

# SOCIETY of MANUFACTURING ENGINEERS

## TORONTO CHAPTER 26

### APRIL 2002



<http://www.sme-toronto-26.org/>



## Talk: Product Development: New Methods of Bringing Your Product to Market

Speaker: Stephen C. Armstrong, President AMGI Inc.

This month we focus on juggling deadlines, budgets and reducing engineering changes.

Wednesday April 3, 2002

Cash Bar at 5:30, Dinner 6:00 pm, Talk at 7:00 pm

Giorgio D Ristorante, 4377 Steeles Ave West, Downsview, ON, 416 661-8989

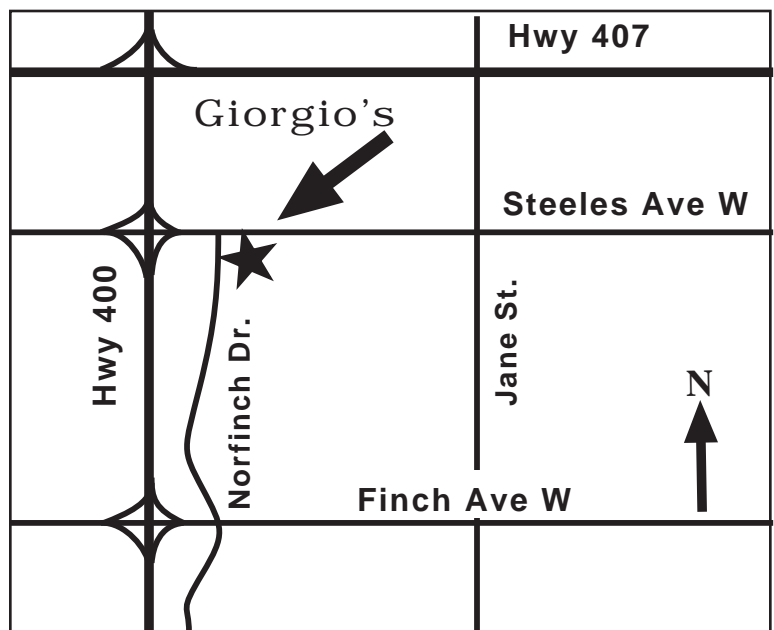
[www.giorgiod.com/giorgio/main.html](http://www.giorgiod.com/giorgio/main.html)

**The Talk: Mr. Armstrong** will share with us some of his insights as he helped implement Integrated Product Development (IPD) in companies like British Aerospace Military, deHavilland Aircraft, Lockheed Martin, Bombardier Aerospace, Messier-Dowty Aerospace, McDonnell Douglas, and many non aerospace companies

Efforts to improve the engineering process typically originate from one of six bodies of knowledge. They are each fundamentally sound, and broadly accepted in modern management theory. Despite the best intentions, implementing one in isolation invariably leads to little real improvement, or worse yet, open conflict among managers. Collaborative Product Development (CPD) integrates the best thinking from all six. This helps companies get their products to market in half the time resulting in a dramatic reduction in product development and manufacturing costs.

**Speaker:** Stephen Armstrong served a five year Aeronautical Engineering Apprenticeship in the UK. He went on to become a Professional Engineer, and Certified Management Consultant. He has headed AMGI, a Toronto based consulting practice, for seven years and has led many of the world's leading aerospace companies to successfully implement IPD.

See [www.amgimanagement.com](http://www.amgimanagement.com)



Register today for this event with Loris Giuricich 416-448-2225, [Lgiurici@celestica.com](mailto:Lgiurici@celestica.com) or Ken Kogej 416-402-3146, [Ken-dante.msn@attcanada.net](mailto:Ken-dante.msn@attcanada.net)

\$30 for members (CMMA & CTMA included), \$35 for non-members and \$20 for students

**Our theme for the year: FUTURE GROWTH AREAS IN MANUFACTURING**

<http://www.sme-toronto-26.org/>

Page 1

## *Bobrick Canada Requires Students this Summer*

Summer student replacements are needed this year at Bobrick which is looking for 4 to 6 people to assist in factory-assembly and fabrication duties. Resumes to: Human Resources Department - Summer Work Program, Bobrick Canada, 45 Rolark Drive, Toronto, M1R 3B1. Please use regular paper format to mail to the above address or a resume saved as Word RTF format and attached to an email to: [tlucas@bobrick.com](mailto:tlucas@bobrick.com).

## *We are seeking:*

VOLUNTEERS to help run the Chapter. Please get in touch with Joe Benedetto, if you can spare a little time, 416-267-2102 or [jrbene@attglobal.net](mailto:jrbene@attglobal.net)

PROGRAM/TALK/TOUR SUGGESTIONS. We want to offer talks and tours of interest to our members. If you have a suggestion please get in touch with Ken Kogej, 416-274-2540 or [Ken-dante.msn@attcanada.net](mailto:Ken-dante.msn@attcanada.net)

## *Bulletin Copy Deadlines*

**NOTE: Send material to Jenny Ono Suttaby at [jono@jentekcompany.com](mailto:jono@jentekcompany.com) by the following dates for inclusion in the upcoming Chapter Bulletin:**  
May Issue: April 7  
June Issue: May 7

## *Your Company Flyer Bulletin Enclosure Opportunity*

Chapter 26 is offering companies the opportunity to enclose their company flyer in our monthly Bulletin mailing. The piece to be included must meet the following criteria:

- 500 folded flyers ready for stuffing into a #10 envelope supplied by 1 week after copy deadline.
- Is of interest to our membership - is manufacturing oriented (we don't want life insurance or travel brochures)
- Weighs less than 3 sheets of 8.5 x 11 in 20 lb bond paper. Larger items could be negotiated.

We reserve the right to reject pieces we do not feel to be consistent with our professional goals and objectives. Our mailing list is currently over 400 manufacturing professionals. The current price is \$300 per issue. We reserve the right to change any of the above items without prior notice. For more information please get in touch with Ken Kogej, 416-274-2540 or [Ken-dante.msn@attcanada.net](mailto:Ken-dante.msn@attcanada.net)

## *THIS SEASON: Topics & Schedule 2002*

Wednesday, April 3. Talk, Stephen Armstrong, AMGI Management Consultants Inc.

Wednesday, May 1. "Robotics for Manufacturing - Where is it Going?" Evening tour and presentation by Fanuc Robotics

Wednesday, June 5. RP Overview and Update Panel

## *From SME Headquarters:*

Register now for CASA/SME's 1st On-Line Tech Forum... **"Creating the Virtual Enterprise" Challenges for the Manufacturing Professionals, Tuesday, May 21, 2002, 11:00 am. to 2:00 pm. E.T.** Check out this exciting new event: From the convenience of your desktop computer, you'll participate with other manufacturing professionals in this informative technical session that will focus on Web-based services, collaborative product realization, and managing people and products from a distance. [http://www.sme.org/cgi-bin/getgmnpage.pl?casa/casa\\_virtual\\_forum.htm&&CASA&](http://www.sme.org/cgi-bin/getgmnpage.pl?casa/casa_virtual_forum.htm&&CASA&)

## *Executive Meetings*

**EXECUTIVE MEETINGS 2002 6:30 pm start:**

Thursday, March 21, 115 Brookside Ave

Thursday, April 11 EXECUTIVE PLANNING MEETING, 28 Kildeer, 6:30 pm

Thursday, April 25

Thursday, May 30

Thursday, June 13

For additional information on the next meeting phone 416-274-2540 or email: [Ken-dante.msn@attcanada.net](mailto:Ken-dante.msn@attcanada.net) or [gheintzman@sympatico.ca](mailto:gheintzman@sympatico.ca)

## *Note: The Joseph R. Benedetto Scholarship*

The Application Form for the Joseph R. Benedetto Scholarship is now available on the chapter web site at [www.sme-toronto-26.org](http://www.sme-toronto-26.org).

## *PROGRAM COMMITTEE*

Programs, Bruce Keeling, 416-239-2811, [bandi@sympatico.ca](mailto:bandi@sympatico.ca)

Robert Hope, R.B. Hope Industries Inc., [bob@rbhope.ca](mailto:bob@rbhope.ca)

Advisor, Joe Benedetto, JRB Enterprises, 416-267-2102  
[jrbene@attglobal.net](mailto:jrbene@attglobal.net)

## EXECUTIVE LIST

Office	Name	Company	Phone	Email
Chair	Ken Kogej	Fuchs Lubricants Canada Ltd.	416-274-2540	Ken-dante.msn@attcanada.net
2nd Vice-Chair	John Wagner	Hamond Industries	905-761-9094	dovmargiewagner@home.com
Secretary	Paul Ellis	Tristar Metal Stampings Inc.	905-851-7724	paulellis7@hotmail.com
Treasurer	John Camarda	Ryerson University	416-445-5784	camarda@uReach.com
Past Chair	George C. Heintzman	Systems Consultant	416-467-8298	gheintzman@sympatico.ca
Past Chair/Education	Peter J. Morgan	MURO North America Inc.	905-451-7667 X233	pmorgan@muro.com
Executive Advisor	Joe Benedetto	JRB Enterprises	416-267-2102	jrbene@attglobal.net
Programs	Bruce Keeling		416-239-2811	bandi@sympatico.ca
Program Advisor	Robert Hope	R. B. Hope Industries Inc.	416-465-7603	bob@rbhope.ca
Tours	Loris Giuricich	Celestica Inc.	416-448-2225	Lgiurici@celestica.com
RP Liaison	Vesna Cota	Tyco Electronics Canada Ltd.	905-474-5541	vcota@tycoelectronics.com
Bulletin & Web Editor	Jenny Ono Suttaby	Jentek Company	416-761-1810	jono@jentekcompany.com
George Brown Stu Advisor	Franz Aschwanden	Professor	905-775-3759	sfasch@netcom.ca
U of Toronto Stu Advisor	Beno Benhabib	Professor	416-978-3447	beno@mie.utoronto.ca
Chair U of T Stu Ch	Andrew Low Ah Kee	U of T Student		andrew.lowahkee@utoronto.ca
Ryerson U Stu Advisor	Farrokh Sharifi	Professor	416-979-5265	fsharifi@acs.ryerson.ca
Chair Ryerson Stu Ch 165	Jason Samara	Ryerson Student		msamara@iprimus.ca

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>

### *Honda Tour Review March 6, 2002*

Great tour. What makes a great tour? Well informed guides that answer all the questions. Head phones and an FM mike so we could hear the well informed guide. A Civic driven off the line every 73 seconds. Several hundred robots, elevators, and mechatronic devices all working together. Programmable tooling that can make 7 different near same size cars on the one line. The smooth operation of the just in time inventory system.

But for me the most impressive aspect was the total effort to build quality cars. Everybody is treated as equal contributors to this goal. They all wear white uniforms - even the president. He doesn't have a closed office - this to send a message that everybody is to talk to everybody else about building quality cars. All production workers have the same base pay. New hires reach this level in 18 months. Bonuses are paid for suggestions, attendance at safety and quality seminars. Production is organized into teams of twenty workers. The jobs rotate every 2 hrs - you won't do the same job again for 40 hours. There are three reasons for this: prevent boredom, cross training to create a pool of talent, and to provide feedback on quality to each other.

Their suggestion program, called REACH, is designed to capture the best ideas for product and process improvement. When you accumulate 10,000 points you are presented with a brand new civic - in front of all your peers. Several examples of tools and fixtures were pointed out on the line - for example a tool for putting 4 nuts on a wheel at one time. The Extensive training areas where operations could be practiced and exams passed prior to going on to the line.

The pervasive, all encompassing, total effort to create a focus on building quality cars impressed me.

*George Heintzman  
gheintzman@sympatico.ca  
Past Chair*

### *Kyoto Accord - Opportunity or Job Loss*

It bothers me that so much of the commentary on Kyoto deals with the problems and not with the opportunities.

All of the progress that we call increased standard of living has had these two aspects: Job loss and job gain. That is what progress is all about.

Kyoto is very important. All other celestial bodies we know of are in physical equilibrium. Earth isn't. Earth is in a biological equilibrium. That is why we are unique in having so little CO2 and having free oxygen. This equilibrium we are changing very quickly.

To slow this change we must wean ourselves from fossil fuels. We have to embrace solar and wind. Imagine the manufacturing opportunity if we manufacture and installed 1000 sq ft of solar panel per person or about 10kw per person, or about 300Mkw. In addition we install a 1.4mw 100M wind turbine for every 1000 people for another 46 MMW of electric power. Now imagine the HVDC grids needed to move this power around. Imagine the pumped storage installations to store this power. There is a huge manufacturing opportunity. In addition if energy costs rose a bit people would insulate their houses. And buy hybrid cars running on biofuel with solar panels on the roof.

We have choices. We can embrace this opportunity or let the changing environment kill everything. And either way we will have job loss and job gain. If we make good choices we will have a better standard of living than if we make bad choices. I urge you to engage your fellow man in this discussion so that we may make good choices.

*George Heintzman  
gheintzman@sympatico.ca  
Past Chair*

# Many Thanks to our BULLETIN PUBLICATION and WEB SITE SPONSORS:



A & M HEAT TREATING LTD.



Novator & Co.

Information and links at: <http://www.sme-toronto-26.org/>

**Treco**  
High Precision Machining

## *Where the Jobs Will Be: The coming explosion in robots*

Isaac Asimov and Karen A. Frankel (Robots - Harmony Books - 1985) trace the origin of robots back to clockwork animals of the 1700's and Frankenstein by Mary Shelly (1816). Everything has changed since then: Motors and actuators including linear motors, sensors, materials, design systems, and controllers. Now they seem to be exploding off in diametrically opposite directions: Specialized and Generalized. But what ever the direction, there will be jobs in the design, production, programing and use of robots.

### **Specialized**

These are generally less than 12 degrees of freedom. They are application specific such as welding, assembly, painting, and inspection. The big thrust here is sensors and control. Sensors provide the feed back to allow for better positioning and control of the process. For example welding - the sensors tell the system where the material is, what the temperature is, what the current is, what the gas flow is etc. Control means that in addition to the movement of the welder you can also coordinate this motion with the movement of the material and pieces being welded.

In this category I would include the robot lawn mower. It has a battery and an area to cut. It goes and cuts until it needs a recharge. It then returns to a docking station

where it fills up its batteries. It then remembers what it has not yet cut and goes and cuts it.

### **Generalized**

These generally have twelve or more degrees of freedom. I was impressed by a review of different robots for hazardous environments on TV the other night. (A cave in Afghanistan full of baddies and stuff that burns energetically certainly qualifies as a hazardous environment for me.) They search for mines, go into fires, measure stuff in volcanoes, have water cannons to blast explosives to pieces, and remove suspicious bags. The newspaper last week described a 2 meter long submarine that will spend a week and a half under the arctic ice measuring currents and temperatures. Boeing is making several different unmanned aircraft for intelligence gathering, electronic warfare, and the delivery of ordinance (military speak for blowing stuff up).

Much of the capability of modern robots was developed in the last two decades and was made possible by electronics. Sensors, design systems and control systems. The electronics is still way ahead of its exploiters. Much more is currently possible than is currently available. There will be jobs in robots.

*George Heintzman*  
*gheintzman@sympatico.ca*  
*Past Chair*

## *NB: Please -update Your Information*

*Please* check that your information in the SME headquarters database is correct!

Phone (toll free): 1-800-733-4763. Website: <http://www.sme.org/>

You can renew your membership on line by clicking on "Renew Membership" in the Member Services section.