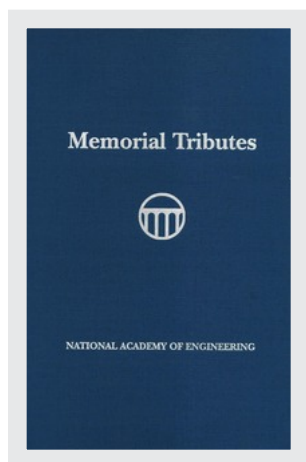


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JOHN C. MARTIN

1951–2021

Elected in 2008

“For the invention, development, and commercialization of anti-viral medicines, especially treatments for HIV/AIDS.”

BY RICHARD J. WHITLEY

SUBMITTED BY THE NAE HOME SECRETARY

JOHN CHARLES MARTIN, a chemist, long-time chief executive officer of the biopharmaceutical company Gilead Sciences Inc., and more recently a philanthropist dedicated to addressing health disparities in communities around the world, died March 30, 2021, at the age of 69.

John was born in Easton, Pennsylvania, on May 7, 1951. His parents, Dr. Tellis Alexander Martin and Janet Sacks Martin, both chemists by training, raised John and his three siblings in Evansville, Indiana. John’s first job, picking strawberries, was seemingly unrelated to the career path he would take following in his parents’ footsteps, but his work ethic, humility, and perseverance were present even at a very young age.

College took John to Purdue University, where he graduated with honors, earning a degree in chemical engineering (1973). He continued his studies at the University of Chicago, joining the laboratory of Professor Josef (Gus) Fried (NAS 1971) working on synthesis of prostaglandins. John received his PhD in organic chemistry in 1977 and, per Gus’ recommendation, joined Syntex in Palo Alto, where he quickly advanced to a section leadership role in drug discovery.

At the same time, John attended evening classes and earned his MBA from San Francisco’s Golden Gate University (1984), an experience that years later led him to design and implement

an onsite, subsidized MBA program for employees of Gilead Sciences, many of whom would otherwise not have had the time or resources to complete their advanced education. The creation of this program was one of many examples of John's commitment to supporting the development of the people he employed and worked with, in all roles and at all levels.

A creative and prolific synthetic chemist, John had an extraordinary ability to mentally visualize the orientation and symmetry of atoms and molecules in three dimensions. At Syntex he synthesized ganciclovir, thus coinventing the first acyclic nucleoside antiviral drug to treat and prevent infections caused by cytomegalovirus. This drug and its prodrug remain cornerstones in the management of cytomegalovirus infections.

John joined Bristol Myers in 1984 to lead its antiviral and anti-infective research programs in Syracuse, New York, where he directed the development and eventual licensure of two dideoxynucleoside antivirals to treat HIV/AIDS—didanosine and stavudine. While at Bristol Myers, John initiated collaborations with Professors Antonín (Tony) Holý in Prague and Erik De Clercq in Leuven, and together they forged the new field of nucleotide antivirals.

In 1990 John joined the then early-stage biotechnology company Gilead Sciences in Foster City, California, to build and evolve its emerging research programs. His first accomplishment was negotiating rights from Tony and Erik to a library of nucleotide analogues. After sustained research and development of these compounds, Gilead was transformed to become a powerhouse of antiviral drug manufacturing and commercialization. The company's continuous success drove the productivity level of an entire industry and, most importantly, reduced life-threatening viral infections to manageable chronic diseases.

In 1996 John was appointed Gilead's chief executive officer, a role he would hold for the next 20 years. During that time he launched 20 innovative medicines, made Gilead medicines accessible to millions of patients in developing countries, and increased the company value 140-fold to \$120 billion. He was appointed chair of the board of directors in 2008 and remained in that role until 2019.

His leadership at Gilead was nothing short of legendary. Under his direction, the company developed multiple breakthrough medicines, perhaps most notably for people with HIV, hepatitis B, and hepatitis C. These inventions changed the treatment landscape and John's leadership reshaped the foundation of global access to life-saving therapies.

To simplify HIV treatment, John directed Gilead in forming an unprecedented partnership among three companies that led to the creation of the first regimen of three best-in-class anti-HIV medicines formulated into one pill dosed once daily. This single-tablet regimen was approved by the FDA in 2006 and transformed the care of people living with HIV by avoiding regimens of multiple pills—sometimes more than 30 a day—that made compliance challenging and led to the potential for drug-resisting treatment failures.

A few years later, following John's vision, the company gained regulatory approval for the first HIV medication indicated to prevent transmission of the infection, an approach known as preexposure prophylaxis, or PrEP, for people at risk for HIV infection. To continually advance patient care, John's directive was that "we must continue to innovate to make obsolete our own products," where each innovation improved on the prior advance.

Meanwhile, John turned his focus to curing hepatitis C and put Gilead in the lead to bring to patients several groundbreaking, safe, and curative regimens, essentially eliminating the need for liver transplantation caused by hepatitis C.

His pursuit of innovative science expanded into pioneering solutions for global health. In 2003, when he traveled to Africa with Tommy Thompson (then US Secretary of Health and Human Services), John was struck by the devastation HIV/AIDS was having across the continent. He recognized that the effects extended beyond human lives to economies and societies as a whole.

There was no precedent or blueprint for how a company could enable equitable access, but Gilead forged the path under John's leadership. He directed the design of a revolutionary access program that would deliver the company's HIV

treatments to more than 130 resource-limited countries. The program provided licenses and technology transfers to generic manufacturers in India and other countries so that these companies could rapidly scale up production yet maintain low prices. The program later extended beyond HIV to include Gilead's medicines for viral hepatitis B and C. Today, more than 18 million people in low-income countries around the world receive these life-saving medicines each day, owing to John's business ingenuity, engineering excellence, and moral compass.

John's commitment to addressing health disparities was fueled by a deep understanding based on first-hand observations. He traveled to regions of the world most impacted—sub-Saharan Africa, Southeast Asia, and Latin America—and met with healthcare providers, public policy experts, and people doing the work in these regions to develop a better understanding of the barriers individuals faced daily. He then prompted the formation of the Gilead Foundation in 1995 for improving health and well-being in underserved communities around the world.

In 2014 John established his private foundation, the John C. Martin Foundation, with the goal of facilitating the establishment of sustainable improvement of health care for populations in socially and economically disadvantaged settings.

John was widely recognized for his scientific and global health contributions to humanity. His honors include the Horace S. Isbell Award from the Carbohydrate Division of the American Chemical Society (1990), Gertrude Elion Memorial Lecture Award from the International Society for Antiviral Research (2003), Lifetime Achievement Award for Public Service from the Institute of Human Virology at the University of Maryland School of Medicine (2014), Biotechnology Heritage Award from the Biotechnology Industry Organization (2017), Stanford Medicine Lifetime Achievement Award for contributions to science benefitting humanity (2019), and National Academy of Sciences Award for Chemistry in Service to Society (2019). He was elected to the National Academy of Engineering in 2008.

In addition, John was honored by Belgium's Order of the Crown (2017), Senegal's Order of the Lion (2017), and

the Republic of Georgia's Golden Fleece (2017). He accepted honorary doctoral degrees from Katholieke University Leuven (2017) and the Scripps Research Institute (2019).

John's expertise was widely sought through private and public sector appointments. He was president of the International Society for Antiviral Research (1998–2000) and chaired two leading industry organizations, the California Healthcare Institute (2005–06, 2009) and BayBio (1999–2001). He served on the boards of Golden Gate University, University of Southern California, University of Chicago, University of California School of Global Health, Scripps Research Institute, Sarepta Therapeutics, Leyden Labs, and Kronos Bio.

He was a member of the NAE COVID-19 Call to Action Committee (2020–21) and the National Academies of Sciences, Engineering, and Medicine's Board on Global Health (2020–21) and Committee on Advancing Pandemic and Seasonal Influenza Vaccine Preparedness and Response: Recommendations for Vaccine Research and Development (2021). He also served on the NAE's Finance Committee (2019–21). His public service included the National Institute of Allergy and Infectious Diseases Council and AIDS Research Advisory Committee (2000–03), the US Centers for Disease Control and Prevention Health Resources and Services Administration's Advisory Committee on HIV and STD Prevention and Treatment (2004–07), and the Presidential Advisory Council on HIV / AIDS (2006–09).

A quiet, unassuming force, John was a visionary leader, an admired mentor, a trusted friend, an endearing partner, and a proud and loving father. His overwhelming generosity and humility were notable characteristics. Never one to seek the spotlight, he took great joy in celebrating others' accomplishments, even when they were achieved through his steady guidance and support. His brilliance changed forever what a diagnosis of HIV or viral hepatitis mean, and his commitment to helping people around the world never faltered.

He is deeply missed by all who knew and loved him. John is survived by his three siblings, son John D. Martin, daughter Margaret R. Martin, and life partner Lillian L. Lou.