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Photo: Fernando Trabanco

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10.1126/science.1182374

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Genomic sequencing of an entire family reveals the rate of spontaneous mutations in humans and identifies disease genes.
10.1126/science.1186802

A Peroxidase/Dual Oxidase System Modulates Midgut Epithelial Immunity in Anopheles gambiae
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10.1126/science.1184008

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10.1126/science.1186496

A Fast Soluble Carbon-Free Molecular Water Oxidation Catalyst Based on Abundant Metals
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Bulky polytungstate ligands stabilize a cobalt-based catalyst highly active for splitting water.
10.1126/science.1185372

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New Opportunities and Jobs Coming
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COMMENTARY: The Road We Must Take—Multidisciplinary Team Science
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Solutions to today’s complex health problems will require multidisciplinary innovative thinking and collaboration.

PERSPECTIVE: Bladder Cancer—Optimal Application of Preclinical Models to Suitable Translational Questions
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New reagents tested in bladder cancer xenografts allow for better economy and focus in clinical cancer trials.

Heterozygote advantage in macaque monkeys reveals that HIV vaccine should elicit broad CD8+ T cell responses.
S. L. O’Connor et al.

Heterozygote advantage in macaque monkeys reveals that HIV vaccine should elicit broad CD8+ T cell responses.
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