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Date	Monday 21 June 2021				
Time					
13:00-13:20	**Plenary Session 1: Introduction** **Welcome speech: Dean Faculty of Engineering, Chulalongkorn University** **Program Overview**				
13:20-14:00	**Plenary Session 2: Keynote Speech**				
	Dr. Pailin Chuchottaworn				
14:10-15:10	**Parallel Session 3.1** **CDIO Implementation** Online Modes during Pandemic, and	**Parallel Session 3.2** **CDIO Implementation** Internationalization	**Parallel Session 3.3** **Advances in CDIO**	**Parallel Session 3.4** **EER**	**Parallel Session 3.5** **Roundtable**
Session Chair	**Nicoleta Maynard**	**Elizabeth Keller**	**Anders Rosén**	**Johan Malmqvist**	**Sin Moh Cheah and Helene Leong**
	50 **From Lab-Based to Home-Based: Application of Blended Learning** *Siew Ling Tan and Eunice Goh*	51 **CDIO Approach on O2O International Learning Model Through SDG Course** *Alicia Amelia Elizabeth Sinsuw, Tsung-Hsien Chen, Chen-Yeon Chu, Chen-Hua Hsueh and Ben-Ray Jai*	18 **Development of Student Sustainability Awareness, Attitudes and Actions** *Sayed Mohamad Soleimani, Abdullah Mughrabi, Maram Al Far and Martin Jaeger*	20 **Oral Group Examination Method to Evaluate Collaborative and Individual Learning** *Karin Stenderup and Sanne Sandberg Overby*	35 **Collaborating in Innovations in Teaching and Learning** *Sin Moh Cheah and Helene Leong*
	4 **Effects of Migrating Large-Scaled Project Groups to Online Development Teams** *Daniel Einarson and Marijana Teljega*	82 **Navigating Uncharted Waters: A One-Year Finnish-German Faculty Exchange** *Patric Granholm, Juha Kontio, Andreas Baumgart and Martina Schulze*	63 **Choosing the Right D For Design** *Joseph Timothy Foley and Marcel Kyas*	109 **Design Exercise Strategy for Locus of Control and Self-Efficacy** *Geza Fischl and Bengt Erlandsson*	
	83 **Designing a New Industry-Related Specialization in Electronic Systems Design** *Dominik Osinski, Ashkan Moradi and Dag Hjelme*	5 **On-Site and Online Combination for Student Exchange Program** *Natha Kuptasthien, Sanidda Tiewtoy, Dong Joo Song and Dong Jin Kang*	79 **An Innovative Approach to Interdisciplinary Education Through Domain Sector Courses** *Yaroslav Menshenin and Clement Fortin*		

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Time					
15:20-16:20	**Parallel Session 4.1** **CDIO Implementation** Sustainable Development	**Parallel Session 4.2** **CDIO Implementation** Learning Progress Monitoring	**Parallel Session 4.3** **Advances in CDIO**	**Parallel Session 4.4** **EER**	**Parallel Session 4.5** **Roundtable**
Session Chair	**Sin Moh Cheah**	**Angkee Sripakagorn**	**Kristina Edström**	**Sarah Junaid**	**Juha Kontio**
	2 **Using the Sustainable Development Goals (SDGs) in Automatic Control Courses** *Svante Gunnarsson and Inger Erlander Klein*	41 **Maximising Student's Learning through Learning Analytics** *Mark Wan and Siew Kee Chong*	32 **CDIO - Can We Continue the Way We Are?** *Aldert Kamp*	67 **Cultivating Higher-order Thinking Skills in English-as-a-foreign-language Technical Reading Instruction** *Huey-nah Cindy Chou, Bing Jean Lee and Ben-Ray Jai*	47 **Faculty Professional Development** *Juha Kontio*
	34 **CDIO Approach for Development of Temperature Rise Monitoring System** *Nengfu Tao, Xiaodong Li and Jinping Lu*	68 **Continuous Assessment with Flipped Learning and Automated Assessment** *Nicolás Serrano Bárcena, Carmen Blanco, Kevin Calderón, Iñigo Gutierrez and María SerranoBlanco, Kevin Calderón, María Serrano and Iñigo Gutierrez*	76 **Assessing Curriculum Agility in a CDIO Engineering Education** *Suzanne Brink, Carl Johan Carlsson, Mikael Enelund, Fredrik Georgsson, Elizabeth Keller, Reidar Lyng and Charlie McCartan*	137 **Basic Need Frustration in Motivational Redesign of Engineering Courses** *Gunter Bombaerts*	
	45 **Work-Based Learning Model to Develop Self-Directed Learners in Optometry Education** *Sumasri Kallakuri, Li Li Tan and Adrian Yeo*	70 **Data Analytics of Students Continuous Assessment Activity Data** *Kevin Calderón, María Serrano, Nicolás Serrano Bárcena and Carmen Blanco*	131 **Student Engagement: A Proposed Optional Standard** *Kuntinee Maneeratana and Danai Wangsaturaka*		
	11 **Sustainable Development in Chemical Engineering Curriculum: Review and Moving Ahead** *Sin Moh Cheah*	27 **Transfer of Self-Directed Learning Competency** *Yunyi Wong, Poh Hui Chua and Sin Moh Cheah*	104 **Experiences from Applying the CDIO Standard for Sustainable Development in Institution-Wide Program Evaluations** *Anders Rosén, Hélène Hermansson, Göran Finnveden and Kristina Edström*		

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Date	Monday 21 June 2021				
16:30-17:30	**Pleanary Session 5: Poster Session**				
	Session Chair: Gareth Thomson				
	Paper ID 1 16 25 29 52 58 60 69 78 81 90 93 96 98 101 102 103 105				
	1	16	25	29	52
	Assessment for Academic Learning during the COVID-19 Pandemic	**Evaluation of Spiral Curriculum for Chemical Engineering Using CDIO Framework**	**A Report of Cross-Course-Typed PBL and Students' Self-Assessment**	**Evidence-Based Reflective Practice for Engineering Repeat Students in Flipped Learning**	**A New Approach to Engineering Education at Tsuruoka Kosen**
	Sanidda Tiewtoy and Natha Kuptasthien	*Katerina Yang, Sin Moh Cheah and Siew Teng Phua*	*Kuniaki Yajima, Koji Kawasaki, Yoshikatsu Kubota, Shinji Chiba, Jun Suzuki and Hisashi Takeshima*	*Ying-Wei Leong*	*Ryo Shomura, Hiroyuki Arafune, Takashi Morinaga, Sou Takahashi, Ryo Satoh, Shinichiro Hoshina, Mitsuaki Yamada, Yuko Usuba and Koichi Watanabe*
	58	60	69	78	81
	Project Management Application for Engineering Program CDIO Process in Asia	**Students' Readiness for Demand-Driven Education System in NIT**	**Teaching Reform of Combining Innovation Ability Training with Engineering Education**	**Suitable Integrated Learning Experiences for Increasing Industrial Management Student's Competency**	**C Programming Language Teaching Based On CDIO**
	Sasipraba T., Kaja Bantha Navas Raja Mohamed, Jeberson Retna Raj, Prakash S. and B. Badiru Adedeji	*Namita Maharjan, Nayani Daranagama, Yoshihiro Ominato, Michiaki Omori, Shozo Urabe, Noboru Fukuda, Katsumi Ichimura and Yasuko Tsuchida*	*Wang Zhiqiang, Shen Hua, Liu Long, Ning Minghao and Yang Yong*	*Anirut Pipatprapa, Sukanda Klinkhajon, Chartaya Nilplub, Atchalawan Taodon, Pranee Sakullikalatesima and Pansri Pimpru*	*Shuhong Wang, Jiandong Liu, Yiqun Dong and Qingxuan Wei*
	90	93	96	98	101
	Flipped Learning Analytics Real-Time (FLARET) Framework for Assessing Student Learning	**Teaching Reform of "Linux Management and Application" Based on CDIO**	**Intended Learning Outcomes of Seven Finnish B.Sc. in IT Programs**	**Development of Engineering Workspaces for Hands-on and Project-Based Learning**	**CDIO Approach to Write Reference Models for Training Decision Skills**
	Thian-Siong Choo	*Li Xue, Yanli Xing and Wang Haoping*	*Janne Roslöf*	*Yuliya Petrova, Ekaterina V. Sevast'yanova, Valeria A. Bezuevskaya and Ekaterina V. Kukhtenko*	*Thordur Vikingur Fridgeirsson, Haraldur Audunsson and Asrun Matthiasdottir*
	102	103	105		
	Online Teaching Modes from the Perspective of Constructivism	**Flexible Curriculum as a Hierarchical Puzzle**	**Implementing EduScrum Methodology in Online Project-Based Learning**		
	Dan Mu, Hong Li and Ping Song	*Andrei Zapevalov, Larisa Zapevalova and Pavel Grishmanovskiy*	*Andrei Zapevalov, Dmitrii Kuzin, Anton Osipov, Pavel Grishmanovskiy and Larisa Zapevalova*		
17:40-18:00	**Newcomers' Welcome Session**				

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Date	Tuesday 22 June 2021				
Time					
13:00-13:20	**Plenary Session 6** **Welcome speech: President RMUTT** **Program Overview**				
13:30-14:30	**Parallel Session 7.1** CDIO Implementation Online Modes during Pandemic, and	**Parallel Session 7.2** CDIO Implementation Project-in-Progress	**Parallel Session 7.3** EER	**Parallel Session 7.4** Roundtable	**Parallel Session 7.5** Workshop (75 Minutes) 13:30 - 14:45
Session Chair	Maria Gudjonsdottir	Uravis Tangkijwiwat	Kuntinee Maneeratana	Suzanne Brink, Carl Johan Carlsson, Mikael Enelund, Fredrik Georgsson, Elizabeth Keller, Reidar Lyng and Charlie McCartan	Sin Moh Cheah and Katerina Yang
	61 **Implementation of E-Practical Lessons during Pandemic** *Boon-Seng Chew, Boon-Chor Seow, Chee-Seng Tan, Hwang-Keng Leck, Chow-Leong Chia and Ser-Khoon Toh*	53 **Embedded Software Development Talent Training Oriented by Innovation and Entreprenurship** *Yanli Xing, Xue Li and Shaoshuai Liu*	21 **Building Student Agency Through Online Formative Quizzes** *Louise Pick and Jonathan Cole*	112 **Curriculum Agility and the Response to Rapid Changes** *Suzanne Brink, Carl Johan Carlsson, Mikael Enelund, Fredrik Georgsson, Elizabeth Keller, Reidar Lyng and Charlie McCartan*	36 **Integrating Self-Directed Learning (SDL) Skills in Engineering Curriculum** *Sin Moh Cheah and Katerina Yang*
	64 **Adapting CDIO Framework to Cultivate Self-Directed Learning During COVID-19 Pandemic** *Toh Ser Khoon, Chia Chow Leong, Hua Joo Tan and Safura Anwar*	129 **E-Practice Environment to Learn Programming for Problem Solving Course** *Rajeev Sukumaran and Vairavel G.*	37 **Utilizing Gamification in Mathematics Courses for Engineers to Promote Learning** *Tamar Margalit, Yoni Stancescu, Lior Rosenzweig and Mika Gabel*		
	125 **Adaptive and Flexible Online Learning during COVID-19 Lockdown** Soumya Kanti Manna, Ghazal Sheikholeslami, Angela Richmond-Fuller, Rihana Ishaq and Anne Nortcliffe	85 **Application of CDIO skills in Artificial Intelligence and Analytics Projects** Teck June Ho			
		127 **Effective Initiation to CDIO Framework Using Design-Thinking: The D-I-C-O Process** *Imane Aboutajedyne, Ahmed Aboutajeddine and Yassine Salih Alj*			

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Date	Tuesday 22 June 2021				
Time					
14:50-15:50	**Parallel Session 8.1** CDIO Implementation Project-based Learning	**Parallel Session 8.2** CDIO Implementation Project-in-Progress	**Parallel Session 8.3** EER	**Parallel Session 8.4** Roundtable	**Parallel Session 8.5** Workshop (75 Minutes) 14:50 - 16:05
Session Chair	Juha Kontio	Sayed Mohamad Soleimani	Aldert Kamp	Janne Roslöf	Sarah Junaid, Gunter Bombaerts, Alison Gwynne-Evans, Kathryn Fee, Yann Serreau and Patric Granholm
	6 **Project-Based Learning Implementation - Collaboration Between University and Industry** *Carmen Jaca, Marta Ormazabal, Mikel Arizmendi and Carmen Blanco*	55 **From Misunderstanding to Religion Tolerance in CDIO Based Multidisciplinary Course** *Bing-Jean Lee, Kuang-Mao Deng, and Chen-Hua Hsueh*	59 **Gauging the Impact of CDIO and Momentum for Further Change** *Louise Pick, Charlie McCartan, Kathryn Fee and Paul Hermon*	88 **Research Opportunity: Starting a New Engineering Discipline and Programmes** *Janne Roslöf*	122 **Global Citizens and Ethical Engineers within our CDIO Programs Workshop** *Sarah Junaid, Gunter Bombaerts, Alison Gwynne-Evans, Kathryn Fee, Yann Serreau and Patric Granholm*
	10 **The Win-Win of Synchronizing Last Semester's Computer Engineering Courses** *Kamilla Klonowska, Fredrik Frisk and Daniel Einarson*	117 **Lateral Thinking Course Implementation in CDIO-Based Undergraduate Programmes** *Thiruvengadam S. J. and Venkatasubramani V.R.*	132 **From Digitalized Education to COVID-19 Restricted Education: Challenges and Differences** *Jerker Björkqvist and Tommy Hämäläinen*		
	74 **Introduction to Industrial Design and Product Case Studies** *Petros Siegkas*	73 **Promotion of Student Success at the School of Engineering, UCSC-Chile** *Claudio Cárdenas, Patricio Cea, Mariella Gutiérrez, Verónica Mayorga and Paz Céspedes*	138 **Flexible Tactics to Face COVID-19 and Social Outbreak in Chile** *Rodrigo Pascual, Nicolás Bravo and Catalina Quiñones*		
		84 **Active Learning during COVID-19 at the FI-UCSC: Temporal Adjustments?** *Claudia Martinez-Araneda, Matilde Basso, Claudio Oyarzo, Marcia Muñoz and Michelle Bizama*			

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Date	Tuesday 22 June 2021				
16:10-17:00	**Pleanary Session 9: Keynote Speech** **Professor Johanna Annala**				
17:10-18:00	**Parallel Session 10: Regional Meeting**				
	Asia	Europe	North America	Latin America	UK/Ireland
Leader	Helene Leong	Jens Bennedsson	Daniel Spooner	Claudia Martínez-Araneda	Paul Hermon / Gareth Thomson
19:00-20:15	**Session 11 Workshop (75 Minutes)** 139 **Universities as Engines of Economic Development: Making Knowledge Exchange Work** *Edward Crawley, John Hegarty, Kristina Edström and Juan Cristobal Garcia Sanchez*				
22:00-23:15	**Session 12 Workshop (75 Minutes)** 122 **Global Citizens and Ethical Engineers within our CDIO Programs Workshop** *Sarah Junaid, Gunter Bombaerts, Alison Gwynne-Evans, Kathryn Fee, Yann Serreau and Patric Granholm*				

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Date	Wednesday 23 June 2021				
Time					
12:00-13:00	**Parallel Session 13: Regional Meeting**				
	Asia		**Australia/New Zealand**		
Leader	**Helene Leong**		**Nicoleta Maynard**		
13:10-13:20	**Plenary Session 14** **Program Overview**				
13:30-14:30	**Parallel Session 15.1** **CDIO Implementation** CDIO Implementation	**Parallel Session 15.2** **CDIO Implementation** Assesment	**Parallel Session 15.3** **Roundtable**	**Parallel Session 15.4** **Roundtable**	**Parallel Session 15.5** **Workshop (75 Minutes)** 13:30 - 14:45
Session Chair	**Keng Wah Choo**	**Jens Bennedsen**	**Yoko Takau-Drobin**	**Johan Malmqvist**	**Chantal Brans, Isabelle Reymen, Ana Valencia, Birgit Pepin and Miguel Bruns**
	38 **Projects Evaluation in IT Engineering Curriculum of Tra Vinh University** *Nhiem Ba Nguyen, Nam Thi Phuong Phan, Quoc Khac Nguyen, Mien Phuoc Doan, Mai Thi Truc Pham, Tu Minh Le and Duy Khanh Nguyen*	33 **Developing and Assessing Teamwork with Enhanced Team-Based Learning Approach** *Ng G.L. and Nengfu Tao*	8 **Language and Intercultural Communication: How can Language Bring Cultures Together?** *Yoko Takau-Drobin*	141 **CDIO Optional Standards – First Impressions and Future Evolution** *Johan Malmqvist*	44 **High Stakes Assessment in Interdisciplinary Challenge Based Learning** *Chantal Brans, Isabelle Reymen, Ana Valencia, Birgit Pepin and Miguel Bruns*
	7 **The Implementing of CDIO Concept in the NKRAFA** *Thapanat Buaphiban and Kiatkulchai Jitt-Aer*	87 **Implementation and Evaluation of a New PBL Assessment Mechanism** *Mohamad Farhat, Michel Nahas and Hassan Salti*			
	111 **Impact Analysis of Academic Reforms for CDIO Implementation: Case Study** *Thiruvengadam S.J., Baskar S., Saravana Perumaal S., Jeyamala Chandrasekaran and Anitha D.*	19 **Towards an Intuitive and Objective Assessment for Project-Based Modules** *Chew Lin Chia*			
	3 **Applying the CDIO Framework when Developing the ECIU University** *Svante Gunnarsson and Maria Swartz*	31 **Assessing Students' Professional Criticism Skills – a Mathematics Course Case** *Jens Bennedsen*			

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Date	Wednesday 23 June 2021				
Time					
14:50-15:50	**Parallel Session 16.1** **CDIO Implementation** Change Process	**Parallel Session 16.2** **CDIO Implementation** Learning Experience	**Parallel Session 16.3** **EER**	**Parallel Session 16.4** **Roundtable**	**Parallel Session 16.5** **Roundtable**
Session Chair	**Svante Gunnarsson**	**Charlie McCartan**	**Suzanne Brink**	**Sarah Junaid, Aldert Kamp, Nicoletta Maynard, Joha Kontio**	**Lex Lemmens, Kathinka Rijk, Diana Vinke, Gerard van de Watering and Michael Bots**
	9 **A CDIO Competency Framework for VINH University's Teaching Faculty** *Yen Tran, Trần Bá Tiến and Nguyễn Xuân Bình*	15 **Using Critique Techniques to Improve Programming Skill** *Elynn Chee*	13 **Students' Views of Self-Regulated Learning Strategies in a Blended Module** *Sharon Yap*	140 **Peer to Peer Review Process** Sarah Junaid, Juha Kontio, Aldert Kamp and Nicoleta Maynard	62 **The Challenges of Challenge-Based Learning in Engineering** *Lex Lemmens, Kathinka Rijk, Diana Vinke, Gerard van de Watering and Michael Bots*
	28 **Enhancing Workplace Learning Through Structured Internship** *Kallen Chong, Poh Hock Neo, Sock Hiang Sing, Thachinamoorthi Krishnan and Keng Wah Choo*	39 **Integrated CAD and Reverse Engineering to Enhance Conception and Design** *Ahmed Tamkin Butt and Petros Siegkas*	46 **Students' Perceptions of Multicultural Group Work in International Engineering Classroom** *Cui Ping, Ad Kleingeld, Sonja Rispens and Ruurd Taconis*		
	91 **Developing Curricula by Black Box Method** *Patric Granholm, Mari Ketola, Kari Haajanen and Anne Norström*	92 **Improving Students Engagement with Active Learning in Engineering Optimisation Lectures** *Gauti Asbjörnsson and Kanishk Bhadani*			
	17 **CDIO Approach in Developing Solution Minded Learners** *Handojo Djati Utomo and Geok Ling Soo-Ng*	26 **Designing Blended-Type Integrated Learning Experience Using Core Principles of Learning** *Sin Moh Cheah*			
	35 **Streamlining Academic Change Processes Through Engineering Principles** *Felicia Leander Zaar and Magnus Andersson*				
16:10-16:50	**Pleanary Session 17: Closing CDIO2021** **Working Group report to Pleanary (5 minutes for each WG)** **Regional Meeting Report** **Council Member Election** **Introduction to the 18th CDIO International Conference (CDIO2022)**				
17:00-18:00	**CDIO Council Meeting**				