

Gary K. Michelson, M.D.

Dr. Gary K. Michelson is an inventor, entrepreneur, philanthropist, and an advocate for the humane treatment of animals. He is also a board-certified orthopedic spinal surgeon and a diplomate of the American Academy of Orthopedic Surgeons. Raised by his mother and grandmother in Philadelphia,

Dr. Michelson was exposed to spinal disorders at a young age. His grandmother suffered from Syringomyelia, a debilitating spinal deformity, which led him to be deeply sensitive to the needs of those around him. Because Syringomyelia causes a loss of pain sensation, his grandmother was unaware when she rested her hand on a hot stove, suffering serious burns in the process. Dr. Michelson was only eight years old when he saw this happen, and it sparked his lifelong passion to help people with similar afflictions.



From his modest upbringing, Dr. Michelson worked several jobs to pay his way through undergraduate studies at Temple University and medical school at Drexel University. Following a successful fellowship at St. Luke's Medical Center in Houston, he entered private practice as an orthopedic surgeon specializing in spinal surgery. Over the next 25 years, he became world-renowned as a surgical innovator and the most prolific inventor in medical history, and is credited with more than 990 patents worldwide.

When Dr. Michelson entered the field of spinal surgery, patient outcomes were unpredictable. Recovery could be long and painful. His revolutionary advancements in procedures, instruments, and implants consistently led to better patient outcomes, significantly reduced post-surgical pain, blood loss, complications, and resulted in a quicker recovery. The surgical techniques and materials developed by Dr. Michelson remain the industry standard, and have improved outcomes for patients around the world.

In 2005, Dr. Michelson sold his patents to Medtronic, the world's largest medical device company. The sale, along with the resolution of related intellectual property litigation, earned Dr. Michelson a place on the Forbes 400 list as a self-made billionaire. He retired from private medical practice and refocused his life's mission towards philanthropic work.

His first major gift was a \$100 million donation to the Michelson Medical Research Foundation, which supports brilliant young researchers in vaccine development, immunology, and immunotherapy. The foundation offers multiple Michelson Prizes with partners such as the Human Vaccines Project, and the American Association for the Advancement of Science.

In 2014, Dr. Michelson and his wife, Alya, personally gifted \$50 million to the University of Southern California (USC) to fund the creation of the USC Michelson Center for Convergent Bioscience. The center brings together the best and brightest of scientists, researchers, and engineers from around the world to work collaboratively on solutions to the most pressing public health issues of our time. This unique interdisciplinary research center is a model for other prominent research universities, bringing the world closer to the medical breakthroughs that are defining the 21st century.

Dr. Michelson established the Michelson Found Animals Foundation in 2005 with the mission of saving pets and enriching lives. He has said his childhood pet was a “life-preserving relationship,” and considers his work in animal welfare as a repayment of that debt. MFA’s programs include the first free national pet microchip registry, grants and partnerships that place pet care resources in communities in need, investments that spur innovation in pet care, and research that promotes more pet-friendly housing policies. The organization also funds the \$75 million Michelson Prize and Grants program for the development of non-surgical sterilization techniques for cats and dogs. In the 15 years since its founding, Michelson Found Animals has helped over six million pets.

Dr. Michelson’s original intellectual property lawsuit was a first of its kind in patent law. The lawsuit inspired his development of a comprehensive textbook on the subject (The Intangible Advantage: Understanding Intellectual Property in the New Economy), which he released in digital format and free of charge. Later, he developed an undergraduate course, The Entrepreneur’s Guide to Intellectual Property, which has been adopted by colleges and universities throughout the country.

This introduction to philanthropy in education led Dr. Michelson to create the Michelson 20MM Foundation in 2010, funding the distribution of free, peer-reviewed, openly-licensed digital textbooks to college students. Through this effort, Michelson 20MM has saved students around the world hundreds of millions of dollars in textbook costs. In the 10 years since its launch, the foundation has broadened its philanthropic focus to include impact investments in educational technology, and education and advocacy across smart justice initiatives, open educational resources, digital equity, and more.

Among his many awards, citations, and accomplishments, Dr. Michelson is one of a handful of individuals to be inducted into both the National Inventors Hall of Fame and the National Academy of Inventors. In 2006, the Paralyzed Veterans of America recognized Dr. Michelson as the world’s leading scientist for spinal research. Among a group of prominent inventors who supported the America Invents Act of 2011, Dr. Michelson was invited to the White House by President Barack Obama to witness the signing of that historic legislation. He received both the Albert B. Sabin Humanitarian Award and the Distinguished Achievement award from B’nai B’rith International in 2015. These accolades honor his work toward neglected disease vaccine research and his leadership, philanthropy, and humanitarian endeavors. Dr. Michelson also received the honorary degree of Doctor of Humane Letters from the University of Southern California in the Class of 2017.

Dr. Michelson and his wife, Alya, live in California with their three children. They are members of the Giving Pledge, a campaign founded by Bill Gates and Warren Buffett that encourages the wealthiest individuals and couples to contribute the majority of their fortune to philanthropic causes.

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