Exchanging Horizons, *Sadi Semih Guvenc*
24. Water reuse: simple activities, *Dulce Geraldo, Paula Bettencourt*
25. The role of chemistry in Environment: Water Treatment Plants, *Dulce Geraldo, Paula Bettencourt*
26. Measurement of electrochemical cell potentials, *Fátima Bento, Silvia Magalhães*
27. The Chemical Change - Seeing is Believing, *Maria Jesus Perry*
28. Detection and Separation of Lycopene and Beta-carotene in Tomato Products: a new and sustainable chromatographic approach, *Alice Dias, Paula Costa*
29. Methodology for the Teaching of Chemistry in 3rd cycle of Basic Education Chemistry for Everyone: A study focusing on the Structure of Matter, Chemical and Physical Transformations, Lavoisier's Law and Velocity of Reactions, *Ana Manuel Mourato Margalho Ribeirinho*
30. *de Pedra e Cal pela proteção ambiental! / Steadfast...for environmental protection!*, *Isabel A-P Mina, Fátima Cruz*
31. Complex sounds analysis: an experimental approach to implement in secondary level teaching, *A. M. Almeida, S. M. Cunha*
32. Science Enrichment Programs of ANEIS\*, *Cristina Palhares, Emanuel Guimarães, Maria Tavares, Susana Guimarães*
33. Complex sounds analysis: an experimental approach to implement in secondary level teaching, *A. M. Almeida, S. M. Cunha*
34. “Conversas com Luz”: informal talks concerning light, *Regina M. S. Sousa, Pedro Pombo*

## \*\* SCIENCE FAIR PRESENTATIONS

1. Microscale Chemistry Experiments from the UK, *Robert Worley/Bob Worley*
2. The use of the scientific monologue as a tool to spread the scientific knowledge in the society, *William Stebniki*
3. Lively and Exciting Hand-on Experiments – Electricity, *Norihiro Sugimoto*
4. The Earth’s magnetic field: A Science’s Fair tour from the exploration of mineral resources to the reconstruction of the distant past, *Luis Matias, Mário Moreira, José Duarte, Carlos Correla, Eric Font, Paulo Fonseca, Pedro Silva, Marta Neres, Eveline Almeida*
5. Hands-on Experiments with everything..., *Alex Kazachkov*

6. Bubble Lamp, *José Eiras, João Ferreira e Ana Ribeirinho*
7. Guide in the Dark, *Filipa Mota, Joana Guedes, Mariana Guedes, Ana Ribeirinho*
8. Robotics demonstration with the Lego EV3 equipment, *José Augusto Sales, Rui José Alves, Nuno Almeida, Ricardo Quintas, Nicolas Reigota*
9. Relativity with our Hands and Science Week collaboration, *Jennifer González Otero, Clara Alves Martinez*
10. Hands-On Experiment to Determine the Size of Molecules, *Andrés Gómez Rodríguez, Francisco González Castro*
11. Health Research on a Simple Lung Model, *Irene Fernández Pardo, Paula Vázquez Gándara*
12. Ballon Bed, *Eduardo Montes, Gonçalo da Câmara, João Furtado, João Sá, José Pedro Pimentel*
13. Physics is fashionable!, *Mafalda Lago; Raquel Cerqueira, Alexandra Moreno, Sofia Rufo*
14. After all, what is gluten?, *Erica Lima*
15. Anti-stress balls, *José Pedro Pinheiro, Luís Laranjeira*
16. ISeeU, *Ana Loureiro, António Oliveira, Christian Deger, Daniel Oliveira, Francisco Barros, Francisco Abreu, Francisco Pinheiro, João Fernandes, João Silva, Luís Fernandes, Marcelo Lima, Mónica Couto, Pedro Silva, Rui Pereira, Carlos Lima*
17. Hands on robots with botnroll.com, *José Cruz, Bruno Costa*
18. Anti-Cancer Potential of Bi2O3 Nanoparticles, *Defne Yigci*
19. Design and Develop an Effective Teaching Aid for Buoyancy, *Yi-Chia, Chang, Lance Hornig*
20. Sending Balloons and Cans into the Atmosphere and Stratosphere, *Afonso Azevedo, Afonso Sabença, António Cruz, António Vale, Eduardo Fonseca, Francisco Caetano, Francisco Silva, Gil Nunes, Henrique Morais, Isabel Pinheiro, Joel Coelho, Jorge Soares, Rita Rocha*
21. Augmented Reality. Positive APptitude, *Francisco Teixeira, Alicia Costa, Matilde Magalhães, Rui Dias, Inês Pereira, Manuel Dias, Miguel Cunha, Francisca Camacho, José Lopes, Victor Moreira Martins*
22. Cars and Races – challenging STEM Education in Secondary Schools, *André Gonçalves, Benjamim Gomes, Bernardo Rocha, Catarina Teixeira, Francisco Dias, Gonçalo Santos, Henrique Morais, Jorge Natal, Ricardo Alves, Sofia Carrancho Rita Rocha*
23. Rocky Shores – an outdoor experience in real Field Laboratories, *Rita Rocha*
24. Microplastics inventory in coastal environments, *Rita Rocha*
25. *Revealing the Science of the Micro World*, *Eduardo Nogueira, Francisca Martins, Gabriel Silva, Rita Rocha*
26. BaFu Project (Ballistic and Fulminates), *Nuno Francisco, Luis Santos, Gustavo Leite*
27. EBiFaT Project (Energy Balance in Food and Toxicity), *Nuno Francisco, Rodrigo Castro*
28. Nutrideal Project (An Overview on the Caffeine Effects in the Organism: a Preliminary Experimental Study), *Nuno Francisco, Bernardo Coelho, João Mesquita, José Gomes*
29. Tsunami, *Ana Costa, Eva Gonçalves, Maria Ribeiro, Marta Araújo, Silvia Salgueiro, Ana Ribeirinho*
30. The Steamy Carousel, *Ana Gonçalves, Daniela Pedrosa, João Matos, Luís Costa, Nuno Silva, Ana Ribeirinho.*

## Social Program HSCI2017

### Monday, July 10.

18:30-19:15 Welcome Reception at the Noble Room of Braga' City Hall, courtesy of Braga' Municipality.

19:15-20:30 Walking tour through Braga' historical center



### Tuesday, July 11.

18:30-19:30 Jazz concert by students of Porto' Jazz School



21:30-23:00 Visit to the Planetarium – Braga' House do Science



### Wednesday, July 12.

14:30-19:30 Conference Tour to Guimarães, Portugal's birth place and UNESCO World Heritage. Walking visit with guide provided by Guimarães Municipality, beginning with a short visit to Couros' Ciência Viva Science Museum, visiting the historical center and the castle. The visit ends with a reception "Verde de Honra" in the Cloister of the City Hall.



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 património mundial  
world heritage

### Thursday, July 13.

18:30-23:00 Conference Dinner with Fado concert at Quinta da Praia Verde in Vila Verde (Homem river beach)

