



**Interview with  
Dr. Jessica Wade**

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KENNEALLY: As of early January 2022, the English-language Wikipedia included more than 6.4 million articles, an amount that increases monthly by more than 17,000 articles. However, just as women are underrepresented in the ranks of Nobel laureates, so are women scientists marginalized in Wikipedia article counts. Maybe that's because as many as 90% of Wikipedia editors are male.

Welcome to Velocity of Content from CCC. I'm Christopher Kenneally.

Dr. Jessica Wade is a physicist in the Blackett Laboratory at Imperial College London, where she investigates polymer-based organic light-emitting diodes and has published her research in numerous prestigious journals. That's her day job. Dr. Wade also moonlights as a Wikipedia editor and has written over 900 biographies of women scientists. When young girls go looking for role models in science, she says, they should find them easily.

Dr. Wade joins me now from London. Welcome to the program, Jess.

WADE: Thanks so much for having me, Chris.

KENNEALLY: We're excited about this discussion. It's a fascinating topic and important to tell the world about. In a 2018 column for nature.com, you noted that before someone had raised the point, Marie Curie, who won the Nobel twice in two different fields, did not have her own Wikipedia page. Instead, she shared one with her husband, Pierre, whom she outlived by more than 25 years. It's just hard to believe.

WADE: It's remarkable, right? And on the day that Donna Strickland won the Nobel Prize for physics, our most recent woman physicist laureate – our most recent Nobel laureate who is a woman – she didn't have a Wikipedia page, either. Not because Donna Strickland hasn't done hugely notable and important science, but because the biography that had been tabled about her or had been written about her didn't fulfill Wikipedia's notability criteria. So you have this kind of ongoing battle between you as the editor and the contributor and the advocate and the passionate person and what the editing community at large deem notable enough to remain on the world's most important encyclopedia.



KENNEALLY: That really is the critical point, I think, Dr. Wade, because the effort to bring greater balance to Wikipedia for women scientists isn't just about writing more entries. As you say, the information has to be supported, has to be edited further. For example, an entry for Clarice Phelps, who was the first African American woman to be part of a team that discovered a superheavy element, that was initially deemed inappropriate for lack of documentation. So there seems to be a vicious cycle here.

WADE: Actually, Clarice Phelps is not only the first African American chemist to discover a superheavy element, but to contribute to the discovery – first African American woman to contribute to the discovery of any element. So that's why it was particularly notable and huge – well, at least that we have documented.

We have this kind of broken problem that history is largely written and has largely been written by men about other men and for other men. And then you go back with a different lens and you look at the contributions that women or people from the global south or people from institutions that aren't quite as well respected or reflected in history books have made to science and discovery, and they're just missing. It's taken an incredibly long time to discover how hard done by people like Rosalind Franklin were in the inception in discovery in DNA. And now we're starting to see and starting to understand that.

So you don't so much have that kind of (inaudible) of women contributing to science or women of color contributing to science, but we don't write and talk about it enough. That makes it harder for people writing books or Wikipedia entries to document their contributions.

KENNEALLY: Now, you hinted at some of the reasons behind all this. As I mentioned, men write mostly for Wikipedia. And men, as you say, write mostly about other men. So as you've given this some thought, I'm sure, what do you think accounts for these limitations? Is it simply that it's beyond their experience, so they can't see it? Or is this misogyny, or both, or more?

WADE: I think everything's kind of woven together. Wikipedia is a public-interest encyclopedia, and what's on Wikipedia has to be of general public interest. It's not a science encyclopedia. It's not a feminist encyclopedia. It's a general-interest one. So to be on Wikipedia, you have to – as you should – fulfill some notability criteria.

Our problem in science, as is in much of society, is that our metrics for deciding who's a fantastic scientist are inherently biased. It's who we give awards to. It's who publishes papers that get a high number of citations. It's who makes a patent that gets a high number of access uses. It's who gets in big grant funding. And we know in science that those metrics are fundamentally broken. We know that we disproportionately fund and support



and speak about scientists from certain institutions from certain parts of the world, and largely those scientists are men.

So if we are awarding and celebrating and talking about these scientists, it's a lot easier to write a Wikipedia page for them, because they tick all those boxes. They fulfill that notability criteria very quickly. Whereas women scientists can be doing absolutely extraordinary things, often in much more challenging circumstances, because they don't have that funding, they don't have that prestige, and they might have caring responsibilities, and it's therefore harder to prove how brilliant they are. So even if they're doing groundbreaking science, it might just go overlooked by the scientific community because they have a woman's name, because they haven't won that big, shiny prize yet.

So I don't think the majority of Wikipedia editors are misogynistic or racist or things like that. I just think that we've built a system in academia, in theatre, in the arts, you name it, where we really celebrate an incredibly defined view of what's brilliant. It's the same in politics, I suppose. And it's really difficult to change that worldview to say, hey, people may not look like that, and they may not have been trained at Harvard or MIT or Yale or Stanford, but they can still be brilliant researchers. They can still be brilliant scientists. And I think because society has a difficulty reconciling that, so does Wikipedia and the editing community at large.

KENNEALLY: Well, that's critical, isn't it? This is about scientific achievement by women. This is not about women as such. It's about their scientific achievements. That's what you're really stressing.

WADE: Oh, yeah, completely. 110%. And kind of contributions to way we think. I fundamentally believe that diverse teams do better science. You think about a question in a different way. You come up with new ways to investigate and analyze data and interact and collaborate. And there's various studies that show that the more diverse a team is, the more impactful their research is, and the more highly cited it is, and the more broad-reaching societal implications it has. So we definitely know diversity works. And I think that particularly because we've left women's voices out of this conversation about scientific discovery for so long, we've missed out on so many opportunities to do great research and to learn great things. That's what I really strongly believe.

So not only is it important to celebrate the women scientists who have already done brilliant, wonderful things and to make sure everyone knows them and they become household names, but also to support more people from historically marginalized groups to become scientists in the first place, so we can make bolder and bigger discoveries, and I guess ultimately save the planet.



KENNEALLY: That's why it's important to science, why it's important to scientists, why it's important to Wikipedia. But give us an idea of why you think this is important to the public's understanding of how science works.

WADE: Yeah, that's a really, really fascinating question. I've been thinking a lot about scientific awards lately and how the whole way we honor and recognize science is quite broken. We started with the Nobel Prizes in the introduction. Those have historically gone to three, maximum, scientists in each discipline. So each year, there's a Nobel laureate in physics, in chemistry – and controversially, not chemistry. It's always quite a chemistry-related biology one. (laughter) But you have the Nobel Prizes in these distinct disciplines, and three people win. And it just fundamentally jars with how we do science now, how we perform scientific investigations.

When gravitational waves won the Nobel Prize for physics a few years ago, the physicists who were honored were three people, three men, who were honored for this discovery, when actually the team of people working at LIGO to be able to detect these gravitational waves from this black hole merger go into their thousands and are completely, truly international and completely internationally diverse. Yet we honor three. We champion three. We don't recognize all of the graduate students and all of the postdocs and all of the people who've given their entire lives to build, maintain, and operate these instruments.

So I think from that side of it, we've really, really kind of broken the way that we think about scientific success, which again makes it more difficult to make a Wikipedia page, but also to resonate with scientists as a public. Because we as a public like to put scientists on a pedestal, right? We like this idea of the isolated genius working in a lab, hunched over some equations, maybe writing on a blackboard with a white piece of chalk. We've got this very fixed view in our mind of who a scientist is. They're just motivated by that curiosity, right? That driven – they just go into the lab every day, put their stuff down, and just think. And we don't really think about how science gets done.

So part of communicating more as scientists and part of writing these Wikipedia entries is to really emphasize that this is entirely team work. This is an entirely team project. You take the discovery of the COVID vaccine. You take the way that we've really tried to understand the transmission of a virus that we knew nothing about three years ago and how we can better protect ourselves, whether that's face masks or social distancing. That has taken a completely interdisciplinary team of people from all over the world. I think that the more we can get the public and ourselves to think about how science gets done, the more trust we'll get in science from the public.

You know, we've really seen – in the last few years, extraordinarily so – how crucial it is to have a scientifically literate population, how crucial it is to have people who can look at



big numbers and not get terrified or understand basic statistics or think about various kind of – what seem easy and simple scientific concepts to people who are trained in science, but aren't so if you left science at the age of 15.

So I think we need to really, really critically work on that kind of scientific literacy and trust amongst the population. The pandemic has been a perfect accelerant of that, but it will not be the last public health crisis or science crisis that faces this generation. We have climate change ahead of us. We have antibiotic resistance. We need to think about ways to get clean drinking water. We've got incredibly unhealthy populations in lots of the global north. So what can we do about that? Science is going to have all of those solutions. We need the public on board with trusting us with providing those answers. But we also need scientists who are happy working in internationally diverse teams. I think we're getting towards the latter. I hope we can do the former as well.

KENNEALLY: It's a really important point, isn't it? Because as you say, during the pandemic, we've all become epidemiologists.

WADE: I saw a fantastic T-shirt the other day that said "Make Epidemiology Boring Again." (laughter) But you're right.

KENNEALLY: (laughter) Would that we could, right? Absolutely.

WADE: Everyone has become one, and everyone thinks they know better. It's the same, even, with the spread of misinformation and pseudoscience online and how we have those conversations about vaccines and trust. Science comes in with this very cold, hard – these are the facts. These are the numbers. When actually, we need a lot more social consciousness about how you communicate with quite scared, and rightfully scared, populations about the benefits of things like vaccines. I think it's all going to come from this kind of community building and working together. But yeah, it's never been more important.

KENNEALLY: Well, I looked up the Wikipedia entry on yourself, Dr. Jessica Wade. I learned you were awarded the British Empire Medal in 2019 for services to gender diversity in science. And in that same year, Casio released a scientific calculator in Spain with a cartoon-style image of you as part of a series commemorating historically notable female scientists. So how does it feel to be a role model yourself?

WADE: A little bit overwhelming. Getting the honor from the royal family is quite ridiculous, really. It was quite thrilling. I've been working on initiatives to support women scientists for a really long time. I started editing Wikipedia in 2018 and have been diligently doing it



every day. So I've actually written over 1,500 biographies of women scientists. I've surpassed 900. I'm at 1,500 now.

But I've also been working on programs that improve the support for women in physics, particularly, because I trained in physics, and also to try and get more young women to study physics. We have a big problem in the UK and the US that young women just don't choose physics – well, they don't choose it in the UK when they're in high school, and they don't choose it in the US when they're going to specialize for college. So we have a huge issue with that recruitment, and I've been thinking about that for a while.

So getting the medal – well, actually getting the letter about the medal – it came to Dr. J. Wade in my house, and my father is also Dr. J. Wade, and he opened it thinking, oh, whoa. He's a neurologist, and he thought, my time is now. My services are finally being recognized. He's been working for the NHS for 50 years. And then we read through it, and the pronouns were all she, and he said, oh, it must be for your mother, who's a psychiatrist. So I was like, oh, OK. Great parents. I love them dearly. And then it worked out it was for me. So that was completely surreal, but a fantastic family moment.

I mean, the calculator thing is just embarrassing. It's one of those calculators – it's one of those Casio ones that I did every maths and then physics exam with for my whole school and then university career. And to think that somewhere and somehow, someplace in the world, a little girl is using one with a funny cartoon of me on – yeah, I find it very embarrassing. (laughter)

KENNEALLY: Well, we're delighted for you for your awards and for your work. Dr. Jessica Wade with the Blakett Laboratory at Imperial College in London, who is on her way to writing 2,000 Wikipedia entries about women scientists, thank you so much for joining me today on the program.

WADE: Thanks so much for having me, Chris. And if anyone thinks of women scientists who should be on Wikipedia, please find me somehow on Twitter or through my email, and I'd be happy to write their pages.

KENNEALLY: That's all for now. Our producer is Jeremy Brieske of Burst Marketing. I'm Christopher Kenneally. Thanks for joining me on Velocity of Content from CCC.

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