



Next 10 years of EUA-CDE

Luke Georghiou

Deputy President and Deputy Vice-Chancellor, University of
Manchester and

Chair EUA-CDE Steering Committee

Consolidate as the One-stop Shop for Doctoral Education in Europe



PROFESSIONAL JOBS SUMMITS RANKINGS STL

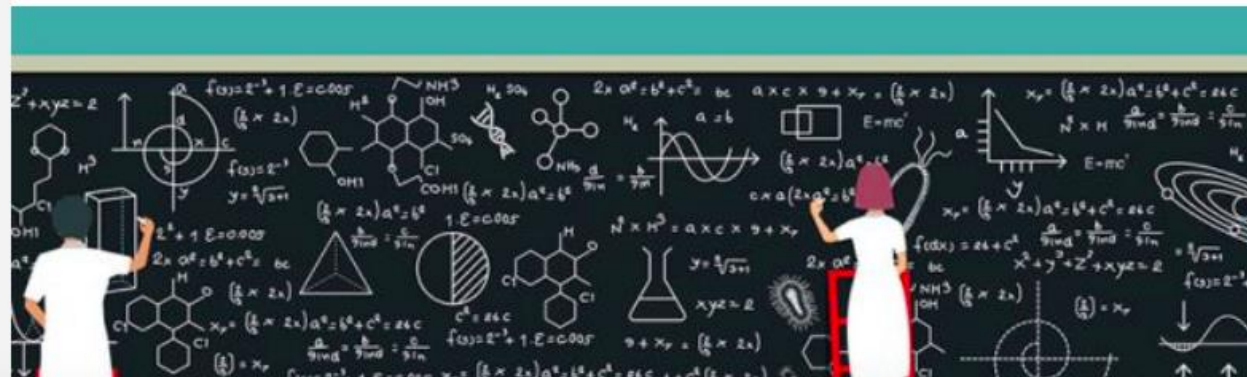
Doctoral education matters for Europe more than ever before

It is at the apex of higher education, research and innovation, but issues around integrity and employability must be addressed for doctoral education to continue to thrive, says Luke Georghiou

June 6, 2018



By [Luke Georghiou](#)
Twitter: [@lukegeorghiou](#)



We deal with very live issues

THIS WEEK

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Science benefits from diversity

Improving the participation of under-represented groups is not just fairer — it could produce better research.

Lab groups, departments, universities and national funders should encourage participation in science from as many sectors of the population as possible. It's the right thing to do — both morally and to help build a sustainable future for research that truly represents society.

A more representative workforce is more likely to pursue questions and problems that go beyond the narrow slice of humanity that much of science (biomedical science in particular) is currently set up to serve. Widening the focus is essential if publicly funded research is to protect and preserve its mandate to work to improve society. For example, a high proportion of the research that comes out of the Western world uses tissue and blood from white individuals to screen drugs and therapies for a diverse population. Yet it is well known that people from different ethnic groups can have different susceptibility to some diseases

Could something similar be true in science? As we discuss in a News Feature this week (page 19), some studies suggest that a team with a good mix of perspectives is associated with increased productivity.

“The lack of diversity in science is everyone’s problem.”

them, to see the problem for what it is, and to act — not just to assume it is someone else’s job to fix it. ■

Concerted action to effect change on recruitment and retention can and does make a difference (see T. Hodapp and E. Brown *Nature* 557, 629–632; 2018). More effort across the board is overdue. The lack of diversity in science is everyone’s problem.

Everyone has a responsibility to look around

nature
International journal of science

Science
MAGAZINE

NEWS

a difference for the city I live in,”
Audia Sheinbaum Pardo says.

which has a metropolitan
ore than 20 million people.
s water crisis up close when
ity politics in 2015 as the
pan, a southern city district
nely run dry.

um Pardo is making water
sterpieces of her campaign.
opies a former lake, drained
during the colonial period.
awl has covered almost the
rebed, and most of the city’s
d from beneath it. “We’ve
e aquifer, and as a result,
g” Sheinbaum Pardo says.

ground makes earthquakes
s; during the destructive
eptember 2017, an elemen-
sped in Thalpan. Previous
have postponed tackling the
yola Robles, a water expert.
lands the issue. I think her
: solid and feasible.” She has
:iling the distribution net-
ue of leaks, building treat-
ecycle water, investigating
outside the city, and sub-
ollection systems.

so lags in public transporta-
can afford it buy cars; 70%
nhouse gas emissions come
heinbaum Pardo says. She
ing in bus lines, light-rail
cable cars, while reducing
ed informal systems, such
is; she also wants stricter
rds for cars. Both her trans-
ater plans, she says, aim to
y in access and services.

rdo’s academic background
a her detail-heavy presenta-
: speeches. Competing can-
led her “arrogant.” Besides
se ties to López Obrador,
e school collapse and in-
e drug crime in southern
fallings of her administra-
Still, a recent poll found
e surveyed planned to vote
nd and third place candi-
k 20%.
um Pardo parlay her likely
nto a national political ca-
: say, but insists that she
to return to her research at
tinues to advise a handful
ents, squeezing in the work
oons. “I’m not particularly
olitical career,” she says. “I
ke a difference for the city

INTERNATIONAL MOBILITY

China takes new steps to lure science talent from abroad

Generous funding and the chance to lead projects are helping attract foreign scientists

By Dennis Normile, in Shanghai, China

When astronomer Marko Krčo was offered a chance to help commission the world’s largest radio telescope, he didn’t hesitate. “It’s a once in a lifetime opportunity,” says Krčo, who has Serbian and U.S. citizenship and earned his Ph.D. from Cornell University. In 2016, Krčo became a postdoc at the Chinese Academy of Sciences’s National Astronomical Observatories in Beijing; he spends much of this time in a remote corner of Guizhou province in southwest China, where the Five-hundred-meter Aperture Spherical radio Telescope was completed in 2016 (*Science*, 30 September 2016, p. 1488). “Whether professionally or privately, every day yields a new challenge or a new insight,” Krčo says.

The Chinese government, eager to sustain the country’s rapid emergence as a scientific superpower, is opening the door wider for people like him. On 22 May, the Ministry of Science and Technology issued guidelines that encourage science ministries and commissions to consult foreign experts and attract non-Chinese to full-time positions within China. In a striking change, foreign scientists are now allowed to lead public research projects.

In the past decade, China has aimed to build up its scientific capacity by luring back some of the tens of thousands of Chinese scientists working abroad. The latest measures emphasize that non-Chinese talent is also welcome. Drafted in December 2017 but not previously made public, they are “a confirmation of things that have been going on for a while,” says Denis Simon, an expert on China’s science policy at Duke Kunshan University, a Chinese branch campus of the Durham, North Carolina-based Duke University.

Simon says foreign scientists are drawn by China’s increased spending on R&D, which is rising twice as fast as its economic growth. Increasingly ambitious big science projects, such as a massive particle accelerator now under study, are a lure as well, says Cao Cong, a science policy specialist at the University of Nottingham Ningbo, a Chinese affiliate of the U.K. university. The opportunity for foreign scientists to serve as principal investigators for publicly funded programs is a significant new incentive, says Liang Zheng, who studies science and technology policy at Tsinghua University in Beijing.

“There is really only one reason why I moved: the money,” says 35-year-old U.S. ecologist Luke Gibson, who trans-



New big science projects, like the world’s largest radio telescope, make China an attractive destination.

But also need to consider drivers of demand in the next decade

- Careers
 - If R&D in Europe rises in line with government targets more demand for doctorates but also risk of relocation to emerging economies
 - Will AI/digitization deskill some graduate jobs but place premium on analytical/synthetic skills of doctorate?
 - Will populist governments support the Third Cycle or focus on short-term vocational needs?
- International mobility
 - Rising middle class numbers in many parts of world with outbound traditions but will present patterns be sustained
 - What vulnerability to geopolitics, migration politics, epidemics..

And drivers of change in delivery

- Digital revolution continuing
 - How much content virtualized? Will role of campus change? Can online ‘superbrands’ enter doctoral education?
 - Will open science fundamentally change assessment regimes?
- Who delivers doctorates?
 - Will organisations outside the university sector press for accreditation?
- Divergence
 - Direction of travel from Bologna has been convergence – how would the system deal with divergence in the concept of a doctorate?

Role for the EUA-CDE



EUA-CDE
EUA-Council for Doctoral Education

- EUA-CDE already has far more members than any other doctoral education organization but how much more growth?
- Should we continue recent trend towards more hands-on and virtual engagement by highly motivated groups of members?
 - Specific needs in delivering doctoral education versus wider policy agenda
- Should we offer more scope for peer groups or regional groups *within* CDE members to set their own agendas?
- How much outreach should we have to other parts of the world?
- Do we need to think more about the postdoctoral community?

Golden decade



EUA-CDE
EUA-Council for Doctoral Education

- First decade has seen steady growth in scale and scope thanks to our founders, predecessors and current members
- Every reason to be optimistic that we can continue to meet the needs for European doctoral education and provide it with a strong and clear voice that we can reflect back into our own institutions