

# Mount Sinai Advanced Rehabilitation Research Training (ARRT) Program in Brain Injury and Rehabilitation Research



The Mount Sinai Advanced Rehabilitation Research Training (ARRT) Program in Brain Injury and Rehabilitation Research provides advanced training to the next generation of researchers dedicated to improving health and function following brain injury.

The ARRT Postdoctoral Fellowship is a two-year, full-time program offered through the Brain Injury Research Center (BIRC) within the Department of Rehabilitation and Human Performance at the Icahn School of Medicine at Mount Sinai, funded by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR, grant #90ARHF0008). Under the leadership of Dr. Kristen Dams-O'Connor PhD, the BIRC is world-renowned for its investigations into cutting-edge solutions for improving the health, functioning, and life quality after traumatic brain injury (TBI).

The Mount Sinai ARRT fellowship has two tracks: 1) Quantitative Methods Fellows, and 2) Clinician-Scientist Fellows. These tracks are determined based on an applicant's background in a clinical or quantitative doctoral program. Fellows in both tracks work alongside each other during their fellowship and learn more within and across respective disciplines.

Mount Sinai ARRT training model is designed to facilitate research that is both clinically relevant and methodologically rigorous. Fellow projects are developed and implemented with feedback from an Advisory Board comprised primarily of individuals with brain injury and representatives of community organizations. Our ARRT training model pairs fellows with clinical and quantitative doctoral degrees to permit organic exchange of diverse perspectives while receiving individually tailored structured training to complement their discipline-specific graduate training.



**Mount  
Sinai**

*Brain Injury  
Research Center*

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# PROGRAM OBJECTIVES

Our ARRT program is designed to build research capacity by addressing the need for TBI researchers with training in advanced quantitative methods, the need for cross-disciplinary training, the need for inclusion of stakeholders in research, the need for training in implementation science, and the need for diversification of the rehabilitation workforce. The program fills key training gaps which will rapidly accelerate improvements in care for individuals with TBI. Based in empirically supported methods for research capacity building and workforce diversification, the Mount Sinai ARRT program has 5 key objectives to achieve this goal:

- (1) Proactively recruit highly qualified scholars from diverse backgrounds and under-represented communities, including individuals with disabilities. We will build on our successful recruitment methods to ensure 50% of ARRT fellows come from groups that have been under-represented in the scientific workforce, including people with disabilities.
- (2) Develop individualized training plans in collaboration with a multidisciplinary mentorship team. Each fellow will create an individualized development plan (IDP) in partnership with a multidisciplinary multi-tiered team of mentors, supplementing core training with tailored didactics, advanced coursework, and individual and collaborative research.
- (3) Provide a structured program of mentorship, independent research, community engagement, and didactic and applied training. Core didactics include seminars in rehabilitation research methodology, clinical care, health equity, knowledge translation, and a module in implementation science and policy change in partnership with the National Association of State Head Injury Administrators (NASHIA).
- (4) Conduct ongoing program evaluation to ensure goals are met;
- (5) Share knowledge with professional and stakeholder communities.

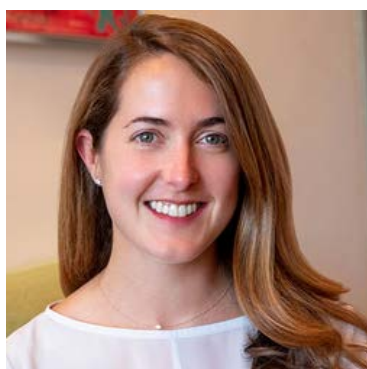
# MENTORSHIP

Each Mount Sinai ARRT Fellow has an individualized mentorship team based on their unique interests. The mentorship team is comprised of Primary, Secondary, and Co-Mentors.



## BIRC-MS PRIMARY MENTORS

BIRC-MS Primary Mentors are faculty at the Brain Injury Research Center of Mount Sinai (BIRC-MS) with externally funded research portfolios and strong mentoring experience. They will meet weekly with the fellows to monitor their individualized development plan (IDP), mentor the fellow's independent research project, and provide guidance and advice regarding research, scholarly activities, writing, career aims, and professional development. Each ARRT Fellow will have 1 BIRC-MS mentor.



### **Kristen Dams-O'Connor, PhD**

*NIDILRR ARRT Principal Investigator*

Dr. Kristen Dams-O'Connor is the Principal Investigator of the NIDILRR Advanced Rehabilitation Research Training (ARRT) Program, Director of the Brain Injury Research Center (BIRC) at Mount Sinai, Vice Chair of Research, and Professor in the Departments of Rehabilitation Medicine and Neurology at the Icahn School of Medicine at Mount Sinai. Dr. Dams-O'Connor's work integrates clinical data, health care data, multimodal biomarkers, and neuropathological data in prospective studies and in secondary analyses of large-scale data resources. She has a strong background in clinical neuropsychology, extensive post-graduate training in advanced statistical and psychometric measurement methods, and expertise in TBI diagnosis and care. She serves as PI of the NIDILRR-funded New York Traumatic Brain Injury Model System of Care, which contributes to the largest prospective study of TBI outcomes in the world. Dr. Dams-O'Connor also serves as Committee Chair of the NIH working group tasked with defining research priorities for the investigation of brain injury as a risk factor for dementia at the 2019 and 2022 ADRD Summit. Dr. Dams-O'Connor also leads the NIH-funded multi-center Late Effects of TBI (LETBI) project, which aims to identify in-vivo and ex- vivo markers of post-TBI neurodegeneration and modifiable targets for novel interventions. With NIH and Department of Defense funding, she applies advanced analytic strategies to existing data to characterize post-TBI health and function, care disparities and access barriers, and identify risk and protective for long-term health decline in military veterans and civilians.

# MENTORSHIP

## BIRC-MS PRIMARY MENTORS CONTINUED



### **Maria Kajankova, PhD**

#### *NIDILRR ARRT Training Director*

Dr. Maria Kajankova is an Assistant Professor in the Department of Rehabilitation and Human Performance. Dr. Kajankova received her doctorate from Fordham University. She completed her pre-doctoral internship in rehabilitation neuropsychology at the Rusk Institute of Rehabilitation Medicine/NYU Medical Center and her postdoctoral fellowship in rehabilitation research and clinical neuropsychology at the Icahn School of Medicine at Mount Sinai. Her research focuses on developing, testing, and implementing neurobehavioral interventions for individual with TBI. She is the PI of a National Institute of Justice grant evaluating the efficacy of a neuroresource facilitation intervention for individuals with TBI impacted by the criminal justice system. She has led several trials of an emotion regulation intervention for individuals with TBI and currently leads a trial evaluating the implementation of the intervention in the community. A rehabilitation neuropsychologist by training, her clinical work focuses on neuropsychological evaluations, cognitive remediation, and individual and group psychotherapy with patients experiencing a variety of neurological disorders, including TBI/concussion, brain tumors, neurodegenerative disorders, stroke, and movement disorders.



### **Carrie Esopenko, PhD**

Dr. Carrie Esopenko is an Associate Professor at Icahn School of Medicine at Mount Sinai and Director of the Esopenko Brain Health Lab. Dr. Esopenko's research focuses on using multimodal techniques to examine the influence of neurological and physical injuries and psychological trauma on mental and physical health. Specifically, the work in her lab focuses on 1) examining sex differences in the neurocognitive, physical, and psychological outcomes associated with repetitive head impacts and sports-related concussions in high-level and recreational athletes; 2) the chronic effects of brain injury and repetitive head impacts on cognitive, neural, and psychological health outcomes in women with exposure to intimate partner violence (IPV) and military sexual trauma (MST), as well as transgender and gender diverse individuals; 3) disentangling the effects of brain injury and psychiatric complaints, mainly posttraumatic stress disorder (PTSD) symptoms, in active-duty Service Members and Veterans using multimodal neuroimaging, cognitive, and psychological assessments; and 4) using non-pharmaceutical interventions to improve physical and mental health functioning in individuals who have experienced psychological trauma and physical violence and injuries.



### **Raj Kumar, PhD MPH**

Dr. Raj Kumar is a neuroepidemiologist focused on studying the health consequences of traumatic brain injury (TBI). He obtained his MPH in Chronic Disease Epidemiology from Yale School of Public Health in 2013, and PhD in Neuroepidemiology from the University of Pittsburgh in 2018. Dr. Kumar expertise is in applying advanced epidemiological methods to neurological populations, particularly TBI. Dr. Kumar has co-authored over 50 original research articles, reviews, and book chapters in TBI, and has presented his research nationally and internationally in scientific meetings. Dr. Kumar received a competitive K99/R00 Career Development Award from the National Center for Medical Rehabilitation Research at NICHD/NIH. He is also on the editorial board of the Journal of Head Trauma Rehabilitation, and is also co-chair of the Geospatial Special Interest Group of the TBI Model Systems National Database.

# MENTORSHIP

## MOUNT SINAI PRIMARY MENTORS

Mount Sinai Primary Mentors are faculty at the Mount Sinai with externally funded research portfolios and strong mentoring experience. They will provide content-specific expertise that complements that of their BIRC-MS Primary Mentor.



### **Noam Harel, MD, PhD**

Dr. Noam Harel is a neurologist, an Associate Professor of Neurology and Rehabilitation and Human Performance at the Icahn School of Medicine at Mount Sinai, and an investigator at the Spinal Cord Damage Research Center at the James J. Peters VA Medical Center (JJPVAMC) in New York. His primary interests are in improving motor outcomes in spinal cord injury and amyotrophic lateral sclerosis. His clinical research lab uses targeted physical exercises, electrical stimulation, medication repurposing, ischemic conditioning, and other methods to reactivate weakened nerve circuits.



### **Madhu Mazumdar, PhD**

Dr. Madhu Mazumdar is a professor of biostatistics, directs the Institute for Healthcare Delivery Science, and is the associate director of data science for Tisch Cancer Institute. Before joining Mount Sinai, she was the founding chief of the division of biostatistics & epidemiology at Weill-Cornell medical college and head of the masters' research biostatisticians group at Sloan-Kettering Cancer Center. She has a track record of collaborations with clinical, epidemiologic and laboratory researchers in the fields of oncology, orthopedics, anesthesiology, neurology, and geriatrics. Her research is in the fields of real-world data analysis, continuously learning models, meta-analysis, clinical trials, and patient-reported outcomes. She leads efforts to make her field of Biostatistics and Data Science diverse, equitable, and inclusive through novel models of teaching, mindful recruitment and mentoring, targeted conference planning, and advising as a board member of non-profit organizations.



### **David Putrino, PT, PhD**

Dr. David Putrino is a physical therapist with a PhD in Neuroscience. He is currently a Professor of Rehabilitation and Human Performance at the Icahn School of Medicine at Mount Sinai. His work spans the ability spectrum: from helping completely paralyzed people achieve autonomy using novel brain computer interface technology, to partnering with organizations such as the US Olympic Team to enhance athletic performance. He is the author of "Hacking Health: How to make money and save lives in the HealthTech world". In 2019, he was named "Global Australian of the Year" for his contributions to healthcare.

# MENTORSHIP

## SECONDARY MENTORS

ARRT fellows have access to Secondary Mentors from the Icahn School of Medicine at Mount Sinai and other prominent institutions across the country. Faculty profiles for all Secondary Mentors are linked below.

[Rachel Sayko Adams, PhD, MPH](#)

[Emma K. T. Benn, DrPH, MPH](#)

[Paul Crane, MD, MPH](#)

[Natalia Egorova, PhD, MPH](#)

[Miguel Escalon, MD, MPH](#)

[Fatemeh Haghighi, PhD](#)

[Nimali Jayasinghe, PhD](#)

[Nathalie Jette, MD, MSc](#)

[Casey LaDuke, PhD](#)

[Katherine Ornstein, PhD, MPH](#)

[Melinda Power, ScD](#)

[Alan Seifert, PhD](#)

[Kali Thomas, PhD, MA](#)

[Sarah E. Tom, PhD, MPH](#)

[Lance E. Trexler, PhD, FACRM](#)

[Andrew Varga, MD, PhD](#)

[Juan P. Wisnivesky, MD, DrPH](#)

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## CO-MENTORS

ARRT fellows have access to BIRC-MS Co-Mentors and Co-Mentors from other prominent institutions across the country. Faculty profiles for all BIRC-MS and Co-Mentors are linked below.

### BIRC-MS CO-MENTORS

[Sarah Bannon, PhD](#)

[Eric Watson, PhD](#)

### CO-MENTORS

[Jenna Tosto-Mancuso, PT, DPT](#)

[Jaskiran Ghuman, DO](#)

[Shannon Juengst, PhD](#)

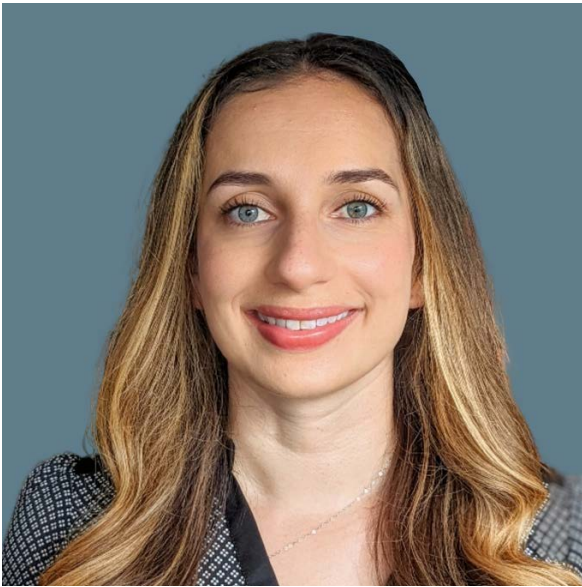
[Shelley Liu, PhD](#)

[Monique Pappadis, Med, PhD](#)



# SPOTLIGHT ON ARRT FELLOWS

## NICOLA DE SOUZA, PHD



**1) Tell us about your background and why you chose the NIDILRR Advanced Rehabilitation Research and Training (ARRT) Postdoctoral Fellowship at the Brain Injury Research Center of Mount Sinai?**

I completed my PhD in biomedical science with a focus on mild traumatic brain injury (TBI). During the pandemic, I ended up conducting a lot of secondary data analysis for my dissertation, which allowed me to focus on different populations within mild TBI, including athletes, TBI patients, and military populations. This experience ignited my passion for data analysis and led me to pursue the NIDILRR ARRT Quantitative Methods Postdoctoral Fellowship at the Brain Injury Research Center. This fellowship provided an ideal platform for me to further develop my skills in data analytics

and the application of innovative analytical to extensive datasets. The opportunity to dive into vast and complex data was highly appealing to me. Further, the center's reputation for brain injury research and rehabilitation aligned well with my academic interests and career goals.

**2) What is your primary research focus and how does your work at the BIRC contribute to the bigger picture?**

My primary research focus is understanding traumatic brain injuries (TBI) related to intimate partner violence. I'm drawn to this topic due to its alarming prevalence and the need to better understand the challenges faced by this population. I'm particularly interested in how TBI in these cases differs from TBI in other patient populations and how it affects psychological and physical health. My work expands our knowledge by studying underrepresented groups and clarifying the diversity of TBI outcomes. It highlights how diverse experiences shape reactions and recovery from TBI, informing insights for tailored interventions and support systems.

**3) What has been the most rewarding part about being an ARRT Postdoc at the Brain Injury Research Center of Mount Sinai?**

The most rewarding part of being an ARRT Postdoc at the Brain Injury Research Center has been the access to a wealth of data that allows me to creatively ask new research questions. The flexibility to work on various projects has expanded my skill set. Additionally, the collaborative environment at the center, involving clinical research coordinators, fellow postdocs, and faculty, has been incredibly rewarding. Everyone brings different ideas to the table, making it an interactive and stimulating place to work. I have also had the opportunity to collaborate with highly talented researchers and clinicians who are dedicated to advancing our understanding of brain injuries and improving the lives of those affected by them, which keeps me motivated.

# SPOTLIGHT ON ARRT FELLOWS

## JILL DEL POZZO, PHD



**1) Tell us about your background and why you chose the NIDILRR Advanced Rehabilitation Research and Training (ARRT) Postdoctoral Fellowship at the Brain Injury Research Center of Mount Sinai?**

Before I began my PhD in Clinical Psychology, I spent four years at Rutgers University in a schizophrenia research laboratory, where I had my first experience conducting neuropsychological assessments in a research capacity and developed a passion for research. As I progressed through my graduate studies, externships, and internship, I consistently found research and rehabilitation to be the common threads weaving through my professional interests, which led me to the conclusion that a postdoctoral position focused on rehabilitation research was the perfect next step to align with my career goals. My decision to join the NIDILRR ARRT Postdoctoral Fellowship at the Brain Injury Research Center (BIRC) of Mount Sinai was

driven by my passion for research, my desire to make a positive impact on the rehabilitation field, and the alignment of the BIRC's values and mission with my own career aspirations. I was immediately drawn to the program for the breadth of research training it offers, as the BIRC's commitment to exploring a wide array of topics within rehabilitation research deeply resonated with my curiosity and desire for a well-rounded research experience. Next, the BIRC's dedication to serving diverse and often underserved communities through its research projects resonated with my personal values. The BIRC also places a strong emphasis on the synthesis of science and practice by combining research and treatment, which aligns with my vision of becoming a clinical researcher who not only advances knowledge but also contributes to the improvement of individuals' lives. The unparalleled scholarship and mentorship experiences offered by the BIRC were another significant draw for me, as was being a part of a team that values diversity, collaboration, and training of its postdocs, which is pivotal for personal and professional growth. Relatedly, an additional factor that solidified my choice was the encouragement provided to postdocs to develop their own research ideas from the very beginning, and having the support and guidance of the esteemed faculty within the BIRC was an invaluable opportunity.

**2) What is your primary research focus and how does your work at the BIRC contribute to the bigger picture?**

My primary research focus is on addressing critical research and care gaps within underserved populations affected by traumatic brain injury (TBI). As the principal investigator of the first study exploring TBI within sexual and gender minority (SGM) individuals, I investigate the prevalence, risk factors, and impact of TBI in SGM individuals. This research delves into both short-term and long-term effects of TBI on their health, well-being, and access to clinical care, aiming to reduce health disparities and advance inclusive and equitable healthcare for this underserved group. Furthermore, my work at the BIRC directly contributes to this bigger picture by actively engaging in projects that examine post-TBI neurodegeneration, demographic and health-related factors influencing cognitive decline, and interventions targeting improved outcomes for justice-involved individuals with brain injuries. Importantly, my research is closely intertwined with my clinical experiences as a postdoctoral fellow. These experiences involve providing assessments and treatment within a clinical setting, offering a patient-centered perspective that deeply informs and enriches my research agenda. This approach ensures that my research not only holds academic significance but also directly enhances the well-being of individuals within these marginalized communities.

**3) What has been the most rewarding part about being an ARRT Postdoc at the Brain Injury Research Center of Mount Sinai?**

The most rewarding part about being an ARRT Postdoc at the BIRC is being a part of a group with an unwavering passion for research and a desire to make a positive impact in the field of rehabilitation. Additionally, I would say the opportunity to leverage the knowledge gained from my research to launch a career as a clinical researcher whose work will improve the lives of individuals affected by TBI within the SGM community and other underserved populations.



# SPOTLIGHT ON ARRT FELLOWS

## AMELIA HICKS, PHD



**1) Tell us about your background and why you chose the NIDILRR Advanced Rehabilitation Research and Training (ARRT) Postdoctoral Fellowship at the Brain Injury Research Center of Mount Sinai?**

I completed my PhD in neuropsychology at Monash University in Melbourne, Australia. I had followed much of the impressive work being done at the BIRC for many years. My research interests (TBI and aging, TBI and neurodegenerative disease) strongly align with the work being done at the BIRC. Dr Dams-O'Connor is a leader in this area and I knew I would benefit greatly from her mentoring. I was also very drawn to the didactic learning opportunities. These cover neuroanatomy to research methodology and implementation science. The didactics have provided me with advanced knowledge and

practical skills that I can leverage in my later career.

**2) What is your primary research focus and how does your work at the BIRC contribute to the bigger picture?**

My primary research focus currently is examining blood-based biomarkers in survivors of TBI. We are interested in the activity of these markers in the chronic post-injury period, examining multiple markers to explore poly-pathology and understanding markers of neurovascular injury. This work fits in to one of the pillars of research focus at the BIRC - understanding the biological and clinical signatures of post-traumatic neurodegeneration.

**3) What has been the most rewarding part about being an ARRT Postdoc at the Brain Injury Research Center of Mount Sinai?**

There is such an impressive scope of research projects being conducted at the BIRC. Beyond my main research focus in blood-based biomarkers, I have been able to collaborate on several interesting and innovative clinical research projects. These provide really wonderful opportunities to grow your expertise and skill set, and also collaborate with leaders across this area.

# BENEFITS & ELIGIBILITY

We are committed to cultivating a training environment that supports successful completion of the program. We offer a competitive salary of \$65,000 and the potential for subsidized postdoctoral housing. We celebrate our fellows' successes, birthdays, and reward excellent mentorship with departmental and institutional recognition. We welcome diversity, emphasize inclusion, and encourage unique perspectives. The BIRC research team has included individuals with disability since it was founded in 1987.

We strongly encourage applicants with disabilities and individuals from under-represented groups to apply. The individuals selected to participate must meet the following entry criteria:



## EDUCATION

1) Satisfactory completion of all academic requirements for a doctoral or equivalent degree in a clinical or quantitative field.



## INDEPENDENT RESEARCH

2) A demonstrated potential for independent research (e.g., completed a quantitative dissertation, peer-reviewed publications, multiple conference presentations, and/or at least 2 years of research experience).



## SKILLS

3) Foundational skills in data analysis, and interest and commitment to rehabilitation research must be evident in prior experience, personal statement, and/or letters of reference.



## COMMITMENT

4) A willingness to commit two years to advanced rehabilitation research training in New York City.

# APPLICATION INSTRUCTIONS

Applications are being accepted on a rolling basis until all fellowship positions are filled. The ARRT start date is flexible depending on the candidate's timeline.

Applications will be reviewed by the ARRT Executive Committee (EC) and invited for on-site (or virtual) interviews. All invited applicants will meet individually with the EC and Mentors whose work most closely matches their interests. Applicants meet with current postdoctoral fellows and BIRC staff to freely ask questions about the training and work environment, which has in the past inspired confidence that under-represented groups are heard and valued in our program. We believe that over-reliance on strict criteria excludes candidates with strong potential who require additional opportunity and support; as such, we interview many applicants.

## **Applications must include the following in order to be considered:**

- Curriculum vitae that includes citizenship and languages spoken fluently
- Cover Letter
  - Identify 2 BIRC-MS Primary Mentors and 2 Secondary or Co-Mentors with whom you would like to conduct mentored research and why (required)
- 2- 4 letters of recommendation from research supervisor(s), e.g. dissertation chair/mentor
- Copy of unofficial graduate transcript; if selected, must submit official transcripts
- Representative copies of abstracts, publications, and/or research presentations

Applications should be sent via e-mail to:

Maria Kajankova, PhD.

Department of Rehabilitation Medicine and Human Performance

Icahn School of Medicine at Mount Sinai

One Gustave L. Levy Place, Box 1163, New York, New York 10029

Email: [maria.kajankova@mountsinai.org](mailto:maria.kajankova@mountsinai.org)

Applications via e-mail should CC:

Brittany Engelman, MPH at [brittany.engelman@mountsinai.org](mailto:brittany.engelman@mountsinai.org)

