

organism, normally lives in temperate soils and is able to tolerate amygdalin. Interestingly, this worm seems to have acquired resistance to the toxin by horizontal transfer of two genes, one of which encodes a detoxifying enzyme, from green algae. In nature, *C. elegans* lives within rotten fruit, where it likely encounters plant-derived cyanide. —DJ

*Curr. Biol.* 10.1016/j.cub.2022.09.041 (2022).

## SOCIAL RELATIONSHIPS

### Stay well together

Inflammation is thought to be an important neurobiological mediator between romantic emotions and physical vigor, but this connection is controversial. Jolink *et al.* measured blood levels of an inflammatory marker, C-reactive protein (CRP), in romantically attached couples. The authors confirmed that just being in the presence of the other partner affected systemic inflammation. Indeed, the more time (measured in minutes per 24 hours) spent within the same physical space

as the long-term partner, the lower the CRP levels recorded. Simply spending time together appears to be a good explanation for how high-quality relationships sustain physical health among adult humans by reducing systemic inflammation. —MM

*Brain Behav. Immun.* 107, 132 (2022).

## QUANTUM KEYS

### Chip-based quantum key distribution

The flow of information between sender and receiver is typically encrypted with secret keys to ensure privacy. With the development of quantum computers, however, it has been shown that classical encryption methods are susceptible to hacking. Quantum key distribution (QKD) is a provably robust method for ensuring security against such quantum hackers, but the generation and transmission of the quantum keys have been impractically slow. Beutal *et al.* present a chip-based, fully integrated four-channel wavelength-division

multiplexed QKD receiver that can achieve a key distribution of more than 12 megabits per second. Readily scalable by adding more wavelength channels, the architecture presents a viable route to developing secure, high-rate transmission of information across communication networks. —ISO

*Optica* 9, 1121 (2022).

## SOCIAL SCIENCE

### Political rallies can bias policing

Campaign rallies by Donald Trump influenced law enforcement behavior toward racial minorities for up to 2 months afterward. Grosjean *et al.* used data from 35 million US traffic stops from 2015 to 2017, including in 141 counties that hosted rallies. In these counties, there was a nearly 6% post-rally increase in the probability that a stopped driver was Black. This was not due to any changes in the behavior or racial composition of drivers. Effects were most pronounced among officers whose prior treatment

of Black versus white drivers was most biased. Among those officers, effects were exacerbated when rallies mentioned racial issues. —BW

*Q. J. Econ.* 10.1093/qje/qjac037 (2022).

## FERROELECTRICS

### The best way to relax

Relaxor ferroelectrics have both a polarization and a strain response to an external electric field, making them of great interest for various applications. However, the origin of this effect has been challenging to fully resolve. Kim *et al.* looked at the evolution of nanoscale polar nanodomains under varying epitaxial strains using diffused x-ray scattering, microdiffraction, electron microscopy, and molecular dynamics simulations. The authors found that structural transition between polar nanodomain configurations not only forms the basis for rotation of polarization but also for large electromechanical coupling. —BG

*Nat. Phys.* 10.1038/s41567-022-01773-y (2022).

Downloaded from <https://www.science.org> at University of North Carolina Chapel Hill on November 19, 2022

## PLANT SCIENCE

### Adaptive diversity

Insight into local adaptation of long-lived trees, which are often foundational species in their habitats, can aid restructuring of forest populations that have been overtaken by climate change. Capblancq *et al.* studied the interaction between distribution and genomic adaptation for the red spruce (*Picea rubens*), which is found from Nova Scotia to North Carolina, areas that include a range of precipitation, moisture, and temperature extremes. The authors found that red spruce seedlings grew more poorly the farther they were transplanted from the site and environmental conditions local to their mother tree because of genetic selection for local conditions. —PJH

*New Phytol.* 10.1111/nph.18465 (2022).

Red spruce grows along a wide latitudinal gradient in the eastern United States, across which it displays genomic adaptation for local conditions.

PHOTO: BLICKWINKEL/ALAMY STOCK PHOTO