



## Editorial

Organometallic chemistry was not recognized as a field of great scientific importance until long after Cadet had made his “liqueur fumante de l’arsenique” in Paris in 1760, and even long after Zeise’s and Frankland’s landmarking discoveries of metal-olefin and metal-alkyl complexes in 1827 and 1849, respectively. Also the industrially useful tetracarbonylnickel of Ludwig Mond (1890) and Gignard’s easy-to-handle alkylmagnesium compounds (1899) came too early in time to convince the chemical community at large of the enormous impact that metal-to-carbon bonds have on chemical syntheses. It were the “Metallorganische Mischkatalysatoren” discovered in the laboratory of Karl Ziegler at Mühlheim, Germany in 1953 and their immediate industrial applications (Hoechst AG) that drew public attention to the area. A general awareness then arose that everything between Hieber (metal carbonyls, 1927 onwards), Hein, Roelen, Reppe – and the heroic ferrocene of Miller and Pauson (1951) – had paved the way to a new era of chemical sciences.

Organometallic chemistry developed rapidly ever since and embodied a unique cross-fertilization between academic research and industrial applications, especially in homogeneous catalysis. Early important contributions include the Wacker process (1958) leading to acetaldehyde from ethylene in a selective way (1958) and the DuPont discovery of catalytic butadiene/ethylene coupling (1961). Geoffrey Wilkinson taught us how to use structurally defined rhodium(I) complexes to catalyze olefin hydrogenation at ambient temperatures and atmospheric pressures (1965). In academic laboratories new bonding models were elucidated: Cotton and others discovered the existence of metal–metal multiple bonds (1962), and Fischer discovered the first metal–carbon multiple bonds in metal carbenes in 1964.

In this same year, 1964, the Journal of Organometallic Chemistry (JOM) was launched. Five regional Editors, K.A. Andrianov (Russia), C. Eaborn (United Kingdom), E.O. Fischer (Germany), H. Normant (France) and D. Seyferth (USA), founded the Journal. These pioneers are gratefully acknowledged for the fine work they performed in the very beginning. Their personal reputa-

tion and continued scientific performance made the Journal popular very rapidly. After a short while, JOM became the leading source of information in the primary chemical literature.

Forty years of content reflect the changes in the subject. In the beginning, primarily synthetic work in both main group and transition element chemistry was published. Soon, however, catalytic aspects – specifically represented by mechanistic and kinetic studies – followed. Also, the development and the application of analytical methodologies, especially IR, NMR, MS, and ESR, can be traced down in 40 years of JOM. In the late eighties, new application of organometallic compounds came to the fore and entered the Journal, for example materials’ based chemistry like chemical vapour deposition (CVD). In addition, bioscientific aspects are growing in importance, and the Editors are well aware of this development. All these utilizations, be it catalysis or materials’ based, have become possible by the wealth of organometallic compounds that can now be structurally verified. Organometallic compounds are the culmination of molecular chemistry, both in terms of variety and complexity, as well as in terms of precision.

After 40 years, the Journal proudly presents today’s Volume 689, issue 24, covering reflections on major discoveries over the past 40 years as well as future perspectives. Selected authors of all ages – but all with international reputations have been personally invited by the Editors to present their field of research in a personal report. This collection of fine articles once again demonstrates the vivid versatility of a science, which has become a cross-section discipline within chemistry, physics, and industry.

JOM belongs to a select sub-group of the most recognized and highly cited journals. It has, with Organometallics, developed as the leading journals in the field, and it is the intention of the Editors to maintain this position. Our strength is its long-standing reputation, the reliability of authors, the broad variety of sub-disciplines covered, the industrial impact, and the policy to accept the best articles no matter whether

they are short (communications, notes) or long (full articles), whether they present original contributions or rather a review on important developments of general interest. At the end of the day, it is the standard of our authors that determines the reputation of the Journal.

This anniversary issue gives us the opportunity to thank all of our authors and board members for their excellent contributions over the years. Last but not least, our thanks go to our predecessors, the Regional Editors, as well as to the Publisher, Elsevier, for starting the oldest journal in the field of organometallic chemistry and always providing us with highly qualified staff to support our work.

We cheerfully accept the many good wishes on the celebration of JOM's 40th birthday. They encourage us to further improve a top-quality Journal, which serves the scientific community.

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On behalf of all Editors  
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