



Next 50 years: MRS needs to redouble its efforts to address society's greatest challenges

1995 MRS President

By Julia M. Phillips

In 1995, the Materials Research Society (MRS) celebrated its 22nd birthday, the age at which many humans graduate from college. In many ways, MRS resembled a new college graduate. There were fresh memories of countless all-nighters by irreplaceable volunteers engaged in organizing meetings. Upstart members proposed and initiated new initiatives such as the Society's first online journal. The MRS leadership leaned into Society engagement in the hitherto uncomfortable arena of public policy. And MRS was actively partnering with other professional societies in programming and other activities to advance materials research.

At the same time, the "adult" MRS was taking shape. We launched our homepage in January 1995, followed that same year by online abstract submission. We even began the process of starting a freely available, all-electronic journal (on nitrides) that launched in 1996 (<https://www.springer.com/journal/43583>). While the online journal was ahead of its time, it demonstrated both the forward-leaning nature of the Society and the ability of volunteers to propose ideas and run with them. We co-sponsored our first Congressional Fellow, marking a dramatic uptick in our engagement in public policy.

The increasingly accomplished MRS staff members were key partners in making it all work. All-nighters became less frequent. The Executive Committee no longer needed to concern itself with logistical details such as the price of coffee during meeting breaks.

And increased emphasis on strategic thinking and action became possible. MRS was broadening its technical programming beyond the Spring and Fall Meetings, co-sponsoring international workshops and partnering with other professional societies in conferences and other endeavors. In short, 1995 and the years surrounding it mark the transition of MRS from a young upstart to a mature organization.

Many of the characteristics that define MRS today were evident nearly 30 years ago. Like today, the Spring and Fall Meetings were the anchors of the Society. Tutorials were still quite new and are now a meeting fixture. Approximately half of MRS members received their membership through attending a Spring or Fall Meeting. That fraction is not so different today, when 70% of the membership attends these meetings. The symposium format was a defining feature of the meetings, as was the "zero-based" programming approach that fostered the continual reexamination of symposium topics to ensure that they were timely and appropriate for "MRS-style" treatment. That approach continues to work well, although there is now more focus on creating a welcoming home for both new and continuing vibrant areas of materials research.

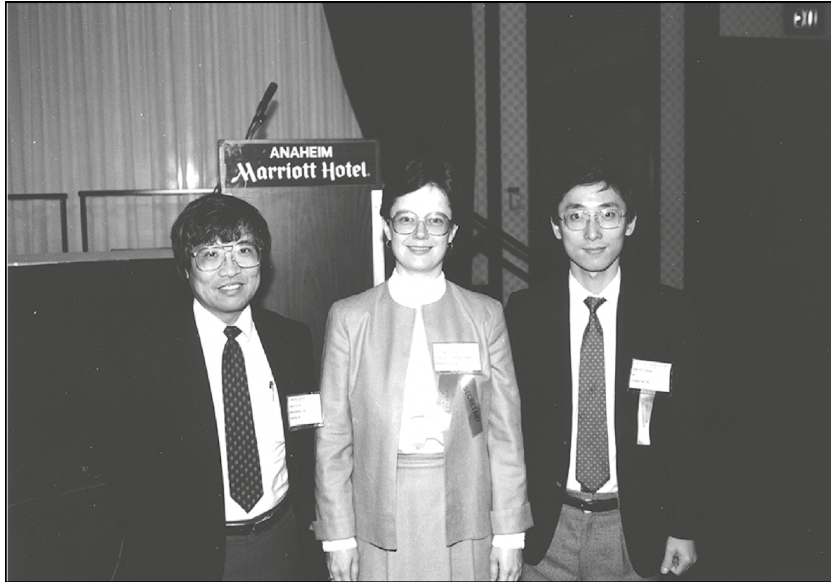
While MRS already had a strongly international flavor 30 years ago, it is more so today. In 1995, about 30% of MRS members were from outside the United States, a fraction that was noteworthy at the time. Not surprisingly, that percentage has increased

to 50% today. The active engagement of international researchers in leading and participating in the Spring and Fall Meetings reflects the increasingly global nature of the field. The governing bodies of today's MRS feature representation from around the world, including MRS presidents from other countries. Engagement in international meetings held in different venues around the world has been continuous.

In one significant way, MRS looks very different from the organization at its creation and through its first couple of decades. The Society was radical in providing a forum for *interdisciplinary* materials research, bringing together researchers from academia, industry, and government. The founders of MRS recognized that the silos of discipline-based departments in academia, in federal funding agencies, and in older professional organizations had to be breached. Industry was a critical partner because of its problem-focused, rather than discipline-focused, approach to addressing challenges. These drivers gave rise to an MRS membership composed of roughly equal percentages of materials researchers from academia, industry, and government/government laboratories.

The intervening decades have seen an explosion of interdisciplinary centers in universities and funding agency initiatives that transcend disciplinary boundaries. While these developments speak to the wisdom of the original MRS vision, these constructs continue to be overlaid on traditional

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From the archives: At the 1987 MRS Spring Meeting in Anaheim, Calif., Julia Phillips (center), then Secretary of MRS and co-organizer of Symposium A—Heteroepitaxy on Silicon II together with (left) founder of Kopin Corporation John C.C. Fan and (right) Bor-Yeu Tsaur of Massachusetts Institute of Technology Lincoln Laboratory. Phillips worked at AT&T Bell Laboratories at the time.

discipline-based organizational structures, leaving vestiges of the old discipline-based approach visible. And industrial participation in MRS meetings and other activities has shrunk to a very small level, with a concomitant drop in the number of Society members from this critical sector. While the demographic shift is due in part to dramatic changes in the landscape of industrial research, MRS would do well to cultivate new topics that are both MRS-appropriate and relevant to industry. Academia and government cannot represent the full spectrum of materials research without the engagement of the private sector. It is in that sector that the discoveries and developments

of the sort reported in MRS venues get translated into goods and services that benefit society globally. Translation requires consideration of many issues that are the daily concern of the scientists and engineers charged with developing and deploying a viable product or technology. The discipline of the marketplace must provide critical grounding in conversations about applications and manufacturing, topics that appear in the titles of many MRS symposia. This is why it is vitally important for MRS to engage with materials researchers and engineers from industry. After all, one of the key reasons to invest in materials research is to improve our quality of life and societal well-being. □

Addressing many of society’s greatest challenges in the coming decades will require continued advances in the understanding and exploitation of materials. What materials we will use, how we will make and use them sustainably, and how we will steward this small planet and its life forms are grand challenges of the highest order. The materials research challenges underlying them are ideally suited to the sort of treatment that MRS has always provided in its meetings and other products. The Society needs to redouble its efforts to engage on these topics—and to provide dynamic forums that attract materials researchers from *all* employment sectors, *all* backgrounds, and *all* continents in contributing to real solutions.

Most of the fundamental characteristics of MRS that enabled its rise and success endure. MRS volunteers continue to be a talented and passionate lot who devote their energy, time, and talent to the great benefit of the organization. The dedicated MRS Headquarters staff has been a steadfast partner and enabler through thick and thin, enabling volunteer dreams to be realized while running the complex business of a professional organization in a sober and responsible manner. The lack of entrenched programming entitlements keeps the technical content of MRS offerings vibrant. While maturity has led to more structure than during the more free-wheeling days of the Society’s youth, there is still room for great ideas and those with the energy and passion to pursue them. In outlook and actions, MRS is still far from “old.” Long may it prosper! □

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