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Obituary

In memoriam of Bruce Sherman McEwen (1938–2020) : Pioneer in Psychoneuroendocrinology Alfred E. Mirsky professor at Rockefeller University



<<This picture was sent to Sonia Lupien by Bruce. He told her that he really liked this picture of him thinking while on a train>>.

*“What it takes to be a good scientist is persistence, to develop your own story, sticking to it and being a good citizen, a collaborator, because most things you can’t do on your own”.*¹

These words of Bruce were exemplified by the McEwen lab as a breeding place of cutting edge ideas allowing students and postdocs to develop their own careers, while at the same time enriching the knowledge-base of the mother lab. This is marked by the impressive family tree of the “McEwenites” shown at the symposia honoring Bruce’s 60th and 80th birthday. His death caused a shockwave of deep sadness; we will tremendously miss our scientific father and friend.

Bruce was born in Fort Collins, Colorado, majored in chemistry at Oberlin College, Ohio and received his Ph.D. in cell biology at Rockefeller University in 1964, guided by Vincent Allfrey and Alfred Mirsky. After a post-doctoral fellowship at the Institute of Neurobiology, Göteborg Sweden, from 1964 to 1965 with Holger Hydén, he joined in 1966 the Behavioural Neuroscience program led by Neal Miller at Rockefeller University. First in a small lab in the Gasser Hall, so crowded that night shifts were needed to accommodate all students, then to a more spacious environment in Smith Hall and finally the past decades to the Harold and Margaret Milliken Hatch Laboratory of Neuroendocrinology ruling the world from the 13th floor of the Weiss building.

In 1968, Bruce discovered that the glucocorticoid stress hormone targets in particular the hippocampus. This key discovery was one of the pillars for the new field of Psychoneuroendocrinology. He showed that stress hormones could act on higher brain regions to promote behavioural adaptation and memory performance. These higher circuits

were also target of sex steroids, which explained the molecular basis for the entirely different strategies males and females use to cope with stress. The hormones caused lasting changes in brain development, exerted reversible, activational effects on plasticity and connectivity of the mature neural circuits and could alter the trajectory of neurodegenerative cascades during aging and disease. This research of Bruce served as foundation for the integration of neuroscience and endocrinology with clinical psychology.

The 21st century marks Bruce’s leading role in exploring, initially with Eliot Stellar, the overarching concept of allostatic load as calibration of the price the body and brain pay for stress-adaptation. This not only changed the face of psychoneuroendocrine research, but also had social impact which contributed to a better understanding of the link between health and socio-economic status. For instance, in Québec/Canada, universal daycare services at a very low price is offered to families based on the results of studies emerging from the work of Bruce showing that exposure of young children, that live in adversity, to enriched daycare environment can modify the developmental trajectories of the brain and increase resilience later in life.

The research of Bruce was recognized with prestigious awards including the Karl Spencer Lashley Award, Pasarow Award in Neuropsychiatry, Goldman-Rakic Prize for Cognitive Neuroscience, Gold Medal from the Society for Biological Psychiatry, the Dale Medal of the British Society for Endocrinology and the Scolnick Prize in Neuroscience. He received the William James Lifetime Achievement Award for Basic Research and the Lifetime Achievement Award of the ISPNE. He was appointed Marius Tausk Visiting Professor in The Netherlands. He was an elected member of the National Academy of Sciences, the National Academy of Medicine, and the American Academy of Arts and Sciences. Public outreach had high priority as was shown by his many media performances. He wrote ‘The End of Stress as We Know It’ with Elizabeth Lasley and the ‘Hostage Brain’, with Harold M. Schmeck jr, in which psychoneuroendocrinology was explained to the lay public. His work was cited more than 130,000 times which ranked him among the top 10 with most impact out of 7 million scientists worldwide.

Bruce worked with his wife Karen Bulloch, professor at Rockefeller University, on the immunology of the brain and neurodegenerative diseases. He is survived by his ex-wife Nancy and their two daughters Carolyn and Sarah; with his brother Craig, professor of Sociology at Bowdoin College, Brunswick, he delivered a lecture, recorded as podcast, at University of Pennsylvania on November 21 – the 111th anniversary of their father’s birth. It marked their joint interest in the new

¹ <https://www.rockefeller.edu/about/history/oral-history-project/interview-bruce-mcewen/>.

discipline of the socio-neurosciences for which they wrote a seminal article in 2017. Brunswick is close to the Maine summer house of Bruce and Karen and their two lovely schnauzers; this house was named “Shackteau” by Bruce and that’s where he enjoyed painting his wonderful landscapes.

Bruce was proud on his Dutch – Scottish ancestry which had its roots on the Dutch side in the Lenters family, located in the East of The Netherlands. Perhaps this heritage gave him the so familiar trait of pinching his chin when he was listening to you, his way of looking intensely at you as if you are one of the most important person in the world. His eyes always locked on yours, never looking away while you were talking. You knew that he was listening and that he was intensely thinking of something that he would summarize only after you finished

talking. While taking off his glasses and rubbing his nose, he would say, “Excellent, we can try”, in line with his life motto “What I have always liked about science is discovering the unexpected”.

This is the man that we will remember. The scientist, the professor, the mentor and the amazing friend, whom we will dearly miss.

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