

A year in review

We give our perspective on one year of publishing *Nature Reviews Chemistry*.

“It is important to us that the authors who publish their work with us are representative of our diverse readership”

A year ago we published the first issue of *Nature Reviews Chemistry* with the aim to offer reviews that are “authoritative and accessible, critical and pedagogical”. We have insisted that our authors provide critical summaries of their area of expertise and, one year on from launch, we thought that we would share our experiences curating the journal and our plans for the future.

Why launch a new journal? This is a question many of you have asked us over the past year. Well, in considering this existential query we turned to the mission statement shared by all *Nature* branded journals: “first, to serve scientists through prompt publication of significant advances in any branch of science, and to provide a forum for the reporting and discussion of news and issues concerning science. Second, to ensure that the results of science are rapidly disseminated to the public throughout the world, in a fashion that conveys their significance for knowledge, culture and daily life.” Chemistry (and science more generally) is evolving rapidly; there are more researchers, and consequently more research output for our community to assimilate. The importance of primary research journals as venues to showcase new work is essential to the first part of our mission statement. In our opinion, reviews journals are also vital because they offer an avenue to collect and rationalize our knowledge, thereby bringing awareness to all the aspects elements that remain to be discovered or understood. Although our Reviews may sometimes cover niche topics, we aim, through careful editing and preparation, to make apparent the significance of that work within the broader field of chemistry. In doing so, our Reviews help to fulfil the second part of our mission.

In a mere 12 issues, we could not hope to give due attention to every individual topic in the broad field that is chemistry. However, we do believe that we have published articles that cover a diverse range of research areas. To illustrate this, the editorial team have selected a small number of these articles and made them free to access for a short period of time, in celebration of our first birthday. Our selection includes Reviews and Perspectives spanning biochemistry to materials science, and describe developments either of a fundamental or applied nature. For example, Tsai and co-workers remind us of the several factors that affect the performances of DNA polymerases. The fidelity with which these enzymes replicate DNA is affected by the dimensions of

their active site, and/or the identity of the catalytic metals and the presence of interactions between the amino acid residues and nucleotides.

Whereas DNA polymerases operate on elaborate substrates, there are enzymes that act on much small molecules. These enzymes have inspired the design of catalysts that make fuels such as H₂ and CO by juggling electrons and protons, as explained in a Review article by Jillian Dempsey and co-workers. It is perhaps no surprise that renewable energy generation is one of the most active areas of chemistry research, and osmotic power is something that we have only recently learned to harness. Lydéric Bocquet and colleagues offered their Perspective on how this clean, renewable form of energy can be harvested from salinity gradients present at the interface between saltwater and fresh water. In particular, they highlighted the current challenges that limit the large-scale viability of this continuous energy source.

We have noted the crucial role of metals in synthesizing DNA, a natural molecule held together by the weak interactions. Mathieu Denis and Stephen Goldup have illustrated how metals can also aid in the synthesis of complex interlocked abiological structures held together by mechanical bonds. Although applications of such work may not be immediately apparent, we remain committed to covering the best fundamental research with a certain faith that this highly creative work will be of value in the future. At the more applied end of the chemistry spectrum, Riikka Arppe and Thomas Just Sørensen described the potential utility of chemical synthetic approaches in the generation of genuinely random physical patterns and how these may be used as physical unclonable functions. Such tags can be used as anti-counterfeiting systems, which are useful for the authentication of items from valuable goods to drugs. Chemistry is far more than an academic enterprise, and thus we are eager to include the voices of industry-based researchers in our pages. The Review on synthetic design for drug candidate synthesis by Martin Eastgate and co-workers represents one such example.

In addition to discussing research, we are also keen to provide a platform for the discussion of other topics and issues important to the chemistry community. With our Comment articles and two regular columns — Down to Business and In the Classroom — we want to give voice to our community’s opinions on topics ranging from education to the dialogue between academic research and

industry, and to more societal themes such as strategies to achieve gender balance in science.

It is important to us that the authors who publish their work with us are representative of our diverse readership. Twelve issues is far too few for any meaningful analysis, but we would like to assure our readers that we are continually considering the spread of our author base. In doing so, we hope that we can do our part to move the needle towards a more balanced spread of science. Similarly, there is far more chemistry than we could possibly have touched upon thus far. As we publish the second volume of *Nat. Rev. Chem.*, we look forward to the valuable contributions of our authors and referees, who help inform our readers on diverse and interesting developments in chemistry.

Reaching our first birthday would not have been possible without the precious contributions of our authors — who put their faith in us and let us work on their manuscripts — and our referees. Last but not least, we would like to thank you, our readers, for your invaluable feedback and support.