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REFLECTIONS IN DIVERSITY

The Times They Are a-Changin’

Lesley Cohen, a professor at Imperial College London, provides a perspective on the cultural changes supporting gender equality at universities in the United Kingdom.

“Come writers and critics
Who prophesize with your pen
And keep your eyes wide
The chance won’t come again ...”
—Bob Dylan,
“The Times They Are a-Changin’,” 1964

I was bitten by the science bug the day my high school physics teacher used a prism to demonstrate refraction. I was quite blown away at the time, and 40 years later, I can state with absolute certainty that the bug is still there.

As a female professor of physics at Imperial College London (ICL), U.K., I am a minority. However, the United Kingdom is undergoing something of a revolution in the area of gender equality in science, and this is certainly true at ICL: It feels like the rumble that has been audible but nearly ineffective for the past 20 or 30 years has finally turned into a roar.

U.K. Chief Medical Officer Prof. Dame Sally Davies triggered this change with an announcement she made in 2011. Davies stated that the National Institute for Health Research would only expect to shortlist a medical school for funding if the school held a silver Athena

SWAN (Scientific Women's Academic Network) award in recognition of its commitment to gender equality.

A number of U.K. institutions were already participating in the Athena SWAN award scheme at the time of Davies' announcement, but linking the award to research funding eligibility certainly put the gender equality issue on the map in a manner not seen before.

After Davies' announcement there was much discussion at the Research Council U.K. (RCUK) about the degree to which equality and diversity should be linked to funding. (Most government-funded research in the U.K. is coordinated through

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RCUK.) In January 2013, RCUK issued its own announcement: "In line with legislation in the Equality Act 2010, higher education institutions must have policies in place to address equality and diversity issues." That somewhat side-stepped the issue, but the Council added: "At this time, RCUK does not require formal accreditation, such as Athena SWAN, for grant funding; however, we will be reviewing and may consider such measures if there is no evidence of improvement."

RCUK's statement was more of a warning than a change. However, by October 2013, U.K. universities and science minister David Willetts announced £200 million of new capital funding for teaching science, technology, engineering and mathematics subjects, saying that he expected to see "evidence of commitment to equality and diversity" furnished by those making bids for the cash. "Some version of Athena SWAN" showing institutional strategies for achieving gender equity in science,

technology, engineering, medicine and mathematics (STEMM) departments "will focus minds," Willetts stated. As pressure from the top continues to build, university leaders now sense the urgency of achieving this goal.

Changes at ICL

Imperial College London is a highly regarded research university, rated second behind the Massachusetts Institute of Technology (MIT, USA) in the 2014 Quacquarelli-Symonds world university rankings. ICL recently adopted an American leadership structure with a provost

and presidential style of governance. Prof. James Sterling joined ICL as provost in 2012. His previous appointment was at Cavendish Laboratory Cambridge, where he oversaw their successful

gold SWAN award application.

His commitment to equality and diversity was made clear in a statement from October 2014: "At Imperial, we know that attracting, developing, promoting and retaining the very best scientists is key to Imperial remaining one of the world's great universities. This is why we are committed to removing barriers and ensuring gender equality at all levels across the College."

In September 2014, Alice Gast, past president of Lehigh University (USA) and prior vice president for research at MIT, took on the new role of ICL president. Within the first months of arriving at Imperial, Gast shared her thoughts on what could be done to increase the number of women faculty in STEMM departments. She advocated for boosting collaboration, increasing the number of female role models, providing inspiring mentors, recognizing the success and achievements of women scientists and ensuring access to funding.

Athena SWAN Charter

The Athena SWAN Charter program emerged in 2005 when the Scientific Women's Academic Network (SWAN) joined the Athena Project. The Athena SWAN charter is designed to be a mechanism by which U.K. universities and individual departments can improve their recruiting and retention of women specializing in science, technology, engineering, medicine and mathematics (STEMM) fields.

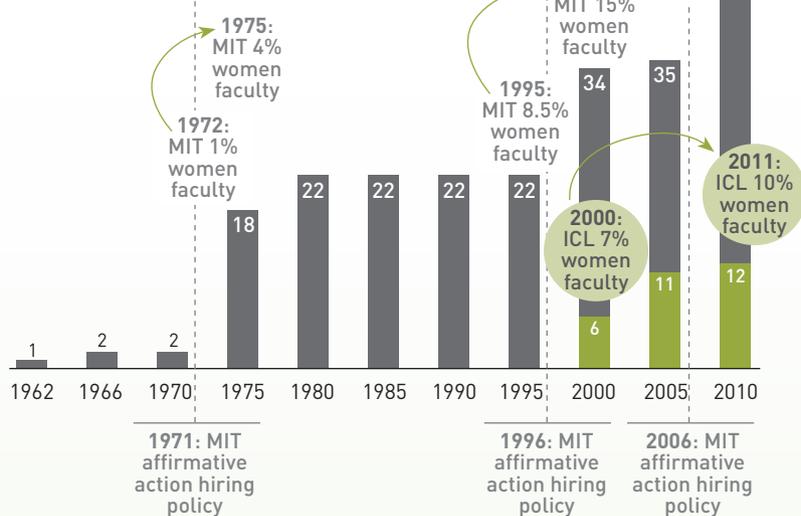
To learn more, visit www.ecu.ac.uk/equality-charter-marks/athena-swan



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Women faculty members

■ MIT's School of Science
■ ICL physics department



Given that ICL's new president cut her teeth at MIT, and our institutions' shared focus on science, technology, engineering, medicine and mathematics, it is interesting to see how the gender statistics in my own department of physics at ICL compare to the school of science at MIT.

In 1971, 1996 and 2006, MIT applied affirmative action hiring policies. The graph shows that in each affirmative action hiring bout, the increase in female faculty at MIT is about one percent per year; and between those periods, the gradient is about one percent per decade. Similar data for the ICL physics department suggest roughly a three-percent increase over the last decade.

It's interesting to note that between 1995 and 2010, while the total number of women faculty at MIT increased from 8.5 to 22 percent, the number of men fell by about 7 percent. In comparison, the number of male staff in the ICL physics department over the same period increased by 65 percent. Clearly, our department missed a huge opportunity during our last expansion. Although the number of female staff doubled, a much more gender-conscious hiring policy could have produced very different results.

Adapted from N. Hopkins. MIT Faculty Newsletter, XVIII(4), 1 (2006), and ICL data.

Speaking at a gathering to celebrate the women of Imperial College, Gast said: "I know first-hand the challenges and joys that come with falling in love with science at a young age. When I was a student, women in STEMM were few in number. Today things have improved significantly, but women still remain underrepresented in this area. There is a need for more progress and a

renewed sense of urgency to accelerate the pace of change."

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New initiatives

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hold an Athena SWAN award or are in the process of achieving one. And the College as a whole is a silver Athena SWAN award recipient.

Together with an organization called Tigtag, ICL launched a free online resource to support primary science teaching. There is also a huge coordinated effort on outreach. Championed by the ICL dean of natural sciences, Prof. Maggie Dallman, the Junior Research Fellowship scheme has enabled ICL to recruit the brightest and best early career researchers from across the world; over the past five years, an impressive 36 percent of successful candidates are women. Meanwhile, the U.K. Biotechnology and Biological Sciences Research Council recently stated quite extraordinarily that 50 percent of their fellowships must go to women by 2017. I hope that other funding agencies will follow suit.

The atmosphere is now highly charged for gender and diversity equality. And for those women bitten by the science bug who wonder whether they can stay the course, my message is: Hang on in there. The times I believe really are a-changin'. **OPEN**

Lesley Cohen (l.cohen@imperial.ac.uk) is professor of solid state physics with the faculty of natural sciences, department of physics, at Imperial College London, UK.