Back to the future

In our very first issue, eight scientists shared their visions for how they thought chemistry would develop and now, ten years on, we have asked another group of researchers to look to the future. We also take this opportunity to look back and reflect on a decade of *Nature Chemistry*.

As 2008 progressed, the pieces started to fall in to place. The first editor was appointed in February and three more joined in April. The manuscript tracking system went live towards the end of July and the first submission was received soon after. October saw the arrival of the fifth editor and the team was complete. On 22 February 2009, the journal published its first [research article](#) online and then, after much proof checking and last-minute chasing of legal forms, the first issue of *Nature Chemistry* sprang into life just a few weeks later on 19 March.

Many article types remain to this day, but some are no more. The Blogroll column, which summarized recent posts on chemistry blogs that had caught our eye, was a monthly fixture until the September 2015 issue. On the last page of the first 120 issues you will find an In Your Element (IYE) essay, each one revealing interesting snippets of information about one of the periodic table's current 118 building blocks (as well as deuterium and tritium). This collection of articles reached a fitting conclusion when the [final piece](#) — on mendelevium — appeared in the issue before this one, accompanied by an [Editorial](#) rounding up all of the contributions.

On the topic of the periodic table and stories related to the elements, Brett Thornton and Shawn Burdette have been our two most prolific authors. Between them they have written ten IYE essays (all but one as co-authors), as well as the occasional Thesis column and Commentary article. Following the 2013 publication of their Thesis '[The ends of elements](#)' in which they argued that elements 117 and 118 should end in 'ine' and 'on' — rather than 'ium' as proposed by IUPAC in 2002 — official naming guidelines were revisited and these recommendations were adopted (*Pure Appl. Chem.* **88**, 401–405; 2016). In November 2016, elements 117 and 118 were officially designated as tennessine and oganesson. We also thank Emma Sofia Karlsson for expertly illustrating many of Brett and Shawn's articles.

Some things at the journal stay reassuringly the same. We are very grateful to our two regular Thesis columnists, Bruce Gibb and Michelle Franci. Michelle's

Thesis article in this issue is her 39th and in it she wonders whether or not it is a good idea to drink heavy water. Delving into the history of this weighty problem she discovers stories involving goldfish, mice and a handful of Nobelists. Bruce has already notched up 40 Thesis articles, covering a diverse range of topics including the Solar System, big data, water, curry and gin. In the very first issue he considered chaos and complexity in chemistry and also included a quiz for the reader — the answers to which we printed upside down at the bottom of the article.

In that first issue, we also asked eight leading researchers to tell us how they thought the particular area of chemistry they were working in would develop over the coming years. These relatively short articles were brought together into a Feature called '[The future of chemistry](#)' and considered topics ranging from the crucial role of synthesis in chemistry, the synergy between experiment and theory, the use of chemical tools to investigate biology and the sunny outlook for solar fuels.

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We now revisit the future with a [Feature](#) in this anniversary issue. Unlike a decade ago, the net was cast much wider this time and we contacted many more scientists for their views. Each of them was asked for their thoughts on the most exciting, interesting or challenging aspect related to the development of their main field of research. We are very grateful to all 58 contributors for outlining, with brevity, their vision for what the future of chemistry holds.

Chemistry does not typically progress in giant leaps and its frontiers are often nudged just a little further with each advance; in this context, a decade is not a particularly long time. It is not surprising, therefore, that some of the common themes that emerge from the

Feature in this issue align with those from our very first issue — particularly sustainability, the need for more efficient synthetic transformations and the importance of fundamental chemistry for our future energy needs.

There are, of course, some key differences. Perhaps one of the most notable is the clear potential chemists now see in embracing artificial intelligence and machine learning. The generation, curation and mining of large datasets will accelerate the rate at which discoveries are made and also improve reproducibility efforts. As Aron Walsh bluntly puts it, 'It is time for chemists to put down their lab coats and learn how to code.'

Although the majority of the contributions focus on scientific developments, two pieces in the Feature consider other aspects related to the practice of chemistry. Gregory Robinson highlights the global challenges that society faces and argues that chemists must be trained to communicate more effectively, noting that, 'The future will demand both elegant chemistry and eloquent chemistry communicators.' Marc Reid points out that one of the most important aspects related to advancing chemistry is the ability to do so safely and he asks, 'How can we better understand and eliminate our failings in laboratory safety?'

Whatever the future of chemistry has in store, no doubt it will inform and underpin solutions to many grand societal challenges. Nevertheless, as crucial as it is to recognize that chemistry has a responsibility to offer tangible solutions to these problems while minimizing its impact on the environment, we should not forget the importance of basic research — the practical implications of a fundamental discovery made today may not become apparent for many years to come. Making predictions can be difficult, especially when they're about the future and you don't have an old DeLorean and a flux capacitor to hand. □

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