RESEARCH ARTICLE
55 Sequencing and Analyses of All Known Human Rhinovirus Genomes Reveal Structure and Evolution
A. C. Palmenberg et al.
Rhinoviruses, which are a common cause of colds, fall into three or possibly four major clades and can undergo strain recombination.

REPORTS
59 Photodegradable Hydrogels for Dynamic Tuning of Physical and Chemical Properties
A. M. Kloxin et al.
The mechanical and biochemical properties of hydrogels can be tuned using photochemically induced reactions.

63 Switchable Ferroelectric Diode and Photovoltaic Effect in BiFeO₃
T. Choi et al.
Single crystals of bismuth iron oxide contain a single ferroelectric domain that can be switched with an electric field.

67 A Bipedal DNA Brownian Motor with Coordinated Legs
T. Omabegho et al.
A unidirectional DNA walker is constructed and shown to walk a full cycle along a DNA track.

71 Iron-Based Catalysts with Improved Oxygen Reduction Activity in Polymer Electrolyte Fuel Cells
M. Lefèvre et al.
Iron-based catalysts now rival traditional platinum fuel-cell catalysts.

74 Consecutive Thermal H₂ and Light-Induced O₂ Evolution from Water Promoted by a Metal Complex
S. W. Kohl et al.
A ruthenium complex can split water into hydrogen and oxygen through successive thermal and photolytic steps.

78 Persistent Positive North Atlantic Oscillation Mode Dominated the Medieval Climate Anomaly
V. Trouet et al.
The North Atlantic Oscillation drove the climate anomalies across Europe and northern Africa during the Medieval Climate Anomaly.

81 Distilling Free-Form Natural Laws from Experimental Data
M. Schmidt and H. Lipson
An algorithm has been developed to search for natural laws of physics in large data sets.

85 The Automation of Science
R. D. King et al.
A robot scientist discovers orphan enzymes that take part in yeast metabolism.

89 Priming in Systemic Plant Immunity
H. W. Jung et al.
Azelaic acid is a long-distance signal conferring immunity against infection in plants.

92 RNA Pol II Accumulates at Promoters of Growth Genes During Developmental Arrest
L. R. Baugh et al.
Growth and development genes, poised for expression during developmental arrest in nematodes, respond rapidly to feeding.

95 Nuclear Hormone Receptor Regulation of MicroRNAs Controls Developmental Progression
A. Bethke et al.
During Caenorhabditis elegans development, a hormone-coupled microRNA molecular switch turns off earlier programs to allow for later ones.

98 Evidence for Cardiomyocyte Renewal in Humans
O. Bergmann et al.
Analyses of human heart cells labeled by a worldwide pulse-chase event reveal that some heart cells are younger than their owner.

102 S-Nitrosylation of Drp1 Mediates β-Amyloid–Related Mitochondrial Fission and Neuronal Injury
D.-H. Cho et al.
Biochemical modification of a neuronal protein damages mitochondria and is linked to neurodegeneration.

105 Use-Dependent Plasticity in Clock Neurons Regulates Sleep Need in Drosophila
J. M. Donlea et al.
Neurons involved in circadian rhythms are required for increased sleep after social experience and for consolidation of memories.

109 Widespread Changes in Synaptic Markers as a Function of Sleep and Wakefulness in Drosophila
G. F. Gilestro et al.
In Drosophila, neural connection proteins increase their expression after wakefulness and decrease it after sleep.
RESEARCH ARTICLE: Phosphorylation of Nogo Receptors Suppresses Nogo Signaling, Allowing Neurite Regeneration
Y. Takei
Extracellular phosphorylation of Nogo receptors by casein kinase II blocks agonist binding.

PERSPECTIVE: Reversing DNA Methylation: New Insights from Neuronal Activity–Induced Gadd45b in Adult Neurogenesis
H. Wu and Y. E. Sun
Gadd45b causes epigenetic modification of promoters for Bdnf and Fag genes in postmitotic neurons in response to neuronal activity.

PERSPECTIVE: Syndecans Shed Their Reputation as Inert Molecules
M. D. Bass et al.
The shedding of the extracellular domain of a transmembrane proteoglycan can be controlled by its cytoplasmic domain.

Size and Shape of Saturn’s Moon Titan
H. A. Zebker et al.
Titan’s poles lie at lower elevations than the equator, perhaps explaining its high-latitude hydrocarbon lakes.

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Y. J. Lee
Efficient cathodic battery material.

A Quiet Scientist Returns to His Roots
E. Pain
Tiago Fleming Outeiro returned home to Portugal and fundamental biology.

Current mobile phone usage prevents major mobile virus outbreaks, but conditions could arise leading to a phone epidemic.

Did science really hit the jackpot?

Does science really hit the jackpot?
Science 324 (5923), 11-113.