

TOPICAL SESSION SCHEDULE

www.cdio2019.org

Updated 22 June 2019

Tuesday 25 June 2019 8:30-10:10 WELCOME & KEYNOTE SESSIONRoom Auditorium 1250-304 (Per Kirkeby) Lakeside auditorium <https://international.au.dk/about/contact/?os=27>**8.30 - 8.40: Welcome, Jens Bennedsen****8.40 - 9.25: Pro-Rector for Education Berit Eika, Aarhus University: The University in 5-10-20 years****9.25 - 10.10: Chairman of the Carlsberg Group, Professor Flemming Besenbacher: Engineers in 10 years – what competences do they need?**

BREAK

Tuesday 25 June 2019 10:40 - 11:20 POSTER AND ROUNDTABLE TEASER SESSION

See the Posters and Round Tables to be presented below. The Poster Teaser presentations will take place in order of submission ID (smallest to largest), Roundtables at the end.

Room Auditorium 1250-304 (Per Kirkeby) Lakeside auditorium <https://international.au.dk/about/contact/?os=27>Chair **Gareth Thomson****Tuesday 25 June 2019 11:30-12:30 POSTER AND ROUNDTABLE SESSION**

Room Posters: Foyer, Lakeside auditorium. Roundtables: 1253 - 317 William Scharff

Chair **Gareth Thomson**

6	20	24	43	49	54	57
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	Teaching Electronics-ICT: From Focus and Structure to Practical Realizations Jo Verhaevert and Patrick Van Torre	EngineeriNg educaTors pEdagogical tRaining - ENTER ERASMUS+ Project Eduarda Pinto Ferreira, José Carlos Quadrado, Kseniya K. Zaytseva and Angelo Martins	An Adaptive Algorithm for Learning Computer Programming Course Deachrut Jaithavil and Natha Kuptasthien	PBS-Office: Essential Element for Coordination of a PBL Methodology Paloma J. Velasco and Alberto Sols	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	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
60	71	81	82	106	111	117
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	Teaching Engineering Students: From Principles to Practices Svetlana Osipova and Olga Shubkina	CDIO Curriculum Design for Computing: A Graph-Based Approach Jaime Pavlich-Mariscal, Mariela Curiel and German Chavarro	Sustainable Packaging Design Methods – Applied Research with Students and Companies Wander Colenbrander and Helen Arce Salazar	Exploring Learning Objectives from Entrepreneurship Education in a CDIO Context Mette Lindahl Thomassen, Hanne Løje and Rajiv Basaiawmoit	Case Study of Scrum Method Applied to Social Practice Courses Wei Chieh Hsu, Hui-I Cheng, Shu-Hui Chen and Vey Wang	Creation of an Active Learning Environment and Objective Evaluation of Generic Skills at NIT, Sendai College Kuniaki Yajima, Koji Kawasaki, Keishi Okamoto, Yoshikatsu Kubota, Nahomi Fujiki, Akiko Takahashi, Kazuhiro Wako, Yoshihisa Miyazaki, Hiroshi Kobayashi, Kazushi Sato, Kazutaka Baba and Hiroshi

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120	121	135	138	160	199	224
<p>An International Network of Innovative Educational Labs in Mining Engineering</p> <p>Aarti Sørensen, Maximilian Getz, Aline Herz, Elisabeth Clausen, Erik Hulthen, Panagiota Papadopoulou, David Tanner and Juan Herrera Herbert</p>	<p>The Implementation of Seminars to Nurture Entrepreneurship Skills in Students</p> <p>Seiichi Watanabe, Tatsuo Nakazawa, Keigo Takeda and Kyoichi Oshida</p>	<p>A Proposed Closed-Loop CDIO Model to Improve the Startup Ability</p> <p>Binh D. Ha, Truong V. Truong and Bao N. Le</p>	<p>Design and Practice of CDIO-Based Training Mode for Aerospace Professionals</p> <p>Peng Wang, Wei Zheng and Hongbo Zhang</p>	<p>An Innovative Teaching Module of Combining Design Thinking and CDIO in Taiwan</p> <p>Ching-Yi Lee</p>	<p>Micro-Learning Approach to Introduce Productivity to Students</p> <p>Boon-Seng Chew, Kai-Meng Ng, Ser-Khoo Toh and Rosa Tan-Wong</p>	<p>Enhancing the Learning Activity in a Case-Based Learning Environment</p> <p>Enkhtuya Dorj, Davaajav Narantogtokh, Ariunbolor Davaa and Amarjargalan Tumurbaatar</p>
<p>Roundtable 51</p> <p>Promoting the Benefit of Feedback in Engineering Education</p> <p><i>Niclas Hjelm and Elizabeth Keller (Room: 1253 - 317 William Scharff)</i></p>	<p>Roundtable 140</p> <p>Online Labs in Engineering Education: Challenges and Opportunities</p> <p><i>Christina Keller, Madelene Zetterlind, Nils-Eric Andersson and Ehsan Ghassemali (Room: 1253 - 317 William Scharff)</i></p>	<p>Roundtable 152</p> <p>CDIO in Africa</p> <p><i>Samuel Azasu, Margareta Bergman, Lamjed Bettaieb, Mikael Cronhjort, Tamer Elnady, Lars Geschwind, Anna-Karin Högfeldt, Charnaldo Ndaipa, Anders Rosén and Kristina Edström (Room: 1253 - 317 William Scharff)</i></p>	<p>Match making</p> <p>Students and staff exchange matchmaking</p> <p>Robert Songer</p>			

12:30 - 12:45: WALK TO THE CANTEEN THROUGH THE PARK

Tuesday 25 June 2019 12:45 - 13:45 LUNCH

Room *Stakladen, Frederik Nielsensvej 2, 8000 Aarhus <https://international.au.dk/about/contact/?os=181>*

15th International CDIO Conference - Aarhus - Denmark
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Tuesday 25 June 2019 13:45 - 14:30 PARALLEL SESSION			WORKSHOPS (13:45 - 15:15)		
Session	EER Math	CDIO Implementation Retention	CDIO Implementation Changing CDIO Eng. Programs	Introduction to CDIO	Workshop
Room	Mogens Zielerstuen	Preben Hornungstuen	Mødelokale 2 (Meeting room 2)	Richard Mortensenstuen	Mødelokale 1 (meeting room 1)
Chair	Anna-Karin Carstensen	Daniel Spooner	Juha Kontio	Johan Malmqvist	Charlotte A. Norrman
	193	139	31	Introductory Workshop 1	34
	The Influence of Teacher Cues on Self-Directed Learning in Math Education Annoesjka Cabo and Renate Klaassen	Combined Strategies to Promote Active Learning and Retention David Tanner, Donal Canty and Jason Power	Systems-Approach Design of an Undergraduate STEM Programs Academic Methodology Alberto Sols and Paloma Velasco	CDIO Essentials - Part 1 Johan Malmqvist	Shitty Prototyping: Tool to Enhance Creativity in Tomorrow's Engineering Education Charlotte A. Norrman, Dzamila Bienkowska and Karl Eldebo
	219	185	72		
	Learning and Teaching Engineering Mathematics within an Active Learning Paradigm Michael Peters and Mark Prince	Toward Early Intervention: Model of Academic Performance in a CDIO Curriculum Alejandra Gonzalez, Diego Patiño, Lizeth Roldán, Johan Peña and David Barrera	Improving Written Communication - Implementation at Industrial Design Engineering Peter Törlind		
14:30 - 14:45 - Possible track change					
Tuesday 25 June 2019 14:45 - 15:30 PARALLEL SESSION					
Session	CDIO Implementation Society in Engineering education	CDIO Implementation Developing Labs for eng. Edu.	CDIO Implementation Faculty development		
Room	Mogens Zielerstuen	Preben Hornungstuen	Mødelokale 2 (Meeting room 2)		
Chair	Lex Lemmens	Ramon Bragos	Fredrik Georgsson		
	115	30	3		
	How do Engineering Students Design Projects with Social Impact? Andrés Esteban Acero López and María Catalina Ramírez Cajiao	Developing Laboratory Projects for a Joint Chinese/NZ Mechanical Engineering Programme Avinda Weerakoon and Nathan Dunbar	Workplace Learning for Faculty Development to Support a Spiral Curriculum Sin Moh Cheah and Y.Y. Wong		

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76	130	158		
<p>Project-Based Learning and Service Learning: towards helpful Medical Devices</p> <p>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</p>	<p>Development of Innovative Labs for Education in Mining Engineering Programs</p> <p>Juan Herrera Herbert</p>	<p>A Model for Research/Education-Interaction at a Danish University College</p> <p>Loren Ramsay and Leila Kæmsgaard Pagh Schmidt</p>		
BREAK			BREAK	

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Tuesday 25 June 2018 16:00 - 17:15 PARALLEL SESSION			Tuesday 25 June 2018 15:45 - 17:15		
Session	EER Development of CDIO as an organization	EER + CDIO Implementation Flipped learning	Project in Progres + CDIO Impl Virtual Workspaces	Introduction to CDIO	Workshop
Room	Mogens Zielerstuen	Preben Hornungstuen	Mødelokale 2 (Meeting room 2)	Richard Mortensenstuen	Mødelokale 1 (meeting room 1)
Chair	Aldert Kamp	Manabu Shimakawa	Oleg Rebrin	Kristina Edström	Nicoleta Maynard
	9	22	156	Introductory Workshop 2	95
	Is the CDIO Journey Worth it? - An Analysis of European Intermediate CDIO Members Juha Kontio and Jens Bennedsen	Enhancing Student Engagement in Flipped Classroom Using Autonomy-Supportive Teaching Sin Moh Cheah and Dennis Sale	Evaluation of Novel Learning Spaces for Mixed Campus and Online Students Henning Slavensky	CDIO Essentials - Part 2 Kristina Edström	International Student and Staff Mobility: Case Studies, Opportunities and Barriers Nicoleta Maynard and Tatu Westerholm
	107	69	178		
	Bibliographic Data Analysis of CDIO Conference Papers from 2005-2018 Johan Malmqvist, Tyrone Machado, Alexandra Meikleham and Ron Hugo	Flipped Learning to Nurture Self-Directed Learners at Singapore Polytechnic Helene Leong, Mei Yee Chan and Siew Kee Chong	Remote Laboratories in Electronics Engineering: CDIO Workspaces or Resources? Jorge Ivan Marín-Hurtado, Alexander Vera-Tasama, Rubén Nieto-Londoño and Edison Enríquez		
	213	59	214		
	Theory, Practice and Reflexivity: The Next Challenge for CDIO? Thomas Cosgrove and John O'Reilly	Flipped Learning in a Programming Course: Students' Attitudes Asrun Matthiasdottir and Hrafn Loftsson	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		

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Wednesday 26 June 2019 8:30 - 10:15 KEYNOTE SESSIONRoom Auditorium 1250-304 (Per Kirkeby) Lakeside auditorium <https://international.au.dk/about/contact/?os=27>**8.30 - 9:15: Professor Bjørk Hammar: Test based Learning****9:15 - 10:00: Senior Lecturer Paul Denny: Crowdsourcing Study Questions – Quality, Motivation and Learning****10.00 - 10.15: Director Conni Simonsen & CDIO Academy leader Jane Flarup: CDIO Academy - What, why & how?****Wednesday 26 June 2019 10:45 - 11:20 POSTER AND ROUNDTABLE TEASER SESSION**

See the Posters to be presented below (Poster Session D1). The Poster Teaser presentations will take place in order of submission ID (smallest to largest).

Room Auditorium 1250-304 (Per Kirkeby) Lakeside auditorium <https://international.au.dk/about/contact/?os=27>Chair **Gareth Thomson****Wednesday 26 June 2019 11:30 - 12:30 POSTER SESSION**

Room Posters: Foyer, Lakeside auditorium. Roundtables: 1253 - 317 William Scharff

Chair **Gareth Thomson**

26	33	40	55	66	68	#N/A
Project-Oriented Training of Bachelor's Degree Students in Chemistry Yuliya Petrova, Ekaterina Sevast'yanova, Valeria Bezuevskaia, Dmitrii Kuzin and Aleksey Drenin	Project-Organized Learning as Students' Academic Performance and Motivation Enhancement Tool Andrei Zapevalov, Dmitrii Tarakanov, Dmitrii Kuzin, Larisa Zapevalova and Pavel Grishmanovskii	The Collaboration Between Academia and Industry for Enhancing Employability and Faculty Development Sanidda Tiewtoy, Weeraphong Krusong and Natha Kuptasthien	A Development and Operational Practices of Student-Centered Classrooms Angkee Sripakagorn, Thanyarat Singhanart and Kuntinee Maneeratana	CDIO Progress: Mechanical Engineering of the Brazilian Military Institute Ricardo Teixeira da Costa Neto, Guilherme Cunha Calazans Fiuza, Vitor Leite Gonzalez and Andre Luiz Tenorio Rezende	CDIO Thailand: Community of Good Practices for Thai Engineering Education Angkee Sripakagorn and Natha Kuptasthien	
80	88	108	114	116	125	126
Skills for Future Industry in Education of Engineers Oleg Rebrin, Irina Sholina and Aleksandr Zhilin	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	Refining Engineering MSc Theses with a Focus Enhancing Structure Model Antti Hakkala and Seppo Virtanen	Integrated Education for Mid-Adolescent Engineering Students in Kosen Takeo Sekine, Kayoko Morishita and Manabu Ishihara	Visualization of Learning Outcomes with Competence Takashi Matsumoto and Nariyuki Kawabata	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	Teaching Textbook Reading and Comprehension Using the Quasi-Flip Teaching Method in Chemistry Class Kayoko Morishita, Takeo Sekine and Manabu Ishihara
134	154	155	173	183	211	225
Active Learning in Quality Control and Standardization in Printing and Packaging Uravis Tangkijviwat and Natha Kuptasthien	Hands-on Learning in Structural Mechanics - A Framework Marta Gavioli, Renate Klaassen and Chiara Bisagni	Developing CDIO Practitioners: A Systematic Approach to Standard 10 Jason Power, David Tanner, Alan Ryan and Brian Devitt	Project-Based Learning Approach in a Collaboration between Academia and Industry Angelo Martins, Alexandre Bragança, Nuno Bettencourt and Paulo Maio	Innovation Boot Camp: Teaching Innovation in a Summer School Setting Samuel Thrysoe	Embedded Stock Facilitates the "Implement" in CDIO Henning Hargaard	University Professor is an Engine for Educational Development Naidandorj Radnaa, Ariunbolor Davaa and Tumenbold Dashzeveg

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Roundtable 165	Roundtable 170	Roundtable 222				
Advantages and Pitfalls of Applying Virtual Reality Technology to Educational Material Claus Melvad, Christian S.V. Sørensen and Christian I. Brahe	CDIO: Dealing with Scalability Issues Lisa Gommer, Aldert Kamp, Matt Murphy and Gareth Thomson	CDIO Outreach Initiative: How can we Showcase the Great Work we do? Sarah Junaid and Helene Leong				

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Wednesday 26 June 2019 13:45 - 14:30 PARALLEL SESSION			WORKSHOPS (13:45 - 15:15)			
Session	Projects in Progress Mechanical Engineering	EER Continuous improvement of engineering education	CDIO Implementation Faculty development	Introduction to CDIO Standard 8: Active learning	Workshop	Workshop
Room	Mogens Zielerstuen	Preben Hornungstuen	Mødelokale 2 (Meeting room 2)	Richard Mortensenstuen	Mødelokale 1 (meeting room 1)	Mødelokale 2.3 (meeting room 2.3)
Chair	Aage Birkkjær Lauritsen	Anna Fahlgren	Clement Fortin	Juha Kontio	Daniel Spooner	Riadh Habash
	146	113	122	Introductory Workshop 3	184	29
	Introducing CDIO in Mechanical Engineering using Design and Additive Manufacturing Vanessa Egan, Ronan Grimes, Anthony Comer, Mark Hardiman and Shane Keaveney	Gender Differences in Student Satisfaction Surveys Panagiota Papadopoulou, Erik Hulthén, Mattias Bingerud and Mikael Enelund	CDIO Faculty Development Course – Built-in Implementation Panagiota Papadopoulou, Kanishk Bhadani, Erik Hulthén, Johan Malmqvist and Kristina Edström	CDIO Standard 8: Active learning Juha Kontio and Matt Murphy	Innovation Spaces and FabLabs for Challenging Projects J.T. Van der Veen, Chris Rouwenhorst, Daniel Spooner, Birgit Pepin, Lex Lemmens, Steven Bode, Renate Klaassen and Peter Munkebo Hussmann	The CDIO Approach to Foster State of Flow Experience Riadh Habash
	223	182	186			
	Experiences of Implementing of Digital Learning for Teaching Courses of Applied Mechanics Naidandorj Radnaa, Doljinsuren Batjargal and Ganbat Danaa	Helping Students Transition from Group Work to Individual Projects Laura Leslie, Paul Gorman and Sarah Junaid	Challenges in the Implementation of a CDIO Curriculum for a Program in Electronics Engineering Alejandra Gonzalez, Diego Patiño, Lizeth Roldán and Johan			
	14:30 - 14:45 - Possible track change					
Wednesday 26 June 2019 14:45 - 15:30 PARALLEL SESSION						
Session	CDIO Implementation Digital learning	CDIO Implementation Chemical engineering	CDIO Implementation CDIO vs. other models			
Room	Mogens Zielerstuen	Preben Hornungstuen	Mødelokale 2 (Meeting room 2)			
Chair	David Tanner	Dmitrii Kuzin	Johan Malmqvist			
	157	202	67			
	Digital Tools for Self-Study and Examination Ksenia Onufrey, Martina Berglund, Dzamila Bienkowska, Thomas Magnusson and Charlotte A. Norman	Redesigning Thermodynamics Labs with a Design-Implementation Experience Shiza Syed, Robyn Paul, Monique Sullivan and Kimberly Johnston	The Exploration and Application of "PSPC-CDIO" Mode for Innovation Practice Yueneng Yang, Wei Zheng, Peng Wang, Yidi Wang and Hongbo Zhang			
	164	2	118			
	A New Adaptive e-Learning Concept for Multidisciplinary Learning Environments Richard Loendersloot and Alberto Martinetti	A Model to Explicitly Teach Self-Directed Learning to Chemical Engineering Students Sin Moh Cheah, Y.Y. Wong and Katerina Yang	Comparison between NIT Kosen Curriculum and CDIO Standards and Syllabus Hideaki Aburatani			

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BREAK

Wednesday 26 June 2018 16:00 - 17:15 PARALLEL SESSION			Wednesday 26 June 2018 15:45 - 17:15			
Session	EER and CDIO Implementation Change management	Projects in progress + CDIO Implementation Software engineering	CDIO Implementation Assessment	Introduction to CDIO	Workshop	EXTRA regional meeting
Room	Mogens Zielerstuen	Preben Hornungstuen	Mødelokale 1 (meeting room 1)	Richard Mortensenstuen	Mødelokale 2.3 (meeting room 2.3)	Mødelokale 2 (Meeting room 2)
Chair	Kristina Edström	Janne Roslöf	Peter Munkebo Husmann	Ron Hugo	Danielle S. Ceulemans	Helene Long
	48	46	102	Introductory Workshop 4	119	
	Leading and Communicating Change in an Engineering Faculty Merger Krista Holopainen, Timo Holopainen, Jaana Kallio- Gerlander, Anne Norström and Janne Roslöf	On the Design of a New Computer Software Engineering Curriculum Stefan Hallerstede, Peter Gorm Larsen, Jalil Boudjadar and Carl Peter Leslie Schultz	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	Standard 5+6 Design-Implement Experiences and Engineering Workspaces Ron Hugo	Validating Early Educational Innovations Rapidly Using Startup Approaches Danielle S. Ceulemans	Asian regional meeting (Only for members of the CDIO Asian region)
	85	148	78			
	Evaluation of Alternatives to Implement a CDIO Program Using GMA Alexander Vera-Tasama, Jaiber Cardona and Jorge Ivan Marin- Hurtado	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	Individual Assessment of Students Working in Project Teams Fredrik Backlund and Rickard Garvare			
	133	136	44			
	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	Enhancing Students' Soft Skills by Implementing CDIO-based Integration Teaching Mode Nhu-Hang Ha, Duc-Man Nguyen, Anand Nayyar and Chia-An Liu	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			

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	Wednesday 26 June 2018 18:00 - 18:45 Molecular gastronomy
Room	<i>Navitas, Auditorium</i> <i>Professor Kart Anker, Aarhus University</i>
	Wednesday 26 June 2018 19:00 - 23:00 Galla dinner
Room	<i>Navitas, Canteen</i>

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Thursday 27 June 2019					
8:30 - 9:15 PARALLEL SESSION			WORKSHOPS (8:30 - 10:00)		
Session	Advances of CDIO	CDIO Implementation Virtual reality	Introduction to CDIO	Workshop	Sponsored Workshop
Room	<i>Mogens Zielerstuen</i>	<i>Preben Hornungstuen</i>	<i>Richard Mortensenstuen</i>	<i>Mødelokale 2 (meeting room 2)</i>	<i>Mødelokale 1 (meeting room 1)</i>
Chair	<i>Antonio Costa</i>	<i>Sin Moh Cheah</i>	<i>Fredrik Georgsson</i>	<i>Clément Fortin</i>	<i>Mihaela Jarema</i>
	37	175	Introductory Workshop 5	217	
	Engineering Education: Institutionalization, Internationalization, and Graduate Attributes Hassan Salti, Fadi Alkhatib, Sayed Soleimani, Mohammed Abdul-Niby, Isam Zabalawi and Helene Kordahji	An IVR Engineering Educational Laboratory Accommodating CDIO Standards Jörg Schminder, Filip Nilsson, Paulina Lundberg, Nghiem-Anh Nguyen, Christoffer Hag and Hossein Nadali Najafabadi	Standard 12 Continuous Improvement <i>Fredrik Georgsson</i>	<i>Developing Good Practices for Industrial Engagement in Co-Creation of CDIO Curriculum</i> <i>Clément Fortin, Anne Nortcliffe and Morgan Saveuse</i>	ENGINEERING EDUCATION WITH MATLAB IN THE CLOUD Mihaela Jarema, Bulat Khusainov, Rohit Agrawal (Matlab)
	171	62			
	Mapping the CDIO Syllabus to the UNESCO Key Competencies for Sustainability Anders Rosén, Kristina Edström, Audun Grøm, Lena Gumaelius, Peter Munkebo Hussmann, Anna-Karin Högfeldt, Meeri Karvinen, Marko Keskinen, Maria Knutson-Wedel, Ulrika Lundqvist, Reidar Lyng, Johan Malmqvist, Mads Nygård, Martin Vigild and Thomas Fruergaard Astrup	Knowledge Gained by Working in University-Industry Collaboration Projects Marika Säisä, Sanna Määttä and Janne Roslöf			
	9:15 - 9:30: Possible track change				

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Thursday 27 June 2019			
9:30 - 10:15 PARALLEL SESSION			
Session	CDIO Implementation Design in engineering education	CDIO Implementation Project management skills	
Room	<i>Mogens Zielerstuen</i>	<i>Preben Hornungstuen</i>	
Chair	Natha Kuptasthien	Mette Lindahl Thomassen	
	192	206	
	Fostering Design Communication Skills: A CDIO Inspired Innovation Engineering Course	Using Principles of SCRUM Project Management in an Integrated Design Project	
	José Tiberio Hernández and Maria Catalina Ramírez	Robyn Paul and Laleh Behjat	
	36	128	
	Can Design and Analysis be Effectively Taught Together?	Improving Students' Project Management Skills in Biomedical Engineering Projects	
	Calvin Rans, Joris Melkert and Gillian Saunders-Smiths	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	

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BREAK			BREAK		
Thursday 27 June 2019 10:45 - 11:30 PARALLEL SESSION			WORKSHOPS (10:45 - 12:15)		
Session	CDIO Implementation Implementation of a new pedagogical model	Project in Progress & CDIO Implementation Innovation	Workshop	Workshop	
Room	Preben Hornungstuen	Mødelokale 2 (Meeting room 2)	Richard Mortensenstuen	Mødelokale 2.3 (meeting room 2.3)	
Chair	Reidar Lyng	Robert Songer	Remon Rooij	Riadh Habash	
	209	143	64	226	
	Young Researcher Programme: An Inquiry-Based Learning to Cultivate Innovation and Research Mindset Chuen Kum Lee, Siaw Soon Chee and Leonard Loh	Changing the World - Incorporating CDIO to a Business Challenge Jane Flarup and Henrik Knudsen	Stimulating Engineering Education Research - Staff Development & Competencies, Community Building, Educational Leadership Remon Rooij, Kristel Aalbers and Frits Van Loon	Addressing the UNESCO Key Competencies for Sustainability in CDIO Programs Anders Rosén, Kristina Edström, Audun Grøm, Lena Gumaelius, Peter Munkebo Hussmann, Anna-Karin Högfeldt, Meeri Karvinen, Marko Keskinen, Maria Knutson-Wedel, Ulrika Lundqvist, Reidar Lyng, Johan Malmqvist, Mads Nygård, Martin Vigild and Thomas Fruergaard Astrup	
	32	195			
	Work Integration Social Enterprises: A Testbed for Challenge-Based Learning? Marco Bertoni	A Playground for Novice Engineers and Beyond Janneke Sluijs, Morgan Duta and Bjørn Jansen			
11:30 - 11:45 - Possible track change					
Thursday 27 June 2019 11:45 - 12:30 PARALLEL SESSION					
Session	CDIO Implementation CDIO syllabus for program development	CDIO Implementation Engineering projects	CDIO Implementation Studies of student success		
Room	Mogens Zielerstuen	Preben Hornungstuen	Mødelokale 2 (Meeting room 2)		
Chair	Svante Gunnarsson	Sarah Junaid	Helene Leong		
	8	53	83		
	Using Course and Program Matrices as Components in a Quality Assurance System Svante Gunnarsson, Helena Herbertsson and Håkan Öрман	CDIO Implemented Projects in a Computer Aided Design Course Yuelei Yang	Effect of First-Year Service Learning Projects in CDIO Skills and Motivation Solange Loyer, Marcia Muñoz and Fabiola Saez		
	39	79	86		
	Design and Outcome of a CDIO Syllabus Survey for a Biomedicine Program Anna Fahlgren, Max Larsson, Mats Lindahl, Annika Thorsell, Katarina Kågedal and Svante	Design-Implement Courses to Support Change in Engineering Education Aderson Campos Passos, Humberto Henriques de Arruda, Marcelo F. Vasconcelos and	Vocational Students in a CDIO Programme – a Longitudinal Study Gareth Thomson		

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	Gunnarsson	Felipe Ferrari			
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Thursday 27 June 2019 12:30 - 13:30 LUNCH

Room *Stakladen, Frederik Nielsensvej 2, 8000 Aarhus <https://international.au.dk/about/contact/?os=181>*

13:30 - 13:45: WALK TO THE AUDITORIUM THROUGH THE PARK

Thursday 27 June 2019 13:45 - 14:30 WORKING GROUPS REPORT BACK AND CDIO ACADEMY PITCH

Room *Auditorium 1250-304 (Per Kirkeby) Lakeside auditorium <https://international.au.dk/about/contact/?os=27>*

13:45 - 13:50: Working group on teaching ethics
13:50 - 13:55: Working group on curriculum agility
13:55 - 14:30: CDIO Academy pitches - and voting

BREAK

Thursday 27 June 2019 15:00 - 15:45 KEYNOTE SESSION

Room *Auditorium 1250-304 (Per Kirkeby) Lakeside auditorium <https://international.au.dk/about/contact/?os=27>*

Professor Sanjay Sarma, MIT: A new language for education?

Thursday 27 June 2019 15:45 - 16:30 CLOSING SESSION

Room *Auditorium 1250-304 (Per Kirkeby) Lakeside auditorium <https://international.au.dk/about/contact/?os=27>*

The CDIO Academy Winner
Closing of the 2019 conference - and welcome to the 16th international CDIO conference