



# Piedmont AFS Chapter

www.afspiedmont.org



#### **DECEMBER 2019**

#### **Letter From The Chairman**

AFS Piedmont Chapter and Friends,

As we close out another year it is always good to reflect on where we have come and where we are going. This year we have begun to see new members wanting to step into new roles within the chapter leadership and help shape the direction of the chapter. We have a new FEF affiliated foundry program within our chapter, and students at GA Southern University have formed a student chapter of AFS and have begun attending our meetings. Virginia Tech students continue to grow their student chapter and continue to be actively involved in our chapter meetings as well.

As we celebrate the beginning of a new year, we look forward to many more opportunities for our chapter to grow. We will host our first meeting of 2020 on January 22 in Columbus, GA. The full day of technical talks will be centered around a topic of charge materials and metallurgy. This will not only be a chance for us to reach out to our members in southern and western Georgia, but will also give us a chance to invite members of the neighboring Birmingham Chapter to join us. I believe this is going to be a great meeting.

I wanted to especially thank Metaltec and Metal Energies for becoming an Annual Premium Sponsor of our chapter. This includes meeting sponsorship at every meeting as well as a year of website sponsorship. We are thankful for all of our sponsors and for everyone that donates their time and resources to help our chapter fulfill its goals. Please be sure to visit the Sponsors page on our website and click on the images to check out their websites.

And, as always, thank you very much to every one of our board and committee members. The work you put into this chapter is greatly appreciated. The success of this chapter is because of the voluntary work you all put in.

Shawn McKinney AFS Piedmont Chapter Chairman

Chairman Shawn McKinney Saint-Gobain (828) 290-7024

#### Vice Chairman

Bill Yost Conbraco Industries Inc. (843) 672-1656

#### Second Vice Chairman

Doug Orndorff Charlotte Pipe & Foundry Co. (704)348-5407

# Secretary Brandon O'Steen

Specialty Foundry Products

#### Treasurer

Conbraco Industries Inc.

#### **Directors (Term Expires 2020)**

Jim Harwood Carolina Metal Casting Robbie Gallagher Piedmont Foundry Supply, Inc. Ted Kostilnik Specialty Foundry Products

#### **Directors (Term Expires 2021**

Carolina Metal Casting Glen Hunevcutt Charlotte Pipe & Foundry Co. Peter Kim FerroGlobe

#### Directors (Term Expires 2022 Dale Hurt

Conbraco Industries Inc. Jeremy McLimans Hickman, Williams & Company Bill Matarazzo Foundry Solutions & Design

#### ShakeOut Chairman Charlotte Pipe & Foundry

Membership Chairman

#### Michael Looby Inductotherm Corp.

Education Chairman Dominion Metallurgical, Inc.

# Registration Chairman

Carolina Metal Casting

#### Publicity Chairman Bill Matarazzo Foundry Solutions & Design

#### **Program Co-Chairs**

Jeff Gallagher
Piedmont Foundry Supply, Inc. Robbie Gallagher Piedmont Foundry Supply, Inc.

#### Past Chairman Michael Stowe

Advanced Energy.

#### AFS PIEDMONT CHAPTER MEETING REGISTRATION



# January 22-23, 2020

# Columbus, GA

#### Hilton Garden Inn Columbus

1500 Bradley Lake Boulevard, Columbus, GA 31904 Rate \$104/Night standard 1 king or 2 double room Call for reservations: (706) 660-1000



#### Or reserve online:

http://hiltongardeninn.hilton.com/en/gi/groups/personalized/C/CSGGHGI-AFS20-20200121/index.jhtml

If this link does not work, copy and paste it into your internet browser.

\*\*MUST BOOK BY January 3, 2019\*\*

# Meeting Topic: Charge Materials and Metallurgy

#### Wednesday, January 22

8:00 - 8:30 am	Meeting Registration at the hotel
8:30 - 9:15 am	Demystifying Charge Materials - Peter Kim, Globe
9:15 - 10:00 am	Steel Scrap Issues in the Cast Iron Process – T. J. Silvers, Mueller Water Products
10:00 - 10:15 am	BREAK
10:15 - 10:45 am	Alloy Production - Brandon O'Steen, Specialty Foundry Products
10:45 - 11:30 am	Adjusting Alloys to Meet Material Specs – Andy Ondek, Grede Biscoe
11:30 – 1:00 pm	Lunch on your own
1:00 – 1:45 pm	Adding Alloys into the Furnace - Paul Taylor, GIW
1:45 - 2:30 pm	Using XRF Guns for Foundry Scrap Processing - Mike Jeffers, ACIPCO
2:30 - 3:00 pm	<u>TBD</u>
3:00 - 4:00 pm	AFS Piedmont Chapter Board Meeting
6:00 – 7:00 pm	Social Hour at the Hotel
7:00 - 9:00 pm	Dinner at the Hotel
7:30 – 8:15 pm	Dinner Speaker: TBD

#### Thursday, January 23

9:00 am Tour of TBD

# AFS PIEDMONT CHAPTER MEETING REGISTRATION January 22-23, 2020 Columbus, GA

## PLEASE PRE-REGISTER by January 10, 2020

Name			Company
Meeting Registration			\$125.00 x =
Late Registration Fee after 1/10/20			\$ 10.00 x =
			TOTAL =
Attending Dinner?	γ	Ν	
Attending Tour?	Υ	N	
Online Registration: http://afspiedm	ont	org	/meeting-registration
Have questions, contact Haley Hollif	ield	, (84	43)784-2251 or haley@carolinametalcastings.com
Make checks payable to: Mail registration form and payment	to:		AFS Piedmont Chapter Haley Hollifield Carolina Metal Castings PO Box 95

Hardeeville SC 29927

# Welcome to the 2020 Southeast Regional



The 2020 Southeast Regional is March 11th through March 13th, 2020, at the Read House Hotel in Chattanooga, Tennessee.

Our regional will be focused on successful cost improvement projects to lower scrap, improve productivity, and increase margins. Presenters will discuss their project, methods, and impact on their company.



The Read House offers many amenities like a 1920's themed bar, billiards room, pool, athletic facility, the Bridgeman's Chop House, and more. With spacious rooms and a view of downtown, the Read House is the perfect place to stay. The Bridgeman's Chop House is available for a formal dining experience. For more information, please register for the hotel at <a href="http://bookings.ihotelier.com/bookings.jsp?groupID=2563431&hoteliD=97530">http://bookings.ihotelier.com/bookings.jsp?groupID=2563431&hoteliD=97530</a>.

We strongly encourage attendees to register for golf at Black Creek Club in advance through <a href="mailto:AFSTNSER@gmail.com">AFSTNSER@gmail.com</a>. The golf course has limited space and will fill up fast. Known for its ranking in the top 100 Best Residential Golf Courses and designed by a Golf World Architect of the Year, Brian Silva. The Black Creek Club offers an incredible experience of the highest caliber. Food and beverages will be provided with registration thanks to the generous donations from our sponsors.



We look forward to your visit to the Obsenic Pity!



Registrati	on for Events		
Name of Atte	endee:	<del></del> 0	
Affiliated Co	mpany:	<del></del>	
Please Check	Selection(s):		Amount:
	Regional Registration	Registration for both receptions, presentations,	, \$275 Early Bird
		and lunch between presentations.	\$325 After February 1 <sup>st</sup>
	Golf Registration	Golf at the Black Creek Club	\$135 Early Bird
	con negativon	Lunch and beverages thanks to sponsors	- Daniel Control
		Teammate #1	
		Teammate #2	
		Teammate #3	
			N
	Spouse/Partner	Includes breakfast the morning of	- Marine Baron Milanni Baron B
		presentations, invitation to both receptions,	\$175 After February 1st
		and a gift card to use for enjoying the splendors	
		of the Scenic City!	

Total Amount for Registration for the 2020 Southeast Regional:

\$



### How to Register

Follow 4 easy steps to become established as an attendee for the 2020 Southeast Regional in the beautiful city of Chattanooga, TNI

1. Attendees, please make checks payable to:

AFS Tennessee Chapter

- Please attach completed registration checklist with the name of the attendee to the checks and emails.
- 3. Mail Checks to:

Karen Dunegan
Eureka Foundry
PO Box 6039
Chattanooga, TN 37401
Dune4of5@aol.com
(423) 267-3328 ext. 30

4. Reserve your stay at the Read House:

http://bookings.ihotelier.com/bookings.jsp?groupID=2563431&hoteIID=97530



We look forward to your visit to the Scenic Pity!

# The American Soundry Society's 87 Southeast Regional 2020

Hosted by the Tennessee Chapter at the Read House in Chattanooga, Tennessee

# "New idea for Cleaning Room in Job Shops"



# Doug Imrie

President, Southern Cast Products, Jonesboro, Ark.

Graduated from Missouri – Rolla, Metallurgical Engineer in 1987. Worked in four foundries before buying Southern Cast Products in 1998.

Mr. Imrie has reduced cleaning room costs and improved working conditions by adding an Abrasive WaterJet since he was at Missouri – Rolla. He will give some history on the development and review the project from a cost, ergonomics, and capital viewpoint.



For more information, please visit to our webpage: www.afs-tn.org

# The American Soundry Society's 87 Southeast Regional 2020

Hosted by the Tennessee Chapter at the Read House in Chattanooga, Tennessee

# "The Advantage of 3D Printed Tooling"



# Tom Renk

President, Alliant Castings, Winona, Minnesota

Obtaining his BS degree from Iowa State University, Renk has 30 years of professional Metalcasting experience. His casting career began at the American Foundry Society (AFS) as a Software Development Engineer. During his tenure at AFS he improved existing casting software, taught software related classes, and did contract solidification modeling.

After 4 years at AFS, Renk worked as a Foundry Engineer for Maynard Steel in Milwaukee, WI. In 1995, Renk was hired by American Metalcasting Consortium (AMC) as an Applications Engineer. While at AMC, Renk worked with the United States Department of Defense and private defense contractors to optimize casting costs and processes of various military castings.

In late 1996 Renk was presented with the opportunity to rejoin the family business, Alliant Castings as a Foundry Engineer. During his 23-year career with Alliant Renk has held various positions including foundry engineer, technical manager, operations manager, sales manager and his current role as head custodian.

# Welcome to the 2020 Southeast Regional



The 2020 Southeast Regional is March 11th through March 13th, 2020, at the Read House Hotel in Chattanooga, Tennessee.

Our regional will have multiple accommodations for vendors: lunch with vendors, two receptions to display sponsors, golf at the distinguished Black Creek Club, and table tops for vendors complete with vendor punch cards!



The Read House offers many amenities like a 1920's themed bar, billiards room, pool, athletic facility, the Bridgeman's Chop House, and more. The Bridgeman's Chop House is a perfect location to bring customers for dinner, and the billiards room can be rented for private social events. For more information, please register for the hotel at

http://bookings.ihotelier.com/bookings.isp?groupID=2563431&hoteIID=9 7530 .

We strongly encourage attendees to register for golf at Black Creek Club in advance through <a href="mailto:AFSTNSER@gmail.com">AFSTNSER@gmail.com</a>. The golf course has limited space and will fill up fast. Known for its ranking in the top 100 Best Residential Golf Courses and designed by a Golf World Architect of the Year, Brian Silva. The Black Creek Club offers an incredible experience of the highest caliber.



ONe look forward to your visit to the Obcenic Pity!



# **Booklet Sponsorships**

Please	Check Selection(s):	Ad Size:	Donation Amount:
	Standard	3-1/4" w x 2" h	\$200
	Half Page	3-1/4" w x 4-1/4" h	\$300
	Full Page	3-1/4" w x 8 1/4" h	\$425
	2 Page	6-1/2" w x 8-1/4" h	\$700
SOLD	Centerfold	6-1/2" w x 8-1/4" h	\$750
SOLD	Cover- Front Inside	3-1/4" w x 8-1/4" h	\$550
SOLD	Cover- Back Inside	3-1/4" w x 8-1/4" h	\$550
SOLD	Cover- Back Outside	3-1/4" w x 8-1/4" h	\$550

# **Event Sponsorships**

Please Check Selection(s): Donation Amount:

Hospitality	Company logo displayed at every reception	\$500
Golf Hospitality	Company logo displayed at golf event (limit 5)	\$500
20700000000000000000000000000000000000		

Table Tops Table top, lunch with vendors, and punch cards \$250

Total Amount for Advertising and Sponsorships:



We look forward to your visit to the Ocenic Pity!

<sup>\*</sup>Individual registration required for table top participation.\*



# How to Sponsor

Follow 4 easy steps to become established as a sponsor for the 2020 Southeast Regional in the beautiful city of Chattanooga, TN!

- Sponsors, please make checks payable to: AFS Tennessee Chapter
- Please attach completed sponsorship checklist with the name of the sponsor company to the checks and emails.
- 3. Mail Checks to:

Karen Dunegan
Eureka Foundry
PO Box 6039
Chattanooga, TN 37401
Dune4of5@aol.com
(423) 267-3328 ext. 30

 Please send artwork/sponsor logos to the regional: 2020SoutheastRegional@gmail.com



Note: Registration for the 2020 Southeast Regional is NOT included

We look forward to your visit to the Obcenic Pity!

# Piedmont Chapter Education Report December 2019

"Progress through Education" By: Paul Huffman, Education Chairman

# **FEF News**

The annual Casting Industry Conference was held November 21-22 in Chicago. Both of our Piedmont Chapter schools attended.



Students attending the general session and networking with industry representatives. This year's sessions included a speed networking session.



Our VT FIRE and Southern CORE students. Also pictured are VT key Professor Dr. Alan Druschitz and Ga Southern key Professor Dr. Mingzhi Xu.

# Va Tech News

#### **MSE**

As most of you know, the headquarters for Va Tech's MSE Department is undergoing a multi-year renovation. This includes a complete renovation of the existing plus the construction of additional space. Demolition is well underway.

The MSE Advisory Board meet October 7-8 and included a tour of the Kroehling Lab facility. In addition, this fall the College of Engineering underwent a full accreditation visit by ABET. Preparation for this is a year long process. The visit went very well with several MSE categories cited as excellent. One of these was our VT Fire program.

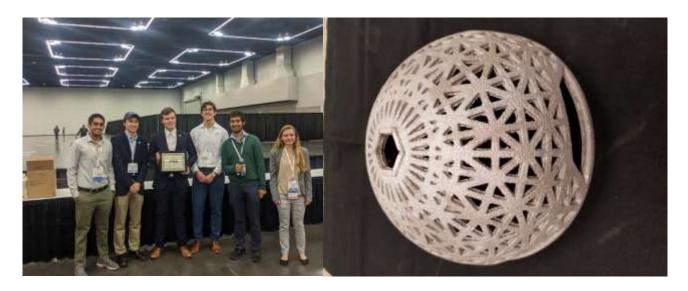
#### **Continued:**

#### VT FIRE

As we mentioned in a previous newsletter, we are updating our strategic vision and mission statement for our VT Fire program. This effort involves input from industry and past graduates. This Advisory Board met on November 13 and again on December 3<sup>rd</sup> for a follow-up.

Our students continue to be active in the industry. During the MS&T 2019 Domesday Competition, our student entry won. This is our fifth 1<sup>st</sup> place finish in six years of this competition.

Our students have also been active in utilizing our Foundry in a Box. We completed our semester Open Foundry day last month with over 250 attendees, pouring 171 scratch molds.



VT FIRE student competitors at the MS&T Domesday Competition and their winning entry.





### **Georgia Southern News**

#### **Southern CORE**

Our newest program in the Piedmont Chapter is named Southern CORE. CORE stands for Casting Outreach, Research and Education. The University has now allocated \$150K for the casting lab and the plans are about 50% complete. The program held their initial Advisory Board meeting on October 18<sup>th</sup> with a number of Piedmont members in attendance. Ted Kostilnik has agreed to be the Board secretary and Paul Huffman has agreed to be the Student Liaison. At this point the program is in its infancy but is gaining traction quickly.

Their students also hosted a successful Open Foundry night on October 17<sup>th</sup>. Like what has been in effect for a number of years at Va Tech, this Open Foundry event is used to generate enthusiasm for our industry and the school's program. The Southern CORE students also demonstrated the casting process by exhibiting their Foundry in a Box for Statesboro's monthly First Friday event.

Their students are in the beginning stages of the Bowie Knife Cast in Steel competition hosted by the Steel Founders' Society and are competing in this year's SE Regional competition hosted by the AFS Tennessee



(L)Southern CORE students demonstrating the casting process. (R) Students show off their cast medallions which was used for the departments graduation seniors.

# "We Appreciate our Chapter Website Sponsors"

**Advanced Energy** 

**Ajax Tocco** 

**Blast Cleaning Technologies** 

Blastec, Inc

Charlotte Pipe and Foundry Company
Conbraco Industries, Inc.- Apollo Flow Controls

**Dauber Company, Inc.** 

**DeLong Equipment Company** 

Emsco, Inc.

**Foundry Solutions & Design** 

**HA International** 

**Inductotherm Corp.** 

Metaltec Steel Abrasive Co.

**Miller and Company** 

**Piedmont Foundry Supply, Inc.** 

**Porter Warner** 

Premier Magnesia, LLC/Enviroblend

**Resco Products** 

**Saint Gobain** 

Selee

Southeastern Foundry Products & Foundry Coatings
Specialty Foundry Products

**BE A PIEDMONT CHAPTER SPONSOR** 

Contact: Mike Looby mlooby@inductotherm.com 609-257-7544

# **AFS Piedmont Chapter Leadership 2019-2020**

## **Officers**

#### Chairman

Shawn McKinney Application Engineer Saint-Gobain 225 Springfield Meadow Drive Etowah, NC 28729 (828) 290-7024 shawn.mckinney@saintgobain.com

#### **Vice Chairman**

Bill Yost General Manager Conbraco Industries Inc. 1509 S. Van L. Mungo Blvd. Pageland, SC 29708 (843) 672-1656 bill.yost@conbraco.com

#### 2<sup>nd</sup> Vice Chairman

Doug Orndorff Project Engineer Charlotte Pipe & Foundry Co. 1335 South Clarkson Street Charlotte, NC 28208 (704) 348-5407 dorndorff@charlottepipe.com

#### **Secretary**

Brandon O'Steen Account Manager Specialty Foundry Products 1130 Raimund Muscoda Road Bessemer, AL 35020 (336) 676-2153 bosteen@specfoundry.com

#### Treasurer

James Sturgeon
Foundry Manager
Conbraco Industries Inc.
Steel Products Division
PO Box 1076
Conway, SC 29528
(843) 234-8189
james.sturgeon@conbraco.com

#### Past Chairman

Michael Stowe Senior Energy Engineer Advanced Energy 909 Capability Drive Suite 2100 Raleigh, NC 27606 (919) 857-9043 (work) (919) 904-0279 (cell) mstowe@advancedenergy.org

# Virginia Tech Student Chapter Co-Chairs

Liz Fontana Student, Virginia Tech (571) 217-3738 efontana@vt.edu

Bryan Staha Student, Virginia Tech (757) 633-3743 bstaha@vt.edu

## **Directors**

#### **Director Class of 2020**

Jim Harwood, Owner Carolina Metal Castings PO Box 95 Hardeeville, SC 29927 (843) 784-2251 jim@carolinametalcastings.com

Robbie Gallagher Piedmont Foundry Supply, Inc. PO Box 87 Cloverdale, VA 24077 (540) 353-1731 pfsrobbie@ntelos.net

Ted Kostilnik Regional Account Manager Specialty Foundry Products 166 Lumber Lane Mt. Holly, NC 28120 (706)302-4809 tkostilnik@comcast.net

#### **Director Class of 2021**

Haley Hollifield
Office Manager
Carolina Metal Castings
PO Box 95
354 Industrial Park Road
Hardeeville, SC 29927
(843) 784-2251, EXT 3 (office)
(706) 386-4913 (cell)
haley@carolinametalcastings.com

Glenn Huneycutt
Division Trainer
Charlotte Pipe & Foundry Co.
1335 South Clarkson Street
Charlotte, NC 28235
(704) 348-5413
ghuneycutt@charlottepipe.com

Peter Kim SE District Sales Manager FerroGlobe County Road 32 Beverly, OH 45715 (740) 336-1944 pkim@ferroglobe.com

#### **Director Class of 2022**

Dale Hurt Assistant Foundry Manager Conbraco Industries Inc. 1509 S. Van L. Mungo Blvd Pageland, SC 29708 (843) 672-1504 dale.hurt@conbraco.com

Jeremy McLimans
Technical Sales Representative
Hickman, Williams & Company
6918 Shallowford Rd, Suite 311
Chattanooga, TN 37421
(423) 208-5468
JMcLimans@hicwilco.com

Bill Matarazzo
Project Manager
Foundry Solutions & Design
316 Maxwell Road, #500
Alpharetta, GA 30009
(770) 667-4545 (work)
(973) 287-9563 (cell)
wmatarazzo@foundrysd.com

# **Committee Chairs**

#### **Education Chairman**

Paul Huffman, President Dominion Metallurgical, Inc. 5304 Valley Park Drive Roanoke, VA 24019 (540) 529-9600 phuffman@dom-met.com

### Membership Chairman

Michael Looby Senior District Manager Inductotherm Corp 10 Indel Avenue, PO Box 157 Rancocas, NJ 08073 (609) 257-7544 mlooby@inductotherm.com

#### **Program Co-Chairs**

Jeff Gallagher Piedmont Foundry Supply, Inc. PO Box 87 Cloverdale, VA 24077 (540) 580-6844 pfsjeff@ntelos.net

Robbie Gallagher (Same info as above)

#### **Publicity / Web Chairman**

Bill Matarazzo (Same info as above)

#### **Registration Chairman**

Haley Hollifield (Same info as above)

#### **Shakeout Chairman**

Shaun McGuirt Charlotte Pipe & Foundry Co. 1335 South Clarkson Street Charlotte, NC 28235 (704) 348-5402 smcguirt@charlottepipe.com

#### **Recently Rolled OFF**

#### **Director Class of 2019**

Ron Benjamin
Foundry Manager
Conbraco Industries Inc.
1509 S. Van L. Mungo Blvd
Pageland, SC 29708
(843) 672-1509
ron.benjamin@conbraco.com

Ted Kostilnik Regional Account Manager Specialty Foundry Products 166 Lumber Lane Mt. Holly, NC 28120 (706) 302-4809 tkostilnik@comcast.net

Rick Torrence Procurement Manager Charlotte Pipe & Foundry Co. 1335 South Clarkson Street Charlotte, NC 28235 (704) 348-5510 rtorrence@charlottepipe.com **Individual Member Benefits** 

Education and Career Advancement Increase your personal competitiveness

- Institute classroom and hands-on course discounts
- Conference and seminar special pricing.
- Publication, video and resource discounts
- Webinar access—complimentary and special pricing

Networking and Special Interest Groups

Develop your own advantage

- CastingConnection—a member-only online virtual community
- Local Chapter membership included
- Management & technical committee opportunities
- Shared interest group involvement.
  - Women in Metalcasting (WIM)
  - · Future Leaders of Metalcasting (FLM)



Knowledge Transfer from Generation to Generation Be "in the know" about your industry

- Member Connections Newsletter
- Modern Casting magazine subscription
- AFS Library reduced pricing for papers and articles

For more information contact: Customer Service at 847/824-0181

ADVOCATE, EDUCATE, INNOVATE,

AFS

# **AFS Individual Membership Application**

Inc	ilvidual—	Annual Dues	
O Personali	\$105	O Teaching Associate	\$65
O Corporate Individual*	\$70	O Student	\$20
O Retired	\$25	O International Technical**	\$195
Simplayees of co	orporate memb	sens **Outside of North America	-1400011

Name	kot	ob Titto
Company	Home/Work (circl	cki onei) Address
City/State/Prov	Country	Postal Code
Tol	Em	nail
I desire affiliation with the following AFS (	hapter	
I wish to receive MODERN CASTING maga	zine? O Yes O No	
What does your com	pany do? (check one)	
O. A. Producer of Melai Castings (foun	dry, diecaster, etc.)	○ E. Casting User/Designer/Buyer
© B. Pattern and Tooling Shop		O G. Educational Instituto/Faculty/Students/Library
O. C. Supplier of Metalicasting Equipme	nt, Raw Materials or Services	O H. U.S./Foleign Government/Military
O. D. Consultant/Consulting Engineer		O Other

# What metals are your primary focus? (check up to three)

- O A from O D. Copper-Base (brass, bronze, etc.)
- C B Stool O. E. Magnestum O.C. Aluminum O. F. Zinc.

# Payment Information

O. E. Research Institute/Testing Lab

O Check Enclosed ustrantioner Charge To: O American Express O Mastercard O Visa The following information is required in order to charge your membership: Account No. Exp. Data Security Code Signature Date

#### Return completed application to:

American Foundry Society - 35169 Eagle Way - Chicago, IL 60678-1351 Tel: 847/824-0181 - Fax: 847/824-7848 - www.afsinc.org Join online: https://hub.afsinc.org

# ADVOCATE, EDUCATE, INNOVATE,

www.afstric.org - 800/537-4237





# MARK YOUR CALENDARS NOW TO MAKE THESE 2019 MEETINGS CHAPTER MEETINGS



DATE	LOCATION	TOPIC	TOUR
Jan. 22-23	Columbus, GA	Charge Materials	TBD
Mar. 18-19	Roanoke, VA	Data Collection	TBD
May 21-22	Wilmington, NC	Annual Golf Outing	None

#### **Shakeout Newsletter**

Please send announcements, news about members, committee reports, or any items of interest for the Shakeout to:

Shaun McGuirt
Charlotte Pipe & Foundry Co.
P.O. Box 35430
Charlotte, NC 28235

E-mail: smcguirt@charlottepipe.com

Deadline for Articles in the next ShakeOut: February 15, 2020