



Neuroscience Research Institute Newsletter

*Issue 4**January 2023*

Recap of 2022 NRI Annual Retreat

The 2nd Annual Neuroscience Research Institute Retreat hosted at the Fawcett Center on November 4th, 2022 was an absolute success! Thank you to everyone who participated. Approximately 250 people attended in person throughout the day. It felt great to be able to have an in-person event focused on Neuroscience! We hope that all of you enjoyed the opportunity to network with new and old colleagues. Our hope is that these events continue to catalyze current and new collaborations. A few highlights from the day :

- Keynote Speaker: Dr. Bruce Trapp - Cleveland Clinic (Chair - Neuroscience)
- Poster session with ~75 posters across multiple departments and disciplines
- Two plenary sessions (including ~15 talks from faculty and trainees)
- Breakout sessions: Single Cell Techniques & Beyond and Networking & Job Search Strategies
- 12 Trainee Award Winners

NRI Retreat Award Winners

Scientific Image Award

- Jake Willows (PhD Candidate - Kristy Townsend's Lab)

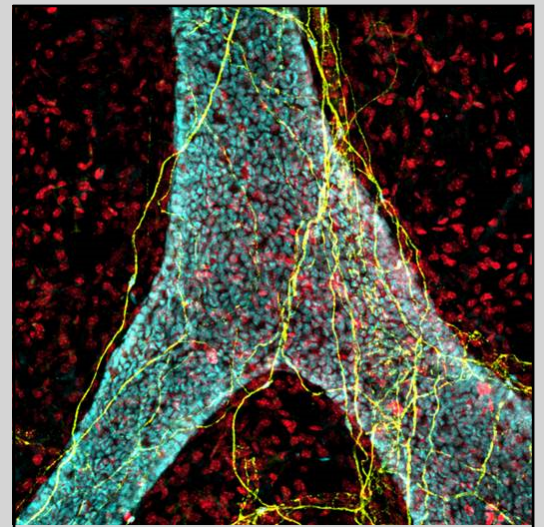
Best Oral Presentation Award

- Megan Baird (PhD Candidate - Kathrin Meyer's Lab)
- Kyleigh Rodgers (MD/PhD Candidate - Phil Popovich's Lab)

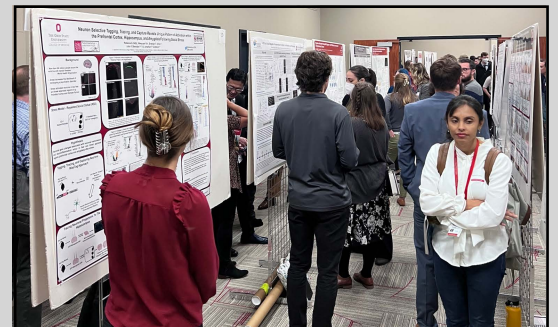
Best Poster Awards

- Anthony Alfredo (PhD Candidate - Dana McTigue's Lab)
- Rachel Gilfarb (PhD Candidate - Benedetta Leuner's Lab)
- Brigitte González-Olmo (PhD Candidate - Ruth Barrientos' Lab)
- Daniela Jimenez-Harrison (PhD Candidate - Ruth Barrientos' Lab)
- Noah Levine (Undergraduate Researcher - Bin Gu's Lab)
- Jenna McCloskey (Research Assistant - Cole Vonder Haar's Lab)
- Katherine Mifflin (Postdoc - Phil Popovich's Lab)
- Zoe Tapp (PhD Candidate - Niki Kokiko-Cochran's Lab)
- Victor Van Laar, PhD (Research Scientist - Krysz Bankiewicz's Lab)

SAVE THE DATE - 2023 NRI Annual Retreat
Friday, October 27, 2023
FAWCETT CENTER



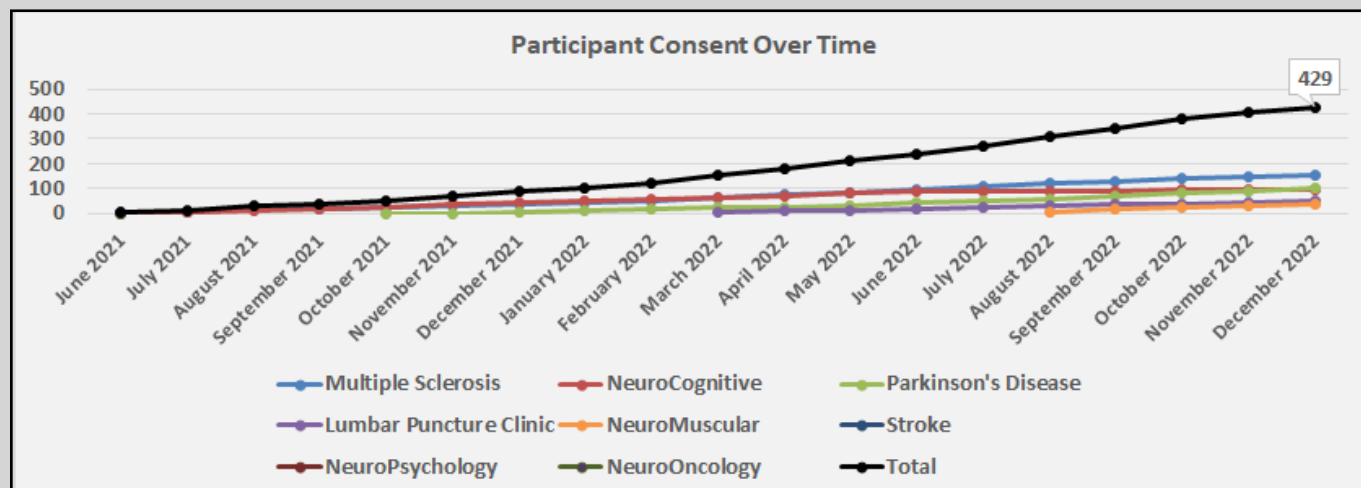
*Best Scientific Image
image submitted by
Jake Willows
(Townsend Lab)*



NRI - Brain Bank and Biorepository Update

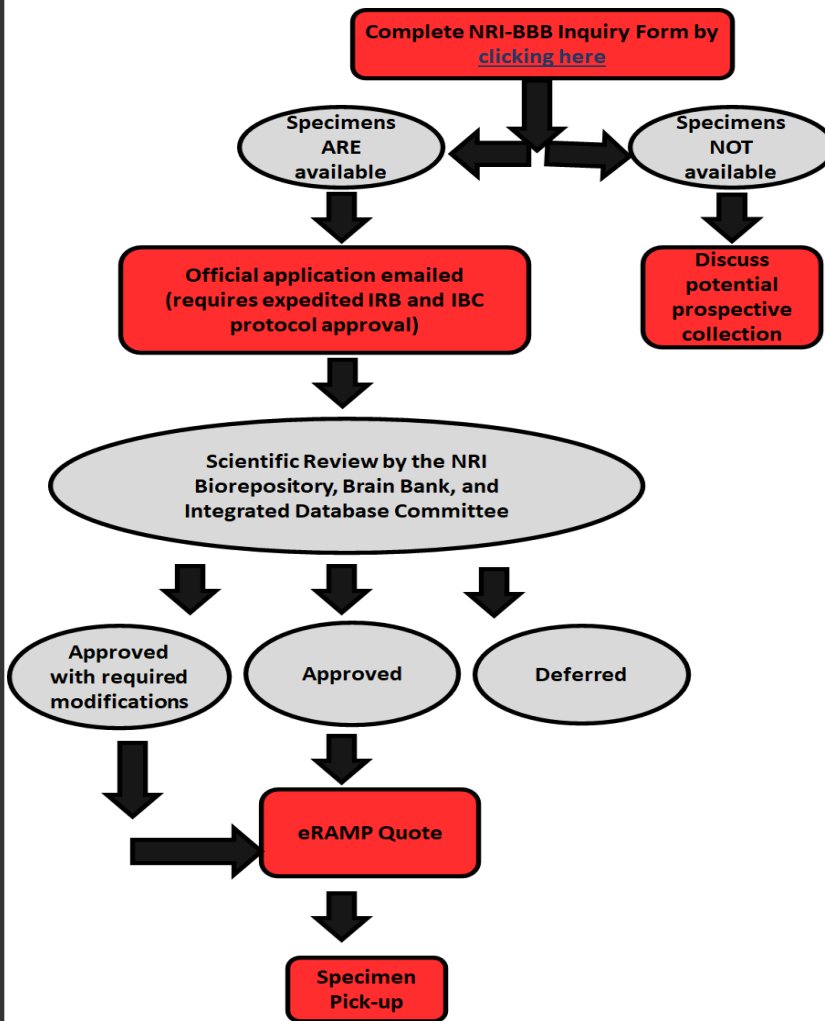
The primary purpose of the Neuroscience Research Institute Brain Bank and Biorepository (NRI-BBB) is to provide a robust biospecimen bank collected from individuals with a neurological disease as a resource for translational neuroscience research community at The Ohio State University (OSU). The technology for profiling biospecimens continues to evolve. It is of utmost importance that OSU maintains an extensive and well-characterized brain bank and biorepository to support research at the cutting-edge of neuroscience. A number of significant milestones have been achieved since the end of year 2022 for the NRI-BBB including:

- NRI-BBB is now on eRAMP for billing specimen distributions.
- Gahanna and Dublin Outpatient Care Clinics have point-of-care labs and are now included in sample collection.
- Expanded patient enrollment to the Stroke and Neuro-Oncology divisions.
- Received approval to add remote consenting for the Neuropsychology Data Repository for Research Development to the NRI-BBB
- Routine collection of peripheral blood mononuclear cells (PBMCs), plasma, sera, and cerebral spinal fluid (cells and supernatant) across neurological disorders.
- Specimens in the bank include: PBMCs, cerebral spinal fluid cell pellet and supernatant, plasma, serum, muscle biopsy, DNA, and brain autopsy tissue
- Enrollment of over 420 participants at the end of year 2022



To request or inquire about specimens please access our [REDCap request form here](#).

Biospecimen Request Workflow & Fee Schedule



Neuroscience Research Institute Biorepository Fee Structure (previously collected samples)	
Specimen Type	Cost
Plasma (500µL)	\$25
Serum (500µL)	\$25
PBMCs (vial ~4E^6 cells)	\$65
CSF Supernatant (500µL)	\$50
CSF Cell Pellet	\$50
DNA Aliquot (1µg)	\$40
Sample storage fee -80 (box) per year	\$35
Please reach out to the NRI-BBB for prospective sample banking	

Neuroscience Research Institute Brain Bank Fee Structure	
Specimen Type	Cost
Frozen brain tissue request (slice, approximately 1 cm)	\$225
*If macro-dissection is needed, price will vary and depend on neuropath availability	
**Frozen brain hemisphere tissue storage fees may apply for prospective projects	



NRI Collaboration Tool

- Based on survey, NRI-affiliated faculty requested assistance with making connections and collaborations
- An additional identified need is in support of experimental design of translational projects
- Given this feedback the NRI Collaboration Tool was created and is currently on the NRI website
- All requests will go to faculty that serve on the NRI Translational & Cross-Collaborations Committee
- Visit: [OSU-NRI website](#)

THE OHIO STATE UNIVERSITY

NRI Collaboration Tool

First Name

Last Name

Email Address

Department

Recap of the NRI Neuroimaging Symposium

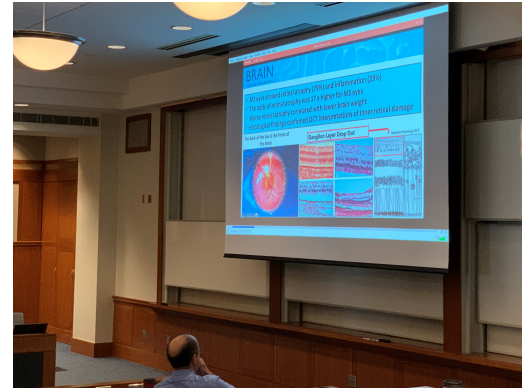
October 28-29, 2022

Blackwell Inn & Pfahl Conference Center

We held our first Neuroimaging symposium with over 100 attendees to showcase cutting-edge research in neuroimaging nationwide and at OSU/NCH. The event included external speakers, internal speakers and a poster session highlighting many of our graduate students and postdoctoral fellows.

External speakers included:

- Rory Pilgrim (Google Health AI)
 - Three Myths of Artificial Intelligence & Medical Imaging
- Bill Jagust, MD (UC Berkeley)
 - Imaging the Biology of Beta-amyloid and Tau
- Sina Farsiu, PhD (Duke)
 - On AI, AO, and Other Projects with Fun Acronyms
- Charlie DeCarli, MD (UC Davis)
 - Novel Imaging of Small Vessel Cerebrovascular Disease
- Greg Albers, MD (Stanford)
 - Clinical Applications of Artificial Intelligence in Acute Stroke Imaging
- Robert Zawadzki, PhD (UC Davis)
 - Progress on Structural and Functional Retinal Imaging in Mice
- Fiona Costello, MD (Calgary)
 - Imaging Advances in the Evaluation of Inflammatory Optic Neuropathies



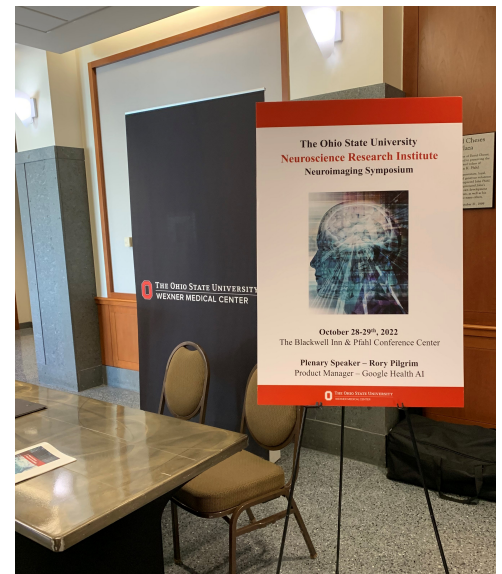
Award Winners

Flash Talk Award

- Connor Grannis (Clinical Research Coordinator-NCH)
 - Disrupted neural organization in youth with intractable focal epilepsy

Poster Awards

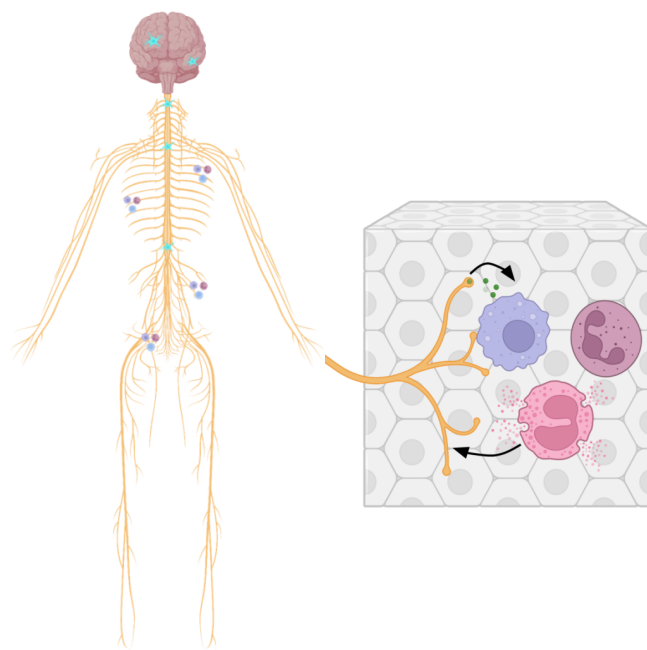
- Michael McKenna, PhD Candidate
 - A Whole-Brain Functional Connectivity Model of Alzheimer's Disease Pathology
- Annie Ryan, PhD Candidate
 - An Electrophysiological Technique for the Diagnosis of TON in a Small Animal Model
- Anita Shankar, PhD Candidate
 - Network Desegregation Moderates Age-related Cognitive Decline Across the Adult Lifespan
- Hunter Stecko, MD Student
 - Paired Imaging Datasets for Deep Learning-Based Image-to-Image Translation in Neuroradiology
- Nicholas Mannix, MD (Neurology Resident)
 - Real World Experience With Viz.ai Automated Large Vessel Occlusion Detection



Upcoming NRI Symposium

Peripheral Neuroimmune Interactions in Health and Disease

- Friday, June 23rd 8am-6pm
Blackwell Inn & Pfahl Conference
- Center External speakers include:
 - Ulrich von Andrian, MD - Harvard
 - Isaac Chiu, PhD - Harvard
 - Sebastien Talbot, PhD - Queen's
 - Grace Shin, PhD - Columbia
 - Rocky Barilla (Kuchroo Lab) - Harvard
- **Call for Abstracts (for OSU/NCH Internal Speakers)**
 - Trainees (preferred) and PIs are encouraged to submit abstracts for oral presentations (due April 30th). **Submit & Register [here](#).**



Upcoming Related Symposia

Eliminating Paralysis After Aortic Aneurysm Surgery Conference (NIH-Sponsored)

February 25th, 2023 - BRT 115

Contact: Hamdy.Elsayed-Awad@osumc.edu

In-person and over Zoom, free of charge. Register with QR code:



PHAT Regional Research Symposium

April 14th, 2023 - DHLRI 170

Contact: Kristy.Townsend@osumc.edu

Registration link coming soon.

PHAT

Center for Preventative Health of Adipose Tissue

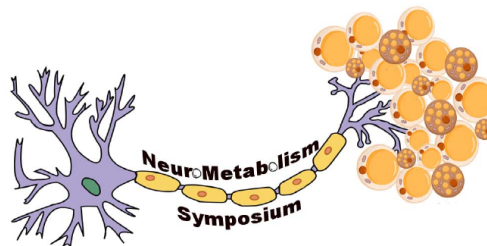
Second Annual PHAT Regional Research Symposium 2023

Translational Research In NeuroMetabolism Symposium (TRINS), 2023

April 15th, 2023 - OSU Campus

Contact: Kristy.Townsend@osumc.edu

Registration link coming soon.



Trainees will be free to attend and present posters at both the PHAT and TRINS events, and there is discount registration if faculty/staff attend both symposia.

2023 NRI SEED Grant RFA

Eligibility

The PI for the proposal must be a full-time OSU or NCH faculty member or post-graduate trainee (resident, clinical fellow, or post-doctoral fellow) conducting neuroscience-related research. Priority will be given to projects submitted by junior faculty and/or trainees. Trainee applications are required to have a faculty mentor.

Evaluation Criteria

Applications will be reviewed by a NRI Seed Funding Panel (overseen by both the NRI Director and Associate Director; and will be reviewed by the NRI Translational and Cross-collaborations Committee and other experts deemed necessary). Panelists will be representative of NRI affiliated-departments. Applications with a focus on neuroimmunology, neurobiology of aging, and/or neurodegeneration will be prioritized.

Selections will be made based on the following criteria:

- **Scientific merit:**
 - New/unfunded project
 - Relevance to neuroscience/NRI mission
- **Impact:**
 - Innovation
 - Likelihood of future extramural funding
- **Interdisciplinarity:**
 - Collaborative/interdisciplinary projects
 - Translational projects/use of human samples
 - Use of NRI biorepository (highly preferred)



Applicants should budget for \$25,000. Budget period is for one year and has an anticipated start date of July 1st, 2023. Budget should not contain any salary for PI. Non-PI support may be approved in unique circumstances if fully justified as essential for the project and approved by the committee at the time of proposal review.

The full instructions for the 2023 NRI Seed Grant can be found on the [OSU-NRI website](#).

Please submit your application as a PDF file via email to the NRI Associate Director at OSU-NRI@osumc.edu on or before Friday, March 31st, 2023. Please title your email 2023 NRI Seed Grant.

The NRI expects to fund 3 Seed grants in 2023.

All funded PIs will be required to submit progress reports, present at a NRI-sponsored event, and acknowledge the NRI in all associated publications and presentations.

Any questions can be emailed to OSU-NRI@osumc.edu.

Recent Achievements

within last 6 months

Grants

- **Melanie Bozzay** (Co-I) was awarded grant funding from NIMH for "Ecological Assessment of Proximal Risk Factors for Suicide During Care Transitions".
- **Bin Gu** awarded grant from the Army Medical Research Acquisition Activity for "Define genetic basis and pathologic network of post-traumatic epilepsy using collaborative cross mice".
- **Jie Gao** awarded two grants from National Institute on Aging for "Targeting IDOL-ApoE receptor pathway in Alzheimer's disease" and "Mapping protein interactome of TREM2 and its variants to probe the etiology of alzheimer's disease".
- **Em Harrington** received a 2022 IDEAS Innovator Grant from AAN for "Developing sexual and gender minority educational resources for Neurology".
- **Kristina A. Kigerl** received a grant from The Craig H. Neilsen Foundation for "Advancing microbiome design as a therapy for spinal cord injury".
- **Stephen Kolb** awarded grants from the ALS Association for "Trial Capacity Award, OSU ALS/MND Multidisciplinary Clinic & Research Program" and "Study of axonal contents in mice expressing ALS-associated KIF5A mutation".
- **Wenjing Sun** awarded a grant from the National Institute of Neurological Disorders and Stroke for "Novel molecular mediators for activity-dependent myelination".
- **Olivia Braun Taylor** received a grant from Prevent Blindness Ohio for "Exploring sphingosine 1 phosphate as a mediator of retinal regeneration via epigenetic regulation of muller glia reprogramming".
- **Yinan Zhang** received a grant from GEMSTAR (NIA) in September for "Markers of Biological Aging in Multiple Sclerosis".

High-impact Publications

- Ao, W., Grace, M., Floyd, C.L., Vonder Harr, C. "A touchscreen device for behavioral testing in pigs." *Biomedicines*. (2022)
- Atkinson, J.R., Jerome, A.D., Sas, A.R., Munie, A., Wang, C., Ma, A., Arnold, W.D., Segal, B.M. "Biological aging of CNS-resident cells alters the clinical course and immunopathology or autoimmune demyelinating disease." *JCI Insight* (2022)
- Costabile, J.D., Balakrishnan, K.A., Schwinn, S., Haesemeyer, M. "A model-free approach to link neural activity to behavioral tasks." *bioRxiv* (2022)
- DiSabato, D.J., Yin, W., Blitz, R.G., Gallagher, N.R., Oliver, B., Nemeth, D.P., Liu, X., Sheridan, J.F., Quan, N., Godbout, J.P. "IL-1 Receptor-1 on Vglut2+ neurons in the hippocampus is critical for neuronal and behavioral sensitization after repeated social stress." *Brain, Behavior, & Immunity – Health* (2022)
- Gardner, A.M., Atkinson, J.R., Wilkinson, N.M., Jerome, A.D., Bellinger, C.E., Sas, A.R., Segal, B.M. "TAM receptor signaling dictates lesion location and clinical phenotype during experimental autoimmune encephalomyelitis." *Journal of Neuroimmunology* (2023)
- Jerome, A.D., Atkinson, J.R., McVey Moffatt, A.L., Sepeda, J.A. Segal, B.M., Sas, A.R. "Characterization of zymosan-modulated neutrophils with neurogenerative properties." *Frontiers in Immunology* (2022)
- Pechacek K.M., Vonder Haar C. "Chronic lipopolysaccharide impairs motivation when delivered to the ventricles, but not when delivered peripherally in male rats." *Physiology & Behavior* (2022)
- Schwab J.M., Schwaiger C., Kopp M.A., Zrzavy T., Endmayr V., Ricken G., Kubista K., Haider T., Liebscher T., Lübster T., Blex C., Serdani L., Curt A., Cinelli P., Scivoletto G., Fehlings M.G., May C., Guntermann A., Marcus K., Meisel C., Dirnagl U., Martus P., Prüss H., Popovich P.G., Lassmann H., Höftberger R. "Lesional antibody synthesis and complement deposition associates with de novo antineuronal antibody synthesis after human spinal cord injury." *Neurology: Neuroimmunology and Neuroinflammation* (2023)
- Toneisha, S., Koemeter-Cox, A., Bingman, J.I., Zhao, F., Kalyanasundaram, A., Rowland, L.A., Periasamy, M., Carter, C.S., Sheffield, V.C., Askwith, C.C., Mykityn, K. "Disruption of dopamine receptor 1 localization to primary cilia impairs signaling in striatal neurons." *Journal of Neuroscience* (2022)

Awards

- **Dr. Gene Arnold** received the Elaine Schlosser award for research in ADHD at the October AACAP meeting in Toronto. Dr. Gene Arnold will also receive the American Psychiatric Association's 2023 Frank J. Menolascino Award for Psychiatric Services for Persons with Intellectual Disability/Developmental Disabilities. This award will be presented at the APA Annual Meeting .
- **Mara Bahri**, a 2nd year OSU medical student, was awarded the Futures in Neurology Research Scholarship from AAN.
- **Godbout Lab** trainee, **Lynde Wangler's** image of microglia and astrocytes after TBI in aged mice was selected as cover art for the 11/30/22 issue of the Journal of Neuroscience.
- **Dr. Jessie Green** was awarded \$1,623,356 across five years for Subminimum Wage to Competitive Integrated Employment (Sponsor: Department of Education, Rehabilitation Services Administration).
- **Dr. Margo Izzo**, retired Director of the Transitions Program at Nisonger Center, received the 2022 Institute of Higher Education Leadership Award at the 2022 State of the Art Conference in Syracuse, New York on October 20th for her outstanding work to further inclusive Higher Education opportunities
- **Dr. Stephen Kolb** is now a Standing Member on an NIH study section: Chronic Dysfunction and Integrative Neurodegeneration Study Section (CDIN), Brain Disorders and Clinical Neuroscience Integrated Review Group (BDCN), Center For Scientific Review (CSR)
- **Janae Miller**, LEND self-advocate trainee was elected to the Board of Directors of Greenleaf.
- **Dr. Marc Tassé** was invited to give the closing address at Dincat's 35th Congress "Constructing the Future for People with Intellectual Disability." September 30, 2022 - Barcelona, Spain. Dr. Marc Tassé was also awarded \$600,000 for Using remote support services technologies to enhance independent living (sponsor: NIDILRR) and \$85,637 for DD Nursing Workforce Study (Sponsor: Ohio DD Council).
- **Tedeschi/Sun Lab** images of the mouse cerebral cortex following mild traumatic brain injury and the 3D image of the vasculature network in the adult mouse spinal cord received honorable mention and distinction respectively in 2022 Nikon Small World Competition (Oct 2022).
- **Dr. Jen Walton** and **Dr. Stephen Beetsstra** both presented in Paris, France at the 26th IASH (International Association of Disability and Oral Health) Congress held in Paris August 24-26, 2022.
- **Dr. Andrea Witwer** was awarded \$280,000 for Project of National Significant Co-Occurring Resource Center for Individuals with ID/DD (Sponsor: Administration for Community Living).

Upcoming Events

Neurology Grand Rounds - contact Delisa.Watkins@osumc.edu for more details

- 02/07/23 ... Liana Rosenthal, MD, PhD (Johns Hopkins)
- 02/14/23 ... Suzette LaRoche, MD (University of North Carolina)
- 02/21/23 ... Toni Pearson, MD (Nationwide Children's)
- 02/28/23 ... Pietro Mazzoni, MD, PhD (The Ohio State University)
- 03/07/23 ... Brian Callaghan, MD, MS (University of Michigan)
- 03/14/23 ... Katy Peters, MD, PhD (Duke University)
- 03/21/23 ... Stephen Strittmatter, MD, PhD (NIH/NINDS)
- 03/28/23 ... Inan Olmez, MD (Penn State)
- 04/04/23 ... Adam Boxer, MD, PhD (University of California)
- 04/11/23 ... Daniel Geschwind, MD, PhD (UCLA)
- 04/18/23 ... Harald Pruss, MD (Charité Universitätsmedizin Berlin)

NI Seminar Series - contact Phoebe.Long@osumc.edu for more details

- 02/27/23 ... Yang Dan, PhD (University of California, Berkeley)
- 03/20/23 ... Jill Ward, PhD (Emory University School of Medicine)
- 04/03/23 ... Rachel Wong, PhD (University of Washington)
- 04/10/23 ... Eva Feldman, MD, PhD (University of Michigan)
- 05/01/23 ... Scott Soderling, PhD (Duke University School of Medicine)

Announcements

NIH Data Management and Sharing Policy - Now Active since January 25th

- o AAMC information: <https://www.aamc.org/about-us/mission-areas/medical-research/nih-data-management-and-sharing-policy>
- o OSU Data Management Policy Website: <https://hslguides.osu.edu/nih-dmsp>

REMINDER - to inquire about press releases for your upcoming manuscripts please email Eileen.Scahill@osumc.edu

To submit announcements for future newsletters, please email OSU-NRI@osumc.edu.