

July 7 2021

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13.00	Conference opening			
13.30-14.30	Plenary 1: Ilka Parchmann <i>Context-based learning at the university - an interface between chemistry, chemistry teacher and public education</i>			
14.30-16.10	Time	Parallel session 1 (20 min, 15 min presentation and 5 min Q&A) Chair: Martin Rusek	Parallel session 2 (20 min, 15 min presentation, 5 min Q&A) Chair: Gabriel Pinto	Parallel session 3 – Slovenian chemistry teachers (15 min, 10 min presentation, 5 min Q&A) Chair: Vesna Ferk Savec
	14.30-14.50	Teaching and learning chemical kinetics as part of a physical chemistry course to chemistry majors G. Tsaparlis, C. Stroumpouli	Complementing laboratory work with virtual labs, home experiments and visualization S. Herzog	14.30-14.45 Sourdough bread as science investigation R. Flander
	14.50-15.10	Freshmen students' ability to perform basic chemistry calculations M. Rusek, M. Frolíková, K. Vojří	Context and inquiry-based chemistry teaching and learning for engineering students G. Pinto	14.45-15.00 Encouraging creative approaches in teaching and learning chemistry in primary school L. Javoršek
	15.10-15.30	Using Static Colored Visual Representations of Chemical Bonding: An Analysis of Students' Responses Using the SOLO Taxonomy E.T. Pappa, G. Pantazi, G. Tsaparlis, B. Byers	A Whole Team Approach to Embedding a Culture of Feedback between Student & Staff Partners in First Year Chemistry F. Heaney, D. Rooney, O. Fenelon, T. Kraemer, E. Dempsey, S. Barrett, C. Boylan, K. Doherty, L. Marchetti, J. Curran, T. Velasco-Torrijos	15.00-15.15 Learning with the help of a fabricated model of the atom T. Bervar
	15.30-15.50	Identifying significant indicators that predict success in online general chemistry courses Y. Feldman-Maggor, R. Blonder, I. Tuvi-Arad	Two Successful Hooks for Learning Organic Chemistry at University Level K. Mackey, G. P. McGlacken	15.15-15.30 How fusion energy could save the world electrical energy need-motivation and authentic task for students on a secondary level chemistry R. Rudež
	15.50-16.10	An indicator of inquiry skills of the pre-service science teachers in inquiry-based analytical chemistry courses: a case study of achievement goal orientation B. Feyzioğlu	Problems and Problem Solving in Chemistry Education G. Tsaparlis	15.30-15.45 Research on the usage of face masks considering the sustainable (environmental) aspect V. Švab
				15.45-16.00 Experimental investigation of the coloration of substances P. Flajnik

				16.00-16.15 Groundwater protection <u>M. Hrovatin</u>
16.10-16.25	Coffee break			
16.25-17.25	Publishing Workshops	Acquaintance with Chemistry Teacher International (CTI) <u>J. Apotheke</u> , R. Mamlok-Naaman	A Manuscript's Journey: writing, submission and publication in CERP! <u>G. Lawrie</u>	
17.30-19.30	EuChemS Div ChemEd Annual General Meeting			
July 8 2021				
13.00-14.00	Plenary 2: Charlie Cox <i>Acid-Base Chemistry: Longitudinal Study Across the Chemistry Curriculum</i>			
14.00-16.00	Time	Parallel session 4 (20 min, 15 min presentation, 5 min Q&A) Chair: <u>Seamus Delaney</u>	Parallel session 5 (20 min, 15 min presentation, 5 min Q&A) Chair: <u>Natasa Brouwer</u>	
	14.00-14.20	Sustainable Development Goals – Teachers' transition from Learners to Developers <u>S. Rap</u> , R. Blonder	STEM Future Faculty Perceptions and Decisions about Selected Instructional Innovations – The Role of Perceived Characteristics <u>A. Kraft</u> , M. Stains	
	14.20-14.40	Green analysis of phosphate in diverse matrixes using a smartphone-based detector <u>R. S. Hernández</u> , A. Pastor, A. Morales-Rubio, M. L. Cervera	Exploration of the Relationship between Departmental Climate around Teaching and Adoption of Learner-centered Instructional Practice <u>Lu Shi</u> , M. Stains	
	14.40-15.00	Situating sustainable development within chemistry education through systems thinking oriented outreach activities in primary and secondary schools <u>S. Delaney</u> , M. Schultz	Exploring the relationships between pedagogical content knowledge about resonance and student learning outcomes among Organic Chemistry teachers in the United States <u>M. Stains</u> , D. Xue, J. Mitchell-Jones, E. Atieh	
	15.00-15.20	On-line vs. traditional pre-service teachers' achievements in chemistry lab work <u>L. Vinko</u> , I. Devetak	Roadmap for continuous professional development of STEM lecturers <u>N. Brouwer</u> , S. Grecea, J. Kärkkäinen, I. Maciejowska, M. Niemalä	
	15.20-15.40	How to write a lab report: A hands-on approach to improve chemistry undergraduate writing skills <u>N. García Doménech</u> , A. Sanz Arjona, J. O'Donoghue, P. N. Scully	Women in Science R. Mamlok-Naaman	
	15.40-16.00	Project-Based Learning in Times of COVID-19 – Both a Challenge and an Opportunity <u>V. Ferk Savec</u> , K. Mlinarec		
16.00-16.15	Coffee break			
16.15-16.30	A Word from the Sponsors			

16.30-17.30	Workshop sessions (55 min +5 min Q&A)	Workshop 1: Teaching Efficient Experimentation in Chemistry <u>V. Kraft</u>	Workshop 2: New chemical compound 3D modelling tool for students and chemistry teachers <u>D. Dolničar</u> , B. Boh Podgornik	Workshop 3: Impressive Science Teaching Experiments (ISTE) presenting "Tsipouro", the Traditional Greek Spirit, in the University Laboratory <u>D. Korakas</u>	Workshop 4: Creative Connections': helping students link ideas between topics both in-class and online M. Coffey, <u>J. Leinster</u>	Workshop 5: Online support of organic chemistry classes with Zosimos <u>E. Biró</u> , Z. Szabó
17.30-19.15	Poster session	<p><i>5 min for poster presentation and 2 min for Q&A</i></p> <p>Chairs and poster evaluators: Rachel Mamlok-Naaman, Karolina Broman, Stefanie Herzog</p> <ol style="list-style-type: none"> <u>K.U. Antela</u>, M.L. Cervera, R.S. Hernández, I. Adam-Cervera, A. Pastor, A. Morales-Rubio: Laboratorio RPG Docente: A game-based learning <u>S. Kieferle</u>, I. Devetak, S. Hayes, J. Essex, M. Stojanovska, S. Markic: Diversity in Science towards Science Inclusion - A topic for pre-service chemistry teacher education <u>I. Koter</u>: Stimulating university chemistry students' interest in nuclear and radiochemistry by problem-based laboratory <u>K. Vo</u>, E. Yuriev, M. Sarkar, P. White: Student engagement with problem-solving scaffolds in chemistry: teaching associates' perspectives and practices <u>M. Slapničar</u>, I. Devetak: Strategies for solving the chemical problem of redox reaction of sodium chloride synthesis from elements: An eye-tracking analysis <u>C. Piperidi</u>, A. Kontogianni, K. Akrida-Demertzi, G. Tsaparlis Are Industrial Foods Always Good for a Healthy Diet? <u>J. Küsel</u>, S. Markic: Using Participatory Action Research in Higher Education for Developing Interactive Learning Media <u>M. Slapničar</u>, M. Vošnjak: Mentoring gifted high school graduates, future students in the natural sciences: An example of good practice <u>M. Vošnjak</u>, M. Slapničar: The role of outside university institutions in the teaching of chemistry content in the different years of study of natural sciences 				

	<p>10. <u>K.U. Antela</u>, M.L. Cervera, A. Morales-Rubio, M.J. Luque: Green Extraction Method for Azo Dyes Determination by Using Sheep Wool</p> <p>11. <u>C. Piperidi</u>, K. Akrida-Demertzi, P. G. Demertzis, G. Tsaparlis: Chemistry Students' Knowledge and Awareness About Basic Food Constituents, their Features and Role</p> <p>12. <u>N. L. Burrows</u>, J. Neugebauer, S. R. Mooring, A. Nehring: Students' Profiles in the Chemistry Laboratory Environments: Moving from a Phenomenographic to a Quantitative Assessment</p> <p>13. T. Ilioska, J. Hočevár, M. Rihtaršič, A. Mavsar, J. Zabel, Ž. Mole, E. Kerpan, J. Koler, J. Pust, M. Starešinič, <u>J. Iskra</u>: 3D Printed Models for Chemical Education</p> <p>14. <u>J. O'Donoghue</u>, N. Garcia Domenech: Creating Shared Experiences for Outreach in a Virtual World</p> <p>15. <u>C. Mönch</u>, S. Markic: Exploring Future Chemistry Teachers' Pedagogical Scientific Language Knowledge</p>
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July 9 2021

13.00-14.00	Plenary 2: David Read <i>Chemistry Education in 2020/21: Mitigation, Evolution or Revolution?</i>		
14.00-16.00	Time	Parallel session 6 (20 min, 15 min presentation and 5 min A&Q) Chair: <u>Luca Szalay</u>	Parallel session 7 (20 min, 15 min presentation and 5 min A&Q) Chair: <u>Dragica D. Trivic</u>
	14.00-14.20	Effective ways of teaching experimental design skills <u>L. Szalay</u> , R. Borbás, Z. Tóth ³	Flipped organic chemistry – in the light of Corona <u>K. Broman</u> , D. Johnels
	14.20-14.40	Development of pre-service chemistry teachers' ability to notice even under lockdown <u>L. Honskusová</u> , M. Rusek	Lessons from COVID-19 Times – Should Prospective Teachers Develop Their Own Online Classrooms Already During Their Tertiary Education? <u>K. Mlinarec</u> , V. Ferk Savec
	14.40-15.00	Peer Assessment Using the Example of a Student Recording an Experiment <u>N. Golob</u>	Pre-service chemistry teachers' perception of the educational processes during the COVID-19 pandemic <u>D. D. Trivic</u> , V. D. Milanovic
	15.00-15.20	Investigation of Pre-service Chemistry Teachers' Pedagogical Content Knowledge Regarding Acids-Bases <u>İ. Şahin</u>	Teaching and learning chemistry during the quarantine – the case of the laboratory working <u>B. Dojer</u>
	15.20-15.40	Bringing Chemical Biology to First-Year Organic Chemistry: Adapting Workshops to Remote and Online Contexts <u>J. L. Kiappes</u>	Development of TPACK and self-efficacy for online instruction by advanced degrees lecturers during the COVID-19 breakout <u>R. Blonder</u> , S. Rap, Y. Fledman-Maggor
	15.40-16.00	Combining Virtual Reality and Zoom to visualize chemical structures in 3D and develop the spatial ability of university chemistry students <u>K. Broman</u> , E. Chorell, M. Holmboe	Inquiry-based Learning in Education of Prospective Chemistry Teachers <u>Š. Hrast</u> , K. Mlinarec, V. Ferk Savec
16.00	Closing ceremony		