

Title: Breakthrough: The Slime Minder

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Short Description:	Discover how Audrey Dussutour is breaking new ground in our understanding of animal cognition from an unexpected source: slime molds.
Long Description:	<p>If you're aiming to glean insights on how animals retain and use knowledge, you might think staring at a pulsating yellow splat on a dead log isn't very productive. These are slime molds, often avoided amorphous, brainless blobs. The single-celled organisms that ooze around forest detritus lack a nervous system—and don't even have a centralized brain!</p> <p>Yet, for biologist Audrey Dussutour, researching primitive slimes has led to surprising discoveries about the evolution of learning and collective behavior that she's been pondering her whole life. After devoting much of her higher education towards understanding the collective decisions of ants, she was asked to adapt her research to slime molds. Her initial findings showed that despite lacking centralized coordination, the molds optimized their energy and movement to pursue the most nutritious foods—far better than ants and humans.</p> <p>This preternatural behavior was all it took for Dussutour to become consumed by the mold. Since then, Dussutour and her team at Université Paul Sabatier in Toulouse have tracked the slime molds' every movement with the unblinking eyes of timelapse cameras, helping them make mind-boggling discoveries. Dussutour has shown that slime molds can efficiently navigate through obstacles, learn and store "memories" for long periods of time, and even share them with other slime molds. More recently, her team has begun to identify the biological mechanisms for their "memories"—a surprisingly simple trick of amoeboid chemical inoculation. "We are just pushing the boundaries," she says. "Perhaps a</p>

	cell itself can be a cognitive organism.”
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