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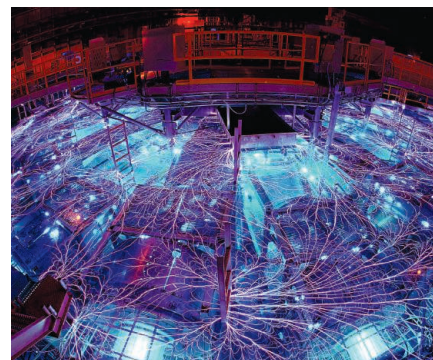
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Asteroid 21 Lutetia, as seen by the Rosetta spacecraft from a distance of ~3500 kilometers in July 2010. Lutetia, 120 kilometers across, is a remnant planetesimal from the time of our solar system's formation and is one of the largest asteroids that have been visited by a spacecraft. A series of three Reports beginning on page 487 describe Rosetta's observations of Lutetia's surface, density, and composition.

Image: ESA 2011 MPS for OSIRIS Team MPS/UPD/LAM/IAA/RSSD/INTA/UPM/DASP/IDA

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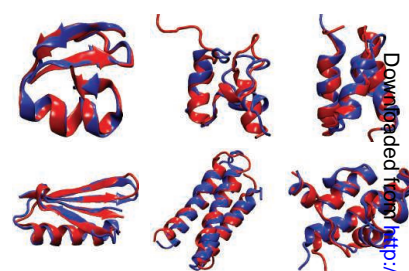
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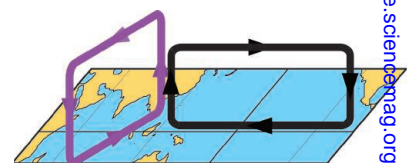
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Functional Links Between A β Toxicity, Endocytic Trafficking, and Alzheimer's Disease Risk Factors in Yeast

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The use of yeast as a model organism reveals cellular factors involved in β amyloid toxicity.

10.1126/science.1213210

Increasing the Potency and Breadth of an HIV Antibody by Using Structure-Based Rational Design

R. Diskin et al.

Structural analysis of an HIV antibody reveals residues important for neutralization breadth and potency.

10.1126/science.1213782

Pretreatment Mitochondrial Priming Correlates with Clinical Response to Cytotoxic Chemotherapy

T. Ni Chonghaile et al.

The mitochondrial state of a tumor cell prior to chemotherapy may help determine how well it responds to drug treatment.

10.1126/science.1206727

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Postfertilization Autophagy of Sperm Organelles Prevents Paternal Mitochondrial DNA Transmission

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Maternal inheritance of mitochondrial DNA results from autophagy-dependent clearance of paternal mitochondria.

10.1126/science.1211878

A Perovskite Oxide Optimized for Oxygen Evolution Catalysis from Molecular Orbital Principles

J. Suntivich et al.

An electronic property of metal oxides was used to guide development of a catalyst for prospective use in energy applications.

10.1126/science.1212858

Natural Aryl Hydrocarbon Receptor Ligands Control Organogenesis of Intestinal Lymphoid Follicles

E. A. Kiss et al.

Nutrients can shape immune system development function through aryl hydrocarbon receptor signaling.

10.1126/science.1214914

TECHNICALCOMMENTS

Comment on "Retrieval Practice Produces More Learning than Elaborative Studying with Concept Mapping"

J. J. Mintzes et al.

Full text at www.sciencemag.org/cgi/content/full/334/6055/453-c

Response to Comment on "Retrieval Practice Produces More Learning than Elaborative Studying with Concept Mapping"

Jeffrey D. Karpicke and J. R. Blunt

Full text at www.sciencemag.org/cgi/content/full/334/6055/453-d

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Synthetic clothes release microscopic plastic fibers when washed.

<http://scim.ag/oceanlint>

Using Light to Flip a Tiny Mechanical Switch

An elegant device could provide memory for optical computers.

<http://scim.ag/light-switch>

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The Signal Transduction Knowledge Environment

25 October issue: <http://scim.ag/ss102511>

EDITORIAL GUIDE: Focus Issue—

Recruiting Players for a Game of ERK

N. R. Gough

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RESEARCH RESOURCE: Proteomic and Functional Genomic Landscape of Receptor Tyrosine Kinase and Ras to Extracellular Signal-Regulated Kinase Signaling

A. A. Friedman et al.

PODCAST

A. A. Friedman et al.

A combination of functional and proteomics approaches identifies regulators of ERK signaling in *Drosophila*.

RESEARCH RESOURCE: Large-Scale Discovery of ERK2 Substrates Identifies ERK-Mediated Transcriptional Regulation by ETV3

S. M. Carlson et al.

A chemical genetics strategy identified 67 previously unknown substrates of the kinase ERK2, including the transcriptional repressor ETV3.

REVIEW: Working Without Kinase Activity—Phosphotransfer-Independent Functions of Extracellular Signal-Regulated Kinases

J. Rodriguez and P. Crespo

ERK2 plays kinase-independent roles in chromatin remodeling, gene transcription, and cell cycle regulation.

RESEARCH ARTICLE: Regulation of Insulin-Like Growth Factor Signaling by Yap Governs Cardiomyocyte Proliferation and Embryonic Heart Size

M. Xin et al.

A transcriptional coactivator in the Hippo pathway promotes cardiac growth.

PROTOCOL: ANAT—A Tool for Constructing and Analyzing Functional Protein Networks

N. Yosef et al.

ANAT is software for network construction, supporting multiple algorithms, customizable parameters, and built-in data sets.

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26 October issue: <http://scim.ag/stm102611>

PERSPECTIVE: Unraveling How Probiotic Yogurt Works

J. E. Bisanz and G. Reid

RESEARCH ARTICLE: The Impact of a Consortium of Fermented Milk Strains on the Gut Microbiome of Gnotobiotic Mice and Monozygotic Twins

N. P. McNulty et al.

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J. I. Gordon and O. M. Smith

Metagenomics reveals the effects of eating a popular fermented milk product on the microbiomes of mouse and man.

PERSPECTIVE: From DNA to Targeted Therapeutics—Bringing Synthetic Biology to the Clinic

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RESEARCH ARTICLE: Splicing-Directed Therapy in a New Mouse Model of Human Accelerated Aging

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Antisense oligonucleotides reverse premature aging and extend life span in a mouse model of progeria.

RESEARCH ARTICLE: Preclinical and Clinical Evaluation of Intraductally Administered Agents in Early Breast Cancer

V. Stearns et al.

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M. Price

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A. Ruben

Our Experimental Error columnist surveys traditional and nontraditional careers.

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R. Pidcock

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