

TheScientist

\$4.99 | VOL. 24 NO. 1 | JANUARY 2010 | WWW.THE-SCIENTIST.COM

MAGAZINE OF THE LIFE SCIENCES

Programa de
Biotecnología
002

DARWIN 3.0

IS IT TIME FOR EVOLUTIONARY THEORY
TO EVOLVE?

GOING ROGUE:
A LISTERIAN LIFE

WHY VACCINES
ARE PHARMA'S
BIG SHOT

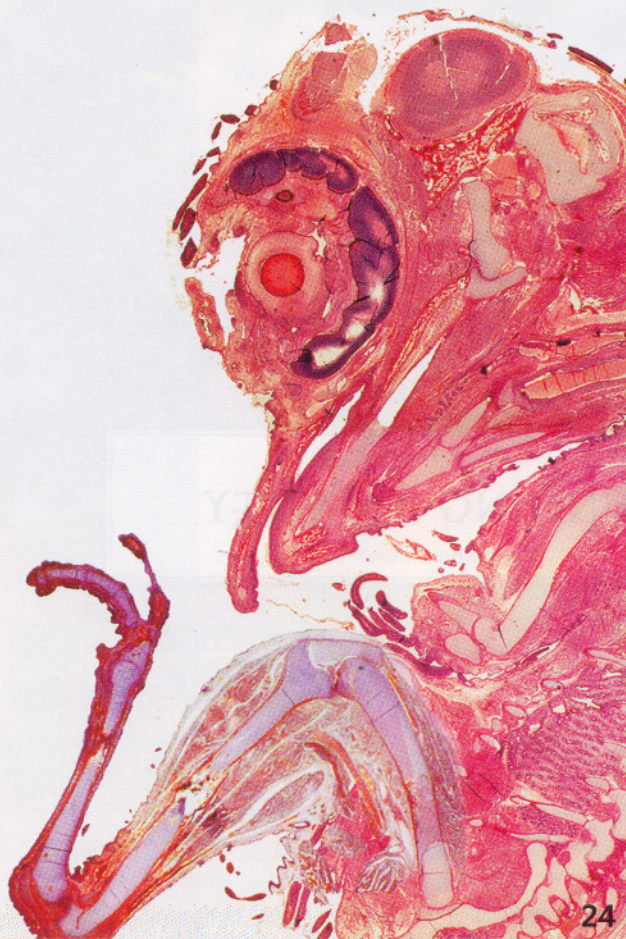
PLUS:
SECRETS OF
SCIENTIST-
COUPLES

INTI-Extensión y Desarrollo
División Biblioteca

1031
19 ENE 2010

CONTENTS

January 2010



FEATURES

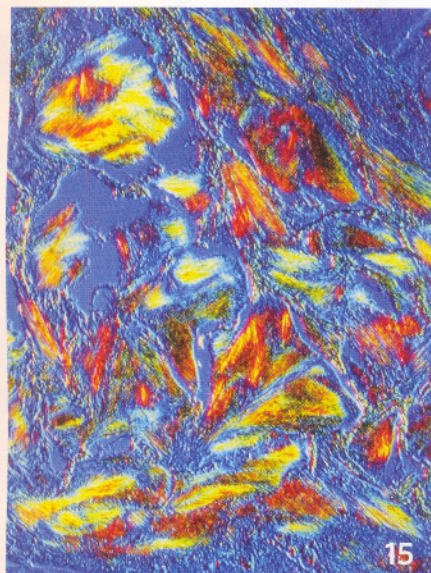
- 24** **Should Evolutionary Theory Evolve?**
COVER STORY » Evolution, by its very nature, is a dynamic process. Now, some evolutionary biologists say that the codification of evolutionary processes should formally incorporate what scientists have recently learned about genomics, molecular biology, developmental biology, and systems biology. But is such an official change necessary? **BOB GRANT** presents the new, proposed rules of evolutionary theory.

- 32** **Nice Shot**
Meet the new blockbusters: After a rocky period, the vaccine sector is now thriving, **MEGAN SCUDELLARI** reports, thanks to new technologies, legislation, investment in the developing world, and a moneymaking reputation. In short, vaccines could represent the booster shot the pharmaceutical industry needs.

- 38** **The Maverick Bacterium**
Whether it's powering through the cytoplasm leaving a trail of polymerized actin, or storing the code for RNA transcripts on the wrong side of DNA, *Listeria* makes up its own rules for survival, according to **PASCALE COSSART**, an HHMI international research scholar at the Pasteur Institute.

ON THE COVER

Photo by Alex Badyaev



DEPARTMENTS

11 Editorial

The Last Act

My final editorial.

BY RICHARD GALLAGHER

15 Notebooks

A pipeline rerouted;

The successful squish; Research

remand; Desperately seeking

seahorses; A pioneer's perils

22 Opinion

Outreach Going Wrong?

When we talk nano to the public, we are leaving behind key audiences.

BY ELIZABETH A. CORLEY AND

DIETRAM A. SCHEUEFELE

23 Column

Mind Your Manners

We need to treat each other with respect, or all of science will suffer.

BY STEVEN WILEY

43 The Literature

Hot Papers: A new lymphocyte raises as many questions as it answers; a recently discovered molecule "tethers" HIV to cells; dirty diapers help map the infant intestinal microbiota. Scientist to Watch: Tara Kieffer.

47 Lab Tools

Automate to Market

How to make your dreams of lab automation a reality.

BY KELLY RAE CHI

52 Bio Business

Home-Base Biotech

African and international efforts are boosting the continent's biotech industry—for now.

BY KATHERINE BAGLEY

55 Careers

Power Couples

Three highly productive couples give advice on how to balance life at home and in the lab.

BY VICTORIA STERN

68 Foundations

Transfer RNA Model, 1975

BY DEBORAH DOUGLAS

IN EVERY ISSUE

9 Contributors

12 Mail

Promises, Promises; Right Your Writing; For Women, it's Family vs. Science; When does oversight overstep?

50 The Guide

59 Recruitment