ISA Birmingham Section October Meeting

The next meeting of the ISA Birmingham Section will take place on **Tuesday, October 9, 2018, starting at 4:00 PM, in the offices of KBR Engineering at 3000 Riverchase Galleria, Suite 1400, Birmingham, AL, 35244.** This will be a technical presentation and should qualify for Professional Development Time for continuing education credit.

Our speaker will be Mr. Eric Woods with Vaughn Associates in Huntsville, and the topic is the basics of gas detection, which is very important in the industrial world today and a key element of safety in plants.

**“Fundamentals of Gas Detection”**

**Presentation Overview:**

*Introduction to gas detection

*Gas behaviors

*Sensor technologies

*Components of a gas monitoring system

*Hidden costs of a gas monitoring system

*Sensor site selection Calibration

Mr. Woods has a BSME from the University of Alabama Huntsville, and a Master’s Degree from Georgia Tech University. He has prior manufacturing experience with Kennametal and Daikin International, and background with
NASA in the Development and Engineering Center. His sales field work has been in test measurement, instrumentation and process equipment.

**Summary of Meeting Information**

**Technical Meeting: Tuesday, October 9, 2018**

**Time:** 4:00 PM – 5:15 PM

**Speaker:** Eric Woods – Delphian Corp./Vaughn Associates

**Topic:** “Fundamentals of Gas Detection”

**Location:** KBR Engineering – 3000 Riverchase Galleria, Suite 1400, Birmingham.

---

**ISA Birmingham Leaders 2018 – 2019**

Visit the ISA Birmingham web site: [www.isa.org/birmingham](http://www.isa.org/birmingham)

- **President:** Jim Key – Southern Company Services ([jimkey@southernco.com](mailto:jimkey@southernco.com))
- **Vice President:** Meg Moore – KBR Engineering ([meg.moore@kbr.com](mailto:meg.moore@kbr.com))
- **Treasurer:** Patrick Joseph – Southern Company Services ([pvjoseph@southernco.com](mailto:pvjoseph@southernco.com))
- **Secretary:** John Cover – A&E Engineering ([john.cover@aeengr.com](mailto:john.cover@aeengr.com))
- **Past President:** Frank Flow – Flexim Inc. ([fnflow@yahoo.com](mailto:fnflow@yahoo.com))
- **Program Chair:** Mark Isbell – W. G. Yates Company ([misbell@wgyates.com](mailto:misbell@wgyates.com))
- **Education Chair:** Gerald Wilbanks – DES ([gwilbankspe@charter.net](mailto:gwilbankspe@charter.net))
- **Membership Chair:** Catherine Andrews – Hile of Alabama ([candrews@hilealabama.com](mailto:candrews@hilealabama.com))
- **Honors & Awards Chair:** Gerald Wilbanks – DES ([gwilbankspe@charter.net](mailto:gwilbankspe@charter.net))
- **Web Master:** Jimmie Johnson – Southern Company Services ([jimjohns@southernco.com](mailto:jimjohns@southernco.com))
- **Marketing Chair:** Chris Sorensen – Southern Company Services ([ccsorens@southernco.com](mailto:ccsorens@southernco.com))
- **Publications Chair:** David Hyche – KBR ([david.hyche@kbr.com](mailto:david.hyche@kbr.com))
- **Standards & Practices Chair:** John Bryant – Southern Company Services ([jabryant@southernco.com](mailto:jabryant@southernco.com))
- **Historian:** Skip Wells – Southern Company Services ([skipandalice@att.net](mailto:skipandalice@att.net))
- **Student Section Liaison:** Yao Wang – Southern Company Services ([ywang@southernco.com](mailto:ywang@southernco.com))
- **Section Division Liaison:** Charles Morris ([c.morris7711@gmail.com](mailto:c.morris7711@gmail.com))
- **ECOB Liaison:** Cliff Fleming – Control Equipment Company ([cleming@eadsdistribution.com](mailto:cleming@eadsdistribution.com))
- **President Advisory Team and Special Assignment:**
  - Delane Ponder – Southern Company Services ([X2ponder@southernco.com](mailto:X2ponder@southernco.com))
  - Grady Andrews – Hile Controls of Alabama ([gandrews@hilealabama.com](mailto:gandrews@hilealabama.com))
  - Cliff Fleming – Control Equipment Company ([cleming@eadsdistribution.com](mailto:cleming@eadsdistribution.com))
  - John Edge – Baluff Inc. ([john4auburn@gmail.com](mailto:john4auburn@gmail.com))
  - Kiumars Bahri – Southern Company Services ([kbahri@aol.com](mailto:kbahri@aol.com))

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Meet your 2018-2019 ISA Birmingham Leaders:

**Cliff Fleming - Liaison to Engineering Council of Birmingham**

Cliff Fleming is a long time member of ISA and joined the society in 1985. He has served the ISA Birmingham Section in many capacities, including President, Vice President, Treasurer, Secretary, and committee chair responsibilities. Notably, Cliff was the prime chair of the Table Top Trade Shows (Product Education Events) that were held in prior years in Birmingham. Also, he has been very active as a leader in the Engineering Council of Birmingham (ECOB), and has all the leader chair positions, including past President of the organization. ISA Birmingham Section is a member of ECOB and take part in the Honors and Awards/Scholarship Dinner that is a major part of National Engineers Week each year. The next dinner is set for February 19, 2019, at the Harbert Center. Cliff has been married for 48 years to Susan Kerbaugh Fleming, and is an Account Manager with Control Equipment/JB Systems Inc., a Division of FCx Performance of Columbus, Ohio. He served as a Division Officer and Chief Engineering Officer in the US Navy from 1971 to 1977. He has a BS in Education from the University of North Carolina, a BS in Civil Engineering from Georgia Tech, and a MBA from Rutgers University. In his spare time, Cliff enjoys traveling, Master’s swimming, golf, and coaching youth sports.

~~~

Mark Your Calendar:

**Technical Meeting: Tuesday, November 13, 2018**
**Time:** 4:00 PM
Speaker: John Cover – A&E Engineering  
Topic: “Experiences with HMI Design”  
Location: W.G. Yates Company

- **Technical Meeting: Tuesday, January 8, 2019**  
  Time: 4:00 PM  
  Speaker: Paul Gruhn PE, CFSE – aeSolutions – Houston, Texas  
  Topic: “The Next Bhopal”  
  Location: Revere Control Systems

- **Honors and Awards Dinner: National Engineers Week**  
  Sponsored by the Engineering Council of Birmingham (ECOB)  
  February 19, 2019  
  Location: Harbert Center – Birmingham, Al

- **49th Annual training class: “Fundamentals of Industrial Automation, Instrumentation, and Control”**  
  May 7 – 9, 2019 (8:00 AM until 4:00 PM)  
  Location: KBR Engineering in Birmingham

Anyone with suggestions as to program topics and presentations, should contact Mark Isbell at misbell@wgyates.com, with ideas and suggestions.

---

**SAFETY TOPIC**

*Shade Tree Car Repair can be Hazardous!*
ISA Adopts New Vision and Mission
The International Society of Automation (ISA) has adopted a new Vision and Mission Statement to guide the society activities and operation. The intent is to have a brief and concise statement of what ISA wants to become, and how that can be attained.

- ISA’s new vision is to: **Create a better world through automation**

- The Society’s new mission statement is to: **Advance technical competence by connecting the automation community to achieve operational excellence.**

The ISA Birmingham Section is dedicated to working toward local programs, activities, and mission to support the international operation in achieving the Vision and Mission of the society.
Technical Brain Teaser:

A magnetic flowmeter is to be used to measure a slurry flow in a pulp and paper mill. The flow rate is to be a maximum of 200 GPM, S.G. of .98, and temperature of 90 degrees F in a 4-inch schedule 40 stainless steel pipe. The fluid velocity in the meter will be ___________ feet per second and the flow should be ___________ in a vertical run of pipe.

a. 5.1 feet per second upward
b. 10.2 feet per second downward
c. 105 feet per minute upward
d. 20.4 feet per second downward

Scroll Down for the Correct Answer

Answer

The standard flow equation can be applied here and we know the numbers to calculate the fluid velocity.

\[ V = \frac{Q}{3.12 A} \] (for ft. per second, gallons per minute, and square inches)

\[ V = \frac{200}{3.12 (12.72)} = \frac{200}{39.7} \]

\[ V = 5.04 \text{ feet per second} \]
Or we can use the factor label method for the formula, where:

- 7.48 gallons per cubic foot
- 1 minute per 60 seconds
- 144 square inches per square foot

Plug these into the standard formula and the following will result:

\[
\begin{align*}
Q &= AV \\
V &= \frac{Q}{A} \\
\end{align*}
\]

\[
V = \frac{200 \cdot \frac{1}{7.48} \cdot \frac{1}{60}}{\pi \left(\frac{4.026}{2}\right)^2 \cdot \frac{1}{144}}
\]

\[
V = 5.04 \text{ ft/sec}
\]

**Answer is A** 5.1 ft per second upward