

DR. ALYA REDHWAN

Carving a path to a better future

By Valerie Behiery

Armed with a Ph.D. from the UK, Dr. Alya Redhwan is Assistant Professor of Molecular Microbiology at Princess Nourah University (PNU) and Coordinator of the Microbiology and Immunology Unit at PNU's Health Research Center. She aims to raise awareness on human bacteria's vital role in human health.

How did human bacteria become your main research interest?

Studying bacteria under the microscope as an undergraduate in Jeddah, I was amazed to discover a whole world beyond what the naked eye could see. During my Masters in England, I worked on a big project involving over 150 strains of E. coli samples. I began to explore microbes from a genetic perspective. It's amazing that microbes have DNA just like we do and that they can cause either good health or disease. I studied bacteria that can possibly treat certain diseases.

I'm interested in scientific research because it can benefit society. I currently teach a lot, to transmit the importance of research to students. However, research is ultimately a hands-on endeavor and what interests



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me is linking research to daily life. To serve society, research has to take on a tangible form, whether that of new treatments or government policies.

What inspired you to animate your video series Mykrwby?

People believe all bacteria are bad, when most are healthy and contribute to our wellness. The media has made everyone terrified of bacteria. I feel a responsibility to set the record straight, especially among the youth, by emphasizing their importance to human life.

Every episode has a different theme; one stresses on how 90% of our body is composed of microbe cells including bacteria, another one is on antibiotic resistance, an often-fatal health issue. The characters in the series – my two children and I – hopefully frame learning as an enjoyable form of activity.

What challenges have you faced as a scientist?

Difficult access to labs has been the biggest challenge. I'm convinced that increasing the number of centers where scientists could pursue hands-on research is vital to Saudi Arabia's future, conducting research that will have a direct impact on society and its citizens' health. The aim is not publications, but positive change. I'd rather wait than undertake academic projects devoid of social benefits. To overcome the difficulty of lab access, I contributed to



establishing the Microbiology and Immunology Unit at PNU's Health Sciences lab. I am also looking to collaborate on national and international research projects and expand my network of fellow scientists and researchers.

Any advice for those who want to follow the golden trail of scientific research?

Go after your dreams regardless of how big they are. This requires discipline, commitment, and the capacity to envision the future. Setbacks should make you

more determined and more creative. Coming back to Saudi, I've had to create my own dream, carve my own path, and hold tight to my vision. Trust yourself, and live your vision.



We need a space where science is experienced as a living, useful, and creative pursuit. If Saudis have this opportunity, we can be at the forefront of discovery.

- Dr. Alya Redhwan