#	ID	Title	Authors (Bold = Registered participant)	Track	Presentation Format
1	2	**A Model to Explicitly Teach Self-Directed Learning to Chemical Engineering Students**	*Sin Moh Cheah* , Y.Y. Wong and Katerina Yang	CDIO Implementation	Podium
2	3	**Using Workplace Learning for Developing Faculty CDIO Competency in Supporting a Spiral Curriculum**	*Sin Moh Cheah* and Y.Y. Wong	CDIO Implementation	Podium
3	6	**Curriculum Design Based on Learning Tracks for a Software Engineering Bachelor Program**	*Dmitrii Kuzin* , *Andrei Zapevalov* , Yuliya Petrova, Ivan Danilenko, Valeriya Bezuevskaya and Inna Shukurova	CDIO Projects in Progress	Poster
4	8	**Using Course and Program Matrices as Components in a Quality Assurance System**	*Svante Gunnarsson* , *Helena Herbertsson* and *Håkan Örman*	CDIO Implementation	Podium
5	9	**Is the CDIO Journey Worth it? - An Analysis of European Intermediate CDIO Members**	*Juha Kontio* and *Jens Bennedsen*	Engineering Education Research	Podium
6	20	**Teaching Electronics-ICT in Engineering Education: From Focus and Structure to Practical Realizations**	*Jo Verhaevert* and Patrick Van Torre	CDIO Implementation	Poster
7	22	**Enhancing Student Engagement in Flipped Classroom Using Autonomy-Supportive Teaching**	*Sin Moh Cheah* and Dennis Sale	Engineering Education Research	Podium
8	24	**EngineeriNg educaTors pEdagogical tRaining - ENTER ERASMUS+ Project**	*Eduarda Pinto Ferreira* , José Carlos Quadrado, *Kseniya K. Zaytseva* and Angelo Martins	CDIO Projects in Progress	Poster
9	26	**Project-Oriented Training of Bachelor's Degree Students in Chemistry**	Yuliya Petrova, Ekaterina Sevast'yanova, Valeria Bezuevskaia, *Dmitrii Kuzin* and Aleksey Drenin	CDIO Implementation	Poster
10	30	**Developing Laboratory Projects for a Joint Chinese/NZ Mechanical Engineering Programme**	*Avinda Weerakoon* and Nathan Dunbar	CDIO Implementation	Podium
11	31	**Systems-Approach Design of an Undergraduate STEM Programs Academic Methodology**	*Alberto Sols* and *Paloma Velasco*	CDIO Implementation	Podium
12	32	**Work Integration Social Enterprises: A Testbed for Challenge-Based Learning?**	*Marco Bertoni*	CDIO Implementation	Podium
13	33	**Project-Organized Learning as Students' Academic Performance and Motivation Enhancement Tool**	*Andrei Zapevalov* , Dmitrii Tarakanov, *Dmitrii Kuzin* , Larisa Zapevalova and Pavel Grishmanovskii	CDIO Projects in Progress	Poster
14	36	**Can Design and Analysis be Effectively Taught Together?**	*Calvin Rans* , *Joris Melkert* and Gillian Saunders-Smits	CDIO Implementation	Podium
15	37	**Engineering Education: Institutionalization, Internationalization, and Graduate Attributes**	*Hassan Salti* , *Fadi Alkhatib* , Sayed Soleimani, *Mohammed Abdul-Niby,* Isam Zabalawi and Helene Kordahji	Advances in CDIO	Podium
16	39	**Design and Outcome of a CDIO Syllabus Survey for a Biomedicine Program**	*Anna Fahlgren* , Max Larsson, Mats Lindahl, Annika Thorsell, Katarina Kågedal and *Svante Gunnarsson*	CDIO Implementation	Podium
17	40	**The Collaboration Between Academia and Industry for Enhancing Employability and Faculty Development**	*Sanidda Tiewtoy* , Weeraphong Krusong and *Natha Kuptasthien*	CDIO Implementation	Poster
18	43	**An Adaptive Algorithm for Learning Computer Programming Course**	*Deachrut Jaithavil* and *Natha Kuptasthien*	Engineering Education Research	Poster
19	44	**Comparison of Different Types of Active Learning in a Course of Industrial Engineering**	*Cleginaldo Pereira de Carvalho* , *Eduarda Pinto Ferreira* , Messias Borges Silva and Beatriz Naomi Aihara	CDIO Implementation	Podium
20	46	**On the Design of a New Computer Software Engineering Curriculum**	*Stefan Hallerstede* , Peter Gorm Larsen, Jalil Boudjadar and Carl Peter Leslie Schultz	CDIO Projects in Progress	Podium
21	48	**Leading and Communicating Change in an Engineering Faculty Merger**	Krista Holopainen, Timo Holopainen, Jaana Kallio-Gerlander, Anne Norström and *Janne Roslöf*	Engineering Education Research	Podium
22	49	**PBS-Office: Essential Element for Coordination of a PBL Methodology**	*Paloma J. Velasco* and *Alberto Sols*	CDIO Projects in Progress	Poster

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23	53	CDIO Implemented Projects in a Computer Aided Design Course	*Yuelei Yang*	CDIO Implementation	Podium
24	54	Boosting Foreign-Language Communication Confidence through a Short-Term ICT-Based International Workshop	*Joel Rian, Tsukasa Hokimoto, Simon Thollar, Naohiko Hayata,* **Yuichi Anada** *and* **Natha Kuptasthien**	CDIO Implementation	Poster
25	55	A Development and Operational Practices of Student-Centered Classrooms	*Angkee Sripakagorn, Thanyarat Singhanart and* **Kuntinee Maneeratana**	CDIO Implementation	Poster
26	57	AIR Technology: Engineering Education Program for Regional Innovation	**Fujio Ikeda***, Shigehiro Toyama, Mitsuru Kudo, Yosuke Shimamune, Kenji Kamimura, Kazuki Sakai, Mari Miyata and Yasuhiro Miyazaki*	CDIO Projects in Progress	Poster
27	59	Flipped Learning in a Programming Course: Students' Attitudes	**Asrun Matthiasdottir** *and Hrafn Loftsson*	CDIO Implementation	Podium
28	60	Innovative Engineering Project from Engineering Design to Implementation Base on CDIO Model	**Chen-Jui Liang***, Shaw-Jyh Shin,* **Vey Wang***,* **Chun Wen Teng** *and Yao-Chuan Lee*	CDIO Implementation	Poster
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30	66	CDIO Progress in the Mechanical Engineering of the Military Institute of Engineering of Brazil	**Ricardo Teixeira da Costa Neto***, Guilherme Cunha Calazans Fiuza, Vitor Leite Gonzalez and* **Andre Luiz Tenorio Rezende**	CDIO Implementation	Poster
31	67	The Exploration and Application of "PSPC-CDIO" Mode for Innovation Practice	**Yueneng Yang***,* **Wei Zheng***,* **Peng Wang***, Yidi Wang and* **Hongbo Zhang**	CDIO Implementation	Podium
32	68	CDIO Thailand: A Community of Good Practices for Thai Engineering Education	*Angkee Sripakagorn and* **Natha Kuptasthien**	Advances in CDIO	Poster
33	69	Flipped Learning to Nurture Self-Directed Learners at Singapore Polytechnic	**Helene Leong***, Mei Yee Chan and Siew Kee Chong*	Engineering Education Research	Podium
34	71	Teaching Engineering Students: From Principles to Practices	*Svetlana Osipova and* **Olga Shubkina**	CDIO Implementation	Poster
35	72	Improving Written Communication - Implementation at Industrial Design Engineering	**Peter Törlind**	CDIO Implementation	Podium
36	73	Moodle Quiz: A Method for Measuring Students' Engagement	*Alaa Al Sebae, Zeina Rihawi and* **Freeha Azmat**	CDIO Implementation	Poster
37	76	Project-Based Learning Hybridized with Service Learning: Involving Students in Needs-Based Design of Medical Devices	*Andrés Díaz Lantada,* **Luis Ballesteros-Sánchez***, Rocío Rodríguez Rivero, Rafael Ramos Díaz, Miguel Ángel Peláez García, Ana Moreno Romero, Enrique Chacón Tanarro, Rafael Borge García and Jesús Juan Ruíz*	CDIO Implementation	Podium
38	78	Individual Assessment of Students Working in Project Teams	*Fredrik Backlund and* **Rickard Garvare**	CDIO Implementation	Podium
39	79	Introduction to Engineering Project: Design-Implement Courses to Support Change in Engineering Education	*Aderson Campos Passos,* **Humberto Henriques de Arruda***, Marcelo F. Vasconcelos and Felipe Ferrari*	CDIO Implementation	Podium
40	80	Skills for Future Industry in Education of Engineers	*Oleg Rebrin,* **Irina Sholina** *and Aleksandr Zhilin*	CDIO Projects in Progress	Poster
41	81	CDIO Curriculum Design for Computing: A Graph-Based Approach	**Jaime Pavlich-Mariscal***, Mariela Curiel and German Chavarro*	CDIO Implementation	Poster
42	82	Sustainable Packaging Design Methods – Applied Research with Students and Companies	**Wander Colenbrander** *and Helen Arce Salazar*	CDIO Projects in Progress	Poster
43	83	Effect of First-Year Service Learning Projects in CDIO Skills and Motivation	*Solange Loyer,* **Marcia Muñoz** *and Fabiola Saez*	CDIO Implementation	Podium
44	85	Evaluation of Alternatives to Implement a CDIO Program Using General Morphological Analysis	**Alexander Vera-Tasama***, Jaiber Cardona and Jorge Ivan Marin-Hurtado*	CDIO Implementation	Podium

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45	86	**Vocational Students in a CDIO Programme – a Longitudinal Study**	*Gareth Thomson*	CDIO Implementation	Podium
46	88	**Evaluation of the Result and Benefit from International Summer Camp Using CDIO Framework**	*Bing-Jean Lee,* **Ben-Ray Jai***, Huey-Nah Chou,* **Chun Wen Teng***, Yao-Chuan Lee and Pei-Yin Dai*	CDIO Implementation	Poster
47	102	**Senior-Year Internships Impact Assessment in Engineering Programs at UCSC**	**Marcia Muñoz***, Claudia Martinez-Araneda, Matilde Basso, Claudio Oyarzo, Patricio Cea, Michelle Bizama and Helga González*	CDIO Implementation	Podium
48	106	**Exploring Learning Objectives from Entrepreneurship Education in a CDIO Context**	**Mette Lindahl Thomassen** *,* **Hanne Løje** *and Rajiv Basaiawmoit*	CDIO Projects in Progress	Poster
49	107	**Bibliographic Data Analysis of CDIO Conference Papers from 2005-2018**	**Johan Malmqvist** *, Tyrone Machado, Alexandra Meikleham and Ron Hugo*	Engineering Education Research	Podium
50	108	**Refining MSc Theses in Engineering Disciplines with a Focus Enhancing Structure Model**	**Antti Hakkala** *and Seppo Virtanen*	CDIO Implementation	Poster
51	111	**Case Study of Scrum Method Applied to Social Practice Courses**	**Wei Chieh Hsu** *, Hui-I Cheng, Shu-Hui Chen and* **Vey Wang**	CDIO Projects in Progress	Poster
52	113	**Gender Differences in Student Satisfaction Surveys**	**Panagiota Papadopoulou** *, Erik Hulthén,* **Mattias Bingerud** *and* **Mikael Enelund**	Engineering Education Research	Podium
53	114	**Integrated Education for Mid-Adolescent Engineering Students in Kosen**	**Takeo Sekine** *,* **Kayoko Morishita** *and* **Manabu Ishihara**	CDIO Implementation	Poster
54	115	**How do Engineering Students Face the Challenge of Designing Projects with Social Impact?**	*Andrés Esteban Acero López and* **Maria Catalina Ramírez Cajiao**	CDIO Implementation	Podium
55	116	**Visualization of Learning Outcomes with Competence**	**Takashi Matsumoto** *and Nariyuki Kawabata*	CDIO Projects in Progress	Poster
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57	118	**Comparison between NIT Kosen Curriculum and CDIO Standards and Syllabus**	**Hideaki Aburatani**	CDIO Implementation	Podium
58	120	**Creating an International Network of Innovative Educational Labs in Mining Engineering**	*Aarti Sörensen, Maximilian Getz, Aline Herz, Elisabeth Clausen, Erik Hulthen,* **Panagiota Papadopoulou** *,* **David Tanner** *and* **Juan Herrera Herbert**	CDIO Projects in Progress	Poster
59	121	**The Implementation of Seminars to Nurture Entrepreneurship Skills in Students**	**Seiichi Watanabe** *, Tatsuo Nakazawa, Keigo Takeda and Kyoichi Oshida*	CDIO Projects in Progress	Poster
60	122	**CDIO Faculty Development Course – Built-in Implementation**	**Panagiota Papadopoulou** *, Kanishk Bhadani, Erik Hulthén,* **Johan Malmqvist** *and* **Kristina Edström**	CDIO Implementation	Podium
61	125	**Towards CDIO Standards 3.0**	**Johan Malmqvist** *, Maria Knutson Wedel, Ulrika Lundqvist,* **Kristina Edström** *,* **Anders Rosén** *, Thomas Fruergaard Astrup, Martin Vigild, Peter Munkebo Hussman,* **Audum Grom** *,* **Reidar Lyng** *, Svante Gunnarsson ,* **Helene Leong** *and* **Aldert Kamp**	Advances in CDIO	Poster
62	126	**Teaching Textbook Reading and Comprehension Using the Quasi-Flip Teaching Method in Chemistry Class**	**Kayoko Morishita** *,* **Takeo Sekine** *and* **Manabu Ishihara**	CDIO Projects in Progress	Poster
63	128	**Improving Students´ Project Management Skills in Biomedical Engineering Projects**	**Luis Ballesteros-Sánchez** *, Rocío Rodríguez-Rivero, Andres Diaz Lantada, Jesús Juan Ruíz, Rafael Borge García, Enrique Chacón Tanarro, Miguel Ángel Peláez García, Ana Moreno Romero and Rafael Ramos Díaz*	CDIO Implementation	Podium
64	130	**Development of Innovative Labs for Education in Mining Engineering Programs**	**Juan Herrera Herbert**	CDIO Implementation	Podium
65	131	**Design and Development of Virtual Engineering Lab**	*Tim Hatchard,* **Freeha Azmat** *, Mohammad Al-Amin, Zeina Rihawi and Alaa Alsebae*	CDIO Implementation	Podium
66	133	**The Effects of INDUSTRY 4.0 on Teaching and Learning CDIO Project at Duy Tan University**	*Truong V. Truong, Binh D. Ha and* **Bao N. Le**	CDIO Implementation	Podium

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68	135	**A Proposal of Closed-Loop CDIO Model to Improve the Startup Ability of EEE Students in Duy Tan University**	Binh D. Ha, Truong V. Truong and **Bao N. Le**	CDIO Implementation	Poster
69	136	**Enhancing the Soft Skills of Students in Software Engineering Program by Implementing CDIO-Based Integration Teaching Mode**	*Nhu-Hang Ha* , Duc-Man Nguyen, Anand Nayyar and Chia-An Liu	CDIO Implementation	Podium
70	138	**Design and Practice of CDIO-Based Training Mode for Aerospace Professionals**	*Peng Wang* , **Wei Zheng** and **Hongbo Zhang**	CDIO Projects in Progress	Poster
71	139	**Combined Strategies in a First Year Module to Promote Active Learning and Retention**	*David Tanner* , Donal Canty and Jason Power	CDIO Implementation	Podium
72	143	**Changing the World - Incorporating CDIO to a Business Challenge**	*Jane Flarup* and Henrik Knudsen	CDIO Projects in Progress	Podium
73	146	**Introducing CDIO in Mechanical Engineering Using Design and 3D Printing Technology**	*Vanessa Egan* , Ronan Grimes, Anthony Comer, Mark Hardiman and Shane Keaveney	CDIO Projects in Progress	Podium
74	148	**CDIO Implementation through Cross-Curricular Projects in Computer Engineering**	*Fang-Rong Hsu* , Ming-Chi Liu, Hsi-Min Chen, Ming-Yen Lin and Hwai-Jung Hsu	CDIO Projects in Progress	Podium
75	154	**Hands-on Learning in Structural Mechanics - A Framework**	*Marta Gavioli* , Renate Klaassen and Chiara Bisagni	CDIO Projects in Progress	Poster
76	155	**Developing CDIO Practitioners: A Systematic Approach to Standard 10**	Jason Power, **David Tanner** , Alan Ryan and Brian Devitt	CDIO Projects in Progress	Poster
77	156	**Evaluation of Novel Learning Spaces for Mixed Campus and Online Students**	*Henning Slavensky*	CDIO Implementation	Podium
78	157	**Digital Tools for Self-Study and Examination**	*Ksenia Onufrey* , Martina Berglund, **Dzamila Bienkowska** , **Thomas Magnusson** and **Charlotte A. Norrman**	CDIO Implementation	Podium
79	158	**A Model for Research/Education-Interaction at a Danish University College**	Loren Ramsay and **Leila Kæmsgaard Pagh Schmidt**	CDIO Implementation	Podium
80	160	**An Innovative Teaching Module of Combining Design Thinking and CDIO in Taiwan**	*Ching-Yi Lee*	CDIO Projects in Progress	Poster
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85	178	**Remote Laboratories in Electronics Engineering: CDIO Workspaces or Resources?**	Jorge Ivan Marín-Hurtado, **Alexander Vera-Tasama** , Rubén Nieto-Londoño and Edison Enríquez	CDIO Projects in Progress	Podium
86	182	**Helping Students Transition from Group Work to Individual Projects**	*Laura Leslie* , Paul Gorman and **Sarah Junaid**	Engineering Education Research	Podium
87	183	**Innovation Boot Camp: Teaching Innovation in a Summer School Setting**	*Samuel Thrysøe*	CDIO Projects in Progress	Poster
88	185	**Toward Early Intervention: Model of Academic Performance in a CDIO Curriculum**	*Alejandra Gonzalez* , **Diego Patiño** , Lizeth Roldán, Johan Peña and David Barrera	CDIO Implementation	Podium

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89	186	**Challenges in the Implementation of a CDIO Curriculum for a Program in Electronics Engineering**	*Alejandra Gonzalez* , *Diego Patiño* , *Lizeth Roldán and Johan Peña*	CDIO Implementation	Podium
90	192	**Fostering Design Communication Skills: A CDIO Inspired Innovation Engineering Course**	*José Tiberio Hernández and* *Maria Catalina Ramírez*	CDIO Implementation	Podium
91	193	**The Influence of Teacher Cues on Self-Directed Learning in Math Education**	*Annoesjka Cabo* *and Renate Klaassen*	Engineering Education Research	Podium
92	195	**A Playground for Novice Engineers and Beyond**	*Janneke Sluijs,* *Morgan Duta* *and Bjørn Jansen*	CDIO Implementation	Podium
93	199	**Micro-Learning Approach to Introduce Productivity to Students**	*Boon-Seng Chew* , *Kai-Meng Ng, Ser-Khoon Toh and Rosa Tan-Wong*	CDIO Projects in Progress	Poster
94	202	**Redesigning Thermodynamics Labs with a Design-Implementation Experience**	*Shiza Syed* , *Robyn Paul* , *Monique Sullivan and* *Kimberly Johnston*	CDIO Implementation	Podium
95	206	**Using Principles of SCRUM Project Management in an Integrated Design Project**	*Robyn Paul* *and Laleh Behjat*	CDIO Implementation	Podium
96	209	**Young Researcher Programme: An Inquiry-Based Learning to Cultivate Innovation and Research Mindset**	*Chuen Kum Lee* , *Siaw Soon Chee and Leonard Loh*	CDIO Implementation	Podium
97	211	**Embedded Stock Facilitates the "Implement" in CDIO**	*Henning Hargaard*	CDIO Projects in Progress	Poster
98	213	**Theory, Practice and Reflexivity: The Next Challenge for CDIO?**	*Thomas Cosgrove* *and John O'Reilly*	Engineering Education Research	Podium
99	214	**Gamification Platform for Manufacturing Shopfloor Training - A Case Study**	*Zhao Zhiqiang, Toh Da Jun, Ding Xiaoming,* *Ng Keng Chong* , *Sin See Choon and Wong Yuen Choe*	CDIO Implementation	Podium
100	219	**Learning and Teaching Engineering Mathematics within an Active Learning Paradigm**	*Michael Peters* *and Mark Prince*	Engineering Education Research	Podium
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102	224	**Enhancing the Learning Activity in a Case-Based Learning Environment**	*Enkhtuya Dorj,* *Davaajav Narantogtokh* , *Ariunbolor Davaa and Amarjargalan Tumurbaatar*	CDIO Projects in Progress	Poster
103	225	**University Professor is an Engine for Educational Development**	*Naidandorj Radnaa, Ariunbolor Davaa and* *Tumenbold Dashzeveg*	CDIO Projects in Progress	Poster