Autism and Vaccines:

how bad science confuses the press and harms the public

Dr. Steven Salzberg

Ten years ago, an article appeared in the medical journal *The Lancet* that suggested a link between autism and the vaccine for measles, mumps, and rubella. The article was widely cited in the popular press in England, and vaccination rates began to fall. Further investigations revealed that the data in the study had been manipulated, and that the principal scientist had a major conflict of interest, with the result that 10 of his 12 co-authors repudiated the study's findings.

Numerous scientific studies since 1998, all done in response to the original Lancet article, have failed to find any link between autism and vaccines. Despite this, a few scientists and doctors continue to push the connection, often accompanying their claims with promises of "alternative" treatments for autism. The press keeps the issue alive by reporting "the controversy," often accompanying their reports with emotional testimonials from parents, including several celebrities. As a consequence of this publicity, vaccination rates are now falling in the United States, leading to alarming new outbreaks of diseases. Scientists and skeptics need to act to quell the rumors and educate the public, so that vaccines, one of the greatest medical successes in history, remain an effective tool in our fight against disease.

Dr. Steven Salzberg is the Director of the Center for Bioinformatics and Computational Biology and the Horvitz Professor of Computer Science at the University of Maryland, College Park. From 1997 to 2005 he was at The Institute for Genomic Research (TIGR) in Rockville, Maryland, where he had a leading role in projects to sequence the DNA of many pathogens, including the anthrax bacteria used in the 2001 attacks. He contributed computational

tools and analysis to the Human Genome Project and to projects decoding the genomes of many other animals and plants. His group's computational tools are used around the world in a wide range of genome sequencing projects today. His current genomics projects include a large-scale study of the influenza virus, the development of new DNA sequencing technology, and studies of the bacteria living inside the human body. Dr. Salzberg received his bachelor's and master's degrees from Yale University and his Ph.D. from Harvard University.

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