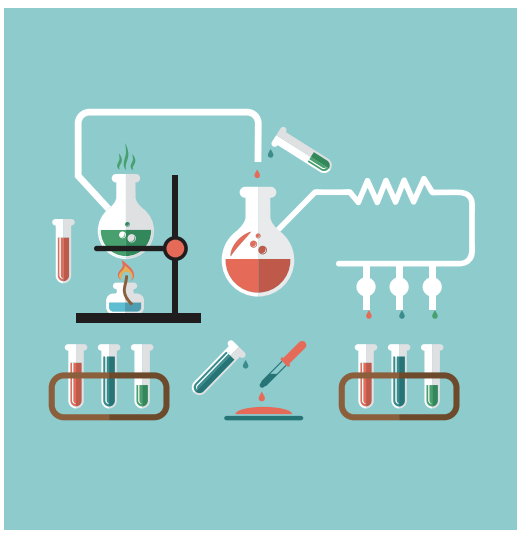
EDITORIAL

Chemistry embraced by all

Chemistry is the great enabler. For two centuries, it has played a key role in conquering diseases, solving energy problems, addressing environmental challenges, and providing discoveries that have spawned new industries. To meet the demands of the future, this mature science must expand into new frontiers, a move that will be facilitated if the public and policy-makers understand its pivotal role in every facet of life. Such support will not be forthcoming from those who associate chemistry with harm—intentional or not—to people and the biosphere. Addressing the disparity between those perceptions and the reality of chemistry's contributions to society will garner broader support for spurring innovations in the 21st century. How can chemistry ensure that it has this support?

Chemistry is connected to the physical and biological worlds, underpinning progress across sectors. Too often, the benefits of chemistry have been overshadowed by harmful effects, such as the toxicity of drugs and food additives, environmental contaminants, and chemical warfare. Consequently, chemistry and its practitioners are held in relatively low esteem by society. The good news is that when 2011 was declared the International Year of Chemistry, the chemistry community boosted its engagement with the public. All stakeholders, including educators, researchers, the chemical industry, and the professional bodies and academies, must join forces and continue to build on that momentum. Major international meetings, such as the one this month convened by the American Chemistry Society (ACS) in Colorado, are good venues to forge discussions among those in the field about changing how the field is perceived by potential learners, practitioners, policy-makers, the public, and the media. Equally important are outreach events that include the public, media, and policy-makers. Outreach is already part of large scientific meetings and can serve as a good model for this type of interaction. Obviously, communication and education are key to more-positive public engagement. Chemists must continue to improve their conversations with the public, using language that is accessible to explain the relevance of their work to everyday life. Cultivating a better reputation means not only promoting the good, but also acknowledging the bad—an honest dialogue.



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Redesigns and reforms within the community are needed as well. Chemistry educators should assess how teaching and learning at all levels can be improved to inspire the next generation of chemists. Meetings such as the forthcoming Gordon Research Conference this summer (Chemistry Education as an Agent in Global Progress) are good ways to focus on how to achieve a chemistry literacy that is relevant to people's lives. Many of the field's major national and international associations require sweeping reforms to balance their focus on the professional advancement of their members with an active role in bolstering recognition, respect, and understanding for chemistry from the public. Changing this balance will require breaking very long-standing traditions of many of these associations, and champions at both leadership and grassroots levels must step forward and press the case for reforms.

As a critical constituent of the chemistry community, industry could do its part by wholeheartedly embracing ethical rules and practices and engaging in responsible chemicals management and responsible innovation. Industry must become less removed from their consumers and have frank conversations with a society that demands transparency and has deep concern about risks. Here, academia could work with industry to clearly explain the science, applications, and impacts. Society faces many emerging global challenges. Broadening support for chemistry will enable the next generation of solutions to tackle them.

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