



IEEE NEWSLETTER

KITCHENER - WATERLOO SECTION



MARCH 1990

COMING EVENTS IN APRIL - MAY

- Wed., April 11: Dr. Ken McKay of the University of Waterloo will give **INSIGHTS FROM THE LAND OF LOST SOULS: IMPACT ON THE FUTURE OF PRODUCTION PLANNING AND SCHEDULING**, at U.W. More information is on page 6.
- Wed., May 2: Dr. David L. Parnas of Queen's University, Kingston, lectures on **EDUCATION FOR COMPUTING PROFESSIONALS** at U.W.; see page 4 for details

NON-MEMBERS ARE MOST WELCOME AT OUR MEETINGS

ALSO IN THIS ISSUE

- GUN CONTROL; a letter and petition from Montreal, page 2.
- THE COLOUR BOOK COURSE for POWER ENGINEERS is available in Hamilton this spring; details are on page 3.
- Notice for the INTERNATIONAL CONFERENCE ON COMPUTING AND INFORMATION, Niagara Falls, May 23-26; see page 4.
- The ANNUAL STUDENT PAPERS NIGHT is a big success; read about it on page 5.

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-Stream B: George Freeman, (519)885-1211,ext.2876

The Kitchener-Waterloo Section of the Institute of Electrical and Electronics Engineers serves all members whose mailing address is in Bruce, Grey, Perth, Waterloo or Wellington Counties.

GUN CONTROL

The following letter has reached this section through IEEE Canada headquarters:

Institute of Electrical
& Electronics Engineers Inc.
Ms. Pamela E. Woodrow, Mgt.
7061 Yonge Street
Thornhill, ON L3T 2A6

Office of the Dean
Faculty of Engineering
McGill University
Montreal

December 28th, 1989

Dear Ms. Woodrow:

Re: ARMS CONTROL:

Having myself signed the attached petition calling for the enactment of new laws forbidding the private possession/ownership of any automatic, semi-automatic or modified fire arm in Canada, I was approached by Prof. Michel Rigaud of the Organizing Committee for the Control of Arms, to see if I could help them in any way. For my part, I agreed to contact as many of the Scientific Societies in Canada as I could and so, both my wife and myself are spending one of these last days of this fateful Month of December, 1989, doing just that.

What we [are] asking you and your associates to possibly arrange, is for the publication of the petition (in any modified form that is suitable to you) in your journal with a request that your membership feel free to both sign a copy, to perhaps circulate it among their friends and associates and to forward it to the Association of Students at Ecole Polytechnique. I sincerely believe that by doing so we will be making a difference!

With my best regards for the New Year.

Yours sincerely

James W. Provan, Associate Dean (Academic)

Attached to the letter was this form:

SUPPORT

Ecole Polytechnique's Committee for
ARMS CONTROL!

The undersigned call for the enactment of new laws forbidding the private possession/ownership of any automatic, semi-automatic or modified fire arm in Canada.

| Name (caps) | Signature | City | Occupation |
|-------------|-----------|------|------------|
|-------------|-----------|------|------------|

Please return to:
Comité conjoint pour le controle des armes
c/o Association des étudiants de Polytechnique
Ecole Polytechnique de Montréal
P.O. Box 6079, Station A
Montréal (Quebec) H3C 3A7

and another in French.

At the KW section executive committee meeting on February 5th, this request was discussed and the following resolution was passed:

"Publishing of the 'Arms control' request is to be non-committal. The information is to be published in the next K-W Section Newsletter. This is done to disseminate information to our membership and in no way offers a commitment by the K-W Section."

We leave it to you, the reader, whether to respond to this request.

POWER ENGINEERS - COLOUR BOOK COURSE

This spring the Hamilton Section is offering a course on the Colour Books which will be scheduled for evening classes with local experts reviewing the standards and providing their experience and insight. Four Colour Books (marked * below) will be covered in seven lectures of three hours each this year, and the remaining five books will be covered in a similar period next year.

The books are named by the colour of their covers, since the titles are rather long. The IEEE member price varies from \$12.50 to \$23.00 per book. They are:

| <u>Colour</u> | <u>Recommended Practice for:</u> |
|---------------|--|
| RED* | Electric Power Distribution for Industrial Plants |
| GREEN* | Grounding of Industrial and Commercial Power Systems |
| GREY* | Electric Power Systems in Commercial Buildings |
| GOLD | Design of Reliable Industrial and Commercial Power Systems |
| WHITE | Electric Systems in Health Care Facilities |
| BRONZE* | Energy Conservation and Cost-Effective Planning in Industrial Facilities |
| BUFF | Protection and Coordination of Industrial and Commercial Power Systems |
| BROWN | Industrial and Commercial Power Systems Analysis |
| ORANGE | Emergency and Standby Power for Industrial and Commercial Applications |

Lectures will be held 7-10 p.m. in the auditorium of the Hamilton Engineering Institute - Royal Hamilton Military Institute, 61 Robinson Street, Hamilton, Ont., on the following dates in 1990:

| | |
|---------------------------|-------------------------------------|
| Tuesday, April 4: | Overview of all books in the series |
| Mondays, April 16 and 23: | RED book |
| Wednesday, May 2: | GREEN book |
| Mondays, May 7 and 14: | GRAY book |
| Monday, May 28 | BRONZE book |

The IEEE member fee of \$360.00 will include the cost of the four books to be discussed. (Non-members \$400.00, books not included.) Send the form below with cheque payable to IEEE Hamilton Section to arrive before April 5th.

For further information about the course contact Ken Peacock at 416-561-2808.

| | |
|--|--------------------------|
| PLEASE REGISTER ME IN THE 1990 IEEE HAMILTON SECTION COLOUR BOOK COURSE | |
| NAME | _____ |
| ADDRESS | _____ _____ _____ |
| TELEPHONE NUMBER | _____ SPECIFY (B) or (H) |
| IEEE MEMBERSHIP NO. | _____ (NON-MEMBER _____) |
| I ENCLOSE \$ | _____ FOR |
| A SIX LECTURES or B INDIVIDUAL LECTURES AS SPECIFIED BELOW | |
| | _____ _____ _____ |

EDUCATION FOR COMPUTING PROFESSIONALS by David Lorge Parnas

Time: Wednesday May 2nd 1990 at 7:30 p.m.
Place: Room DC 1302, Davis Centre, University of Waterloo
Speaker: Dr. Parnas is with the Telecommunications Research Institute of Ontario, Department of Computing and Information Science, Queen's University, Kingston, Ontario.

Subject:
Engineering is often defined as the use of scientific knowledge and principles for practical purposes, and today includes a broad variety of fields such as chemical, electronic and mechanical engineering. The vast majority of graduates of computing science programs become engineers, not scientists, but are they well prepared for engineering careers? The earliest Computing Science programs focussed on interests of their founders, namely artificial intelligence, abstract models of computing, compiling, computer architecture, numerical analysis, programming languages and program design. With the possible exception of numerical analysis, almost all of these programs are set up in the Liberal Arts tradition, rather than modelled on Engineering. Are these topics the best choice for those who design safety-critical control systems, or systems for telephone switching, inventory control or medical imaging? This talk seeks to provoke renewed discussion of our educational programs. It includes a strong critique of current programs and a proposal that stresses engineering and mathematical fundamentals over topics of current interest to computing scientists.

Sponsorship:

This talk is co-sponsored by the Institute for Computer Research, the Information Technology Research Centre, the Computer Science Club at the University of Waterloo, and the Computer Chapter of the Kitchener-Waterloo Section of the IEEE and University of Waterloo Student Branches A and B of the IEEE. Coffee and cookies will be served after the talk in the ICR Corporate Partner Lounge DC 1301.

ICCI'90 - INTERNATIONAL CONFERENCE ON COMPUTING AND INFORMATION Niagara Falls, Ontario May 23-26, 1990

- A - Information and Coding Theory
- B - Foundations of Computing Science, Theory of Algorithms and Programming
- C - Concurrency, Parallelism and Communications
- D - Data and Software Engineering, Database, Expert Systems, Information systems, AI Methodologies and Decision Making

For more information contact:

Dr. Waldemar W. Koczkodaj

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Sudbury, Ontario P3E 2C6

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A GREAT NIGHT OF STUDENT PAPERS

An enthusiastic crowd of 72 filled the Heritage Room at the Waterloo Inn on March 19th for the KW Section annual Student Papers Night. An excellent roast beef dinner and the introduction of special guests by Master of Ceremonies Edward Spike put everyone in a good mood for the contest.

But first, the McNaughton Scholarship was awarded to Keith Brown for his work as Operations Manager of the Conestoga College McNaughton Centre. Then, the judges for the competition were introduced: George Freeman, Fred Grossman and "Dan" Murray.

The presentations by the two teams of contestants from Conestoga College for the McKenzie Award (selected from several in preliminary competition) were made. The judges praised the high standard of both, but awarded the first prize to

Kent Forster and Derek Klaassen for their paper on

A Prosthetic Limb Controller

notable as heralding a new era in which the patient trains the limb, rather than the limb training the patient.

The second prize went to

Rab Gordanier, Brad McCloy and Mark Schah for

A Programmable Logic Controller

suitable for many industrial applications, which would be user friendly and inexpensive.

One of the two University of Waterloo contestants had withdrawn at a late hour, so the prize for the George Dufault Award went uncontested to

R.A. Fernandez, G.P. Porciello and S.C. Schefter for

A PC Based Vector Quantization System

which, by analyzing and coding the content of groups of pixels in a TV frame, was able to achieve 16 to 1 compression: this would have application to High Definition Television.

The winners, and, depending on numbers of entries, the runners-up of this and all similar contests in the Central Canada Council area, compete (by sending in their written versions) for the area wide contest. We wish them success!

And many thanks to Ed Spike and the Student Coordinators, Peter Forsham and Gord Agnew for their hard work in organizing this event.

Wednesday April 11th, 1990

Prof. Kenneth N. McKay

**INSIGHTS FROM THE LAND OF LOST SOULS:
IMPACT ON THE FUTURE OF PRODUCTION PLANNING AND SCHEDULING**

Time: 8:00 p.m.

Place: Room 1304 Davis Centre, University of Waterloo

Contact: Oleg Feldgajer 884-1710 x 360

Subject: The traditional Operations Research and Information System paradigms for the information and algorithmic structures used for planning and scheduling are relatively static and context free. This view implies that scheduling is not a skill, expert schedulers do not exist, and that a Holy Grail can be found that will produce optimum schedules in all situations without alteration. Following a short presentation on the WATMIMS Research Group, the speaker presents a different view derived from research focusing on the real world scheduling task. This has produced a set of principles for flexible decision making that extend the scope of the analysis to include temporal and context sensitive aspects. The principles are briefly summarized in conjunction with an information systems paradigm that facilitates the representation of the problem space and specification of the decision making process, and can be applied to other activities such as software project planning.

The Speaker: Prof. Kenneth McKay is the Associate Director of the Waterloo Management of Integrated Manufacturing Systems Research Group (WATMIMS), in the Department of Management Sciences at the University of Waterloo.



