



Marie Filbin

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If Frank McCourt had created a spirited Irish–New Yorker neuroscientist who loved fine wine and art as much as designer shoes and great books and who had the heart of a lioness, the courage to overcome the gravest challenges, and the wit, charm and insight to win over the boldest detractors, her name would have to have been Marie Filbin. Starting from humble beginnings, Dr. Marie Filbin rose through the international research ranks to become Distinguished Professor at City University of New York Hunter College in New York and a world-renowned expert in axonal regeneration. Marie finally lost her hard-fought battle with cancer on January 15th while visiting family in her native Ireland.

Marie was born in Lurgan, County Armagh, a small town in Northern Ireland, in October of 1955, the youngest child of John and Maureen Filbin, a bakery owner and his wife. As a young woman, Marie faced the very real dangers of the Troubles, once even being pulled from the middle of a firefight by an IRA combatant. Escaping the difficulties of her youth, Marie spent some time traveling the continent, including a brief stint working on a kibbutz in Israel, tending fields and picking produce. Marie attended the University of Bath for her undergraduate and doctoral training, where she studied the structure and function of neurotransmitter receptors in insects. After obtaining her PhD, Marie moved to the United States, where she performed her postdoctoral training at the University of Maryland and Johns Hopkins Medical Institutions. While working with Gihan Tennekoon, Marie showed that P0 is a homophilic interaction protein that might serve as the mechanism by which the individual myelin leaflets adhere to one another.

After completing her fellowship, Marie accepted a faculty position at Hunter College, a public and largely undergraduate city university where she continued her work on mammalian myelination, eventually extending it to examine myelin's negative effect on axonal regeneration. Marie's main scientific questions focused on the molecular mechanisms that control axon growth, especially on understanding how axon regeneration fails after injury. Her specialty was cleverly designed and carefully controlled studies of neurons growing in culture that allowed quantitative studies of axon growth and elegant tests of mechanisms. Using these models, she identified myelin-associated glycoprotein (MAG) as one of the key inhibitors of nerve regeneration that acts through the Nogo receptor. She then identified some of the important intracellular signaling pathways involved in growth inhibition and showed that manipulations that increased cAMP could overcome growth inhibition. For this work, Marie was recognized with numerous awards, including a Javits Award from the US National Institutes of Health and the Ameritec Prize. These studies laid the groundwork for identifying strategies that have subsequently enhanced regeneration in clinically relevant animal models of spinal cord injury.

Some of Marie's most pivotal findings came from fruitful collaborations with other leaders in the field, having co-authored dozens of primary research papers with colleagues from the world's leading institutions. Marie said she collaborated for two reasons: to help the field by sharing what she knew, and because she readily admitted *in vivo* models were “not her strong point” and collaborations allowed her to advance the field by working with others to rapidly translate her findings into the most relevant lesion systems. Through powerful collaborations, Marie's fundamental findings stood the test of time and scrutiny, and could be built upon by others because of her dedication. One of us who collaborated with Marie (M.T.) found, to our considerable relief and satisfaction, that her findings were the first in the field of spinal cord injury that we could actually replicate: that cAMP-dependent mechanisms enhance central regeneration of axons. Marie concurrently dedicated her tireless energy to multiple editorial boards, international scientific advisory boards and grant review committees, and was always a willing and skilled referee. She also served on the council for the Society for Neuroscience and as a reviewing and senior editor for its flagship journal, *The Journal of Neuroscience*.

At Hunter College, Marie also led a minority neuroscience training program to develop new research opportunities for the multi-ethnic melting pot of students and faculty drawn to Hunter. Although Marie had numerous offers to move to more well-known universities throughout her career, she chose to remain at Hunter, the institute that had supported her work during the early years when it was considered by some to be controversial, stating that she loved the diversity and drive of the trainees that she had the pleasure of working with at this small urban college.

Marie Filbin may be a prime example of how the measure of a scientist should not only lie in their cumulative impact factor, but in how they have personally impacted the hearts and minds of the people they have brought together, advised, collaborated with, mentored and befriended. In a competitive world rife with hypotheses and data, there are still too few individuals whom their colleagues, competitors and trainees deeply revere, yet can quickly recall their favorite ‘story’ about. Luckily, the kind of translatable basic research that Marie held most dear to her heart helped to extend her own lifespan after her initial cancer diagnosis, by over two decades, during which she made her most significant impact. Now that she has lost her final battle, the world of neuroscience is missing one spirited, stylish and inspired scientist, and many of us are deeply missing our friend. Fortunately, we are all the richer for her having been among us, as are the hopes of wheelchair-bound spinal cord injured or multiple sclerosis patients who are one step closer to overcoming their own challenges because she was here. ■

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