



# Service dog handlers in STEM: diversity and inclusion efforts need work to remove barriers

Joey Ramp

Diversity strengthens science, but current policies need to do more to explicitly address inclusion of the growing population of people with disabilities who rely on service dogs. Here, I discuss my personal experiences of attempting to access laboratories with a service dog.



Credit: Joey Ramp

I have been told that I would not be able to access laboratories with a service dog (SD) and that I would have to change my major. These words will be forever branded in my memory. I did not change my major, although there were times I questioned why I stayed.

As a newly disabled person and a new student in STEM, hearing these words was a punch to the gut. Fast forward 6 years, after successfully completing a total of eight chemistry and biology undergraduate laboratory courses accompanied by my SD, similar words packed the same punch. In my last semester as an undergraduate, concerns were expressed by my superiors that my SD would have a negative effect on laboratory rats, and it was suggested that I would not be able to pursue a career in behavioural neuroscience with a SD. This time I was more practiced at hearing the all too familiar words, but the exchange was still unsettling.

I have since graduated with a Bachelor of Science in Biocognitive Neuroscience. I am now the CEO of the disability access consulting firm Empower Ability Consulting, the Vice President of the non-profit International Alliance for Ability in Science and a Neuroscience Research Affiliate in the Rhodes Laboratory at the Beckman Institute for Advanced Science and Technology, Illinois, USA. But, when I started my journey in science, I was learning how to rebuild a life after an accident in which I sustained a traumatic brain injury, 23 broken bones and fractured vertebrae as well as complex post-traumatic stress disorder. My life was spinning out of control, and my doctors could not explain what was happening in my brain. So, I took it upon myself to learn about the neurological underpinnings of traumatic brain injury and complex post-traumatic stress disorder.

My SD is the reason I successfully completed a STEM degree with High Distinction in Research. He is my lifeline; he is my independence and the reason I can maintain career success and advocate for people with disabilities. But having my SD also presented the biggest obstacle I faced in my entire time in academia.

At my very first laboratory class at a community college, an introduction to chemistry course, I was denied entry because of my SD for no justifiable reason. This led me to really examine the barriers for SD handlers in science, and to begin to problem solve to overcome these barriers to inclusivity. For this first course, I outfitted my SD with the same personal protective equipment (PPE) I was required to wear, namely, goggles and footwear. At the time these precautions were enough to convince the school to let me participate.

On starting my undergraduate degree, I felt confident a SD handler could be accommodated. The reality was more challenging than I could have expected. Every semester I was asked to discuss the same scenario and answered the same questions — largely around how my SD would ‘fit into’ a lab setting. The disability office was very supportive, but there was a lot of red tape and a pronounced disconnect between diversity and inclusion policies and their implementation. What should have been the focus — accommodating the student with a disability rather than accommodating the SD — was lost in the conversation. As a student, my focus should have been on my studies. Instead, my focus was constantly on barriers I faced with each new semester. These obstacles only grew larger the further I progressed.

Accessing my first organic chemistry course took an entire year of negotiations. I recollect being told I was wasting the university’s money, and that the science would have to be ‘dumbed down’ to accommodate me and my SD. Being told I would never have a career in neuroscience with a SD was the point at which I took my stand. Success by example was apparently not proof enough. I chose to challenge the resistance.

I secured independent funding of US\$50,000 for a 2-year research study to test the effect of an SD on rodents — first on mouse physiology and behaviour and then a replicated study in rats. Securing a principle investigator willing to take a student with a SD into their research lab was challenging, even though I came with research funding.

Beckman Institute for  
Advanced Science and  
Technology, University of  
Illinois at Urbana-Champaign,  
Urbana, IL, USA.  
e-mail: ramp2@illinois.edu  
<https://doi.org/10.1038/s41574-020-00442-5>

After months, and many refusals, Dr Justin Rhodes, who studies behavioural genetics in mice, agreed to meet with me. He was genuinely intrigued by the study idea. The data would potentially help in making informed decisions on whether to allow a SD into an animal facility or rodent laboratory. However, formal approval to undertake the study was repeatedly denied. I felt that this was not about the science but rather about the exclusion of disabled students, specifically those utilizing SDs as medical equipment, from accessing equal opportunities to science education. After the final withholding of approval, I recall Dr Rhodes seeming to be shocked that disability discrimination was taking place. We have been contacted by other universities requesting our study data, but sadly, to date, this research has not been allowed to proceed.

How do we know that disabled people with SDs are interested in pursuing STEM? This is a question that continues to come up, but is irrelevant. We should be asking, how do we know they are not? Several unnecessary barriers hinder SD handlers from accessing core course labs. Federal and state laws that govern universities in the USA are purposely ambiguous to leave room for individualization of accommodations. University SD policies rarely outline guidelines for accommodating SD handlers in laboratories. If they do, they only outline steps for exclusion. Some mention exceptions and case-by-case determinations by the laboratory director, without providing guidelines for making these determinations. This ambiguity permits individual faculty to interpret policies in a manner that is far from uniform or objective and leaves room for implicit bias or personal preference to take precedence.

Faculty members often fall back on convenience, tradition or err on the side of caution to prohibit a SD handler from entering a laboratory. Some cite the Americans with Disabilities Act, section 504, which loosely states a SD might be excluded if it fundamentally alters the nature of a programme. These are advantageous 'outs' based on a general lack of understanding of a SD's function and training, and a misinterpretation of federal SD laws. In reality, the presence of an SD in core undergraduate course labs requires minimal to no alterations.

The first step to an inclusive STEM culture for SD handlers starts with the development of inclusive

laboratory guidelines for case-by-case determinations on the administration level. These guidelines could include recommending appropriate PPE for the SD, requiring the SD lay on chemical-resistant mats and an individualized risk assessment of lab hazards. The next step, after development of these guidelines, requires a willingness from the community to embrace disability as a part of diversity and cooperate intellectually by problem solving. Indeed, over the past few years, some universities and scientific organizations have started to develop and implement inclusive policies and guidelines for accommodating people with SDs in laboratory settings.

Over more than a century, SDs have been shown to provide effective independence and medical assistance for people with disabilities, and SDs are being utilized for a widening variety of disabilities. Assistance Dogs International (ADI) is the leading organization in North America that establishes minimum SD standards and requirements. ADI reported that active SD teams in North America, Australia, New Zealand and Asia nearly doubled between 2009 and 2017. There is also a steady increase in university enrolment of students with disabilities with the development of educational diversity inclusivity initiatives in many countries. Taken together, it is almost certain we will be seeing more student SD handlers on our campuses. With this increase, we will probably see an increase in the number of student SD handlers seeking science education. Even so, currently, student SD handlers are unnecessarily being denied access to core laboratory coursework across the globe; I know this because my firm acts on their behalf as a liaison and advocate.

Improving the recruitment of talented student SD handlers ultimately improves workforce recruitment of talented disabled STEM professionals who are SD handlers. We need to be proactive in the development of an inclusive STEM culture by removing unnecessary barriers, with a focus on classroom and research laboratories. This is diversity inclusion in action.

#### **Acknowledgements**

The author acknowledges C. G. Parker, Neuroscience Program, University of Illinois at Urbana-Champaign, Urbana, IL, and J. S. Rhodes, Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, Urbana, IL, for providing valuable feedback on this article.

#### **Competing interests**

J.R. is the owner of Empower Ability Consulting, Champaign, Illinois, and Vice President of the non-profit International Alliance for Ability in Science.