Interactions between microbes and plants can vary widely, depending upon the context and the partners of the interaction. An Editorial on page 691 and a collection of Perspectives starting on page 742 discuss recent advances in our understanding of the biochemistry, signaling, and ecosystem dynamics that reflect how microbes and plants interact.

Illustration: Chris Bickel
REVIEW

736  Elemental Composition of the Martian Crust
H. Y. McSween Jr. et al.

BREVIA

758  A Gene Necessary for Reproductive Suppression in Termites
J. Korb et al.
Knocking out the Neofem2 gene in queen termites illicits pre-reproductive behavior in workers.

RESEARCH ARTICLE

759  Representation of Confidence Associated with a Decision by Neurons in the Parietal Cortex
R. Kiani and M. N. Shadlen
Neurons in the primate parietal cortex encode information required to make a decision and also the certainty of that choice.

REPORTS

764  Characterization of Multipartite Entanglement for One Photon Shared Among Four Optical Modes
S. B. Papp et al.
Sharing a single photon between four optical modes creates entangled states that could be used in quantum information processing.

768  N-Doping of Graphene Through Electrothermal Reactions with Ammonia
X. Wang et al.
The edges of graphene nanoribbons incorporate nitrogen atoms after heating in an atmosphere of ammonia.

772  An Experimental Design Method Leading to Chemical Turing Patterns
J. Horváth et al.
Three design criteria were used to create sustained stationary patterns in the thiourea-iodate-sulfite reaction system.

775  An Observation Linking the Origin of Plasmaspheric Hiss to Discrete Chorus Emissions
J. Bortnik et al.
The radio waves that remove energetic electrons from Earth’s radiation belts originate outside the plasmasphere.

777  The Role of Aerosols in the Evolution of Tropical North Atlantic Ocean Temperature Anomalies
A. T. Evan et al.
Changes in tropical North Atlantic sea surface temperatures are caused by variability in atmospheric aerosol abundances.

781  UV Absorption Cross Sections of CIOOCI Are Consistent with Ozone Degradation Models
H.-Y. Chen et al.
Measurements of how well CIOOCI molecules absorb ultraviolet light support standard models of chlorine-induced ozone degradation.

784  Host Inhibition of a Bacterial Virulence Effector Triggers Immunity to Infection
V. Ntoukas et al.
An enzyme in tomato targets bacterial virulence to change the outcome of infection from susceptibility to immunity.

787  Development of a Second-Generation Antiandrogen for Treatment of Advanced Prostate Cancer
C. Tran et al.
A drug that binds to the androgen receptor acts by disrupting its activity in the cell nucleus.

791  Basin-Scale Coherence in Phenology of Shrimps and Phytoplankton in the North Atlantic Ocean
P. Koeller et al.
Shrimp reproduction is primed by bottom temperature and not directly by cues from the spring phytoplankton bloom.

794  Apicomplexan Parasites Co-Opt Host Calpains to Facilitate Their Escape from Infected Cells
R. Chandramohanadas et al.
A host protease helps newly replicated microbial parasites escape from incubator cells.

797  Human Induced Pluripotent Stem Cells Free of Vector and Transgene Sequences
J. Yu et al.
Human induced pluripotent stem cells can be generated without integration of exogenous DNA into their genomes.

801  Benzothiazinones Kill Mycobacterium tuberculosis by Blocking Arabinan Synthesis
V. Makarov et al.
An isomerase required for cell-wall synthesis is a target for an alternative drug lead for tuberculosis treatment.

807  Mammalian Expression of Infrared Fluorescent Proteins Engineered from a Bacterial Phytochrome
X. Shu et al.
An engineered infrared fluorescent protein derived from an extremophile bacterium gives a strong signal in mammalian cells.

811  Movement Intention After Parietal Cortex Stimulation in Humans
M. Desmurget et al.
Stimulation of the parietal cortex causes subjects to report having moved, even in the absence of actual motor responses.
T cells help control viral infection in a mouse model.

Podcast to hear about

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