COVER
The many layers of gene regulation in a eukaryotic cell, envisioned as a video game. Transcription in the nucleus (green circle) proceeds to translation in the cytoplasm via genome topology, polymerase pausing, microRNA repression, RNA splicing, and riboswitch regulation. See the special section beginning on page 1781.

Illustration: Carin L. Cain

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Epigenetic modifications that involve methylation cause female honeybee larvae to become queens rather than workers when they are fed royal jelly.

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Dengue and West Nile viruses mature when the envelope protein precursor is cleaved at low pH, and then the cleavage product dissociates outside the cell, allowing infection.

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Insect Odorant Receptors Are Molecular Targets of the Insect Repellent DEET
M. Ditzen, M. Pellegrino, L. B. Vosshall
The widely used insect repellent DEET acts by inhibiting olfactory neurons that respond to odors such as those that attract insects to their hosts.

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W. Li, J. D. Howard, T. B. Parrish, J. A. Gottfried
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