

# SOCIETY of MANUFACTURING ENGINEERS TORONTO CHAPTER 26



Web: [www.sme-toronto-26.org/](http://www.sme-toronto-26.org/)

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May 2005

## Concord Steel Center Ltd. Tour 2 pm, Thursday, May 26, 2005

147 Ashbridge Circle, Woodbridge, Ontario, L4L 3R5

### About Concord Steel Center Ltd.

Concord Steel Centre Ltd. is a family owned and operated business with its inception dating back to 1976.

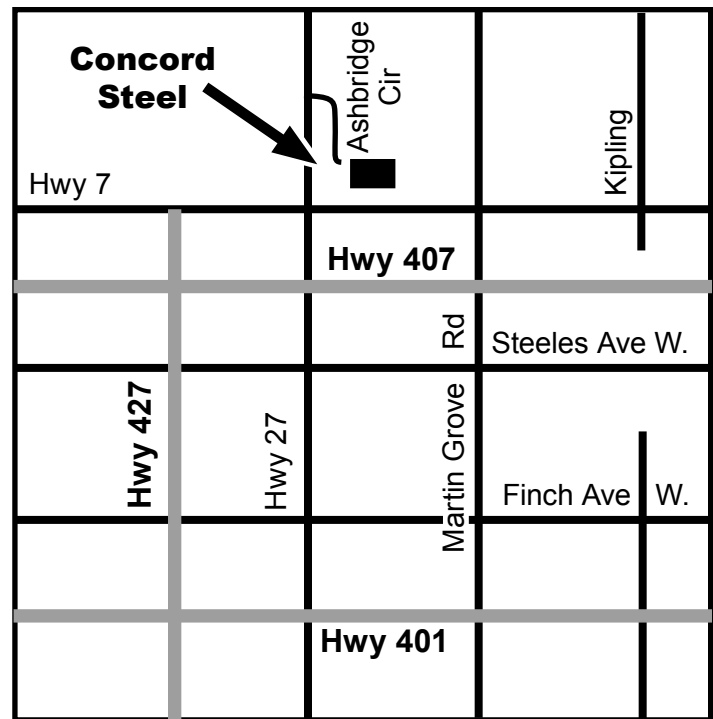
A 145,000 sq ft. top of line facility offers a wide range of services including coil slitting, shearing and cut to length. The extensive line of well-maintained modern equipment allows Concord Steel to meet the customer's demands.

Management's philosophy is based on giving first class service with respect to quality and on time delivery.

The staff at Concord steel values and fosters long-term business relationships with a wide variety of customers. Many of them have grown together with Concord Steel, benefiting from this long-standing, mutually rewarding relationship. The advantages of this personal service are a direct result of a totally dedicated family team and their competent staff.

### Concord Steel Centre Ltd.

147 Ashbridge Circle  
Woodbridge, Ontario, L4L 3R5  
Tel: (905)856-1717  
[www.concordsteel.com](http://www.concordsteel.com)



*Reservations Required by May 23. Please contact Loris Giuricich to get your name on the tour list at:*

*416-448-2225 or e-mail to [Lgiurici@celestica.com](mailto:Lgiurici@celestica.com)*

*\$12 for members (CMTDMF -Canadian Machine Tool, Die & Mold Federation- included), \$18 for non-members, student members \$6.*

# Many Thanks to our **BULLETIN PUBLICATION** and **WEB SITE**

## SPONSORS:



Information and links at: [www.sme-toronto-26.org/](http://www.sme-toronto-26.org/)

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Our continuing thanks to Professor Mark Fox, U of T, for hosting the Chapter's web site on his server at <http://www.novator.com>

### Joseph R. Benedetto Scholarship

The Application Form for the Joseph R. Benedetto Scholarship is available on the chapter web site at:

[www.sme-toronto-26.org/](http://www.sme-toronto-26.org/)

\$1000 dollars is to be awarded each spring to a Toronto area student member of SME who demonstrates potential and an intention of contributing to Canadian Manufacturing.

This award is being given by Toronto Chapter 26 of The Society of Manufacturing Engineers (SME). The purpose of SME is to promote excellence in manufacturing and to advance the profession of its sponsors and members.

Questions? Please get in touch with Ken Kogej 416-553-2440, [ken.kogej@sympatico.ca](mailto:ken.kogej@sympatico.ca)

### Executive Meeting Dates:

**NOTE:** Meetings will be held on the first Wednesday of each month: 7 September, 5 October, 2 November, 7 December, 2005. Please mark your calendars now. Location TBA.

### The SME Chapter 26 Bulletin

The SME Chapter 26 Bulletin is published eight or nine times a season by the Toronto Chapter of the Society of Manufacturing Engineers (SME). The SME provides support for people and industries in manufacturing by providing opportunities for networking, professional development and technical information. Headquarters of this 70 year old professional society are in Dearborn, Michigan. For more information or to join, phone or email the Chapter Chair, Farhad Shafiei, [fshafiei@commercialroll.com](mailto:fshafiei@commercialroll.com), or Headquarters at 1-800-733-4763. Talks and tours put on by the Chapter are listed on the Chapter web site at [www.sme-toronto-26.org](http://www.sme-toronto-26.org) Headquarters web site is at [www.sme.org](http://www.sme.org)

# THE POWER OF DISTRIBUTED COMPUTING

There is a new (old) phenomenon that is starting to be utilized in the engineering and computing world. It is called "distributed computing". The concept is simple. A group of computers is used to solve one task. One computer generally has one Central Processing Unit (CPU) in it and it can calculate only so much data. Two CPUs can calculate twice as much, etc. Take a higher number and you grow the computing power, making it scalable. These types of networks were utilized in the early days of UNIX and are now being reworked into new applications. It is called Grid Computing and, depending on the task, it is an incredibly useful tool.

Grid Computing works best where there are mass amounts of data to calculate which would take a smaller PC years. This technology has been used in scientific research for such tasks as mapping DNA, looking for the cure of cancer or smallpox, or for some of NASA's applications, like calculating trajectories and listening for signals from space etc. Engineering applications are usually FEA or Finite Element Analysis, liquid flow or stress/force analysis.

One authority on the subject, David L. Margulius, states that "Ford uses half the CPUs in its 500-machine UNIX cluster grid for vehicle design, and the other half for simulation. At night, when the designers go home, all the CPUs are allocated to simulation."

Last year, NASA was found to have bought ten 250-processor machines from SGI – (Silicon Graphics International). Super computers are real and are becoming a more viable

resource everyday.

The setups mentioned here are mostly private networks but there are some very useful networks now being formed on the Internet where a very large number of computers are interconnected via the web. There can be as many as a million CPUs - or more - for one grid project on the Internet. These projects use a downloadable screen saver you install on your machine to start and stop the calculation process. When you are not using your computer, the screen saver flips on the program and crunches the information it needs. After a batch is finished, it logs on to a central server and automatically deposits the answers and retrieves new information to work on. It does this all while you are away from your desk, or having a coffee.

Just think, your PC could help with the following:

Cure cancer <http://www.grid.org>

Find signals from space <http://seti.org>

Or calculate new algorithms for programming

<http://www.distributed.net/projects.php>

*Rick Marme*

*rmarme@axis-design.org*

*Secretary, SME Chapter 26*

## Upcoming Topics 2005-2006

**September:** Goodrich

**October:** Stamp Co

**Late November:** Machining Talk Kinametal and Ingersol; Joint meeting Moldmakers association and Bhuwan's CASI

**January:** Grinding talk (John Manly) possible joint meeting CTMA Moldmakers grinder group & installation of officers.

**February:** Rapid Prototyping tour or talk Vesna

**March:** Automotive - Honda, Toyota, Chrysler Brampton, GM Oshawa, Ford Oakville are possible options.

**April:** Gauging AVH Keith Depupi, Canadian Metalworking Magazine

**May:** AutoCAD or Z-Corp

## Product Development in Canada

The Ontario PDMA Conference will kick off the 1st event with speakers that will discuss innovation, new technology and best practises for new product/product development in Canada, as well as get a chance to meet your peers in your own backyard.

### Main Speakers:

- Innovation- Build organizational innovation capacity to sustain profitable growth, speaker: John Sutherland, Ennova Inc.
- New Technology- Successful commercialisation of new technology, speaker: Amy Lemay, Vista
- Stage-Gate Inc. - The Authentic Stage-Gate® Process for Product Innovation, speaker: Michael Wiebe, Stage-Gate, Inc
- The Networking Tango- Meet your peers in the field of Product development, coach: Shayne Smith, Wardrop Engineering

**Date:** Thursday, June 16th, 2005

**Time:** 7:30 am – 12:00 pm

For more information and online registration, see the Ontario Product Development & Management Association web site at [www.ontariopdma.ca](http://www.ontariopdma.ca) or send email to [info@ontariopdma.ca](mailto:info@ontariopdma.ca)