CHEMISTRY OF MATERIALS

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Editorial

A Rising Tide in 2004

A former U.S. President[1] was fond of saying, "A rising tide lifts all boats." As has been noted elsewhere,[2] the upsurge of interest and participation in materials research by chemists and physicists has brought considerable advances for nearly all journals covering the field. At *Chemistry of Materials*, we intend to ride this rising tide to higher standards, higher quality, and higher value for our authors and readers.

The rising tide for materials-chemistry titles is reflected in steadily increasing ISI impact factors[3] over the past several years. Figure 1 tracks the values for full-service journals—those publishing full papers in addition to communications and reviews. All having a strong chemistry component are enjoying steady overall gains. Significant gains have also been achieved by *Advanced Materials*[2] and will presumably be demonstrated by *Nano Letters*, *Advanced Functional Materials*, and *Nature Materials* when sufficient impact data become available. Each of the titles listed here and in Figure 1 has its particular role, perspective, or coverage niche, and the many excellent titles available with a materials-chemistry orientation make these truly great times. Our goal is to ensure that *Chemistry of Materials* remains the best source and publication option for significant, thorough, fundamental studies addressed to the broadest materials-chemistry audience.

A more comprehensive assessment of the current stature of *Chemistry of Materials* is provided in Table 1, which records the 2002 impact factors and total citations for the principal journals serving materials chemistry.[3] The *Chemistry of Materials* impact factor of 3.967 compares very favorably to those listed, recognizing that communications and letters journals acquire naturally higher values than those that include full papers. We have noted previously[4,5] that total citations provide another important basis for comparison of overall impact because this parameter reflects the *quantity* of significant research a journal has published over its lifetime. Table 1 reveals that *Chemistry of Materials* provides an attractive balance of impact factor and total citations, such that no materials-chemistry title surpasses *Chemistry of Materials* in both categories. Even so, Table 1 clearly shows that *Chemistry of Materials* has room for competitive improvement, to which its editors are committed.

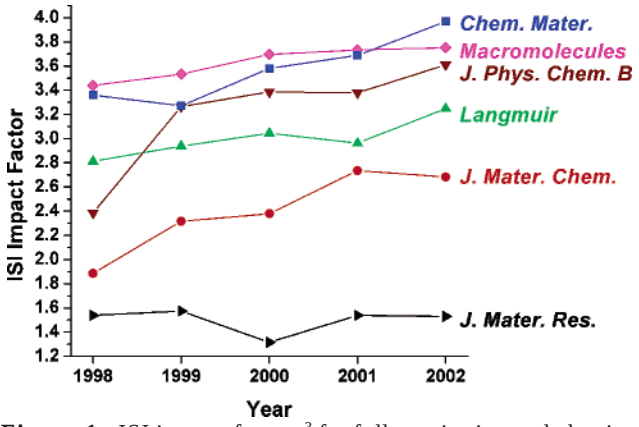

Figure 1. ISI impact factors[3] for full-service journals having a materials-chemistry emphasis or component. (These journals were selected by the author and are not part of any ISI or other formally recognized classification.)

Table 1. Citation and Publication Data for Materials-Chemistry Journals[a,b]

journal	2002 impact factor	2002 total citations	2002 manuscripts published
Adv. Mater.	6.801	13,688	402
Nano Lett.	5.033	1,098	294
Adv. Funct. Mater.	4.656	375	104
Chem. Mater.	**3.967**	**18,024**	**745**
Macromolecules	3.751	54,526	1261
J. Phys. Chem. B	3.611	29,408	1671
Langmuir	3.248	33,342	1526
J. Mater. Chem.	2.683	8,479	646
J. Mater. Res.	1.530	9,246	467

[a] The data were taken from the ISI Journal Citation Reports.[3] [b] These journals were selected by the author and are not part of any ISI or other formally recognized classification.

The rising tide at *Chemistry of Materials* is further evidenced by the increasing rate of manuscript submissions. Figure 2 documents the nonlinear rise in annual submissions from less than 600 manuscripts in 1994 to

(1) The quote is originally attributed to J. F. Kennedy. *Public Papers of the Presidents of the United States: John F. Kennedy*; Office of the Federal Register: Washington, DC, 1963; p 519.
(2) Levy, E. *Adv. Mater.* **2003**, *15*, 1675−1676.
(3) Institute for Scientific Information Journal Citation Reports, at the ISI Web of Knowledge, http://isi10.isiknowledge.com/.
(4) Ward, M. D. *Chem. Mater.* **2002**, *14*, 1.
(5) Interrante, L. V. *Chem. Mater.* **2003**, *15*, 1.

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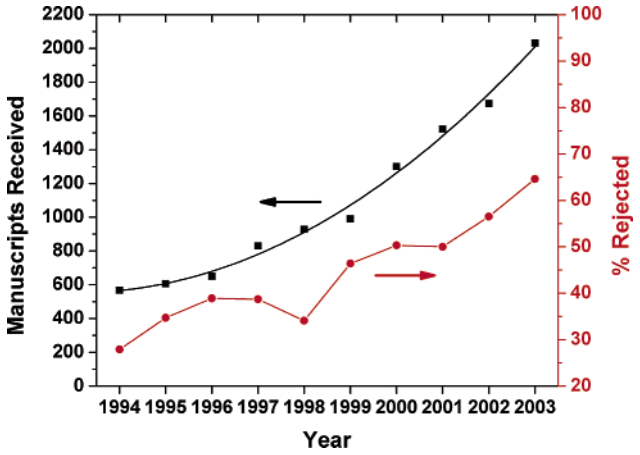

Figure 2. Manuscript data for *Chemistry of Materials*. Black squares: manuscripts received; the fitted curve is a guide to the eye. The point for 2003 is a projected value calculated from the number of manuscripts received through the first 9 months of 2003. Red circles: manuscript rejection rate expressed as the percent rejected and calculated as 100 times the number rejected divided by the sum of the number rejected and accepted.

a projected value of over 2000 in 2003. This increase has persuaded us to publish more pages annually, and in 2003 *Chemistry of Materials* began appearing in semimonthly issues. However, with the increase in submitted manuscripts has come the obligation and responsibility to evaluate submissions more critically, to maintain high standards and to provide higher value to the journal's audience. Consequently, the rejection rate has risen accordingly, nearly doubling since 1998 to 65% in 2003 (see Figure 2). It is indeed higher in some topical areas. We expect the overall rejection rate to continue to rise as we continually work to lift the stature of *Chemistry of Materials*.

The rise in submissions has challenged our reviewing system, as the rate of manuscript submission has increased faster than our base of qualified reviewers. Consequently, the editors are now more aggressively prescreening manuscripts prior to requesting reviews and are rejecting an increasing fraction without review. This editorial intervention has been necessary to protect our reviewers from overuse and to therefore preserve the integrity of the peer-review system. As of a few years ago the fraction of manuscripts rejected without peer review was on the order of 5−10%, but this fraction has by necessity risen markedly. Our reviewers may be assured that the manuscripts they receive for review have passed a careful editorial screen.

The rise in submissions has also brought an increase in manuscripts describing routine and incremental results. The editors intend that *Chemistry of Materials* emphasize forefront research and in 2003 began to vigorously apply the criterion that manuscripts published must report a significant advance in the particular area of materials chemistry concerned. The definition of a "significant advance" is by nature subjective, and thus authors are requested to describe their significant advance in the submission cover letter to assist the editor's evaluation. Manuscripts describing additional examples of known materials types or materials phenomena will likely be considered routine. Manuscripts describing additional syntheses, characterizations, or physical studies closely related to prior reports will likely be considered incremental. While such work may have value and be publishable, the editors believe it does not represent the forefront, state-of-the-art research that should appear in *Chemistry of Materials*.

We are currently observing that routine and incremental submissions are particularly prevalent in work related to nanoparticles and nanocrystals, nanocomposites, mesoporous materials, and polymer LEDs. The nanoparticle-research field provides an illustrative example of the evolution in acceptability standards with the progression of a field. Over the past several years, synthetic methods for quantum dots, nanotubes, nanowires, and nanoparticles of other morphologies have evolved considerably, such that the field is now becoming mature. The synthesis and basic characterization of a nanoparticle specimen no longer meets the significant-advance criterion. To meet this criterion, a nanoparticle manuscript might describe a truly new synthetic method with some evidence of its generality, a quantitative demonstration of size control over a range of sizes in the dimension(s) studied, a careful mechanistic study, a determination of physical properties that demonstrate a size dependence or provide experimental comparisons to theoretical models, the development of theoretical models for predicting or analyzing the measurable properties of nanoparticles, the quantitative performance of devices constructed of nanoparticles, or other significant advances. Of course, as the field continues to evolve, even advances of these kinds may become routine, and the publication standards of *Chemistry of Materials* will evolve with the forefront of the fields it covers.

Finally, the editors are intent on preventing publication of duplicative reports. We routinely use the resources at our disposal, throughout the manuscript-review process, to check submitted manuscripts against those an author has recently published or submitted separately. Manuscripts that duplicate figures and results, or that do not explicitly cite prior related submissions and publications in the Introduction, are considered to be attempts at unethical, duplicate publication. Authors engaging in such conduct are subject to a range of penalties, which may include a ban from publication in *Chemistry of Materials* for several years. Although to our knowledge very few duplicate publications have appeared, we are committed to eliminating such trivial, unethical uses of our pages.

In summary, the increasing interest in and submissions to *Chemistry of Materials* are affording us the opportunity and obligation to continually raise the quality of the journal. A rising tide means rising standards, and therefore rising value to authors and readers. *Chemistry of Materials* strives to be the preferred general title for fundamental, chemistry-related materials research. With the support of our audience we can surely achieve this goal.

Please watch for the special issue on "Organic Electronics" with Professor Samson Jenekhe as the guest editor, which will appear in 2004. The editors and staff at *Chemistry of Materials* wish all of our authors, reviewers, and readers a productive and significant 2004. May a rising tide lift us all.

Note Added after Print Publication: Figure 1 contained an incorrectly placed point in the version of this editorial published in the January 13, 2004 issue (Vol. 16, No. 1, 1−2); the correct electronic version was published on 1/16/2004 and an Addition and Correction appears in the February 10, 2004 issue (Vol. 16, No. 3).

William E. Buhro
Associate Editor

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