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Coming Events

- ▶ Sarnia Section ISA Show
February 23, Holiday Inn
- ▶ Sarnia ISA Golf Tournament
June 11, 1999

ISA President's Address

Well, 1998 seems to have come and gone in a blink. As a Section, we are still holding a good membership status, our show committee was renewed and is doing an excellent job working towards our next show on Tuesday, February 23, 1999. Our Annunciator has a new face and our Sarnia ISA Directory is right off the press. We participated in Engineering Week, the Science fair and promoted our Student Section's participation at Expo '98 in Houston. We chose the V.O.N. as the receiver of our gift donation and we participated in all the President's and District Meetings. We ran an excellent Golf Tournament and closed out the year with an excellent Section Budget. A good job by everyone and thanks especially to all our members. Your participation is rewarding.

A couple of points before I go. Does anyone have any good speaker topics and or speakers, we are always looking for relevant material. Also, as an executive, we are looking at whether we should

continue our participation in Engineering Week. We don't seem to get any miles out of it, somehow the whole theme seems to have disappeared. I would appreciate your thoughts and views.

At our Dinner Meeting on January 25th, 1999 I will present a plaque from ISA to a member of Fred Sheane's family. Fred was awarded the Donald P. Eckman Education Award (posthumously) for significant contribution towards education and training by conceiving, creating and managing a highly effective partnership between industry and academia for the Centre for Advanced Process Technology (CAPT) in Sarnia, Ontario, Canada.

I hope you all had a very safe and Merry Christmas and a Happy New Year. Now we go into the countdown for the new millenium... How Exciting!

Thank you,

Mike Murray

ISA Now Available!

The New Sarnia ISA Directory is now available. Pick up your copy at the January 25th, 1999 Dinner Meeting.



SARNIA SECTION
ISA Directory of Instrumentation 1999



ISA is the international society for measurement and control®

Engineers Explained

People who work in the fields of science and technology are not like other people. This can be frustrating to the non-technical people who have to deal with them. The secret to coping with technology-oriented people is to understand their motivations.

This article teaches you everything you need to know. I learned their customs and mannerisms by observing them, much the way Jane Goodall learned about the great apes, but without the inconvenience of grooming the subjects.

Characterization...

Social Skills: Engineers have different objectives when it comes to social interaction. Normal people expect to accomplish several unrealistic things from social interaction:

- *stimulating and thought-provoking conversation,*
- *important social contacts, and*
- *a feeling of connectedness with other humans.*

In contrast to normal people, engineers have rational objectives for social interactions:

- *Get it over with as soon as possible,*
- *Avoid getting invited to something unpleasant, and*
- *Demonstrate mental superiority and mastery of all subjects. Ideally, an engineer's IQ should exceed his or her weight by 10%.*

Fascination with Gadgets: To the engineer, all matter in the universe can be placed into one of two categories:

- *things that need to be fixed, and*
- *things that need to be fixed after you've had a few minutes to play with them.*

Like to solve problems: If there are no problems handy available, they create their own problems. Normal people don't understand this concept; they believe that if it ain't broke, don't fix it. Engineers believe that if it ain't broke, it doesn't have enough features yet.

No engineer looks at a television remote control without wondering what it would take to turn it into a stun gun. No engineer can take a shower without wondering if some sort of Teflon coating would make showering unnecessary. To the engineer, the world is a toy box full of sub-optimized and feature-poor toys.

Fashion and appearance: Clothes are the lowest priority for an engineer, assuming the basic thresholds for temperature and decency have been satisfied. If no appendages are freezing or sticking together, then the objective of clothing has been met. Anything else is a waste.

Love of STAR TREK: Engineers love all of the STAR TREK television shows and movies. It's a small wonder, since the engineers on the



DINNER MEETING NOTICE

Monday, January 25, 1999

SARNIA GOLF & CURLING CLUB

500 Errol Road West, Sarnia • Phone: (519) 336-2201

Cocktails 6:00 p.m. Dinner 7:00 p.m.

All Guests are Welcome!

Guest Speaker...

RUDY POSEIKA, CB Engineering

"STRUCTURE OF COMPONENT OBJECT BASED MODULES INCLUDING LIVE EXAMPLES FROM LEADING SOFTWARE AND HARDWARE VENDORS"

M ▶ E ▶ N ▶ U

Chicken Noodle Soup
Prime Rib, Honey Glazed Carrots, Mashed Potato
Lemon Meringue Pie

** For special dietary needs contact Hilda White at the Sarnia Golf and Curling Club 48 hours prior to meeting date.*

NOTE: Kindly book before deadline indication.

New!

Please phone in or E-Mail your reservation by Thursday, January 21st, 1999 to Sandi Cooke - Tidball

Phone: (519) 481-3202 • E-Mail: cookets@novachem.com

MEMBERS \$10 ▶ GUESTS \$15

NOTE: ALL Members and guest are requested to reserve in advance. Please oblige... we need your support to plan your evening!



Upcoming Meetings

Executive Meetings

February 22, 1999
April 26, 1999
June 28, 1999
August 30, 1999
October 25, 1999

Dinner Meetings

January 25, 1999
March 29, 1999
May 31, 1999
September 27, 1999
November 29, 1999



ASK THE EXPERTS

Commonly Used Terms in Flow Measurement

Ever wondered what a Reynolds number or velocity profile really means? Here are some helpful definitions to the most common terms used in flow measurement.

Density...

Used to describe the mass per unit volume of a fluid. Water has more mass per cubic foot than air, so its density is higher.

Viscosity...

Refers to how much a fluid resists flowing. For example, try stirring a vat of honey. The viscosity of the honey is high, so therefore stirring it will be difficult.

Reynolds Number...

A combination of all the factors that influence the flow in a pipe, including pipe diameter, density, velocity and viscosity. With this combination, we can describe flow in a pipe with a single number. For instance, if a flow has a Reynolds number of 100,000, it will act the same as flow in another pipe with a Reynolds number of 100,000.

Velocity Profile...

When a fluid moves through a pipe, friction tends to slow down the fluid near the walls. That means the flow near the wall is moving slower than the flow nearer the centre of the pipe. The term "flow profile" is used to describe how the flow velocity varies in different parts of the pipe.

Beta Ratio...

Applies to differential pressure producers, like the V-Cone Flowmeter. A beta ratio describes how much open area is left in the pipe after the V-Cone is installed. A small beta such as 0.45 means just a little of the pipe is still open.

Digital Signal...

A digital signal is a series of electronic pulses being sent out through the wires attached to the meter. These pulses correlate to the amount of flow going through the meter. For example, a meter may send one electronic pulse for every 100 gallons of water passing through it.

Analog Signal...

This is another type of signal from meter electronics. A common analog signal is in the form 4 to 20 milliamps. The meter sends a continuous signal of current, where 4 mA typically means zero flow and 20 mA means maximum flow. The main difference between digital and analog signals is the analog is a continuous range, where as a digital signal is broken into pulses.

Communication Signal...

The last type of signal is referred to as a communication protocol. This implies that the meter is communicating with the control or data acquisition system. The protocol simply defines how the two instruments will "talk". This type of signal takes advantage of the smart capabilities of today's instrumentation.

Distributed by McCrometer "The Flow Measurement Specialists"

<http://www.mccrometer.com>

starship Enterprise are portrayed as heroes, occasionally finding rewarding relationships with aliens. This is much more glamorous than the real life of an engineer, which consists of hiding from the universe and finding fulfilment without the participation of other life forms.

Dating and Social Life: Dating is never easy for engineers. A normal person employs various indirect and duplicitous methods to create a false impression of attractiveness. Engineers are incapable of placing appearance above function.

Fortunately, engineers have an ace in the hole. They are widely recognized as superior marriage material — intelligent, dependable, employed, honest, and handy around the house. While it's true that many normal people would prefer not to date an engineer, most normal people harbour an intense desire to mate with them, thus producing engineer-like children who will have high-paying jobs long before losing their innocence.

Male engineers reach their peak of attractiveness later than normal men, becoming irresistible dynamos in their mid-thirties to late fifties. Just look at these examples of irresistible men in technical professions:

- Bill Gates,
- MacGyver,
- Et Cetera.

Likewise, female engineers become irresistible at the age of consent and remain that way until about the time they are declared clinically dead.

Honesty: Engineers are always honest in matters of technology and human relationships. That's why it's a good idea to keep engineers away from customers, romantic interests, and other people who can't handle the truth.

Engineers sometimes bend the truth to avoid work. They say things that sound like lies but technically are not because nobody could be expected to believe them.

The complete list of engineer lies is listed below:

- I won't change anything without asking you first.
- I'll return your hard-to-find cable tomorrow.
- I have to have new equipment to do my job.
- I'm not jealous of your new computer.

Power of concentration: If there is one trait that best defines an engineer it is the ability to concentrate on one subject to the complete exclusion of everything else in the environment.

This sometimes causes engineers to be pronounced dead prematurely. Some funeral homes in high-tech areas have started checking resumes before processing the bodies. Anybody with a degree in electrical engineering or experience in computer programming is propped up in the lounge for a few days to see if he or she snaps out of it.

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ISA INSTRUMENT SHOW

February 23, 1999
Holiday Inn, Sarnia

Covering All Aspects of...

**INDUSTRIAL INSTRUMENTATION,
PROCESS MEASUREMENT AND CONTROL**

See the Latest Advances in Technology and Applications

SHOW HOURS... Tuesday, February 23 11a.m. - 7 p.m.

Sponsored by... SARNIA SECTION ISA



Position

Position	Incumbent	Phone	Fax	E-Mail
President	Mike Murray	383-1709	339-0481	mmurray@suncor.com
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Program Assistant	Jim Dinkel	869-8558	869-2957	dinkeljh@ebtech.net
Honours & Awards Chairman	Aldo DeSantis	344-4300	344-0042	aldo@controvalve.com
Honours & Awards Assistant	Guy Salt	344-4300	344-0042	gsalt@controvalve.com
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Membership Assistant	Glen Williamson	481-3202	481-3336	williaga@novachem.com
Student Section Liaison	Mike Grey	542-7751 ext.308	542-6667	mike.grey@lambton.on.ca
Standards and Practices Chairman	Don Murch	431-1916	431-1127	murch@ebtech.net
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ISA Show Committee Chairman	Wayne Wilkins	331-1063	337-8054	summa@idirect.com
Golf Tournament Chairman	Gary Coles	541-2360	541-2394	mvfsar@xcelco.on.ca

MEMBERSHIP FORM

INSTRUMENT SOCIETY OF AMERICA

This form may be used by any interested person wanting to join ISA or ISA International, including students. For assistance contact ISA Member & Customer Service at (919) 549-8411.

Please type or use block letters. Sign and date below, in Section 3.

1 Name _____ Male Female Birthdate _____
 Company Name _____ Division/Works _____
 Position/Title _____
 Check here if you are a full-time student and complete the following: School _____ Year of Graduation _____
 Mailing Address: Home Work NOTE: Student member applicant, please list permanent home address.
 Street Address / P.O. Box _____ Mail Stop _____
 City _____ Country _____ Postal Code _____ Fax _____ Telex _____
 State / Province _____
 Telephone (include area code or country/city code) _____
 Have you ever been a member of ISA? Yes No Previous years of membership _____ section or the section closest to my home address.
 Assign me to the _____
 Highest Education Degree: Eamed High School Associate Bachelor Master Doctorate
 Are you a registered professional engineer? Yes No State / Country Registered _____
 From time to time we may make our mailing list available to companies whose products or services may interest you, please check this box. We will respect your wishes.

2 NOTE: Sections 2, 3 and 5 must be completed for processing.
 Check your primary job function:
 A: General or Corporate Management
 B: Control Systems Engineering
 C: Design Engineering
 D: Production Engineering
 E: Plant Engineering or Maintenance
 F: Software Engineering
 G: Plant Information Systems
 H: Systems Integration
 I: Measurement, Testing, Quality or Standards
 J: Research and Development
 K: Technical or Engineering Support
 L: Operations
 M: Purchasing or Procurement
 N: Education or Training
 O: Marketing or Sales
 P: Other: Describe: _____
 What is the primary end product manufactured or service performed at your company location? _____
 Check here if no manufacturing is done at this location.

3 Signature _____
 Date _____

4 AUTOMATION & TECHNOLOGY DIVISIONS - Also enroll me at \$5.00 each in the Divisions checked below. To join Divisions you must also enroll as a regular or student member.
 (A) Analysis (U) Test Measurement*
 (B) Robotics & Expert Systems (V) Automatic Control Systems*
 (C) Computer Technology (W) Telemetry & Communications
 (D) Open Systems Interconnection (X) Electro-optics
 (E) Process Measurement & Control (Y) Management
 (F) Instrumentation & Control

5 DUES PAYMENT INFORMATION
 Please select the level of membership for which applying:
 Regular Member \$65 US (Tax Deductible) \$ _____
 Student Member \$9 US (Limited Benefits) \$ _____
 Division Membership \$5 US each \$ _____
 Industrial Computing Society Membership (reg. \$55) \$30 - must be an ISA Member \$ _____
 TOTAL AMOUNT DUE \$ _____
 Annual ISA dues include a subscription to INTECH, for which a non-deductible allocation of \$6.00 is made for regular members and \$3.50 for student members.
 NOTE: The following are acceptable for remitting dues payment. Please indicate the method used. Make cheques payable to Instrument Society of America in US Currency only. If paying with international funds, see special note below.
 Check Money Order American Express Eurocard MasterCard Visa
 Account# _____ Expiry Date _____
Special Note Regarding Transfer of International Funds
 Credit Card Payment is preferred; checks with proper MICR bank encoding must be drawn on your bank's correspondent NY or other US bank. Amount payable to ISA must include any bank or other processing charges.
 Wire Transfer - Add \$5.00 US for processing. Send to ISA Account #1126294, Central Carolina Bank, ABA055100465. Transfer must show applicant's name and address.
 UNESCO Coupons Money Order - Add \$5.00 US for processing.
 Mail completed form and payment to:
 Instrument Society of America
 Member & Customer Services
 P.O. Box 3581
 Durham, North Carolina 27702
 USA
 If paying by credit card, fax to: (919) 549-8288

Industries & Sciences Divisions
 (R) Aerospace Industries*
 (S) Food & Pharmaceutical Industries*
 (T) Textile Industry
 (U) Automotive & Vehicular
 (V) Chemical and Petroleum Industries*
 (W) Construction & Design*
 (X) Water & Wastewater Industries
 (Y) Glass & Ceramics Industries
 (Z) Power Industry*
 (AA) Marketing & Sales*

*Students are entitled to one free membership each in the Automation & Technology and Industries & Sciences Divisions. Please choose and mark the asterisked selections.