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JOURNAL CONTENTS

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Article p84

IMAGE: KIT LEFFLER, UNIVERSITY OF MINNESOTA
COVER DESIGN: ERIN DEWALT

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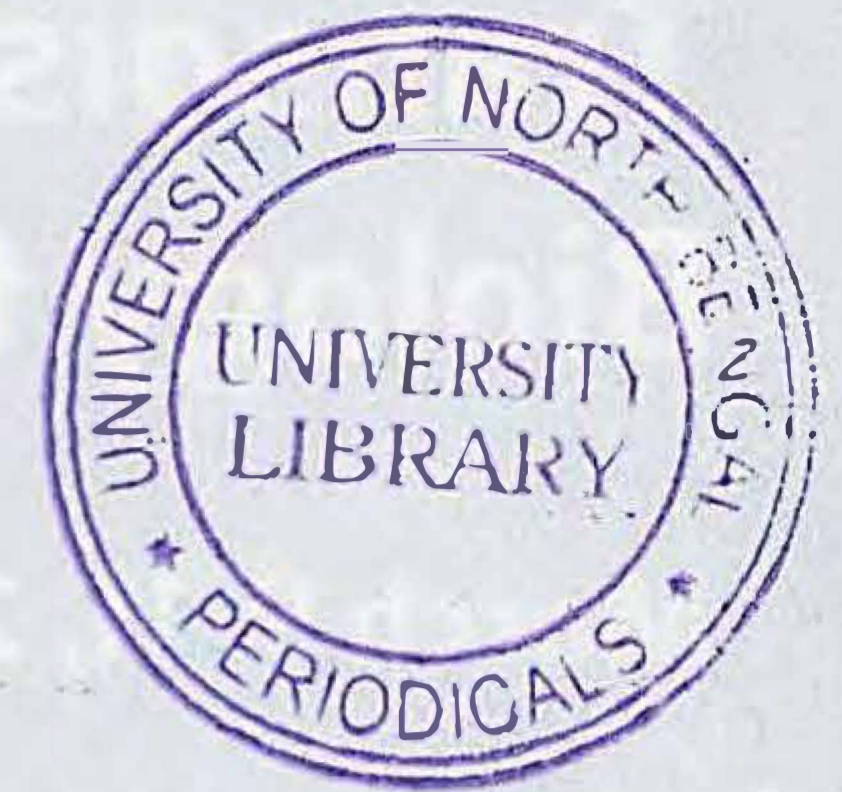
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IMAGE: DAVID HARRIS, FREIGHT FARMS, BOSTON
COVER DESIGN: ERIN DEWALT

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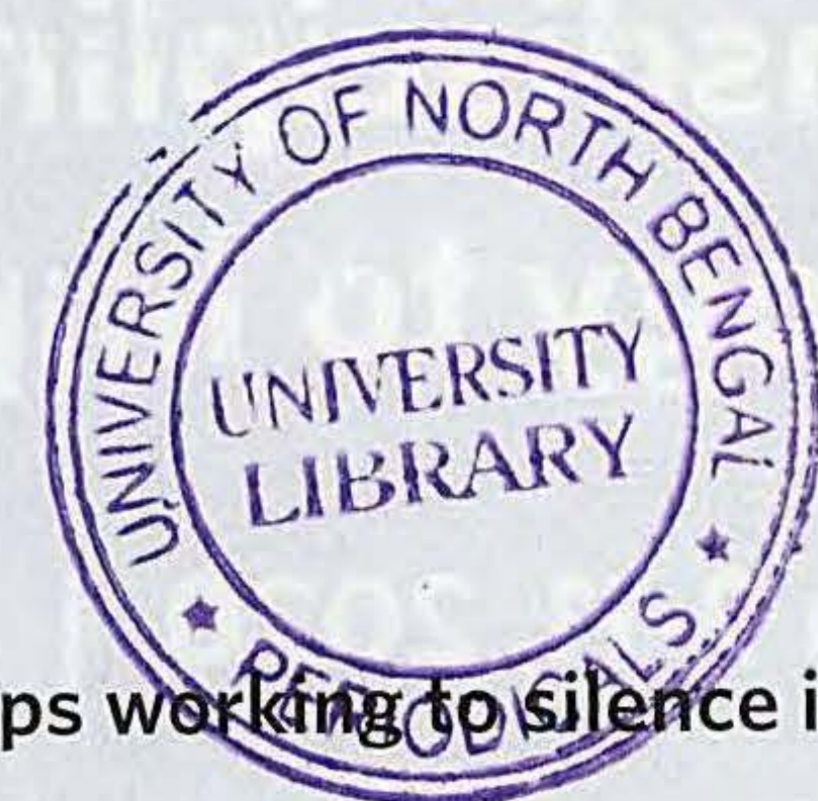
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The discovery of an RNA pathway that silences genes has opened new avenues for drug development. Antisense RNA can be used to target specific genes and has been shown to have therapeutic potential in a variety of diseases.

- The discovery that double-stranded RNA can mediate sequence-specific gene silencing
- The elucidation of the molecular mechanism of RNA interference
- New chemical optimization enabled targeted delivery of antisense RNA

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nature.com/collections/antisense

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COVER IMAGE

Precise loading of diverse peptides for vaccination is enabled by a strategy for peptide-TLR7/8 conjugate self-assembly of uniform nanoparticles. The approach is compatible with the development of personalized strategies, such as cancer vaccines targeting patient-specific neoepitopes.
Article p320

IMAGE: MEDMOVIE (WWW.MEDMOVIE.COM)
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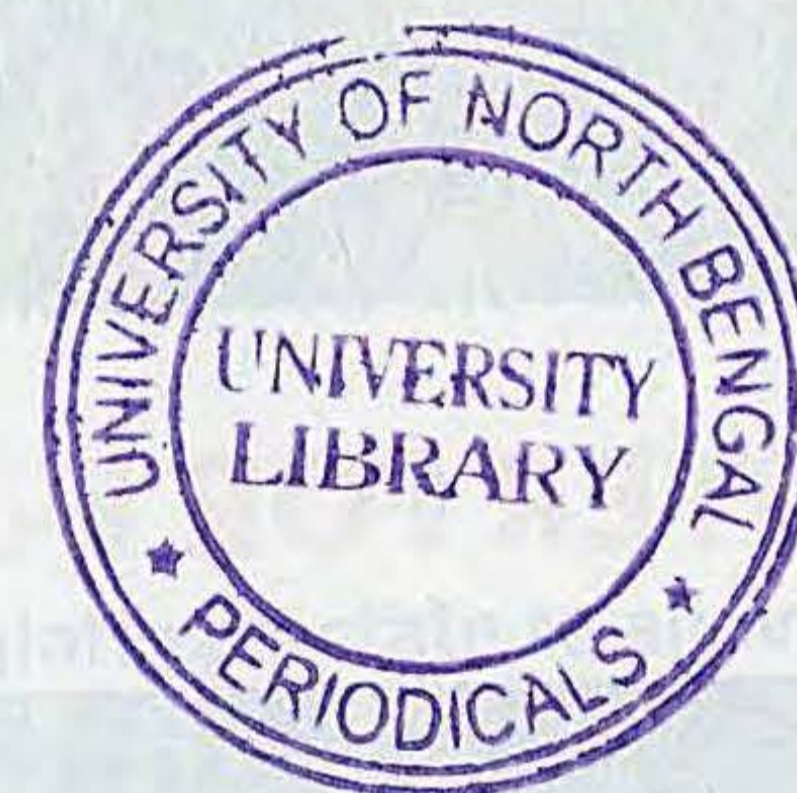
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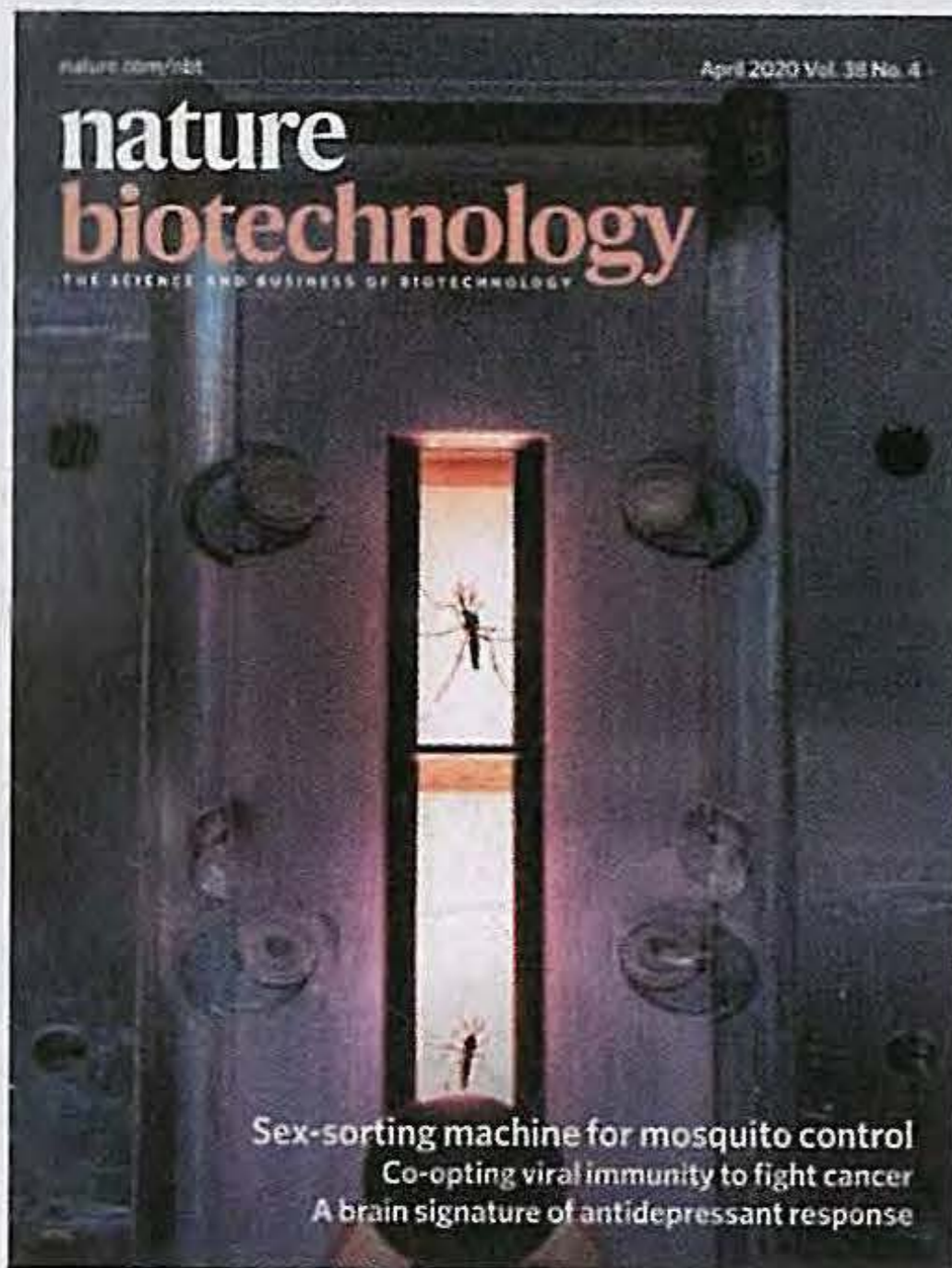
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COVER IMAGE

Aedes aegypti mosquitoes are imaged in a sex-sorting device. Crawford et al. describe the production of accurately sorted sterile male mosquitoes and their deployment in a mosquito-eradication trial.

Article p482

IMAGE: VERILY

COVER DESIGN: ERIN DEWALT

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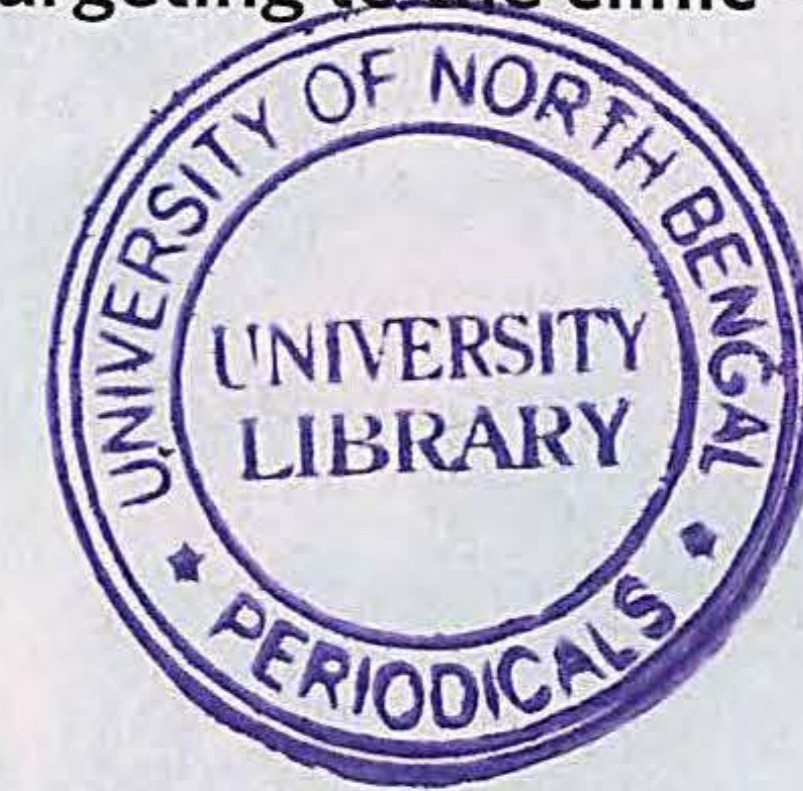
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As *Nature Biotechnology* went to press, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) had caused almost 34 million cases and over 700,000 deaths worldwide, according to the World Health Organization (WHO) and Johns Hopkins University. It has been key in tracing the pandemic's spread across the globe. The biopharmaceutical industry has rapidly mobilized to address the global healthcare emergency, applying artificial intelligence to accelerate the discovery of small-molecule, peptide and monoclonal antibody leads, pushing forward experimental modalities like mRNA and CRISPR in vaccine development and improving in preclinical and clinical development to accelerate products through the pipeline in record time. None of these discovery efforts would have been possible without the rapid sharing of data and clinical materials, but also more open, flexible and adaptable development models that can spread across disciplines.

Genzyme Bioworks is a leading multi-disciplinary open access journal with over 1.5 million readers a month. Scientific reports are the perfect place to publish your research. An example of how such a repository can be set up. The COVID-19 Open Research Accelerator (COORA) is a leading multi-disciplinary open access journal with over 1.5 million readers a month. Scientific reports are the perfect place to publish your research. An example of how such a repository can be set up. The COVID-19 Open Research Accelerator (COORA) is a leading multi-disciplinary open access journal with over 1.5 million readers a month. Scientific reports are the perfect place to publish your research. An example of how such a repository can be set up.

Business transactions have also accelerated. Startups and discovery shops are rapidly partnering with larger companies that have both manufacturing and clinical development expertise. The name of the game has been collaboration and accelerated transactions rather than maximizing intellectual property (IP) value and protecting proprietary data — an aspect where open material transfer agreements and proposed WHO IP pearls can also reduce red tape. In clinical development, master protocols and adaptive clinical trials are being designed to speed drug testing, and datasets are being made available by the COVID-19 Open Research Accelerator (COORA).



COVER IMAGE

An adult western corn rootworm, one of the most devastating pests of maize. Machado et al. use experimental evolution of bacterial symbionts of a nematode pathogen of western corn rootworm larvae to improve the insect-killing efficacy of their nematode host. Article p600

IMAGE: GABOR VARGA / 500PX PLUS / GETTY
COVER DESIGN: ERIN DEWALT

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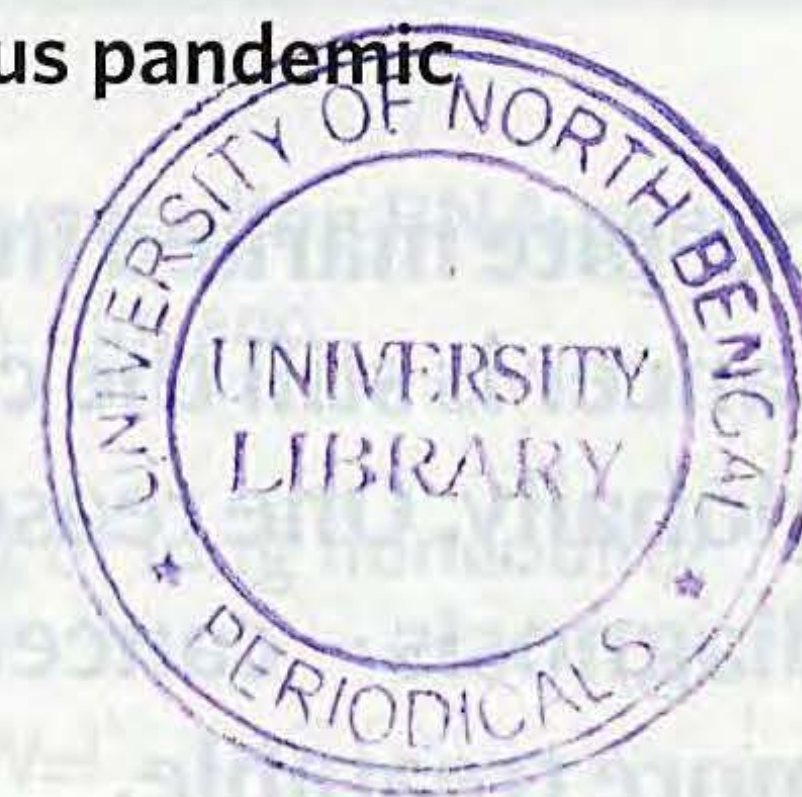
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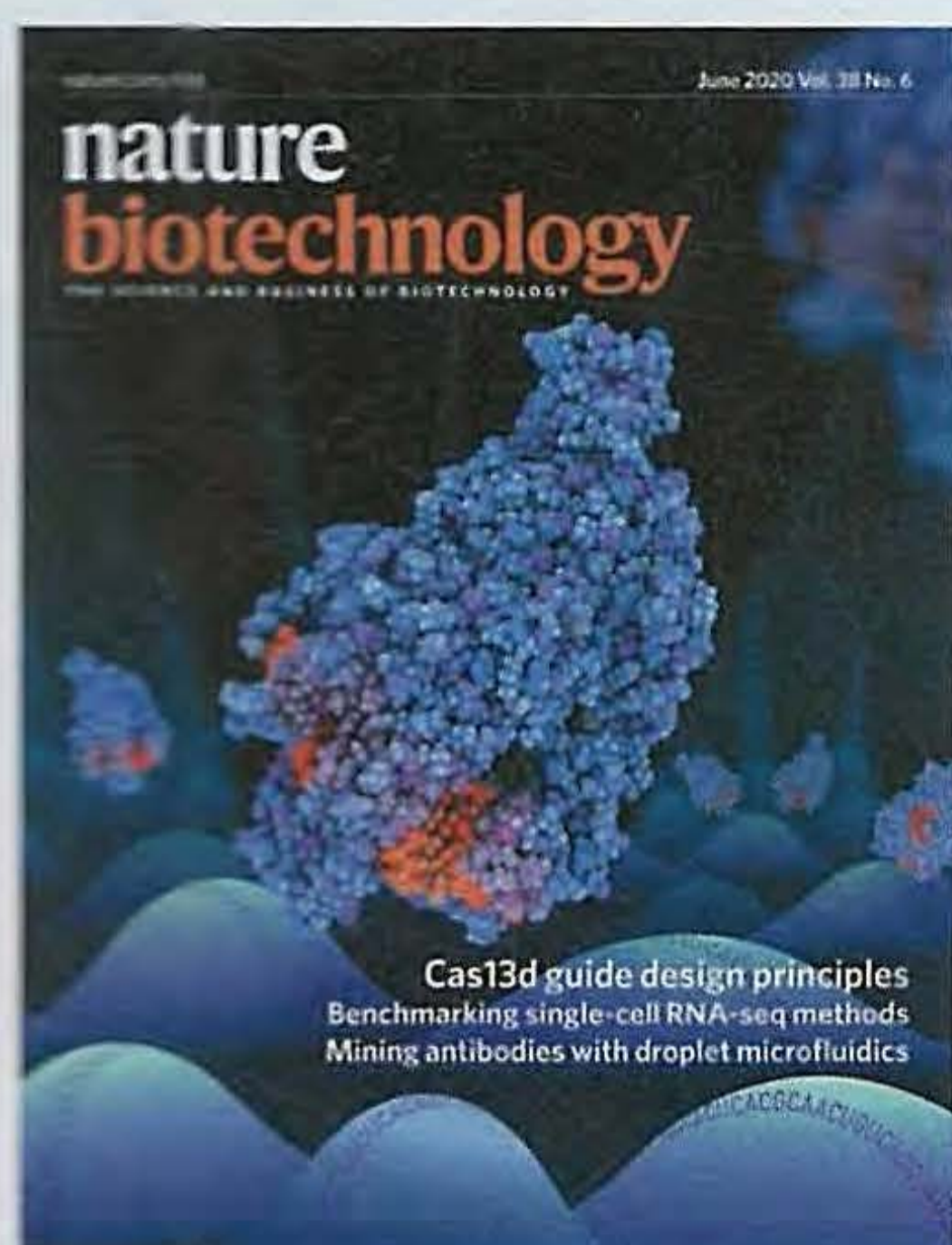
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COVER IMAGE

Optimizing guide RNA design for Cas13. With data from massively parallel screens, Wessels et al. develop computational models to identify optimal guide RNAs for the RNA-targeting CRISPR enzyme Cas13d.
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IMAGE: CHRISTIAN STOLTE
COVER DESIGN: ERIN DEWALT

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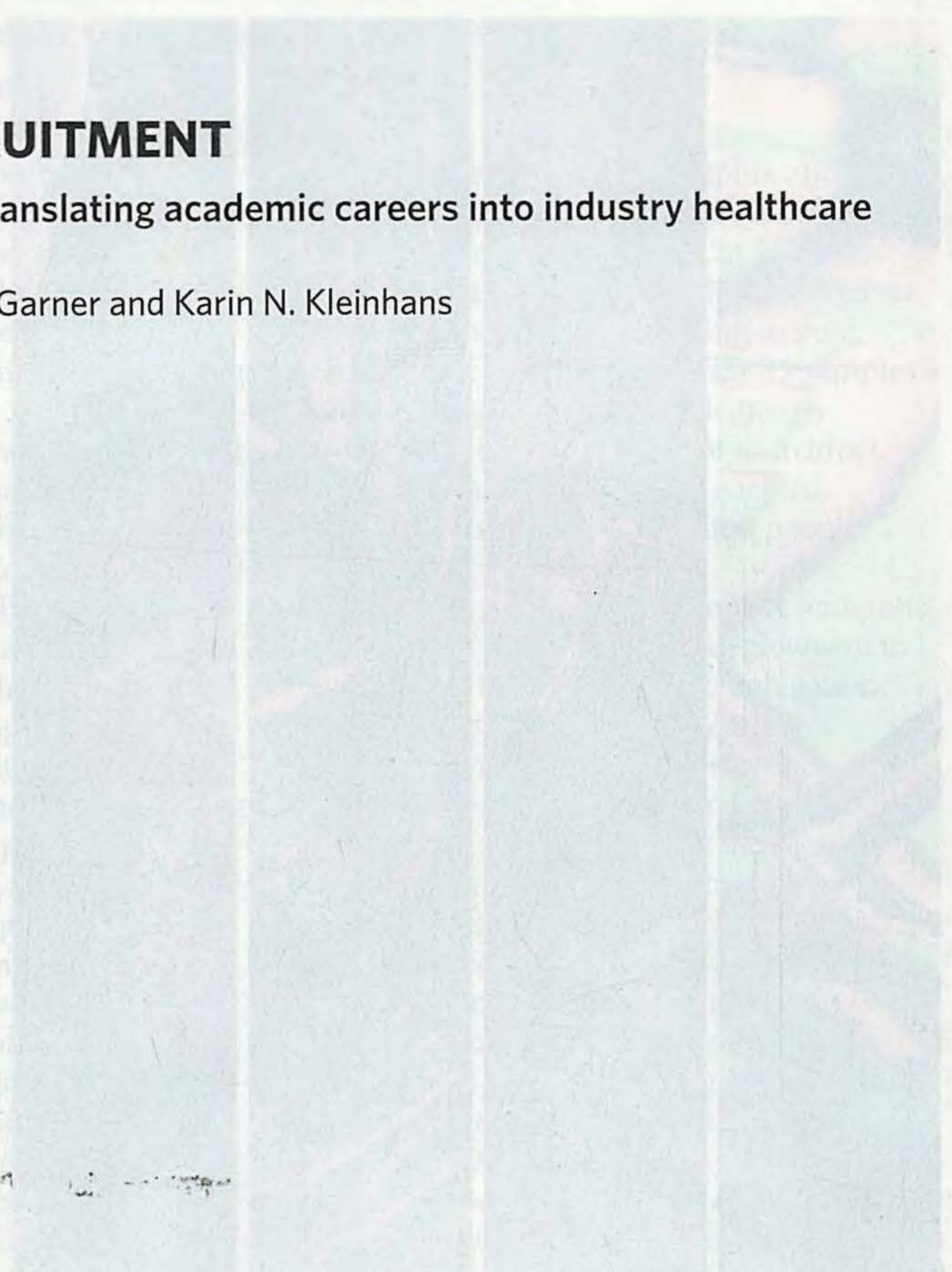
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CRISPR-based genome editing has become a mainstay of experimental biology and is now maturing into a tool for therapeutic applications. Constant progress is being made in designing ever more sophisticated protein machines to catalyze desired changes with high efficiency and specificity, and in the methods to deliver the macromolecules involved to the tissues and cells. Many of the more recent advances have not entered clinical development yet, but will ultimately help therapeutic genome editing fulfill its full potential. Illustration of the structure of the CRISPR-Cas9 gene-editing complex, showing the guide RNA template (red), the Cas9 protein (blue) and the double strand of DNA (gray).

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IMAGE: © EQUINOX GRAPHICS LTD.

COVER DESIGN: ERIN DEWALT

ON THE COVER

Focus on CRISPR tools and therapies
In This Issue p765

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Articles p883, p892

CRISPR-based detection of SARS-CoV-2
Letter p870

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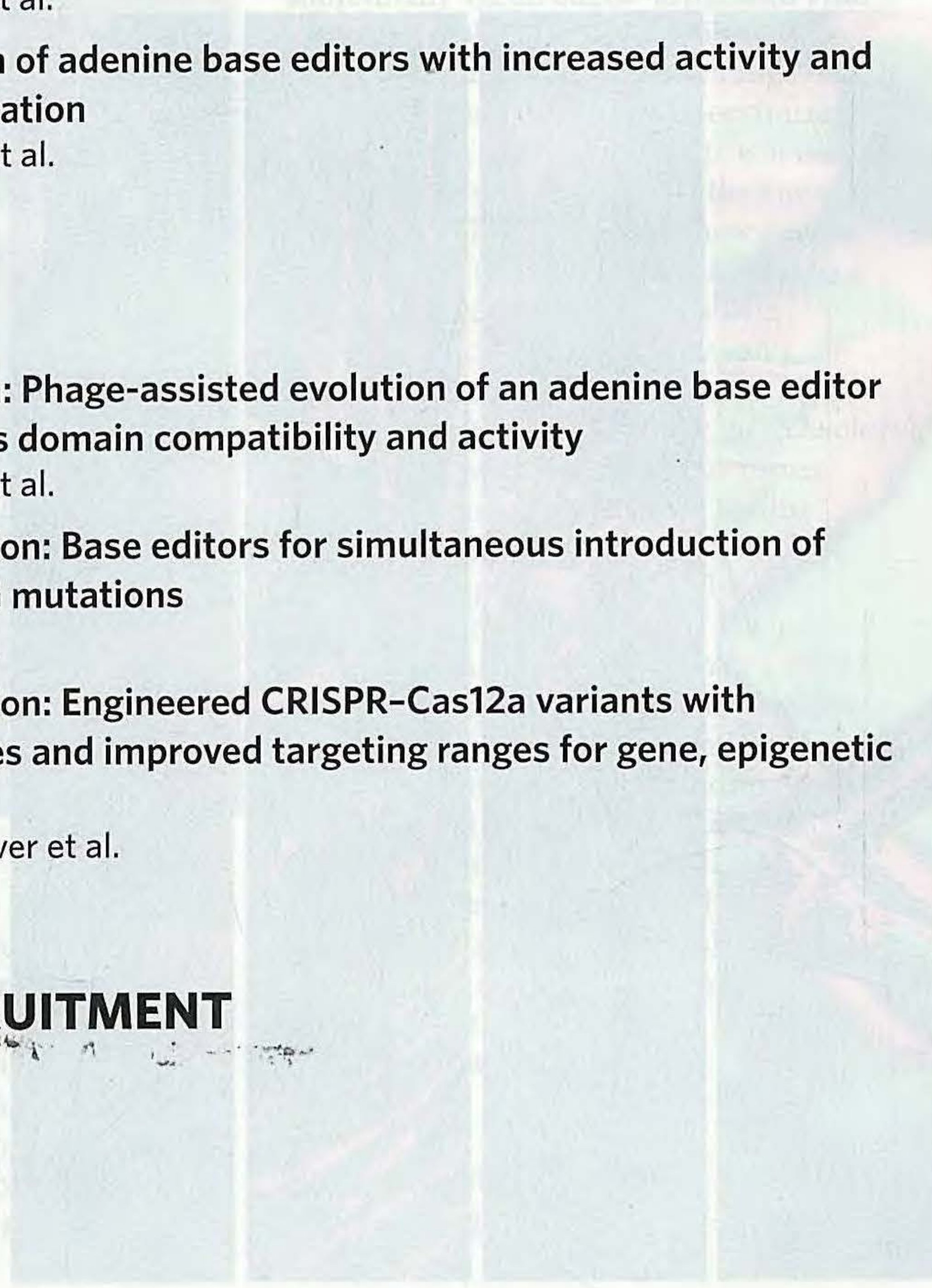
- 883** Phage-assisted evolution of an adenine base editor with improved Cas domain compatibility and activity
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- 901** Author Correction: Phage-assisted evolution of an adenine base editor with improved Cas domain compatibility and activity
Michelle F. Richter et al.
- 901** Publisher Correction: Base editors for simultaneous introduction of C-to-T and A-to-G mutations
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- 901** Publisher Correction: Engineered CRISPR-Cas12a variants with increased activities and improved targeting ranges for gene, epigenetic and base editing
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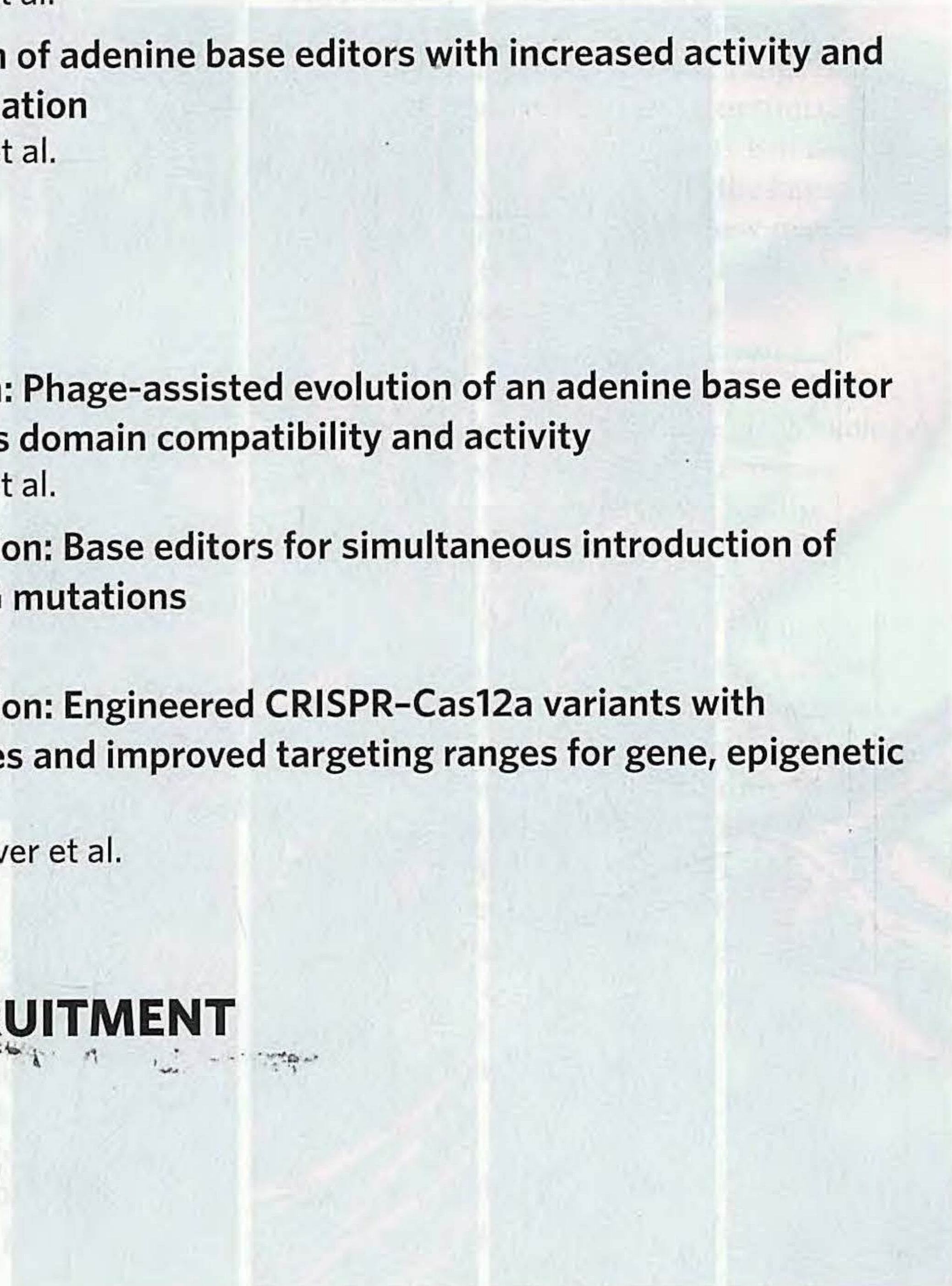
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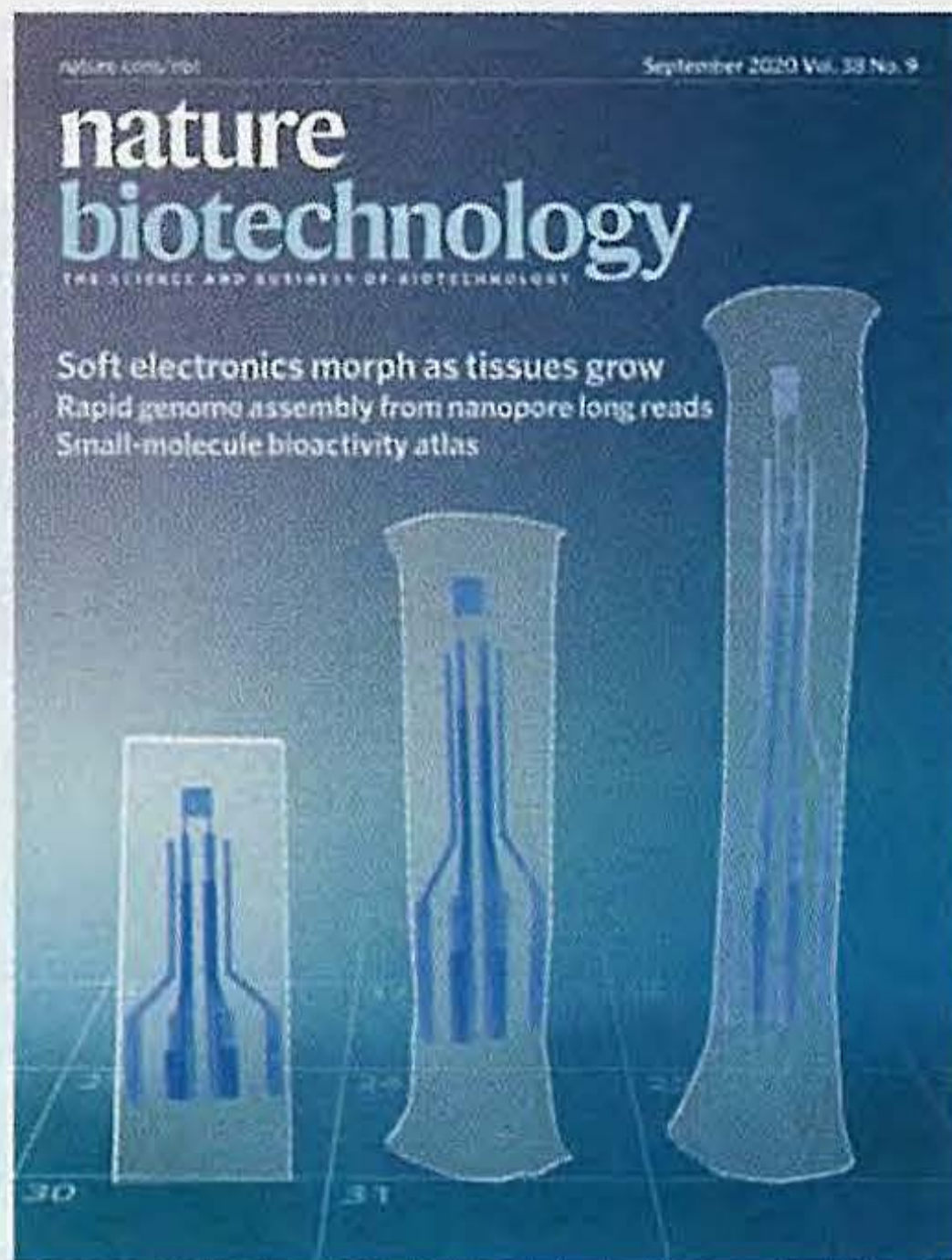
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- 1001 **Author Correction: Genetic circuit design automation for the gut resident species *Bacteroides thetaiotaomicron***
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Zhenan Bao and colleagues design and fabricate multilayered electronics that adapt to growing nerves, allowing chronic electrical stimulation during the fastest growth period in rats. The approach opens the door to electronic medicine that adapts to growth in children and adolescents.

Letter p1031

IMAGE: JINXING LI AND YUXIN LIU, STANFORD UNIVERSITY

COVER DESIGN: ERIN DEWALT

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In this issue, several groups report their findings on the development of methods to detect SARS-CoV-2 in patients and in the community, and benchmark assays to detect SARS-CoV-2-specific antibodies.

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IMAGE: NIAID/NIH/SCIENCE SOURCE

COVER DESIGN: ERIN DEWALT

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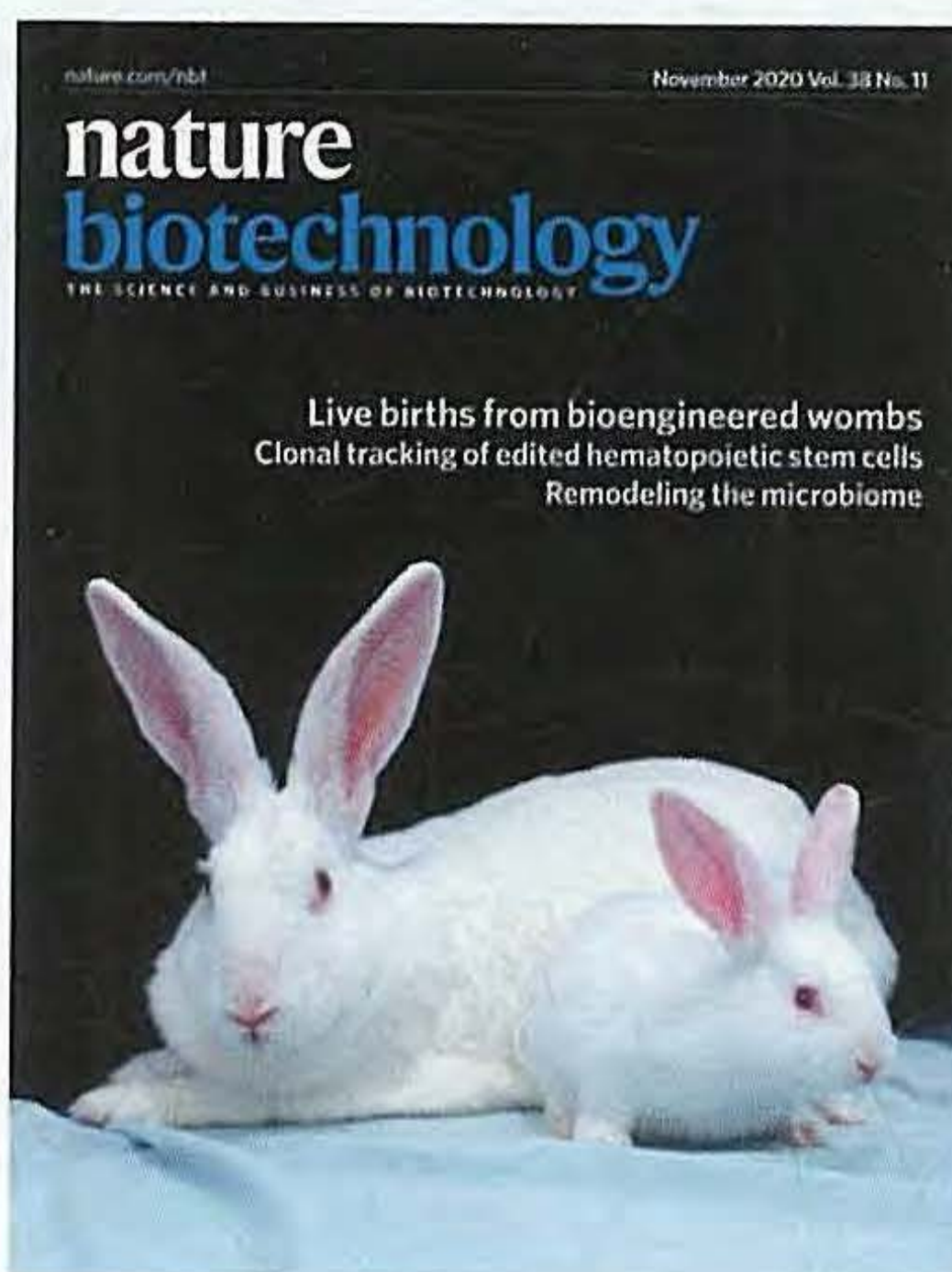
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A study in this issue of *Nature Biotechnology* reports the use of bioengineered scaffolds to repair injured uteri and enable live births in rabbits. This image shows one of the subjects, a New Zealand white, with her kit.

Article p1280

IMAGE: WAKE FOREST INSTITUTE FOR REGENERATIVE MEDICINE

COVER DESIGN: ERIN DEWALT

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Pedro Rifes et al.

1357 Publisher Correction: Antibody engineers seek optimal drug targeting TIGIT checkpoint

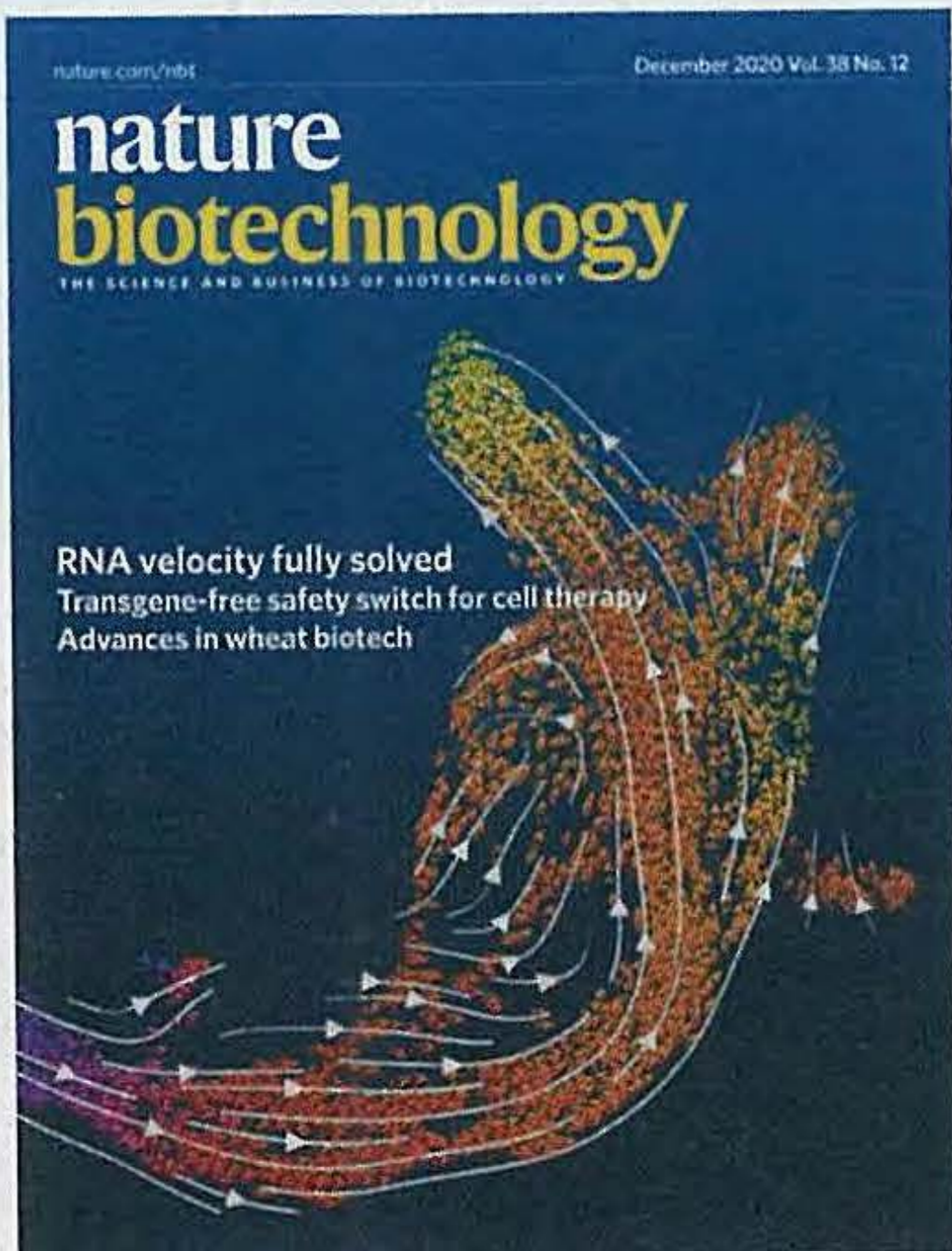
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Visualization of cellular dynamics during pancreatic endocrinogenesis based on RNA velocity analysis. Bergen et al. present scVelo, a method that improves RNA velocity analysis by capturing transient cell states and providing a more detailed view of cellular transcriptional dynamics.

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IMAGE: VOLKER BERGEN

COVER DESIGN: ERIN DEWALT

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