

2006-89: A PERSPECTIVE ON INITIATIVES IN DIVERSITY AND OUTREACH ACTIVITIES OF ASME, AN INTERNATIONAL SOCIETY

Mulchand Rathod, Wayne State University

Mulchand S Rathod, PhD, PE, professor of Division of Engineering Technology, Wayne State University, Detroit, Michigan is recognized for a career of dedicated, unselfish service to engineering and technology education, as a leader in education, faculty member, and as a contributor to professional societies. Dr Rathod lead the Division of Engineering Technology as director and chair during 1987-2003. Prior to joining WSU, he worked at State University of New York at Binghamton as coordinator of mechanical engineering technology program and assistant and associate professor (1979-87), Tuskegee University as assistant professor of mechanical engineering (1976-78), and Jackson Engineering Graduate Program as adjunct faculty (1975-76). Over the period 1980-85, his was employed in summers and academic years at Jet Propulsion Laboratory (JPL) of California Institute of Technology and IBM. He worked in HVAC industry with B&B Consulting Engineers (1975-76). He earned his B.E. (Mechanical) degree from Sardar Patel University in India in 1970. Upon immigrating to USA, he earned his M.S. (1972) and his Ph.D. (1975), both in Mechanical Engineering from Mississippi State University. His specialty areas of interest include biomedical engineering, HVAC, energy, electronic cooling and packaging, and technical and minority education. While at Tuskegee, he performed research in energy and conducted summer pre-engineering programs for minorities and women. His mechanical design of a GSA building was granted most energy efficient HVAC award by American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) chapter in 1976. He performed research on photovoltaic cells and electronic cooling while with IBM and JPL. At Wayne State, he started new BS degree programs in computer, electromechanical, manufacturing, and product design engineering technologies; and a MSET degree. A nationally known leader in engineering and technology education, he took the engineering profession to middle schools during 1996-2001 and conducted enrichment programs for 8th grade students and middle school teachers. A registered professional engineer and member of Pi Tau Sigma Mechanical Engineering and Tau Beta Pi Engineering honor societies, Dr. Rathod is active in American Society for Engineering Education (ASEE), ASHRAE, American Society of Mechanical Engineering (ASME), Professional Order of Engineering Technology (POET), Society of Manufacturing Engineers (SME), and Tau Alpha Pi (TAP) National Honor Society for Engineering Technology. He founded student chapters of SME, TAP, and ASME at SUNY-Binghamton and WSU, and lead as faculty advisor. He served in leadership roles of MET Department Heads Committee of ASME and organized first paper session on applied research. Also, he has served on ASME Boards on Engineering Education, Minorities and Women (Vice President), Diversity and Outreach (Vice President), Regions III and V Operations, Metrication; Council on Education; and representative to Technology Accreditation Commission (TAC) of Accreditation Board for Engineering and Technology (ABET). Dr. Rathod has been the ASEE campus representative at WSU. He has served on the editorial board of the Journal of Engineering Technology and was its advertising editor. He was a director of ETC board of ASEE He has been a reviewer for the journals of ET, ASHRAE, and Engineering Education, and has served on several project review panels of NSF and other organizations. He has organized and chaired paper sessions in the professional societies and served as a commissioner on the TAC of ABET. The founding leader of POET, Professor Rathod is a holder of numerous publications, inventions, and grants. He is listed in several Who's Who publications, and is a recipient of Certificates of Recognition from NASA and IBM for technical innovation. Elected a Fellow by ASME, Dr. Rathod was awarded 1995 Dedicated Service Award, 1998 Ben C. Sparks Medal, and 2001 BMW award by ASME.

Mary James Legatski, American Society of Mechanical Engineers

Mary James Legatski serves as Manager of Leadership and Diversity at ASME . She has previously served as a Government Relations Representative for ASME, focusing on R&D

funding issues. Prior to joining ASME, Ms. Legatski served for two decades as an advocate for the petro-chemical industry in Washinton, DC, representing both Fortune 500 corporations and national trade associations. She is a graduate of Virginia Polytechnic Institute and State University and has pursued graduate studies at George Washington University in Washington, DC. She has most recently been elected to the Board of Directors of the Friends of the South Coastal Library in Bethany Beach, DE.

A PERSPECTIVE ON INITIATIVES IN DIVERSITY AND OUTREACH ACTIVITIES OF ASME, AN INTERNATIONAL SOCIETY

SUMMARY

For our global community and diverse workforce, respecting, recognizing, and understanding diversity and being inclusive are of the utmost importance for our success. Professional societies can provide an important venue and role model for others to follow.

During the period 2002-05, the authors served in leadership positions of a board on diversity and outreach at the American Society of Mechanical Engineers, an international professional society with more than 100,000 members and in 2005 it celebrated the 125th anniversary of its founding. This paper describes that board's some of successful and emerging programs, as well as the impact of the board's actions on the society as it attempts to grow and reach out to members in a global setting.

A brief description of topics to be addressed include board membership that can make an impact, organizing diversity forums, successful student chapter organized activities, mentoring program for young under-represented members, activities organized by senior members, outreach to minority and women professional societies, and the leadership's recognition of the crucial role that diversity and outreach play in organizational success.

A perspective from the authors' point of view concludes the paper. It describes lessons learned and not learned while trying to make an impact in an international setting. As professions grow globally, a model containing diversity as a business case is presented for other societies and organizations to follow.

INTRODUCTION

The economic well being of the United States of America and US-based professional societies very much depends on the reliable and all inclusive workforce [1-4, 6-10]. Professional societies have begun to take proactive steps in recognizing diversity as a business need for their success [6]. As a matter of fact, ASME's international region is the fastest growing region based on its membership. This phenomenon is significant in light of the fact that the North American membership is either stagnant or declining. Further more, the female member population continues to remain around meager 4% since the 1980s, and there is no data available on under-represented US ethnic groups.

Before sharing some history of ASME's efforts to promote diversity and inclusiveness, it is important to understand the definitions of some terms.

Diversity means all the ways we differ as individuals. It includes visible differences such as age, gender, ethnicity and physical appearance; as well as underlying differences such as

thought styles, religion, nationality, socio-economic status, belief systems, sexual orientation and education. It means respecting, valuing and harnessing the richness of ideas, backgrounds and perspectives that are unique to each individual, *i.e.* a new worldwide source of creativity.

Inclusion means an environment where everyone contributes his or her skills and talents for the benefit of all of ASME. Inclusion is consistent with ASME's values and business objectives. The aim is to create an organization in which individuals are involved, supported, respected and connected.

PROGRAMMATIC FOCUS

Prior to its 2005 reorganization, ASME developed and implemented policies and programs to ensure that the organization is a welcome and accessible place for all. ASME's Board of Governors reinforced its commitment by adopting the following policy on diversity:

"ASME shall dedicate time and resources to ensure the full and active participation, as well as leadership opportunities, of talented individuals from all segments of society."

ASME has been actively engaged in the promotion of diversity and inclusiveness for over 15 years. In 1989, ASME established the **Board on Minorities and Women (BMW)** to encourage the participation of minorities and women in ASME and to develop programs that reflected ASME's dedication to making the society and the profession welcoming homes for all engineers. BMW initiated a number of substantive programs, including:

- **Diversity Award**

In 1996, the BMW established an annual award to recognize an ASME member who had worked to ensure that ASME was a welcome place for all to participate and had encouraged inclusiveness and the participation of women and under-represented minority groups in ASME. Upon raising an endowment, the ASME Johnson & Johnson Consumer Companies, Inc. Medal was presented for the first time in 2005. This is the first, and thus far the only, ASME society-level medal which recognizes excellence in the promotion of diversity and inclusiveness. ASME anticipates that, over time, the recipients of the Medal will constitute a benchmark against which other organizations and individuals may measure the success of their diversity promotions.

- **Diversity Action Grants (DAG) Program**

The Diversity Action Grant (DAG) Program enables ASME Student Sections to sponsor events and projects that promote the inclusion of women and other under-represented minorities in ASME Student Sections and mechanical engineering. The competitive program, open to all ASME Student Sections, awards grants ranging from \$500 to \$1,500 depending on the size and scope of the projects. Every year, ASME has awarded more than \$21,000 in grants to student sections. Funding events that resulted in the participation of over 1,800 students, with participation of ASME Student Sections from the international arena. Among the most successful of the DAG programs are the two poster series: *African American Inventors and Engineers*, and *Celebrating Women in Engineering*.

Over the course of the DAG Program, ASME has identified several "best practices" which are associated with successful events. These include:

- * Collaboration with other organizations on campus such as Society of Women Engineers (SWE) and National Society of Black Engineers (NSBE), as well as with industry and government affiliates.
- * Active support of the Engineering Dean/Department Head.
- * Involvement of females, African-American, Hispanic and/or Native American engineers to provide role models and mentors.
- * Recognition of successful events in local newspapers and on local television stations.

- **Minority Leadership Internship Program**

The objective of the Minority Leadership Internship Program was to increase the participation of women and under-represented minority members within the ASME structure through mentoring and leadership development. The program helped to familiarize interns to the workings of ASME and to facilitate their active participation in the society. Up to five applicants were chosen each year to participate in the activities of a selected or sponsoring board/committee. Each intern was paired with a mentor from the selected board/committee to gain experience and understanding of ASME structure and activities. This program was phased out in the new organization.

However, ASME is in the process of establishing a new internship program called ECLIPSE (Early Career Leadership Intern Program to Serve Engineering). It is a program designed to place early career engineers in highly visible and productive roles within the ASME organization. ASME believes that early career engineers can make significant contributions to its various units and is eager to encourage their active participation in all levels of the Society. ASME has found that the active involvement of both the intern and the mentor is critical to assuring a successful internship experience. At the conclusion of the internship, it is also vital to place the graduate intern into an active role within the Society.

- **Partners in Mechanical Engineering**

The Partners in Mechanical Engineering program provided grants ranging from \$500 to \$1,000 to ASME Senior Sections for innovative projects and activities in collaboration with local sections or chapters of organizations that support women and under-represented minority groups in engineering, *e.g.*, the National Society of Black Engineers (NSBE), Society of Women Engineers (SWE), the Society of Hispanic Professional Engineers (SHPE), the American Indian Science and Engineering Society (AISES). The Partners program recognized the important role of the grassroots membership in promoting ASME as a welcome home for all mechanical engineers. This program did not receive funding in the re-organization of the society and there are currently no plans to re-establish it. The "lesson learned" here was that a program successful at the student section level (*i.e.*, the DAG Program) may not have the same degree of appeal at the senior section level. Ironically, that is the very location within ASME that diversity and inclusiveness promotion could be most valuable.

- **Outreach Activities**

Outreach to organizations that represent and support minorities and women in engineering to share information and discuss ways to potentially work together has long been a hallmark of ASME's diversity activities and include:

- (a) Initiating discussions between ASME and the National Society of Black Engineers (NSBE) and the Society of Women Engineers (SWE), respectively, which led to joint membership agreements.
- (b) Active participation on the American Association of Engineering Societies (AAES) Diversity Committee and the development of the engineering community's Adiversity portfolio.
- (c) Active support of the American Society of Civil Engineers (ASCE) Extraordinary Women Engineers Project.

- **Diversity Training**

Module 11 B Diversity: "Improving Volunteer Participation by Valuing Difference and Encouraging Inclusiveness" is a 90- minute training module included in ASME's Standardized Leadership Training Program. The diversity module was designed to help ASME members understand the value and benefits of diversity, as well as teach inter-cultural communication skills that can be applied in ASME, on the job, and in everyday life. This interactive module defines diversity concepts and relevance; identifies benefits of diversity; helps participants understand the nature and impact of bias; teaches skills for working with a diverse membership; and helps participants develop action plans for encouraging inclusiveness. A "lesson learned" here was that diversity and inclusiveness training need to be integrated into ASME's overall leadership training in order to reach a wider audience. Often, those who "self-select" to participate in diversity training are not the ones who might benefit the most from the experience.

- **Diversity Forum**

The Board on Diversity and Outreach (BDOI) was successful in initiating an annual diversity forum in 2003. The forum, held in conjunction with ASME's annual International Mechanical Engineering Congress and Exhibition (IMECE), provided an opportunity for ASME members and leaders to learn about cutting-edge practices and policies being pursued by industry, academia and government to incorporate diversity into their business and operational plans. Attendance at each of the three forums held to date has been standing-room-only due to not only the timeliness of the topic but also the caliber of moderators and panelists. Plans are underway for the 2006 forum, which will focus on inclusion of students and early career engineers. The "self-selected" phenomenon is somewhat at play in this instance, as well. The composition of the typical diversity forum audience is far more diverse than the overall ASME membership.

DIVERSITY AS STRATEGY

The Board on Diversity and Outreach (BDO) replaced the BMW in 2003. Its membership was extended to representatives from minority and women based engineering professional societies as well as to non-ASME members with an expertise in diversity and outreach. Also, to the surprise of the society leadership, a number of highly talented ASME

members pursuing diversity and outreach agenda in their respective careers were recruited to join the board. BDO believed that, in the context of the organizational change underway within ASME, “diversity” is a strategy and that its placement within the Society should reflect that fact [5]. The primary mission of the BDO was to provide advice to the senior leaders within the Society on how to achieve and benefit from an inclusive and diverse membership, not to administer specific programs or activities.

There is a simple diversity axiom: CEOs that “embrace diversity” have organizations that “leverage diversity” [8]. The CEO’s diversity belief system is significant in shaping how diversity is positioned to impact the business and its sustainability [8, 9]. The diversity debate has shifted from the moral obligation of affirmative action to a business imperative. CEOs, faced with intense competition in global markets, record numbers of mergers and acquisitions, and the global war for talent, are focusing on how to leverage diversity as their competitive differentiator. The challenge for many CEOs is to directly infuse their diversity belief systems into the organization. The test for diversity practitioners in many organizations is to overcome diversity resisters and to leverage the power of the CEO’s vision to make diversity happen [8]. This advice for CEOs may be applied to the leadership of ASME or any professional organization. Examples of corporations which “embrace” and “leverage” diversity are IBM, Levi Strauss, McGraw Hill, to name a few among many [5, 8].

For ASME to “embrace diversity,” it is important to understand how “diversity” must be leveraged to enable ASME to achieve its strategic goals. To achieve its business goal of building the membership base of ASME to 400,000 engineers by 2013, both “embrace diversity” as a strategy and “leverage diversity” as part of its overall business plan were adopted.

The leading global organizations of the 21st Century will be those that create a constant stream of innovative goods and services, winning customers and earning loyalty through exceptional performance. No one type of person, or group of people, has all the skills and talents needed. Diversity and inclusiveness are key underpinnings for the achievement of globalization and bottom-line business requirements of a market-focused organization. Diversity must be positioned as a smart business move, one that is related to the vision and strategic direction of the successful organization.

CONCLUSIONS/RECOMMENDATIONS

In today’s interdependent world, there exists a definite need for a comprehensive policy and the infrastructure necessary to be inclusive of all the people. Opportunities do exist to broaden our perspectives and improve the organizational business case by reaching out to others. Since professional societies have a necessity to serve the business and industry needs of its members, reaching out to all potential members will continue to provide challenges in light of the following pseudo anonymous email message received by ASME:

“Please remove the disgusting word ‘diversity’ from the engineering discipline. Diversity means ‘replacing white people or reducing white people,’ while increasing every other group of people. Saying ‘diversity is our strength’ is saying ‘White people are not strong when working only with other white people.’ That’s an absolutely disgusting message to put out. Enough already. It’s disgusting. People will work together globally as they will. End this insanity now.”

The advocates of all inclusive workforce must continue to remain optimistic to push the agenda and the envelope. This is true regardless of the geographic venue of ASME's operations and activities. Organizations operating internationally must deal with diversity of culture, languages, customs and expectations. Professional societies are ideally positioned to set the benchmark in diversity and inclusiveness on a multi-national, cross-cultural basis.

ACKNOWLEDGMENTS

The ASEE and International Division deserve a special note of appreciation for organizing this forum and providing an opportunity to present this paper. The authors would like to thank their ASME colleagues (T. Allen, P. Hamilton, M. Heller, K. Kokini, C. McCarrell, D. Michalek, M. Moman-Saunders, M. Patel, R. McQuillen, M.L. Realff, L. Riley, D. Soukup, K. Thayer) for their valuable contribution in formulating ASME diversity and outreach activities. Also, the authors are indebted to their employers (Wayne State University and ASME) for the travel support and encouraging professional development.

BIBLIOGRAPHY

1. Hymowitz, C., AThe New Diversity,@ The Wall Street Journal, November 14, 2005.
2. Rathod, M.S., ADiversity as a Strategy: ASME's Aspirations,@ Proceedings of ABET Annual Conference, October 2004.
3. AU.S. Energy Research and Development Needs in the New Millennium,@ The Energy Committee, ASME, June 2001.
4. AOccupational Outlook 2004-05,@ Bureau of Labor Statistics, US Department of Labor, <http://www.bls.gov/oco/oco2003.htm>, December 2004.
5. AWhite Paper to CPA,@ Board on Diversity and Outreach, ASME, December 2003.
6. A Engineering Societies Diversity Summit Summary Report,@ http://www.aaes.org/diversity/summit_report.asp, December 2005.
7. AReport Roundup: a Guide to Recruiting a Diversity of Students, and a Call for Intellectual Diversity,@ <http://chronicle.com/daily/2005/12/2005121207n.htm>, 12/13/05.
8. Weaver, Dr. Vanessa J., AHow to Relate to the New Business Models,@ *Business Week*, <http://www.businessweek.com/adsections/diversity/winning/index.html>, December 2003.
9. Tkaczyk, C., Florian, E., and Stemple, J., FORTUNE Diversity Career Guide, page 5, November 2003.
10. Zakaria, F., AWe All Have a Lot to Learn,@ Newsweek, 1/9/2006.