



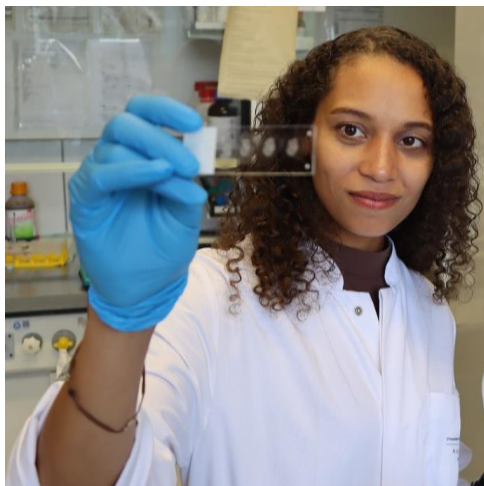
Rhonda Leah McFleder

Junior Professor of Translational Medicine
and Neurobiologist at the Neurological
Clinic and Polyclinic of Würzburg University
Hospital

I was born in North Carolina (USA) in 1990, grew up in the small town of Red Springs, studied biology and medicine and have been living in Estenfeld near Würzburg with my husband and two daughters (4 and 6 years old) since the end of 2019.

Why Würzburg?

During my practical year in medical school, I took the opportunity to rotate at hospitals/research facilities that I would potentially work at following graduation. The Universitätsklinikum Würzburg was on the list because my husband's family lives in the area and it was very important for us to have family support after graduation. After spending a month in the Neurology clinic, I knew that it would be a perfect fit for me. I was impressed not only by the diverse patient set that the clinic sees on a daily basis but also the clear passion for research held by Prof. Dr. Volkmann and his team. The clinic was focused on not only treating patients but also researching ways to improve treatments and patient outcomes. As an MD/PhD, the neurology clinic at the Universitätsklinikum Würzburg seemed like the perfect place to combine my medical and research background to help patients.

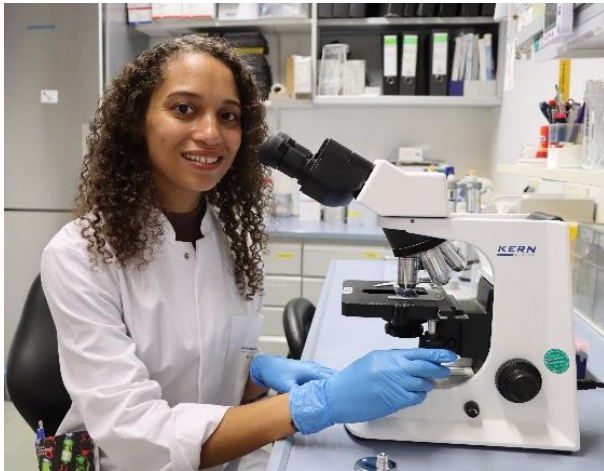


What I am researching

In 2020, I was awarded with a Humboldt Post-doctoral fellowship which funded my work in the lab of Prof. Dr. Ip at the Neurology clinic and Poliklinik in Würzburg. With the aid of this fellowship, I have spent the past three years focused on the role of the immune system in Parkinson's Disease (PD) and how we can target these cells as a therapeutic option for this currently incurable disease. Our work has demonstrated that immune cells may underlie the neurodegeneration that occurs in PD and may therefore be the key to understanding how this

disease develops. Even though PD is traditionally thought of as a motor disorder affecting the brain, it also affects the gut. Similar to the brain, the gut also demonstrates immune alterations which lead to gastrointestinal dysfunction. My recent work has suggested that there is a special immune connection between the brain and the gut that allows the two organs to communicate with each other. This communication appears to underlie disease progression in PD. In the future I hope to

identify the cells involved in this communication and target them as a treatment option for not only PD but also other neurological diseases with gut involvement.



What motivates me

Discovery. I wake up every morning and completely love my job because I get to do what I've been doing all my life: ask questions. If you ask my mother what my favorite word was, it was "why". It drove her (and now my husband) nuts, but it's how I do my job. I keep asking questions and figuring out ways to answer them. What motivates me at the end is that these answers could lead to better treatment options for patients.

What has particularly shaped you in your life so far?

I think being raised in a small southern town in the US really shaped how I think about things and how I go about my daily life. That's where I learned that you have to work hard to get what you want; how to be creative with the resources you have; and to always remain humble. It wasn't easy at times, but it has given me a unique perspective on life that I truly value.

What I wanted to become as a child

Due to "gentle" encouragements from my family and my love for science I've always been on the medical track. Coming from rural North Carolina, becoming a scientist hadn't even occurred to me as a career option until I started university.

How I came to neuroimmunology

My path to Neuroimmunology happened a little more serendipitously. After graduating college, I decided to take two years off to decide if I wanted to pursue a MD or a PhD degree. During these two years, I worked at the NIH under Prof. Patricia Gearhart in an immunology lab. I learned a lot about immunology and ultimately decided to pursue an MD/PhD degree in immunology.

"Research means making new discoveries to change other's lives."

During the first few years of the program we learned about the brain and its intricate connections. I fell in love. I started enrolled in more neurology electives and learned the neurological exam. I was amazed that through a thorough neurological exam I could pinpoint the affected nerves underlying a patient's symptoms. This led to me

pursuing my MD/PhD in neurobiology. After graduating, it was pure luck that I found a group where I could combine my two interest and focus on neuroimmunology.

Support from mentors and funding programmes

I had so much help along the way that it is almost too much to write. I first got into science through Prof. Robert Poage at the University of North Carolina at Pembroke who recruited me into the Research Initiative for Scientific Enhancement program (RISE). This program funded me to perform research under Prof. Meredith Storms, prepared me for graduate school, and helped introduce me to recruiters at the National Institute of Health (NIH). At the NIH, I worked under Prof. Patricia Gearhart and Dr. Robert Maul and was able to refine my laboratory skills and really grow as a scientist. After the NIH, I got accepted into a prestigious MD/PhD program at the University of Massachusetts Medical School. In addition to the four years of medical training, I spent four years in the lab of Prof. Joel Richter earning a PhD in Neurobiology. Prof. Richter really helped me grow as a scientist and helped me grow a backbone, which I learned is necessary for women in science. My work with Prof. Richter was funded under a Ruth Kirschstein Predoctoral Fellowship. Finally, after moving to Germany, I received a Humboldt Postdoctoral Fellowship in the lab of Prof. Dr. Ip. Without this fellowship and the support from Prof. Dr. Ip and Prof. Dr. Volkmann, I do not think I would have made it to the position that I have now which is a W1 tenure-track Juniorprofessor position.



About stumbling blocks along my way

There were a multitude of stumbling blocks along my way. I did not get every fellowship or grant I applied to. I did not get accepted into every university, and my papers do not get accepted on the first try. But when I get rejected, I do what I always do and ask "why?". I try to learn from the answer, revise my application, and reapply. Science is full of rejections, but we have to learn from these failures and keep moving forward.

Women in science and leadership roles

When you look around a typical lab or a medical school you will see mostly women. I don't really think we have a harder time in medicine/science. We have enough interest and drive to get through the hurdles to receive our training, the problem comes after the training. There seems to be a problem for women to make it to the leadership roles, but this is unfortunately not specific to medicine/science.

My tip to women who (want to) do research - and men

Follow your passion. I'm good at what I do because I'm passionate about it. Once you find your passion, surround yourself with people who will help you pursue it. It is

really important to not only have a supportive professional environment, but also privately. I am really blessed to have a husband and family that support me and help me pursue my passion.

How more women and mothers get into leadership positions

I've been juggling family and work the past six years and I can say that it is tough. There is a lot of pressure both internally and externally that women should care more for the kids. I've been fortunate to have a great support system that helps me fight this pressure and pursue my dreams. To facilitate more women in leadership, we should remove this pressure to stay home and make women equal members in both the workplace and the household.

If I had three wishes...

I wish that healthcare wouldn't be so expensive and that everyone could receive the same care regardless of their financial status.

I hope my daughters will feel supported to pursue their passions.

I wish that science could be more collaborative and we could work together to bring better treatment options to patients.



Rhonda McFleder had the unique opportunity at the 72nd Lindau Nobel Laureate Meeting at Lake Constance. Here she was at dinner next to Morten Meldal, who received the Nobel Prize for his click chemistry. To her right is Umair Munawar, a junior researcher at the Institute for Translational Myeloma Research at UKW.