March 2001

ANNUNCIATOR

SARNIA ISA SECTION

Contents

ANNOUNCEMENT

Vendors are invited to display their products at the Dinner Meetings. 2 tables are available. Contact Program Committee Don Murch or Glen Fournier. Cost $50 per table.

ISA Science Fair

▸ April 6-7, 2001
Lambton College

ISA Engineering Week

▸ April 19-20-21, 2001
Lambton Mall
Theme: "eBusiness"

DINNER MEETING NOTICE

MONDAY

March 26th, 2001

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 SPEAKERS...

SCOTT LEIS, *Director of Sales at DETECTOR ELECTRONICS*
TOPIC: Optical Flame Technologies, including ultraviolet (UV), Infrared (IR), (UV/IR), and Multispectrum dual and triple IR technologies.

M ▸ E ▸ N ▸ U

Cream of Potato Leek Soup
Stuffed Pork Loin • Baked Potato • Fresh Vegetable Medley
Apple 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.

Please phone in or E-Mail your reservation by...
Thursday, March 22nd, 2001 to... MAUREEN LYNAS
Phone: (519) 336-3006 • Fax: 344-0607
E-Mail: maureen.lynas@willereng.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 Dinner Meetings

- May 28th, 2001

ISA Golf Tournament

- June 8, 2001

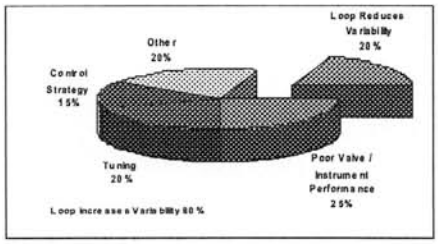
More information will follow.

Sarnia Section ISA Show Highlights

Attended by over 300 people from the Sarnia Industrial Base including surrounding areas of London, Chatham and Windsor.

Deriving Economic Benefit From Regulatory Loop Variability Reduction Initiatives

It is an oft stated fact that 70 to 80% of regulatory loops in process industries do not perform correctly. Rather than reducing process variability these poorly performing loops act to increase variability which is the exact opposite outcome that was intended when these loops were installed. The main reasons for this poor performance are summarised in the following chart:



For those who are responsible for the performance of thousands of loops this raises an ugly question.

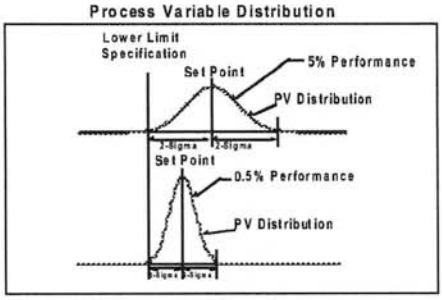
Where do you start?

It is obvious for most large process plants that there is neither the time nor the money to address every poorly performing loop. The answer to this fundamental question is remarkably simple (in theory): First, fix the problem which is costing your plant the most money. Although remarkably simple in theory, the practical implications of using this approach are quite daunting.

Those of us in the variability reduction industry have long relied on the concept that the worst performing loop (eg. one in which the control valve cycles from fully open to fully closed) should be fixed first. However, there is no evidence that this approach delivers the best "bang-for-the-buck". In many cases improving the performance of a key loop over making improvements in worse performing loops in less key locations generates significantly higher returns on investment.

There are numerous challenges in determining such key loops. However, the most important is that without a proper understanding of the economic impact of process variability, there is little hope of systematically being able to identify the key loops. There is usually significant work required to develop such an understanding long before one begins the work associated with identifying the poorly performing loops.

The argument that is often used to economically justify variability reduction is that by reducing variability one can achieve the required quality specification with a setpoint which is more economically favourable. This concept is illustrated in the figure below for, say, the addition rate of an expensive reagent to meet a target concentration in a final product:



Although this concept is useful in developing an understanding of the savings that can be realised by variability reduction, savings in raw material costs are not the only incentives for variability reduction. Indeed, increased productivity, delay in capital expenditures for capacity enhancements, better yield and improved process online time due to reduced variability can often dwarf raw material savings.

Systematic economic benchmarking of the cost of variability, followed by a focussed technical assessment of loop performance has numerous advantages over methods which concentrate only on the technical aspects of loop analysis.

First, such an approach will identify prime economic process variables for which one will have placed an economic value for reducing their variability to a residual amount. By collection and analysis of these data signals it is possible to quickly identify frequency signatures within the data which allow the technical personnel to quickly eliminate loops within a system that are not among the root causes of variability. This can quickly allow one to hone in on key loops, often more than making up for the extra time spent up front with the economic analysis. Of course, one can also be reasonably assured of fixing problems which will deliver significant economic benefits to the process plant.

Second, this approach means that once key loops have been fixed, there is already a framework in place to generate documentation which clearly "dollarizes" improvements made. This approach makes it much easier to defend variability reduction initiatives come budget time.

Terrence L. Koehler

President's Message

Our table top show is now a past event, however we should be applauding the committee who has devoted their time, their efforts, sacrificed some of their company work and some of their family quality time for the benefit of all the Sarnia members. As in many situations we cannot please every one but efforts are made to fulfill every ones needs. Unfortunately some of our partners do not believe that compromises are made to help the situation and to the benefit of everyone and I am certain that these circumstances do not merit any heated discussions and are indeed not necessary. One must always keep in mind we are all volunteers and it becomes easier for all when we all work together. To the show committee, Wayne Wilkins, Marc Bouffard and Kevin Kuindersma, our thanks for your efforts and success and to your companies our thanks for allowing you to participate on this committee. We really appreciate your dedication and sincerity in making this year's show a success, we hope that your new experience will help your forth-coming endeavours.

On another note, I attended the president's meeting on your behalf. It is gratifying to see how successful we function in our Section. We may be not outstanding but we are certainly being recognized and respected by our peers as a successful operating unit. This is the fruit of your help and support.

Again I wish to remind all of you that we will be in need of your help for about two hours to participate at the Lambton Science Fair and during Engineering week in April. Where you aware as an ISA member you can now have your personal free e-mail address through the ISA web (yourname@member.isa.org) try it. Simply call up the web page ISA.org. and sign on. A second e-mail address is sometimes beneficial.

See you all at the General meeting on Monday March 26.

Regards... Randy Dennie, President, ISA Sarnia Section

2001 Directory

NOW AVAILABLE!

The 2001 Sarnia ISA Directory is now available.

Call...
(519) 332-2300
for details.

The Sarnia Section has a domain on the internet.
Next time you're on the net give us a look at:
www.isasarnia.com

Executive 2000-2001

Position	Incumbent	Phone	Fax	E-Mail
President	Randy Dennie	337-8252 ext. 5871	339-7723 (W) 542-0179 (H)	rdennie@sympatico.ca
Vice-President Science Fair, Engineering Week, Donations	Kalpen Vachharajani	332-1717 ext.237	332-8715	vachharajani@paton.org
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Assistant Treasurer	Andy Tucker	383-3704	383-8285	andy.tucker@honeywell.com
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Honours & Awards Assistant	T.B.A.			
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Membership Assistant	Glen Williamson	481-3202	481-3336	williaga@novachem.com
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Standards and Practices Assistant	T.B.A.			
Education Chairman, Courses & Seminars	T.B.A.			
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ISA Show Committee Chairman	Wayne Wilkins	383-0922	383-0534	wwilkins@samsoncontrols.com
ISA Show Committee Assistant	Marc Bouffard	336-8820 ext. 229	336-2033	bouffard@tct.net
Golf Tournament Chairman	Gary Coles	337-0777	337-4445	mvfsar@xcelco.on.ca
Golf Tournament Assistant	Gerry McKone	332-2300	332-6640	gerry.mckone@frco.com
DVP	Hank Rasanen	905-877-8786	905-877-0428	
DVP Elect	Mike Murray	383-1709	339-0481	mmurray@suncor.com
Dist 13 Admin. at RTP	Bill Palmer	919-549-8411	919-549-8288	wpalmer@isa.org

ISA Membership Application

❑ **JOIN ONLINE TODAY AT www.isa.org OR,**
❑ **MAIL** this form to: ISA, PO Box 3561, Durham, NC 27702-3561, USA **OR,**
❑ **FAX** to (919) 549-8288 (credit card required) **OR,**
❑ **CALL** ISA Member & Customer Services at (919) 549-8411

ISA is the international society for measurement and control®

Sponsor Name: JAMES CALLERY
Sponsor Member No.: 20084286

Please print clearly. Sign and date below.

1 MEMBER INFORMATION

❑ Mr. ❑ Ms. ❑ Dr. _____
Name Last/Family First/Given Middle Initial

Company Position/Title

The following is your: ❑ Home ❑ Office ❑ School address.

Street address/PO Box Mail Stop

City State/Province Postal Code

Country E-mail

Telephone (include area code or country and city code) Fax

Birth date (month/day/year) ___ - ___ - ___ Are you applying for Senior Membership? ❑ Yes ❑ No

Have you ever been a member of ISA? ❑ No ❑ Yes If so, list years of previous membership: _____

Check all that apply: ❑ P.E. ❑ CSE ❑ CCST If P.E., state(s) registered: _____

Highest degree earned: ❑ High school ❑ Associate ❑ Bachelors ❑ Masters ❑ Doctorate Area of study: _____

Section Preference (optional—ISA will assign Section if blank) SARNIA SECTION

STUDENTS ONLY: _____ ___ - ___ - ___
School Date of graduation (month/day/year)

Advisor name Advisor phone

2 JOB INFORMATION

2.1 Check your primary job function: *(choose only one)*

- ❑ Basic Research and Development (J)
- ❑ Control Systems Engineering (B)
- ❑ Education or Training (N)
- ❑ Engineering Management (3)
- ❑ General or Corporate Management (A)
- ❑ Marketing or Sales (O)
- ❑ Measurement, Testing, Quality, or Standards (I)
- ❑ Operations (L)
- ❑ Plant Engineering or Maintenance (E)
- ❑ Plant Information Systems (G)
- ❑ Product Design Engineering, including applied R&D (1)
- ❑ Production Engineering (D)
- ❑ Purchasing or Procurement (M)
- ❑ Software Engineering (F)
- ❑ Systems Design Engineering, including applied R&D (S)
- ❑ Systems Integration (H)
- ❑ Technical or Engineering Support (K)
- ❑ Other (P)

2.2 Your Industry Classification: *(choose only one)*

Engineering and Other Services
- ❑ Engineering (8710)
- ❑ Computer Systems Design and Programming (7370)
- ❑ Construction (1700)
- ❑ Education (8200)
- ❑ Public Utilities (4900)
- ❑ Management Consulting (8740)
- ❑ Research, Development, and Testing (8730)

Instruments and Controls Manufacturers and Suppliers
- ❑ Electronic Controls and Equipment (3600)
- ❑ Instrument and Control Apparatus Sales and Service (5000)
- ❑ Measuring & Controlling Instruments (3800)
- ❑ Valves, Fittings, Fabricated Metal Products (3400)

Raw Materials Processing Industries
- ❑ Chemicals, Pharmaceuticals (2600)
- ❑ Food (2000)
- ❑ Glass, Ceramics (3200)
- ❑ Mining (1000)
- ❑ Oil and Gas Extraction (1300)
- ❑ Petroleum Refining (2900)
- ❑ Primary Metals (3300)
- ❑ Pulp, Paper (2600)
- ❑ Rubber, Plastics (3000)
- ❑ Textiles (2200)

Other Manufacturing
- ❑ Industrial Machinery and Equipment (3500)
- ❑ Transportation, Aerospace Equipment (3700)

Other *(Please specify company product or service at your location.)* _____

3 DUES AND PAYMENT

Type of membership:
- ❑ Regular Member **$65*** US $_____
  2-Year Member **$120*** US
  3-Year Member **$170*** US
- ❑ Student Member **$9*** US $_____
  (1-year only)
- ❑ Member Residing in Developing Country
  (See Section 7.4 on back) **$30*** US $_____

Check additional options desired:
- ❑ Division Membership (from section 5 on back) $ _____
- ❑ ISA Transactions **$70** US $_____
- ❑ *InTech* Air Mail Option **$120** US $_____
  (See Section 7.1 on the back of this form.)

Check if paying with international funds:
- ❑ Processing fee for International Funds $
  (See section 7.2 for details.)

TOTAL AMOUNT DUE: $ _____

Please check payment method used.
The following are acceptable for remitting dues payment.
- ❑ Check ❑ Money order
- ❑ PO# _____
- ❑ Wire Transfer
- ❑ American Express
- ❑ VISA ❑ MasterCard
- ❑ Automatic credit card renewal** Acct. No. _____

*Make payable to ISA in US currency only.

*Expiration Date: ___ - ___ (month/year)

Remit payment to ISA. See mail/phone/fax information at the top of this form.

❑ **Receipt Requested**
❑ Mail Receipt
❑ Fax Receipt (fill in fax number in part 1 above)

*ISA dues include a subscription to InTech, for which a nondeductible annual allocation of $9.70 is made for regular members and $2.55 for student members.

**Your membership will be renewed and your credit card billed prior to your anniversary date.

4 SIGNATURE (This application cannot be processed without your signature.)

Signature: _____ Date: _____

By completing this application, you acknowledge that ISA needs the information requested here to service your membership.

Occasionally we make member information available to companies whose products or services may be of interest to you. If you do not want your name, phone number, mailing or e-mail address exchanged, please check the appropriate box(es) below.

Do not release my: [ ] Address [ ] Phone [ ] E-mail address

MORE ➤

OLMBR9

5 DIVISION MEMBERSHIP APPLICATION

Membership in each Division is only $5 per year, per division, which is returned to you in the form of a coupon worth the amount of total Division dues towards the purchase of any ISA publication. To the right is a list of ISA Divisions.

Check the box next to each Division you would like to join. Choose as many Divisions as you wish from both categories. Be sure to enter the total dollar amount for Division Membership in Section 3, "Dues and Payment," on the front of this form.

See box below for Division dues calculation.

Automation and Technology Divisions:

Division
- ❑ Analysis (A)
- ❑ Automatic Control Systems (M)
- ❑ Computer Technology (D)
- ❑ Electro-Optics (P)
- ❑ Environmental (Q)
- ❑ Management (W)
- ❑ Process Measurement & Control (H)
- ❑ Robotics & Expert Systems (C)
- ❑ Telemetry & Communications (N)
- ❑ Test Measurement (J)

Industries and Sciences Divisions:

Division
- ❑ Aerospace Industries (B)
- ❑ Chemical & Petroleum Industries (G)
- ❑ Construction and Design (K)
- ❑ Food & Pharmaceutical Industries (R)
- ❑ Glass & Ceramics Industries (Y)
- ❑ Marketing & Sales (Z)
- ❑ Mining & Metals (V)
- ❑ Power Industry (O)
- ❑ Pulp & Paper Industry (L)
- ❑ Textile Industry (T)
- ❑ Water & Wastewater Industries (X)

DIVISION DUES CALCULATION:

Total number of divisions checked _____ x _____ years x $5 = $ _____

Transfer this total to section 3, DUES AND PAYMENT, on the front of this form.

NOTE: If you are joining an ISA Division(s) or applying for Senior Membership, and you are faxing your application, be sure to fax BOTH sides of this form.

6 SENIOR MEMBER GRADE INFORMATION AND APPLICATION

Why Be a Senior Member? The Senior Member Grade is ISA's way of recognizing your advanced educational preparation and professional work experience. It is the prerequisite member grade for nomination to "ISA Fellow," one of ISA's highest honors, and for holding elective office at the Society level.

Who can be a Senior Member? Applicants for Senior Member grade must meet specific requirements and must document their qualifications (see sections 6.1 and 6.2 below). An ISA member may apply for Senior membership at any time, i.e. with initial membership application or any time after becoming a member. Application for Senior Member Grade requires Admission Committee review. **If you think you are eligible for consideration and want to apply for Senior Membership, please complete Sections 6.1 through 6.4 below OR CALL MEMBER AND CUSTOMER SERVICES AT (919) 549-8411 AND REQUEST A "MEMBER RECORD CHANGE FORM."**

6.1 Qualifications. (check one):
- ❑ B.S. degree in engineering, technology or science and at least six years employment in instrumentation or measurement and control disciplines, two of which have been in position(s) of responsible charge** (A master's degree counts as one of the six years; a doctorate counts as two years.)
- ❑ Ten years of employment in instrumentation or measurement and control disciplines – two of which have been in position(s) of responsible charge.**

**Responsible charge includes: directing activities of others in instrumentation or measurement and control work, and/or individual responsibility for instrumentation or measurement and control development, application or operation at a professional level, and/or teaching instrumentation, measurement and control or associated engineering and sciences at professional level.

6.2 Qualification Details. ATTACH ADDITIONAL PAGE(S) OR FORMAL RESUME THAT INCLUDES THE FOLLOWING:
- The name(s) of the institution(s) you attended, number of years attended, date of graduation, degree attained and your major field of study.
- Your professional record, including the dates of each position held, (beginning with the most recent position) name, address and telephone number of employer, your position title, and the specific duties you performed – especially the extent of "responsible charge" as defined in 6.1.

❑ Formal resume attached ❑ Additional pages attached

6.3 References. List your professional references: at least two people who are familiar with your professional activities, preferably ISA members.

1. Name: _____
   Company: _____
   City/State: _____
   Phone: _____
   ISA Member? ❑ Yes ❑ No
2. Name: _____
   Company: _____
   City/State: _____
   Phone:
   ISA Member? ❑ Yes ❑ No

6.4 Your authorization for ISA Senior Member Grade Application:

Your name (please print): _____ Date (month/day/year): _____

Your signature: _____

7 SPECIAL INSTRUCTIONS TO APPLICANTS OUTSIDE THE UNITED STATES

7.1 AIR MAIL OPTION: For all members outside U.S., Europe, Canada, India, Central and South America, and Japan, the annual cost to receive *InTech* by air mail is $120. If choosing this option, enter the appropriate amount in Section 3, "Dues and Payment," on the front of this form.

7.2 SPECIAL INSTRUCTIONS regarding transfer of international funds: Credit card payment is preferred; checks with proper MICR bank encoding must be drawn on your bank's correspondent in NY or other US bank. Amount payable to ISA must include any bank or other processing charges.

7.3 WIRE TRANSFER: Wire transfer fees should be paid by the member. Send to ISA account #1126294, Central Carolina Bank ABA053100465. Transfer must show applicant's name and address. Indicate payment by wire transfer on this form, complete, and return.

7.4 REDUCED DUES: Members residing in developing countries, as defined by the World Bank Organization, pay annual dues of $30. These countries are: Algeria, Belarus, Bolivia, Bulgaria, Chile, China, Colombia, Costa Rica, Croatia, Czech Republic, Ecuador, Egypt, El Salvador, Estonia, Guatemala, Honduras, Hungary, India, Indonesia, Jamaica, Kirgizstan, Latvia, Lebanon, Lithuania, Malaysia, Moldova, Nicaragua, Pakistan, Paraguay, Peru, Poland, Portugal, Romania, Russia, Slovak Republic, Slovenia, Ukraine, Uruguay, Uzbekistan, Zimbabwe.

Review ISA's complete Privacy Statement at www.isa.org, or request a printed copy by calling (919) 549-8411.