RESEARCH HIGHLIGHTS

Selections from the scientific literature

CLIMATE

Worst drought in centuries

The 15-year drought that ended in 2012 in parts of the Middle East was probably the worst dry spell in the region for 900 years.

Benjamin Cook at the NASA Goddard Institute for Space Studies in New York and his colleagues analysed tree-ring patterns from 1100 to 2012 to estimate drought variability in the Mediterranean. Summer droughts of similar magnitude to those that have hit the western Mediterranean and Greece in recent decades did previously occur. But the researchers found an 89% likelihood that the 1998–2012 drought in the part of the eastern Mediterranean called the Levant was the driest since 1100.

Climate change will probably increase the risk of drought in the region, potentially aggravating sociopolitical and economic disruption in crisis regions such as Syria, the authors say.

J. Geophys. Res.-Atmos. **http://doi.org/bcz2 (2016)**

JUNGBAE PARK

BEHAVIOURAL ECOLOGY

Fungus makes tree frogs sing

A fungal disease that is devastating many amphibian populations around the world causes some infected tree frogs to sing more, even though they don't show other symptoms.

Amphibians are threatened by a global pandemic of chytridiomycosis, which is caused by the chytrid fungus *Batrachochytrium dendrobatidis*. Deuknam An and Bruce Waldman from Seoul National University recorded the mating calls of male Japanese tree frogs (*Hyla japonica;* pictured), before testing them for the fungus. They found that infected males tended to call more rapidly, and produce longer calls, than non-infected frogs.

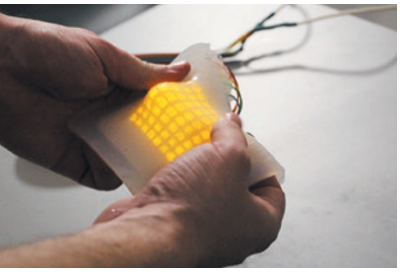
This could be a sign that the fungus is manipulating the frogs' behaviour — longer calls attract more frogs, potentially spreading the disease. Alternatively, the frogs could be mating earlier because of a shortened lifespan.

Biol. Lett. 12, **20160018 (2016)**

ELECTRONICS

Stretchy artificial skin that glows

Inspired by the octopus, researchers have developed an artificial skin that responds to pressure and emits light when stretched.



ROB KURCOBA/CORNELL

Rob Shepherd at Cornell University in Ithaca, New York, and his colleagues made the skin (**pictured**) by combining layers of transparent electrode-containing hydrogels with stretchy silicone sheets embedded with various zinc sulfides. They added light-emitting metal compounds to the zinc sulfides, causing them to emit different colours in response to electrical excitement. The team rolled, folded and stretched the material by nearly 500% without disrupting light emission. And the more the material was stretched, the brighter the light.

The authors incorporated panels of their material into a crawling soft robot, allowing it to luminesce as the robot undulated and the skin stretched. Pressing on the material altered its capacitance — its stored electric charge — so the researchers say that the skin could have applications in touch-sensitive robotics.

Science 351, **1071–1074 (2016)**

GENOMICS

Disabling a gene may not be harmful

People who have non-functioning genes may not always have health problems.

David van Heel of Queen Mary University of London, Richard Durbin of the Wellcome Trust Sanger Institute in Hinxton, UK, and their colleagues sequenced the part of the genome that encodes proteins from more than 3,000 healthy adults whose parents were closely related (often first cousins). The team found that 821 individuals carried rare genetic variants that would be expected to cause the loss of function of certain genes. When the researchers examined the participants' health records, they found no links between the loss-of-function genes and clinical