Hello there and welcome to the spring edition of the ISA AD newsletter from your friendly editor. If the ISA AD were an orchestra, symphonic of course, then as I write, we in the various sections would be expectantly watching our baton wielding conductor, Don Nettles, as he urges each of us to give a little more to the melodic theme, while filling in the layers of texture and sound as we wind our way in crescendo to the final climatic timpani crashing movement that is the ISA AD Symposium; this year held in early May in Baton Rouge, Louisiana.

The orchestra theme - a bit much? Yes, I’m sure that’s true – but of course we Brits are known (amongst other things – bad teeth, bad food, Monty Python etc) for a sense of the overblown drama, social class references and the urbanely witty bon mots (oh and stealing classy lines from the French).

And the timing – it is of course everything darlings – is opportune as this edition has a strong British theme. Amongst other things we have a fabulous feature interview with our long standing Paper Review Chair, Director Elect- Elect and newly awarded ‘Member of the Year’, Paul Barnard. That he is a Brit (albeit of longstanding in the USA) is just the added bonus.
But this really is an exciting period of the year for ISA AD. The plans for the Symposium are all nicely in place. The registration numbers are growing daily, the vendor hall is almost full; as is the hotel (so please book quickly) and the paper review committee is in full session. So, sign up, book your flights and get ready to have your scientific taste buds amazed once more.

So without further ado, please dive into the Spring edition of our newsletter. As always it is loaded with excellent messages, insightful information and, for this edition, all the information you will need to prepare for the AD Symposium - Baton Rouge - much more class than Red Stick.

See you on the Bayou.

Stuart Simmonds
ISA AD Newsletter Editor

Introduction Message from the 2013-2014 Director:

Directors Message
Greetings,

If you are reading this newsletter and, in particular, this article, I’ll label you as part of the global ISA Analysis Division family and extend a warm welcome to you.

The discipline of process analyzers resides as a segment of the overarching world of process automation. According to the Purdue Reference Model (PRM), analyzers, along with other instrumentation and measurement systems, are part of Level 0, Sensor / Actuator Level. While some in the world of automation or operations may focus on the higher PRM levels, where control and optimization functions are defined, and even diminish the importance of Level 0, we cannot lose sight of the contributing value of process analyzers. Back to the Purdue Automation Pyramid, we are the foundation; the starting point; the source of data upon which Level 1 and above are built. If the data is flawed, well you know the rest of the story.

In order to maximize the value of installed process analyzer contributions to the automation system, to the unit, the major capital project, the OPCO and ultimately the bottom line of the end user company, a family is required. Each member brings their unique, yet irreplaceable, value to the family structure and to eliminate any member diminishes the effectiveness of the whole. So how does this family concept relate to us at Analysis Division?

National labs, universities and vendors’ R&D, along with input from Marketing, are sources of new technologies, new applied analytical principles, novel applications and other game changing ideas which develop into end user tools in process measurement. Family.

Suppliers support business directives to deliver a competitive price and contribute to corporate earnings while designing and manufacturing products to meet customer specifications. Family.

Independent engineering companies, vendor sales personnel and representatives log countless hours of travel, present megabytes [maybe gigabytes…terabytes?] of slide decks, attend meetings and set up numerous exhibits to promote the next best process analyzer, system or application. Family.

System integrators, whether in-house or independent, package the process analyzers in configurations which survive 20 years or more in plants, refineries and offshore installations around the globe. Family.

Engineering Procurement and Construction engineers work on major capital projects which often entail hundreds of process analyzers, dozens of shelters and a vast array of ancillary issues. Family.

The most advanced process analyzer technology in a world class system integrated package is nothing more than a
museum quality artifact, some say boat anchor, unless successfully installed, operated and maintained. Site analyzer engineers, analyzer reliability engineers, mechanics and technicians are critical to achieving and maintaining analyzer performance. Family.

Manufacturer, representative and independent subject matter experts, field service engineers, spare parts suppliers, and training professionals provide vital support to meet analyzer infrastructure objectives. They deliver problem solutions, optimization and organizational competency which are key components to field analyzer operation. Family.

Automation / Process Analyzer business forecasters, standards committee members and ISA Headquarters support staff contribute significantly to our community. Family.

All healthy organisms grow and growth is an on-going process. Our maturing AD membership indicates the need for continual infusion of less experienced individuals into our family. University and college professors, technical institute instructors and Analysis Division volunteer instructors are critical to development of less experienced process analyzer community family members. This is a must for sustaining our core competency of PROCESS ANALYSIS. Family.

Thanks for being part of the FAMILY. I’ll see you in May at the AD Symposium!

Don Nettles
Director ISA Analysis Division (2013-2014)
E-Mail: dnettles@chevron.com

Q&A with Paul Barnard:

We had the opportunity to interview Paul Barnard, to ask him for his take on the state of process analytics and how he got to this point in his career. Paul is the Paper Review Chair for the AD Symposium and for his yeoman service in this capacity the Analysis Division has named him "Member of the Year". Add to that his most recent commitment to our profession; Paul has accepted the position of Director Elect-Elect which means he will serve as our leader for the 2017-2018 term. When you come across Paul at AD-2014 a hearty "thank you for your service, present & future" is in order.

Q1) Paul, what do you see 10 years in the future for on-line process analytics, any big game changers or still diverse vendors and relatively slow moving changes? As the number of available technicians is dwindling, with little action to replace them [this is an across the board phenomenon] it seems to me that we are going to be forced to be more automated in what we do. There are a lot of newer smaller companies that could bring technology to the market, but I wonder if they can survive without the deep pockets of a bigger owner. Miniaturization seems to be the direction, small, modular, plug and play – the stuff we could see on Star Trek 45 years ago. Maybe not 10 years from now, but 50 years from now, I see cheap disposable sensors that simply plug into a frame, NeSSi style, on the process pipe, and give readings wirelessly to a central control computer. No doubt there are many barriers to overcome with this concept, but I really wonder if the analyzer shelter will be here in 2150. Our industry does not seem to like quick change, the Process Gas Chromatograph is still a work horse, but spectroscopic methods are impinging on the market share, NMR has a future, as does Raman and Mass Spec. I should be retiring in about 10 years, it will be interesting to see what direction we have taken when I hang up my hat to go see the world.

Q2) What have been the most significant changes to the analyzer industry during your career thus far? Without a doubt the processing power of modern computers is driving the change. Cross applications become more feasible, like the advance of laser based analyzers with advanced optic fibers from other industries. Data crunching and manipulation, chemo metrics that run in the background. Touch screen programming instead of "one line at a time" basic programming is making it easier to work on equipment. Of course sometimes the advances bring new challenges in maintenance, like PC management, but I think vendors are aware of that issue and are bringing more maintenance free equipment to the end user.
Q3) How did you get into the Process Analysis world?
Everyone has a different story to tell. I was working in the analytical lab, with my main areas of expertise in ICP, IC, Wet Chemistry, some GC and IR. Some of our plants were considering installing or had installed some analyzers that they were not sure how to operate effectively. For personal reasons I requested a transfer to Texas from Ohio, and the company decided to give me the chance to work with I&E groups at our Texas facilities. So I moved to Houston, and started on process analyzers. Mostly application work at first, and then installations, to full blown start to finish projects.

Q4) You’re a PhD Chemist, is a science degree (chemistry, physics) the number one skill set to come into the profession? A part two, what is the most difficult skill “outside” set you had to acquire as your career in analyzers progressed? Wow, is there a number one skill set other than a desire to learn? Clearly having analytical chemistry as a background helped, but my Ph.D. thesis was on characterizing transition metals in ionic liquids, hardly a precursor to Process Analytics. Having a good adaptability to hands on, whether electronics or instrumentation is a plus, but fundamentally understanding the measurement itself is a critical piece that takes a lot of time to come to grips with. I have had many talks with technicians about why a second or two difference on a back flush cut makes a big change to the chromatogram, or why constant temperature is important to an NMR or IR measurement [the relationship between pressure, temperature and volume]. As for the most difficult “outside” skill set – engineering has its own set of acronyms and terms. When you have area classification to consider – it is so very different to a laboratory setting. My first realization of how much I did NOT know was when I had a blank look on my face the first month in a plant when I was asked how the analyzer should talk to the DCS – and I did not know what a DCS was. It is humbling to come into a plant, and knowing the advanced degree doesn’t get you very far.

Q5) Any tips as to how to get the attention of management, compete for resources raise awareness of our profession? I wish I had the answer to this question, but there is a constant battle to retain technicians and recruit new ones. The concept of a 5 year “on the job training” to achieve competent status is lost on those in management who have a more mechanical background. Those that are aware do not have the budgets to implement a proactive approach to filling staffing needs. It really is a big problem.

Q6) And finally - do you have any “the parties shall remain namely” anecdotes you would care to share about your time in process analysis? One comes to mind more readily than any other. I was working on trying to get a rather complicated analyzer functional. It had been installed before I transferred into the plant, was powered up, but needed a lot of work in gathering data for the calibration process. It also required some tweaking to the sample system to avoid some plugging issues. At a Project Update I was relaying the difficulties and what it was taking to get to a fully commissioned analyzer when a manager in the review wanted to know who would have approved such a complicated analyzer in the first place. It was a good question, so I dug into project files and e-mails, where I found the approval letter from that same manager. I was wise enough to not produce the evidence, as I considered the question rhetorical. There are many others, where you look back after the fact and ask yourself “how did that happen”, but no-one catches everything up front, whether it be the I-Beam that gets installed in front of a shelter to block access to a cabinet, or the process engineer who asks why a component is not being measured when he did not bother to show up to the kick off meeting or reply to any e-mails thereafter. All in a day’s work, it is never dull.
AD-2014 Baton Rouge / Headline News:

**Hotels:** The Crowne Plaza is near capacity and sold out on Wednesday night. We have arranged to have the adjacent Holiday Inn and Embassy Suites to take overflow bookings. We suggest you secure your hotel requirements at the earliest opportunity…


**Spouses Program:** Baton Rouge is the capital city of Louisiana and the surrounding area has several antebellum mansions available for tours. There will be a full spouses program; details will be available in early April on the website.

**Technical and Educational Programs:** The technical schedule will be posted to the web site by end of March. The two advanced training courses are set and you will find the information on the web site. The “Hands On” courses are in the process of being confirmed.

**Vendor Technical Forum:** The available Vendor space is “sold out” and we are taking spots on the waiting list. We have the largest hotel meeting space in the city and accommodated the maximum number of vendor spaces. It will be a “full house.”

**Banquet and Keynote Speaker:** The banquet will be held on Tuesday night, Rod Spitler of Dow Chemical will present a keynote address on the future direction of process analytics. The Banquet sold out early last year, be sure to sign up for your tickets when you register.
**Symposium Chair Message:**

Hello, I'm Justin McCarty, Process Analyzer Engineer at MOTIVA Enterprises, Convent Refinery and your host conference chair for the 59th Analysis Division Symposium to be held in Baton Rouge May 4-8. Having attended the AD Symposums on many occasions I was well aware of the reputation of and the work that goes into being the Symposium Chair. Of course it was a great honor but the responsibility to be the focal point of our profession was daunting. The support network and the machine that makes a Symposium happen were all in place and so I jumped in feet first.

I am proud to say we have been on bi-weekly conference calls since December and it is all coming together. Our Program Chair reports we have a full slate of papers, our Education Chair has two advance courses in place as well as the fundamentals program and plans to have six hands-on courses on Thursday. The Vendor forum is nearly full and ISA is taking registrations. I am extremely proud of and fortunate to be associated with such a fine team and look very forward to being your host at the 59th Symposium.

Justin McCarty  
**AD 2014 Conference Chair**

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**Program Chair Message:**

ISA Analysis Division is holding the 59th symposium in Baton Rouge May 4th to May 8th. All ISA members, we welcome you to attend, share and learn with us. "Analytical Technology and a Little Lagniappe!" is our slogan for the 2014 symposium. We have a full three day slate of papers and two days of training scheduled. Our papers cover many topics of interest to the process analytical community from the newest technology coming into the market or the oldest issues that need a fresh solution. We offer technical papers from end users, EPC's, integrators and manufacturers. Our training on Sunday for fundamentals and advanced topics will offer three choices to attend. The Thursday training for vendor equipment is back by popular demand with a variety of choices for specific equipment training. For the best information come look at the web site [www.adsymposium.org](http://www.adsymposium.org) for the details. We have 50+ companies registered and should have the equipment and technical answers for any application need. If you are not an ISA member we welcome you to come to see what we offer, always welcome you to join and share you can contribute to the process analytics industry.

Mike Chaney CAP  
**Program Chair ISA Analysis Division (2014)**  
E-Mail: Michael.chaney@lyondellbasell.com
Webmaster’s Message:

The ISA Analysis Division on linked in now has 910 members, with a fairly flat distribution between entry level persons, senior staff and Management. We are especially gratified with these demographics on two counts. A quarter of our Linked in members are entry level, this means we are attracting new and younger blood. Our Linked in community exceeds the number of members in AD which indicates we are drawing beyond our membership and raising the awareness level of the Analysis Division.

Our rate of growth has been quite steady since inception of the group, and we expect to be over 1000 members in the next few months... Website traffic has exceeded 54,000 hits.

Phil Harris BSc MSc, Webmaster
Manager, Applications Engineering
AMETEK Western Research
A Special Thank You to Johnny Austin at AMETEK who kindly formats the Newsletter for us.

Our Supporting Sponsors

The AD solicits vendors who have participated in the vendor forum at the Symposium to support the newsletter. We know there is keen competition for each and every marketing dollar. They have chosen to set aside a small sum for the AD and be known for their generosity in support of our special projects, and for which we thank them. If your company is interested in a placement please contact the newsletter editor.

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