



ASM - Atlanta

Newsletter of the Atlanta Chapter of ASM International
<http://www.asm-atlanta.org/> Normally Meets 3rd Tuesday
April, 2003 Volume 9 Number 4

Tuesday Evening, April 22, 2003

Meeting in the Georgia Tech
School of Materials Science & Engineering
Located in the J. Erskine Love Manufacturing Building
Love Building - 3rd Floor Atrium

Nickel-Based Alloy Development and Innovation is Alive and Well!

presented by

Dr. Donald R. Muzyka
President & Trustee
ASM International

also

Mechanical Properties of Advanced Polymeric Systems Evaluated for a Cryotank Environment

presented by

Matt Pavlick

A 10-minute Ph.D. Candidate presentation
School of Mechanical Engineering, Georgia Institute of Technology

Tuesday Evening, April 22, 2003

Wine Reception & Social:	6:00 PM
Dinner:	6:30 PM
Introductions & Business:	7:15 PM
Ms. Wilson's Presentation:	7:30 PM
Dr. Muzyka's Presentation:	7:45 PM
Meeting adjourns by	9:00 PM
Dinner Costs:	\$10.00 Regular, \$6.00 Students

WHERE -- The GA Tech School of Materials Science & Engineering, in the J. Erskine Love Manufacturing Building. A map is provided.

Menu: Pasta Buffet Fresh garden salad with Italian & Ranch Dressings. Eclectic Pastas - Two of Chef's Select Pastas with choice of marinara, meat, alfredo, pesto cream or vodka cream sauce, Sauteed vegetables with basil, Dessert bars, Rolls with butter, Iced tea & coffee

Reservations: RSVP - by noon on Monday, April 21, to **Marlene White**, Tel: (404) 894-2850, Fax: (404) 294-9140, marlene.white@mse.gatech.edu

Everyone always welcome for ASM meeting programs at no cost.

NOTE: The meal is just \$10.00 this month.

About the Presentation by Dr. Muzyka:

The high output of new **nickel-based alloys** and processes developed during the period 1940-1990 has led many to believe that the technology life-cycle for specialty alloys was well into its mature phase and that the potential for innovation was low. For many, the next materials frontier had moved on from conventional alloys to composites and intermetallic compositions. While these alternate materials continue to offer unique mechanical properties, they are severely handicapped by the high cost to produce them and to maintain them in service.

The past "heyday" of innovation was fueled by large government subsidies and a defense industry that was driven by performance instead of costs. The research and development was based heavily on empirical research methods that successfully came up with many alloys by using essentially parametric methods. The development of nickel-based alloy products has entered into a new phase. Today, the government subsidies are gone and our customers now demand annual cost reductions. Research and development now has new research tools such as numerical simulations, which model our processes, predict alloy phases and choose heat treatments. Traditional tools have had significant capability improvements such as computer integration that now allow us to determine statistical distributions of grain sizes, grain orientations and phases. Cause-and-effect experiments are now done on our computers, which are very capable of showing what changes in ingot size, chemistry and heat treatment will do to our product. The development cycle for innovations has been greatly shortened and experimental costs have been significantly reduced.

The marketplace for alloys is driven by the "total cost" of the product. Customers are looking for alloys that are cheaper to acquire, easier to fabricate and will reduce the operating cost of the facility or device. The return on investment of a new alloy that can double the life or

significantly increase the efficiency of a gas turbine engine, fossil fuel power plant, oil and gas well, chemical plant or automobile can be great. This presentation will give specific examples of how the new material technologist approaches a problem or opportunity today. Case studies will include making large ingots even larger, forging grain sizes more uniformly, making powder products cheaper and customizing alloys to meet the specific needs of a customer and application.

In addition, **Dr. Muzyka** will speak to the Student Chapter on the topic:
"Strategic Planning and Total Quality....."



Dr. Donald R. Muzyka, FASM
President & Trustee (2002-2003)

President and CEO, Retired
Special Metals Corporation

<http://www.asminternational.org/Content/NavigationMenu/MemberShip/Governance/BoardofTrustees/BoardOfTrustees.htm>

Dr. Donald R. Muzyka is retired president and CEO, Special Metals Corporation, New Hartford, N.Y. Dr. Muzyka earned his B.S. in mechanical engineering from the University of Massachusetts in 1960. He received his M.S. in

metallurgy from Rensselaer Polytechnic Institute in 1966 and his Ph.D. in materials science from Dartmouth College in 1967.

Dr. Muzyka has devoted his entire career, spanning over 40 years, to the specialty metals industry, beginning as a metallurgist with Pratt Whitney Aircraft in 1960. After completing his graduate studies in 1966, he joined Carpenter Technology Corporation where he held numerous positions. He was appointed division vice president technical in 1979. In 1982 he joined Cabot Corporation as director of technology and operations planning for the engineered products group. In 1985 he became general manager of Cabot Refractory Metals. He finished his career at Cabot as vice president, corporate research and development.

Dr. Muzyka joined Special Metals as president and chief operating officer in 1990. As a result of his significant accomplishments during the ensuing years, he was appointed by the board of directors as president and chief executive officer in 1996, the position that he retained until his retirement on 1 September 2000.

Widely recognized as an expert in the field of high performance alloy metallurgy, Dr. Muzyka has published more than 25 articles and papers in a variety of professional metals journals. He also received seven patents that are directly attributed to his significant work and advancement of the development of high performance alloys.

Dr. Muzyka joined ASM in 1963 and was elected a Fellow in 1977. He has been active in a number of chapter activities including Chairman of the Lehigh Valley Chapter in 1976-77. He has also been active in a number of ASM committees including the Diamond Decade Committee, Awards Policy Committee, Nominating Committee, and Finance Committee. He was a trustee from 1982-84.

Dr. Muzyka has received a number of awards including the Bradley Stoughton Award - ASM Lehigh Valley Chapter, 1981; University of Massachusetts Engineering Alumni Award, 1984; ASM/TMS Distinguished Lecture in

Materials and Society, 1993; and an ASM Honorary Membership, 1999. This year he delivered the Zay Jeffries Lecture to the ASM Cleveland Chapter.

Dr. Muzyka has also been active in a number of civic activities, including director of the Wilson School District, West Lawn, PA. Since 1994, he has been a director of AVIALL, Dallas, Texas, [NYSE] the largest independent U.S. based distributor of new aircraft parts.

Nominations for Officers of the Atlanta Chapter of ASM International for 2003-04

By Kim Spinsby

Here is the list of nominees for ASM Atlanta Chapter for 2003-2004. Your nominating committee of Kim Spinsby, Naresh Thadhani and John Mihelich collected this slate of outstanding individuals. Others can be nominated from the floor at the April meeting when the elections are held or you can submit your suggestions for names to nominate for each of the positions to the individuals listed on the nominating committee.

Steve Johnson:	Chairman
George Kremer:	Vice Chair, Industry
Hamid Garmestani:	Vice Chair, Academic & Programs
Gatum Patel:	Treasurer
Jud Ready:	Secretary

ASM International Student Awards

ASM Atlanta Chapter Chairman, **Steven Johnson**, will present the following two outstanding student awards during the Georgia Tech Awards Days Ceremony.

The Atlanta Chapter of the ASM International Award goes to **Shelby Highsmith** as the ASM Atlanta Chapter Outstanding Graduate Student for 2003. Shelby served as the Student Chapter

President this past year. He has made a technical presentation at the local chapter meeting. Shelby has maintained a 4.0 GPA and is an NSF Fellow. Shelby will receive \$250 cash plus \$250 worth of ASM publications.

The Atlanta Chapter of the ASM International Award goes to **Jenny Harrison** (MSE Senior) as the ASM Atlanta Chapter Outstanding Undergraduate Student. She has helped organize many of the Umbrella Society meetings, helped with the ASM Web Site and has helped develop a presentation to excite high schools students about MSE. On top of that she has an outstanding GPA! She was recently accepted to Cal Tech for Grad School. Jenny will receive \$250 worth of ASM publications.

Congratulations to both **Shelby** and **Jenny** for the recognition of their outstanding work.

Atlanta ASM Industrial Relations

George Kremer, the Atlanta ASM Chapter Vice-Chair for Industrial Relations is developing a project to gain important information about the "flavor" of ASM related companies in the Atlanta metro area. George plans to call and e-mail members to take part in a brief survey to help the ASM Vice-Chair of Industry in:

1. Making sure their contact information is up to date.
2. Obtaining web page information concerning the technical capabilities and/or products of their company.
3. Determining if other members within their company would benefit from association with ASM.
4. Approach those companies having materials interests, yet not with ASM members, to determine if and how they might benefit from joining and working with the Atlanta ASM Chapter.
5. Determining how individual professional members would like to participate in ASM events, and / or support the ASM - Atlanta Chapter.

George requests suggestions for the effectiveness of this project.

Please contact him at:

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ASM-Atlanta Revamps Web Presence **<http://www.asm-atlanta.org/>**

Just like your house may need a new coat of paint from time to time, or even a new kitchen or bath, so too does your local ASM chapter's website! If you had visited the site (<http://www.asm-atlanta.org/>) recently you were undoubtedly aware that the digital equivalent of shag carpeting and parquet floors were in serious need of updating. Well, Jud Ready (ASM-Atlanta Secretary and Membership Committee Chairman) has done a splendid job completely tearing down the old site and building a new one. The new site offers the following:

- Newsletter Archive (currently dating back to September 2000)
- Upcoming Meeting Schedule & Driving/Parking Directions
- Services & Outreach (info about our various scholarships and
- other programs)
- Membership Roster (includes single-click access to the
- ASM-International database to update your membership record)
- Stories & Photos of meetings and other events
- Job Opportunities (includes posting capabilities)
- Executive Committee Roster (get in touch with the chapter
- leadership)
- Search Page (search the entire site by key word)
- Feedback (submit feedback to the executive committee)

- "Ask an Expert" (an open forum for materials engineering)
- discussions)
- Other Useful Links

PLEASE VISIT OUR NEW AND IMPROVED SITE (same address as always: <http://www.asm-atlanta.org/>) AND TELL US WHAT YOU THINK!

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WHAT IS A FELLOW OF ASM (FASM) & WHO ARE THESE FOLKS IN THE ATLANTA CHAPTER???

By Dr. John L. Mihelich

Many years ago, ASM International set up an award to recognize outstanding individual contributors to our materials field. Thus, the Fellow of ASM honor was created. You likely have observed that a number of your peers use the suffix, FASM, to their name. These folks are ASM Fellows and are mighty proud of it.

The honor of Fellow was established to provide recognition of outstanding ASM members for their distinguished contributions in the field of materials engineering and science. The Fellows Selection Committee places major emphasis on the individual's technical accomplishments, professional growth, and development of people, contributions made to society, publications and awards received.

ASM Fellows are a very select group. There are only 1512 Fellows out of a total ASM International membership of 34,443.

Within our Chapter we have a number of Fellows that have been bestowed this Honor by ASM International. As listed by ASM, the following individuals have been recognized:

- Dr. Robert F. Hochman, FASM
- Dr. John L. Mihelich, FASM
- Dr. E. Henry Chia, FASM
- Dr. Steven Danyluk, FASM
- Dr. Ash B. Thakker, FASM
- Dr. Arun M. Gokhale, FASM
- Dr. Ashok Saxena, FASM
- Dr. Thomas H. Sanders, Jr., FASM
- Dr. W. Steven Johnson, FASM
- Dr. Naresh Thadhani, FASM

In addition, the Chapter has four Fellows who are deceased:

- Ervin E. Underwood, FASM Big Canoe
- Daniel B. Cofer, FASM Carrollton
- Nicholas C. Jessen, FASM Atlanta
- Niels Engel, FASM Atlanta

Your Chapter Executive Committee urges you to consider nominating a worthy ASM member for the honor of Fellow. Please contact one of the Chapter Officers or get the necessary form off of the ASM International web site at www.asminternational.org. Let's work on getting deserving members of our Atlanta Chapter this distinguishing honor.

MAY MEETING
Atlanta Chapter of ASM

**A Joint Meeting with AIAA on
 Airline Materials Maintenance Issues**

**METALLURGY FOR THE
 NON-METALLURGIST**

Kim Spinsby reports that the ASM MEI course "**Metallurgy for the Non-Metallurgist**" conducted by the Atlanta Chapter was well done. This course included 27 students from 11 companies. Kim is working on plans for future

MEI Course offerings of interest to people working in the field of materials in the Atlanta Area (actually, all of Georgia). Kim would greatly appreciate suggestions for future course topics to help him in evaluating the interests and needs of the materials community in Georgia.

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ASM Scholarships

http://www.mse.gatech.edu/academics/scholarships/ASM_scholarships/asm_scholarships.html

Description: Announcing three \$1,000 scholarships for incoming MSE students - including both freshmen and transfer students. The Atlanta Chapter of ASM International sponsors these scholarships. ASM International is the materials society for materials engineers and scientists, a worldwide network dedicated to advancing industry, technology and applications of metals and materials.

**ATLANTA ASM CHAPTER
SUSTAINING MEMBERSHIPS**

Sustaining Member for the Atlanta Chapter of ASM International include **Metals & Materials Engineers, (MME)** and **Chromalloy Georgia**. These Sustaining Member companies are significant to the work of ASM.

Contact the Membership Committee Chair: **Dr. Jud Ready** at 404-385-4497, or jud.ready@gtri.gatech.edu. Your organization's commitment to this program will provide a valuable contribution to the education and development of young materials scientists and engineers. Please read again the Materials Educational activities described in this issue, along with the referenced web site, to get a perspective of some of the aims for your chapter. Your company's participation can have an extraordinary effect.

Features of ASM-Atlanta

- Program Notes for Meetings

- Chairperson's note to members.
- Career Development: job opportunities or jobs needed
- Company Feature:
- Technical Features:
- Education Feature: Materials course offerings.
- Georgia Tech Student Chapter News
- Member News
 - Special Events, Awards & Honors.
 - New Members
 - Deaths
 - Transitions
- ASM International News
- Advertisements
- Outreach (ASM members to Schools, Scouts, etc.)

Bill Livesay, Editor *ASM-Atlanta*.

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