

Equal Opportunity Science

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Frank Dondelinger unearths the famous women in the history of Edinburgh science



Astute readers of this issue's Focus articles may have already noticed a conspicuous absence. When we were planning articles about famous scientists who have worked or are working at Edinburgh, it soon became apparent that there were no women among the people we'd proposed. Not only that, but off the top of our heads, the (mostly female) Focus team couldn't think of a single historical female scientist with a link to the University.

Of course, after having done our research, we realised that there have been plenty of women that were active in science at Edinburgh. As early as 1869, a group of women inspired by Sophia Jex-Blake were allowed to study medicine in specially arranged classes. Although she and her fellow students were ultimately not allowed to graduate, Jex-Blake still achieved the milestone of being the first female medical undergraduate in Britain. Some claim, however, that that honour belongs to Margaret Ann Bulkeley, who is said to have lived her adult life as a man under the name James Barry, and who graduated from the University of Edinburgh with a Medical

Doctorate in 1812.

The University finally started regularly admitting female undergraduate students in 1892, after the government made it possible legally. The first woman to graduate with a science degree was Jessie Chrystal MacMillan, who graduated in 1896. Four years later, she also became the first woman to graduate with First Class Honours in Mathematics and Natural Philosophy. MacMillan went on to become a barrister and an active member of the suffragette movement. In 1908, she became the first woman to argue a case before the House of Lords, pleading for the voting rights of female Scottish students.

Since then, female scientists have made a lasting impact in many research disciplines at the University of Edinburgh. In the 1960s, Dr Anne McLaren worked at the Institute of Animal Genetics, and achieved breakthroughs in developmental biology and laid the groundwork for *in vitro* fertilisation. She subsequently became the first female officer of the Royal Society, and was made a Dame of the British Empire in 1993.

Other female scientists became famous only after they graduated from the University. Dame Honor Bridget Fell was a renowned scientist who earned her Bachelor's degree in Zoology at the University of Edinburgh in 1922. In a turn of events that she shares with illustrious Edinburgh students such as Charles Darwin and David Hume, her true talents were not discovered until after she left the University to take a position at the Strangeways Laboratory in Cambridge. Within four years she became director of the laboratory. Her work led to the discovery of the role of the immune system in causing rheumatoid arthritis.

Anneila Sargent is another more recent graduate who received a BSc Honours in Physics in 1963 and emigrated to the United States shortly afterwards. There, after completing her PhD, she became a Professor of Astronomy at Caltech, and went on to serve as director of CARMA; the Combined Array for Research in Millimeter-wave Astronomy. She has also been Chair of NASA's Space Science Advisory Committee and President of the American Astronomical Society, among many other posts.

It is clear then that the history of science in Edinburgh contains its fair share of remarkable female scientists. Nevertheless, it still seems hard for women to break the fame barrier in science. If you say 'famous scientist', most people are likely to think of Richard Dawkins, Stephen Hawking or Albert Einstein. When EUSci asked a selection of PhD students to name a famous female scientist, the only name that most of them could come up with was Marie Curie. Why don't more women active in science reach the public conscience?

One theory is that there just are not enough female scientists to reach critical mass. Science hasn't been an entirely male domain for quite some time, but at the professorial level you are still likely to encounter mostly male faces. According to the 2009 University

of Edinburgh Equality and Diversity Monitoring and Research Committee report, the College of Science and Engineering has the lowest proportion of women in academic posts, with almost half as many as the other two Colleges. A sizeable 40% of staff at the teaching and research assistant level are women, but the number declines as you go up in pay grade with only 10% at the professorial level.

Women like Jex-Blake and Chrystal MacMillan paved the way, with many following in their footsteps, but all have had to overcome the resistance of government, society and their peers. Let's aim to learn from history and ensure that each subsequent generation of women finds fewer obstacles in their way.

“Frank Dondelinger is a PhD student at Biomathematics and Statistics Scotland.”

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