

Celebrating those who stand up for science against the odds: interview with 2022 Maddox Prize Winner Eucharia Nwaichi

The 2022 John Maddox Prize was awarded to Nigerian biochemist Dr Eucharia Nwaichi for her work engaging communities in conflict to address pollution in the oil fields of the Niger Delta with research. She has been able to resolve a dispute between local communities and an oil company on the effects of liquid waste on fish stocks in Rivers State, diffusing a conflict that threatened to escalate into violence. Eucharia persevered and succeeded despite the intense and often dangerous levels of conflict, and personal risk to herself, from representatives of a different oil company whose officials confiscated her recordings and data.

Eucharia stood up for science showing that human activities are negatively affecting the environment. She also showed great bravery in finding common ground between the local community and the oil industry to reach a resolution, resulting in a cleaner, safer river.

The John Maddox Prize is awarded for courageously advancing public discourse with science. It recognizes the work of individuals anywhere in the world who promote sound science and evidence on a matter of public interest, irrespective of challenges or hostility in



Eucharia giving her acceptance speech. Photo credit © James Hopkirk

doing so. It is awarded jointly by Sense about Science and *Nature*.



As a member of the Voice of Young Science (VoYS) network, I was proud to be there at Wellcome Collection, London, on the night of 26 October, to see Eucharia receive the prize. The determination and compassion Eucharia showed to use evidence to improve lives in her country epitomizes the spirit of Standing up for Science. When the winner looks around the room, they see they are not alone in their fight and that there is a community around the world that supports them. This ethos of peer-to-peer support is why it was so important for me and the other VoYS members to turn up and show our solidarity. I interviewed Eucharia on the night - here's what she had to say about her win and her life...

Charlay Wood (CW): Congratulations on winning the Maddox Prize. I want to start with a question about your research. Not everyone reading this will study plant sciences, and many won't be scientists at all. How would you explain your research and the impact you made that led you to winning this prize?

Eucharia Nwaichi (EN): I'm a scientist finding the solution to clean up environments which have been contaminated with oil, specifically petroleum. The essence is to preserve the quality of the soil and water, because our lives depend on it. The mobility of people from one country to another cannot happen without the soil. We cannot build homes, offices or schools without the soil. If you want to eat nice food, there needs to be good soil. Even if you want to dance, that happens upon the soil! So, it's important to pay attention to protecting the soil. Human activities are degrading its quality. I seek solutions to clean it up!

CW: What first inspired you to be involved in studying soil?

EN: I was inspired by my experience working as an intern. I happened to follow the company in water quality monitoring of the river. And this made me interested in then providing solutions or undertaking assessments, to produce credible evidence to show that the activities of man are impacting negatively on the environment. My findings helped find resolution between community and industry. The local river was polluted and the community

tried to accuse the company. My results showed both parties were culpable. Both were polluting the river, and then everybody took recommendations and worked towards cleaning it up. Seeing the evidence which I collated and seeing people realize what they were doing and making them responsible for the clean-up of the environment inspired me to do more. There are many rivers, creeks, bodies of water that need cleaning up, so that's how I started and what continues to inspire me.

CW: Many early career researchers, students or interns worry that we don't have a voice. But, like you proved, it was your main inspiration to go on and do amazing things. So, for anyone reading this, it doesn't matter where you are in the company or university, you can still make a difference.

EN: Of course!

CW: As you said, you think both the oil companies and the locals were culpable for polluting the river in Nigeria. And I know you faced threats from the oil industry. How about the other side of the coin: who supported you, who was your go-to when you needed help?

EN: People should not neglect their networks - networks is important. It was my former student, who had become a manager at one of the government departments. She made the initial contact with the IOCs (International Oil Companies). If I had neglected my network, I wouldn't have been able to move forward. Before, I would call companies on my own, and they would refuse to answer the phone. I wasn't able to talk to anyone I needed to. It wasn't until my student, in my network, was able to pull the trigger. You never know when you need somebody's help. Keep your network close. And when I say "keep", I don't mean like a score on a card, and you call them only when you need something. You need to service the relationship. Check up on them. I treat everyone close to me like family, regardless of what they want to do in life, to be a faculty member, working in industry or to be entrepreneurs.

CW: I completely agree. We're not alone in this world. Surround yourself with people who care about you and listen to you. Like in your case, you never knew a former student would play such a pivotal role in your life. Final two questions: As a woman in science, we are a minority, and you were speaking up against many people, predominantly men. Were you ever worried about not being taken seriously? Where did your strength come from to overcome this?

EN: It stems from my youth. My father empowered me in a very special way. In school, I was first in the class, and every time I showed I was first, I'd come home and be allowed to join my parents to eat at the dining table. In African society, it is not customary for children to sit and eat at the dining table, but when I received my results, my parents would make a seat for me. It was such an honour

to sit there. At our end-of-year exams, in December, after getting results and seeing I was first, I would get two dresses – one for Christmas and one for coming first. He would even sew a ribbon saying “FIRST”. My



Eucharia and Charlay. Photo credit © Charlay Wood

brothers and sisters would get jealous, but what could they do? What I'm trying to say is, all these small things stemming from my childhood put me in the mind-set for success. These singular acts emboldened me. I don't fear my elders - if I have something to ask, I ask. If I don't

like something, I say it. I really just want to encourage people to recognize good work or behaviour. Recognize people for hard work and they'll be happy to work more! It worked for me!

CW: What a touching answer. After winning this award, how do you think it will change your life, your research and your country, Nigeria?

EN: The embassy of Nigeria is here tonight, so I'm sure my president already knows that I've won this prize. My professor from my university is also here, so he'll take the message home to my students, researchers and former members of the lab. I hope the work that we've done together will allow them to progress in their careers.

CW: I'm sure everyone will be wanting to join your research group now!

EN: Haha! Maybe!

CW: Thank you so much for your time, Eucharia. It's been a pleasure meeting and talking with you. I feel inspired listening to your speech earlier and after this chat. I wish you all the best and a safe journey home to Nigeria.

Introduction and interview by Charlay Wood (University of York, Voice of Young Science member).

Charlay is working towards her PhD at the Centre of Novel Agricultural Products (CNAP) at the University of York. She endeavours to answer questions in the field of plant biochemistry, specifically specialized metabolism and enzyme discovery. Follow Charlay @charlaywood ■