

## Keep in Mind

- Our February meeting will be on a Friday night, the 13th. This Friday meeting was scheduled at the request of many of our members who have a difficult time making the Monday night meetings.
- In conjunction with the February meeting, the Birmingham Chapter will be conducting a mini-seminar during the afternoon. Details will be forthcoming.
- The 2004 AFS Southeast Regional Conference will be held March 31-April 2, at the Chattanooga Marriott, Chattanooga, Tennessee.

## Meeting Notice

The Wynfrey Hotel  
I-459 / US-31

**Monday, January 12th**

**Board Meeting 5:00 p.m.  
Social Time 6:00 p.m.  
Dinner 6:30 p.m.**

**Leave your reservation request at  
205-661-0206 x23  
or via the internet at  
[www.afsbirmingham.org](http://www.afsbirmingham.org)**

***Make your reservations before 12:00 Noon on January 8th to be eligible for a Special Drawing.***

**Be sure to leave your name!  
Price of Meal—\$25.00**

## January Meeting Topic

***Profits, Technology, and Education for the Foundry Industry***

**Dr. Charles Bates**

**Research Professor  
Materials Engineering Department  
Univ. of Alabama at Birmingham  
(UAB)**



Dr. Bates received his BS degree in Metallurgical Engineering from the University of Alabama (UA) in 1963, and his PhD from the Case Institute of Technology in 1967.

Dr. Bates was employed at the Southern Research Institute from 1967 to 1993. Since 1993 he has been a Professor in the Materials and Mechanical Engineering Department, Univ. of Alabama at Birmingham (UAB). Dr. Bates worked for Clow Corp. and Ford Motor while an undergraduate student at UA. He came to Southern Research after graduation from Case Institute and conducted research in ferrous and nonferrous casting production and relations between microstructure and properties. Dr. Bates became a research professor at UAB in 1993 and supervises research in Lost Foam Casting, Machinability, Steel Casting Production, and relations between anomalies and properties in castings.

Profits, Technology, and Education for the Foundry Industry  
Charles E. Bates

The foundry industry is struggling to deal with foreign competition. Even though automotive sales remain high, the price pressure is relentless. Profit margins in ferrous foundries average 3% and only about 4% in nonferrous foundries. Scrap rates are often in the 3-7% range. Profits could be increased, sometimes doubled, by cutting lead time and scrap in half.

UAB is developing technologies to aid the industry. Research and plant tests are underway to speed mold design when producing aluminum, iron, and steel parts using green sand, no-bake, cold box, and lost foam processes. When defects are encountered, the root cause can be determined and the problem remediated. Developments are underway on gating, machining, non-destructive testing, mold filling and reoxidation, defect minimization in conventional iron, steel and aluminum castings, and lost foam casting.

The talk will highlight some of these activities and efforts to make the technology available for use in the industry.

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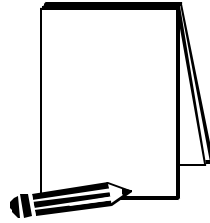
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## NOTES

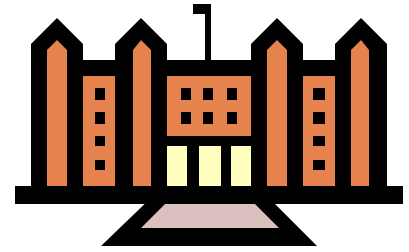
The December 8th Christmas Party was great. The entertainment by Mickey Dean was quite a treat. The accommodations and meal at the Wynfrey were superb, and everyone had a great time. 143 members and guests attended the festivities.

The Toys for Tots Campaign was a huge success. It was the best year ever, with over 50 presents and over \$100.00 cash donated. Thanks to all who contributed to this worthy cause.

Thanks to all of the companies that donated door prizes: Alagasco; Birmingham Hot Metal Coatings; Electric Control & Systems; EMSCO; Ford Meter Box; Foundry Supply Group; Griffco; Hill and Griffith; Laempe + Reich; Miller and Company; Norris Brothers; Pangborn; Porter Warner; Pryor Giggey; Specialty Foundry Products; Vulcan Engineering

AFS National Membership –10,013. Birmingham Chapter Membership – 520. The National Member Sponsor a Member campaign continues until March 31. When all the entries are in there will be a drawing for a nice laptop computer. Make sure your name is in the drawing! Be sure to put your name as the sponsor on the application and should you have any questions contact our membership committee: Carol Brandon (Hill and Griffith) 205-328-4050, or Kathi Strickland (Citation—Bessemer) 205-424-4030.

The Birmingham Chapter welcomes two new members this month. Jim Gaertner is the NA Sales Manager for Wheelabrator, and is based in Columbus, GA. Mark Werner transferred his membership from the Tennessee Chapter, and is now the Operations Manager for Porter Warner Industries, Birmingham, AL.



## UAB Focus

### UAB Materials Science and Engineering (MSE) Department

The MSE department educates students and conducts research in the development, production, and application of materials with a focus on composites and cast materials. Students learn how to control properties through process and microstructure changes and how to improve behavior through design and development. Casting research is concerned with gating, machinability of castings, non-destructive evaluation, modeling flow and fill to minimize scrap, real time and digital radiography, lost foam casting, and steel casting production. The MSE department currently has 21 undergraduate and 26 graduate students.



Dr. Bates is in the door of a 325,000 volt x-ray vault. The unit is used to watch metal flow in molds and find ways to minimize oxide folds, oxide trails and dross.



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RENO REFRACTORIES	(205) 647-0240		
RIVERSIDE REFRACTORIES, INC.	(205) 338-3366		

### Chapter Contributions and Support

**AFS Birmingham is solely operated by volunteer support & company donations. Your participation, both financially & willingness to serve is greatly appreciated.**



**Don't See Your Company's Name??**

**Contact**  
**Jarek Olszak**  
**@ (205) 655-2121**  
**or Diane Kirkley**  
**@ (205) 663-0732**

**Please send your contribution to:**  
**American Foundry Society**  
**Birmingham Chapter**  
**c/o Vulcan Engineering**  
**Attn: Ms. Diane Kirkley**  
**Post Office Box 307**  
**Helena, Alabama 35080**



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- Monday, January 12<sup>th</sup>, 2004 Regular Meeting - Charles Bates**  
Research Professor, Materials and Mechanical Engineering, UAB  
Profits, Technology, and Education for the Foundry Industry
- Friday, February 13<sup>th</sup>, 2004 Regular Meeting - Scott Howell, Robinson Iron**  
Update on the Vulcan Restoration
- Friday, March 12<sup>th</sup>, 2004 Tuscaloosa Meeting - Student night & Golf**
- Monday, April 12<sup>th</sup>, 2004 Regular Meeting - Doru Stefanescu**  
Research Professor, Metallurgical and Materials Engineering, UA  
Update on AFS Research at UA
- Monday, May 10<sup>th</sup>, 2004 Regular Meeting - Awards Night**  
Bill Sorensen, Executive Director, Foundry Educational Foundation  
Update on FEF



## Chapter News

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Citation Marion  
P.O. Box 670  
Marion, AL 36756

To: