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 Acoustical Society of America  
 The Society of Rheology  
 American Association of Physics Teachers  
 American Crystallographic Association  
 American Astronomical Society  
 American Association of Physicists in Medicine  
 American Vacuum Society  
 American Geophysical Union  
 Other Member Organizations

**THE INDUSTRIAL  
PHYSICIST**

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Advertising Director  
 Richard T. Kobel

Editorial Offices  
 One Physics Ellipse  
 College Park, MD 20740-3843  
 Tel: 301-209-3051  
 e-mail: tip@aip.org

Advertising Offices  
 500 Sunnyside Boulevard  
 Woodbury, NY 11797-2999  
 Tel: 516-576-2440  
 800-247-2242  
 e-mail: advtsg@aip.org

## Reinventing Ourselves

When President Kennedy challenged the nation to reach for the moon, American science, industry and government had to reconfigure their traditionally disparate and sometimes adversarial relationships. The ensuing collaboration made history.

The unveiling of a better car, especially one that may not look substantially different from today's models, is hardly an event that will rivet the world's attention. The challenge, however, of building a vehicle that is safe, affordable, reliable, environmentally friendly, gets 80 mpg and accelerates from 0 to 60 mph in twelve seconds, is considerable. Big Three automakers are now working with academia and government to build the next generation of vehicles (story p. 16). Technology is bound to be transformed in several fields. The success of the enterprise, however, may ultimately depend on the ability of the partners to coalesce.

Budget cuts, largely initiated by the new Congress (story p. 11) will probably transform the current pattern of government-funded science with which we have become familiar over the last few decades. Some enormous agencies, with everyday acronyms, will cease to be. Others will be forced to reinvent themselves, or die.

Physics itself is being challenged to transform. For a long time, it has ridden on its value to the defense industry. As the cold war winds down, physics is being drawn into new domestic and international indus-

tries. Big companies and big institutions are developing new attitudes toward scientific research (Letters p. 7). And small companies are popping up all over, with new opportunities for entrepreneurs (story p. 37).

You also have the opportunity to reinvent yourself in order to cope with all these changes. The article on page 26 tells how to fireproof your career.

The American Institute of Physics and its member societies are not exempt from the need to transform. Instead of asking industry to support the work of the institute, AIP, through its Corporate Associates program, has adopted a new mission to make physics more useful and attractive to industry.

The American Physical Society recognizes that its programs have historically been more orientated toward basic research in academia, yet half its members are now in industry. In response to this shift, APS's Committee on Applications in Physics has launched a new Forum on Industrial and Applied Physics (story p. 34).

The *Industrial Physicist* is a collaborative effort between AIP and its member societies. It is a magazine for industrial physicists, for physicists who work in industry and for people in industry who manage physicists and benefit from the work of physicists. If you find it addresses your working needs, we will have succeeded in one aspect of the challenge to reinvent ourselves.

Charles Harris  
 Publisher

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Congratulations on launching a magazine to cover a neglected area of applied science. In addition to general career and business articles, The Industrial Physicist should address some of the key areas of physics that are simultaneously critical to fast-growing industries and ignored in academic publications. Examples related to my own product lines include nanoscale electronic devices, specialized devices for satellites and other rugged environments, photonics technology, propagation and noise in cellular telephone and personal-communications service bands, the physics of human speech and statistical pattern recognition. Other industrial practitioners could certainly offer their own lists of critical topics where state-of-the-art information is hard to acquire. Good luck with your endeavor!

KARL BROMMER  
Signal Analysis Group Manager  
Lockheed Martin, Nashua, NH

The appearance of this new magazine, The Industrial Physicist, is good news for us, the applied physicists. Now we can have the warm feeling that AIP and its member societies recognize the significance of their industrial members and not just the academic ones, as it often seemed previously. Secondly, this magazine may be able to foster the employment of physicists in industry (and elsewhere) and improve the image of physicists as inventors, innovators and practical problem solvers.

In today's climate of diminishing headcounts and the need to improve the bottom-line in industry, jobs are scarce and, compared to engineers, physicists find it ever more difficult to find jobs. Furthermore, salary scales for engineers are frequently higher than those for physicists for comparable jobs. Perhaps there is some level of prejudice in industry that physicists don't perform as well as engineers in many industrial positions. However, by training, physicists are very adaptive to new environments, critical-minded and good at solving problems. There shouldn't be disadvantages for physi-

cists seeking industrial positions.

ANDY TAM  
San Jose, Calif.

I am a physicist and APS member who, after the usual grounding in academic research, has worked in industry for more than ten years. The nature of my work has slowly shifted from the pursuit of new physics to the exploration of advanced technology and now to the focused development of potential products. This career gradient from physics to engineering is fairly typical I understand. Also, it seems to be accepted that the mean of the APS membership is drifting this way. We hear our colleagues at prominent industrial labs—institutions that in the past provided an opportunity to pursue basic research—tell us they must “become relevant” to their companies’ businesses. One must accept this shift as a fundamental reflection of changes in U.S. society.

As industrial physicists, our ability to pursue our work in the manner required for archival publication is reduced by the pressure from other goals. Also, our freedom to engage in the public arena of ideas can be limited by the proprietary nature of our work. On the other hand, we gain the opportunity to apply our physics training to important industrial problems that can lead to new or improved products and understanding and, hopefully, to the betterment of people and the environment.

The AIP, APS and other AIP member societies are to be commended for the recognition of this shift in the activities of their members by initiating The Industrial Physicist and by the recent formation of the APS Forum on Industrial and Applied Physics. This at least attempts to support physicists who may be engineers by profession, but who still maintain an intellectual and, yes, emotional connection to physics.

ROBERT KWASNICK  
Schenectady, New York