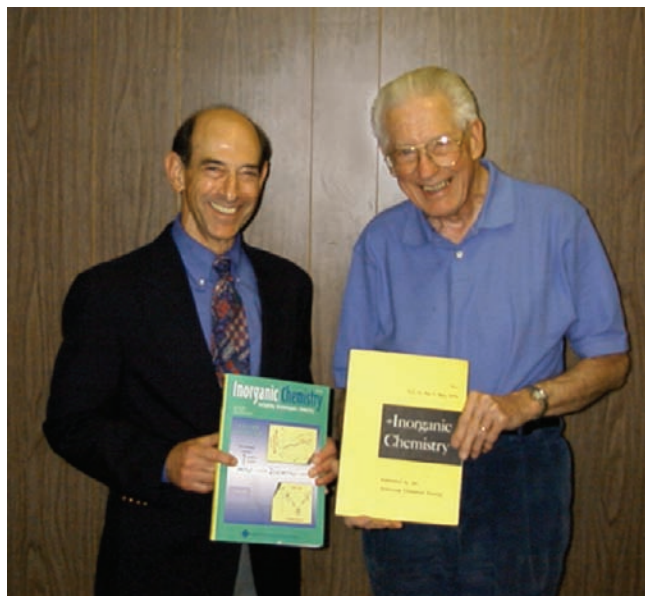


Inorganic Chemistry, Volume 50: A Golden Year

This issue marks the beginning of *Inorganic Chemistry*'s 50th anniversary year. It is a celebration that will continue throughout 2011 with online interviews and a major symposium at the American Chemical Society (ACS) Meeting in Denver, Aug 28–Sept 1, 2011. It is also a time to reflect. Fifty years is a long time. Volume 1 of *Inorganic Chemistry* appeared in 1962, so with publication of Volume 50 this year, 2011 is really a golden anniversary year. In 1962, John F. Kennedy was the President of the United States, Vietnam was some far-off place that many Americans had only vaguely heard of, no American had orbited the Earth (but two Soviet cosmonauts had), the Super Bowl did not exist, computers were large, clunky, unreliable, and centralized machines (nothing personal about them), the web was strictly for Charlotte and other arachnids, and the Internet did not exist (Al Gore was only 14 years old!). In its first year of existence, *Inorganic Chemistry* was published four times with a total of 239 articles, including notes and correspondences, and comprised 977 pages. Impact factor at that time related primarily to crater formation.

Most of today's *Inorganic Chemistry* readers were not born when its first issue appeared, and for those of us who were—let us just say that we have matured. The first Editor of the journal was Robert Parry, who was then at the University of Michigan. Bob served as Editor for only 2 years but remained a very active member of both the inorganic chemistry and global chemistry communities until his passing in 2006. I met with Bob in 2002 during a trip to the University of Utah, and we posed with journal covers from our respective eras as Editors.



Bob Parry (right) holds the classic yellow cover of the journal that served so well for more than 30 years, while Rich Eisenberg (left) holds an issue with the journal's changing format, during his tenure.

Fifty years is an even longer time in science than in human chronological terms because of the importance of technology and the science that spawns it in today's world. Every year increasing numbers of new results are generated and published. Reflection, however, reveals that many of today's advances have roots in the science of yesterday and yesteryear. When *Inorganic Chemistry* first appeared, the basis of electron transfer was first being probed experimentally and theoretically, leading to inner- and outer-sphere mechanisms and Marcus theory with its inverted regime prediction, but electron transfer in metalloenzymes was a generally untouched area of research.

In theoretical chemistry, simple molecular orbital theory (Hückel and semiempirical Wolfsberg–Helmholz) was just being applied to metal complexes such as the vanadyl ion and mononuclear metal carbonyls when *Inorganic Chemistry* started, but none of the power, sophistication, and ease of use of today's density functional theory (DFT) existed. Today, DFT calculations are found in a large fraction of our submissions, often when the paper is predominantly experimental in nature.

Substitution and ligand modification reactions were being probed mechanistically at the outset of the journal, yielding ideas and concepts that are still in use today. In structural chemistry, X-ray crystallography was an arcane affair—data collection from many photographs with intensities read visually or by a densitometer followed by lengthy refinement procedures due to the limited availability of central computers (downtime was frequent). Structures that are now determined routinely in a few hours would often take several months.

Discrete metal clusters constituted a rather limited set of compounds when *Inorganic Chemistry* began, and the extraordinary structure and quadruple bond of $\text{Re}_2\text{Cl}_8^{2-}$ had not yet been discovered nor had alkylidene, alkylidyne, carbene, and carbyne complexes. While cyclopentadienyl (Cp) complexes such as ferrocene and some $[\text{CpM}(\text{CO})_n]_n$ compounds had been reported by 1961, the carbollide analogues were still a few years in the future. Also, while some palladium-catalyzed reactions were known, the incredible named coupling reactions that have impacted synthetic chemistry in a profound manner had not yet been discovered. The list goes on and on. Each of you likely knows of a different seminal discovery in inorganic chemistry or closely related science that saw its first light of day after *Inorganic Chemistry* was initially published.

From the quarterly journal of 1962, *Inorganic Chemistry* grew rapidly to a monthly format under the leadership of Edward L. King of the University of Colorado, its second editor, and then, beginning in 1969, M. Frederick Hawthorne of UCLA, whose tenure as Editor continued for a remarkable 32 years. I have written before about Fred's accomplishments, which go far beyond longevity. Fred led the journal during a period of great growth with loyal support from the inorganic chemistry community. The journal

became biweekly in 1983 and instituted a graphical Table of Contents in 1993. The size and scope of the journal increased, and the number of Associate Editors expanded to keep up with the greater number of submissions in bioinorganic chemistry, solid-state chemistry, spectroscopy and physical measurements, kinetics and mechanisms, catalysis, and organometallic chemistry.



Participating at the initial induction of ACS Fellows in 2009 were Fred Hawthorne (Editor, 1969–2000), Ed Solomon (Associate Editor, 1985–present) and Rich Eisenberg (Editor, 2001–present).

I wrote in 2001, when I assumed the reins of Editor, that Fred Hawthorne was a real legend. Fred moved from UCLA in 2007 to the University of Missouri to establish the International Institute of Nano and Molecular Medicine to pursue a long-standing goal of using compounds he was making in boron neutron capture therapy to fight cancer. At an age when most folks are retired, Fred continues to move his science forward impressively, and his enthusiasm remains infectious. Today, Fred's legendary status glows even brighter!

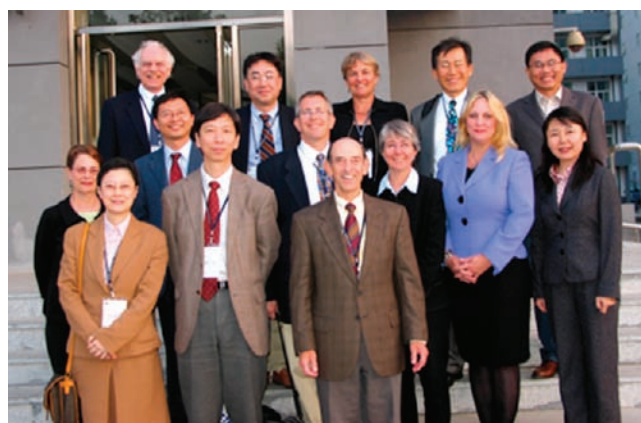
As one of our special anniversary year features, we are having a set of interviews, entitled "Voices of Inorganic Chemistry", with leaders in our field who have helped to make the field of inorganic chemistry what it is today and who, through their efforts, helped to nurture *Inorganic Chemistry* to its current status as the leading journal in its field. Our first "Voices of Inorganic Chemistry" interview is with Fred Hawthorne. I urge you to watch it and invite you to send me your comments about it. The interview was fun to do, but it was also very informative, revealing research threads of 50 years (and more!) that stimulate and run through Fred's science today.

This issue also marks my 10th anniversary as Editor, which, in turn, allows me some time for additional reflection about the journal and the field. *Inorganic Chemistry's* growth of the past decade is impressive, and analysis of that growth reveals a number of factors that are to me profound, exciting, and challenging. The first is the information technology revolution that, for us, began with the web publication of the journal (and all ACS journals) in 1996. The change from how we obtained, used, and searched the "literature" is one of total transformation. When I started as Editor, the transformation was in full swing, and we immediately instituted electronic submission. Few thought that paper journals would completely disappear, but today we are very close to that point as the information revolution continues. All of us access the literature, search for relevant articles, and save papers of

interest electronically without ever leaving our desks. These saved articles are themselves searchable electronically! The web version of a published manuscript originally just mirrored its print version, but the electronic version of the paper today possesses functionality and interactivity that the print version could never engender—and more is coming.

During the past few years, smart phones, e-readers, and iPads have raised new transformative possibilities. We can now access the latest developments via ASAP articles, and the literature in general through an iPhone or an iPad, and share them with colleagues near and far instantly. Social networking (of which yours truly is a nonparticipant) meets scientific research. The information revolution also raises the issue of archiving, with which many librarians are wrestling, as we redefine libraries. How will our "written history" be preserved? In the future, how and where will we be able to access the experiments, data, and procedures done in the laboratory today and in the past? Where we head in the future on the electronic use and accessibility of the literature is something I cannot predict, but I expect it to be mind-boggling. The one constant I can take out of this revolution is change, and the rate of that change is accelerating.

A second major change is the continued globalization of the chemistry community. The majority of *Inorganic Chemistry's* authors are now from abroad, with the greatest growth in foreign authorship over the past decade coming from Asia, especially the People's Republic of China. What we are witnessing is a seismic shift in who and where research is done. Personally, it is a delight to see that we are truly a global community. In 2009, I visited eight institutions in China with several Associate Editors of the journal, and we held a regional Editorial Advisory Board meeting at Peking University. It was great to meet and discuss with the participating chemists their interests and concerns regarding scientific communication and to see first-hand the impressive levels of research activity in China.



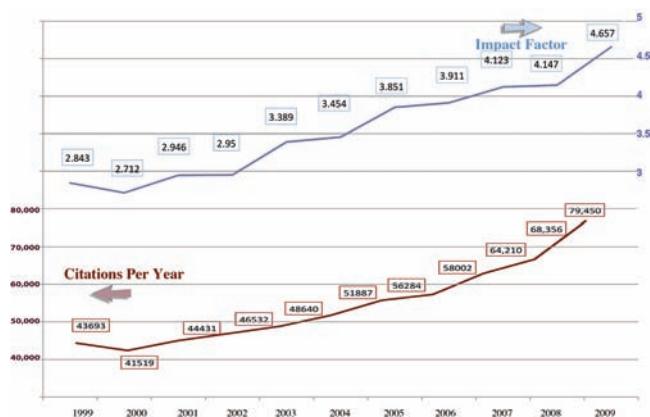
Regional Editorial Advisory Board meeting at Peking University in April 2009. Participants are (front row) Vivian Yam, Makoto Fujita, and Rich Eisenberg; (middle row) Marcia Eisenberg, Song Gao, Bill Tolman, Barbara Messerle, Kim Dunbar, and Li-Zhu Wu; (back row) Dave Martinson, Shinobu Itoh, Penelope Brothers, Youngkyu Do, and Yadong Li.

With the increased papers from greater numbers of places, we are also seeing a change in what inorganic chemistry is considered to be. In many respects, it is an expansion of inorganic chemistry's footprint in science. One emphasis, only nascent 2 decades ago, is the size of inorganic systems that we study. While we continue to have a molecular

perspective, the systems we study have increased to nano- and even mesoscale with metal–organic frameworks (MOFs), self-assembly, and supramolecular chemistry. Another emphasis is on chemistry related to real and overarching problems such as energy for sustainable development. In inorganic chemistry, this may focus on solar energy conversion, photochemistry, electron transfer, and catalysis, as well as new materials and how to use them in addressing different aspects of the energy challenge.

The third expanding emphasis in inorganic chemistry is biological. For years, *Inorganic Chemistry* has had a tagline in its title, “including bioinorganic chemistry”, that showed how important papers dealing with biologically related inorganic chemistry and inorganically related biological chemistry were considered to be. Research in this cutting-edge multidisciplinary area continues to increase as it deals with the many challenges to improve human health.

With the full impact of these major changes during the past decade, I am pleased to say that *Inorganic Chemistry* has had a great decade. Our submissions have increased 164% and the number of Associate Editors have grown accordingly. However, it is not the number of Associate Editors that I want to recognize but their quality and ability. They constitute a dazzling group of expert and active scientists who are well-known and well respected by the global *Inorganic Chemistry* community. Both the total number of citations per year and the journal impact factor have increased steadily over the past decade to the record numbers of 79 450 and 4.657, respectively, based on the most recent data reported by ISI. *Inorganic Chemistry* is the highest-rated journal for the primary reporting of new science in its field, and the gap between our journal and its closest competitor has never been wider.



During the coming year, you will also notice some changes in the appearance of *Inorganic Chemistry*. First, there will be a new design for downloaded PDF files. We think the design will have a more useful and functional appearance with the Table of Contents graphic in the abstract, a feature that currently exists only with the HTML abstract. Second, *Inorganic Chemistry* covers will feature several different papers on each issue through their Table of Contents graphics. We hope to give greater recognition to our authors in this way, and take a step toward the day when electronic issue art will replace paper covers.

So, in closing, let me salute and thank the most important people in the success of *Inorganic Chemistry* over the last half-century. It is you—our readers, authors, and reviewers—to whom we are indebted for your continuing support. Personally, I also want to thank all of the people who help bring every issue of the journal to fruition. The numbers are really staggering and include not only the journal assistants to all of the editors (who are worth their weight in gold) but the entire production staff in Columbus, OH, and the ACS Publications Division in Washington DC, who do a tremendous job in fulfilling one of the Society’s core functions of communicating what is happening in chemistry and allied fields. Now, let us all celebrate a special year!



The editors of *Inorganic Chemistry* at an editorial staff meeting in Washington DC in 2005.

Richard Eisenberg
Editor-in-Chief