Appealing to Our Broad Audience

Whenever I look over the Tables of Contents of *ACS Nano*, one thing that immediately jumps out is the diverse topics that are represented. For example, just in this issue, we find lipid-based nanoparticles that can deliver RNAi therapeutics directly to glioblastoma multiforme tumor cells,[1] fundamental insights into the growth of graphene on copper substrates using *in situ* scanning electron microscopy,[2] and fabrication of nanosheet heterostructures of bismuth telluride on graphene that function as broadband photodetectors.[3] In addition, a Nano Focus article highlights recent developments and upcoming challenges and opportunities in colloidal inorganic nanocrystal research.[4] These papers are just the tip of the iceberg. Indeed, many other topical areas are represented here and in each issue of *ACS Nano*. Such

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topical diversity highlights the breadth of our field, and it is exciting to see, in one forum, so many important advances and discoveries across all areas of nanoscale science and technology.

The inclusion of such a broad collection of topics in each issue begs an important question—who is our audience? To whom do the articles appeal, and who is impacted and inspired by them? Like the topics that are represented in *ACS Nano*, our authors and readers come from an exceptionally wide range of areas. Our audience includes scientists— biologists, chemists, mathematicians, physicists, and others—who study materials, life processes, energy, the environment, and much more. Our audience includes agricultural, biological, chemical, computer, electrical, materials, and mechanical engineers, as well as engineers from other disciplines. Our audience includes medical and veterinary professionals and clinicians on the front lines of improving human and animal health and also neuroscientists who seek to understand how the human brain functions.[5] Our audience includes experimentalists, as well as researchers who study systems using computational tools. Our audience includes those in academia, industry, government, hospitals, regulation, the law, and news agencies, in addition to an increasing following in the public at large. Our audience includes readers from around the world and across all stages of education and career, as well as many individuals who, in the spirit of interdisciplinary research, do not fit into this small and non-exhaustive list of categories!

Given our broad audience, another important question is—how do we appeal to this audience? How do we most effectively ensure that the articles in *ACS Nano* draw in our diverse audience and at the same time are approachable to readers with such varied backgrounds and interests? This is a difficult balance that many journals, including *ACS Nano*, strive for and work hard to achieve. The combined efforts of editors, reviewers, and authors help to make each issue of *ACS Nano* broadly engaging. For example, our editors work together behind the scenes to identify exciting articles that cross boundaries and lie at the interfaces among multiple disciplines.[6] We look for articles from which one or more parts of the nanoscience and nanotechnology communities inform others. We frequently identify newsworthy papers, highlighting them as *ACS Editor's Choice* articles and featuring them and their impact with Perspectives or in our In Nano spotlights. We promote articles in social media forums such as our @acsnano Twitter account, and we reach out directly to reporters and news agencies worldwide to showcase articles with broad appeal. Our reviewers generally do a terrific job of commenting not only on the technical quality of a manuscript but also on the likelihood that it will appeal to our diverse audience. Many reviewers offer constructive comments for making a manuscript even more broadly appealing.[7] Finally, our authors continue to submit some of their most exciting comprehensive studies of multidisciplinary interest to *ACS Nano*. It is great fun as editors to discuss these manuscripts and where our field is going; we do this formally every month and informally every day.

What is it that makes a manuscript interesting and approachable to such a broad audience? The research that the manuscript describes—the experiments, calculations, discoveries, results, insights, and implications of the work—is paramount. Carefully considering these aspects, in conjunction with the target audience, is critical. For example, to whom will the results of the research most appeal? Who will the particular insights offered in the manuscript most impact? Will this work be of interest to the broad audience of *ACS Nano*, or will it primarily interest researchers working in more specialized areas? Our most broadly appealing manuscripts tend to cut across traditional disciplines, to present findings that advance a topic of significant current interest, and/or to include results that open up surprising insights and new worlds to readers and reviewers.

We also find that among the most well-received papers are those that have an engaging title[8,9] and a visually appealing Table of Contents graphic[9−11]—the first glimpses that a reader will have of a manuscript—as well as an abstract that concisely articulates the big-picture context as well as a summary of the primary results and their implications. Manuscripts that tell a compelling story, are well written, use clear and correct English, and are presented at a level that is readable by both experts and non-experts help to draw in a diverse audience. To best facilitate this, we advise authors to avoid using highly technical jargon that is not generally known by the majority of our readers, especially in titles. For example, readers will immediately know what DNA is, and they will readily recognize simple chemical formulas, such as MoS_2 and ZnO. However, including abbreviations that are not routinely used in all disciplines in titles or headers puts nonexpert readers at a disadvantage. For this reason, we also encourage authors to minimize the use of unnecessary and nonstandard abbreviations throughout the text, in order to make the manuscript as readable as possible from beginning to end. These and other "packaging" considerations are immensely helpful for best engaging our diverse *ACS Nano* readership but, of course, are helpful only in addition to the exciting content described above.

There is no single formula that can be used to predict how well a particular manuscript will appeal to a broad audience, nor should there be. Each manuscript is unique as is the research that it presents, and there can be significant variance across the many topical areas served by *ACS Nano*. However, one thing does not vary—*ACS Nano* strives to engage our diverse and expanding readership, and we are thankful to our authors, reviewers, and readers for continuing to make *ACS Nano* an exciting to read and broadly appealing journal.

Disclosure: Views expressed in this editorial are those of the author and not necessarily the view of the ACS.

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REFERENCES AND NOTES

1. Cohen, Z. R.; Ramishetti, S.; Peshes-Yaloz, N.; Goldsmith, M.; Wohl, A.; Zibly, Z.; Peer, D. Localized RNAi Therapeutics of Chemoresistant Grade IV Glioma Using Hyaluronan-Grafted Lipid-Based Nanoparticles. *ACS Nano* **2015**, 10.1021/nn506248s.

2. Wang, Z. J.; Weinberg, G.; Zhang, Q.; Lunkenbein, T.; Klein-Hoffmann, A.; Kurnatowska, M.; Plodinec, M.; Li, Q.; Chi, L.; Schoegl, R.; Willinger, M.-G. Direct Observation of Graphene Growth and Associated Copper Substrate Dynamics by *in Situ* Scanning Electron Microscopy. *ACS Nano* **2015**, 10.1021/nn5059826.

3. Qiao, H.; Yuan, J.; Xu, Z.; Chen, C.; Lin, S.; Wang, Y.; Song, J.; Liu, Y.; Khan, Q.; Hoh, H. Y.; Pan, C.-X.; Li, S.; Bao, Q. Broadband Photodetectors Based on Graphene−Bi_2Te_3 Heterostructure. *ACS Nano* **2015**, 10.1021/nn506920z.

4. Kovalenko, M. V.; Manna, L.; Cabot, A.; Hens, Z.; Talapin, D. V.; Kagan, C. R.; Klimov, V. I.; Rogach, A. L.; Reiss, P.; Milliron, D. J.; Guyot-Sionnnest, P.; Konstantatos, G.; Parak, W. J.; Hyeon, T.; Korgel, B. A.; Murray, C. B.; Heiss, W. Prospects of Nanoscience with Nanocrystals. *ACS Nano* **2015**, 10.1021/nn506223h.

5. Andrews, A. M.; Weiss, P. S. Nano in the Brain: Nano-Neuroscience. *ACS Nano* **2012**, *6*, 8463–8464.

6. Bonnell, D. A.; Buriak, J. M.; Chan, W. C. W.; Hafner, J. H.; Hammond, P. T.; Hersam, M. C.; Javey, A.; Kotov, N. A.; Nel, A. E.; Nordlander, P. J.; Parak, W. J.; Penner, R. M.; Rogach, A. L.; Schaak, R. E.; Stevens, M. M.; Wee, A. T. S.; Willson, C. G.; Weiss, P. S. We Take It Personally. *ACS Nano* **2012**, *6*, 10417–10419.

7. Weiss, P. S. The Best Referee Report. *ACS Nano* **2008**, *2*, 177.

8. Buriak, J. M. The Art of Writing the Title of Your Paper. *Chem. Mater.* **2014**, *26*, 3349–3350.

9. Buriak, J. M. Titles and Table of Contents Images: The Candy Store Analogy. *Chem. Mater.* **2014**, *26*, 1289–1290.

10. Buriak, J. Summarize Your Work in 100 Milliseconds or Less… The Importance of the Table of Contents Image. *ACS Nano* **2011**, *5*, 7687–7689.

11. The Art of Abstracts. [Editorial]. *Nat. Chem.* **2011**, *3*, 571.