

THE CAROLINA AUTISM AND NEURODEVELOPMENT RESEARCH CENTER

NEWSLETTER

UPCOMING EVENT

May 10

Trainee Publishing Panel, 10-11:30
Institute for Mind and Brain

Learn from faculty, a postdoctoral researcher, & two graduate students about publishing in research. More info pg. 4!

Welshhans Lab: Recent Finding/Activities
DSCAM overexpression disrupts hippocampal-dependent object recognition memory
Habituation -> 10 min x 3 Days -> 5 min Test
Discrimination Index graph showing WT and DSCAM GOF for Males and Females.
Dr. Kristy Welshhans presenting her work at the CAN Research Roundup



CAN tabling at SPARK in the Park: Autism Resource Festival

CAN hosted the CAN Research Roundup on April 25! Learn more on pg. 3

SAVE THE DATE

CAN Center Retreat
9-4, Alumni Center



In celebration of Autism Acceptance Month, CAN tabled at large-scale events to connect the community with research at USC. Learn more on pg. 8!



Check out our faculty spotlight, Dr. Fabienne Poulain, Associate Professor, on pg. 7!

Happy May!

Thank you to everyone for a fantastic academic year. Our annual Research Round-up was well-attended (thank you!) and generated important ideas and discussion. There is still time to contribute to our end-of-year survey (see Page 3). Here are some of the "big" conversations, in no particular order:



Caitlin Hudac
CAN Steering Director
chudac@mailbox.sc.edu

Cheers,

Caitlin

Improve inclusion for neurodiverse trainees:

This could include dedicated graduate stipends, specific research events, and/or opportunities for research funding.

Development of a "biobank": We talked about the need to generate a biological repository that would serve as a repository for CAN researchers interested in biological signals (e.g., heart rate, EEG, eye tracking) and/or genetic information. This could be paired together with other clinical/behavioral data to address critical research questions.

Need for characterization cores: Aligned with the biobank, there is a need to obtain bio-data, especially genetic information. This fits with other conversations describing our need for a "deep phenotyping" core.

Continuing to grow CAN members: Do you know another USC faculty member or student whose work could align with CAN? Let us know -- we're looking to invite folks to give talks about their work at our August retreat.

Neurodevelopment Research Registry: We really enjoyed the engaged conversation about the NRR! We are working on developing our webpresence, information in the survey, and are hoping to generate a "campaign" of sorts in the fall to advertise and continue to grow! However, we also need CAN members to "buy in" to this model to keep it sustainable. Add suggestions in the end of year survey!

Pilot grants: A majority indicated being interested in CAN Pilot grants again, so we'll look into bringing those back!

Interested in serving on the Executive Committee for Fall 2023-Summer 2024?

- Sign up in the exit survey (pg. 3) or email [Audrey](#)
- Expectations: 1 meeting/month, contribute ideas, help with engagement

THE CAROLINA AUTISM AND NEURODEVELOPMENT RESEARCH CENTER

RESEARCH ROUNDUP

HIGHLIGHTS

Thank you to everyone who participated in the **2023 CAN Research Roundup!**

We had 38 attendees from 7 departments:

- Faculty: 20
- Trainees: 14
- Postdocs: 2
- Staff: 2

We had the opportunity to:

- Listen to flash talks to learn about research from 18 labs
- Discuss CAN's goals and future directions
- View research posters
- Connect with members across disciplines

We want your input!

All CAN members are invited to complete the **CAN End-of-Year Exit Survey**. This will help us shape the future for CAN.



Kristy Welshhans



Jeff Twiss



Jane Roberts



Caitlin Hudac

CAN End-of-Year Exit Survey

<https://redcap.link/evn6inl5>

The Carolina Autism and Neurodevelopment Research Center

THE CAN TRAINEE COMMITTEE

PUBLISHING PANEL

Learn from faculty, a postdoctoral researcher, & two graduate students about **publishing in research**

WRITE

EDIT

PUBLISH



Fabienne Poulain
Biological Sciences
Poulain Lab



Laura Friedman
COMD
Family Experiences Lab



Miranda Foster
Psychology
ESD Lab



Alexis Federico
Psychology
ESD Lab



MAY 10



10-11:30am



**Institute for Mind
& Brain, 115**



**Coffee, tea, &
refreshments!**

Ask panelists questions about:

- The pre-publishing process
- The review process
- Anything related to publishing!



**CAROLINA
AUTISM & NEURODEVELOPMENT
CENTER**



UNIVERSITY OF
South Carolina

AUTISM'S GOT TALENT



On April 21, CAN and the ESD Lab co-hosted 36 performers, ages 3-23, who shared their talents!

Talents included:

- Singing
- Dancing
- Playing instruments
- Drawing
- Cooking



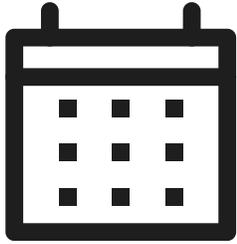
Prizes - Tickets to:

- Riverbanks Zoo
- Flight Adventure Park
- SCSSM
- Columbia Fireflies



This event was funded by the Spring 2023 Play Theme Semester Co-Curricular Award Programming Grant, in the amount of \$1500, awarded to **Dr. Jessica Bradshaw.**

CAN Fall Retreat



Save the Date!

On August 14, join CAN for the annual Fall Retreat! Learn about research, discuss future directions, and connect with members

AUG 14

-  **August 14, 2023**
-  **USC Alumni Center**
-  **All CAN members! (e.g., faculty, postdocs, postbacs, staff, graduate students, & undergraduate students)**



Faculty Spotlight

Dr. Fabienne Poulain

Associate Professor

Biological Sciences | College of Arts and Sciences

Research Concentration: Neurobiology; Stem

Cells & Developmental Biology

[Faculty Page](#)

[Lab Website](#)



Current Work

- Define the molecular mechanisms that ensure precise wiring of brain circuits during development
- Define how Tenascin signaling instructs the degeneration of misguided retinal axons for proper visual system development
- Discover how Contactin-2 leads to the refinement of visual maps during brain maturation

Fun Facts

- She worked for one year as a poker dealer for the Utah Poker Tour during her post-doc.
- She has been diagnosed with an enhanced sense of hearing.

Primary Research Goals

- Define the molecular mechanisms that ensure precise wiring of brain circuits during development
- Elucidate how neural maps refine connections during brain maturation and activity
- Transmit passion for research to trainees and students

Awards

- Received a K99-R00 Pathway to Independence Award from the NIH as a post-doc
- Currently funded by the NINDS (National Institute of Neurological Disorders and Stroke)

CAN in the Community



Follow us
@canresearchsc

In celebration of **Autism Acceptance Month**, CAN attended multiple large-scale events to connect the community with research opportunities at USC.

This month, CAN connected with over 50 families at events!

SPARK in The Park: Autism Resource Festival (Goose Creek)



Sarai Deese & Audrey Weaver tabling at SPARK in the Park: Autism Resource Festival

Columbia Fireflies: Autism Acceptance Night



Janae Hersey, Nhi Ngo, and Audrey Weaver tabling at the Columbia Fireflies game

UPCOMING COMMUNITY EVENTS

Soda City Market

Sat, May 20
9 AM - 1 PM

Men's Fair Expo

Sat, June 17
10 AM - 2 PM



When tabling, you will inform individuals about CAN, direct parents to relevant studies, and encourage registry sign-up. Contact [Audrey](#) for more info!



NEW GRANT!

Dr. Kristy Welshhans was awarded a five-year R01 grant!

Grant Information

Five-year R01 grant for \$1,872,670 from NINDS (National Institute of Neurological Disorders and Stroke)

Title: "Regulating axon guidance through local translation at adhesions"



Project Description

The precise establishment of neuronal connectivity during development is critical for nervous system function. This proposal studies how local protein synthesis regulates the formation of neuronal connectivity. In particular, this work will examine how the extracellular matrix signals through adhesions to stimulate intra-axonal translation, which then controls axon guidance. These studies will provide a greater understanding about the complex nature of brain development in health and disease.

Interested in having your grant aims reviewed by other CAN researchers?

We have a new centralized process to facilitate scheduling a grant review.

<https://redcap.healthsciencessc.org/surveys/?s=N93FYKPAF7MXFNJN>

THE CAROLINA AUTISM AND NEURODEVELOPMENT RESEARCH CENTER RECRUITING LABS & STUDIES



Autism and Family Lab

PI: Dr. Robert Hock

Topic: Parent-peer support for parents

Participant eligibility includes:

- Child diagnosed with ASD within last 12-mos
- Child is between 18-mos-8 yrs of age
- Parenting responsibilities shared with two caregivers in the same home

Brain Research Across Development (B-RAD) Lab



PI: Dr. Caitlin Hudac

Topic: Social attention

Participant eligibility includes:

- Child is 10-14yrs of age
- Most children are eligible, including autistic children, neurotypical children, and children that have other neurodevelopmental disorders

Community-Oriented Lab for Autism and Behavioral Interventions (COLAB)



Participant eligibility includes:

- Child is 2-5 yrs of age
- Child has an ASD diagnosis
- Child has some developmental concerns with no diagnosis
- Child has no developmental concerns and no diagnosis

PI: Dr. Sarah Edmunds

Topic: Emotion Regulation



Early Social Development (ESD) Lab

PI: Dr. Jessica Bradshaw

Topic: Infant development

The ESD lab is recruiting for four studies.

Participant eligibility includes, but is not limited to:

- Infant is under one-yr of age
- Sibling or parent diagnosed with ADHD
- No family history of ASD
- Have an older sibling with no developmental concerns
- Have an older full biological sibling with an ASD diagnosis

Neurodevelopmental Disorders (NDD) Lab

PI: Dr. Jane Roberts

Topic: Infant development



Neurodevelopmental Disorders Lab
Department of Psychology

Participant eligibility includes:

- Infant 12 months of age or younger with fragile X syndrome
- Infant 12 months of age or younger with the fragile X premutation
- Infants 6-mos of age or younger with no developmental concerns

Family Experiences Lab

PI: Dr. Jessica Klusek | Topic: Development & fragile X

Participant eligibility includes:

- Women who are carriers of the fragile X premutation
- Mothers with a son or daughter with fragile x syndrome, an ASD diagnosis, or with no developmental concerns
- Young adults with fragile X syndrome

Developmental Dynamics Lab

PI: Dr. Liz Will | Topic: Infant development & DS



Participant eligibility includes:

- Infant is under one-yr of age
- Infant has Down syndrome