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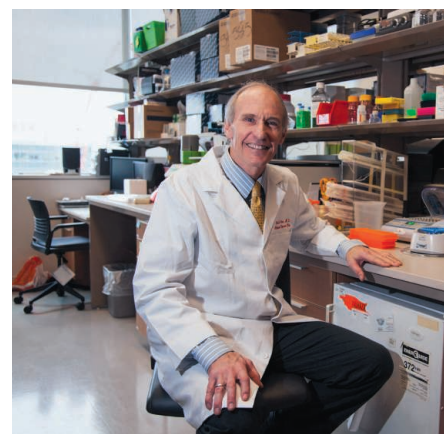
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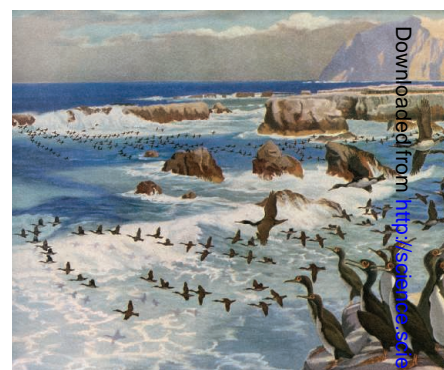
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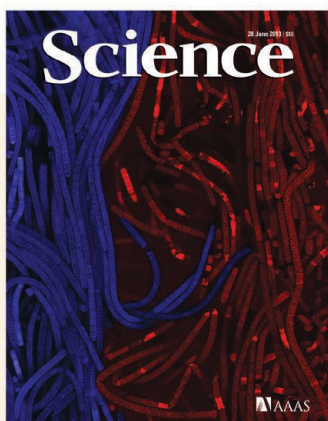
ON THE WEB THIS WEEK

>> Science Podcast

Listen to stories on the fate of topsoil microbes under climate change, observations from Voyager 1 at the fringes of the solar system, attacking cancer with T cells, and more.

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COVER

False-colored laser confocal fluorescence photomicrograph of *Microcoleus vaginatus* PCC9802 (blue) and *Microcoleus steenstrupii* SON82 (red) (image width: 0.3 millimeters). These two cyanobacterial strains are representative of the most abundant microbes in soil crusts of the arid lands in the western United States. *M. vaginatus* favors cooler climates, whereas *M. steenstrupii* prefers warmer areas. See pages 1533 and 1574.

*Image: Estelle Couradeau and Ferran Garcia-Pichel/
W. M. Keck Bioimaging Laboratory, Arizona State University*

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Research Article Summary; for full text:
<http://dx.doi.org/10.1126/science.1235490>
- 1543** Crystal Structures of EF-G–Ribosome Complexes Trapped in Intermediate States of Translocation
J. Zhou et al.
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<http://dx.doi.org/10.1126/science.1236086>
- 1544** Control of Ribosomal Subunit Rotation by Elongation Factor G
A. Pulk and J. H. D. Cate
Crystal structures reveal how messenger RNA and transfer RNAs transition through the prokaryotic ribosome during translation.
Research Article Summary; for full text:
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- 1549** Dinitrogen Cleavage and Hydrogenation by a Trinuclear Titanium Polyhydride Complex
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The collective reactivity of three hydride-bridged titanium centers cleaves dinitrogen under mild conditions.
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- 1552** The Origin of Lunar Mascon Basins
H. J. Melosh et al.
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- 1555** Continuous Permeability Measurements Record Healing Inside the Wenchuan Earthquake Fault Zone
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Measurements of permeability inside a fault zone after a major earthquake reveal rapid healing of fractures.

- 1560** Dynamic Topography Change of the Eastern United States Since 3 Million Years Ago
D. B. Rowley et al.

Mantle flow has deformed the presumed passive eastern margin of North America by up to 60 meters during the past 5 million years.

- 1564** Varied Response of Western Pacific Hydrology to Climate Forcings over the Last Glacial Period
S. A. Carolin et al.
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- 1567** Supercomplex Assembly Determines Electron Flux in the Mitochondrial Electron Transport Chain
E. Lapuente-Brun et al.

Ordered formation of supercomplexes of respiratory enzymes influences metabolic efficiency in response to food supply.

- 1570** Intrinsically Disordered Protein Threads Through the Bacterial Outer-Membrane Porin OmpF
N. G. Housden et al.

An antibacterial peptide can tunnel through cell-surface pores to deliver an epitope signal and initiate cell death.

- 1574** Temperature Drives the Continental-Scale Distribution of Key Microbes in Topsoil Communities
F. Garcia-Pichel et al.

Climate change is likely to shift the distribution of key cyanobacteria species in desert soils.

>> *Perspective p. 1533; Science Podcast*

- 1577** Mechanism of Eukaryotic RNA Polymerase III Transcription Termination
S. Nielsen et al.

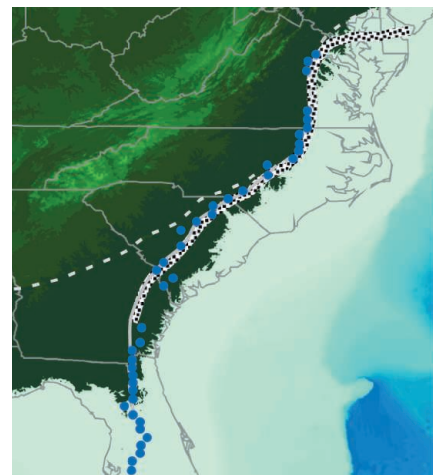
Formation of the secondary structure of the transcribed RNA facilitates termination during transcription.

- 1580** Transcription Under Torsion
J. Ma et al.

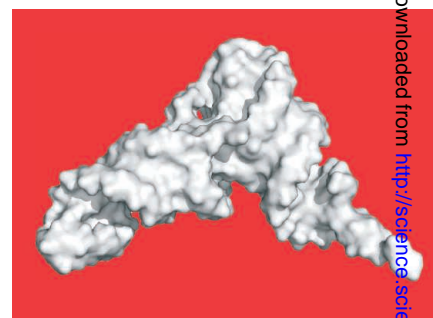
RNA polymerase is a potent DNA-based torsional motor than can restart transcription after release of DNA supercoiling stress.

- 1583** Fe-S Cluster Biosynthesis Controls Uptake of Aminoglycosides in a ROS-Less Death Pathway
B. Ezraty et al.

The respiratory chain is required for antibiotic entry to the target cell rather than for its killing.



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- 1587** B Cells Use Mechanical Energy to Discriminate Antigen Affinities
E. Natkanski et al.

Mechanical forces allow immune B cells to extract high-affinity antigens from membrane surfaces.

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