



Chair's Message



DANIEL C. DAVIS
CHAIR
2003 - 2004

It is a tremendous honor to be the Chair of the Materials Division Executive Committee for 2003 - 04. I greatly appreciate Dr. Ted Nicholas who recruited me into the initial position of Secretary of the Executive Committee (EC) some 4 years ago. I have many thanks for our past chairs of the EC, namely, Dr. Ted Nicholas, Dr. Brian Cox, Dr. Rishi Raj, Dr. Sue Cunningham and our most recent past Chair, Dr. Bill Curtin for their strong leadership and for steering the Division positively. It has been a great pleasure coming through the ranks of the Executive Committee. Service as the Program Chair was a tiresome task, but I loved it greatly because I knew I had the total responsibility to put the entire International Mechanical Engineering Congress & Exposition (IMECE) program together, and to accommodate the interest of all our members attending the IMECE that year. I encourage all members of the Materials Division (MD) to be active in the Division's work, and to be active in the ASME mission as a whole. I encourage the MD membership to assume an active role in the Technical Committees of the Division. These committees should be more than just the chair of the committee. I encourage you to propose symposia and develop technical sessions for the annual Congress (IMECE). Undertaking these leadership roles in the Division and within ASME makes being a member worthwhile. I am sure the current members of the Executive Committee have similar expressions. And I must thank those current members of the Executive Committee (EC). First, Dr. Mahyar S. Dadkhah of Axiowave Networks, Marlborough, MA, is the Vice Chair and he will assume the Chair position next June 2004. Dr. Robert Wetherhold of SUNY Buffalo is the Publication Chair. We

all owe Bob a special thank you for his tireless efforts in the position of Program Chair for the 2003 Congress. Dr. David Walls of United Technologies Connecticut is assuming the Program Chair position for the 2004 IMECE. Dr. Mark F. Horstemeyer, newly of Mississippi State University, is the Secretary. Also, we should give our great appreciation to the Technical Editor of our Journal of Engineering Materials & Technology, Professor Huseyin Sehitoglu. Dr. Sehitoglu will give a report on the Journal in this newsletter.

The Materials Division has a long and prestigious history. However, I am concerned that we may not be keeping pace with the rapid changes in our field. Interest in our traditional categories of materials: metal, ceramics, electronic materials, polymers and composites, remains strong in the practice of engineering. However, today we observe that many materials are being categorized by function or application; some of these being for example, bio-inspired materials, shape memory alloys, multifunctional materials, and nanomaterials are also finding interest in the practice of engineering. At the nano-level, materials engineers may become indistinguishable from chemists, physicists, or biologists. As well, as a result of an explosive growth in the fields of nanoscience and nanotechnology, the physical and biological scientists may become more like engineers because of the interest to develop and design materials across the physical scales to achieve macro-level criteria. As a consequence, there will be greater collaboration between scientists and engineers in the conduct of materials research and development. The Materials Division must be positioned to be responsive to these revolutionary changes; otherwise, we as a division will not be competitive. So, this year I will ask the Executive Committee (EC) and our current Technical

American Society of Mechanical Engineers — Materials Division

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Committee (TC) chairs to review our TC structure. We currently have seven Technical Committees: AMD-MD Joint Committee on Constitutive Equations, Ceramics, Composites, Electronic Materials, Materials Processing, Metallic Materials and Polymers. We will need to decide if these current Technical Committees should constitute the Materials Division in the foreseeable future. Or should there be

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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.

Chair's Message

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changes? I, the Executive Committee, and the Technical Committee chairs seek your input. We ask that you become involved and while at the 2003 IMECE attend a Technical Committee meeting(s) in your area of interest to express your ideas and thoughts. Or, you may send your comments to me at anytime before the IMECE 2003 via email at daddywize@aol.com. I will incorporate your comments into the deliberations of the Executive Committee. It is critical that we move forth with these decisions shortly because significant changes related to the technical structure of the Division require a change in the Materials Division Bylaws. Changes in the Bylaws will require ASME Headquarters approval.

Another critical issue at hand is the reorganization of ASME Council of Engineering (COE). I suggest that you review the presentation, *REORGANIZING COE: "Proposed Structure and Roadmap"* at <http://www.asme.org/coe/6-03minutes/COEreorg-Final>. This document first and foremost addresses some challenges facing the mechanical engineering profession; two of them being, the "rapid changes in technology," and "multidisciplinary nature of today's problems." From the prior discussion, these "challenges" are equally foremost for the professions represented within the Materials Division. To effectively respond to these challenges it is imperative that ASME and the Materials Division be an "agile organization" and have an "active membership." However, it is recognized that the "Technical Divisions represent the core structural units of ASME, and the ideal re-organization plan should facilitate and encourage strategic alliances among divisions and groups with similar goals and interests." The MD EC has convened and voted that the Materials Division in this proposed new re-organization structure be in the Basic Engineering Organizational Unit. As such our goals will be to:

- Address basic sciences, both established and emerging, and how these can best be applied in practice.
- Identify and support areas of research, with support of other types of units, to enhance the body of practitioners in these areas.
- Develop and foster relationships with Universities and R&D Institutions (Government national laboratories & industry), other basic science & engineering agencies.

The EC believes that the Basic Engineering Unit best positions the Materials Division to

be a contributing and productive division within the Society. It is believed that the Applied Mechanics Division will elect to be in Basic Engineering also.

I will conclude my remarks by commenting on the wonderful technical and educational program sponsored by the Materials Division at the 2003 IMECE. The preliminary report by Dr. Wetherhold, 2003 IMECE Program Chair, says we will have over 40 technical sessions sponsored by the Materials Divisions. Most of these sessions are organized within fifteen (15) Materials Division sponsored symposia:

Advances in Materials Processing Science
Behavior of Nano-Particle Reinforced Polymers
Composites for Space Application
Constitutive Relations of Advanced Materials
Design and Manufacturing of Composites
Durability and Damage Tolerance of Heterogeneous Materials and Structures
Dynamic Response of Advanced Materials and Structures
Electric and Magnetic Phenomena in Micro/Nano-Scale Systems
Interfaces in Heterogeneous Materials
Materials at the Micro and Nano-Scale: The Interaction between Processing, Mechanical, and Electrical Properties
Materials Issues in Micro- and Nano-Structures
Phase Transitions in Polymers
Predictive Material Modeling and Computational Strategy for Creep and Fatigue Damages
Processing, Characterization and Modeling of Multifunctional Materials
Reliability of Biomedical Materials and Systems

This tremendous program sponsored by the Materials Division is due to the efforts of the session and symposia organizers under the leadership of the Technical Committee chairs. I and the EC members thank you for your efforts, and I assure you we recognize that you all are volunteers. Everyone, please check your Congress program booklet for the times and locations of all MD symposia and technical sessions.

At the annual Congress we always have a special session honoring the Nadai Medal winner. This Medal recognizes 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 of materials. The 2003 Nadai Medal recipient is Dr. Anthony G. Evans, Professor of Materials Engineering and Mechanical Engineering at University of California, Santa Barbara. I ask that you schedule your time at the 2003 IMECE to attend the annual Nadai Medal Lecture to be given by Professor Evans. The Nadai Lecture

is scheduled for Wednesday, November 19, 2003 11:15 AM - 12:30 PM. The 1st Annual Materials Division Awards and Recognition Luncheon will immediately follow the Nadai Lecture. The Luncheon will occur on Wednesday November 19, 2003, 12:30 PM - 2:30 PM. At the Luncheon we want to recognize any division award recipients, new ASME Fellow elections, and Division Certificate of Appreciations recipients.

Let's plan to see each and everyone one of you at the 2003 IMECE in Washington D.C. And may you have a wonderful year thereafter. ■

ASME Journal of Engineering Materials and Technology

Editor's Note:



HUSEYIN
SEHITOGLU

I am very pleased to succeed Prof. David McDowell as the new Editor of ASME Journal of Engineering Materials and Technology. I would like to thank David for his strong contributions to the journal during his

term as Editor and especially for spearheading some excellent special issues.

The scope of the journal remains the same. It is one of the best venues for publishing papers linking mechanics and materials science and engineering. The science emphasis in the journal has increased over the years commensurate with an increase in funding of fundamental research in materials in the 1990's and post 2000. The journal will continue to publish significant contributions in experiments and theory of materials behavior at macro and microscales, materials processing of all class of materials, and in failure mechanisms of materials. Papers will be also considered in the emerging areas of nanomaterials, materials issues in micro- and meso-devices and simulations encompassing molecular to macro length scales. Although the emphasis is primarily focused on structural materials, the journal will also consider papers on representation of combined mechanical and magnetic, and mechanical and electrical properties.

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2003 Nadai Medal and Award Lecture



**PROFESSOR
ANTHONY G. EVANS
NADAI MEDALIST
FOR 2003**

The Nadai Medalist for 2003 is Professor Anthony G. Evans, Professor of Materials Science at the University of California, Santa Barbara. The Nadai Medal, established in 1975, recognizes distinguished contributions to the field of

engineering materials. Professor Evans was selected to receive the 2003 Nadai Medal "for outstanding research and leadership in the materials and mechanics of deformation and failure in a wide range of structural material systems including ceramics, fiber-reinforced composites, metal foams, and thermal barrier coatings."

Professor Anthony G. Evans currently is Professor of Materials and of Mechanical Engineering and Director of the Center for Multifunctional Materials and Structures at the University of California, Santa Barbara. In previous academic appointments he was Gordon Wu Professor of Mechanical and Aerospace Engineering and Director Princeton Materials Institute, Princeton University, Gordon McKay Professor of Materials Engineering, Division of Applied Sciences, Harvard University, Alcoa Professor and Co-Director of High Performance Composites Center Materials Department, as well as Chair of the Materials Department at the University of California, Santa Barbara, and Professor, Department of Materials Science and Mineral Engineering, University of California, Berkeley. Professor Evans' work was recognized through several awards including a 2002 Alexander von Humboldt Foundation Senior Scientist Award, the 2001 Mellor Memorial Lecturer of The Institute of Materials, U.K., the 2000 Turnbull Award of the Materials Research Society, the 1998 Peterson Award of the Society for Experimental Mechanics, and the 1994 Griffith Medal and Prize of The Institute of Materials, U.K. He is a Fellow of the Royal Society of London, a Fellow of the Academy of Arts and Sciences, a Distinguished Life Member of the American Ceramic Society, and a Fellow of the National Academy of Engineering. His recent research interests include multifunctional materials, morphing structures, and gas turbines. His is author of over 450 technical articles on topics concerned with the

thermomechanical performance of advanced materials and systems.

The award consists of a \$1000 honorarium, a bronze medal and a certificate. Formal presentation of the award is scheduled to take place at the President's Luncheon, Monday, November 17, during the ASME International Mechanical Engineering Congress. Professor Evans will present the Nadai Medal lecture on Wednesday, November 19 at 11:15 am; consult the IMECE bulletin for the location.

Nadai Lecture Abstract: "Multifunctional Materials and Structures"

New categories of metallic sandwich panels with periodic, open cores have been enabled by novel fabrication and topology design tools. Fabrication protocols based on the sheet forming of trusses and shell elements have allowed the manufacture of robust structures by inexpensive routes. Topology optimization has enabled the control of failure mechanisms at the truss length scale, leading to superior structural efficiency. Analysis, testing and optimization have demonstrated that sandwich panels constructed with these cores are structurally competitive, while endowing additional functionality. The attributes of such structures, beyond load bearing, include resistance to failure due to underwater blast and efficient active cooling when subject to high intensity heat flux. ■

Announcing The "Orr Awards On Fracture and Failure Analysis"

Leighton and Margaret Orr Award for "Best Paper on Fracture or Failure Analysis"

The Materials Division is pleased to announce the creation of the Orr Best Paper Award on Fracture and Failure Analysis. This award has been made possible through a generous gift to ASME from Dr. Leighton and Margaret Orr. The award aims to highlight and enhance the field of fracture research, and is accompanied by a plaque, a substantial honorarium, and travel funds to attend the IMECE. Annual

selection of the award will be made by the Honors and Awards committee of the Materials Division, with nominations coming from the Technical Committees, the Executive Committee, and various Journal editors. Further details will be provided on the Materials Division web site; no awardee has yet been announced for 2003.

Leighton and Margaret Orr Award for "Outstanding Young Engineer in the Field of Fracture"

The Materials Division is pleased to announce the creation of the above award to recognize young engineers who have already made a substantial contribution to the field of fracture and who hold promise for leading the field forward with creative research in the future. This annual award has been made possible through a generous gift to ASME from Dr. Leighton and Margaret Orr, and carries with it a plaque, a substantial honorarium, and travel funds to attend the IMECE. Details on the nomination and selection process will be provided on the Materials Division web site; no awardee has been announced for 2003.

"Leighton Orr is recognized as an expert on the properties of glass. His most visible assignment was working with architect I.M. Pei to solve the problem of windows popping out of the John Hancock Building in Boston.

Mr. Orr received his B.S.M.E. from the University of Pittsburgh in 1928. Most of his career, 37 years, was spent at the PPG Industries Lab, with 20 years as head of Physical Testing. He headed and conducted research in optics, heat flow, safety, impact performance, and fracture analysis. He is the holder of eight patents. Because of his contributions to the field, he was named a Fellow of ASME in 1967. Following his retirement in 1972, he established a consulting practice. Some of his most enjoyable assignments were for the firm of Roche-Dinkeloo designing glass enclosures for the likes of polar bears and sharks at public zoos and aquaria.

He and his wife Margaret made record breaking gifts to ASME to honor engineers for their contributions to society, to further work in the areas of fracture analysis, cause of failures, technical communications, and to promote technology among young people." ■

News from the Technical Committees

AMD-MD Joint Committee on Constitutive Equations



HUSSEIN M. ZBIB,
COMMITTEE CHAIR

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 IMECE2002 in New Orleans. The meeting was chaired by Prof. M.A. Zikry (zikry@eos.ncsu.edu) the vice chairmen of the committee. The committee welcomed three new members to its ranks: Dr. Bruce Lamattina, Army Research Office, Engineering Sciences Division, Professor S. Joseph Antony, Leeds University, and Dr.

Wael Ashmawi, North Carolina State University.

The committee discussed proposed symposia for the forthcoming IMECE2003 and approved two proposals. The first symposium is on "Constitutive Relations of Advanced Materials" and is being organized by Professor Jackie Li (j.li@ccny.cuny.edu), Professor L. Catherine Brinson, and Professor Dimitris Lagoudas. This symposium is intended to open a forum to researchers working on analytical, numerical, and experimental approaches to modeling and characterization of advanced materials. Papers concerning the constitutive relations of all aspects of advanced materials and structures are invited. The second symposium is on Predictive Material Modeling and Computational Strategy for Creep and Fatigue Damages to is being organized by Professor C. L. Chow, (clchow@umich.edu) and Dr. H. Eliot Fang (hefang@sandia.gov). Particular emphasis of the symposium is placed on the consistency of computer simulation based on different material models of fatigue and creep damages for structural design and residual lives. The subject matters include, but not limited to, i) damage and failure criteria, (ii) material behavior under thermo-mechanical and fatigue loading, (iii) loading rate effects on material behavior, (iv) intrinsic length-scale effects in material modeling, and (v) computational strategy and consistency.

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. ■

Composites Committee



ANN MARIE
SASTRY,
COMMITTEE CHAIR

The Composites Committee of the Materials Division organized or co-organized 5 symposia for the 2002 ASME IMECE, including

- **Damage in Heterogeneous Biomaterials** – Ann Marie Sastry (University of Michigan) and Noriko Katsube (Ohio State University)
- **Modeling and Characterization of Nanocomposites** – Tsu-Wei Chou (University of Delaware) and Ronald Gibson (Wayne State University)
- **Durability and Damage Tolerance of Heterogeneous Materials and Structures** – Mina Pelegri (Rutgers University) and Phil McLaughlin (Villanova University)
- **Design and Manufacturing of Composites** – Julie Chen (University of Massachusetts-Lowell) and Uday Vaidya (University of Alabama-Birmingham)

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ASME Journal of Engineering Materials and Technology

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The journal will continue to publish special issues devoted to areas of current interest. I am open to proposals from potential guest editors for special issues of the journal focusing on new areas. Some of these special issues could emanate from papers presented in ASME meetings. Also, proposals for review articles on state of the art topics that will benefit the JEMT readership and provide a resource for the community are most welcome.

The team of Associate Editors and I look forward to submissions of your best findings to the journal.

SINCERELY,
HUSEYIN SEHITOGLU ■

2003 IMECE Materials Division Special Events

Wednesday, November 19

MAT – 8 Nadai Lecture

11:15 am – 12:30 pm

President: William Curtin, Brown University

Speaker: Professor Anthony G. Evans,
University of California, Santa Barbara,
2003 Nadai Medalist



PROGRAM CHAIR:
ROBERT
WETHERHOLD

Wednesday, November 19

Materials Division Awards and Recognition Luncheon

12:30pm - 2:30pm

Tickets: \$40.00

President: Daniel Davis, Texas A&M University

News from the Technical Committees

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• Composites for Space Applications —

Ajit Roy (AFRL/ML) and Steve Donaldson (AFRL/ML)

Prof. Uday Vaidya (University of Alabama, Birmingham) was unanimously elected Vice-Chair of the Composites Committee; he will bring substantial experience in structural composites, and established support for the committee's organizational efforts, to his new position. The Committee's members also continued to collaborate with colleagues in the American Society for Composites and the International Committee on Composite Materials.

Five symposia organized or co-organized by the Committee will appear in the 2003 meeting program, including:

• Interfaces in Heterogeneous Materials

— Mina Pelegri (Rutgers University)

• **Durability and Damage Tolerance of Heterogeneous Materials and Structures** — Anette Karlsson (University of Delaware) and Wen Chan (UT-Arlington)

• **Design and Manufacturing of Composites** — Julie Chen (University of Massachusetts-Lowell), Mahesh Hosur (Tuskegee Institute), A. Haque and Yuris Dzenis (UNL)

• **Composites for Space Applications** — Ajit Roy (AFRL/ML) and Mark Tudela (AFRL/ML)

• **Dynamic Response of Advanced Materials and Structures** — Serge Abrate (Southern Illinois University), Yapa D.S. Rajapakse (ONR), Uday Vaidya (University of Alabama at Birmingham)

Plans continue for the Committee to have a greater presence in nanostructured and/or biological composite materials. Prof. Yuris Dzenis (University of Nebraska) will head a sub-committee to address nanostructured materials and to interface with the Nano track of ASME. A planned symposium for 2004 in the biological area will include bioinspired and biocompatible materials. ■

Electronic Materials Committee



JOOST VLASSAK
COMMITTEE CHAIR

The Electronic Materials Committee serves those ASME members who study material and mechanical phenomena significant to 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 2002 Winter Meeting in New Orleans, the Committee organized two symposia:

• **Nanoscale Material Behavior and Modeling**, 5 sessions, organized by Young Huang (huang9@uiuc.edu, University of Illinois, Urbana-Champaign) and Rodney Ruoff (Northwestern University).

• **Mechanical Issues in Microelectronics and Photonics**, organized by Eliot Fang (hefang@sandia.gov, Sandia National Laboratories), Xiantao Yan (LightCross), and Yu-Lin Shen (University of New Mexico).

The Committee sponsored a very successful symposium with more than forty presentations at the 2003 ASME Mechanics and Materials Conference in Scottsdale, AZ. The symposium was entitled "Characterization and Mechanical Reliability of Advanced Electronic Materials at the Nanoscale" and was organized by Harley Johnson (htj@uiuc.edu, University of Illinois), Alex Volinsky (Alex.Volinsky@motorola.com, Motorola), Surya Ganti (sharma@crd.ge.com, GE), and Pradeep Sharma (ganti@crd.ge.com, GE). Proceedings of the symposium will be published in *Microelectronic Engineering* by Elsevier.

At the 2003 Winter Meeting in Washington D.C., the Committee will sponsor a symposium on "Materials at the Micro and Nano Scale: The Interaction Between Processing, Mechanical, and Electrical Properties." The symposium is organized by Peter Anderson (anderson.1@osu.edu, Ohio State University), Taher Saif (saif@uiuc.edu, University of Illinois), Richard Vinci (rvp2@lehigh.edu, Lehigh University), and Joost Vlassak (vlassak@esag.harvard.edu, Harvard University). The symposium will have 5 sessions and will serve as a meeting point for researchers in academia, research labs and industry investigating the behavior of nano-scale materials. Topics will include new experimental methods for testing and visualizing materials at small scale, experimental findings on mechanical behavior, as well as modeling of materials (both continuum and atomistic). In essence, the symposium will provide a forum for presenting the state of the art on materials behavior at the micro and nano-scale.

Zhigang Suo finished his three-year term as Chair of the Committee last year. The Committee would like to thank Prof. Suo for the

exceptional energy and enthusiasm he has brought to the Committee during his tenure as Chair.

At the next Committee Meeting during the 2003 ASME Congress in Washington D.C., the Committee will elect a new Vice-Chair. The Vice-Chair acts as Chair-Elect and will chair the Committee after Prof. Vlassak completes his term in 2006. Nominations for candidates for this position are solicited and can be sent to Prof. Vlassak at vlassak@esag.harvard.edu.

If anyone is interested in organizing a symposium at the Winter Meeting of 14-19 November 2004, in Anaheim CA, please send Prof. Vlassak 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 the next meeting, and present the selected proposals to the Materials Division. Please join us at the Committee Meeting in Washington this November to plan future activities. The Committee Meeting is open to all. ■

Material Processing Committee



DEVDAS PAI
CHAIR

The Materials Processing committee has been very active over the past year. At the 2002 IMECE in New Orleans, the committee sponsored/co-sponsored two symposia. The first (10 sessions) was entitled "Advances in Material Processing Science" and was organized by Prof. Dennis Siginer (Wichita State University) and Prof. Sayavur Bakhtiyarov (Auburn University). The second symposium (2 sessions), entitled "Processing, Characterization and Modeling of Novel Nanoengineered and Surface Engineered Materials," was organized by Prof. Jagannathan Sankar, Prof. Devdas Pai and Dr. Sergey Yarmolenko (North Carolina A&T State University).

For the 2003 IMECE in Washington, DC, the Committee has sponsored/co-sponsored three symposia. The first is a 3-session symposium on "Advances in Material Processing Science" organized by Prof. Dennis Siginer (Wichita State University) and Prof. Sayavur Bakhtiyarov (Auburn University). The second is a 4-session symposium (including plenary lectures) on Electric and Magnetic Phenomena in Micro/Nano-Scale Systems organized by Prof. Dennis Siginer (Wichita State University), and Profs. John Lloyd and Boris Khudid

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News from the Technical Committees

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(New Jersey Institute of Technology). The third is a 3-session symposium on "Processing, Characterization and Modeling of Multifunctional Materials," organized by Prof. Jagannathan Sankar, Prof. Devdas Pai and Dr. Sergey Yarmolenko (North Carolina A&T State University).

In summary, the Materials Processing Committee plans to organize future symposia and workshops for 2004/2005 and beyond. The Materials Processing Committee Meeting at the 2003 IMECE is scheduled for Wednesday, November 19, between 10:00AM - 12:30PM. Please contact me (pai@ncat.edu) if you would like to participate in ongoing activities or initiate some new activities. ■

Metallic Materials Committee



WOLÉ SOBOYEJO,
COMMITTEE CHAIR

The Metals Committee has had a moderately active year. As usual, the focus of the committee has been on the organization of symposia and the publication of Special Issues of journals. At the Winter

Annual Meeting in November, 2002, a symposium on the Fatigue of Advanced Materials was organized by Prof. Wolé Soboyejo (Princeton University), Prof. Alfred Soboyejo (The Ohio State University) and Dr. Christopher Mercer (University of California-Santa Barbara). The symposium featured sessions on the fatigue of advanced metallic and non-metallic materials, micro-electro-mechanical systems, and theoretical/computational aspects of fatigue. The sessions were generally well attended, in spite of the fact that they were held on a Sunday. Papers from the symposium are currently being peer-reviewed. They will be published in a Special Edition of ASME's Journal of Engineering Materials and Technology (JEMT).

Currently, there are two symposia being organized for the Winter Annual Meeting. The first, entitled, Materials Issues in Micro- and Nano-Structures, is being organized by Prof. Wolé Soboyejo (Princeton University), Prof. Zhigang Suo (Harvard University) and Dr. Seyed Allameh (Princeton University). Papers from this symposium will be peer-reviewed and published in the Journal of Materials Science. The second symposium

Materials Division Symposia For IMECE 03 In Washington, DC

The Materials Divisions Technical Committees and member have worked hard to put together an outstanding and broad technical program for IMECE 03, which will be held in Washington, D.C. November 15-21, 2003. The individual Symposia are listed below. The Division is sponsoring 43 sessions, and some Symposia are jointly sponsored by other Divisions. In total, the Materials Division is sponsoring 181 papers amongst 15 Symposia. The Technical Committee chairs and all others interesting in organizing sessions for IMECE 04, which will be held in Anaheim, CA Nov 14-19, should submit their requests to David Walls (wallsdav@pweh.com) by December 1, 2003.

IMECE 03 Symposia

Composites (*Chair Ann Marie Sastry*)

Interfaces in Homogeneous Materials (*A. Pelegri*)

Durability and Damage Tolerance of Heterogeneous Materials and Structures (*A. Karlsson, W. Chan*)

Design and Manufacturing of Composites (*J. Chen, M Hosur*)

Composites for Space Applications (*A. Roy, S. Donaldson, M. Tudela*)

Dynamic Response of Advanced Materials and Structures (*S. Abrate, U. Vaidya and Y. Rajapakse*)

Constitutive Materials (*Chair Hussein Zbib; joint committee with AMD*)

Constitutive Relations of Advanced Materials (*J. Li, L. Brinson, D Lagoudas*)

Predictive Material Modeling and Computation Strategy for Creep and Fatigue Damage (*C. Chow, H. Fang*)

Electronic Materials (*Chair Joost Vlassak*)

Materials at the Micro- and Nano-scale: The Interaction between Processing, Mechanical, and Electrical Properties (*J. Vlassak, P. Anderson, T. Saif, R. Vinci*)

Materials Processing (*Chair Devdas Pai*)

Processing, Characterization and Modeling of Multifunctional Materials (*J. Sankar, D. Pai, S. Yarmolenko*)

Electric and Magnetic Phenomena in Micro- and Nano-scale Systems (*D Siginer, J. Lloyd, B Khusid*)

Metallic Materials (*Chair Winston Soboyejo*)

Materials Issues in Micro- and Nano-structures (*W. Soboyejo, Z. Suo and S. Allameh*)

Reliability of Biomedical Systems (*W. Soboyejo, P. Aswath and N. Katsube*)

Polymers (*Chair Karl Jacob*)

Behavior of Nano-Particle Reinforced Polymers (*S. Bechtel, K. Jacob*)

on "The Reliability of Biomedical Materials" is being organized by Prof. Wolé Soboyejo (Princeton University), Prof. Pranesh Aswath (University of Texas at Arlington), Prof. Alfred Soboyejo (The Ohio State University) and Dr. Min Huang (Princeton University). The papers from this symposium will be published in a Special Issue of the Journal of Materials Science: Materials in Medicine.

Future plans include symposia and special issues on: Life Prediction, Active Materials and Small Structures. The committee is also considering a name change to reflect the current range of activities and interests. The new name of "Multifunctional Materials Com-

mittee" has been suggested to replace the "Metals Committee" name. The current committee includes: Prof. Wolé Soboyejo of Princeton University (Chair); Prof. Pranesh Aswath of the University of Texas at Arlington (Vice-Chair); Prof. Anette Karlsson of the University of Delaware (Symposium Planning) and Dr. Seyed Allameh of Princeton University (Membership).

We welcome your involvement in the committee and all our future activities. ■

2003 – 2004 Materials Division

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