



Tools for the next generation

In Tools of the Trade articles, early career researchers can discuss the methods or techniques that they use to conduct their research.

“ We ... wanted to give ECRs a bigger voice in the journal’s content ”

This month, *Nature Reviews Cancer* launches ‘Tools of the Trade’ articles. These articles were first developed by *Nature Reviews Earth & Environment* and are intended to be a place where scientists who we term ‘early career researchers’ (ECRs) — graduate students, postdoctoral fellows and scientists who are just starting their independent research career — can discuss the methods or tools that they use to conduct their research.

We know that a large proportion of this journal’s readers are ECRs and as such wanted to give ECRs a bigger voice in the journal’s content. Although ECRs are often the first authors of our Review and Perspective articles, and contribute substantially to our pages in this way, they do not always have the opportunity to voice their own opinions, or discuss what is important to them in these articles. Tools of the Trade articles are intended to fill a bit of that gap and give the scientists in the lab doing the research day-in and day-out a chance to talk about the tools that were essential for them to make their scientific discoveries.

As we are all aware, one major consequence of the COVID-19 pandemic for scientists was the loss of in-person meetings and networking opportunities, which has hit ECRs especially hard. We hope that giving ECRs a place to write about the research they have done will allow them to make connections not only with the journal’s editors but also with ECR peers and established researchers who may be working in similar areas or who spot a collaboration opportunity in the ECR’s work.

Tools of the Trade articles are short, and part of our Research Highlights section. They can showcase an experimental or computational method or particular technique related to lab work, and discuss why the technique is important and what sort of information we can learn from its results. Any methods or techniques discussed must have previously been published in at least one peer reviewed paper. We ask that the articles are written in a way that isn’t too technical, to ensure they are accessible to our readers. As such, writing these articles allows ECRs to also practice communicating their research to a broad audience.

When one of the journal editors learns about a tool or technique in a primary research paper that we think would be interesting to cover in one of these articles, we initially approach the corresponding authors for a recommendation of someone currently or formerly in their group who would be well-placed to write on the tool. These established researchers have been very supportive

of our efforts, which is not surprising but is of course encouraging. Alternatively, we sometimes hear ECRs who have recently become independent researchers give talks at conferences on their tool, and approach them directly. Once the ECR has written their article, the handling editor provides them with feedback aimed at improving clarity and accessibility, while still maintaining the author’s voice, much the same as we do for all our articles.

We have so far published five Tools of the Trade articles, several of which are included in this issue, that cover a range of topics in cancer research. Eunhee Yi describes the ecTag method, which allows imaging and tracking of extrachromosomal DNA (ecDNA) in live cancer cells¹, and Alejandro Mayorca-Guiliani discusses in situ decellularization, which allows native extracellular matrix to be preserved to address both tumour deconstruction and reassembly². Christian Umkehrer describes the CRISPR-based tool CaTCH, which enables therapy-naive cancer cell clones to be isolated and compared to their resistant counterparts³, and Ana Luísa Correia discusses a tracker of dormant disseminated tumour cells to investigate the distribution and dynamics of dormant reservoirs within and across distant sites⁴. Finally, Yaara Oren explains the Watermelon system, which is used to simultaneously track the lineage, transcriptional profile and proliferative state of each cancer cell in a population, which enables the characterization of rare cycling persister cells⁵.

The ECRs of today will be the senior, corresponding authors on our future Reviews and Perspectives. As such, we hope that providing this opportunity for ECRs to contribute to the journal and interact with our editorial team will be a positive experience for them and for us, and that it will lead to a long and productive relationship between the journal and these ECRs.

1. Yi, E. Studying extrachromosomal DNA with the ecTag method. *Nat. Rev. Cancer* <https://doi.org/10.1038/s41568-022-00474-1> (2022).
2. Mayorca-Guiliani, A. E. In situ decellularization of tissues to resolve the tumour-associated matrix. *Nat. Rev. Cancer* <https://doi.org/10.1038/s41568-022-00477-y> (2022).
3. Umkehrer, C. Functional lineage tracing to study the clonal evolution of therapy resistance. *Nat. Rev. Cancer* <https://doi.org/10.1038/s41568-022-00479-w> (2022).
4. Correia, A. L. Tracking dormant disseminated tumour cells. *Nat. Rev. Cancer* <https://doi.org/10.1038/s41568-022-00480-3> (2022).
5. Oren, Y. Hunting down rare drug-tolerant cycling cells with Watermelon. *Nat. Rev. Cancer* <https://doi.org/10.1038/s41568-022-00483-0> (2022).

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