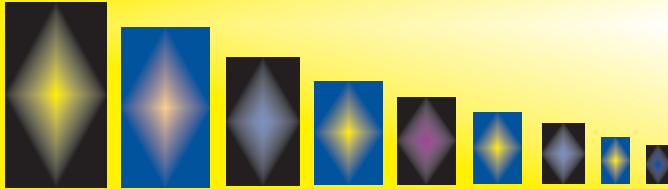


# Materials



# Division

## Chair's Message



The Materials Division has more than 80 years of distinguished history. During the early part of this century (1912-1927), the Society was experimenting with what is now known as a division. The formation of the Materials Division can formally be traced to one of the twelve ASME divisions formed in 1920. MD like other divisions has seen good and bad days (ups and downs). For apparent lack of activity, in the mid-1980s there was talk of abolishing the Division, but since 1990's MD has been one of extraordinary success, growth and is now established as one of the premiere divisions within the society. The division's restoration was no accident. It can be traced very directly to the tremendous vision and work of a succession of outstanding Executive Committee members and the surpassing efforts of our division's technical committees.

It is my hope to keep building MD following upon the outstanding work of the previous chairs (Brian Cox who recruited me into the EC, Rishi Raj, Sue Cunningham, Bill Curtin and Dan Davis) during my tenure on the EC. This year is another highly rewarding year for the Materials Division, highlighted by exciting meetings, new awards and medals, recognition of many distinguished members, etc. One of the recent of these was the establishment of the Orr Award for Best Paper on Fractures or Failure Analysis. This award has been made possible through a generous gift to ASME from Dr. Leighton and Margaret Orr. The area of fractures and failure analysis was Dr. Orr's specialty, and he believes there is a strong need to recognize individuals in this area. The Materials Division has agreed to take responsibility for this award. It envisions conferring up to four awards per year for:

1. Advances in fatigue modeling
2. Advances in fracture modeling
3. Advances in experimental methods in fatigue and fracture
4. Advances in computation simulation of fatigue and fracture

The award consists of a crystal obelisk with a base with the recipient's name, a substantial honorarium, and travel funds to attend the IMECE. Congratulations to **Professor Sunil Saigal, Professor Anand Jagota, Dr. Muralidhar Seshadri and Dr. Stephen J. Bennison** the first Orr award recipients. This award was presented to them at the IMECE in Anaheim.

I am also pleased to announce that two of our technical committees have changed their names. The **Composites Committee of the Materials Division** has played a major role in ASME to provide a forum for advancing the state-of-the-art in science and engineering of composite materials, systems and structures. Current technological and scientific advances span beyond traditional composites into a world of heterogeneous materials across length scales and functions. The members have elected to change the name of the **"Composites Committee"** to **"Composites and Heterogeneous Materials Committee."** The areas of interest will include (but are not restricted to) polymer, ceramic and metal-based composites, high-temperature materials, nanomaterials, alloys, semiconductors, optical materials and coatings, multi-scale, multi-functional and smart materials. Also, the **"Metallic Materials"** Committee of the Materials Division changes its name to the **"Multifunctional Materials"** Committee. The name change reflects current research trends in the materials community which have shifted the emphasis from materials type to their functions within a structure. Today, materials research is driven to optimize functions of structures, ranging from high temperature materials for gas turbine engines to polymer membranes for food packaging, from bio-compatible materials for human implants to biomimicking materials for agile aircraft maneuvering, and from nano-structured materials for N/MEMS to blast-protection and self healing for homeland security. These material structures must not only withstand the mechanical load, but must adapt to the surrounds, often being an active part of the structure, yet being stable and predictable over long lifetimes. Moreover, the material design is intrinsically multiscale, ranging from nanometers and up. These name changes have taken effect at the ASME International Congress 2004 to be held in Anaheim, CA.

The preliminary report by **Mark Horstemeyer**, 2004 IMECE Anaheim Program Chair, says we had over 40 technical sessions

*(continued on page 2)*

## Chair's Letter

(continued from page 1)

sponsored by the Materials Divisions. Most of these sessions are organized within sixteen (16) Materials Division sponsored symposia.

The Nadai Medal <http://www.asme.org/divisions/materials/awards/index.html> is awarded annually on the nomination of the Materials Division's Nadai Medal Committee to recognize distinguished achievements and contributions to the field of engineering materials. The medal takes its name from Arpad L. Nadai, one of the pioneers in the field of materials engineering, who contributed particularly in the areas of plasticity, fatigue, and high temperature behavior. The Nadai Medal was established as the Nadai Award in 1975 and elevated to Medal status in 1998, after the establishment of a significant endowment fund for its support. This year's Medal (2004) has been awarded to Professor **Robert O. Ritchie**, Materials Sciences Division, Lawrence Berkeley National Laboratory, and Department of Materials Science and Engineering, University of Berkeley. The 2004 Nadai Medalist, presented a lecture on "Mechanistic Aspects of Fatigue and Fracture in Brittle Materials: Ceramics, MEMS, and Biomaterials." I am very pleased to extend my own congratulations to Rob for the many outstanding contributions he has made in our field.

We welcome Prof. **Mohammed A. Zikry** from North Carolina State University to his position as chair of the AMD-MD Joint Committee on Constitutive Equations. His term began in July 2004 and will continue for three years from now, until July 2007. And I must thank those current members of the Executive Committee (EC). First, Prof. **Robert Wetherhold**, is the Vice Chair and he will assume the Chair position next June 2005. I feel especially indebted to Dan Davis and Bob Wetherhold, because they filled in for me on occasions when I have had to plead unavailability for some reason. I also wish to thank **Thomas Siegmund** for his contribution as editor of this Newsletter, and extend a welcome to **Devdas M. Pai** and **Hussein M. Zbib** as the new members of the Executive Committee of the Materials Division.

*Mabyar Dadkbab,  
Division Chair*

**"Wisdom is knowing  
what to do next;  
virtue is doing it."**

**-David Starr Jordan**

## ASME Journal of Engineering Materials and Technology

This Journal publishes original research papers in the various branches of materials engineering, including constitutive models for mechanical behavior, materials processing, environmental effects, failure analysis, fatigue and fracture mechanics, friction and wear, lifetime prediction, structure-property relationships, and test procedures. The journal has also been publishing research related to emerging areas of nano-materials and nano-mechanics.

The Journal's target audience is university, government and industry researchers and practitioners engaged in design, materials selection, structural analysis, materials processing and failure analysis. Its goal is to be considered the leading international journal in the selected niche area by attracting high quality manuscripts from the world's leading researchers and practitioners of this subject matter, and publishing in a selective, timely manner.

Our strategy continues to focus on discernment in the review process and publication of targeted, high quality special issues of the Journal. These special issues typically emerge from symposia or workshops that foster new directions in research and development. To this end, we are proud of the two high quality special issues that have appeared this past year, and four additional special topic issues targeted for 2005-2006.

### Special Issues

An October 2003 special issue on "Durability and Damage Tolerance of Heterogeneous Materials and Structures," was guest-co-edited by Asimina Pelegri (Rutgers University) and Anna Karlsson (University of Delaware). A special section, guest-edited by Yonggang Huang (University of Illinois, Urbana-Champaign), on the topic "Mechanics and Mechanical Properties of Carbon Nanotubes," appeared in the July 2004 issue. A special section on the topic "Fatigue of Advanced Materials" guest edited by W. Soboyejo (Princeton University) and A. Soboyejo (Ohio State University) will appear in the January 2005 issue.

A special issue on "Time Dependent Behavior in PMCs and Polymers," co-edited by Richard Hall and Greg Schoepfner (Wright-Patterson AFB), is in progress for a tentative Oct. 05 publication. This issue will be based on papers presented at a symposium on the same topic during the ASME IMECE Conference in Nov. 2004. In addition, two other special issues are in the planning stages for 2005-2006. Mohammed Cherkaoui (Université de Metz) and Yves Berthelot (Georgia Tech) will co-edit a special issue on "Damping of Shape Memory Alloys, Composites and Foams," based on papers to be presented at a special workshop, partially sponsored by NSF, to be held in Metz, France in May of 2005. Subhendu Datta (Univ. of Colorado) and Min Zhou (Georgia Tech) have agreed to co-edit a special issue on "Processing and Mechanics of Nanostructures."

### Statistics

From July 1, 2003 to June 30, 2004, the Journal received 115 submitted papers. Of these, 25 were accepted for publication, 11 were rejected after external review administered by associate editors, 29 were rejected by the editor upon initial reading as either outside the scope of JEMT or as substandard, 3 papers were withdrawn, and 47 were still in review on June 30, 2004. The annual page allocation presently stands at 590 pages per year. In the four issues from Jan 03 through Dec 03, JEMT published 432 pages. An objective over the next few years will be to publish 100 more pages per year.

### Associate Editors

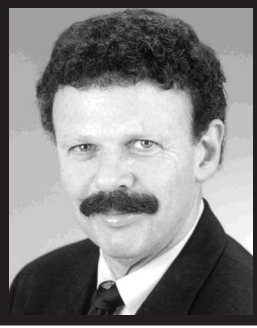
During the period July 1, 2003 through June 30, 2004, JEMT had 12 associate editors, with an additional 2-3 serving extended terms at any given time. Over the past year, the average review time for a paper from initial submission to acceptance or rejection has been about 7 months. Four new associate editors came on board in January 2004. They are Subhendu K. Datta (Univ. of Colorado, Boulder), Hamid Garmestani (Georgia Institute of Technology), Mark Horstemeyer (Mississippi State Univ.), and Asmina Pelegri (Rutgers Univ.). They replace Esteban B. Busso, Namas Chandra, Shankar Mall and Hussein M. Zbib, all of whom completed second terms during the year. JEMT is grateful for the long and meritorious service given by these dedicated associates. Their dedication and sense of quality and high standards for the Journal have helped to increase its stature markedly.

### Electronic Review

The Journal moved to an online review system in May of 2003. All aspects of journal review, from submission of papers, to receipt of reviews is now handled electronically through ASME's website, (<http://journaltool.asme.org/Content/index.cfm>). As of July 2004, all new submissions must be uploaded at the website. Most users appreciate the ability to submit papers and reviews electronically, but as with all such complex systems, there is some loss of flexibility which has been frustrating for a few. Our submission rate has actually increased as a result of the online submission (115 as compared with 93 in the previous year), although a down-side is that quite a number of those submitted are not actually appropriate for the scope of the journal, as exemplified by the number rejected without review by the editor.

Sincerely,  
**Huseyin Sehitoglu**

## 2004 Nadai Medal and Award Lecture



Materials Division

Professor Robert Ritchie  
2004 Nadai Medalist

**P**rofessor Robert O. Ritchie, Materials Sciences Division, Lawrence Berkeley National Laboratory, and Department of Materials Science and Engineering, University of Berkeley, is the 2004 Nadai Medalist. He presented the Nadai Medal Lecture on "Mechanistic Aspects of Fatigue and Fracture in Brittle Materials: Ceramics, MEMS, and Biomaterials" at the 2004 IMECE: Thursday, November 18, 2004 11:15 AM-12:45 PM.

Daniel Davis  
Chair, Nadai Medal Selection Committee

**Vitae:** Robert O. Ritchie is the H.T. & Jessie Chua Distinguished Professor of Engineering in the Department of Materials Science and Engineering at the University of California in Berkeley, and Senior Faculty Scientist in the Materials Sciences Division of the associated Lawrence Berkeley National Laboratory. He received his B.A., M.A. and Ph.D. degrees in physics and materials science from Cambridge University from 1966 to 1973, and was awarded the Sc.D. degree from the University in 1990. Before joining the faculty at Berkeley in 1981, he was the Goldsmith's Research Fellow at Churchill College, Cambridge (1972-74), a Miller Fellow at UC Berkeley (1974-77), and Associate Professor of Mechanical Engineering at MIT (1977-81). Dr. Ritchie is well known for his research in the fields of materials science, fracture mechanics and particularly fatigue, having published over 400 papers in the technical literature. He is a member of the National Academy of Engineering and a Fellow of the Royal Academy of Engineering in the U.K

**Professor Robert O. Ritchie**, 2004 Nadai Medalist, *Mechanistic Aspects of Fatigue and Fracture in Brittle Materials: Ceramics, MEMS, and Biomaterials*

### Abstract

Whereas fatigue is a major mechanism of failure in ductile materials, brittle materials are also susceptible to premature failure under cyclic loads, although the damage mechanisms are quite distinct. In brittle solids, fatigue mechanisms are either environmentally-induced, as in silicon thin films, or associated with the degradation of toughening in the crack wake, as in ceramics. This presentation focuses on the fatigue of such materials and specifically addresses the failure of micron-scale silicon MEMS structures, fatigue-crack propagation in structural ceramics at ultrahigh temperatures, and in particular the failure of "hard" mineralized tissues (bone and teeth), and their aging, in physiological environments.

## Materials Division Symposia For IMECE 04 In Anaheim, CA

### Constitutive Equations

**Topic Organizer:** Hussein Zbib  
Symposium in honor of Professor Leon Keer's 70th birthday-6: Electronic Packaging Mechanics on the Nanoscale and Microscale  
Micromechanics  
Analysis of Metal Deformation and Ratcheting Failure Processes  
Structure-Property Relations of Materials  
Experimental Characterization and Validation  
Time-Dependent Behavior in PMC and Polymers

### Electronic Materials

**Topic Organizer:** Joost J. Vlassak,  
Mechanical Integrity and Reliability of Electronic Materials  
Symposium in honor of Professor Leon Keer's 70th Birthday-1: Active materials

### Composite Materials

**Topic Organizer:** Ann Marie Sastry,  
Advanced Applications of Heterogeneous Material Systems  
Processing, Dynamic Behavior of Nanophased Composites  
Damage and Durability of Heterogeneous Materials I  
Processing and Characterization of Advanced Composites  
Analysis of Composite Failure  
Manufacturing, Process Control, and Characterization of Composites  
Mechanical Behavior & Environmental Response

Time-Dependent Behavior in PMC and Polymers I  
Dynamic Response of Advanced Materials and Structures  
Design, Manufacture and Functionalization of Nanoarchitected Materials

### Metallic Materials

**Topic Co-Organizer:** Anette Karlsson  
Multifunctional materials and materials systems: Materials for Clean Energy  
Multifunctional materials and materials systems: Bio-medical and Bio-inspired Materials  
Multifunctional materials and materials systems: Novel Multifunctional Structures  
Multifunctional materials and materials systems: Small Structures  
Advanced Topics in Metallurgy

### Materials Processing

**Topic Organizer:** Dennis Siginer  
Innovative Processing for Engineered Composites I  
Advances in Processing Science I

### Polymers

**Topic Organizer:** Karl Jacob  
Time Dependent Interfacial Behaviors of PMC and Polymers  
Polymer Nanocomposites  
Heterogeneous Materials and Systems: Special Aerospace Applications  
Models and Experiments on Interfacial Mechanics of Multilayer Systems  
Nanostructured polymer composites

## Materials Division

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***“The man who  
has no  
imagination  
has no wings.”***

***–Muhammad Ali***

***“Wisdom is the reward you get for a lifetime of listening  
when you’d have preferred to talk.”***

***--Doug Larson***

# News from the Technical Committees



Materials Division

Hussein M. Zbib,,  
Committee Chair



Materials Division

Uday Vaidya,  
Committee Chair

## AMD-MD Joint Committee on Constitutive Equations

The Technical Joint Committee (TJC) on Constitutive Equations (CE) of the Applied Mechanics Division (AMD), and Materials Division (MD) of the American Society of Mechanical Engineers (ASME) exists to promote, support, and advance the state of the art and science of Applied Mechanics and Materials in the area of modeling the mechanical and physical behavior of materials and structures. The committee's interests cover the area broadly and include relevant physical phenomena, theoretical and mathematical problems, constitutive modeling issues, experimental aspects, numerical modeling, etc.

The committee usually holds its annual meeting during the regular ASME Congress. Its last meeting was held at the IMECE2003 in Washington, DC. The meeting was chaired by Prof. Hussein M. Zbib (zbib@wsu.edu) the chairman of the committee. The committee welcomed three new members to its ranks: Dr. Y. Mikata, Knolls Atomic Power Lab, NY; Prof. T. Hassan, NCSU; and Prof. Sinisa Mesarovic, WSU.

The committee discussed proposed symposia for the forthcoming IMECE2004 and approved the five following proposals. 1) Symposium on Mechanics on the Nanoscale and Microscale, organized by Drs. Sinisa Mesarovic (Mesarovic@mme.wsu.edu), Ashraf F. Bastawros (bastaw@iastate.edu), Jeffrey W. Kysar (jk2079@columbia.edu), and Yozo Mikata, (ymikata@nycap.rr.com). 2) Symposium on Mechanics and Materials: In Honor of Professor Leon Keer's 70th Birthday, organized by Drs. Minoru Taya, (tayam@u.washington.edu), Wing Kam Liu (w-liu@northwestern.edu), K.T. Chau (cektchau@polyu.edu.hk), Sia Nemat-Nasser (sia@ceam.ucsd.edu), Thomas N. Farris (farrist@purdue.edu), and Hiroyuki Abe. 3) Symposium on Recent Advances in Microstructural Mechanics and Damage Mechanics of Materials, organized by Drs. Lizhi Sun (lizhi-sun@uiowa.edu), Chi L. Chow (clchow@umich.edu), H. Eliot Fang (hefang@sandia.gov), and J. Woody Ju (juj@ucla.edu). 4) Symposium on Analysis of Metal Deformation and Ratcheting Failure Processes, organized by Drs. Marwan Khraisheh (khraisheh@engr.uky.edu), Jyhwen Wang (jwang@tamu.edu), Glenn J. Grant, Pacific (glenn.grant@pnl.gov), and Tasnim Hassan (thassan@eos.ncsu.edu). 5) Symposium on Time-Dependent Behaviors in Polymer Composites and their Matrices, organized by Dr. R. Hall (Richard.Hall@wpaafb.af.mil).

Meetings of the AMD-MD Joint Committee on Constitutive Equations will be held at all ASME conferences, current members are encouraged to bring new ideas and proposals for symposia for future meetings, and new members are always welcome.

*Hussein M. Zbib, Committee Chair*

## Composites Committee

The Composites Committee had yet another active and successful year. Technical sessions were hosted in several topic areas at the 2003 Washington DC meeting, including; Durability and Damage Tolerance of Heterogeneous Materials, Design and Manufacturing of Composites, Dynamic Response of Advanced Materials and Structures, Sandwich Composites. Of the technical presentations made at the meeting for the "Design and Manufacturing of Composites" sessions, thirteen full-length papers were peer-reviewed and will shortly appear in a Special Issue of the Journal of Composite Materials, co-edited by Mahesh Hosur and Julie Chen. Eight papers presented in the Dynamic Response of Advanced Materials and Structures sessions will appear in a special issue of Composite Structures co-edited by Serge Abrate and Uday Vaidya.

The committee elected to change its name from "Composites Committee" to "Composites and Heterogeneous Materials Committee" in order to encompass a broader scope of technical areas. The Composites Committee of the Materials Division has played a major role in ASME to provide a forum for advancing the state-of-the-art in science and engineering of composite materials, systems and structures. Current technological and scientific advances span beyond traditional composites into a world of heterogeneous materials across length scales and functions. The areas of interest include (but are not restricted to) polymer, ceramic and metal-based composites, high-temperature materials, nanomaterials, alloys, semiconductors, biological, optical materials and coatings, and multi-scale smart materials. This name change will take effect at the 2004 Anaheim congress.

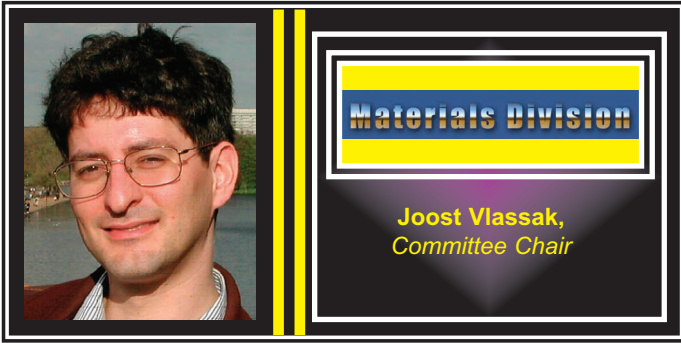
As part of the annual elections, the committee recognized the contributions made by Ann Marie Sastry, the outgoing chair. Uday Vaidya and Julie Chen were elected as the Chair and Vice-Chair respectively for the 2004-05 term. Their contact information is provided in this issue's listing of the division's committee chairs.

*Uday Vaidya, Committee Chair*

**"It's not that I'm so smart, it's just that I stay with problems longer."**

**— Albert Einstein**

# Electronic Materials & Materials Processing Committees



**Joost Vlassak,  
Committee Chair**



**Dennis Siginer,  
Committee Chair**

The Electronic Materials Committee serves those ASME members who study materials used in device technologies, including microelectronics, photonics, and MEMS. Such devices integrate extremely different materials at small feature sizes. The structural complexity and the small feature sizes pose sustainable research challenges, both experimental and computational. Research in this area is advancing rapidly thanks to exceptional interaction between academia and industry. The Committee functions mainly through organizing symposia.

At the 2003 Winter Meeting in Washington D.C., the Committee sponsored one symposium on "Materials at the Micro and Nano-Scale: The Interaction Between Processing, Mechanical, and Electrical Properties." The symposium was organized by Peter Anderson (Ohio State University), Taher Saif (University of Illinois), Richard Vinci (Lehigh University), and Joost Vlassak (Harvard University). The symposium served as a meeting ground for researchers in academia, research labs and industry interested in the behavior of nanoscale materials. Topics included new experimental methods for testing and visualizing materials at small scale, experimental findings on mechanical behavior, and modeling of materials (both continuum and atomistic). Due to the International Congress of Theoretical and Applied Mechanics in Warsaw, no special symposia were organized this summer.

At the Committee meeting in Washington D.C., several great ideas were proposed for symposia at the 2004 Congress in Anaheim. Eventually, only two of those were selected due to limited session availability:

- Symposium on the Mechanical Integrity and Reliability of Electronic Materials. This symposium is organized by Ting Tsui (Texas Instruments), Alex Volinsky (University of Southern Florida), and Xi Chen (Columbia University). With six sessions, this symposium continues a tradition of symposia on this area of research.
- Symposium in Honor of Professor Leon Keer's 70<sup>th</sup> Birthday. The Committee is sponsoring two sessions on active materials in this symposium organized by Minoru Taya (University of Washington).

At the Committee Meeting in Washington D.C., the Committee elected Taher Saif of University of Illinois at Urbana-Champaign as Vice-Chair. The Vice-Chair acts as Chair-Elect and will chair the Committee after Joost Vlassak completes his term in 2006. Taher Saif has been very active in the Committee in recent years and the Committee looks forward to his continued service.

Anyone interested in organizing a symposium at next year's meetings is requested to send Joost Vlassak (vlassak@esag.harvard.edu) a one-page proposal, including title of the symposium, short narrative, number of 90-minute sessions requested, and a list of potential speakers. The Committee will discuss the proposals at its next meeting and present the selected proposals to the Materials Division. Please join us at the Committee Meeting in Anaheim this November to plan future activities. The Committee Meeting is open to all.

*Joost Vlassak, Committee Chair*

I am pleased to report that the membership of the Materials Processing Technical Committee continues to actively and successfully pursue platforms for the exchange of information on the latest findings concerning issues of current interest to the research community. Participating authors and presenters are encouraged to submit their work to affiliated ASME Journals for wider dissemination of the research results. Starting from next year the Committee intends to publish a special section or issue on a yearly basis dedicated to selected papers presented at Symposia sponsored by the Committee in an affiliated ASME Journal after the regular review process of the Journal.

The Committee sponsored two successful Symposia for the upcoming IMECE 2004 in Anaheim, California: "Innovative Processing for Engineered Composites" and "Advances in Materials Processing". The former is organized by Dr. Devdas Pai from North Carolina A&T University. His co-organizers are Dr. Jagannathan Sankar and Dr. Sergey Yarmolenko, both from North Carolina A&T University. The Symposium is structured around two sessions addressing issues ranging from "carbon nanotube composites" to "self healing composites" and "microcellular foams".

The Symposium on "Advances in Materials Processing" organized by Dr. Dennis Siginer is jointly sponsored by the Fluids Engineering Division(FED) and the Materials Division(MD) with two sessions in the program of FED and one session in the program of MD. This Symposium is part of a continuing series which started several years ago with joint sponsorship with other Divisions. Issues which greatly impact the processing of materials are addressed in this Symposium scheduled for the IMECE 2004 in Anaheim ranging from "Microstructure in Laser Deposited Materials" and "Dispersion of Nanoclay in Molded Epoxy Disks" to "Magnetic Damping Effect on Natural Convection of Liquid Gallium".

The Committee will sponsor three Symposia for IMECE 2005 in Orlando, Florida. These are "Innovative Processing for Engineered Composites", "Electric and Magnetic Phenomena at the Micro and Nano Scale Systems" and "Advances in Materials Processing". The lead organizer for the former is Dr. Devdas Pai from North Carolina A&T and the last two are organized by Dr. Dennis Siginer. The Committee welcomes opportunities to expand its activities in particular through multi-divisional sponsorship. Proposals for Symposia and Fora are invited from the members of the Materials Research Community. In particular proposals emphasizing national priorities and research directions of current interest are encouraged.

*Dennis Siginer, Committee Chair*



## The Multifunctional Materials Committee

## Polymer Committee



Anette Karlsson,  
Committee Chair

The Metallic Materials Committee has morphed into the technical committee on Multifunctional Materials. The name change reflects the current trends in research and industry communities of material science. It also reflects the activity of the Metallic Materials Committee for the last four years.

The current committee includes: Anette Karlsson of University of Delaware (chair), Wolé Soboyejo, Princeton University; Seyed Allameh, Northern Kentucky University; Alfred Soboyejo, Ohio State University; Pranav Shrotriya, Iowa State University; and Rui Huang University Texas at Austin. If you are interested in joining our committee, please contact Prof. Karlsson ([karlsson@me.udel.edu](mailto:karlsson@me.udel.edu)). We are particularly interested in adding members representing industry and National Labs to diversify the committee.

At the Winter Annual Meeting in November 2003 in Washington DC, this committee organized two symposia. One was a symposium on Biomedical Materials (with Noriko Katsube and the Applied Mechanics Division) and the other was a workshop on Small Structures (with Zhigang Suo and Seyed Allameh).

The kick-off for our new committee will be at the Winter Annual Meeting (IMECE) this coming November in Anaheim, CA, where a four-session symposium entitled Multifunctional Materials and Structures which will be held. The four topics are: Materials for Clean Energy; Bio-medical and Bio-inspired Materials; Novel Multifunctional Structures; and Small Structures (N/MEMS). The committee is also sponsoring one session titled "Advanced Topics in Metallurgy," where five interesting talks from both industry and academia will be presented. Both symposia are organized by Anette Karlsson (University of Delaware), Wolé Soboyejo (Princeton University) and Seyed Allameh (Northern Kentucky University).

We plan to expand our efforts in multifunctional materials including Materials for Clean Energy; Bio-medical and Bio-inspired Materials; Novel Multifunctional Structures; and N/MEMS. We hope that our new focus will enhance our already established collaborations with the Divisions of Aerospace Structures and Applied Mechanics, as well as establishing new collaborations.

The committee would like to thank Professor Wolé Soboyejo for his long time serving as a chair for the Metallic Materials Committee. Prof. Soboyejo will as an active member continue to provide support and direction to the committee members.

Anette Karlsson, Committee Chair

The Polymer Committee has organized two symposia and cosponsored another symposium at the 2003 IMECE. Symposia on Phase Transitions in Polymers and Behavior of Nano-Particle Reinforced Polymers were organized by Stephen E. Bechtel, Ohio State University and Karl I. Jacob, Georgia Institute of Technology. Symposium on Advances in Material Processing Science was organized by Dennis Siginer, Wichita State University, and Sayavur I. Bakhtiyarov, Auburn University. At the 2004 IMECE, the Polymer Committee is organizing three symposia. The symposium on Polymer Nanocomposites is organized by Stephen E. Bechtel, Ohio State University and Karl I. Jacob, Georgia Institute of Technology. Rina Tannenbaum, Georgia Institute of Technology, is organizing the symposium on Nanostructured Polymer Composites. The third symposium, Behavior of Heterogeneous Materials and Systems, is organized in collaboration with the Composites Committee by Assimina Pelegri, University of Delaware.

The membership of our committee is open to all. We invite all who are interested to attend our committee meeting on Wednesday, Nov. 17 from 2:00 PM - 3:00 PM.

Karl I. Jacob, Committee Chair

### Materials Division Web Site

The web site for the Materials Division is located at <http://www.asme.org/divisions/materials/>. Members are encouraged to contact the web editor if they have pertinent information for posting.

***"You can't depend  
on your eyes  
when your  
imagination  
is out of focus"***

***--Mark Twain***

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