

NEWSLETTER



Liaison
Nigel Shrive



Liaison
Dave Elson



Liaison
Ray Marsh



Liaison
Alan Rhodes



Liaison
John Charrett

Chairman's Notes Winter 2009

On behalf of your executive, I would like to wish everyone all the very best for 2009. Let us hope that the actions of our leaders in government do indeed stimulate the economy sufficiently to turn things around and bring back employment opportunities for all.

2008 was a good year for the group with attendance at technical meetings varying between 30 and 60. The executive hopes that the programme arranged for the coming year will prove equally as attractive. Some information about the first meetings is provided elsewhere in this newsletter. Please watch the website or read our future newsletters to see what other topics will be presented throughout the year. Attendance at the technical meetings has allowed members to meet new, as well as catch up with old acquaintances.

We had a number of excellent applications for the 2008 scholarship and I expect the awardee to be announced shortly. The scholarship offered through the group is made on the basis of three criteria – the academic excellence of the candidate, their activities in relation to practical engineering and their appreciation of the global nature of the profession. It is interesting that most previous awardees have been female, and that over the years, they have come from just about all of the post-secondary institutions in our area, including Institutes of Technology. I would

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request all members to encourage any potential candidate to apply for the 2009 award next fall. The application requirements are on the website. It is not often that a student can earn \$2000 for a couple of hours of work. Of course, only one applicant is successful, but the odds are way better than on a lottery.

We held only two social events in 2008 – a very pleasant evening of jazz and appetizers aboard the SS Moyie on the Glenmore Reservoir and a potluck supper at the Rhodes' house (many thanks to Anne and Alan for being such kind and generous hosts). This small number of events is reflective of the need for a social coordinator. It would be great to have someone volunteer for this position!!! The AGM is at the end of this month, providing the opportunity for someone to create a subcommittee to plan more social functions. Finally, it would be great to see more members getting to know each other at these events.

Once again, I wish every one all the best for the New Year, and look forward to seeing many of you on the 31st

Nigel Shrive



Annual General Meeting (AGM) and Dinner

Saturday 31st January 2009

AGM at 6.30 pm
Buffet Dinner at 7.00 pm
RSVP CPGCE Secretary via
E-mail: [Secretary](#) on the

Officers' Mess
750 9th Avenue SE,
Calgary, AB, T2P 2M5

website

<http://www.cpgce.org/AGM%202009.htm>

or phone Tel.: 403 254 3315

Please confirm your attendance before
15th January 2009.

Disc Jockeys Unlimited are providing
music for the function. If there are any
specific requests for music please
advise Nigel Shrive.

CANADIAN PRAIRIES GROUP OF CHARTERED ENGINEERS (CPGCE) AGM AGENDA for Saturday, January 31, 2009 6.30 PM

1. APPROVAL of AGENDA
 2. APOLOGIES for ABSENCE
 3. MINUTES of PREVIOUS MEETING
 4. MATTERS ARISING FROM MINUTES
 5. APPROVAL of MINUTES
 6. CHAIRMAN'S REPORT
 7. TREASURER'S REPORT
 8. SECRETARY'S REPORT
 9. ELECTION of OFFICERS
- | | |
|---------------|-----------------|
| Chairman | Nigel Shrive |
| Vice Chairman | Vacant |
| Past Chairman | Roger Frayne |
| Treasurer | Bob Enever |
| Secretary | Colin Pollard |
| Members | Adrian Dumbrava |
| | Robert Frost |
| | Mohamed Jaffer |
| | Arun Kumar |
| | Tom Martin |

Alistair Milne
Andre Van Dijk
Ken Smart (ex officio
Edmonton area
liaison)

plus Two Vacancies

10. INCOMING CHAIRMAN'S REMARKS

Minutes of CPGCE 2008 Annual General Meeting January 26, 2008 Held at Fort Calgary, Calgary, Alberta, Canada.

Committee members present: A Van Dijk,
A Dumbrava, R Enever, R Frayne, R Frost,
M Jaffer, A Kumar, A Milne, R Mote, C
Pollard, T Martin, and N Shrive.

1 Approval of Agenda

The agenda was approved by Dom
Malik

2 Apologies for absence

D Elson, L Gunawardhana, D James, B
Meadowcroft, R Pritchard, H Tse.

3 Minutes of the last AGM

Accepted as a true record.

Proposed T Martin
Seconded I Jones

4 Matters arising from previous minutes

None

5 Chairman's Report

R Frayne presented a report covering
the following subjects:

5.1 Tribute was paid to Ted Maciag who
had died in the past year. He had been

a prominent structural engineer, designer of the Saddledome, corresponding member of IStructE and a CPGCE committee member.

5.2 Poor attendance at technical meetings.

5.3 Communication with members and the lack of accurate membership contact lists.

5.4 The scholarship had been awarded this year. Issues remained in publicising it and attracting applicants.

5.5 Three members of the executive are not standing again this year, Tony Lam, Leo Flaman and Bill Meadowcroft; thanks were given for their efforts in keeping the financial accounts, obtaining speakers, running the web site, keeping membership lists etc.

5.6 Thanks were expressed to Charles Dempsey and Arun Kumar for their work on the scholarship and web site.

6 Treasurer's Report

6.1 Financial status is good and money has been received from London as usual.

7 Secretary's Report

C Pollard presented a report covering the following subjects

7.1 The Secretary thanked R Frayne and A Kumar for performing many tasks that might otherwise have fallen on the Secretary.

7.2 Nine committee meetings had been held in the past year. The principal subjects were the scholarship fund, web site and future of the CPGCE.

7.3 Correspondence with London had been sparse as no official visits had occurred in 2008.

7.4 Correspondence with members had also been sparse and had in each case been forwarded to the relevant Institution representative.

7.5 It was noted the IStructE president Sarah Buck was due to visit in the spring of 2008.

8 Election of Officers

8.1 Derrick Harrison officiated.

8.2 Nominations were requested and the following were elected by acclamation

Chairman	Nigel Shrive
Vice Chairman	Vacant
Past Chairman	Roger Frayne
Treasurer	Bob Enever
Secretary	Colin Pollard
Members	Charles Dempsey Andre Van Dijk Adrian Dumbrava Robert Frost Mohamed Jaffer Tom Martin Alistair Milne Ken Smart (ex officio Edmonton area liaison) Arun Kumar Bob Mote

9 Incoming Chairman remarks

9.1 The Elected Chairman thanked the Past Chairman and those attending and looked forward to a year of growth.

Meeting adjourned at 21.20 hrs.

2009 Technical Programme

Wednesday, 11th February 2009.

"The Bow"

Guest speaker:

Barry Charnish P.Eng

Project Manager with Halcrow Yolles who are providing full structural engineering services to the project. The architect for the project is UK based Foster and Partners & Zeidler Partnership Architects of Calgary.



Wednesday, 11th March 2009

"Major Disasters in the Oil & Gas and Petrochemical Industries"



Guest speaker: Robert Sparrow P.Eng,
Senior VP Global Technology and Process, SNC Lavalin Inc., Calgary

If you have suggestions for the Technical Programme please contact the Technical Meeting Coordinators identified on page 8.

Wednesday, 8th April 2009.

"Building applications for digital surfaces"

Guest speaker: Dr Frank Maurer,
Professor and Acting Head, Department of Computer Science, University of Calgary

Digital surfaces like the Microsoft Surface Computer or the Smart Digital Table are making their way from research labs into the real world. A digital table is a computer with a multi-touch horizontal display. While PCs are mostly personal devices, digital tables enable concurrent interaction of multiple users with a single application.



They form the basis for innovative software systems that support group or team activities. The presentation will give an overview on digital surfaces and then illustrate the application development challenges with two systems, eHome control and APDT. The first focuses on monitoring and controlling a smart home while the second support distributed project planning for agile software development teams.

LADIES LUNCHEON

All Ladies – members and spouses of members and ex-members are invited to join the ladies' group for lunch once a month - for a social chat. Please to call Sue at 403 239 9104



The 8th World Congress of Chemical Engineering will be on Canadian soil!

The 8th World Congress of Chemical Engineering (WCCE8) will take place at the Palais des Congrès in Montreal, Canada from 23-27 August 2009.

This Congress is organized around the theme, 'Challenges for a Changing World' and addresses subjects from the areas of Energy, Green Processing, New Materials & Processes, Biotechnology and Chemical Engineering & Society. It also includes other contemporary topics in the science and practice of chemical engineering.

The Congress is chaired by Philippe A. Tanguy, Professor, Department of Chemical Engineering, Polytechnique, Montréal. As of December 10, 2008 more than 1600 papers had been submitted for presentations. Professor Murray Gray, University of Alberta, is a member of Technical Program Committee.

The 7th World Congress of Chemical Engineering was hosted by Glasgow in 2005 and gathered more than 2,000 chemical engineers from 60 nations. It proved to be a great success.

Additional information on the event is provided at:

<http://www.wcce8.org/index.html>

CPGCE Scholarship Award 2008

This award offered by Canadian Prairie Group of Chartered Engineers (CPGCE) is

open to full time students at any university or college of technology in the CPGCE region (Alberta, Saskatchewan or the North West Territories). The applicant must comply with the following:

- (1) Studying for a first degree or diploma in engineering or engineering technology,
- (2) Have successfully completed their first year of studies.

The award is for \$2000.

Each year, students from West Canadian universities open their hearts and minds, and talk about themselves. They define their goals in achieving engineering skills, describe their beliefs about the profession and the role of engineer in building a better world among many many other collateral insights.

For the CPGCE 2008 Scholarship Award fifteen students from Albertan and Saskatchewan universities submitted their applications.

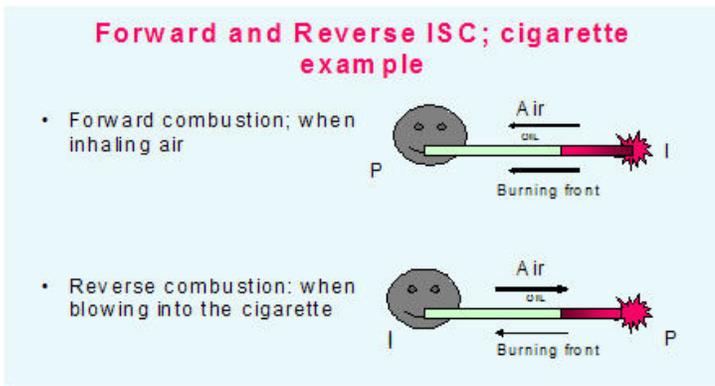
The Award Committee would like to thank all the applicants for their efforts and interest in applying for the CPGCE Scholarship Award. We wish them all the very best and much success in completing their studies and achieving professional goals.

The winner of 2008 edition will be announced during CPGCE Annual General Meeting (AGM) to be held on January 31st, 2009. Shortly after that the winner will be invited to a presentation dinner at which the prize and a commemorative plaque to acknowledge the achievement will be awarded.

For the CPGCE Scholarship Award Committee – Adrian Dumbrava

UNDERGROUND OIL REFINERY FOR OIL UPGRADING reported by Adrian Dumbrava

Alex Turta, Senior Research Engineer, Alberta Research Council opened his talk on underground refining by highlighting the differences in reservoir exploitation (primary and secondary methods). He explained the feasibility of upgrading through in-situ combustion (Forward or Co-current and Reverse or Counter-current) with the analogy of smoking a cigarette.



Current major commercial operations applying Forward ISC include;

- Suplacu de Barcau (Romania) with 9000 bbl/day for 40 years,
- Balol and Santhal (India) with 10,000 bbl/day for 11 years

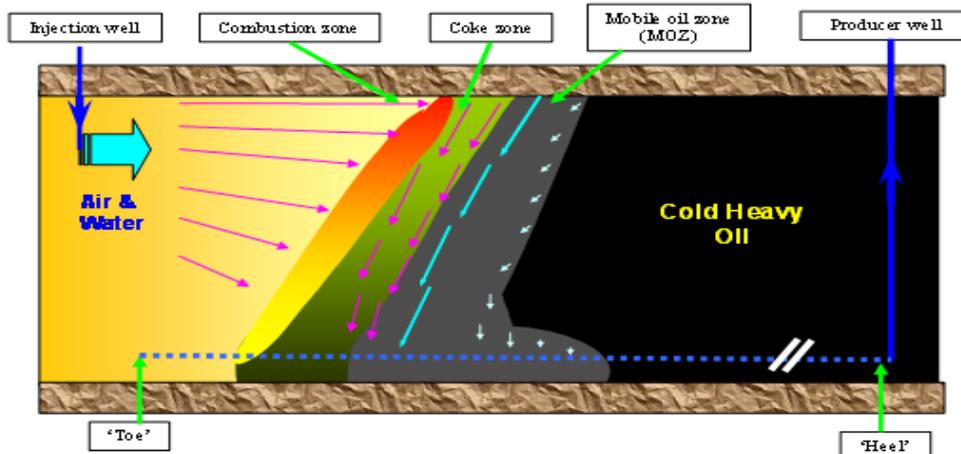
- Bellevue, Louisiana (USA) with 900 bbl/day.

Under this type of conventional operation no upgrading is implemented.

Reverse ISC has the highest upgrading potential of all ISC variations. The produced oil has a much lower viscosity (decreased from 10^6 to 10 mPa.s) with at least 16 API points upgrading. Reverse ISC has been field tested in Bellamy, Montana, USA. Other forms of unconventional ISC processes were field tested in Gregoire Lake and Morgan Lloydminster, Alberta, and in Kyrock, Kentucky, USA.

The Toe-to-Heel Air Injection (THAI™) process developed by Alberta Research Counsel and the University of Bath, UK has been studied intensively in laboratory and pilot field operations. It demonstrated a multitude of benefits such as: lower CAPEX and OPEX than SAGD, no special requirement for injected fluids (air vs. steam, CO₂ or HC gas), high productivity, a safe process, and minimum environmental impact. A THAI™ field pilot is currently underway in Athabasca tar sands, the so called Whitesands project.

THAI™ – Toe-to-Heel Air Injection



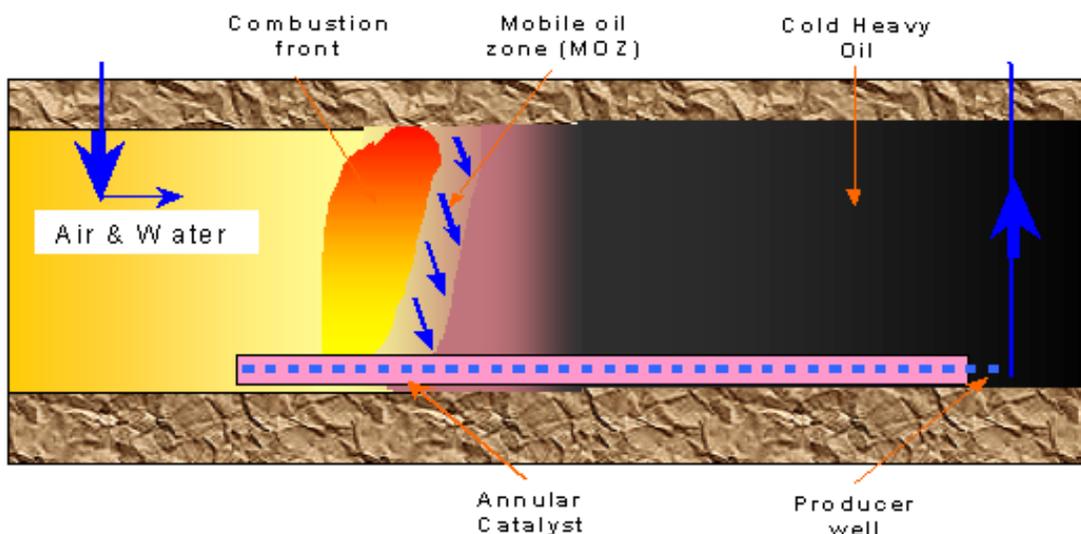
The prospect of upgrading heavy crude and bitumen directly in the reservoir, via an in situ process, is attracting considerable attention in view of the huge cost of surface upgrading processes. Many different methods have been proposed, but all, with the exception of CAPRI™ (Catalytic THAI™), require the injection of some 'agent' into the reservoir formation. This could involve the direct injection of hydrogen (potentially dangerous), dispersion of various catalytic materials (expensive), and even bacteria (difficult to control). To-date, none of these methods has achieved any significant breakthrough.

The CAPRI™ process creates a *sui generis* "radial flow reactor" in the reservoir by emplacing a layer of conventional refinery

procedures or equipment cost, except the catalyst wrapping, because it operates at high pressure and temperature conditions, ca. 2-10 MPa at 450-650 °C.

Some of the most significant CAPRI™ experimental results obtained with Wolf Lake heavy oil and Athabasca Oil Sand bitumen were presented. It is concluded that, direct conversion of heavy crude and bitumen to a light oil (ca. > 30 °API), using CAPRI™, is feasible, if the catalyst can survive for a sufficiently long period. Limiting catalyst performance factors are: carbon fouling, oil/cat loading, sulphur contamination, and temperature of the horizontal well. Upgrading results obtained in some field in situ combustion projects were presented as well. Finally, preliminary

data was reported on the first field test of the CAPRI™ process, by Petrobank Energy and Resources, at their Christina Lake, Whitesands In-situ Pilot Project, due to be in operation 2009.



SCHEMATIC OF THE CAPRI™ PROCESS

(solid) catalyst along the outside of a horizontal producer well. CAPRI™ operates in conjunction with the THAI™ oil recovery process. Partially upgraded oil produced by THAI™, then flows directly through the catalyst bed, undergoing secondary upgrading.

Compared to THAI™, CAPRI™ does not require any additional operational

Oil produced through CAPRI™ process shows upgrading on the following properties: lower viscosity than recorded in THAI™ process; increased API density by 4 to 10 points; significantly reduction of sulphur, nickel and vanadium in heavy ends, is feasible. The process substantially reduces cost of surface upgrading plants.



The CPGCE Executive 2008

Left to right: Tom Martin, Robert Frost, Arun Kumar, Andre van Dijk, Nigel Shrive, Robert Enever, Robert Mote (moved away), Adrian Dumbrava, Mohamed Jaffer and Colin Pollard.

The following members were proposed and duly elected to the executive committee at the Annual General Meeting held on 26th January 2008.

In the table below are the contact coordinates for your executive.

Nigel	SHRIVE	403	239 9104 220 6630	ngshrive@ucalgary.ca	C	Chairman Scholarships
Roger	FRAYNE	403	287 3051	rogerfrayne@shaw.ca	M	Past Chairman Deputy Treasurer
Colin	POLLARD	430	254 3315	colin.pollard@aecom.com	Ci/S	Secretary
Robert	ENEVER	403	271 1953	eneverr@shaw.ca	E	Hon. Treasurer Newsletters
Tom	MARTIN	403	246 1542 246 6677	tmconsultants@shaw.ca	Ci	Deputy Treasurer
Adrian	DUMBRAVA	403	245 1838 537 8169	adrian.dumbrava@snclavalin.com	Ch	Scholarships
Alastair	MILNE	403	934 6083 934 7441	amilne@startec.ca	M	Scholarships
Andre	van DIJK	403	514 3078	andre@vandijks.ca	E	Technical meetings Memberships
Arun	KUMAR	403	508 2899	kkum@telus.net	Mar	Web & Communications
Mohamed	JAFFER	403	514-3711	mjaffer@enmax.com	E	Mailbox
Robert	FROST	403	276 2222	frostr@shaw.ca	M	Technical meetings Memberships
Ken	SMART	780	459 3130	tramsk@telusplanet.net	E	Exec: Edmonton Branch