A vending machine filled with healthy substitutes for highly processed foods. Affluence paved the way for technology and medicines to combat infection, but even well-off nations have communities that are increasingly plagued by noncommunicable diseases, including cancer, type 2 diabetes, and Alzheimer’s disease. Addressing this huge prospective burden of long-term disease is a priority in the design of a new generation of preventative strategies, including healthier eating. See our special section beginning on page 1466.

Image: Mike Kemp/Getty Images
RESEARCH ARTICLE
1505 Neighborhood Effects on the Long-Term Well-Being of Low-Income Adults
J. Ludwig et al.
Moving from a poor to a less poor residential environment makes people feel good for a long time.
>> Perspective p. 1464

REPORTS
1511 Kepler-47: A Transiting Circumbinary Multiplanet System
J. A. Orosz et al.
Data from the Kepler space telescope reveal two small planets orbiting a pair of two low-mass stars.

1514 Quantum-Enhanced Optical-Phase Tracking
H. Yonezawa et al.
A quantum mechanical technique is developed to enhance the phase tracking of photons.

1517 Subtractive Patterning via Chemical Lift-Off Lithography
W.-S. Liao et al.
Oxidized silicone-rubber stamps can pattern bare regions on gold surfaces by removing hydroxyl-terminated alkane thiols.
>> Perspective p. 1459

1521 Pulsating Tubules from Noncovalent Macrocycles
Z. Huang et al.
Nanoscale tubes expand and contract with temperature changes through loose association of their constituent building blocks.
>> Perspective p. 1462

1526 A Crystalline Singlet Phosphinonitrene: A Nitrogen Atom–Transfer Agent
F. Dielmann et al.
A phosphorus fragment supports an otherwise uncoordinated nitrogen atom in a stable motif previously seen only with metals.

1529 A Fully Size-Resolved Perspective on the Crystallization of Water Clusters
C. C. Pradzynski et al.
Infrared spectroscopy of water clusters of increasing size indicates the onset of an ice-like structure at around 275 molecules.

1532 Structural Basis for Microtubule Binding and Release by Dynein
W. B. Redwine et al.
The molecular motor dynein uses conformational changes within its microtubule-binding domain to modulate track affinity.

1536 Specifying and Sustaining Pigmentation Patterns in Domestic and Wild Cats
C. B. Kaelin et al.
The genes specifying tabby cat coat patterns also affect big cats, including king cheetahs.

1541 Loss of the Tumor Suppressor BAP1 Causes Myeloid Transformation
A. Dey et al.
The de-ubiquitinating enzyme BAP1 is implicated in myelodysplastic syndrome.
>> Perspective p. 1463

1546 Unicellular Cyanobacterium Symbiotic with a Single-Cell Eukaryotic Alga
A. W. Thompson et al.
A nitrogen-fixing cyanobacterium that lacks photosynthesis and the tricarboxylic acid cycle possesses a tiny phytoplankton symbiont.

1550 Disruption of Reconsolidation Erases a Fear Memory Trace in the Human Amygdala
T. Agren et al.
Interfering with memory formation at the right moment removes the signature of fear memories in human brain imaging studies.

1553 Acute Gastrointestinal Infection Induces Long-Lived Microbiota-Specific T Cell Responses
T. W. Hand et al.
Enteric infections induce lasting adaptive immunity against commensal bacteria that may play a role in intestinal problems.

CONCEPTS continued >>
M. Henry
http://scim.ag/Insulating_Cells
Early Isolation Impairs Brain Connections
http://scim.ag/Plight-Bumblebee
American bees?
Did invader insects bring deadly disease to South
about hidden causes.
New Caledonian crows, like humans, can reason
Whodunit? Crows Ask That Question, Too
Highlights From Our Daily News Coverage
http://scim.ag/337/6101/1453-c
Full text at www.sciencemag.org/cgi/content/full/337/6101/1453-b
Response to Comment on “A Common Pesticide Decreases Foraging Success and Survival in Honey Bees”
M. Henry et al.
Full text at www.sciencemag.org/cgi/content/full/337/6101/1453-c
Comment on “A Common Pesticide Decreases Foraging Success and Survival in Honey Bees”
J. E. Cresswell and H. M. Thompson
Full text at www.sciencemag.org/cgi/content/full/337/6101/1453-b
SCIENCE SIGNALING
www.sciencesignaling.org
The Signal Transduction Knowledge Environment
18 September issue: http://scim.ag/sso91812
RESEARCH ARTICLE: Charting the Landscape of Tandem BRCT Domain-Mediated Protein Interactions
N. T. Woods et al.
Building a protein-protein interaction network mediated by the BRCT domain reveals players in the DNA damage response.
PERISPHERE: Modulating Mitochondrial Intracellular Location as a Redox Signal
M. P. Murphy
Hypoxia induces the redistribution of mitochondria to promote transcriptional responses to low oxygen.
REVIEW: Pseudogenes—Newly Discovered Players in Human Cancer
L. Poliseno
Pseudogenes can have multiple, diverse functions, affecting not only their parental genes but also unrelated genes.
SCIENCE TRANSLATIONAL MEDICINE
www.sciencetranslationalmedicine.org
Integrating Medicine and Science
19 September issue: http://scim.ag/stm091912
RESEARCH ARTICLE: Effects of STX209 (Arbaclofen) on Neurobehavioral Function in Children and Adults with Fragile X Syndrome: A Randomized, Controlled, Phase 2 Trial
E. M. Berry-Kravis et al.
Administration of a selective GABA4 agonist to individuals with fragile X syndrome improves their deficits in social avoidance, a core symptom of the disease.
RESEARCH ARTICLE: Reversal of Disease-Related Pathologies in the Fragile X Mouse Model by Selective Activation of GABA4 Receptors with Arbaclofen
C. Henderson et al.
Pharmacological activation of the GABA4 receptor with arbaclofen in a mouse model of fragile X syndrome corrects neuronal defects associated with the disease.
RESEARCH ARTICLE: A Paper-Based Multiplexed Transaminase Test for Low-Cost, Point-of-Care Liver Function Testing
N. R. Pollock et al.
A paper-based, multiplexed microfluidic assay allows rapid, semiquantitative, visual measurement of transaminases in clinical specimens.
PERSPECTIVE: Patient-Empowerment Interactive Technologies
C. S. Bruggers et al.
Health-promoting video games are emerging as nonpharmacological tools to help patients manage their diseases.
PERSPECTIVE: Childhood Disorders of the Synapse—Challenges and Opportunities
V. Hughes et al.
New research directions are needed to accelerate the development of new treatments for autism and related disorders.
SCIENCE CAREERS
www.sciencemag.org/career_magazine
Free Career Resources for Scientists
Documenting Exposure for Disease Prevention
E. Pain
Epidemiologist Emilie Council studies the health implications of environmental carcinogen exposure.
http://scim.ag/EmilieCouncil
>> Disease Prevention section p. 1466
Tooling Up: What’s Your Question?
D. Jensen
Never mind answering questions—what questions should you ask at a job interview?
http://scim.ag/WhatsYourQuestion
myIDP: So You Think You Have Skills
J. Hobin et al.
Figuring out what you know—and what you need to know—is essential in training for a science career.
http://scim.ag/myIDPSkills
SCIENCE PODCAST
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On the 21 September Science Podcast: a special show on preventing noncommunicable disease, including the economics of prevention, government recommendations, combating Alzheimer’s, and grocery studies.
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