



Rachel Puralewski, B.S., Ph.D.



J. David Jentsch, Ph.D.

## **Interview with Rachel Puralewski, B.S., Ph.D.**

### **2025/2026 ACNP-AMP BRAD Fellow**

**Interviewed by J. David Jentsch, Ph.D.**

The ACNP Animal Research Committee, in collaboration with Americans for Medical Progress (AMP), is pleased to announce the selection of Dr. Rachel Puralewski as the 2025-2026 ACNP/AMP Biomedical Research Awareness Day (BRAD) Fellow. BRAD encompasses a set of ongoing activities intended to educate students and the broader public about the importance of biomedical research, including the humane and responsible study of animal models.

The ACNP Animal Research Committee thanks Paula Clifford and Logan France, DVM from AMP for their ongoing contributions to this program and to the identification of exceptionally qualified fellows, including our past awardees Dr. Stephanie Maddox (2018-2019), Dr. Katie Serafine (2019-2020), Dr. Laura Erwin (2020-2021), Dr. Margaux Kenwood (2021-2022), Dr. Lana Grasser (2022-2023), Dr. Lindsey Galbo-Thomma (2023-2024), and Dr. Nakul Aggarwal (2024-2025).

#### **1. What were the main goals of your doctoral and post-doctoral research at the University of Wisconsin-Madison?**

The overall goal of my doctoral and post-doctoral research with Dr. Ned Kalin was to investigate the relationship between Anxious Temperament and prefrontal-limbic brain function during the critical first year of

postnatal development in nonhuman primates. To this end, I characterized the developmental trajectories of anxiety responses to threat; and in parallel characterized the developmental trajectories of prefrontal and limbic brain function both at rest and during threat exposure. We built upon this work in my postdoc, where I collected neurons across various subdivisions of the amygdala for RNA-sequencing. From this, I intend to investigate differential gene expression as it relates to individual differences in trait anxiety, brain function, and development of anxiety-related neural circuitry. Together this work aims to establish how the postnatal development of anxiety-related neural circuitry contributes to manifestation of adaptive or maladaptive anxiety responses, which would lay the groundwork for developing interventions that could alter lifetime trajectories of psychopathology and mitigate risk for Anxiety Disorders.

## **2. What are some specific reasons that non-human primates are key to your own studies and to neuroscience research more broadly?**

Nonhuman primates are an essential, highly translational, animal model in the exploration of the neurobiological origins of psychopathology and psychiatric disorders. Non-human primates are particularly key to my own research studies, as 1) their development can be monitored more closely and comprehensively than is typically possible in human studies and 2) their anxiety responses and brain development are highly translatable to what is seen in young children. More broadly, I believe nonhuman primates are an especially useful model in the study of psychiatric disorders partially due to their expanded prefrontal cortex, which is a key region to our understanding of the origins of psychiatric disorders. Animal models also allow us to perform mechanistic experiments, so we can establish true causal links between neurobiological factors and behavioral or psychological outcomes. These unique contributions of animal studies are essential steps in the development of novel interventions to treat disorders and alleviate suffering.

## **3. What actions do you recommend that other neuroscientists take to successfully promote understanding about biomedical research, and animal research in particular?**

To successfully promote a better understanding about biomedical research I recommend neuroscientists 1) **empower** themselves, 2) **explore** diverse spaces to conduct outreach, and 3) **engage** others in open-minded conversations. **Empower** yourself by developing a few strong talking points on the importance of animal research and its role in biomedical advances that are relatable to you, and that you feel confident in discussing. When it comes to reaching people with concerns or hesitations, sharing personal anecdotes or research experiences is much more effective than sharing statistics that may be easily forgotten. **Explore** and capitalize on opportunities and spaces where you can interact with a variety of people across your community: colleagues & administrators from your local institutions, adults and youth in your local schools, and political leaders and representatives in your local government. You can have a table at local festivals, bring science themed activities to school science nights, advocate for government support at town halls; or you can organize visits to classrooms, field trips for local students to your research lab, or invite community members and local politicians to your research facilities. Most important- **engage** thoughtfully with scientists and nonscientists alike: be open to having difficult conversations where you listen, honestly address people's questions or concerns and, in turn, respectfully challenge them to view animal research in a new way.

## **4. How have you seen Biomedical Research Awareness Day (BRAD) support and promote public understanding and acceptance of animal research?**

BRAD is an organization with a comprehensive approach to outreach and advocacy; I have seen BRAD as a consistent presence across a variety of spaces around the country and online, and observed how they effectively advocate for animal research in a relatable way that reaches the public. Through their events hosted on the third Thursday in April, in addition to events throughout the year, BRAD is facilitating more conversations within scientific communities and with the public about the impact of animal research, which leads to an increased

public understanding and acceptance of animal studies. One of the elements of BRAD I appreciate the most is the extensive repository of educational and outreach materials that can be used by anyone in different settings, from tabling at public community events to bringing lessons and activities into student classrooms. This makes it easy for anyone to participate and choose their preferred materials or setting to organize their own BRAD events, resulting in even greater mobilization of advocates who can build more public support and acceptance of animal research.

**5. What are your specific advocacy and educational plans, as the 2025/2026 ACNP-AMP BRAD Fellow?**

It is a critical time in biomedical research, when we all need to mobilize and become stronger advocates. As the BRAD Fellow this year, my plans are to inspire both animal and non-animal based researchers to participate in BRAD, as well as facilitate more communication between animal and non-animal neuroscientists in support of animal-based biomedical research. This will include developing educational materials specifically designed to help researchers feel empowered to discuss the importance of animal research and organize outreach events of their own that feel authentic to them, and relatable to the public. Furthermore, I hope to develop a program that connects animal and non-animal researchers together and guides them through the process of organizing and running their own BRAD events. Given an apparent misunderstanding in the public of how animal research leads to better development of psychiatric treatments, I think it will be especially important to continue highlighting the unique contributions and benefits of animal studies and how they accelerate treatment development progress.