ISA Birmingham Section Announces Plans for Student Involvement

The International Society of Automation (ISA) has long been a supporter and advocate for high school and college students to get involved in technical interest groups and automation activities. This has been an ongoing movement by the national ISA and an important emphasis. The ISA Birmingham Section has included financial involvement for BEST Robotics, provided speakers for career day activities, awarded scholarship assistance, and sponsored student sections at two year and four year colleges. This continues to be an area of interest and focus for this coming year for the ISA Birmingham Section.

ISA Birmingham Section President, Jim Key, has announced the appointment of Yao Wang as the Student Section Liaison Chair for the coming year. She will work closely with the section Membership Chair, Catherine Andrews, to establish relations with students of all ages to encourage their interest and participation in ISA. One of the first actions will be to take part in the Career Day event at the University of Alabama in Birmingham (UAB) to inform those students of the benefits of membership in ISA and to provide information and input to assist with networking activities.

Also, the ISA Birmingham Section will take other steps to encourage students to become members of ISA, while establishing a student section for leadership training and skills development. If anyone would like to take part in these student enrichment activities, please contact Jim Key at Jimkey@southernco.com, and express your interest.
Visit the ISA Birmingham web site:  
www.isa.org/birmingham

- President:  Jim Key – Southern Company Services (jimkey@southernco.com)  
- Vice President:  Meg Moore – KBR Engineering (meg.moore@kbr.com)  
- Treasurer:  Patrick Joseph – Southern Company Services (pjoseph@southernco.com)  
- Secretary:  John Cover – A&E Engineering (john.cover@aeengr.com)  
- Program Chair :  Mark Isbell – W. G. Yates Company (misbell@wgyates.com)  
- Education Chair – Gerald Wilbanks – DES (gwilbankspe@charter.net)  
- Membership Chair:  Catherine Andrews – Hile of Alabama (candrews@hilealabama.com)  
- Honors & Awards Chair:  Gerald Wilbanks – DES (gwilbankspe@charter.net)  
- Web Master:  Jimmie Johnson – Southern Company Services (jimjohns@southernco.com)  
- Marketing Chair:  Chris Sorensen – Southern Company Services (csclarki@southernco.com)  
- Publications Chair:  David Hyche – KBR (david.hyche@kbr.com)  
- Standards & Practices Chair:  John Bryant – Southern Company Services (jabryant@southernco.com)  
- Historian:  Skip Wells – Southern Company Services (skipandalice@att.net)  
- Student Section Liaison:  Yao Wang – Southern Company Services (ywang@southernco.com)  
- Section Division Liaison :  Charles Morris (c.morris7711@gmail.com)

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Meet your 2018-2019 ISA Birmingham Leaders:

**Stephen (Skip) Wells - Historian**

The history and records of the actions and movements of the ISA Birmingham Section are kept by Skip Wells who has maintained this data for several years. Skip is a long time Life Member of ISA, who has served in several capacities on the local and on the national level of the society. He has been a member of the ISA Birmingham Section since 1974 and served as section president, as well as all the other offices. In addition, he has chaired several committees and acts as a valuable member of the President’s Advisory Team. On the district level, Skip has served as the Vice President and section delegate, while working with the leadership in planning meetings. He is a past vice president of the Image & Membership Department and has been a program chair for the Power Industries Division.

Skip is employed currently at Southern Company Services and was a control systems design leader for Rust Engineering Company and Cowan International for many years. Among his other interests, he is a Certified
Firearm Instructor and teaches Hunter Education for the Alabama Department of Conservation and Natural Resources.

Mark Your Calendar:
The ISA Birmingham Section will not be meeting in June, July or August as we take a brief summer time break. The first meeting of the 2018-2019 section year will be our annual kick-off event, which will take place on Tuesday, September 11, 2018, at Logan’s Roadhouse on Highway 280. New members and visitors will be encouraged to attend and they will have free meals as a membership promotion. We will begin at 5:30 PM with a social and networking time, followed by dinner at 6:30 PM, and some section information sharing at 7:00 PM.

- **Technical Meeting:** Tuesday, October 9, 2018
  **Time:** 4:00 PM
  Speaker: Rob Flynn – Delphian Corp.
  Topic: “Fundamentals of Gas Detection”
  Location: KBR Engineering

- **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 - aeSolutions
  Topic: “The Next Bhopal”
  Location: Revere Control Systems

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

We got this!!!!!!!!!!!
Technical Brain Teaser:
A differential pressure transmitter LT-100 is used to monitor the level in a horizontal storage vessel V-100. The vessel holds hot water which is manually filled and drained by valves V-1 and V-2. The pressure taps on the vessel for LT-100 are 60 inches apart and the transmitter is mounted 10 inches below the bottom process tap. The transmitter’s process tubing is routed 10 feet horizontally before dropping vertically to the transmitter.

The following data apply:

Ambient temperature: 80°F (always)
Normal Operating pressure: 100 psig (PIC-101)
Normal operating temperature: 280°F (TIC-102)
Seal fluid for reference leg of level transmitter:
  Specific gravity = 0.8 at 60°F
  = 0.62 at 80°F
  = 0.32 at 280°F
Boiling point = 520°F at 0 psig

The other leg of the level transmitter contains process fluid.

The span of the transmitter, in inches of water, is:

(A)  19.2
(B)  37.2
(C)  55.7
(D)  60.0
Answer

There are several errors that can be made and lead to an incorrect answer. Notice that the specific gravities given in the problem are for the fill fluid, not the hot water in the vessel. You must find the density of the water at 280 degrees Fahrenheit from a table for saturated water and steam. My saturated steam/water tables indicates the specific volume for 280 degree water is .01726 cubic foot per pound. We need the density in pounds per cubic foot, which will allow us to calculate the specific gravity. Therefore, we have to invert the specific volume, which gives us 57.941 #/ft³ as the specific weight (or a specific gravity value of .929).

The span of the transmitter may be calculated by multiplying the distance between the pressure taps (60 inches) by the specific gravity of the fluid being measured (.929). This gives an answer of 55.7 inches of water as the span.

Span = S.G. × d

S.G. = \frac{\text{density of Process at Normal Temp} = 280°F}{\text{water density at Standard Temp} = 60°F}

S.G. = \frac{57.941#/ft³}{62.364 #/ft³} = 0.929

Span = 0.929 × 60 in. = 55.7 in. H₂O

The correct answer is (C).