Like a cauliflower, the quantum critical regime has the same appearance irrespective of viewing distance. Fluctuations prevent a stable phase from developing; instead a patchwork of mixed phases arises. See the special section on quantum matter beginning on page 1201.

Image: Getty Images

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A 500,000-year record shows that more dust, which provides iron and other nutrients, was blown into the equatorial Pacific during glacial periods than during warm periods.
10.1126/science.1150595

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Graphite Whiskers in CV3 Meteorites
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Graphite whiskers, a naturally occurring allotrope of carbon, have been found in primitive grains in several meteorites and may explain spectral features of supernovae.
10.1126/science.1153578

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Mutations in a gene that encodes a protein that aggregates in several neurodegenerative disorders are linked to amyotrophic lateral sclerosis (Lou Gehrig’s disease).
10.1126/science.1154584

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J. Tanaka et al.
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10.1126/science.1152864

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Beams of protons used to map laser fusion targets as they implode reveal the generation of long plasma filaments and a strong radial electric field. >>Perspective p. 1193

At ultracold temperatures, magnetometry suggests that defects in a gold wire produce organized, long-range electron deflections oriented at 45° to the direction of current flow.

Endosomes, membrane-bound vesicles later released from cells, are filled by a lipid-controlled budding of certain membrane regions into Multivesicular Endosomes.

Ceramide Triggers Budding of Exosome Vesicles
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The bright blue emission from a stilbene-antibody complex, a versatile biosensor, is not fluorescence, but arises from charge recombination between a stilbene anion and a cationic side chain. >>Perspective p. 1195

The use of U. S. Crops for Biofuels Increases Greenhouse Gases Through Emissions from Land-Use Change
T. Searchinger et al.

Converting forests and grasslands to biofuels crop production results in a net carbon flux to the atmosphere for decades despite any displacement of fossil fuel use.

Membrane Proteins of the Endoplasmic Reticulum Induce High-Curvature Tubules
J. Hu et al.

Integral membrane proteins from the endoplasmic reticulum induce the development of tubular structures in vitro by forming oligomers in the plane of the membrane.

Flying bats generate high lift forces similar to those used by insects, creating a vortex of air that stays attached to the wing on the downward stroke.

A Upon recollection, mouse memories of fearful situations become labile, as postsynaptic proteins are degraded by proteosomes and are then reconsolidated via protein synthesis.

Loss of a microRNA in Drosophila leads to misexpression of CO₂-sensing neurons in the mouthparts, creating a possible evolutionary hybrid between the fruit fly and mosquito.

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