



# minerva UPDATE

INTEGRATING OCCUPATIONAL HEALTH AND SAFETY CONCEPTS INTO MANAGEMENT EDUCATION

## Leadership and Workplace Culture

The goal of Minerva Canada is to instill the values of managing health and safety in the future leaders of business – values like those espoused by a CEO panel (see right) at the Spring 2004 Industrial Accident Prevention Association Annual Conference, moderated by CBC’s Peter Mansbridge.

Turn to page 3 to find out what these leaders say about health and safety.



[l to r]: Peter Mansbridge, Doug Harrison (Acklands-Grainger), Duncan Hawthorne (Bruce Power) and Linda Hasenfratz (Linamar Corp).

## SUMMER INSTITUTE A GREAT SUCCESS

Chemical engineering professors from 19 of 21 university programs across Canada participated in a three-day Summer Institute in Sarnia, Ontario this spring to find ways to effectively deliver the topic of industrial safety and loss management to students. The brainchild of Minerva Board member Paul Amyotte, P.Eng., an engineering professor at Dalhousie University, and chaired by Professor Doug McCutcheon, P.Eng., of the University of Alberta, the **2004 CSChE-PSM Summer Institute on Industrial Safety and Loss Management** was the collaborative effort of the Canadian Society for Chemical Engineering, Process Safety Management Subject Division, and Minerva Canada.

“The event was a great learning experience and I came back with an enriched outlook on the various aspects of safety,” says Professor Sohrab Rohani, Chair, Chemical & Biochemical Engineering, Faculty of Engineering, The University of Western Ontario (UWO). “Safety must be introduced as early as first year in all engineering programs. It should also form an integral part of many courses as well as laboratories throughout the engineering program.”

Professor Rohani has already discussed the implementation and significance of incorporating safety in UWO’s curriculum with the Dean and all other Department Chairs and they decided a good place to start is the first year Introduction to Engineering Design course. “That will expose all the students from different disciplines to this topic.” His department will also be expanding its third and fourth year design courses to cover safety management, inherent safety, occupational health and safety and personnel safety, and human factors.

See page 2 for more on the Summer Institute.

## New Ontario University Hosts Minerva Roundtable

Close to 30 business and engineering school academics, students and industry and government representatives participated in a **Minerva Canada Roundtable Forum** in November 2003, hosted by Marc Rosen, Dean of Engineering, at the new University of Ontario Institute of Technology (UOIT) in Oshawa. The purpose of the forum was to facilitate an appreciation of the importance of health and safety in workplaces and identify what universities need in order to integrate this topic into existing courses. “I walked away from the meeting with many tangible ideas,” said Bernadette Schell, Dean of Business & Information Technology, at UOIT.

Here are the themes that emerged from the roundtable discussion:

- Industry needs graduates who know how to measure and manage safety and to sustain

performance and who have a keen understanding of safety before they are employed so they can hit the ground running in the workplace.

- There is undue pressure on schools to integrate many topics, including health and safety, into their curricula, since companies no longer have apprenticeship programs.
- Health and safety is being taught as a technical skill rather than as conceptual visionary thinking and a mindset.
- The case study approach is ideal to put life into a topic that is perceived as dry by most faculties.
- Students represent a huge, relatively untapped resource to advocate for curriculum change.

See page 3 for recommendations from the participants.

## SEEKING PRESIDENT

Minerva Canada is looking to fill the post of President. Visit our Web site at [www.minervacanada.org](http://www.minervacanada.org) for the job description.

### CONTENTS

Summer Institute Highlights	2
Academic Corner	2
Roundtable Recommendations	3
New Resources	4



# Minerva Collaborates in Summer Institute for Engineering Professors

**The CSChE Summer Institute on Industrial Safety and Loss Management was launched this spring in Sarnia in order to develop chemical engineering student education in this area. Specific objectives of the intensive forum included:**

- Industry and universities to help each other with respect to ultimately improving safety and loss management in the industrial workplace.
- Professors to gain knowledge on what to teach, how to incorporate topics into curriculum and what resources are available.
- Industry to gain knowledge on how to assist universities with respect to resources and support.
- Minerva to follow-up and provide continuing support in implementing topics into curriculum.
- Universities to commit to a strategy on how to implement environmental and health and safety topics into curriculum.

The practical Institute program included presentations from industry leaders and recent graduates, team discussions, and site visits to NOVA Chemicals, LANXESS (formerly Bayer) and Imperial Oil to allow participants to see first-hand how prevention is taken into account in facilities with toxic materials and to determine how to best incorporate health and safety topics into the curriculum. The program was developed by a 13-person planning committee, with representatives from Minerva, CCPA, academia and industry.

"We were delighted – in fact, we were overwhelmed – by the representation and participation of 19 out of 21 chemical engineering programs in Canada (plus one affiliated mechanical program)," says Minerva Board member Prof. Doug McCutcheon of the University of Alberta, who chaired the forum.

"The challenge we put forth was to ask the delegates to go back and implement changes in their university curriculum, and to a professor the challenge was taken up. I would say our five objectives were clearly supported by all.

"The positive outcome of this first Summer Institute is providing us with the momentum to put it on again next year," he adds. "Our thoughts are to make it chemical engineering focused one more time to solidify our program and then to consider how to expand it to other engineering disciplines in the future. We see this as being of value for years to come."

This fall, Renzo Dalla Via, a member of the planning committee and Minerva Canada's Board of Directors, will follow up with participants to do an in-depth interview on what they have been able to accomplish and what they would like to do. "We believe that these intensive, multi-day forums are a powerful way to effect change, and our hope is to take this model to other engineering faculties and business schools."

In addition to Minerva Canada, the Summer Institute received financial sponsorship from the following organizations: Canadian Society for Chemical Engineering (CSChE), Canadian Chemical Producers Association, NOVA Chemicals, Imperial Oil, LANXESS (formerly Bayer), Irving Oil, Interquisa Canada, Health Canada, Recochem, BASF, Dow Chemical, Environment Canada, Royal Polymers, PetroCanada and the Workplace Safety



Engineering professors from across Canada and industry representatives participated in the 2004 CSChE Summer Institute on Industrial Safety and Loss Management this spring in Sarnia, Ontario.

& Insurance Board of Ontario. The initiative for this program was a result of the formation of the new Process Safety Management Subject Division of CSChE – of which both Doug as well as Minerva Board member Paul Amyotte are members – and the education goal the division had set out.

*"This format is a strong model that we hope to take to other engineering faculties and business schools."*

Renzo Dalla Via, Planning Committee Member

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## ACADEMIC CORNER

### BRITISH COLUMBIA

Royal Roads University has invited Minerva to position a speaker at its intensive Masters of Business and Masters of Leadership courses.

### MANITOBA

A Minerva Manitoba Endowment fund has been established at Manitoba's Red River College and the University of Manitoba. The goal of the award is consistent with the

Committee's objective of supporting students in occupational safety and health (OSH) activities. Students will be required to integrate the concepts and principles of OSH into a designated project during one year of their

# Leadership and Workplace Culture



CBC's Peter Mansbridge moderated a CEO panel discussion on leadership and workplace culture at the 2004 IAPA (Industrial Accident Prevention Association) Annual Conference. In examining the whole issue of workplace culture vis-à-vis health and safety and the critical role leadership plays, the CEO panel shared these insights on how to develop a safe workplace culture:



- "A safety culture requires that all parties accept that safety is a priority. This culture can start at any level of an organization but, to be sustainable, it must be owned and driven from the top. Patience and persistence are necessary because changing culture takes time."  
**Doug Harrison, President, Acklands-Grainger**
- "The most important part of culture is values. It takes time to determine values, make them a key part of the vision and do something about them. Key symbols, measurable performance indicators to create life to values, and built-in emotion and passion are all needed."  
**Linda Hasenfratz, President/CEO, Linamar Corp.**
- "Most safety decisions are transactional in nature and that is how people judge leaders. The key is for leaders to walk the talk – to pass the test every day by demonstrating safety values through decisions and actions."  
**Duncan Hawthorne, President & CEO, Bruce Power**

*"The business benefits [of good safety] are secondary. I never want to stand at a day of mourning and have to remember one of my employees who died."* Duncan Hawthorne

## Minerva Roundtable Recommendations

Here is what participants at our November 2003 forum, held at the University of Ontario Institute of Technology (UOIT), had to say:

### FROM ACADEMICS:

- Industry must tell university leaders that it puts a premium on health and safety skills and competencies in graduates and must reinforce this need at every opportunity.
- Put pressure on the Canadian Engineering Accreditation Board (CEAB) and local engineering organizations to influence university curriculum change.
- Develop incentives and safety awards/scholarships (e.g. case competitions between business and engineering schools).
- Provide faculty with resources, such as case studies, and interdisciplinary materials that will help schools break down silos.
- Invite Student Council and Senate reps to Minerva/meetings.

### FROM INDUSTRY:

- Make safety an integral part of the curriculum, not an elective.
- Illustrate through case studies how good safety performance benefits the bottom line.
- Engage youth and convince them to take leadership through, for example, their student bodies (e.g. Canadian Federation of Engineering Students) that can apply pressure on faculty.

Participating organizations included: Imperial Oil, GM, DuPont, University of Manitoba, Ryerson, Canadian Centre for Occupational Health & Safety, Safe Communities Foundation, Ministry of Labour and IAPA. The forum was also privileged to have Paavo Kivisto, Ontario's Deputy Minister of Labour, attend. "It never ceases to amaze me how we walk away from these roundtables with new ideas," said Dave Meston, co-chair of the Minerva Ontario Working Committee. "We heard some great success stories at this forum, which tells us that Minerva Canada is making a difference. This is just the start of a dialogue."

Many thanks to Prof. Marc Rosen, Dean of Manufacturing Engineering, and UOIT for hosting this session.

### Where We've Been

Minerva Board member Len Hong featured Minerva in a presentation on partnerships that he gave to the Organization of American States' meeting of Ministers of Labour and their occupational health and safety representatives held in El Salvador in April.

### VISIT OUR WEB SITE

[www.minervacanada.org](http://www.minervacanada.org) to find out more about our free resources for faculty.

program, thus requiring research and demonstration of an understanding of how OSH principles can be integrated into everyday projects and operations. Matching funds were solicited and received from Manitoba Schools Bursaries and Scholarships Initiative for a total endowment at each facility of \$15,000. For details, contact Judy Fraser, Minerva Manitoba

Coordinator at MB Labour, Workplace Safety and Health Division, 204.945.5359, e-mail [jfraser@gov.mb.ca](mailto:jfraser@gov.mb.ca).

### ONTARIO

Ryerson University has a unique Capstone project that twins a health and safety student consultant with engineering teams. Lessons

learned include selling health and safety, product design and even gender differences, since female health and safety representatives are often teamed with male engineering students. For details, contact Kathryn Woodcock at [kwoodcoc@ryerson.ca](mailto:kwoodcoc@ryerson.ca).



## Engineering Module and Case Studies

**NEW!** Prepared by Marc Rosen of the School of Manufacturing Engineering, University of Ontario Institute of Technology, this engineering-oriented module and set of three mini case studies on health and safety helps convey the importance of these issues in a concise package. The material can be covered in a single lecture or over an extended period, and while intended and structured for engineering students, is also useful for students in other technical programs (such as applied science and technology, management, business and other programs that interface with engineering) and students in company training programs.

In addition, teaching notes for other Minerva case studies are available to professors. The case studies – prepared by Business or Engineering School faculty – are published in both English and French and include:

1. Automotive Plastics (*Business*)
2. National Rubber Co. of Canada (*Business*)
3. Storey Energy (*Business*)
4. Hydroelectric Generating Station Cover-Shield Failure (*Engineering*)

**Coming Soon** – a management case study about health and safety in the mining industry by Laurentian University in collaboration with Inco.

Copies of the **Engineering Health and Safety Module** and all case studies and teaching notes can be downloaded free from our Web site at [www.minervacanada.org](http://www.minervacanada.org), or contact: Dave Meston at 416.979.5000 ext. 7083 e-mail [dmeston@ryerson.ca](mailto:dmeston@ryerson.ca).

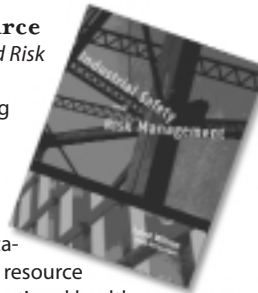
### Web site

Visit [www.minervacanada.org](http://www.minervacanada.org) to find out more about Minerva plus resources for academics, such as:

- Presentations, case studies and an article list on the management principles of occupational health and safety.
- Proceedings of a 2001 Minerva workshop on *Integrating Safety Management into the Curricula of Canadian Business Schools*.

### Related Resource

*Industrial Safety and Risk Management*, by Laird Wilson & Doug McCutcheon (University Of Alberta Press, August 2003): A teaching tool for academics and a good resource for practising occupational health and safety professionals and those new to the profession – covering both theory and practical applications. The authors explore the intricacies of how health and safety can improve outcomes in the workplace.



## A MINERVA THANK-YOU

Minerva Canada Chair and President Tony Pasteris (left) presents outgoing Board member Randy Giroux of GM with a plaque commemorating his years of service to Minerva. "Randy's commitment to the principles of health and safety in the workplace and his work in furthering the efforts of Minerva Canada are to be greatly admired," says Tony. "Minerva has been greatly enhanced by his involvement." Randy will continue as a member of Minerva's Working Committee.



## WELCOME ON BOARD

Claudio Girolami, Director – Manufacturing Engineering for the Oshawa Truck Plant of General Motors of Canada, was elected to Minerva Canada's National Board to serve a term from 2003 to 2006. Claudio completed an undergraduate program in Mechanical Engineering at Concordia University in Montreal, and received a Masters in Mechanical Engineering from the University of Waterloo. He has also completed an Executive Business Program at the University of Western Ontario. Claudio has been with GM for over 25 years.

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Minerva Canada is a not-for-profit corporation to promote excellence in the teaching of safety management

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