



# Immune discovery aplenty at twenty

As we celebrate 20 years since the launch of *Nature Reviews Immunology*, we reflect on how far the field of immunology has advanced over the past two decades.

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In the early years of *Nature Reviews Immunology*, the editors often compiled ‘In the news’ columns to highlight immunology-related stories that had been picked up by major news outlets. Nowadays, if we tried to flag immunology coverage by the mainstream press, we would have no space left in our journal for any Reviews!

It is astonishing to reflect on the journey we have been on in the past 20 months, never mind the past 20 years. The emergence of SARS-CoV-2 and the COVID-19 pandemic have had devastating consequences throughout the world, but thanks in part to the herculean efforts of immunologists there is hope that we will be able to emerge from what has been a very dark place. The development and approval of effective vaccines for COVID-19 in less than 1 year since the initial identification of the virus will surely go down in history as one of the greatest human achievements of all time<sup>1</sup>. However, as we mark the twentieth anniversary of *Nature Reviews Immunology*, we also wish to pay tribute to the remarkable scientific advances that were being spearheaded by immunologists long before SARS-CoV-2 showed up.

To this end, we commissioned 20 Journal Club articles for our twentieth anniversary issue to highlight some of the major immunological breakthroughs that have occurred since the journal was launched in October 2001 (REF.<sup>2</sup>). Normally, when we invite authors to write a Journal Club we ask them to choose and discuss a paper that they were personally inspired by. For this special collection, we tweaked the format slightly and invited the authors to provide a personal perspective on a seminal development or discovery from the past 20 years chosen by our editorial team. We trust you will agree that the ‘NRI at 20’ collection underscores just how far the field has progressed in this time. It is hard to think of immunology today without inflammasomes, FOXP3, follicular helper T cells or innate lymphoid cells — but all of these components of the immune system were yet to be described when the first issue of *Nature Reviews Immunology* was published. Likewise, our understanding of immunometabolism, neuroimmunology and host immune–microbiota interactions have been revolutionized in the past two decades. We have seen major advances in macrophage and dendritic cell biology, as well as the formulation of new conceptual frameworks in immunology such as ‘disease tolerance’ and ‘trained immunity’. And, not content with having already defined

the basis of mammalian adaptive immunity, Max Cooper and his colleagues discovered a completely novel type of adaptive immune system in sea lampreys. Perhaps most strikingly of all, cancer immunotherapy made a remarkably successful journey from bench to bedside — these drugs are now saving lives each day.

Undoubtedly, many other key advances have shaped the face of immunology in the past 20 years, and we can only apologize that we could not cover more of these breakthroughs in our collection. Nevertheless, we hope you will enjoy reading the collection and share our pride in what the immunology community has achieved. In addition to the ‘NRI at 20’ Journal Club collection, our anniversary issue marks the launch of a new series of Perspective articles that consider the ‘past, present and future’ use of immunotherapies in different disease settings. In this issue, Andrew Murphy and Mark Febbraio discuss immune-based therapies in cardiovascular and metabolic diseases<sup>3</sup>, while Iain McInnes and Ellen Gravallese discuss therapeutically targeting the immune system in immune-mediated inflammatory diseases, such as rheumatoid arthritis and inflammatory bowel disease<sup>4</sup>.

On a personal level, the current editors wish to pay tribute to all of the editorial staff from the past 20 years who have helped to establish *Nature Reviews Immunology* as the pre-eminent reviews journal in the field. We also thank our production and administration staff who work tirelessly behind the scenes to support the journal. In particular, our art editor Simon Bradbrook is almost single-handedly responsible for the much-loved figures and artwork that have graced the pages of the journal throughout the years. Finally, our journal would not exist without the support of our authors and readers in the immunology community — thank you for your support over the past 20 years, and we cannot wait to see you again in real life when conference travel is possible!

1. Carvalho, T., Krammer, F. & Iwasaki, A. The first 12 months of COVID-19: a timeline of immunological insights. *Nat. Rev. Immunol.* **21**, 245–256 (2021).
2. Bell, E., Bell, J. & Buckland, J. In This Issue. *Nat. Rev. Immunol.* **1**, 1 (2001).
3. Murphy, A. J. & Febbraio, M. A. Immune-based therapies in cardiovascular and metabolic diseases: past, present and future. *Nat. Rev. Immunol.* <https://doi.org/10.1038/s41577-021-00580-5> (2021).
4. McInnes, I. B. & Gravallese, E. M. Immune-mediated inflammatory disease therapeutics: past, present and future. *Nat. Rev. Immunol.* <https://doi.org/10.1038/s41577-021-00605-1> (2021).