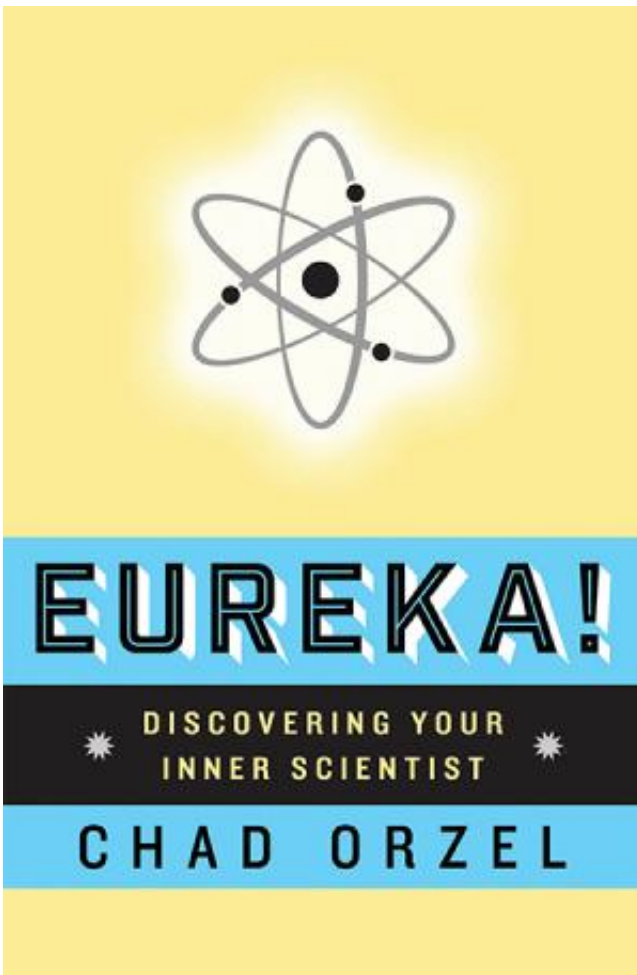# Unleash your inner scientist: A formula for success

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This is the cover of a new book by Chad Orzel, associate professor of physics and chair of the Department of Physics and Astronomy at Union College. Credit: Chad Orzel

For his first two books, Chad Orzel turned to Emmy, his trusty German shepherd mix, to help explain complex scientific issues.

The results, How to Teach Physics to Your Dog and How to Teach Relativity to Your Dog, proved to be a clever and popular way to dissect those difficult subjects.

Emmy is on the sidelines for Orzel's latest book, Eureka: Discovering Your Inner Scientist (Basic Books), but the same breezy style that made its predecessors an easy read remains intact.

The book, out Tuesday, Dec. 9, aims to make science less mysterious and intimidating by showing that many of the things non-scientists do for fun and relaxation use the same mental processes scientists employ when making major discoveries.

"This is an idea I've had kicking around for a long time, which largely comes out of a conversation killer," said Orzel, associate professor of physics and chair of the Department of Physics and Astronomy.

"When I tell people I'm a physicist, one of the most common responses is 'Wow, you must be really smart. I could never do that.' "

Orzel said his expertise in physics may give him an edge in weighty matters such as math, but there are tasks that non-scientists master better than he.

"I'm a mediocre carpenter," he said. " I can build stuff out of wood if I have to, but somebody who's actually good at it will look at a problem and instantly see an elegant solution. There's a mental aspect to carpentry that I can't really handle, but nobody goes around saying 'You're a carpenter? You must be really smart."

Orzel tries to convince readers there's a lot more science in their everyday lives than they realize.

"If you look closely at a lot of ordinary activities, including ones popular with people who say they could never handle science, you find the same process at work: you look at what you're trying to accomplish, think about a way to get it done, test your theory and tell other people what works. It's what you do when you work a crossword puzzle, watch a mystery show on TV or play a game of basketball."

Book reviews have been solid.

"This fun, diverse, and accessible look at how science works will convert even the biggest science phobe," wrote Publishers Weekly. And the Library Journal stated, "Similar to Richard Rhodes or Dava Sobel, Orzel makes complicated scientific narratives accessible to lay readers."

Orzel admits this book was more challenging to write than the first two. Physics was closest to his research area, and Relativity tapped into his physics background. The latest book covers more ground, including a wealth of historical research in sciences beyond physics.

"I've benefitted enormously from Union's library, and the help of a lot of other people from faculty colleagues to other science writers to friends from the Internet," Orzel said.

He hopes the book will inspire readers to use their inner scientists in a more conscious way to inform their decision making.

"The scientific process is the most powerful tool we have for understanding and improving the world we live in, and it's something everybody can use to make things better for us all," he said.

As for Emmy? Orzel said the 12-year-old mutt is fine taking a break from [books](#). She's more upset that Orzel's two young children steal attention the dog feels is rightfully hers.

"She does appreciate the way they drop food on the floor, though," Orzel said.

Provided by Union College