	Monday, 15 July 2024					
Time/Date	Orchid Ballroom A	Orchid Ballroom B	Jomtien 2	Jomtien 3	Jomtien 8	
			Registration 08.00-16.00			
	Symposium A The 12 th International Symposium on Microscale Chemistry (12ISMC)	T5-CC Chemistry and Chemical Science Education for Environmental and Social Sustainability	T2-RC Redesigning Chemistry Laboratory Teaching	T8-EE Emerging Educational Trends in Chemistry in the 21st Century		
9.00-10.40	Opening remarks and awarding the outstanding contribution to microscale chemistry awardees. Peri-S dpawn Tainsynnon K04: Distance learning of experimental chemistry Dr.Jorge G. Bames, Mexico (35 mics) Special lectures by the awardees H17: Re-Designing the colorimeter for chemistry biotratory Teaching Profer Journal Service, Professor (30 mics) H18: Chemistry practicals: adding the work factor Mex. Marke du Toct, South Africa (30 mics) Chem: Prof.Supanan Tealagnon (Thelland) Go-Chair: Dr.Jorge G. Ibanez (Mexico)	 CC-0402: Environmental Chemistry Experiment: The Removal of Day and Heavy Media using Recycled Silica Cel Mr. Lam Holany Resyne, Vet Nam (20 mms) CS-0433: McHaniel Chemistry Environment Celusors Factured Biodegradels Dehvare (Polysulytene Adjate co-Terphhalte) Composites Dr. Joyd Cim, Rego (20 mms) CC-0410: Enhancing Chemistry Education for Sustainability in Singapore Mr. Kan Huay Conf., Singapore (20 mms) Enhancing Scientific Latency and Advancing SODs isn't easy- Dr. Joya Edit. Latency and Advancing SODs isn't easy- Dr. Claus Bolte, Cemmany (20 mins) Chairs: Assoc. Prof. Chatree Fakhamta, Kasestaar University Prd. Vames Hoven, Chuldongilom University Prd. Vames Hoven, Chuldongilom University 	 105: How teaching deepened my understanding of chemistry Assoc. Prof. Jurning Ho. Australia (30 mms) 129: Recent dynamics in balaxies y ducation research Asst. Prof. Hendra Agustian: Denmark (30 mms) Chair: Dr Seamus Delaney, School of Education, Deakin University Assoc Prof Taweetham Limpanuparb, Mahdol University 	 EE-0-001: Recent Developments in Chemistry Education Research Shell Ectuary, UK (20 mins) EE-0-003: Should we create measy practice assignments for better problem-adving performance in chemistry disacrosm? Dr. Ozcan Guidear UK (20 mins) EE-0-003: Analysis of the Influence of setting and monor publicity setting and management of fat year students Dr. Oztane Newson Reguest, UK (20 mins) EE-0-003: Analysis of the Influence of elements of chemical computational thinking on mathematical and scientific computational thinking in mathematical and scientific computational thinking in the Influence of elements of chemical Influence in Via Vien. Talewan (20 mins) Chatr: Prof. Santiago Sand-Urena, Promos Cotageuluniversity of Cotas Rica Dr. Rachel Mamick-Naaman, Weizmann Institute of Science 		
10.40-11.00			Break			
	Symposium A The 12 th International Symposium on Microscale Chemistry	T5-CC Chemistry and Chemical Science Education for Environmental and Social Sustainability	T2-RC Redesigning Chemistry Laboratory Teaching	T8-EE Emerging Educational Trends in Chemistry in the 21st Century	T7-ED Ethics, Diversity, Equity and Inclusion in Chemistry Education	
11.00-12.00	(1215MC) SA-0-001: The application and development of the micro-Hoffman Votenmeter Via Giptal technology Mr.Hus-Mao Liao, Taiwan (20 mms) SA-0-005: Overcoming Resistance to Innovation Mr.Robot Workey, Unlet Kurgfon (20 mms) SA-0-005: Stanking using the microscient development – Chemical safety, Mr.Naska Yunev, Stamsnov, Bulgans (20 mms) SA-0-005: Making microscie chemistry education in Teleford Mr.An Assimt Mylynita, Finland (20 mms) SA-0-005: Making microscie chemistry veh for public teachers and techniciasis in secondary schools Mr.Matker Stim, Unlet Kingfon (20 mms)	 K011: Empowering Student Agency for SDGs: Research, Development: and Dissemination (Part A) Prof. Ron Bionder, Issael (35 mma) H11: Empowering Student Agency for SDGs: Research, Development; and Dissemination (Part B) Dr. Stretey Play, Issael (30 mms) 137: Integrand (30 mms), Inter (30 mms) 137: Integrand (30 mms), Canada (30 mms) Chair: Asst. Prof. Hendra Agustian, Department of Science Education, University of Cogeningan 	RC-0-003: Teaching without a tectbook: Two courses for non- majors. Assoc-Prof. David Allen Katz. USA (20 mms) RC-008: Integrating a service-aleming coursent in an organic chemisty takontary course of a simultiberal arts college Dr. Patratis Phane Bugsyong, USA (20 mms) RC-008: UNDERTAINUNG and Investigating Teaching Pedagoyin Upper Year Science Laboratory Course in a Post- Parademic Science Laboratory Course in a Post- Parademic Science Laboratory Course in a Post- Paratemic Management / Science Canada (20 mins) Chair: Dr. Manaferen / Science Canada (20 mins)	EE-0-09: Examining secondary school students' construction and onlique of scientific argument Shirgo Uc/informar, Japan (20 mm) EE-0-012: Constructivit exploration: Understanding amine mucleophile structivity in mucleophile structures and Asst.Prof.Dr. Peera Advanzasilari, Thatland (20 mm) EE-0-015: Implementing of engineering aspects in chemistry leasons using a nanocedime sculertri lab <i>Ast. Tim Coebid. Cemmary</i> (20 mm) EE-0-015: Mayding the consolate between chemistry and mathematics how much is actually just mathin? Asscc.Prior.Faller M (Ho. Sculer) (20 mm)	 ED-O-002: Promoting Diversity, Equity, and Induxion by Infusing High Impact Organic Synthesis Research into Undergraduate Controllant and Your Society of the Control of the Synthysic Prof. Ferginal cost, USA (20 mm) ED-O-040: Diversity and Indusion in sectore education: A case addy Dr. Rachel MamOb-Nauman, Israel (20 mins) ED-O-056: Success in Their Hands: How Students Usa Token Synthysic Cost, Studies (20 mins) ED-O-056: Success in Their Hands: How Students Usa Token Synthysic Cases on and Understory Isaming modules for Visually impaired high actool and undergraduate students Phol. Rayee & Dables, USA (20 mins) 	
12.00-12.40	Chair: Pro:Supawar Tartagran (C haland) Co-Chair: Dr.Jorge G. Ibanez (Mexico)	Miss Pattanaporn Hernwech	Miss Orapan Apirakkan, Lunch	Chair: Prof. Uday Matria, Indian Institute of Science, Bangalore Dr. Debora Marchak, Weizmann Institute of Science	Chains: Prof. Many Garson, The University of Queensland Assoc Prof Chattee Fakhannta, Kaseetsat University	
	Symposium A The 12 th International Symposium on Microscale Chemistry (12ISMC)	T5-CC Chemistry and Chemical Science Education for Environmental and Social Sustainability	T2-RC	T8-EE Emerging Educational Trends in Chemistry in the 21st Century	T7-ED Ethics, Diversity, Equity and Inclusion in Chemistry Education	
	(12ISMC) SA-0-011: Re-designing the colorimeter for chemistry laboratory teaching	Social Sustanability CC-0-011: Student Centered Environmental Lab Ms. Thender Win. Weamer (20 mins)	Redesigning Chemistry Laboratory Teaching RC-0-011: Electrochemistry 'mystery box': from observations to inferences in the laboratory	Emerging Educational Tends in Chemistry in the 21st Century EE-0.015: Enhancing Chemistry Education: The Impact of Bilingual Instruction and Approaches for Freuhman at National Takana Romal University Assoc Profile: Visinu L. J. Visien (20 ming)		
14.00-14.40	Prof.Fortunato III Euronarig Sevilla, Philippines (20 mins) SA-0-012: Exponential. That's the way pH is. M. M. Anthen Elena bargurganolis. Mexico (20 mins) SA-0-013: New aspects of microscele chemistry: Microscale chemistry for indusive oducation Prof.Kazuko Ogino, Japan (20 mins)	CC-0-013: An exploratory study on cultivating students' systematic thinking ability based on 'the Rubak's Cube of Thinking' <i>Mr. Xyum Hong, China (20 mins)</i> CC-0-017: Introducing the Small-Scale Chemistry Approach to the Sri Lankan Secondary Education System for Environmental and Social Sustainability	Prof.Dr. Carla Morais, Portugal (20 mins) RC-0-012: Raman spectroscopy: A simple, non-destructive spectroscopic technique for accessing minecular insight Prof.Dr. Satyen Saha, India (20 mins) RC-0-014: Evaluating the Effectiveness of Handson vs. Virtual Chemistru Jais: A Case Shuftvon the Laved Conservation of Mass	EE-0-016: A Systematic Review of Context-Based Learning Implementation in Science Education Ms. Metridew Primastul, Indonesis (20 mins) EE-0-017: Teaching computational chemistry for undergraduates:	K05: Moving ahead on gender equity: An IUPAC perspective Prof. Mary Garson, Australia (35 mins) 121: Overcoming Resistance to Innovation in Practical Chemistry Robert Worky, UK (30 mins) ED-0.001: Students' necreation of task effort and emotional cost in	
14.00-14.40	Prof.Fortunato III Bunanig Sevilla, Philippines (20 mins) SA-0-012: Exponential. That's the way pH is. Ms.Martha Elena Ibarguengotta, Mexico (20 mins) SA-0-013: New aspects of microscale chemistry: Microscale chemistry for inclusive education	thinking ability based on "the Rubik's Cube of Thinking" Mr. Xiyun Hong, China (20 mins) CC-0-017: Introducing the Small-Scale Chemistry Approach to the	RC-0-012: Raman spectroscopy: A simple, non-destructive spectroscopic technique for accessing molecular insight <i>Prof.Dr. Satyen Saha, India (20 mins)</i>	EE-O-016: A Systematic Review of Context-Based Learning Implementation in Science Education Ms. Metridewi Primastuti, Indonesia (20 mins)	Prof. Mary Garsion, Australia (35 mins) 121: Overcoming Resistance to Innovation in Practoal Chemistry Rebert Worley, VG 0 mins) ED-0-001: Students' perception of task effort and emotional cost in general dwimitry Dr. Guizelle A Rocabado, USA (20 mins)	
	 ProLFortunato III Buangi Sevila, Philippines (20 mins) SA-0-012: Exponential. That's the way pH is. MLAMent Berna Bargungoholi, Mesico (20 mins) SA-0-013: New sepects of microacide chemistry. Microacale chemistry for inclusive eluciation. ProLKazuko Ogino. Japan (20 mins) SA-0-014: An SSC Activity in Chemical Kinetics: Implementation and Feedback. Asoc Prol Cotyasa Natividad Monitoya Molo, Philippines (20 mins) SA-0-008: Enhancing STEM learning strategies in rural schools of the Ecoadoria Andes Ms. Jeanette Carrent Coversion, Ecuator (20 mins) VOO. Chair: Prol Supreant Tattariano (Thaliano) 	thinking ability based on the Rublik's Cube of Uninking Mr.Xiyun Hong, China (20 mms) CC-0-017: Introducing the Small Scale Chemistry Approach to the Srit Lankan Secolary Education System for Environmental and Social Sustainability Dr. Anthron Durgen Asaka Edu Sales, Sri Lanka (20 mms) CC-0024: The impact of project-based learning on chemistry students' choices of tertilary education Mr. Staket Wanninkargon, Austaliana (20 mms) Chatr. Dr. Christine M. Smart Langinatis, Sanda National Laborational	RC-0-012: Raman spectroscopy: A simple, non-destructive spectroscopic technique for accessing molecular insight <i>Pholo: Sayen Sain, Alara, Chana (20 mins)</i> RC-0-0115: Contextualizing History in Chemistry Labr. Role Narg, China (20 mins) Dr. Sathah Chahmalad Gangathamppa, India (20 mins) Diatr: D., Pholesch Puthondham, Chuladon, Chairago, Pholesch Puthondham, Alara, India (20 mins) Datar: D., Pholesch Puthondham, Chuladon, Chulano, India (20 mins)	EE-0-015: A Systematic Review of Context-Based Learning Implementation in Science Education Ms. Meterio Primatatic, Induces a (20 mm) EE-0-017: Teaching computational dreinistry for undergraduates: Carricular agends Assoc Prof. Inball Trav-And, Israel (20 mm) 12: A Systems Thinking" approach turdestanding Organic Reaction Mechanisms PPC/Using Materin, andis (20 mm) Chalins: Prof. Santiago Sandi-Jona, Penrona Colege/University of Conte Prime.	Prof. Mary Garon, Australia (35 mm) 121: Overcoming Resistance to Involution in Proclead Chemistry Robert Worky, UK (30 mms) ED-0401: Studentip perception of task effort and emotional cost in general chemistry Dr. Guzetta A Rocalastic, USA (20 mms) Chair: CP Rachel Manich-Naman, Meximan Institute of Science	
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	Tuesday, 16 July 2024						
Time/Date	Orchid Ballroom A	Orchid Ballroom B	Jomtien 2	Jomtien 3	Jomtien 8	Jomtien 10	Grand Deck
				Registration 8.00-16.00			
	Symposium A The 12 th International Symposium on Microscale Chemistry (12ISMC)	T3-IC Innovative technology for chemistry education		Symposium D Advancing Chemical Safety and Security Education	T4-CS Chemistry and Science Teacher Education and Continuous Professional Development	Symposium B Promoting students' modeling competence via modeling-based instruction and assessment	
9.00-10.40	Hennicial Lectures To pay trible is owneybry gioreses it he field of ministeade of analacial density for blar instructional carent and postformation That has blar and the state of the state of the state of the state of the state that is a state of the	113 Building the Nard Generation of Open Tauthooks Prof. Cambrid Isolat Lenson, USA (20 mmg) DF Statuta Lenson (20 mmg) DF Inst March Prog. Strapping: 120 mmg) DF Inst March Prog. Strapping: 120 mmg) DF Contern Strapping, Tauland (20 mmg) DF Contex Prog. Tauland (20 mmg) DF Banks (20 mmg		Welcome and Opening remarks THE Control Boostry Execution at Universiti Bains Malaysia Int Dealerges and Learn Learning Assocrational Dealerges and Learning Assocration Statistics and Assocration and Assocration Phol D: Head InterNACIDING Transport Openang Phol D: Head InterNACIDING Transport Openang Phol D: Head InterNACIDING Transport Chair: Dr. Christine Braad Langinaia, USA	Late start 1-36) CS-0.991 Personalized system of instruction for the toxidational Dr. Good C. Tay, USA Dr. Barray CS-0.994 Answering charles of text charactery instructors. And Late Startes Coognet C. Cool, Dr. Amag CS-0.914 Personal charactery for Taccine's instructors in the Cooperation of the Cooperation of the Cooperation of the Cooperation of the Cooperation of the Cooperation Material Starters and Cooperation of the Cooperation Cooperation of the Cooperation of the Cooperation Material Starters and Cooperation of the Cooperation Material Starters and Cooperation of the C	 Kollis Donalogi Competence: Hon to Datajor? How to Because? Part InterAng Data. Hon Challer Org, Data. Tamang Datagii Biol. Station. Teamping: Antonia Chancel Datasii Biol. Station. Teamping: Antonia Chancel Biol. Station. Teamping: Antonia Chancel Biol. Station. Teamping: Antonia Chancel Biol. Station. Teamping: Antonia Chancel Biol. Station. Teamping Antonia Biol. Station. Teamping Antonia	
10.40-11.00				Break			
	Symposium A The 12 ⁿ International Symposium on Microscale Chemistry (12ISMC)			Symposium D Advancing Chemical Safety and Security Education	T4-CS Chemistry and Science Teacher Education and Continuous Professional Development	Symposium B Promoting students' modeling competence via modeling-based instruction and assessment	
11.00-12.00	 81-0325. Using microscale experiments to support pediagraphic particle among ti adv) career teachers. 14: Red James Camplel, Under Gruppen, Od milly 80-0327. Microscale Imorging improved classions measurement data Frank Registeri. 15: Second Strategies. 16: Second Strategies. <li< th=""><th></th><th>Workshop G How to Publish in CTI</th><th>B1: Educational training programme on chemical programmessa mesones for Exel Allowing constraints D : Labor State (Constraints) D : State S</th><th>28: Smill-Scale Chemistry driven STEM Learning Activities for Activity of the Constraint Constraint (20 Ana) 27: Entracing Learning Interfaces (20 Ana) 28: Entracing Learning Interfaces (20 Ana) 28: Constraint (20 Ana) 28: Constraint (20 Ana) 28: Constraint (20 Ana) 28: Constraint (20 Ana) 29: Constraint (20 Ana) 29: Constraint (20 Ana) 29: Constraint (20 Ana) 29: Constraint (20 Ana) 20: Constraint (20 Ana)</th><th>Bo 0.907: Analyzing the Frequency and Themics of the Term Woold The Control Extension Interfaces to University-Level The Control of Control Control Control The Control of Control The Control of Control Bo 0.907: Contr</th><th></th></li<>		Workshop G How to Publish in CTI	B1: Educational training programme on chemical programmessa mesones for Exel Allowing constraints D : Labor State (Constraints) D : State S	28: Smill-Scale Chemistry driven STEM Learning Activities for Activity of the Constraint Constraint (20 Ana) 27: Entracing Learning Interfaces (20 Ana) 28: Entracing Learning Interfaces (20 Ana) 28: Constraint (20 Ana) 28: Constraint (20 Ana) 28: Constraint (20 Ana) 28: Constraint (20 Ana) 29: Constraint (20 Ana) 29: Constraint (20 Ana) 29: Constraint (20 Ana) 29: Constraint (20 Ana) 20: Constraint (20 Ana)	Bo 0.907: Analyzing the Frequency and Themics of the Term Woold The Control Extension Interfaces to University-Level The Control of Control Control Control The Control of Control The Control of Control Bo 0.907: Contr	
12.00-12.40						Chair: Prof.Mei-Hung Chiu (Talwan) Co-Chair: Prof. Vicente Talanquer (USA)	
12.40-14.00				Lunch			
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15.40-16.00				Break			
16.00-17.00	Byenpostem E Bystem Thirting in Chemistry for Bustaniability Bystems thirting, scatalinability and the chemical industry Bystems Mattin (20 mins) Towards net-amy progeticity (20 mins) UB Lifetious (internet) (20 mins) Delivering on a low emission future for performance - challenges,	T3-0 Innovative technology of octementary solution IC-0-018: The use of postable technology and to the study direct and indirect tettance technique for high school tration teaching <i>Mr. Wanaports Mall</i> s Genergat, Thaland (20 mms) IC-0-019: Using generative 4 to pomeric child segestering and bater concept understanding <i>Partic Reveal Flucat</i> , Aurasian (20 mms)	TEPR Policy, Referre and Duality Assurance in Chemistry Education 115: Ensuring Quality Assurance and Driving Policy Reform in Education: The VIII Role of Genera and Sublandule Chemistry Policy Assurance and Chemistry Assurance and Draving Policy 15: Recent Reform of Chemistry Laboratory Teaching in Chemistry 15: Recent Reform of Chemistry Laboratory Teaching in Chemistry		T-C3 Chemistry and Selexa Teacher Endocution and Continuous Professional Development C5-0-01: Exploring chemistry teacher's assessment knowledge through a natric for self-designed food and sustainability-related activities Petr Yeherd J.Acji Osa, tanal (20 min) C5-0411: My proceed Relationgian Chemistry C5-0411: My proceed Relationgian Chemistry		Workshop A Microscale/Small-Scale Chemistry
17.00-17.40	opportuntiles, and actions needed Bob Mauphon (contrel) (20 mins) Systems, network and colaborative teams Bernard West (contrel) (20 mins) Panel discussion with session presenters	191: Circular Chemistry to enable a Circular Economy Assoc. Prof. Chris Silocheg, The Metherlands (30 mins) VO Chair: Dr. Fun Man Fung, National University of Singapore Dr. Supacha Wirojasengthong	Prof. Shu-yong Zhang, P. R. China (30 misa) VOO Chair: Assoc. Prof. Patcharee Rompayom Wichaidt Miss Netsirin Gissawong		Concerning page of the concerning of the complexity of chamistry teaching electron configurations in the complexity of chamistry <i>Mr. Suparet Kantfinda, Thailand (20 mins)</i> Chair: Assoc. Prof. Chairee Faikhanta, Kassetsart University IPST		
			P3: Chemical Sciences for SDGs: gende	Plenary Lecture (17.20-18.00) r, diversity, equity and inclusion effects in the	e least developed countries		
				: Prof. J Catherine Ngila, Kenya shora Marchak, Weizmann Institute of Science			
17.40-18.20				@Head of State Chamber			
18.20-21.00	Opening Ceremony of poster presentation session Poster Presentation Section1 (# 3: 5:1-3.0) Poster Presentation Section 2 (seck: & Anfectments will be provided) @Royal Summit Chamber						

		Nednesday, 17 July 2024	4			
Time/Date	Orchid Ballroom A	Orchid Ballroom B	Jomtien 3			
		Registration 08.00-14.00				
9.00-10.40	Systems Thinking in Chemistry for Sustainability K03: Chemistry education for sustainable development <i>Prol.Glenn A.</i> , <i>Hurst, UK (35 mins)</i> SE-0-006: An inquiry based activity: The life cycle analysis of solar panels with a combined lens of UN. Sustainable Development Goals and green chemistry <i>Prol.Dr.Megina Dim. USA</i> (20 mins)		Symposium D Advancing Chemical Safety and Security Education SD-0-023: THROUGH the Lens of Virtual Reality – The Future of Laboratory Safety and Security Inspection Training in National University of Singapore Dr. Andrew Ng. Singapore (20 mins) SD-0-025: Securing Tomorrow: A Developing Curriculum in Chemical Security Risk Assessment-A Pilot Study Across Kurdistan Region's Academic Sector Ms. Dunya Saleh, Iraq (20 mins) SD-0-036: Introducing chemical security and safety in universities			
	 SE-0-012: Incorporation of Systems Thinking into the Chemistry Curriculum Assoc. Prof. Dr. Ellen Note Mitchell, USA (20 mins) SE-0-013: Advancing chemistry education by integrating systems thinking into building Physical Chemistry knowledge frameworks Prof. Yuan-Chung Cheng, Taiwan (20 mins) 		bb-Odds: Introducing oriented security and sarely informatisates through awareness of chemical wapons with new OFCW interactive learning resources Ms. Ashey Egersta, Canada (20 mins) Panel Discussion with speakers Chair: Dr. Christine Straut Langlinais, USA			
10.40-11.00		Break T4-CS				
	Symposium E Systems Thinking in Chemistry for Sustainability	Chemistry and Science Teacher Education and Continuous Professional Development CS-O-021: A Trend Analysis of Project-based Learning in Chemistry Experiment: A Bibliometric Analysis Ms. Ika Hasanah, Indonesia (20 mins)	Symposium D Advancing Chemical Safety and Security Education			
11.00-12.00	126: Teaching Certificate Program in View of the Systems Thinking Platform Rachel Marniok-Naaman (30 mins) SE-O-009: An educational framework for teaching chemistry using a systems thinking approach Prof. Viewnit F Talanuer, USA (20 mins)	CS-0-022: Case Teaching: Promoting the Understanding and Application of Pre-service Chemistry Teachers' Teaching Knowledge Ms. Vezchu Sun, China (20 mins) CS-0-023: Developing students' mental models of grade-10 non- science program students in chemical bonding Mr. Potlask Potlesin, Thaliand (20 mins)	 SD-0-019: Gender Stereotypes and Enhancing of Chemical Security in Technical and Vocational Education in Libya: Case Study Dr. Ayad Abdalla, Libya (20 mins) SD-0-005: Chemical Security in Technical and Vocational Education in Libya - An overview 			
	SE-0-011: Inspiring chemistry instructors to think holistically rather than reductively <i>Dr. David A. Lawska, USA (20 mins)</i> End of symposium panel discussion with session presenters - Educating the educators - new stops? Graduate outcomes to	CS-O-024: Chemistry teachers' pedagogical content knowledge for teaching modeling practices through the lens of epistemology of models <i>Mr. Anupong Praist. Thailand (20 mins)</i> CS-O-030: Crosscutting concept in fundamental chemistry in	Prof. Dr. Nabil Bader, Libya (20 mins) SD-0-024: Evaluation of chemical security curriculum development in Libyan Universities Dr. Mostafa Abcoarbanen, Libya (20 mins) Panel Discussion with Libyan Speakers			
12.00-12.40	Educanty the educators i nex stops? Or aduce outcomes to influence industry?	Chaores Construction of the construction of	Chair: Dr. Christine Straut Langlinais, USA			
12.40-14.00		Lunch				
14.00-14.40						
15.40-16.00						
16.00-17.00		Excursion				
17.00-17.40						
17.40-18.20						
18.20-21.00						

	Thursday, 18 July 2024					
Time/Date	Orchid Ballroom A	Orchid Ballroom B	Jomtien 2	Jomtien 3	Jomtien 8	Jomtien 10
				Registration 08.00-16.00		
		T3-IC Innovative technology for chemistry education	T2-RC Redesigning Chemistry Laboratory Teaching	T1-CE Chemistry Education in Informal Education and Life-long Learning Context	Symposium F Green and sustainable chemistry in the chemistry curriculum: Advances	Symposium C Connecting Competency-based Chemistry Education and the Challenge of Sustainable Development
		IC-0-022: Learning Styles Theory: Could Students' Learning Preferences Make STEM Subjects Easier to Learn? Dr. Julio Garay, USA (20 mins) IC-0-024: Analyzing student engagement with conflicting visualization of acid-base reactions: evolution of research into		Context		120: Transforming Chemistry Education for a Sustainable Future: Empowering Teachers and Learners through Interactive Technologies Asst. Prof. Nivel Srisewasci, Thailand (30 mins)
	Workshop D	visualizations of acid-base reactions: evolution of research into teaching practice Prof. Resa M Kelly, USA (20 mins)	103: Simple Synthesis of Nanoparticles at Home Assoc. Prof. Ekasith Somsook, Thailand (30 mins)	(Late start) CE-0-003: Transforming Chemistry Education: The Power of Imagery, Storytelling, and Inclusivity	K09: Green Chemistry Education: Building Community and Empowering Educators and Leaders to Create Change Dr.Amy S.Cannon, USA (35 mins)	SC-0-003: Leveraging a Case-based Learning Intervention to Boost Pre-service Teachers' Chemistry Competencies Self-Efficacy Asst.Prof.Anggiyani Ratnaningtyas Eka Nugraheni, Indonesia (20
9.00-10.40	Enhancing Chemical Safety and Security for the Chemical Weapons Convention	IC-0-025: Exploring Interactive Animations to Facilitate Understanding of Mechanisms in Organic Chemistry Mr. Witton José Diolindo Do Nascimento Nascimento, Brazil (20 mins) IC-0-028: Chemical Automation: an innovative course for the age	RC-0-016: Engaging chemistry teachers with inquiry/investigatory based experimental modules for undergraduate chemistry laboratory education Dr. Indrani Das Sen, India (20 mins) RC-0-018: Assessing the relationship between practical activities	Imagery, Storytelling, and Inclusivity Mrs. Rejastree Swarninathan, USA (20 mins) K02: Science Education as a Key to Sustainable Development: A Reflection on Princess Maha Chakri Sirindhorn's Education Development Projects Assoc. Prof. Khurying Sumonta Promboor, Thailand (35 mins)	 SF-0-019: Green chemistry in the curriculum: What's next? Dr. David A. Laviska, ACS GCI (20 mins) I30: Journey of 'Green Chemistry and Sustainability' graduate program in Thailand Pinf. Voravee Hover. Thailand (30 mins) 	mins) SC-O-088: A survey study examining the perspectives of Thai teachers on teaching chemistry at the secondary level with a focus on green chemistry and sustainability Duangruthal Sridseng, Thailand (20 mins)
		IC-0-028: Chemical Automation: an innovative course for the age of smart chemistry Assoc.Prof.Dr. Changxu Lin, China (20 mins)	and students' problem-solving skills in stoichiometry Prof. Helen Patricia Drummond, South Africa (20 mins) Chair: Dr. Fun Man Fung, National University of Singapore	Chair: Dr. Debora Marchak, Weizmann Institute of Science Asst.Prof.Sairoong Saowsupa	Prot. Voravee Hoven, Inailand (30 mins) Discussion: Dr. Amy Cannon, USA; Dr. David Laviska, ACS GCI= USA; and Prof. Mageswary Karpudewan, Malaysia	SC-0-010: Effectiveness of Technological Pedagogical Content Knowledge-focused Coursework in Enhancing Pre-service
		IC-0-029: MIT App Inventor for a voice-controlled portable DNA extraction system Dr. Hoang Khang Bui, Korea (20 mins) Chair: Prof. Santiago Sandi-Urena, Pomona College/University of	Chair: Ur. Pun hain Pung, National University of Singapore Assoc.Prof.Patcharee Rompayom Wichaidit		USA; and Prot. Mageswary Karpudewan, Malaysia	Teachers' Confidence of Technological Integration in School Science Me.Wacharaporn Khaokhajorn, Thailand (20 mins) Chair: Asst. Prof. Dr.Niwat Srisawasdi, Faculiy of Education, Khon Kaen University
10.40-11.00		Costa Rica		Break		
10.40 11.00		T3-IC	T2-RC	TI-CE	Symposium F	Symposium C
		Innovative technology for chemistry education IC-0-031: Characterizing students' performance on science	Redesigning Chemistry Laboratory Teaching	Chemistry Education in Informal Education and Life-long Learning Context	Green and sustainable chemistry in the chemistry curriculum: Advances	Connecting Competency-based Chemistry Education and the Challenge of Sustainable Development
11.00-12.00	Workshop D Enhancing Chemical Safety and Security for the Chemical	assessment via BERTopic M. Mao-ren Zeng, Taiwan (20 mins) IC-0-03: Optimizing the composition of ionic liquids based adsorbent by Entropy-TOPSIS method for desulfurization of model direct	RC-0-019: Redesigning a chemistry laboratory as a blended learning course for prospective primary school teachers Ms. Natalie Ahne, Germary (20 mins) RC-0-020: Exploring conceptual understanding in organic	104: Introducing Non-Formal Modes of Learning to the High School Chemistry Classroom Dr. Debore Marchak, Israei (30 mins) 114: From Kindergarten to Kiwinet - Outreach and Education within	SF-0-004: Measuring Students' Green Chemistry Knowledge: A Tale of Two Instruments Alexey Leontyev, USA (20 mins)	SC-0-004: Impacts of Game-based Practices on Students' States of Matter Achievements Ms.Ngoc-Trinh Nguyen, Viet Nam (20 mins)
	Weapons Convention	Mr. Subhajil Kundu, India (20 mins) IC-0-047: Assessing Pre-Service Chemistry Teachers'	qualitative analysis Dr. Gomathi Shridhar, India (20 mins)	the MacDiarmid Institute for Advanced Materials and Nanotechnology Assoc. Prof. Anna Garden, New Zealand (30 mins)	SF-0-011: Role of the Periodic Table of the Elements of Green and Sustainable Chemistry: Advancing SDGs in Chemistry Education Prof. Gildo Girotto Júnior, Brazil (20 mins)	SC-0-007: Enhancing Engagement and Perception in Chemistry Education: Integrating Technology-Assisted Self-Regulated Learning Strategies in Senior Secondary Curriculum Dr.Chulin Lat, Taiwan (20 mins)
		Technological Pedagogical Content Knowledge Through Designing Teaching Activities Between Taiwan and Turkey Mr. Chihang Chang, Taiwan (20 mins)	RC-0-022: Chemistry laboratory teaching in the context of a large classroom size: A case study Mr. Biplob Kumer Deb, Bangladesh (20 mins)	Chair: Dr. Michelle Brooks, American Chemical Society Mr. Jirawat Salungyu	SF-0-002: Exploration of biodiesel synthesis through inquiry learning with immobilized lipase Dr.Duangkhae Srikun, Thailand (20 mins)	Chair: Dr.Anggiyani Ratnaningtyas , Eka Nugraheni, Department
		Chair: Assoc. Prof. Saksri Supasorn, Faculty of Science, Ubon Ratchathani University	Chair: Assoc. Prof. Ekasith Somsook, Mahidol University Miss Netsirin Gissawong	Miss Khanittha Kerdpol	Dr.Duangkhae Snkun, Thailand (20 mins)	of Chemistry Education, Universitas Negeri Yogyakarta
12.00-12.40		Miss Orapan Apirakkan	P4: The OPCW: Riddi	nary 4 (12.00-12.40) ng the world from chemical weapons ter J. Hotchkiss, USA		
			Chair: Assoc Prof E	Ekasith Somsook, Mahidol University ad of State Chamber		
				Lunch		
12.40-14.00				Lunch		
		7340	T2.8C	T1-CE	Symposium F	Symposium C
		T3-IC Innovative technology for chemistry education	T2-RC Redesigning Chemistry Laboratory Teaching	T1-CE Chemistry Education in Informal Education and Life-long Learning Context	Symposium F Green and sustainable chemistry in the chemistry curriculum: Advances	Symposium C Connecting Competency-based Chemistry Education and the Challenge of Sustainable Development
14.00-14.40	Workshop D Enhancing Chemical Safety and	Incodine lectrology for chemistry education IIC-0-035: Enhancing Chemical Education through 3D Printing Dr: Mar Yan Yuan, Nong Gang SAR PRC (2) Annie) IIC-0-036: Small Sach Houge Effects Mr: Ya Shitu, Maynamar (2) Annie) IIS-Collaborative lawnama in immersive Wina Felder, The design IIS-Collaborative lawning in immersive Wina Felder, The design IIIS-Collaborative lawning in immersive Wina Felder, The design IIIIS-Collaborative lawning Wina Felder, The design IIIIS-Collaborative lawning in immersive Wina Felder, The design IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Releasing Chemistry Laboratory Teaching RC-0425: Engaging teachers with CER Illenature and designing laboratory experiments: the study circle approach Petr Dr. Laboratory and Company and Company Petr Dr. Laboratory and Company Petr Octors:	Chemisty Education in Informal Education and Life-long Learning Created 132: From science research of the Abrology to learning perspectives: Appling the Circular Economy model in out-of- school settings Perf. Staten Schwarzer, Cemmany (20 mins) CE-0498: What a 4-5 y c. Child Can do in a School Chemistry Latig Caces Study Dr. Denis Zalin, Russian Freemann (20 mins)	Unter and Sectional entering of the Commun Subschule Advectors Sections Section 2015 (Section Section Section Section Section Section Section Communication Section Section Section Section Section Prof. Magestery Kangdowen, Makeys (20 mins) SEC.0014: SECTION SECTION SECTION SECTION SECTION SEC.0014: SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SE	3C-Q401: Inglementation of Student Worksheets in Chemistry Learning, A Case Study about Rave Earth Elements in Socio societtic lass al Secondra blaumic School Mar. Juy Minglas Lansack, inconcesia (20 mm) SC-Q445: Subanito J/ Codfee Development Based on The Diversity Pattern of Psychotemical Composition on Three Collee Puigo Species with Youch Harwetting Markots by Clustering and School School Students and School Sch
14.00-14.40		Incode lectrology for chemistry education II-0-0-33: Enhancing Chemical Education through 3D Printing Dr. Mai Yan Yuan, Hong Kong SAR PRC (20 mm) II-0-0-35: Small Sach Huge Effects Mr. Ya Shtu, Magnamar (20 mm) II-0-0-100 through the design to support subdrift "understanding of the malecular world Assoc: Print Mary Wank, Assaming (20 min)	Redesigning Chemistry Laboratory Teaching RC-0425: Engaging teachers with CER Illenature and designing laboratory experiments: the study circle approach PerC / Labathing Restrictionase, India (20 ming) RC-0425: studiating and system Striking Genering the lab class practical by practical <i>Dr. Thomas L. Lagothesa</i> (JC 20 ming)	Chemisty Education in Informal Education and Life-long Learning Clinical 112: From science research of technology to learning perspectives: Applying the Circular Economy model in out-of- school activations: Centemy (07 aming) CEE-0498: What a 4-5 yac. Child Can do in a 5chool Commisty Lai) (a Cane Study) Dr. Cente Zmille, Russian Federation (07 aming) CEE-04196: Facets of collaboration regulation of learning and chemical tiltining during participation in a subloadure dynamic	Series and Jodannae emerging the Communy durincum Adverse	SC-0-095: Implementation of Student Worksheets in Chemistry Learning: A Case Study about Rate Earth Elements in Socio scientific tases at Secondary Islamic School Mr.J.yo Kinglias Lassandi, Infornaia (20 ming) SC-0.005: "Attability of Criffic Development Bared on The Complementation Workshop (20 ming)
14.00-14.40	Enhancing Chemical Safety and Security for the Chemical	Introduce lectrology for chemistry education IC-0435: Enhancing Ohemistal Education through 3D Printing Dr. Mar Yan Yuan, Hong Kang SAR PRC (20 mins) IC-0435: Small Scale Huge Effects Mr. VS Man, Marshari (20 mins) ISE: Collocative learning in immorbie Virtual Reality. The design to support studentic understanding of the melocular words be support studentic understanding of the melocular words Sacce Prod. Maye Wars, Australia (20 mins) ISE: Accelerate Innovation through Research on AWS Marcelerate Innovation through Research on AWS Marcelerate Innovation through Research on AWS	Receiving Chemistry Laboratory Teaching Rec. 0425: Engaging leschers with CER literature and designing laboratory experiments: he study circle approach <i>Prof. D.</i> Laboratory Resistingar, <i>Ania (20 Ania)</i> Rec. 0428: Sustain-billy and systems Tainking Chemistry laboratori Dr. Thomas A. Egoptiers, UK (20 Ania) Rec. 0438: Fridped chemistry laboratory Mr. Hair Ram Devisas, Jayou (20 Ania)	Cremity Education in Informal Education and Life-long Learning Created 132: From science research and technology to learning perspectives: Applying the Cincular Economy model in out-of- school settings Pod. Steffs Schwarzer, Cennetry (20 mins) CEC-048: Yeard A-5 yo. Child Can do in a School Chemistry Lab (a) Case Study Dr. Centr Zhink, Russan Federation (20 mins) CEC-049: School Collaborative regulation of Xaming chemical theking during participation in a collaborative dynamic learning dependence Ms. Neah Anni, trans (20 mins) CE-049: School Young Collaborative regulation of Xaming and Centrol Ministry Collaborative regulation of Xaming Aming Centrol Ministry Collaborative regulation of Xaming and Centrol Ministry Collaborative regulation of Xaming Aming Centrol Ministry Centrol Learning Spectration (Xaming Aming Centrol Ministry C	Advances Advances Advances Advances Advances SE-0.011: Bridging Theory and Practice: Integrating Green Sustainable Chemistry in Pres Service Teacher Education using circular economy and systems Tinking approaches Prof. Algeesant (Advances) Carbon Totality (20 mins) SE-0.01: STEGMAR-Biotechemetry. Carbon Totality in Learning Stort (Sandyardian, Advances) Students Mar. Xed En Law, Malaysia (20 mins) SE-0.0115: The development of the Organic Chemistry Metacognitive Instruction Framework by merging Bink-docod	SC-Q49: Implementation of Student Worksheets in Chemistry Learning A Case Study about Dare Earth Elements in Socio Mrs. Ayru Mrgtes Larssnell, Indonesia (20 mins) SC-Q49: Sustainability of Coffee Development Based on The Diversity Patient of Phytochemical Composition on There Coffee PCA Analysis: A Proposal of Complex-provides Middle School Sonce Dr. Vadhe Macately, Indonesia (20 mins) School St. Enhancing Demistry Complexicies Itroaph Naon- Saek Sonce and Technology. An Empland Study (20 pt): Na
14.00-14.40	Enhancing Chemical Safety and Security for the Chemical	Involtine leckmology for chemistry education IC-00-435: Enhancing Chemical Education through 3D Printing Dr. Mar Yan Yuan, Hong Kong SAR RPG (20 ming) IC-00-305: Small Scale Huge Effects More Strait Scale Huge Effects More Strait Scale Huge Effects Assoc: Prof. Many With America's 0D ming) Bits. Collaborative Insorting in Immersive Virtual Reality. The design to support aductive Involution Without Reality. The design Of the Involution Without Reality of Dimenses More Strait Scale On Integ Chair: Assoc. Prof. January Scale Scale Scale Scale Assoc. Prof. January Without Scale Scale Scale Scale Scale More Sciental Scale Scale Scale Scale Scale More Sciental Scale Scale Scale Scale Scale Marks Sciental Scale Scale Scale Scale Marks Sciental Scale Scale Scale Scale More Sciental Scale Scale Scale Scale Marks Sciental Scale Scale Scale More Sciental Scale Scale Scale More Sciental Scale More Sciental Scale Scale Scale Scale Scale More Sciental Scale Scale Scale Scale Scale More Sciental Scale Scale Scale Scale Scale Scale Scale More Scale More Sciental Scale Scale Scale Scale Scale Scale More Scale	Redesigning Chemistry Laboratory Teaching RC 0-025: Engaging teachers with CER Iterature and designing laboratory experiments: The study circle approach Prof CL asking Previolations: Also (20 min) RC 0-025: Sustainability and systems tinking: Greening the lab diss practical by practical Dr. Thomas A. L. Experiments. UK (20 min) RC 0-029: Floped chemistry laboratory	Cremity Education in Homal Education and Life-long Learning Distant 192: From science research and technology to learning perspectives: Applying the Circular Economy model in out-of- Port Stellin Schwarzer, Cemany (20 miss) CE-D041: White 3-5, Child Can on the Schwar Chemistry Lafi (a Can Study) D: Circuit 2-5, Child Can on the Schwar Chemistry Lafi (a Can Study) D: Circuit 2-1016; Ansestor (Federation (20 miss) CE-D019: Facets of collaborative regulation of twaring and chemical thering quere/inter- ling facets Amer, starter (20 mins)	SF-0.915: Bridging Theory and Practice: Integrating Green St-Durits: Bridging Theory and Practice: Integrating Green Stoubinutile Chemistry in Pre-Service Teacher Education using circular economy and systems thinking approaches <i>Prol Lagersy Republic Multiplication</i> (2014) SF-0.914: STEGMAR-Biddechemetry: Carlon Topologin In Learning Stochards The Genetic Practice Productions (2017) SF-0.914: STEGMAR-Biddechemetry: Carlon Topologin In Learning Stochards The Genetic Practice Product Practice <i>Mar.Kall Ext. Laskysia</i> (20 mins) SF-0.915: The Genetic Practice Product Practice	SC-Q-09: Implementation of Student Worksheets in Chemistry Learning A Case Study about Prace Earth Elements in Socio Mr.A.yu Norther Learnent, Alvoracia (20 min) SC-Q-09: Statianability of Coffee Development Based on The Dres Dy Relam of Phylochemical Composition of These Date Dr Analysis. A Phylochemical Composition of These Date Dr Analysis. A Phylochemical Composition of These Date Dr Valdha Natarabi, Hotensen (20 min) SC-Q-09: Enhancing Chemistry Competencies Broogh Nano- Seath Science and Technology. An Empirical Study of Eighth- Gade Student Leybert. Takadia (20 min) MA Phylock Leybert. Takadia (20 min)
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Friday, 19 July 2024							
Time/Date	Orchid Ballroom A	Orchid Ballroom B	Jomtien 2	Jomtien 3			
	Registration 08.00-14.00						
			T8-EE Emerging Educational Trends in Chemistry in the 21st Century	T5-CC Chemistry and Chemical Science Education for Environmental and Social Sustainability			
9.00-10.40	Workshop E Getting systems thinking into your classroom and connecting to sustainability	Workshop F Green Chemistry and the U.N. Sustainable Development Goals: Harnessing Their Combined Power	 106: Cross-institutional study: Propositional instruction and competence in chemical symbolic language in college students <i>Prof. Santiago Sandi-Urena, USA/Costa Rica (30 mins)</i> H2: Building a Path to Success <i>Prof. Renee Cole, USA (30 mins)</i> EE-0-018: Deciding how to teach first-year chemistry: What are our students doing? <i>Mr. Mick Moylan, Australia (20 mins)</i> EE-0-020: Chemistry students' knowledge and attitudes of generative artificial intelligence <i>Dr. Alexandra Yeung, Australia (20 mins)</i> EE-0-026: Reductionist mereology instruction: Does it influence chemical identity thinking and chemistry-based health literacy of health science students? <i>Dr. Jonathan Mazon Barcelo, Philippines (20 mins)</i> Chair: Dr. Solange Wagner Locatelli, Federal University of ABC Prof Christopher Thompson, Monash University 	 CC-0-027: Chemistry pedagogy to embed environmental sustainability knowledge among secondary school students Dr. Sureshkumar Manthiriyappan, India (20 mins) CC-0-028: Application of Project-Based Learning by Making Edible Coatings in Chemistry Learning to Improve Students' Creative Ms. Ivana Fauziah Sesfa'o, Indonesia (20 mins) CC-0-033: Development of CGO/LSF n-p type heterostructure as a bi-functional electrocatalyst for alkaline water-splitting at room temperature Mr. Subhadip Das, India (20 mins) CC-0-054: The Representation of South African School Chemistry Prof. Umesh Ramnarain, South Africa (20 mins) Chair: Dr. Christine M Straut Langlinais, Sandia National Laboratories Dr Witawas Handee, Silpakom University 			
10.40-11.00	Br	eak		Break			
11.00-12.00	Workshop E Getting systems thinking into your classroom and connecting to sustainability	Workshop F Green Chemistry and the U.N. Sustainable Development Goals: Harnessing Their Combined Power	 T8-EE Emerging Educational Trends in Chemistry in the 21st Century 133: Student-generated diagrams to learn chemistry through metavisualization: limits and possibilities Dr. Solange Wagner Locatelli, Brazil (30 mins) 136: Using Detective Conan to Promote Popularization of Chemical Science: An Innovative Mode and Practice Prof. Hai Xu, China (30 mins) Chair: Prof. Renee Cole, University of Iowa Mr. Sakol Warintaraporn, Monash University/Kamnoetvidya Science Academy 				
12.00-12.40	Closing Ceremony (12.00-13.00) @Head of State Chamber						