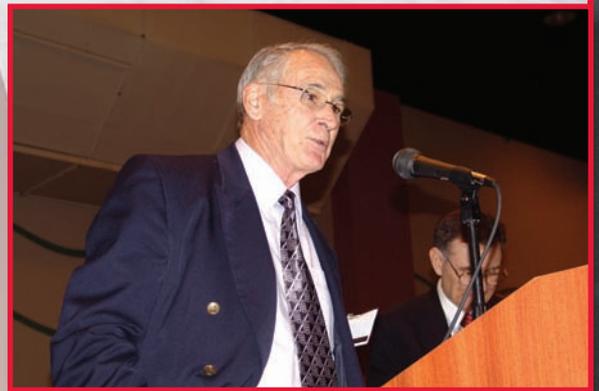


# TMS

The Minerals, Metals & Materials Society



# Annual Report 2007



**50 Years of TMS:**  
*Celebrating the Past,  
Planning for the Future*



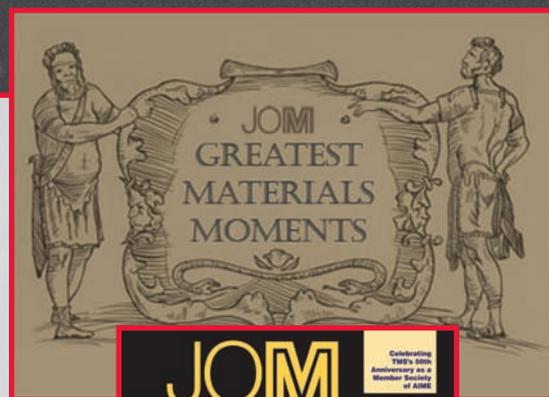
# TMS

## 50 Years of TMS

### *Celebrating the Past*

In 2007, The Minerals, Metals & Materials Society (TMS) celebrated 50 years of serving the materials science and engineering community. TMS was established as a member society of the American Institute of Mining, Metallurgical and Petroleum Engineers (AIME) in 1957 and shares in AIME's history as one of the earliest U.S. professional societies for mining and metallurgy.

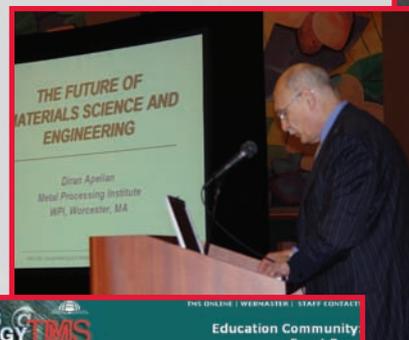
TMS celebrated this milestone with the *JOM* Greatest Materials Moments project, a worldwide survey sponsored by the TMS member journal to identify the top 50 moments in materials history. Building on this project, the TMS 2007 Annual Meeting, held in Orlando, Florida, included a series of special plenary sessions that looked at the development of materials over the past 50 years and into the future. Both projects illustrated the strong impact that materials have had on society at large, a theme that will be expanded at the TMS 2008 Annual Meeting.



### *Planning for the Future*

But 2007 was also a forward-looking year for the society. Throughout the year, TMS improved on some of its core strengths by providing new, on-line venues for international technical exchange and resource access; by helping to create up-to-date standards for professional engineers; by recognizing excellence in the materials field through new awards; and by encouraging the future of the materials profession through student scholarships and development programs for young professionals.

On the following pages, TMS lays out its strategic goals to take the society into the future and provides a look at some of the projects being undertaken to meet these goals.



### *About TMS*

The mission of TMS is to promote the global science and engineering professions concerned with minerals, metals, and materials. TMS is a professional, member-driven organization that operates in the five technical areas of electronic, magnetic & photonic materials; extraction & processing; light metals; materials processing & manufacturing; and structural materials.

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Dear TMS Colleagues,

We are proud and excited to present the 2007 Annual Report for The Minerals, Metals & Materials Society.

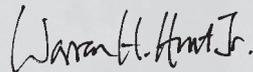
We are proud because of the strong progress made in the past year toward the goals of the TMS Strategic Plan, and particularly in our mission to serve the profession. In this report you will see details on membership growth in both the professional and student categories, success in convening meetings for networking and knowledge transfer, growth in knowledge dissemination outlets, and a strong financial performance. You will also see how TMS served the professional through its roles in accreditation, professional registration, and student development. We are proud to be your professional partner for career advancement.

We are excited because of the new initiatives that were begun in 2007 and their promise to continue to provide services to our members and the expanding materials science and engineering field in the future. You will read about the launch of Materials Technology@TMS and the on-line communities of learning that it enables. You will learn about the continued efforts to collaborate with our professional society partners in the United States and throughout the world, and see some specific accomplishments with these partners in developing services for our broadening field. We will continue to aggressively provide opportunities for you to participate, learn, network, and advance.

It has been said that the strength of TMS is its members, and that is as true today as it was in the past, and will continue to be in the future. TMS exists because of its members. It also exists to serve its members. We will continue to take that responsibility seriously, and ask that you continue to be a part of TMS's future growth.



Robert D. Shull, 2007 President



Warren H. Hunt, Jr., Executive Director

## A Message from TMS Leaders



Robert D. Shull,  
2007  
President



Warren H. Hunt, Jr.,  
Executive  
Director

### 2007 TMS Board of Directors

#### Executive Committee

Robert D. Shull, 2007 President  
Brajendra Mishra, Past President  
Diran Apelian, Vice President  
Garry W. Warren, Financial Planning Officer

#### Technical Division Council Directors

Patrice E.A. Turchi, Electronic, Magnetic & Photonic Materials  
Robert L. Stephens, Extraction & Processing  
Wolfgang A. Schneider, Light Metals  
Joy A. Hines, Materials Processing & Manufacturing  
Eric M. Taleff, Structural Materials

#### Administrative Committee Directors

Marc J. DeGraef, Information Technology  
Jud Ready, Membership & Student Development  
Anthony A. Pengidore, Professional Development  
James C. Foley, Programming  
Iver E. Anderson, Public & Governmental Affairs  
George T. Gray, III, Publications

## 2007 TMS Leadership

## **Strategic Goal 1: Broaden Engagement with the Global Materials Community**

*TMS is working to share information and knowledge with the global materials community through the development of electronic services, joint meetings and specialty conferences, increased international membership, and awareness of public and governmental issues.*

### **Materials Technology@TMS Communities Enable Global Networking**

In February 2007, with the launch of Materials Technology@TMS ([materialstechnology.tms.org](http://materialstechnology.tms.org)), TMS members gained an on-line technical community where they can engage in discussion with colleagues from around the world and access a wealth of technical resources. The initial site launch included technical communities in the areas of education, integrated computational materials engineering, lead-free solders, magnesium, materials for nuclear power, and superalloys. In 2008, the site will continue to grow, with plans to expand content areas to reach a broader audience of materials professionals.

### **U.S. National Science Foundation Supports Education Community**

In August, TMS received a two-year grant from the U.S. National Science Foundation to support further development of the Materials Technology@TMS Education community, which is geared toward materials professionals working in the academic sphere and those interested in advancing the profile of engineering and engineering education.

### **International e-Members**

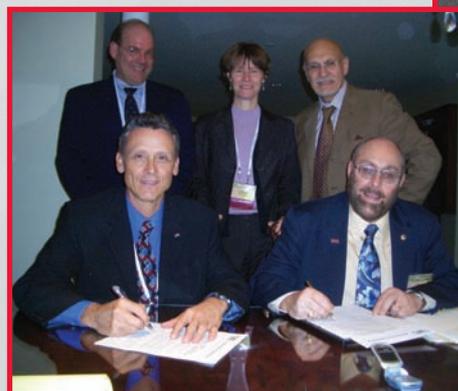
Materials professionals throughout the world were invited to join TMS as International e-Members in 2007, an option that allows members outside of the United States and Canada to take advantage of TMS membership benefits in electronic format at a lower rate than traditional memberships. The program was initially developed to provide materials professionals in developing countries an opportunity to access TMS resources at a reduced rate.

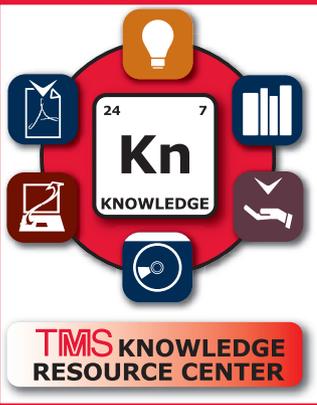
### **TMS Collaborates on Meetings**

In 2007, TMS worked closely with its partners, the American Ceramic Society (ACerS), ASM International, and the Association for Iron & Steel Technology, to continue the MS&T (Materials Science and Technology) conference series that began in 2003. MS&T '07 took place in Detroit, Michigan, in September. TMS further partnered with ACerS on the Commercialization of NanoMaterials Conference held in November in Pittsburgh, Pennsylvania.

### **TMS, MRS, and ACerS Create Congressional Fellowship**

As the year drew to a close, TMS joined once again with ACerS and with a new partner, the Materials Research Society (MRS), to create the Materials Societies Congressional Fellowship, a new opportunity for materials scientists and engineers wishing to influence public policy decisions related to science and engineering.





### **TMS Launches Knowledge Resource Center**

To accommodate all of the new directions for its publications—webcasts and webinars, for example, in addition to books, journals, and papers—TMS has created a new e-store. The TMS Knowledge Resource Center ([knowledge.tms.org](http://knowledge.tms.org)) organizes the society's more than 3,000 technical products, making them easier to search, download, read, or purchase. Users can also purchase Knowledge Packages, complementary resources that are bundled together for purchase at a single price.



### **Annual Meeting Plenary Sessions**

In 2007, TMS held its third largest Annual Meeting ever, with more than 4,200 attendees gathered in Orlando, Florida. At the meeting, for the first time, a series of all-conference plenary sessions gathered all the meeting attendees for general-interest programming before the start of the technical sessions. The well-attended plenaries looked at the past and future of the materials science and engineering field.



### **Collected Proceedings on CD-ROMs**

At the TMS 2007 Annual Meeting, TMS continued its new approach to publishing proceedings. All full-conference attendees could choose from one of three collected proceedings CD-ROMs in a particular technical area as part of their registration fee. In 2008, the society will take this initiative one step further by providing a single CD with all the conference's collected proceedings to all full-conference attendees.



### **Professional Registration Exam**

In 2007, the TMS Professional Registration Committee worked with the National Council of Examiners for Engineering and Surveying to develop a new test for registering professional metallurgical and materials engineers in the United States. New specifications are now in place for the Metallurgical and Materials Engineering PE exam, which will first be administered in October 2008.

### **Membership Snapshot: Top Ten Most Important Functions of TMS**

In a 2007 survey, TMS members were asked to select the most important functions that the society performs. Below are the top ten survey answers:

10. Building collaborative initiatives among the world's materials societies
9. Providing scholarships to materials students
8. Representing the field within the broad science and engineering community
7. Assuring quality in materials education in the United States
6. Providing continuing education/professional development to members
5. Nurturing the development of materials students and young materials professionals
4. Providing timely features and news about materials to members
3. Providing platforms for the communication of technical research
2. Providing members access to technical information
1. Providing networking opportunities for professionals in materials science and engineering

## **Strategic Goal 2: Extend TMS Core Competencies**

*TMS is building on its existing strengths in technical programming, publications, information technology, and professional development by presenting traditional resources in new formats, expanding on-line resources for members, and developing strategic alliances with other organizations.*

## Strategic Goal 3:

### Enhance Services to TMS Members

*TMS aims to enhance its services by focusing on the variety of member needs within the society, developing products and services that address the needs of members from industry, academia, and government, as well as student members.*



#### **TMS Expands Member Resources**

To increase the availability of technical resources to its members, TMS partnered with Springer Science and Business Media and Knovel Corporation. Springer took over management of subscriptions for the TMS journals, *JOM*, *Journal of Electronic Materials*, and *Metallurgical and Materials Transactions A and B*. The agreement gives TMS members a new electronic medium for viewing journal subscriptions, full access to additional Springer journals, and discounts on Springer publications. TMS also opened the entire contents of the TMS e-Library powered by Knovel—37 books in all—to its members as a benefit of membership.



#### **Committees Focus on Member Needs**

In recent years, TMS has acted on recommendations from academic and industrial members to better serve these groups. In 2007, the society convened an ad hoc Government Alliance Committee to determine how to enhance service to its members from government organizations. TMS also established a Women in Materials Science and Engineering Committee as a follow up to the Women in Science breakfast that is now an established feature of the TMS Annual Meeting.



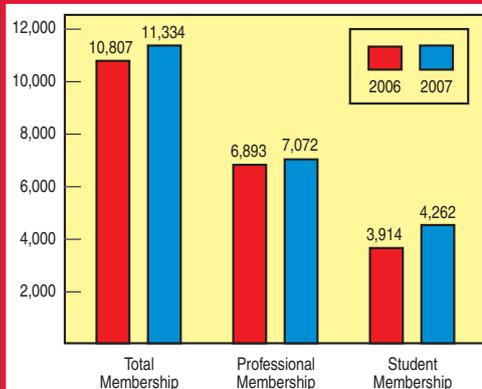
#### **Emerging Leaders Alliance**

Another new project approved in 2007 was the Emerging Leaders Alliance. The United Engineering Foundation will grant TMS and other AIME member societies \$98,000 to develop the program, which is designed to serve young professionals in science and engineering.



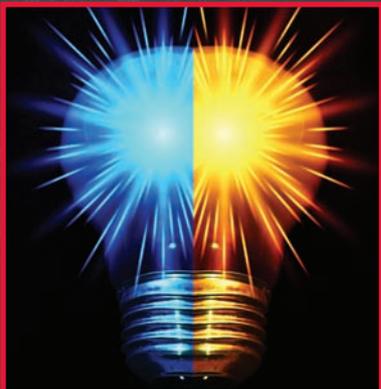
#### **Materials Bowl and Poster Contest**

At the 2007 Annual Meeting, TMS awarded students approximately \$12,000 in prizes through the new Materials Bowl quiz competition, a 50th Anniversary Essay Contest, and the 2007 TMS Technical Division Student Poster Contest.



#### **Membership Snapshot: 2007 Membership Growth**

TMS membership increased nearly 5% in 2007, with growth shown among both professional members and students.



**Materials and Societal Needs**

In 2007, TMS took steps to focus on the link between materials developments in critical technology areas—such as alternative energy sources, materials infrastructure issues, and energy conservation in the materials industries—and their societal implications. TMS developed a special Materials and Society programming track for the TMS 2008 Annual Meeting, laid plans for a new ad hoc Materials and Society committee, and expanded the mission of the TMS Foundation to “support the development of materials professionals within the context of our global society.”

**Fellows Bring Expertise to TMS 2008**

Established in 2007, the Early Career Faculty Fellow program serves two goals: to recognize an accomplished early career professional while broadening the technological profile of TMS. At the TMS 2008 Annual Meeting, 2007 Fellow Ryan Roeder will fulfill the second part of this goal by organizing the Biological Materials Science symposium, and 2008 Fellow Katsuyo Thornton will present the Young Leader Tutorial Luncheon lecture on computational materials science and engineering.

**Educating Congress on Nuclear Materials**

In the spring, TMS joined with the American Nuclear Society, ASM International, and the U.S. Federation of Materials Societies to present an informational luncheon on materials issues in nuclear power. Luncheon speakers helped to explain the possibilities and limitations of the re-emerging field of nuclear power to U.S. Congressional leaders.

**TMS Partners with APS on ICME**

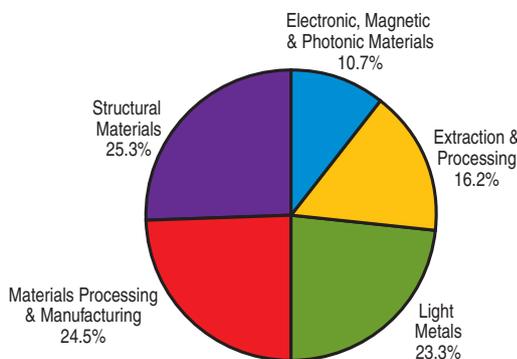
In 2008, TMS is teaming with the American Physical Society (APS) to present a series of collaborative programming events related to integrated computational materials engineering (ICME). These sessions will be held as part of the TMS 2008 Annual Meeting and the APS March meeting, which will both be held in New Orleans, Louisiana, in March.



**TMS 2008**  
137th Annual Meeting & Exhibition

**Strategic Goal 4:  
Capture Emerging Technologies**

*TMS seeks to foster the growth of new technologies by creating opportunities for knowledge and information dissemination in emerging technical areas. TMS plans to identify and analyze emerging technology areas and to develop ways in which the society can serve these new, fast-growing areas.*



**Membership Snapshot: Member Technical Interests**

TMS members can be broadly divided into five categories, corresponding with the society’s five technical divisions. This chart depicts the technical areas with which TMS members associate themselves.

### Strategic Goal 5: Ensure Financial Resources to Achieve Strategic Goals

*TMS plans to achieve its strategic goals and to assure the operation of the TMS Foundation through accepted business principles, investments, external funding, and fiscally responsible operations.*

#### TMS Adopts New Strategic Goal

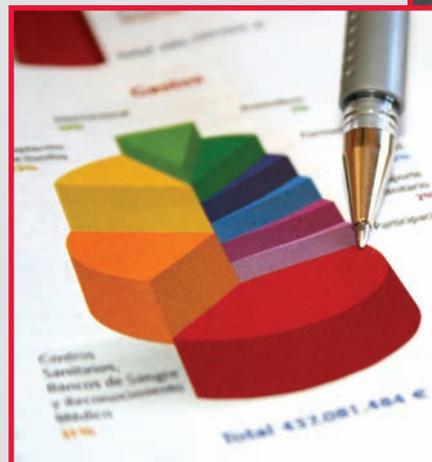
In 2007, TMS added a fifth goal to its strategic plan: "Ensure Financial Resources to Achieve Strategic Goals." One way to achieve this was to pursue new avenues for funding projects that will allow TMS to meet its ambitious goals for serving the materials science and engineering community.

#### Grants Help TMS Pursue Future Projects

This year, TMS planned increased emphasis on pursuing external funding to meet the goals of the strategic plan presented in this report. By the end of 2007, TMS had roughly doubled grant funding compared to prior years and had already secured additional funding for future projects to support meeting programming, on-line initiatives, and leadership programs. Grant funding secured in 2007 included:

- A two-year, \$60,000 grant from the U.S. National Science Foundation to support the Education Community of Materials Technology@TMS
- A \$98,000 grant from the United Engineering Foundation (in conjunction with AIME) for the development of the Emerging Leaders Alliance

TMS will continue to explore new sources of grant funding in the coming year.

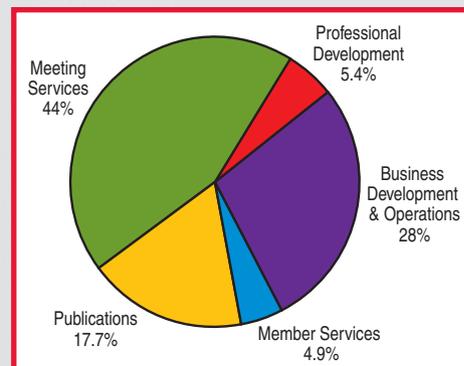
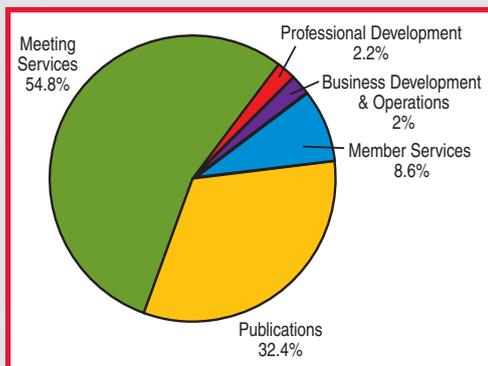


#### Summary of Operating Revenue and Expenses

Year Ended 31 December 2007

Revenues	
Member Services	\$518,749
Publications	\$1,954,385
Meeting Services	\$3,308,222
Professional Development	\$132,501
Business Development & Operations	\$127,078
<b>Total</b>	<b>\$6,040,935</b>

Expenses	
Member Services	\$276,939
Publications	\$1,011,699
Meeting Services	\$2,511,764
Professional Development	\$306,702
Business Development & Operations	\$1,598,565
<b>Total</b>	<b>\$5,705,669</b>



#### About the Photos:

Most of the photos used in this report were taken at the TMS 2007 Annual Meeting. The photos on page iv are from the MS&T '07 conference and the signing of an agreement between TMS and the Materials Research Society. Additional images were taken from TMS publications and web sites.