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► **COVER:** 'Nanomachines' by Lara Crow, inspired by the Review on p59.



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**H**appy New Year and it's out with the old and in with the new. *Nature Reviews Cancer* will be 10 years old this October and we have lots of cutting-edge projects to bring you in celebration. In particular, towards the end of 2011 and into 2012, we will be running a series of forward-looking Perspectives that will consider how specific areas of cancer research are likely to evolve over the next 10 years.

Continuing on this progressive theme, in this issue we consider one of the potential new treatments for cancer — RNA interference (RNAi). The appeal of this technology is that it might make currently undruggable proteins legitimate targets in the future. However, as Anil K. Sood and colleagues discuss on page 59, we still have some hurdles to clamber over ahead of this approach being widely used in the clinic. Apart from ensuring that RNAi-based therapies reach a tumour intact and are able to target the appropriate mRNAs, there is much that we still need to understand about the biology of RNAi in order to guard against unanticipated off-target effects. Moreover, we need to carefully consider how we test these agents both preclinically and in Phase I and Phase II trials to ensure their efficacy and safety.

RNAi is one possible therapy that might improve the treatment of head and neck squamous cell carcinoma (HNSCC). The incidence of this cancer is decreasing, but early lesions with malignant potential are often difficult to identify and treat, perhaps owing to the field cancerization effect. On page 9, C. René Leemans and colleagues outline the pathways that are now known to be important in the development of these cancers and use them to define a new classification of HNSCC that should help to identify new therapeutic targets.

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on acid-free paper