



## 13<sup>th</sup> International CDIO Conference ***ENGINEERING EDUCATION IN THE DIGITAL AGE***

June 18 - 22, 2017  
University of Calgary  
Calgary, Alberta, Canada

### **CALL FOR PAPERS**

**September 15, 2016**

The CDIO™ approach ([www.cdio.org](http://www.cdio.org)) is an innovative educational framework for producing the next generation of engineers. The framework provides students with an education stressing engineering fundamentals set in the context of Conceiving — Designing — Implementing — Operating (CDIO) real-world systems and products.

CDIO collaborators recognize that an engineering education is acquired over a long period and in a variety of institutions, and that educators in all parts of this spectrum can learn from practice elsewhere. Several times each year CDIO collaborating institutions, engineering educators and researchers gather to exchange ideas and experiences, review developments, assess and further refine the CDIO Initiative.

The CDIO Initiative welcomes your ideas and invites proposals for papers and presentations at the 13<sup>th</sup> International CDIO Conference. The conference takes place in Calgary Canada on June 18-22, 2017. Additional information on the conference is available at [www.cdio.ca](http://www.cdio.ca).

The main theme of the conference is *Engineering Education in the Digital Age*. Proposals are welcome on topics relevant to both the CDIO approach and the conference theme.

### **Conferences Themes and Tracks**

The possible themes include (but are not limited to):

- Change Management Process
- Curriculum Design
- Design-Implement Projects
- E-Learning
- Engineering Leadership and Entrepreneurship
- Faculty Development
- Learning Assessment
- Program Evaluation and Accreditation
- Technology-Enhanced Teaching and Learning
- Innovations in Teaching and Learning
- Integrating CDIO Skills
- Internationalization and Globalization
- Introduction to Engineering Courses



Full-Paper submissions are being accepted in the following five tracks:

- **Advances in CDIO:** These contributions provide an advance to the state of the art in CDIO-based education. They meet the expectations for original scholarly publication, including adequate review of relevant literature, a hypothesis and/or research setting, results of simulations or measurements, analysis, and conclusions. Abstract submission is required.
- **CDIO Implementation - Case Studies and Best Practices:** These contributions describe a particular implementation of CDIO principles in a practical setting. They may describe experience with a course or project, an instruction method, or introduce new CDIO central materials (e.g. revised syllabus, self-evaluation rubrics, etc.). They may also be case studies of the program level implementation experience at a particular institution. These contributions must be examples of good practice (or critical examinations of where it was lacking) and be of general interest to the conference participants. Abstract submission is required.
- **Engineering Education Research:** This track is customized for those who specialize in engineering education research (EER). Contributions require a full paper meeting criteria for scholarliness and usefulness for improving engineering education and supporting the goals of the CDIO initiative. Papers are jointly reviewed by engineering education researchers and practitioners (senior CDIO implementers). Every effort will be made during the revision process to produce a number of journal quality papers that can be supported towards publication. Abstract submission is required.
- **CDIO Projects in Progress:** These contributions describe initial development, current activities and preliminary results on projects that have not yet reached completion. This provides an opportunity for authors to share results with other conference attendees and benefit from timely input. Depending on feedback provided through the peer-review process, some papers submitted to other categories (Advances in CDIO, CDIO Implementation, and EER) may be selected by the program committee for presentation in this track. These full-paper contributions will appear in a separate section of the conference proceedings, but will not be archived on the CDIO website. Abstract submission is required.
- **CDIO Learning Objects:** Papers for CDIO Learning Objects are intended to help the CDIO community by providing a detailed description of non-traditional teaching and learning activities (TLA's). The paper must include a description of the TLA as well as the resources required to implement it. For instance, if the Learning Object is a design-build project, the following items may be included: information on the degree and year, team size and number of simultaneous teams, the requirements, a description of the project and their learning outcomes, the needed materials and their approximate cost and also the results of the implementation, the student's achievement. Additional resources can be included: files of rubrics, drawings, and instructional materials as well as links to data sheets and suppliers for relevant components and supplies if not widely available. The intent is that accepted papers will migrate into the evolving CDIO Project-Based Learning Database (Db). Abstract submission is required.

## Presentation Formats

- **Poster Presentations:** These presentations will provide a short one-minute 'teaser' opportunity for each poster author and will be available to the entire conference with no conflicts. Following the teaser session posters provided by the authors will be on display in a central area where authors can discuss the work with interested attendees. This session will also be scheduled with no conflicts. Poster presentations will be scheduled early in the conference to facilitate further interaction.



- **Podium Presentations:** These presentations will follow a traditional conference format of multiple, parallel tracks with short presentations followed by Q&A. However, the discussion will be facilitated by an interactive phase concluding each session (additional information will be provided later). The number of tracks and potential conflicts with workshops etc. will limit the size of the audience.
- **Workshop Presentations:** Interactive working session on a specific topic with activities that engage participants. A short contribution will outline the objectives for skills development and any requirements for prior knowledge of the topic or skills. The number of tracks and potential conflicts with podium presentations etc. will limit the size of the audience.
- **Roundtable Discussions / Working Groups:** Informal discussion of a topic proposed by a roundtable facilitator. A short contribution will provide the background and discussion questions. A follow-up summary report is required for the conference site. The participants may decide to continue the collaboration and form a working group. The goal of a working group can be, for example, to collaborate on a new advancement within CDIO.

Contributions will be matched to presentation type by the program committee with consideration of the author's preference and the nature of the contribution. Scheduling preference will be given to full paper contributions.

## Contribution Categories

- **Full Papers:** Contributions that require a full paper and that are expected to meet the standards set by the referees. The review process will follow three phases with their corresponding deadlines: 1) submission of a 500 word abstract; 2) submission of a full paper according to the templates; and 3) submission of the final version of the full paper revised according to referees' comments. The full papers accepted and submitted by the final deadline will appear in the conference proceedings. In addition, the papers accepted to the Advances in CDIO, CDIO Implementation, and Engineering Education Research categories will be archived on the [www.cdio.org](http://www.cdio.org) website.
- **Extended Abstracts:** A short contribution that will be distributed to the conference participants but will not be archived.
  - **Workshop Topics:** Interactive working session on a specific topic with activities that engage participants. Basic workshops presume little prior knowledge of the topic or skills.
  - **Roundtable Discussion Topics:** Informal discussion of a topic proposed by a roundtable facilitator; discussion questions will be published in the conference proceedings.

NOTE: The first deadline applies to the abstracts for the full paper category.

## Abstract Preparation and Submission

Submission of full paper abstracts will be performed through an Internet-based submission system on or before November 15, 2016. Link to the submission system: <https://www.softconf.com/h/cdio2017/>



The corresponding author will enter the title, authors and affiliations, an abstract limited to 500 words, the suggested conference track and the preferred type of presentation. Please study also the information available on the conference website ([www.cdio.ca](http://www.cdio.ca)).

The final submission must follow the formatting requirements detailed in the template on the conference website and must include a Creative Commons License to allow it to be included in the proceedings and/or archived on the CDIO web site. Furthermore, at least one of the authors shall register by the final submission deadline, participate in the conference and present the contribution. If no author is registered by the deadline, the contribution will be withdrawn from the program.

## Important Dates and Deadlines

The following deadlines apply for the authors:

First Call for Papers & abstract submission open	September 15, 2016
Abstract submission deadline (Full Papers)	November 15, 2016
Notification of abstract acceptance (Full Papers)	December 1, 2016
Draft paper submission deadline (Full Papers)	January 30, 2017
Proposal deadline (Workshops / Roundtables)	January 30, 2017
Notification of (draft) paper acceptance (Full Papers)	March 6, 2017
Notification of acceptance (Workshops / Roundtables)	March 6, 2017
Early Registration deadline	April 3, 2017
Final submission deadline (All Submission Categories)	May 1, 2017
CDIO 2017 Conference	June 18-22, 2017

## Submission Guide

Contribution Category	Track	Abstract Requirement	Abstract Review	Paper & Template Style	Paper Review	Copyright	Publication	Presentation Format
Full Papers	Advances in CDIO	500 word Abstract (template free)	Program Committee	Full Paper 10 pages Template A	Single-Blind Peer Review	Creative Commons	USB Drive + CDIO Archive	Podium or Poster
	CDIO Implementation							
	Engineering Education Research							
	CDIO Projects in Progress							
	CDIO Learning Objects							
Extended Abstracts	Workshop Topic	Not Required	No	Ext. Abs. 2 pp. Templates C/D	Program Comm.	No	USB	Workshop
	Roundtable Discussion							Roundtable

## Criteria for Selection

- Relevance to the conference theme and tracks
- Innovative ideas with proven results
- Potential to stimulate thought and discussion
- Ideas, programs, and practices that have applications for the CDIO audience