CONTENTS

2 OCTOBER 2015 • VOLUME 350 • ISSUE 6256

INSIGHTS

LETTERS
30 NEXTGEN VOICES

PERSPECTIVES
32 SAFER FUELS BY INTEGRATING POLYMER THEORY INTO DESIGN
Jet fuels are stabilized with polymers assembling in solution
By M. Jaffe and S. Allam
> REPORT P. 72

33 LOCKING DOWN THE CORE OF THE PORE
A highly stable heterotrimeric protein complex lines the central channel of the nuclear pore
By K. S. Ullman and M. A. Powers
> RESEARCH ARTICLE P. 56; REPORT P. 106

34 THE IPCC AT A CROSSROADS: OPPORTUNITIES FOR REFORM
Increase focus on policy-relevant research
By C. Carraro et al.

36 ADDED VALUE FROM IPCC APPROVAL SESSIONS
Flexible, creative author teams are critical
By C. B. Field and V. R. Barros

37 A TREE OF THE HUMAN BRAIN
Genomes of single neurons trace the developmental and mutational history of the brain
By S. Linnarsson
> REPORT P. 94

38 HOW STABLE ARE FOOD WEBS DURING A MASS EXTINCTION?
Fossil data provide a detailed view of how food webs changed across the Permian-Triassic mass extinction
By C. R. Marshall
> REPORT P. 90

39 EYING UP A JUPITER-LIKE EXOPLANET
Extreme adaptive optics systems enable the direct imaging of exoplanetary systems
By D. Mawet
> REPORT P. 64

Science Staff ..................................................8
New Products...............................................114
Science Careers ..........................................116
40 CLOUDS RESOLVED
Clouds are puffy to the finest scale
By E. Bodenschatz
► REPORT P. 67

42 IT TAKES THE WORLD TO UNDERSTAND THE BRAIN
International brain projects discuss how to coordinate efforts
By Z. J. Huang and L. Luo
► EDITORIAL P. 11

SCIENCE PRIZE ESSAY
46 SLOW OR FAST? A TALE OF SYNAPTIC VESICLE RECYCLING
A new model accounts for synaptic transmission speed
By S. Watanabe

BOOKS ET AL.
49 THE GRADUATE SCHOOL MESS
By L. Cassuto, reviewed by J. Gutlerner

50 SECRET
I. Brunswick et al., curators, reviewed by G. Frazzetto

RESEARCH ARTICLES
56 STRUCTURAL BIOLOGY
Architecture of the fungal nuclear pore inner ring complex T. Stuwe et al.
► PERSPECTIVE P. 33; REPORT P. 106

REPORTS
64 PLANETARY SCIENCE
Discovery and spectroscopy of the young jovian planet 51 Eri b with the Gemini Planet Imager B. Macintosh et al.
► PERSPECTIVE P. 39

68 NANOELECTRONICS
End-bonded contacts for carbon nanotube transistors with low, size-independent resistance Q. Cao et al.
► PERSPECTIVE P. 32; PODCAST

72 POLYMER CHEMISTRY
Megasupramolecules for safer, cleaner fuel by end association of long telechelic polymers M.-H. Wei et al.
► PERSPECTIVE P. 32

76 EARTH HISTORY
State shift in Deccan volcanism at the Cretaceous-Paleogene boundary, possibly induced by impact P. R. Renne et al.

78 WATER STRUCTURE
Ultrafast 2D IR spectroscopy of the excess proton in liquid water M. Thämer et al.

82 MEMORY MECHANISMS
Multiple repressive mechanisms in the hippocampus during memory formation J. Cho et al.

87 CLOUDS
Holographic measurements of inhomogeneous cloud mixing at the centimeter scale M. J. Beals et al.
► PERSPECTIVE P. 40

90 PALEOECOLOGY
Community stability and selective extinction during the Permian-Triassic mass extinction P. D. Roopnarine and K. D. Angielczyk
► PERSPECTIVE P. 38

94 NEURODEVELOPMENT
Somatic mutation in single human neurons tracks developmental and transcriptional history M. A. Lodato et al.
► PERSPECTIVE P. 37

98 INJURY RECOVERY
Function of the nucleus accumbens in motor control during recovery after spinal cord injury M. Sawada et al.

102 NEUROTRANSMISSION
Aldehyde dehydrogenase 1a1 mediates a GABA synthesis pathway in midbrain dopaminergic neurons J.-I. Kim et al.

106 STRUCTURAL BIOLOGY
Crystal structure of the metazoan Nup62•Nup58•Nup54 nucleoporin complex H. Chug et al.
► PERSPECTIVE P. 33; RESEARCH ARTICLE P. 56

DEPARTMENTS
11 EDITORIAL
The promise of neurotechnology
By Andrew Schwartz
► PERSPECTIVE P. 42

130 WORKING LIFE
After the bombs
By Elisabeth Pain

ON THE COVER
Illustration of projection neurons from the human cerebral cortex, with nuclei colored to reflect distinct sets of somatic DNA mutations. When a mutation occurs in a dividing cell, it marks all of the cell’s descendants. Identification of clones marked by mutation enables reconstruction of human brain development. Because developmental defects lie at the heart of many neurological diseases, understanding development is a primary goal of neuroscience. See pages 37 and 94.
Illustration: C. Bickel/Science
Editor's Summary

This copy is for your personal, non-commercial use only.

**Article Tools**  Visit the online version of this article to access the personalization and article tools:
http://science.sciencemag.org/content/350/6256

**Permissions**  Obtain information about reproducing this article:
http://www.sciencemag.org/about/permissions.dtl