



**DIVERSITY IN MAGNETISM:  
WHAT CAN WE DO?**



**Sandra & Claire**

**European School of Magnetism**

**7th September 2023, Madrid, Spain**



# IMPOSTER SYNDROME

She told me: “I still come into work every day thinking that someone is going to finally realize that I have no idea what I am doing”. The woman was Daniela Bortoletto, the head of the Particle Physics department at Oxford University. I’m not kidding.

<https://mabecs.com/women-in-physics-the-imposter-syndrome-effect/>

Science

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🔒 | LETTER

## Imposter syndrome threatens diversity

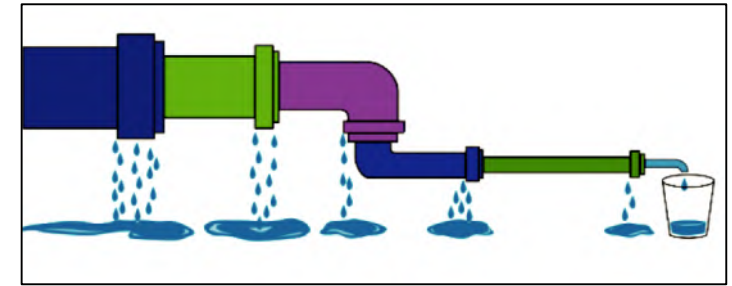
GEORGE P. CHROUSOS AND ALEXIOS-FOTIOS A. MENTIS [Authors Info & Affiliations](#)

SCIENCE • 14 Feb 2020 • Vol 367, Issue 6479 • pp. 749-750 • DOI: 10.1126/science.aba8039

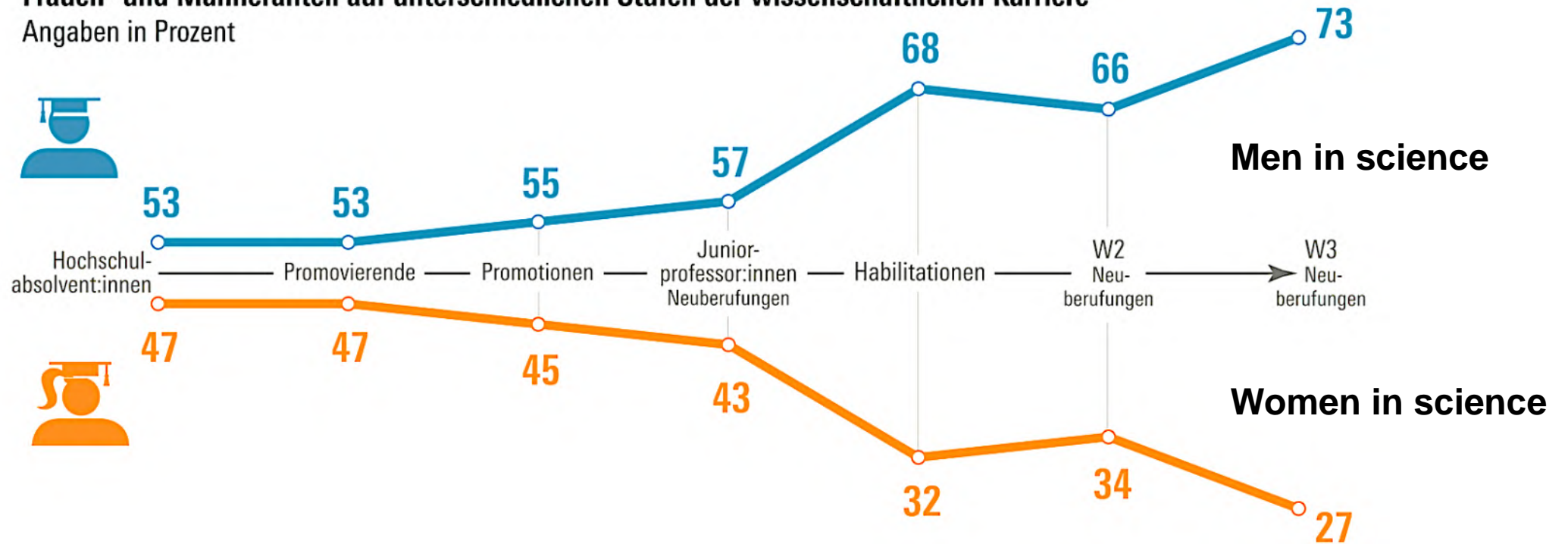
Those with imposter syndrome have an innate fear of being discovered as a fraud or non-deserving professional, despite their demonstrated talent and achievements ([1](#)). Imposter syndrome has been found to be more prevalent in high achievers ([2](#), [3](#)), women ([3](#)), and underrepresented racial, ethnic, and religious minorities ([4-7](#)).



# THE “LEAKY PIPELINE”



**Frauen- und Männeranteil auf unterschiedlichen Stufen der wissenschaftlichen Karriere**  
Angaben in Prozent





## WHAT CAN WE DO?

→ **You are not alone!**

*Many of us feel the same way  
Share our experiences*

→ **Ask for help**

*reach out and ask for help & advice*

→ **Changing the culture**

*Support and look out for each other.*

→ **Advocacy**

*speaking up when we notice unfair  
situations*

→ **Create awareness**

*of our own bias, and of our environment*





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*Imposter syndrome* is the psychological phenomena where an individual doubts his or her own accomplishments or qualifications, and thus has a persistent feeling of not belonging or fear of being exposed as a fraud. Most people have experienced this at some point in their lives, however, women (and particularly women in academic sciences) are disproportionately affected by [this](#). Because of imposter syndrome, a well-established scientist might attribute her success to luck or chance, instead of her own skill or effort. It’s also what prevents a young woman from taking the step to pursue a subject like Physics in higher education despite a track record and experience that shows that she would be well suited to it.

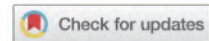


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STUDIES IN HIGHER EDUCATION  
2020, VOL. 45, NO. 4, 780–795  
<https://doi.org/10.1080/03075079.2019.1568976>



## Impostor phenomenon and motivation: women in higher education

Ashley R. Vaughn <sup>a,b</sup>, Gita Taasobshirazi<sup>c</sup> and Marcus L. Johnson<sup>a</sup>

Clance and Imes (1978) introduced the concept of impostor phenomenon (IP) nearly four decades ago, when they were struck by the phenomenon of successful women who view themselves as impostors despite evidence to the contrary. These women are convinced someone will expose them for what they believe they are: unintelligent, unworthy of their successes, and erroneously in their celebrated position (Kets de Vries 2005; Clance and Imes 1978; Clance 1985; Harvey and Katz 1985). Those with elevated IP characteristics often attribute their successes to luck, charm, or

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# WHY ARE WE HERE?

MPI-CPfS is incredibly diverse!  
→ One of our strengths!



Make the most of our world – diversity!

Help us achieve our best – support!



# WHAT CAN WE DO?

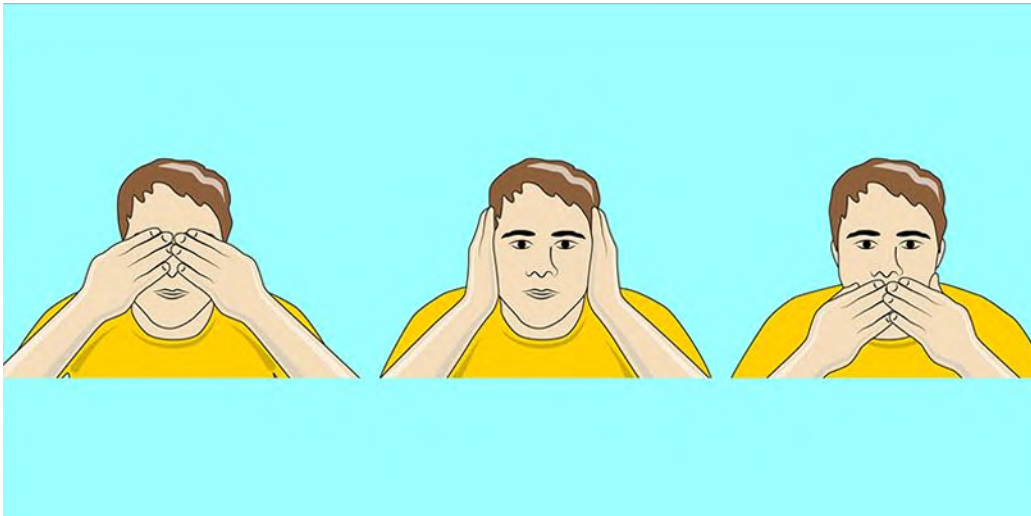
We often feel helpless:

NEWS FEATURE

## See No Bias, Hear No Bias, Speak for No Change

March 6, 2023 • *Physics* 16, 33

A study of the attitudes of progressive, white, male physicists suggests that their inaction in confronting biases contributes significantly to the problem of inequality in physics research.



arXiv > physics > arXiv:2210.03522

Physics > Physics Education

[Submitted on 5 Oct 2022]

**How well-intentioned white male physicists maintain ignorance of inequity and justify inaction**

Melissa Dancy, Apriel Hodari

- **Create awareness**  
*of our own bias, and of our environment*
- **Changing the culture**  
*make sure everyone is welcome*
- **Advocacy**  
*speaking up when we notice unfair situations*





# AWARENESS

*“That's probably one of the advantages of physics is you get to work for smart people, so normally {race and gender is} not an issue.”*

When presented with data demonstrating race and sex-based discrimination in the STEM workplace, he attributed it to non-physicists,

*“Well, if you're going to be working in an industry you're going to eventually wind up working with people who are not STEM. ....So you do get some of that boy's club.”*

## What do we think?



# THE CULTURE OF PHYSICS

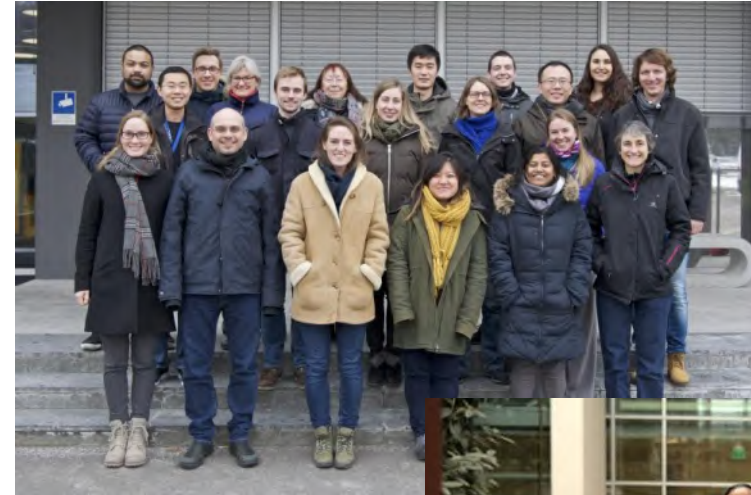
“One of the first graduate students I hired was female and that didn't seem very strange to me...I never even thought about it.

But interestingly, speaking to her sometime later, she of course arrived in the largest research group there and immediately noticed, as I would have done, and I hadn't really seen it from a distance, that she was the only female other than the group secretary, in a group of five or six professors, a dozen postdocs, twenty graduate students.

She admitted that if she'd known that she probably wouldn't have come.”

- Faculty member

I've been very lucky in my workplaces  
From my PhD



To my current  
group:





## WHAT CAN WE DO?

Interviewer: *“Have you ever witnessed discrimination?”*

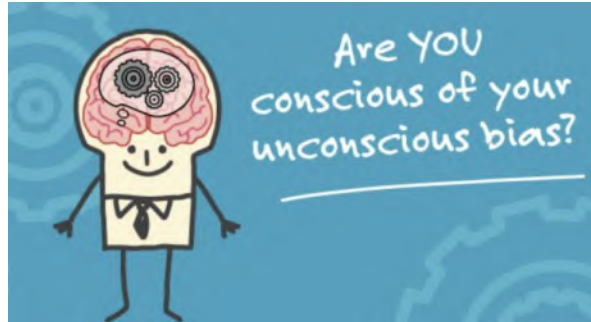
Student: *“Probably.”*

Interviewer: *“Probably?”*

Student: *“Have I experienced it as such? Probably not. Have I talked myself into believing that it wasn't really discrimination? Probably true. So I've probably witnessed discrimination and have not recognized it as such. I've probably witnessed discrimination and recognized it and convinced myself that it was not actually discrimination or that I don't need to take any action. I don't think I've ever witnessed discrimination and taken action against it.”*



# WHO SHOULD WORK ON THIS?

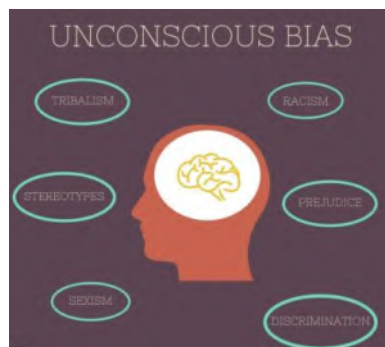


NEWS FEATURE

## Fixing a Physics Culture Problem

July 22, 2021 • Physics 14, 106

Efforts to improve the climate for women in physics departments take many forms. None should focus on changing its women, some physicists say.



→ **Awareness**

*of our own bias, and of our environment*

→ **Changing the culture**

*make sure everyone is welcome*

→ **Advocacy**

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## SOME IDEAS FOR THE FUTURE

**Mandatory Awareness Training**

**Mentoring Scheme?**

**More regular meetings?**

**More ideas?**



# AWARENESS

“My department tends to be fairly male-dominated. ... who you're going to be interacting with is mostly white men,... I would say race and gender isn't something that's part of the equation in people's interactions. I think that the people that I work with, they don't discriminate on the basis of race or gender. ... I have had conversations like that with students. Like, just be aware, you will be accepted, you will be welcomed, you will be valued. No one will think for a second that you are less than in any way.”

## What do we think?



## WHAT CAN WE DO?

“I honestly don't know how to effectively counter it without causing even a bigger backlash... There could be active animosity towards the student.”

“There's not much you can do to change people's minds that's not going to cause a scene, disrupt the class, or other stuff. {The target} may not want that.”

“I probably wouldn't do much.... and maybe if she hadn't noticed, all of a sudden I pointed it out to her and made her feel awful?”