



Bantrel Forum on Design in Chemical Engineering

Held in Conjunction with the 55th Canadian Chemical Engineering Conference
Metro Toronto Convention Centre, Room 201D
18-19 October 2005

Abstract

The goal of the first *Bantrel Forum on Design in Chemical Engineering* is to share experiences and synthesize best practices on two themes: Design Throughout the Chemical Engineering Curriculum, and the Chemical Engineering Capstone Design Sequence. The Opening Keynote Speaker will be Dr. Chan Wirasinghe (Chair of the Canadian Design Engineering Network or CDEN). Following this, there will be presentations from industry speakers on each of the two themes, followed by short perspectives given by university design educators. Finally, those involved in the Forum plus invited participants will break-out into 4 parallel working groups to identify best practices. Conclusions from the break-out sessions will be presented to the general audience and then an open discussion will be held.

Design-Forum-At-A-Glance

Tuesday Afternoon 18 October: Design Throughout the Curriculum

- Opening Keynote Speaker: Chan Wirasinghe - Canadian Design Engineering Network (CDEN)
- Industry Perspective - Keynote Speaker: Andrew Hart - Bantrel Co.
- Short presentations on *Design Throughout the Curriculum*

Wednesday Morning 19 October: Capstone Design Sequence

- Industry Perspective - Keynote Speaker: Paul Szabo - Xerox Research Centre of Canada
- Short presentations on the *Capstone Design Sequence*

Wednesday Afternoon 19 October: Design-in-Practice Workshop

- Break-out sessions to identify best practices
- 10-minute summary presentations from each break-out group
- Open discussion and workshop summary



Bantrel Forum on Design in Chemical Engineering

Tuesday Afternoon Program

18 October, 14h00 – 17h00

Opening Keynote Speaker

14h00 – 14h30

“Importance of Design and Innovation in Engineering”

Chan Wirasinghe

Dean of Engineering, University of Calgary

Chair, Canadian Design Engineering Network (CDEN)

Overview of Design Forum: 14h30 – 14h40

Paul Stuart, École Polytechnique

First Forum Theme:

Design Throughout the Chemical Engineering Curriculum

Session Chair: Murray Gray, University of Alberta

Industry Perspective - Keynote Speaker

14h40 – 15h00

“Engineering in a an EPC office”

Andrew Hart

Corporate Business Manager

Bantrel Co.

Coffee Break: 15h00 – 15h20

Discussion with Andrew Hart: 15h20 – 15h40

Presentations on Design in the Curriculum:

Brief presentations by different Chemical Engineering Departments. General presentation format might include: historical background, curriculum overview underlining design and integrated learning courses, discussion of targeted courses, discussion of design sequence from a competency building perspective.

15h40 – 16h00

Warren Stiver, University of Guelph

16h00 – 16h20

Graeme Norval, University of Toronto

16h20 – 16h40

Kunal Karan, Queen’s University

Closing Remarks; Design Needs in the Chemical Engineering Curriculum: 16h40 – 17h00



Bantrel Forum on Design in Chemical Engineering

Wednesday Morning Program

10h00-12h00, 19 October

Second Forum Theme:

Chemical Engineering Capstone Design Sequence

Session Chair: Warren Stiver, University of Guelph

Industry Perspective - Keynote Speaker

10h00 – 10h40

“Plant Design: A View From the Interface Between Industry and Academia”

Paul Szabo

Manager of Scale-Up Engineering
Xerox Research Centre of Canada

Presentations on Capstone Design Sequence

To be presented by different Chemical Engineering Departments on the courses typically entitled Process Design and Design Project, and typically offered during the final undergraduate year. The general presentation format might include: historical background, review of capstone course outline(s), summary of important course characteristics, discussion of capstone design sequence from a competency perspective.

10h40 – 11h00	Brent Young/Bill Svrcek, University of Calgary
11h00 – 11h20	Nicolas Abatzoglou, Université de Sherbrooke
11h20 – 11h40	Andrew Hrymak, McMaster University

Participants and Protocols for Design-In-Practice Workshop

11h40 – 12h00

Paul Stuart, École Polytechnique

Lunch: 12h00 – 14h00

Bantrel Forum on Design in Chemical Engineering

Wednesday Afternoon Program, 19 October

14h00 – 17h00, 19 October

Design-In-Practice Workshop

Session Chair: André Tremblay, University of Ottawa

Break-Out Group Sessions

14h00 – 15h00

Parallel working groups, in which the two Forum Themes are to be discussed. The brainstorm technique will be used to incorporate the perspective and ideas of each working group member. Each working group will have a designated group leader, and there will be a group secretary summarizing key points in a PowerPoint presentation related to the 4 discussion points, which should include:

- Summary of good practices, identified in presentations or from personal experience,
- Critical characteristics of the “ideal” design and integrated learning stream in the Chemical Engineering curriculum/capstone design sequence, and
- Significant challenges.
- Industry perspective.

Design Throughout the Chemical Engineering Curriculum:

Group Number One Leader: Al Taweel, Dalhousie University

Group Number Two Leader: Stratos Pistikopoulos, Imperial College - London

Chemical Engineering Capstone Design Sequence:

Group Number Three Leader: Jules Thibault, University of Ottawa

Group Number Four Leader: Barrie Jackson, Queen’s University

Coffee Break: 15h00 – 15h20

Break-Out Group Summary Presentations

15h20 – 16h00

10-minute summary presentations by the Group Leader of each of the 4 break-out groups, addressing each of the discussion points.

Open Discussion

16h00 – 16h50

Facilitator: André Tremblay, University of Ottawa

Wrap-up Comments

Paul Stuart, École Polytechnique

16h50 – 17h00