

Wednesday 7th September

11:25 – 12:10	Poster Communications PC1 (P1-P30) (see the lists at the end of program)	List of PC1.1: Presentation by the authors (P1-P15) Chair: Consol Blanch, Universitat de Vic, Spain
---------------	--	---

Poster Communications PC1 (Cloister – 1st Floor)

15:35 – 16:20	Poster Communications PC1 (P1-P30) (see the lists at the end of program)	List of PC1.2: Presentation by the authors (P16-P30) Chair: Àngel Messeguer, IQAC-CSIC, Spain
---------------	--	---

Friday 9th September

Cloister – 1st Floor

10:50 – 11:35	Poster Communications PC 2 (P31-P58) (see the lists at the end of program)	List of PC2.1: Presentation by the authors (P31-P43) Chair: Aureli Caamaño, Societat Catalana de Química, IEC, Spain
---------------	--	--

Poster Communications PC2 (Cloister – 1st Floor)

15:50 – 16:35	Poster Communications PC 2 (P31-P58) (see the lists at the end of program)	List of PC2.2: Presentation by the authors (P44-P58) Chair: Gabriel Pinto, Universidad Politécnica de Madrid, Spain
---------------	--	---

Poster Communications PC1	List of PC1.1: Presentation by the authors (Wednesday 7 th 11:25 h -12:10 h) Chair: Consol Blanch, Universitat de Vic, Spain		
Group Exam As A Form Of Assessment	P1	Koliseva, Anniina (1); Matilainen, Rose (1) (1) University of Jyväskylä	Finland
H. E. Armstrong (1848-1937): the forgotten pioneer of IBSE	P2	Peter E. Childs (1) (1) University of Limerick, Ireland	Ireland
Investigating Motivation To Learn Chemistry And Physics Among Students Of Tertiary Education	P3	Salta, Katerina (1); Koulougliotis, Dionysios (1) University of Crete	Greece
Learning Strategies Of Students In Relation To Learning Chemistry	P4	Kmetova, Jarmila (1); Skorsepa, Marek (1) (1) Matej Bel University	Slovakia
Meaningful First Year Experience Prevents Dropouts In Chemistry	P5	Valto, Piia (1), Kiviniemi, Tiina (1), Lundell, Jan (1) (1) University of Jyväskylä	Finland
Reconstruction Of University Level Analytical Chemistry Laboratory Course	P6	Välisaari, Jouni (1), Koliseva, Anniina (1), Valto, Piia (1), Matilainen, Rose (1) (1) University of Jyväskylä	Finland
Students As Participants In Curriculum Redesign: Development Of A Project Based Introductory Chemistry Laboratory Curriculum	P7	Lykourinou, Vaso (1); Lee-Parsons, Carolyn (1); de la Parra, John (1); Rovira, Alejandro (1) (1) Northeastern University	USA
Learning From Errors: New Strategies To Improve The Evaluation Of Equilibrium Constants	P8	Clotet Romeu, Anna (1); Mas, Elisenda (1); Reguero, Mar (1); Campanera, Josep M.; Carles Bo (1) (1) Universitat Rovira i Virgili	Spain
Developing And Implementing An Innovative Digital Template For Research And Design Projects In Academic Science Education	P9	Wolfs, Peter (1); Dolfing, Ria (1) (1) University of Groningen	The Netherlands
The Change Of Functionality - The Development Of Chemical Synthesis Since The Days Of Alchemy	P10	Frevert, Mareike (1) (1) University of Kassel	Germany
Turning Your Spreadsheet Into An Always Updated Chemistry Handbook	P11	Cuadros, Jordi (1) (1) IQS Univ. Ramon Llull	Spain
The Impact Of School Field Trip On Students' Environmental Awareness Towards Plastic Pollution	P12	Tağmay Yılmaz (1); Sevil Akaygun (1) Adapazarı ENKA High School	Turkey
Personal Construct Psychology (PCP) As A Theory To Inform A Proposed Model Of Learning	P13	Odilla E. Finlayson (1); Carr (1), Enda P.; Eilish McLoughlin (1) (1) School of Chemistry, Dublin City University	Ireland
Teaching Chemists Crystallography - Modern Or Obsolete?	P14	Lipkowski, Janusz (1) (1) Cardinal Stefan Wyszyński University in Warsaw	Poland
Exploring General Chemistry Students' Cognitive Abilities And Domain-Specific Skills In The Context Of Stoichiometry	P15	Gulacar, Ozcan (1); Eilks, Ingo; Bowman, Charles; Milkey, Alexandra (1) (1) University of California-Davis	USA

Poster Communications PC1	List of PC1.2: Presentation by the authors (Wednesday 7 th 15:35 h – 16:20 h) Chair: Àngel Messeguer, IQAC-CSIC, Spain		
Monitoring Authentic Chemistry Problem Solving With The Eye-Tracking Method	P16	Devetak, Iztok (1); Slapnicar, Miha (1); Glažar, Saša Aleksij (1) (1) University of Ljubljana	Slovenia
Students' Focus On 2d And 3d Images Of Molecule Models When Solving Simple Chemical Task	P17	Devetak, Iztok (1); Svetičič, Špela (1); Torkar, Gregor (1) (1) University of Ljubljana	Slovenia
Contemporary Science In Chemistry Teacher Education - An Empirical Study	P18	Frevert, Mareike (1), Di Fuccia, David-Samuel (1) (1) University of Kassel	Germany
Primary School Teachers' Beliefs About Learning In Science And Their According Action In The Classroom	P19	Dunker, Nina Kim (1) (1) University of Bielefeld	Germany
School-University Partnership: A Potentiating Tool To Reflect On The Teaching Practice	P20	Mendes da Silva, Joaquim Fernando (1); Pinho, Gabriela; Lima, Maria Celiana; França, Mauro; Araújo, Sheila; Heidelmann, Stephany (1) (1) Federal University of Rio de Janeiro	Brasil
Professional Teaching Competencies And Didactical Models Of Beginning Teachers In Sciences.	P21	Jara Campos, Roxana (1); Morales Cisternas, Cecilia (1); Quiñones Herrera, Paola (1); Satlov Vega, Miriam (1) (1) Pontificia Universidad Católica de Valparaíso	Chile
Comparison Of Two Digestion Methods For The Analysis Of Metals In Different Sample Matrices By Chemistry Undergraduate Students.	P22	Oliva, Bessie (1); Véliz, Ricardo (1); Archila, Ilse (1); Marchorro, Iris (1) (1) University of San Carlos of Guatemala	Guatemala
Implementation Of An Experimental Procedure For The Extraction And Analysis Of Volatiles From A Guatemalan Aromatic Plant By Spme.	P23	Perez-Sabino, Francisco (1); Taracena, Edwin (1); Mérida-Reyes, Max (1); Hernández-Hernández, Elisandra (1) (1) University of San Carlos of Guatemala	Guatemala
"Locus: A Real Adventure": An Rpg (Role-Playing Game) As An Alternative Instrument To Promote Citizenship And Environmental Education	P24	Mendes da Silva, Joaquim Fernando (1); Vianna Francisco, Tatiana (1) (1) Federal University of Rio de Janeiro	Brasil

Synthesis Of Novel 2-Heterostyrylbenzimidazoles As Potential Anti-Tuberculosis Agents: A Scientific Approach	P25	Taduri, Ashok Kumar (1); Bhoomireddy, Rama Devi <i>(1) Jawaharlal Nehru Technological University Hyderabad</i>	India
A Didactic Sequence To Explore Socioeconomic Issues Of Modern Africa In Chemistry Education	P26	Mendes da Silva Joaquim Fernando (1); Heidelmann, Stephany (1); Pinho, Gabriela <i>(1) Federal University of Rio de Janeiro</i>	Brasil
Integrating The Essential Nanoscale Science And Technology (Nst) Concepts In High School Chemistry Curricula In Israel	P27	Blonder, Ron (1); Sakhnini, Sohair (1) <i>(1) Weizmann Institute of Science</i>	Israel
Exploiting The Responsible Research And Innovation Dimensions In Science Education - Results Of The Engage Project	P28	Gorghiu, Laura Monica (1); Gabriel Gorghiu, (1); Mihai Bîzoi, (1) <i>(1) Valahia University Targoviste</i>	Romania
Cheminformatics Olcc: Teaching A Class On Cutting-Edge Digital Technologies Across Multiple Campuses	P29	Cuadros, Jordi (1) <i>(1) IQS Univ. Ramon Llull</i>	Spain
Discovering the liquid gold of the Mediterranean: A Chemometrical Approach to the study of olive oil	P30	Iris Carretero (1); Montserrat Mialet (1) <i>(1) Col·legi Escorial. Vic</i>	Spain

Poster Communications PC 2	List of PC2.1. Presentation by the authors (Friday 10:50 h – 11:35 h) Chair: Aureli Caamaño, Societat Catalana de Química, IEC, Spain		
Introducing Inorganic Ions Qualitative Determination Tests In Lower-Secondary School Elective Course Experiments In Chemistry	P31	Devetak, Iztok (1); Založnik, Urša (1) <i>(1) University of Ljubljana</i>	Slovenia
The Atomic Force Microscope AFMone® As Clearly Arranged Self-activity Access To Nanomaterials In Teacher Education	P32	Goldhausen, Ines (1); Bode, Janina (1); Di Fuccia, David-S (1) <i>(1) University of Kassel</i>	Germany
Analysis And Reflection Of Different Learning Paths Towards Electro Chemistry	P33	Katharina Groß (1) <i>(1) University of Cologne</i>	Germany
Development and Validation of a Basic Chemistry Concept Inventory Assessing Secondary School Students	P34	Salta, Katerina (1); Antonoglou, LEMONIA; Vlacholia, Maria (1); Rouss, Petros (1); Kazi, Smaragda; Vosniadou, Stella (1); Sigalas, Michael; Zougraki, Thyssa (1) <i>(1) National and Kapodistrian University of Athens</i>	Greece
Chemie Im Kontext In Spain: The Adaptation Of A Context Bases Methodology For Chemistry Teaching	P35	Sánchez-Díaz, Ignacio (1); Di Fuccia, David-S. (1) <i>(1) University of Kassel</i>	Germany
The greenhouse effect through experimentation activities to develop the argumentation capacity	P36	Guerra, Antonio (1); Almeida, Caroline; Silva, Joaquim <i>(1) Federal University of Rio de Janeiro</i>	Brasil
Using Different Teaching Aids To Enhance Conceptual Development Of Students In A Chemistry Classroom	P37	Uamusse, Amália (1); Kuleshov, Tatiana (1) <i>(1) Eduardo Mondlane University</i>	Mozambique
Coal Power and acid rain: A COMBLAB activity to enhance chemistry competencies at secondary school	P38	Guitart Mas, Fina (1); Aguilera Juan, Tomás Luís; Franch Ventura, Pere; Mas Llorens, Montserrat; Rios Flor, Consuelo; Tortosa Moreno, Montserrat <i>(1) CESIRE Departament d'Ensenyament and University of Barcelona</i>	Spain
Real-time experiments to enhance Chemistry Competencies in Secondary: The most efficient home-made fire extinguisher	P39	Tortosa, Montserrat (1); Guitart, Fina; Artigas, Carme; Bofill, Sonia; Mas, Montserrat; Ramírez, Joan <i>(1) INS Sabadell</i>	Spain
Butterfly effect in a chemical oscillator	P40	Pilosu, Vittorio (1); Budroni, Marcello A. (1); Wodlei, Florian (1) and Rustici, Mauro (1) <i>(1) University of Sassari</i>	Italy
Design teaching sequences with augmented reality to promote visualization in chemistry.	P41	Merino; Cristian (1); Arellano, Marcela (1); Quiroz, Waldo (1), Nilo, Nicole (1), Olivares, Carla (1), Vargas, Jonathan (1), Berna, Sergio (1); Paipa, Carolina (1); Miriam Struchiner <i>(1) Pontificia Universidad Católica de Valparaíso</i>	Chile
Supporting In-Service Chemistry Teachers to Pedagogical Effectively Integrate Virtual Laboratory in their Teaching through a Blended Professional Development Program in Greece	P42	Antonoglou, LEMONIA (1); Psillos, Dimitrios; Athanasios Taramopoulos <i>(1) Aristotle University of Thessaloniki</i>	Greece
An Activity for Teaching Heat Concept to Visually Impaired Students	P43	Sozibilir, Mustafa (1); Kizilaslan, Aydin (1); Zorluoglu, Levent <i>(1) Ataturk University</i>	Turkey

Poster Communications PC 2	List of PC2.2. Presentation by the authors 15:50 h – 16:35 h Chair: Gabriel Pinto, Universidad Politécnica de Madrid, Spain		
Mathematical Modelling In Chemistry Lessons - Theory And Reality	P44	Goldhausen, Ines (1) (1) University of Kassel	Alemania
Designing A Curriculum That Gives Students A Relevant, Meaningful, Interesting And Worthwhile Experience Of Chemistry	P45	Farrugia, Josette (1); Mizzi, Doree; Zahra, Richard; Zarb, Dennis (1) University of Malta	Malta
What Happens With Students At Gymnasium Level ¿ Is There Any Change Of The Levels Of Scientific Literacy?	P46	Rannikmäe, Miia (1); Soobard, Regina (1); Reiska, Priit (1) University of Tartu	Estonia
Particles: What Are They? A Proposal On A Learning Progression About The Particle Model Of Matter For Upper Secondary School	P47	Moltó, María Ángeles (1); Hernández, María Isabel (1); Pintó, Roser (1) (1) Universitat Autònoma de Barcelona	Spain
Students' Self-Perceptions About Big Ideas In Science Education	P48	Rannikmäe, Miia (1); Ait, Kerti (1); Holbrook, Jack (1) Tartu University	Estonia
Visualisation Of Hydrogen Bond In Water Dimer: Representations By Finnish Teacher Students And In-Field Teachers	P49	Lundell, Jan (1); Rajamäki, Nea (1); Pyykkö, Lassi (1) (1) University of Jyväskylä	Finland
Phenomenological Primitives (P-Prims) In Chemistry	P50	Zoltán, Tóth (1); Zsolt, Bárány (1) University of Debrecen	Hungary
Results Of The Project "Yum Yum... Good This Science!" How To Deal With Food Chemistry And Education At The Primary School	P51	Domenici, Valentina (1); Gerardi, Chiara (1) Università di Pisa	Italy
Inspiring Early Elementary School Students (Grade 1, 2 And 3) With Chemistry. Stem Program At Anatolia College In Greece	P52	(1) Antonoglou, LEMONIA (1); Kalampokis, Ilias; Hatziantoniou Maroulis, Constantina (1) Aristotle University of Thessaloniki and Anatolia Elementary School	Greece
Science Education In Out-Of-School Contexts' Comparison Of Users' And Providers' Ambitions And Perceptions	P53	Goldhausen, Ines (1); Di Fuccia, David-Samuel (1); Ralle, Bernd (1) University of Kassel	Germany
Engaging Future Teachers To Promote Rri: Implementing Engage Project Digital Materials Related To Chemistry Big Ideas	P54	Guitart Mas, Fina (1); Alcaraz-Dominguez, Silvia (1); Barajas, Mario (1) (1) University of Barcelona	Spain
Playing With The Sense Of Smell. A Workshop To Improve Organic Chemistry And Food Science Education	P55	Blanch, Consol (1); Simon, Montse (1) (1) University of Vic-UCC	Spain
Authentic/Alternative Assessment, V: Classification of Organic Compounds, Reactions/Mechanisms by Science Majors	P56	Moisés Camacho (1) (1) University of Puerto Rico at Mayagüez	Puerto Rico
Authentic/Alternative Assessment, V: Performance of Science Majors/Non-Majors on the Categorizing Grid	P57	Moisés Camacho (1) (1) University of Puerto Rico at Mayagüez	Puerto Rico
Authentic/ Alternative Assessment in Chemistry/Science Education V: The Effect of the Auto Quiz on the Achievement of Science College Students	P58	Moisés Camacho (1) (1) University of Puerto Rico at Mayagüez	Puerto Rico