DECEMBER REPORT 2023





ARI research grants empower scientists and advocates to unlock the mysteries of neurodevelopmental complexities and create a world of understanding, support, and hope for individuals on the autism spectrum."

Andreas Grabrucker, PhDUniversity of Limerick
Recent ARI Research Grant Recipient



This is what you helped us achieve this year.

Autism Research and Investigation

Research grant awards

Support impactful research in numerous areas of study

ARI donors support research that has practical application in the evolution of autism understanding and the lives of autistic people. This year, ARI awarded more than \$400,000 in grants to fund research on therapeutic interventions, underlying biological mechanisms, and much more. Thanks to the support of our generous donors, we continue to fund impactful research in numerous areas of autism investigation.





Emily Casanova, PhD Loyola University, New Orleans Recent ARI Research Grant Recipient

Quarterly newsletter and e-newsletters Consistently inform the autism community

Our quarterly science newsletter, Autism Research Review International (ARRI), highlights the latest research findings and considers the complex nature of autism investigation and care. ARRI is freely distributed to our global autism networks and is available online. ARI also keeps more than 140,000 subscribers informed about novel autism resources and discoveries via our monthly e-newsletter, and our bi-monthly Clinical Research in Autism newsletter communicates research findings to practitioners.

Director and Advisory Boards

Further our commitment to research that makes a difference

In 2023, Margaret Bauman, MD was elected to the Board of Directors, and our Scientific Advisory Board continued to grow. ARI's Scientific Advisory Board comprises leading investigators from every area of autism research. Volunteer advisory members offer informed support for ARI research initiatives, assist with our rigorous grant review process, and present their latest findings in our think tanks and webinars. Our boards bring leaders from the scientific and medical communities together to further ARI's continued commitment to research that makes a difference.

Collaboration and Education

Scientific meetings and think tanks

Provide spaces for interdisciplinary discussion

Our annual in-person Think Tank allows clinicians and researchers to exchange ideas and discuss emerging trends. ARI also hosts a yearly online scientific symposium that provides important research updates via live presentations and interactive discussions. ARI think tanks and conferences, with our generous contributors' help, allow scientists to build collaborations and make more significant strides faster as we decode the complexities of autism.

Educational Webinars and YouTube

Democratize autism education and understanding with real time translation

ARI hosts free, bimonthly webinars featuring leading researchers presenting current findings and treatment professionals discussing best practices. ARI webinars, both live and recorded, offer real-time, captioned translation support in more than 20 languages, and our clinical webinars offer simultaneous translation facilitated by fluent speakers; four webinar presentations each year are jointly provided with the World Autism Organization.

ARI webinars conclude with live Q&A sessions offering participants an opportunity to discuss important topics with lay and medical audiences. Thanks to our kind benefactors, ARI webinars continue to help individuals, clinicians, and families make informed treatment decisions.

Our YouTube channel offers free access to recorded webinar presentations, educational videos, social stories, and talks from past conferences. ARI's channel has garnered more than 1 million views and is a valuable resource for expanding and disseminating autism understanding.

Learn more at AutismWebinars.org



Thank you so much for your free online webinars. My son is a young adult, and when he was younger, I traveled a lot for conferences. It's so wonderful to have a free, online option."

> Ana S. Parent, La Mirada, CA

Our mission: To support the health and well-being of people affected by autism through innovative, impactful research and education.

Continuing Medical Education

Provide free education for practitioners and families

ARI is set to release a new series of continuing medical education talks in early 2024. Offered in joint providership with the Cleveland Clinic, the series provides complimentary *AMA PRA Category1 Credit*TM and ABIM MOC points to physicians and is available for viewing by the general public. Connecting physicians to improved standards of care is crucial to amplifying understanding of the medical nature of the disorder.

Learn more at ARI-CME.org.

We cannot build upon the future without learning about the triumphs and mistakes of the past."

Stephen M. Edelson, PhDExecutive Director
Autism Research Institute

National Autism History Museum Document and share our rich history

In January of 2023, The National Autism History Museum officially opened its doors. The museum offers an engaging and comprehensive look at the prolific history of autism research and discovery. Its interactive exhibits highlight prominent autistic figures and underscore critical moments in the evolution of autism research. Leading researchers from many areas are collaborating with ARI to curate a collection of historical artifacts. The museum promises to be a valuable resource in increasing autism acceptance and understanding.



Investment in the Autism Community

Global Autism Networks

Expand and inform the global autism community

ARI's networks connect the global autism community via the timely distribution of important findings. Our network of researchers has more than 130 members around the world who receive monthly updates on grant funding opportunities, links to the latest research published in peer-reviewed journals related to autism, and articles focused on research techniques and important considerations for their studies. At the same time, our global support network informs nearly 230 groups in 77 countries about current autism understanding, treatments, and autism organization activities. ARI's networks aim to improve communication across the global autism community, specifically about emerging findings on the biology of and potential for evidence-based treatments for autism.

Autism resources and assessment

Provide accessible autism resources to everyone

ARI works to provide resources and information to the entire autism community. We support a brain tissue bank at the National Institute of Child Health and Human Development at the University of Maryland and a gastrointestinal tissue bank at the Digestive Function Laboratory Repository at Massachusetts General Hospital in Boston. ARI also sponsors a telephone support line for caregivers and parents seeking information and moderates social media pages featuring news and information on autism research and resources.

ARI is a non-governmental organization (NGO) registered with the United Nations, and we ensure the translation of critical articles, webinars, and tools into different languages. ARI's Autism Treatment Evaluation Checklist (ATEC) is also freely available in 25 languages and is completed by more than 150 users per day.



2023 ARI Research Grant Recipients

With the help of our generous donors, ARI continues to fund important research with real-world application.

Highlighted below are examples of research studies ARI funded in 2023. For a complete list and more details about each study, please visit: autism.org/ari-funded-research-studies-2023





Robert L. Hendren, DO ARI Board Member ARI Scientific Advisory **Board Member**

University of California, San Francisco Medical Center

Robert L. Hendren Research Grant Award **Inaugural Recipients**

Emanuel DiCicco-Bloom, MD Ed Levin, PhD

In honor of his many years of support for our work, serving as a member of ARI's Scientific Advisory Board and Board of Directors, the top-scoring research grant proposals funded each year are now recognized as Robert L. Hendren Research Grant Award recipients.



Through the generosity of ARI, my lab has the opportunity to study the potential benefit of anti-inflammatory treatments.

This could open new doors for novel treatments of autism. Thank you for your help and support."

> Yuri Bozzi, PhD 2023 Grant Recipient



Yuri Bozzi, PhD University of Trento Italy

A broad-range anti-inflammatory treatment to rescue behavior deficits and microglia dysfunction in the Shank3b mouse model of syndromic autism.



Ed Levin, PhD Duke University

Paternal Preconception Pesticide Exposure Effects on Neurodevelopmental Impairment in Their Offspring



Emanuel DiCicco-Bloom. MD Rutgers Robert Wood Johnson Medical School

Microbiome Dysbiosis in Autism Spectrum Disorders: Cellular and Molecular Mechanisms in a Gene x **Environment Neurodevelopmental Disorders Model System**



Karun Singh, PhD McMaster University

Identifying neural developmental deficits at cellular resolution in a human neural organoid model of SCN2A



Crystal Engineer, PhD University of Texas at Dallas

Proteomic Analysis of VNS-sound Pairing Therapy Effects on Cortical Tissue in a Rat Model of ASD



Ana Teresa Tavares, PhD Universidade NOVA de Lisboa Portugal

Microglia Ontogeny in the Pathogenesis of Autism Spectrum Disorders