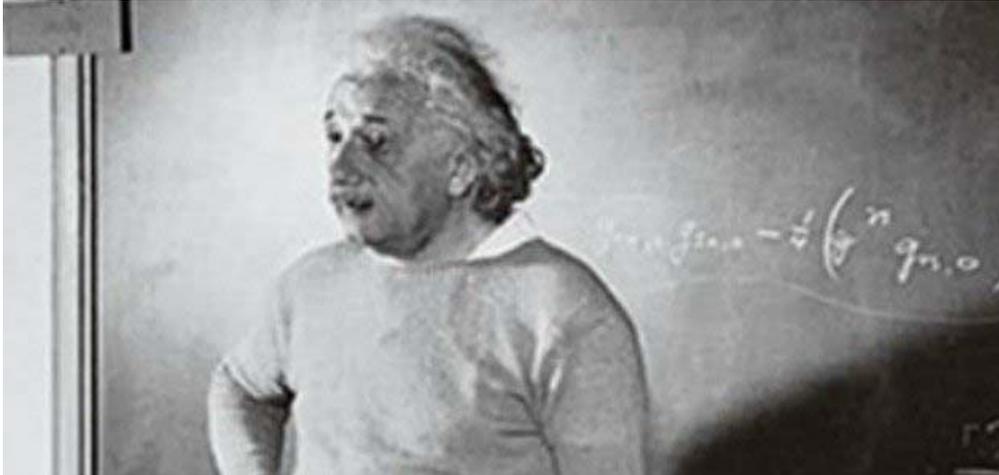


# The Year of Albert Einstein

**His dizzying discoveries in 1905 would forever change our understanding of the universe. Amid all the centennial hoopla, the trick is to separate the man from the math**



(Smithsonian National Museum of American History, Photographic History Collection)

Over four months, March through June 1905, Albert Einstein produced four papers that revolutionized science. One explained how to measure the size of molecules in a liquid, a second posited how to determine their movement, and a third described how light comes in packets called photons—the foundation of quantum physics and the idea that eventually won him the Nobel Prize. A fourth paper introduced special relativity, leading physicists to reconsider notions of space and time that had sufficed since the dawn of civilization. Then, a few months later, almost as an afterthought, Einstein pointed out in a fifth paper that matter and energy can be interchangeable at the atomic level specifically, that  $E=mc^2$ , the scientific basis of nuclear energy and the most famous mathematical equation in history.

No wonder 2005 has been designated worldwide as a celebration of all things Einstein. International physics organizations have proclaimed this centenary as the World Year of Physics, and thousands of scientific and educational institutions have followed their lead. Images of Einstein have become even more common than usual, discussions of his impact a cultural drumbeat. “His name is synonymous with science,” says Brian Schwartz, a physicist at the City University of New York Graduate Center. “If you ask kids to show you what a scientist looks like, the first thing they’ll draw is wild white hair.”

In many ways, Einstein's "miracle year" inaugurated the modern era, with its jumpy, discordant points of view and shocks to established truths. But the time, generally, was one of great cultural and social upheaval. Also in 1905, Sigmund Freud published his essay "Jokes and their Relation to the Unconscious" and an account of one of his first psychoanalyses. Pablo Picasso switched from his Blue Period to his Rose Period. James Joyce completed his first book, *Dubliners*. Still, no one's rethinking of universal assumptions was more profound than Einstein's.

Largely for that reason, Einstein today is more myth than man, and the essence of that myth is that the workings of his mind are beyond the reach not only of most mortals but even of most physicists. As with many myths, there's some truth to it. "I learned general relativity three times," says Spencer Weart, director of the Center for History of Physics at the American Institute of Physics. "It's that difficult, subtle, different."

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