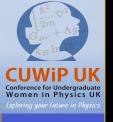
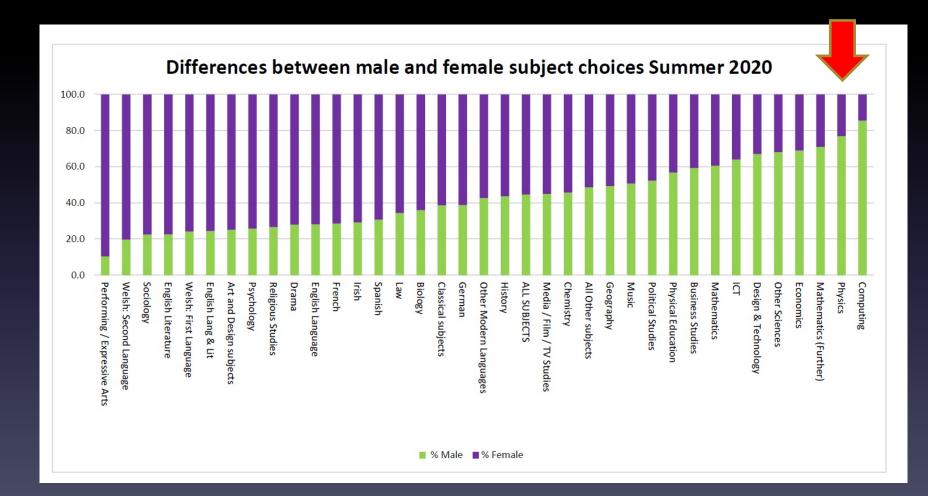


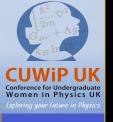
# Why a conference for Women?

D. Bortoletto

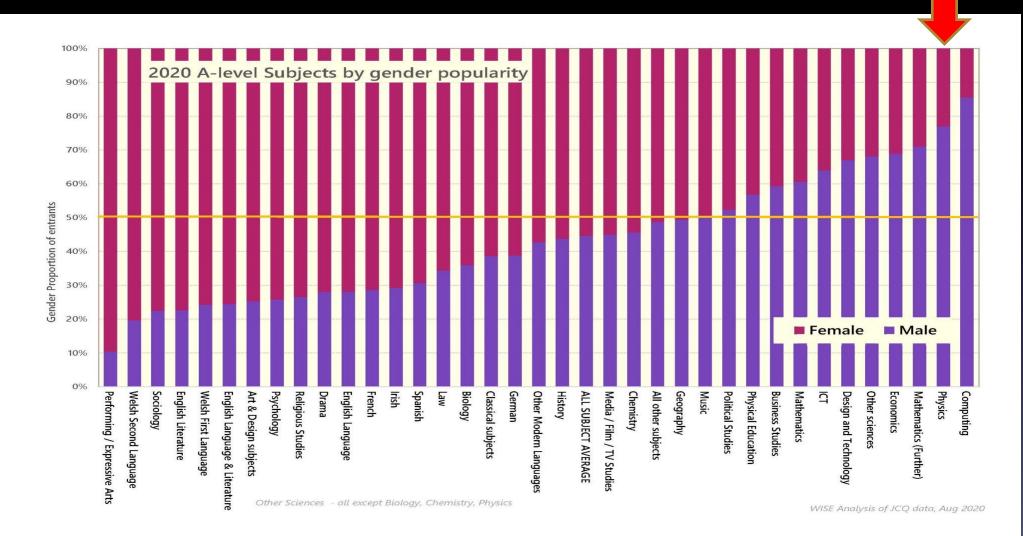


# The Statistics GCSE: 2020





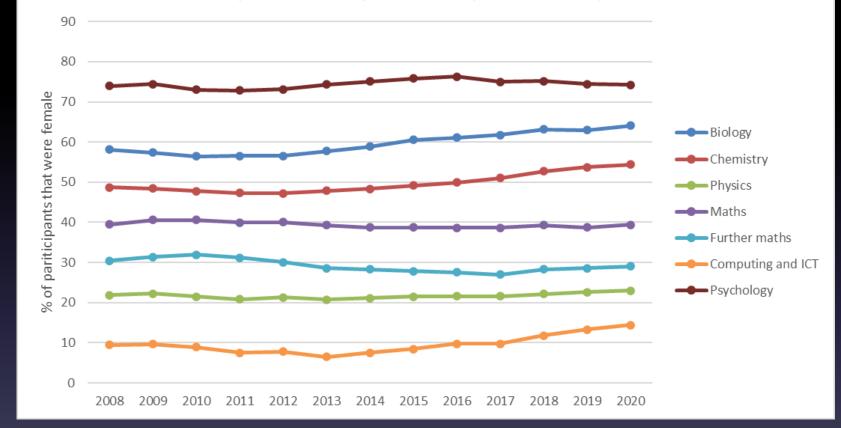
# The Statistics A-Level 2020



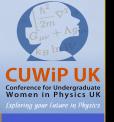
**SOUTHAMPTON 2021** 

# The Statistics

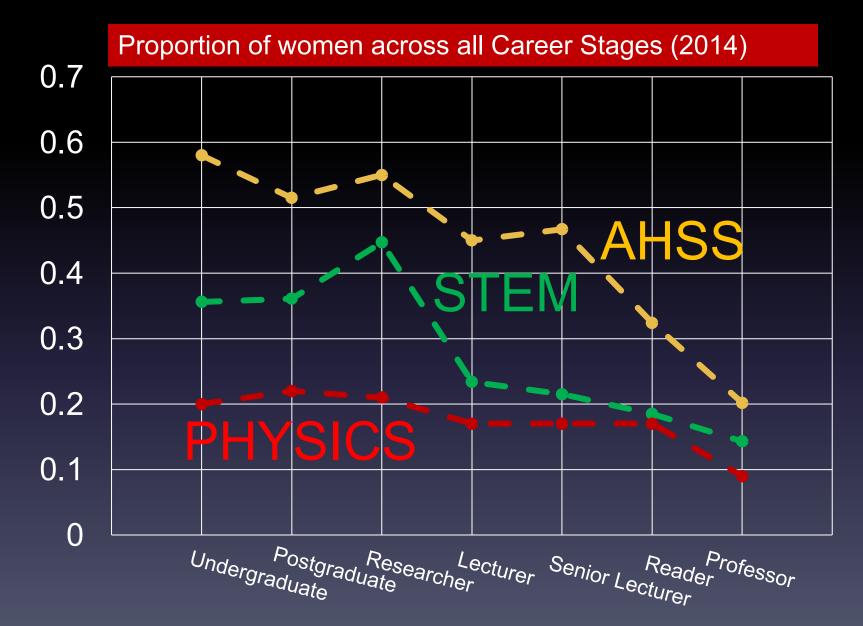
Proportion of girls taking STEM subjects

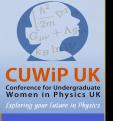


This percentage has been constant for about 25 years



# **The Statistics**

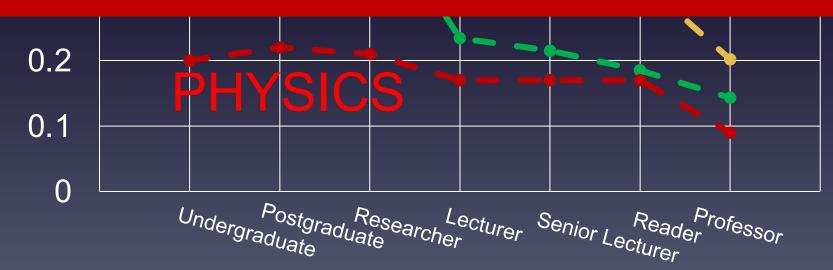


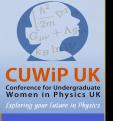


# **The Statistics**



At the current rate of change (3% over 7 years), we could only reach 35% of women academic staff in physics by 2050



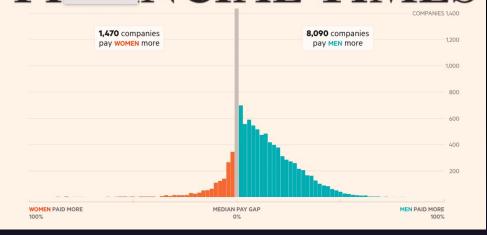


# **Evidence of bias**

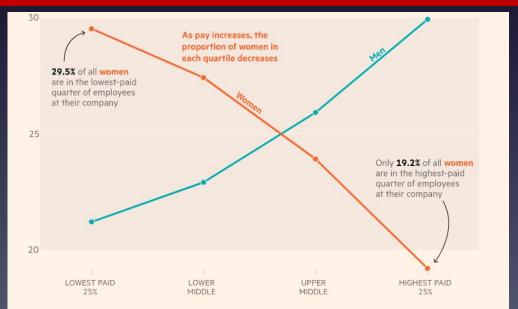
- 63 male, 64 female science faculty
  - physics, chemistry, biology
  - 6 research universities: 3 private, 3 public
- CV of graduating senior looking for job as lab manager.
  "John" or "Jennifer"
- Both men and women:
  - See the male candidate as more competent
  - Were more likely to hire him
  - Starting salaries ~30k for him, 27k for her

Moss-Raucusin, Handelsman, et al. 2012 PNAS

### CUWIP UK Conference for Undergraduate Kommen in Physics UK Exploring your future in Physics



### 84% of firms pay their male staff more

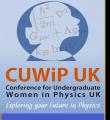


# Pay Gap

Technology will widen pay gap (Davos report 2017)

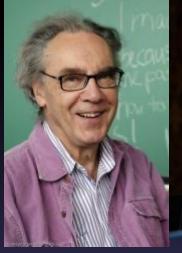
 The gulf between men and women at work – in both pay and status – is likely to widen unless action is taken to tackle inequality in high-growth sectors such as technology





# Sexual Harassment

### Recent high profile cases







Laurence Krass Arizona State University Theoretical **physicist and cosmologist** 

Walter H.G. Lewin, MIT Astrophysicist

Geoff Mercy Berkeley Astronomer Cristian Ott Caltech Astrophysicist



# Sexual Harassment

The Guardian 5-march-2017

### **Higher education**

### Sexual harassment 'at epidemic levels' in UK universities

**Exclusive:** Almost 300 claims against staff have been made in six years, but victims and lawyers say those are just tip of iceberg



Daniela Bortoletto, CUWiP UK 2021



# **Dealing with sexist remarks**

 "Let me tell you about my trouble with girls. Three things happen when they are in the lab: you fall in love with them, they fall in love with you, and when you criticise them they cry." (2015)



Tim Hunt, Nobel Prize in physiology



### COMMENT FROM THE WORKSHOP ORGANIZERS

Alessandro Strumia applied to give a presentation on "Bibiliometrics data about gender issues in fundamental theory". The committee was skeptical of his motivations but decided to allow him to give a scientific presentation on data analysis. The committee is deeply disappointed that the presentation, which had not been shared prior to its delivery, included attacks on individuals and was contrary to CERN's values, as set out in the CERN Code of Conduct. CERN's official statement on the matter can be found here: https://press.cern/press-releases/2018/09/updated-statement-cern-stands-diversity

Speaker: Alessandro Strumia (Universita & INFN Pisa (IT))

S CERN statement

Overview	Summary of the workshop: click here
Timetable	
Contribution List	This workshop will both focus on recent developments in theoretical high energy physics and cosmology, and discuss issues of gender and equal opportunities in the field.
Registration Form	land dition to talk a second state whereas OM and DOM share state share built a Cald the second
List of participants	In addition to talks on nuclear and string theory, SM and BSM phenomenology, lattice field theory and cosmology, each day talks and panel discussions will be dedicated to research on gender in
Computing access	academia, with an aim to further the development and implementation of action plans to support
Health insurance, visa	women and other minorities in physics.
Accommodation	Since any positive change needs the support of the whole community we encourage everyone, men
Directions to and inside	and women, junior and senior scientists, to participate in this workshop.



### DIVERSITY AND INCLUSION | NEWS

Thousands of physicists sign letter condemning 'disgraceful' Alessandro Strumia gender talk <sup>08 Oct 2018 Michael Banks</sup>



Delegates at the first workshop on high-energy theory and gender held at CERN last month. (Courtesy: CERN)



# Why there is large participation gap in Physics ?

- Are women not interested because this science does not fit their desire to work with people? (Claire Cupples, the Dean of Science at Simon Fraser University)
- Is this the result of women seeking those fields in which they are able to make the greatest contribution in their own judgement? (Shirley Tilghman, President of Princeton University)



# How to attract more women in physics?

- PRiSE study (Hazari, Sadler, Sonnert and Shanahan <u>http://blogs.scientificamerican.com/guest-</u> <u>blog/2011/03/29/can-we-declare-victory-for-women-in-</u> <u>their-participation-in-science-not-yet/</u> (7505 students)
- Students in physics need a "physics identity":
  - Student must feel good at it
  - Students must believe in their own abilities
  - Reinforced by support from peers, teachers, family and society
- This is true for all students, but students from minority groups have lower self-esteem, contributing to the difficulties they can encounter in physics.



Daniela Bortoletto, CUWiP UK 2021

Pauline Gagnon



2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
University of Southern California (USC)	USC	USC		Santa Cruz		Western Reserve			North Caroline Research Triangle	Black Hills State
		5			Purdue Bortoletto	Stanford Burchat	Colorado School of Mines	Luisana State	Rugers University	Georgia Institute of Technology
≈2	5	Yale	Yale	Duke	MIT	Texas A&M		Pensylvani a State		Old Dominion (JLAB)
					North Caroline State		Central Florida	Stony Brook	Michigan	Ohio State
					C C	University of Washington	Urbana-	UC Berkeley	University of Mississippi	Oregon State
							Texas Austin	Chicago (FNAL, Argonne)	Texas Brownsville	Syracuse
								Maryland		UC San Diego
								Utah	Yale	Texas San Antonio
										Wesleyan University

## ~ 1,500 students in the US







# CUWIP UK in Oxford







igodol

# Goals

- Convey the opportunities available to Physics majors - with or without an advanced degree.
- Combat isolation, provide role models
- Counteract effects of gender stereotyping; build persistence.
- Introduce students to data and resources available through national societies (IOP, APS)





# 2019

Daniela Bortoletto, CUWiP UK 2021

### 12<sup>th</sup> - 15<sup>th</sup> March 2020 University of York

plications

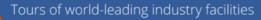
Deadline to apply: Friday 10<sup>th</sup> January 2020

### CONFERENCE FOR UNDERGRADUATE Women in Physics UK

Kin CUWIP UL

Exploring your Future in Physics

iop.org/CUWiPUK



Dinner at the National Railway Museum

Panel discussions with professionals and graduate students

Talks from leading female physicists including Professor Dame Jocelyn Bell Burnell and Professor Petra Rudolph

otos from CUWiP UK 2019 by Kathryn Boast

of Vork





# CUWiP UK 2020 in York













# A few testimonials

Thank you so much for the opportunity. It was unbelievably uplifting and very much appreciated!

Previously I have struggled to imagine my connections with female physicists in a role-model stance; I have only one female lecturer at university. This conference has reconnected me with my subject after a difficult year and begun my connection with the community, which I had previously not realised was a lacking aspect of my life. I feel empowered and excited. Thank you.



I really enjoyed the conference. It was so nice to meet so many other female physicists from such different backgrounds. Has definitely given me lots **more confidence** and made me realise not only the many opportunities available, but made me feel like they are something I can accomplish.

Wasn't confident enough to pursue post-graduate education before but now I am excited to get home and apply to opportunities I found out about through this conference. I want to involve myself in research opportunities and outreach projects



- Enjoy the conference
- Science is universal and unifying





### Cuwip uk

Conference for Undergraduate Women in Physics UK Virtual Conference March 25-27, 2021 Hosted by the University of Southampton



Denitsa Bankova













Andreas Jüttner

### Local Organising Committee







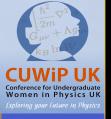


Michelle Limbert

Kevin MacDonald

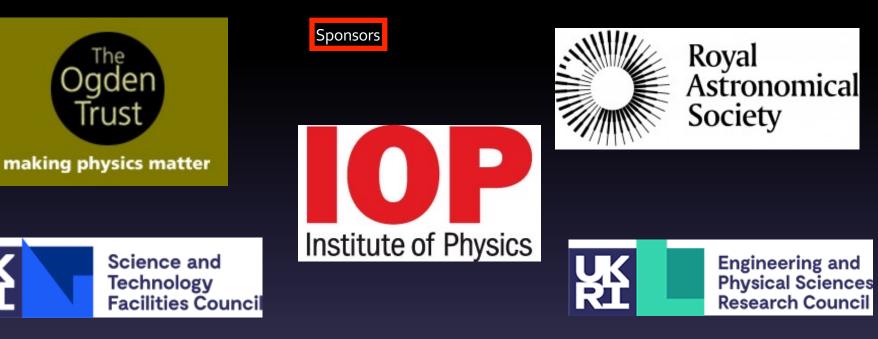
Andy O'Bannon

Diana Rojas-Ciofalo Sophie Smith



Conference for Undergraduate Women in Physics UK Virtual Conference March 25-27, 2021 Hosted by the University of Southampton



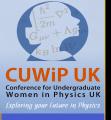




# Southampton

Faculty of Engineering and Physical Sciences School of Physics and Astronomy Optoelectronics Research Centre/Zepler Institute Mathematical Sciences







**Questions? Concerns? Emergencies?** 

contact the Local Organising Committee any time at

cuwip2021@soton.ac.uk

inbox monitored constantly during conference

or via Zoom

https://zoom.us/j/94209708224

Gather.town

https://gather.town/app/l1qQ3LboNH4xlo6X/My%20Home%2oSpace



https://join.slack.com/t/cuwipuk/shared\_invite/zt-nt9xhspg-bKeru15wXhHrvt2fv5Pu9w