EDUCATION

Maths set to hold back jobs in big data

STEFANIE BALOGH

THE AUSTRALIAN | 12:00AM FEBRUARY 1, 2017

Genevera Allen - Sydney University

A 30-year decline in the rate of senior students studying mathematics has put Australians at risk of missing out to foreigners in securing high-paying, in-demand jobs analysing big data, including working on a cure for cancer.

Urging the nation to future-proof its skills base and attract more students to maths, Genevera Allen, one of America's most influential young statisticians, has warned that "data is everywhere, and the people who can tackle data challenges will be the ones who excel in our information-based economy".

"Australia's maths enrolment has been declining for the past 30 years. This will have major consequences — it will slow innovation and some of the best jobs — for example, data science — will go to foreigners."

Dr Allen, who is assistant professor of statistics and electrical and computer engineering at Rice University in Texas and is visiting Sydney, also weighed into the debate over the "feminisation" of physics.

Renowned quantum physicist Michelle Simmons, one of the nation's leading scientists, used an Australia Day address in Sydney last week to decry attempts to "feminise" the high-school physics curriculum by replacing maths formulas with essays, labelling it a "disaster" that had left students unprepared for university.

Professor Simmons warned against the dumbing down of high-school science and

FOLLOW US

MORE STORIES

Maths set to hold back data jobs ◆
STEFANIE BALOGH
A decline in maths study puts us at risk of missing out on securing high-paying big-data jobs, an expert warns.

Scholarship a path to Indonesia ◆
THOMAS BROWN
Eighteen months ago I was a student in Adelaide with little to set me apart from my peers. Then I landed my dream job.

Health test to aid data diagnosis ◆
ROBERT WELLS

urged authorities to "set the bar high'' for students to encourage them to excel. Her criticism of the science curriculum won support from teaching experts who said university physics courses were being altered to compensate for students leaving high school with limited maths skills.

"There are no female or male disciplines or skill sets,'' Dr Allen said. "Math is math and anyone, from any background, and with varying strengths can make contributions. It is imperative that we have both diversity of people and ideas in maths.

"We need everyone to help tackle some of the biggest societal challenges — discovering cures for diseases such as cancer and Alzheimer's disease, finding clean energy solutions, and tackling climate change — all of these challenges require maths skills.''

Dr Allen, who featured in *Forbes* magazine's influential 30 under 30: Science and Healthcare list in 2014, focuses on developing statistical methods to help scientists make sense of data. The use of maths and statistics is set to grow as medical researchers use data to unlock insights into human biology. "Globally, we critically need more people trained in statistics and data science. Australia needs to be equipping its workforce to tackle the exciting opportunities created by this data deluge,'' she said.

Data scientists are highly sought after. The 2016 skills and salary survey of the Institute of Analytics Professionals of Australia, which represents 7500 people, showed the median salary was $130,000 and the top 5 per cent earned $275,000 or more.

Dr Allen visited for last night's Australian Mathematical Sciences Institute Summer School 2017 public lecture, sponsored by Sydney University's School of Mathematics and Statistics.

We should use the health sector as a testing ground for Productivity Commission's Big Data reforms.

Probe call over lobbying grant ◆
MEREDITH BOOTH
Education Minister Simon Birmingham described the grant given to One Community SA as 'borderline corruption'.

Uni 'vulnerable' over posts ◆
HEDLEY THOMAS
Fresh FoI documents show that QUT officials believed the uni was 'vulnerable' over 'racial hatred' posts.

Uni achievable with some care ◆
TESSA AKERMAN
Jodie McLellan was one of the children for whom teachers and the system had low expectations.

Doctors 'lacking in key skills' ◆
ANTHONY KLAN
A senior lecturer at the Australasian College for Emergency Medicine has hit back at claims of racial bias.

Teacher bashing on rise ◆
STEFANIE BALOGH, SEAN PARNELL
There are a rising number of attacks by angry parents and students on teachers.

'Racism' at medical college ◆
ANTHONY KLAN
The Australian College of Emergency Medicine has been accused of racism by more than 30 non-white students.

Comply on testing or lose funds ◆
RACHEL BAXENDALE
The Education Minister has indicated funding may be tied to a controversial testing plan for Year 1 students.

FEATURES

Inquirer: The Fatal Shore - Sharks sow deep divisions on

Podcast series: The betrayal of a generation

Podcasts from The Australian, including the award-winning

See what the latest Newspoll would mean if an election

Oscars 2017: all the news and reviews ahead of film's

The Global Food Forum is returning in March 2017. Secure