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including bioinorganic chemistry

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Editorial

On Being an *Inorganic Chemistry* Janus: Looking Back with Thanks and Ahead with Excitement

As *Inorganic Chemistry* enters its 40th year, I am honored and proud to become its fourth Editor. *IC* is the most respected and cited journal in its field, and it stands as a testament to the foundational importance of inorganic chemistry as a discipline. It also displays the vitality and creativity of chemists using the many faces of inorganic chemistry in modern cutting edge research. My editorship gives me a rare and special opportunity to serve the community that is my professional home, for which I am grateful. I am also stimulated by the challenges of navigating *IC* through the shoals of a sea of change in scientific communication initiated by the Web. In 1990, Web-based versions of ACS journals did not exist, and electronic submission of manuscripts was unknown in the chemical community. The way my students examined the literature in 1990 is totally different than the way they do it today. We can anticipate a similar magnitude of change for students 10 years from now although its specifics are unclear. *IC* will work at the forefront of this developing revolution in scientific publishing, and through these efforts, as well as others outlined below, strengthen its position as the most cited primary journal and effective forum for research based on inorganic chemistry.

Well-deserved thanks. Before discussing further the challenges we face and the changes you can expect, it is necessary to look back and pay professional and personal homage to two individuals beginning with my predecessor, M. Frederick Hawthorne. I have the dubious distinction of following a legend. Fred has been Editor of *Inorganic Chemistry* since 1969 following Bob Parry (1962–'63) and Ed King (1964–'68). In 1968, the journal was published monthly and had 2678 pages (including a good number of F_o/F_c tables), 632 articles, and, yes, a yellow cover (more about that later). When Fred assumed his position as Editor, Nixon was beginning his first term in the White House, and Armstrong had not set foot on the moon. Many of our readers and authors were either in elementary or nursery school, others were in diapers, and a sizable number were not even born yet! To me this boggles the mind—Fred's record of longevity exceeds both the ability and comprehension of the present editor. In 1983, *IC* moved to biweekly publication, and in the millennial year just ending, it contained 6208 pages and 941 articles. But it's not just a matter of size. As inorganic chemistry, the field, has grown, *Inorganic Chemistry*, the journal, has evolved to accommodate a broad and diverse range of papers. Fred has steered the journal with consummate skill during this period, leading to special inclusion of bioinorganic



This picture was taken in the summer of 1970 in Ted Brown's office at the University of Illinois (Urbana) during the first Editor's Meeting of *Inorganic Chemistry*. Clockwise starting at lower left: Ted Brown, University of Illinois (Urbana); Herb Kaesz, UCLA; Mel Churchill, University of New York, Buffalo; and Fred Hawthorne, UCLA.

chemistry, as well as solid state and materials chemistry, while maintaining the highest quality of published science in the field. He led *IC* to an illustrated Table of Contents and the first diskette submission of accepted manuscripts, he innovated by publishing addresses of ACS award recipients working at the frontiers of the field and he instituted change in the *IC* cover (still yellow but glossier) with the addition of structures from leading laboratories. Fred's dedication to *IC* and his longevity of service are truly extraordinary—they merit our collective thanks.

In praising Fred's efforts over the past three decades, I have focused on his work as Editor, but I would be remiss if I did not say a few words about his science. I always view the giants of our field as scientists who literally change the way we think about chemistry. Fred is one of those giants. His research on boron and carborane chemistry goes back more than forty years, and had its genesis in the 1950s when he worked for Rohm and Haas at Redstone Arsenal on the possible use of boron hydrides as rocket fuel. His discovery of base degradation of the newly synthesized *closo* carboranes $B_{10}C_2H_{10}R_2$ set the stage for the discovery of an entirely new class of organometallic complexes, the metallacarboranes. Over the years, the Hawthorne group has produced an extraordinary body of work



Left to right: Herb Kaesz and Fred Hawthorne. Photo by Dennis Trantham, Westside Studio, Los Angeles, CA.

starting with the synthesis and characterization of dicarbollide sandwich and half-sandwich complexes, their dynamics and reaction chemistry including catalysis, and their bonding. Fred's research today shows continuing inspiration and ingenuity, as well as the highest levels of productivity, with efforts focused on rodlike assemblies of carboranes (carborods), cyclic assemblies called carboracycles, mercuracarborands for host-guest binding, and carborane-containing phosphate diesters and phospholipid vesicles for boron neutron capture therapy. Fred's achievements have been recognized in numerous ways including the ACS Award in Inorganic Chemistry in 1973, election to the National Academy of Sciences the same year, the ACS Award for Distinguished Service in Inorganic Chemistry in 1988, and the Chemical Sciences Award of the National Academy of Sciences in 1999.

Two years ago at a Gordon Conference I had the opportunity to hear Fred talk about his research in one of those Thursday evening talks when it's hard to keep the audience focused after lobster (and some smuggled-in wine). Fred started a little slowly with introductory material on multicenter bonding, icosahedra, carboranes, diamond-square-diamond rearrangements and carbollide complexes—most of it material developed in Fred's laboratory and found in every modern inorganic chemistry textbook. But then Fred picked up the pace and moved to current research—a splendid array of carboranes used for different chemical objectives. Fred was really revving up when the discussion leader (with lenience and chagrin) told him that time was up (there was yet another speaker). Fred looked at the audience pleadingly and said, "You really have to see this next overhead—it's a killer! It's liposomes!" The applause was spontaneous, the case was won, and we witnessed another dazzling demonstration of carboranes in action. At 70, Fred had delivered his talk with greater enthusiasm and creativity than speakers half his age. He was, and is, an inspiration to us all. In recognition of Fred's contributions to inorganic chemistry, the new *IC* cover features highlights of his chemistry.

The second individual I want to salute is Associate Editor Herb Kaesz who is stepping down from his position after thirty-two years of outstanding service. Herb had primary responsibility for organometallic submissions, and he shepherded countless papers through the review process with conscientiousness and the highest scientific standards in mind. There was a genuine care and integrity to everything he did for the journal. Herb was truly instrumental in making *IC* the most widely respected journal in its field. In addition to his editorial work, Herb has provided invaluable service to the inorganic chemistry com-

munity in other ways—as Chair of both the ACS Division of Inorganic Chemistry and the Organometallic Subdivision, through participation in ACS Committees on Professional Training and Science, as Chair of Gordon Conferences on Inorganic and Organometallic Chemistry and as a member of the Gordon Research Conference Council.

Herb's research has involved first class work on metal carbonyl cluster compounds, metal hydrides and most recently, new organometallic compounds for MOCVD. Herb's accomplishments in his research, his work for the journal, and his service to the inorganic chemistry community were recognized in 1997 with the ACS Award for Distinguished Service in Inorganic Chemistry. On behalf of all who have been involved with *IC* as editors, authors, reviewers and readers, I offer additional thanks to Herb for a job well done and an extraordinary lifetime of service.

As I commence my term as Editor, I am indeed fortunate to have an excellent group of Associate Editors who will continue to serve the journal. They include Al Haim, Vince Pecoraro, Ken Poeppelmeier and Ed Solomon. I am delighted to write that joining them will be Jim Mayer of the University of Washington who is known to many of you by his superb science and dedication to the inorganic chemistry community.

And now, where are we headed? To answer this, we first need to recognize the impact of our field's special strengths of scope and centrality in chemistry. During the past three decades, these qualities together with the creativity and vitality of inorganic chemists have stimulated new research areas that connect with and impact other fields of scientific inquiry. This has led, for example, to the emergence of bioinorganic chemistry as a key field that intersects with a molecular understanding of biological systems and human health. It has meant the development of new inorganic solids and polymers as materials for real and imagined applications based on bulk as well as molecular properties. It has proven instrumental in the design and understanding of homogeneous and heterogeneous catalysts for bond activation and chemical transformation. And as chemistry focuses increasingly on supramolecular systems and the rational construction of nanoscale and larger structures, it has promoted the root concepts of inorganic chemistry and coordinate covalence to serve as the basis on which to build such structures. While inorganic chemistry has expanded in many diverse directions, comprehension has also deepened with density functional theory applied to complex reaction sequences as well as structures, and spectroscopic measurements of increasing sophistication to give greater direct insight into chemical systems than heretofore achievable. An examination of the Table of Contents of any recent *IC* issue illustrates the diversity of inorganic chemistry in today's world.

Electronic submission. To build on *IC*'s extraordinary scope and interest from the global inorganic chemical community, we are instituting several changes in this auspicious year of 2001. First, we are now accepting electronic submission of communications via the Web. For these papers, we have a target timeline of five–six weeks from submission to posting on the Web as ASAP articles. Details for electronic submission can be found at <http://pubs.acs.org/IC> with a template provided to facilitate the procedure. To highlight communications, they will be listed as "Hot Articles" in order to make them accessible to everyone, and not just subscribers. If extensive use of graphics or figures is needed to communicate the science clearly, the length of the communication may expand to three journal pages in the new layout we will be instituting (see Notice to Authors

on page 13A). Electronic (Web) submission of full articles will also commence later in the year so stay tuned.

While the benefits of electronic submission for the reduction of time to publication are obvious, we also plan to reduce the time to publication for conventional paper submissions, but this will require your help and cooperation. The greatest amounts of time manuscripts experience in going through the review process are at the reviewers and while under revisions by the authors. The editorial staff of *IC* pledges to work diligently to decrease the time manuscripts spend in our offices, and with your help, we should be able to achieve faster processing of manuscripts while maintaining the highest standards of peer review.

A new look. A second major change beginning with this issue is the new look the journal will have starting with the cover. The new cover will feature artwork based on the science presented in each issue. Like inorganic chemistry, the cover art will be diverse and wide-ranging. Structures, reaction chemistry, spectroscopy and bonding will all be viable subjects. I have even made a commitment to Associate Editor Ed Solomon that, when he publishes his address for a well-deserved ACS Award in Inorganic Chemistry, orbitals will make the cover.

I invite authors to submit possible cover art to highlight their most outstanding contributions to *IC* and the field of inorganic chemistry. The art should capture the essence of their science in a creative manner as we have tried to do with Fred Hawthorne's research in borane cluster chemistry. There will be no charge to authors for cover art, the final choice of which will rest with the Editor. With a biweekly journal, it will be necessary to gather a rolling two–three month supply of covers. During the initial buildup phase, we will continue to run the Hawthorne cover (a fitting tribute for 32 outstanding years), but beginning in March we will move to a change in cover art with each issue. Other layout and composition changes inside the journal will also take place during the year, and I would appreciate hearing from you regarding them.

Another stylistic change you will see in *IC* is greater use of color, to which ACS Publications is committed without any surcharge to authors. But with this commitment is a challenge to you, the community. Color can be a very powerful communication and pedagogic tool. It can be used, for example, to follow molecular fragments in reaction schemes, decipher complex structures, view macromolecular interactions, correlate spectroscopic bands and follow orbital interactions. On the other hand, random decorative color may look nice but substantively, it can be self-defeating. *IC* will move forward in 2001 in implementing more extensively *color with a purpose*, but we need your help as authors.

A challenge for the journal. The richness and diversity of research in inorganic chemistry also serves as a challenge to *Inorganic Chemistry*. As inorganic chemists work increasingly at the boundary with other disciplines and fields, we justifiably want to communicate with scientists across those boundaries. We view these scientists as new target audiences for our research. But we should not overlook the synergies that come from publishing in a journal firmly rooted in all aspects of inorganic chemistry. There are special advantages for people working on the modeling of methane mono-oxygenase to publish in the same journal as organometallic chemists interested in catalysis of oxidative C–H cleavage (and vice versa), or for scientists working on metal sulfides and layered structures to share the same forum with researchers studying host–guest chemistry, biologically relevant metal–sulfide clusters or catalysis of hydrodesulfurization. The connections are numerous—you undoubtedly can envision some from your own research. And I hope you embrace the special synergies that *IC* can most effectively provide.

At the same time we need to ensure that the papers in *IC* receive the widest readership possible among the new target audiences. We will work with ACS to have *IC* articles covered in all relevant information/abstracting services so that scientists from other disciplines working on research intersecting inorganic chemistry will be aware of *IC* reports. In this vein, *I am pleased to announce that IC has been selected for indexing and inclusion in the National Library of Medicine's MEDLARS system and MEDLINE*. This is a development of significance for researchers working in bioinorganic chemistry. In addition, we will help *IC* authors use proper keywords, phrases and supplementary terms so as to ensure successful retrieval of their articles by researchers outside of inorganic chemistry. We will also examine opportunities to serve as a potential source journal for relevant virtual journals that gather links of topically related papers in order to provide the extrafield dissemination that many of us seek. As I said at the start, the world of scientific publishing is rapidly changing.

Ultimately, the quality of any journal is determined by the people who write its manuscripts, review its papers and read its articles—in other words, you, the inorganic chemistry community. We invite your help and support in our continuing endeavor. Speaking for all of the editors and staff of *IC*, we pledge to work tirelessly with you to strengthen *IC*'s position as the number one journal of inorganic chemistry in this century as it was in the last.

Richard Eisenberg

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