

ANNUAL REPORT 2021

JANUARY 1-DECEMBER 31



**research.
support.
empowerment.**



AUTISM RESEARCH INSTITUTE
Autism is Treatable



Research: ARI's Dedication Continues

ARI awarded more than \$300,000 in research grants to fund innovative research that holds realistic promise to impact the lives of those on the autism spectrum. Since the onset of the pandemic, we have been helping many of our colleagues worldwide adjust their research plans so that they can continue their efforts with minimal interruptions.

ARI's Scientific Advisory Board (SAB) attracts researchers in areas related to the underlying biology of autism. SAB members continue to provide crucial support for ARI's rigorous annual grant review process, participate in our near-weekly webinars, share their latest research findings, and contribute new information to our library of articles.

ARI began a Global Research Network earlier this year with the aim of keeping researchers up to date with the latest news in the scientific community. Network activities include informing researchers about various funding sources, sharing articles on conducting research, and notifying them of the latest studies published in peer-reviewed journals.

ARI held its first online scientific meeting featuring researchers sharing updates on a variety of topics, including gastrointestinal issues and emerging metabolic findings. We resumed our in-person Think Tanks in April, 2022.

ARI provided guidance to researchers on optimizing their experimental designs and recruiting participants for their studies. ARI assists two tissue banks: a brain tissue bank for the National Institute of Child Health and Human Development at the University of Maryland and a gastrointestinal tissue biorepository at the Digestive Function Laboratory Repository at Massachusetts General Hospital in Boston.

ARI publishes a quarterly science newsletter, *Autism Research Review International (ARRI)*, reporting on current medical, sensory, and educational research.

ARI worked on a multidisciplinary book on understanding and treating sleep disturbances associated with autism. Contributors include leading experts on neurology, medicine, challenging behaviors, nutrition, and sensory processing. The book, *Understanding and Treating Sleep Disturbances in Autism*, was published in August 2022.

Educational Webinars

ARI offers free live and recorded content

ARI hosts **twice-monthly live webinars** featuring top autism researchers and treatment professionals. Topics included research updates, diet, nutrition, behavioral support, assessment, educational therapies, adult issues, and more.

ARI's YouTube channel offers free access to all of our content: presentations by top experts with up-to-date webcasts on medical support and educational videos, social stories, and talks from past conferences. **Users have tuned in for more than 865,00 viewings.**

Continuing Medical Education

ARI released a new series of continuing education talks on epilepsy and autism spectrum disorders.

Offered in joint providership with the Cleveland Clinic, the series provides complimentary *AMA PRA Category 1 Credit™* 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 online at ARI-CME.org

Covid-19 Programming

ARI offered support to navigate unprecedented times. Throughout 2021, disruptions to personal and professional lives, schedule changes, and school closings continued to present unique challenges for individuals on the autism spectrum and their families, as well as research professionals and clinicians. As students returned to school and travel and holidays resumed, we provided webinars and social stories with helpful updates for coping with ongoing pandemic-related changes.

Outreach

Outreach in the U.S.:

ARI offers personal support and resources to parents, caregivers, and professionals.

We sponsor a **telephone support line** for parents and caregivers seeking information.

We provide an opportunity for **viewers of our live webinars to ask questions directly to the presenters.**

We moderate **internet discussion groups** for parents.

International Outreach:

ARI began networking with support groups worldwide. The goal of the network is to improve communication among support groups and inform the international community about the current science regarding the underlying biology of ASD and evidence-based treatments. There are currently 226 support group members located in 77 different countries, including Argentina, Belgium, Croatia, Egypt, Hungary, Israel, Moldova, Nigeria, Peru, Poland, Romania, Russia, Spain, Ukraine, Uganda, Venezuela, and Vietnam.

ARI is an NGO (non-governmental organization) of the United Nations. ARI continues to translate many of our key articles and our Autism Treatment Evaluation Checklist (ATEC), now available in 25 languages.

E-Newsletters

Sharing information with the autism community

ARI's monthly e-newsletter keeps more than 140,000 subscribers up-to-date on new resources and the latest research.

ARI also publishes a bimonthly e-newsletter, *Clinical Research in Autism*, for more than 10,000 obstetricians, pediatricians, and nurses who want to keep current with research relevant to their practice.



Our Mission

The mission of the Autism Research Institute is to support the health and well-being of people affected by autism through innovative, impactful research and education.

Our Community

Last December, the Centers for Disease Control released an analysis of 2018 data from nearly a dozen states that found that among 8-year-olds, 1 in 44 had been diagnosed with autism.

Our Commitment

ARI awarded more than \$300,000 in research grants in 2021 to support early-stage, promising scientific investigations. More than 88¢ of every \$1 received by ARI funds research and education efforts.

Message from our Executive Director and Chairman of the Board

Let us get right to the point: We still have a long way to go when it comes to knowing how to provide the best support for every individual who has a form of autism. That's why ARI is working hard every day to foster the scientific research that will give people with autism and their families the answers they need.

Over the past 55 years, the Autism Research Institute has been instrumental in encouraging, funding, and conducting high-level research on basic biomedical research and on medical and nutritional aspects of autism, including potential interventions. We provide crucial support to scientists through our financial support for important studies. We also assist investigators in recruiting participants for their studies and in obtaining key biological samples. In addition, we sponsor multiple regional and national Think Tanks each year that, in turn, foster useful exchanges of ideas between researchers and across scientific disciplines.

In addition, we are dedicated to providing support for children, teenagers, adults, and, more recently, seniors on the autism spectrum. We are also committed to helping other stakeholders in the autism community, including family members, clinicians, and therapists. We do this through our webinars, physician-oriented webcasts, popular website, newsletters, and books.

Obviously, we want answers... and we want them as soon as possible. However, we want the right answers. Someday, family members will no longer need to take chances on treatments that may or may not work. We want everyone with autism to be able to receive the most effective treatments, period!

We truly appreciate the encouragement and support we receive from you and many others who agree with our approach to research and information sharing. Working together, we will discover new and effective ways to support the million-plus individuals with autism worldwide who need our help.

As you know, we are here to stay. Our tireless energy and dedication are helping us chart the path to a better future for individuals on the spectrum and their families. Please join us and support our efforts.

Sincerely,

A handwritten signature in black ink that reads "Stephen M. Edelson". The signature is fluid and cursive.

Stephen M. Edelson, PhD
Executive Director
Autism Research Institute

A handwritten signature in black ink that reads "Marvin Natowicz". The signature is bold and cursive.

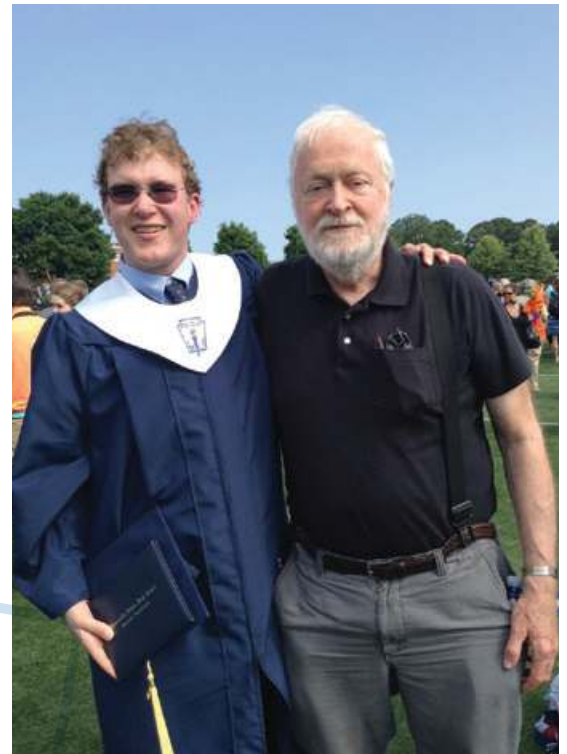
Marvin Natowicz, MD, PhD
Cleveland Clinic
Chairman of the Board, ARI



“ARI has been of great value to me and my son, Jon-Robert. He was diagnosed with ASD when he was young. His mother is a social worker, and I am a physician, but we and Jon-Robert’s teachers had a lot to learn. One of the most helpful activities he has participated in is marching band, which provided training in hand-eye coordination, cooperation with a group, and a source of friends with a common talent and interest. He participated from middle school through college at the University of North Carolina at Chapel Hill.

During that time the practical input along with the scientific background from ARI was extremely valuable to his teachers, and to us.”

— GEORGE GAUNT, MD
Parent - pictured here with my son
Davidson, North Carolina



valuable

We work every day to provide the research, education,



“Jaxon was diagnosed at 3 1/2 years old and LOVES listening to his music through his headphones. Access to resources through ARI, as well as his school, has helped our family understand what autism is and help Jaxon in many ways.

Our family is beyond grateful for the autism community and all the support that has been provided to us!”

— KAITY COCHRAN
Indianapolis, IN

supportive

forward-thinking



I am a parent of a 21-year-old with autism, and I have an academic background in gerontology. The seminar I attended was a fascinating intersection of my personal life and professional background. Please continue to offer these valuable and forward-thinking webinars.

I love this photo, taken when my son was much younger, because it is a reminder that there are many joys in raising an autistic child; sometimes you just have to wait for them. When they happen, they are magic!"

— LAURA CAMPBELL
Dartmouth, Massachusetts



#MyAutismHero

and treatment advocacy that is urgently needed.



ARI's webinars are excellent. I wish every teacher had the chance to attend. So many people on the spectrum are misunderstood because of the lack of opportunities to gain knowledge about the causes of behavior."

— LAURA
Retired Special Education Teacher
Grandmother to a child on the spectrum



ARI offers wonderful presentations that help us understand lived experiences through great visuals and quotes directly from members of the autism community. Thank you."

— SABRINA UMBRELLO
Toronto, Canada



understanding

ARI Advocates for Research That Makes a Difference

Our focus at ARI is to support innovative autism research while providing the latest science-based information for people of all ages on the autism spectrum. We do this through our annual and regional Think Tanks, in-person and online educational events and courses, free webinars, and by funding the studies that hold the most promise for making a difference in the lives of people with autism.

While the causes of ASD in the vast majority of individuals remain unclear, scientific advances challenge the traditional view of autism as an untreatable disease — as one that is genetically hardwired. These developments support the position that ARI has always maintained: *Autism is Treatable*. ARI continues to pioneer research, outreach, and cooperative efforts with other organizations worldwide.



**Is it
Autism?**



**Medical, Sensory
& Behavioral
Symptoms**



**Screening &
Assessment**



Treatment

ARI Convenes Scientists and Clinicians Face to Face

Since 1995, the Autism Research Institute has brought together experts at its annual scientific Think Tank meetings to address novel questions and discuss issues related to promising interventions. ARI also funds and sponsors consensus meetings to facilitate ongoing discussions about the latest findings and approaches to understanding and treating medical and behavioral symptoms associated with autism spectrum disorders.

We have always been committed to asking the tough questions. For more than 50 years, our work has influenced how researchers approach investigating the causes of and effective treatments for autism spectrum disorders.

Our purpose is clear:

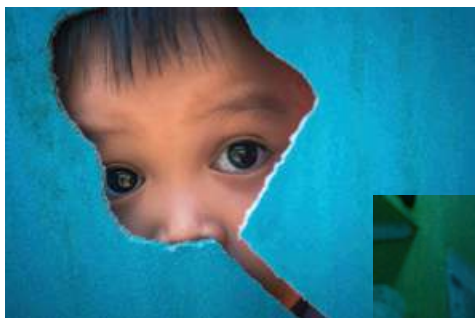
Advance research by following the science wherever it leads.

ARI Creates Free Online Continuing Education on Autism for Physicians and Other Healthcare Providers

ARI works in partnership with leading experts to provide professional education that gives thoughtful, inquisitive clinicians the means to offer support to individuals with autism that is safe and effective.

Informing physicians about appropriate standards of care is crucial to our mission — in joint providership with the Cleveland Clinic we continue to offer complimentary CME-certified online education to amplify understanding of the medical nature of autism. All internet users can view the *Autism Spectrum Disorders: Research and Medical Treatment Implications* webcast series for free online. Learn more at Autism-CME.org.

New series released June, 2021: Epilepsy and Autism



I want to thank ARI's donors for their support of our research. Generous funding through ARI will allow us to gain a deeper understanding of how hormones are organizing the brain in a sex-specific manner, and how this leads to vulnerabilities during early development."

— EVAN BORDT, PhD
Massachusetts General Hospital
Lurie Center for Autism

ARI Collaborates to Support Tissue Donation

Tissue research is needed to understand the underlying causes and potential treatments for autism. ARI assists two tissue banks: a brain tissue bank for the National Institute of Child Health and Human Development at the University of Maryland and a gastrointestinal tissue biorepository at the Digestive Function Laboratory Repository at Massachusetts General Hospital in Boston.

ARI Facilitates Expert Consensus Reports

ARI is facilitating the collaboration among distinguished researchers and clinicians to write summary reports on known findings as well as areas requiring further investigation regarding co-occurring medical issues related to autism, including:

- Gastrointestinal
- Genetic
- Immunologic
- Metabolic
- Nutritional
- Neurological
- Neuropathological
- Sleep

ARI Conducts an International Senior Survey ASDSeniorSurvey.com

We are conducting an online survey of seniors to collect data about autism throughout the entire lifespan. We hope the results will provide insight into the needs and challenges faced by seniors with autism (aged 50 years or older) and their support providers.

In 2021, ARI awarded more than \$300,000 in research grants to scientists whose work will directly impact the lives of individuals diagnosed with autism. The funds supported research in immune, gastrointestinal, metabolic, neurologic, and sensory issues. Research studies that ARI funded included:

Cross-talk between food-borne *Lactiplantibacillus* (Lpb.) plantarum and the endocannabinoid system towards Autism Spectrum Disorder

Natalia Battista, PhD
University of Teramo Faculty of Bioscience and Technology for Food, Agriculture and Environment

The Endocannabinoid System (ECS) is one of the major modulators among the signaling pathways involved in the microbiota-gut-brain axis and the potential role of this endogenous system has also been reported in neuro-developmental disorders, such as Autism Spectrum Disorders (ASD). The general aim of this project is to evaluate the suitability of food-borne *Lactiplantibacillus* (Lpb.) *plantarum* strains, a versatile and robust dominant species in fermented foods, as a putative strategy to ameliorate ASD-symptoms through the involvement of the ECS. To test our hypothesis, we propose to feed Lpb. *plantarum* strains to mice of two ASD mouse models, one based on genetic and one based on environmental etiology, in order to verify whether the treatment rescues specific behavioral deficits, restores levels of inhibitory and excitatory synaptic markers, and modulates the ECS signaling. Levels of cytokines, endocannabinoids, and gut barrier function will be also measured in the gastrointestinal (GI) tract to evaluate the impact of the host-microbe interaction in counteracting ASD-GI symptoms. The multi-disciplinary approach of this project will make it possible to advance in the field of microbial interventions with promising therapeutical value for the amelioration of ASD symptoms, by unveiling the possible role of the ECS in the communication mechanisms within the microbiota-gut-brain axis.



The role of male-specific perinatal sex hormones in the development of sex-biased mitochondrial and social behavioral dysregulation

Evan Bordt, PhD
Massachusetts General Hospital

Neuroimmune alterations such as aberrant activation of the innate immune cells of the brain, microglia, are recognized in individuals diagnosed with Autism Spectrum Disorders (ASD). Using mouse models, we have found that immune challenges such as infection in the perinatal period (time surrounding birth) lead to alterations in social behaviors only in male mice, consistent with the strong male bias in the incidence of ASD. Additionally, we have found that there are male-specific alterations in the function of mitochondria, the primary cellular energy producer, specifically within neuroimmune cells (microglia). To begin to understand what could underlie these perinatal sex differences, we explored a sex-specific developmental program that is well-characterized during the perinatal period. There is a surge of gonadal hormones that occurs only in males during a critical period of brain development, and it is this hormone surge that is responsible for ‘masculinizing’ the male brain. When we injected female mouse pups with this male-typical gonadal sex hormone, we were able to induce male-like susceptibility to behavioral and cellular changes in response to immune challenge. These results suggest that the perinatal hormone surge plays an important role in inducing this male-biased vulnerability. The goal of this study is to understand how gonadal sex hormones present only in males during perinatal brain organization result in male neuroimmune and behavioral vulnerabilities to early-life immune challenges. We plan to achieve our aim through manipulation of sex hormone receptors specifically on microglia in the brain and will test the impacts of these manipulations on microglial, mitochondrial, and behavioral outcomes. These results will provide a crucial step towards understanding the nature of perinatal influences on sex-biased susceptibilities to ASD.



Through the generosity of ARI, my lab will have the opportunity to study the potential benefit of anti-inflammatory treatments in the cerebellum — a brain area important in motor control. This could open new doors for novel treatments of autism. Thank you for your help and support.”

— YURI BOZZI, PhD
 University of Trento (Italy)
 Center for Mind/Brain Sciences



Photo: Srivatsan Mohana Rangan



I am thankful to the Autism Research Institute for funding this latest grant. ARI provided the seed funding that allowed us to establish that children with autism may have unique microbiota – this data led to the evidence for microbiota treatments we are investigating now.”

— ROSA KRAJMALNIK-BROWN, PhD
Arizona State University

Targeting cerebellar inflammation to improve autism-related behaviors in Shank3b mutant mice, a model of Autism Spectrum Disorder
Yuri Bozzi, PhD
University of Trento
CIMeC Center for Mind/Brain Sciences

Immune dysfunction recently emerged as a major contributor to neurodevelopmental deficits observed in people with ASD. In particular, a strong inflammatory state is associated with ASD and likely supports its pathogenesis. Several reports showed that the cerebellum is structurally and functionally abnormal in autistic individuals, and signs of inflammation have been reported in the cerebellum of autistic people and ASD mouse models. Whether cerebellar inflammation may contribute to social and sensory deficits in ASD is still unknown. In this project, we aim to target cerebellar inflammation in a well-established mouse model of ASD, i.e. mice lacking the SHANK3B gene (Shank3b^{-/-} mice). Control and mutant mice will be treated with an anti-inflammatory drug starting from 1 or 6 months of age. After treatment, we will assess social, motor, and sensory-dependent behaviors and measure the expression of pro-inflammatory markers in the cerebellum of treated and untreated control and mutant mice. These studies will allow us to determine whether a systemic anti-inflammatory treatment in young and adult mice is able to rescue social and sensorimotor deficits, along with their molecular underpinnings, in Shank3b^{-/-} mice.

Cerebellar Circuits in 3D: Screening autism-associated genes in cleared brains with in utero CRISPR genome editings
Cheryl Brandenburg, PhD
University of Maryland School of Medicine

Imaging studies and studies of human postmortem autism brains have consistently revealed cerebellar differences, specifically with alterations in Purkinje cell number and transcriptional profiles. This proposal aims to characterize effects of autism-associated genes on cerebellar microcircuitry by using in utero electroporation, whole brain clearing/staining, and 3D light sheet microscopy, beginning with the cadherin family. The long-term goal is to develop a detailed map of cerebellar microcircuitry which will be used as a reference model to screen for circuit deficits with additional gene families. A high-resolution understanding of circuit development and structure will provide insight toward the implementation of novel interventions to benefit those on the spectrum.

Effect of Microbiota Transfer Therapy on Gut Mycobiota in Adults with ASD
Rosa Krajmalnik-Brown, PhD
Arizona State University

Several studies have shown that children with Autism Spectrum Disorder (ASD) have altered gut microbiota compared to Typically Developing (TD) controls. This alteration in the gut, not only changes bacterial composition but also fungal community. Culture and sequencing methods have demonstrated *Candida* (especially *C. albicans*) higher abundance in children with Autism vs. TD and correlated with ASD related symptoms. Previously, we showed that Microbiota Transfer Therapy (MTT) in children with ASD improved Gastro-Intestinal (GI) and ASD-related symptoms and increased bacterial diversity. However, no one has investigated the effects of MTT on the fungal community. We hypothesize that MTT may also have an important effect on fungal/*Candida* abundance in ASD. We propose a pilot study leveraging our adults MTT on going trial (a randomized, double-blind placebo-controlled) to study changes in the fungal (*Candida*) community during vancomycin treatment, and before & after MTT. This study will provide insight into fungi abundance, possible interactions with bacteria, and their association with GI- and ASD-related symptoms.

Development of a biosensor for visualization of PTEN activity in the brain
Tal Laviv, PhD
Tel Aviv University

In the past decade, numerous mutations in genes were closely associated with Autism Spectrum Disorder (ASD). One prominent example is the gene Phosphatase and tensin homolog deleted on chromosome 10 (PTEN). Numerous mutations which affect PTEN function are frequent in children diagnosed with ASD. Due to this strong link between PTEN and ASD, it is critical to understand how normal brain function is regulated by PTEN. Unfortunately, there are currently no available methods to measure PTEN function within the living brain. To solve this, we will engineer a new biosensor, a sensitive molecular ruler for PTEN activity. We will use this biosensor in combination with advanced microscopy to decipher the function of PTEN in living brain tissue. These novel technological advancements will be fundamental to unravel the core mechanisms which lead to neurological dysfunction in ASD.

ARI Provides Resources to Individuals, Families, and Professionals

ARI Democratizes Learning Through Online Webinars

ARI makes an effort to provide presentations that are unbiased and broad-reaching, and to assist families and professionals in making informed treatment decisions. We also strive to provide professional education that gives clinicians the means to offer supports for affected individuals and their families.



Users have tuned in for more than 865,00 viewings.



“ Please continue to offer these webinars! I am an Occupational Therapy student interested in taking advantage of all the learning opportunities I can find. I love to integrate what I am learning in class and understand how it can be applied in real life.”

— ARIEL HARRIS
Gainesville, Florida



“ The topics that ARI webinars address are **important** for parents, educators, psychologists, and researchers in the field.”

— DR. KAMIL ØZER
Professor, Department of Education
University of Oslo

ARI’s Online Presence Expanded

During the pandemic, we broadened our online presence through our website, online tools, live webinars, and continuing-education offerings — and we facilitated our first online ARI Scientific Meeting.



WEBINAR TOPICS

Continuing Education

Continuing Education topics in 2021 included: epilepsy, genetics, anxiety, immunology, gastrointestinal comorbidities, and more.

Infant and Preteen

- Assessing and Treating Challenging Behavior
- Behavioral Strategies for Anxiety
- Gluten/Casein-free diets
- Learning Behavioral Strategies
- Optimistic Parenting
- PANS/PANDAS
- Supporting Sensory Needs
- Understanding Social Development
- Medical Social Story Series

Teens and Adults

- Benefits, Accommodation & Advocacy in Employment
- Cognitive Enhancement Therapy
- Diagnosis of Autism in Adults
- Emotional Regulation
- Family-Centered Transition Planning and Autism
- Housing Programs
- Ins and Outs of Dating
- Mood and ASD: Nutritional Strategies
- Navigating Support in Higher Education
- Navigating the Transition Years
- Transition for Adolescents and Young Adults with Autism
- What Comes Next?
- Transition to Adulthood

NOTE: Data from the previous year appeared in part of the “Online Presence” section of a printed version of the 2021 Impact Report mailed earlier in 2022; the correct 2021 totals appear here. We apologize for any confusion.

ARI Offers a Free Online Screening Tool: Autism Treatment Evaluation Checklist (ATEC)

Researchers have published thousands of studies attempting to evaluate different biomedical, behavioral, and educational interventions intended to benefit those with autism. The Autism Treatment Evaluation Checklist was developed by Dr. Rimland and Dr. Edelson to serve as a means to evaluate the effectiveness of interventions for those with autism. Since its inception, hundreds of thousands of ATEC forms have been completed.

- Over 40,000 ATECs completed
- >150 completed per day
- Now available in 25 languages



ARI Publishes Articles and Books on Critical Topics

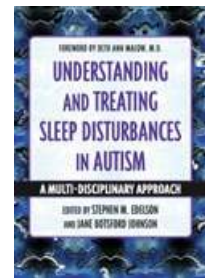
Autism Research Review International

From early days, ARI updated the autism community about research in the areas of behavioral, education, genetic, medical, and sensory issues. To that end, in 1987, ARI began publishing a quarterly science newsletter, the *Autism Research Review International*. Besides reporting on the most current and relevant research findings, the newsletter includes editorials on important insights and perspectives in the field. For many, this newsletter is an important source of trusted information about science and autism.



ARI's latest book in its *Understand and Treating* series

Our newest book, *Understanding and Treating Sleep Disturbances in Autism*, is a cutting-edge resource for professionals and academics seeking further insight into sleep disturbances and autism, exploring contemporary research, and setting the groundwork for the most effective methods of treatment for individuals of all ages.



Past Books (All ARI publications are available on Amazon.com.)



ARI Actively Engages with Its Community

Autism.org

The advent of the internet changed the autism community dramatically in the mid-1990s, and ARI has led the way since the “early days.” We post information on a daily basis to Facebook, Twitter, Instagram, FlipBoard, and Pinterest, including descriptions of recent research studies and other important autism-related news.



Toll-free Telephone Hotline

ARI offers a free hotline for parents and professionals.

Special Support

ARI publishes a bimonthly e-newsletter titled *Clinical Research in Autism* for obstetricians, pediatricians, and nurses to keep them well-informed on research relevant to their practice.



Dr. Stephen Edelson presenting in Turkey in 2019.

ARI Conducts International Outreach and Translates Resources

ARI is a Non-Governmental Organization (NGO) of the United Nations providing educational resources and tools for users around the globe. Outreach includes targeted efforts working with network groups and clinicians worldwide, especially in regions where awareness and support are still emerging, such as areas of Eastern Europe and South America.

ARI networks with 226 groups in 77 countries, offers a telephone support line for caregivers, and translates many of its online articles, as well as the Autism Treatment Evaluation Checklist (ATEC). ARI's ATEC is offered for free, online, in 25 languages, including Chinese, Vietnamese, Hebrew, Lithuanian, Romanian, and Czech – and more than 150 users per day use this tool.

226 Groups
77 Countries
25 Languages



It is nice to have an understanding of some of the science behind what we see — this knowledge helps us think in terms of reframing our understanding of individuals rather than just focusing on ‘challenging behavior.’”

— JOANNE LAWLESS
 Autism Specialist Facilitator and Parent
 Altogether Autism, New Zealand



I am truly grateful for the resources you provide for parents like me for free. I am in Ghana, Africa, and it would not have been possible to have this quality of educational information, but thanks to ARI, I have been learning so much. Thanks again.”

— GRACE NKRUMAH
 Parent





Transparency

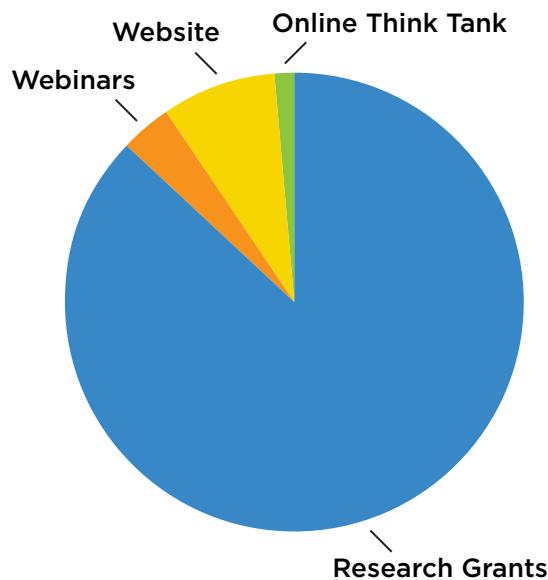
It is important that our donors trust that we are using our funding wisely to accomplish our mission of improving the health and well-being of people on the autism spectrum.

We accomplish this by sponsoring autism research while educating professionals, those who are affected, and their families.

To view ARI's comprehensive financial statements, visit Autism.org/donors



**2021 ARI
Programs and Services**



2021 Financial Overview

FUNDING

Donations and Grants	\$1,081,348
Grants - Payroll Protection Program	\$ 50,862

PROGRAMS

Grants for Research	\$ 303,070
Online Education and Resources	\$ 62,589
Think Tank	
Webinars	
Website	
Physicians' Training-CME	

Total Program Costs	\$ 365,659
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TOTAL NET ASSETS

Total Net Assets as of Dec. 31, 2021	\$ 4,618,767
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The Autism Research Institute's strong financial health and commitment to accountability and transparency have once again earned it Charity Navigator's highest "4-star" rating and Candid GuideStar's highest "Platinum" rating.

The Autism Research Institute is a non-profit 501(c)3 organization focused on conducting and sponsoring research aimed at improving the quality of life for today's generation of children and adults with autism spectrum disorders. Contributions are tax deductible as allowable by law. Fed ID No. 95-2548452.

2021 Board of Directors



Marvin Natowicz, MD, PhD
CHAIRMAN OF THE BOARD
Scientific Advisory Board Member
Cleveland Clinic
Case Western Reserve University School of Medicine



Kenneth Clayton Sassower, MD
Scientific Advisory Board Member
Massachusetts General Hospital;
Harvard Medical School
Boston, MA



Kelly Barnhill, MBA, CN, CCN
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Harvard Medical School
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Portfolio Manager
Independent Solutions Wealth Management;
Professor of Practice
Baker School of Business, The Citadel
Charleston, SC
Served through April 2021



Robert Hendren, DO
Scientific Advisory Board Member
University of California, San Francisco
Medical Center



James Walker
Chief Operating Officer
Adams Street Partners
Chicago, IL



APRIL 2022: ARI Announces Wenn Lawson, PhD as Our Newest Board Member

Dr. Lawson is a highly-knowledgeable expert on autism. He combines insights from his lived experience with professional knowledge ranging from social work to psychology, and has been a public speaker for over 20 years. He published his first book on autism, *Life Behind Glass*, in 1998, and has authored more than 20 books to date.

Staff



Stephen M. Edelson, PhD
Executive Director



Rebecca McKenney
Office Manager



Nicole Cacchiotti
Marketing Content



Denise Fulton
Managing Director,
Administration and Programs



Melanie Glock
Communications Specialist

Key Volunteer

Jane B. Johnson, *Think Tank Coordinator*

Consultants

Chris Cava Preston, *Art Direction*
Anthony Morgali, *Media Producer*
Nataliya Vasylevskaya,
International Outreach Coordinator

ARI's Scientific Advisory Board provides informed support and direction for our research initiatives. Dr. Stephen M. Edelson leads the group, assembling leaders in the medical and scientific community in order to further ARI's ongoing commitment to research that makes a difference.



AUTISM RESEARCH INSTITUTE
Autism is Treatable

ARI's Scientific Advisory Board



James B. Adams, PhD
Arizona State University



Paul Ashwood, PhD
*University of California, Davis
MIND Institute*



Margaret Bauman, MD
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School of Medicine*



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University of Missouri



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Wolford College*



Manuel F. Casanova, MD



Richard Frye, MD, PhD
*Arizona Children's Hospital
in Phoenix*



June Groden, PhD
*Groden Center
Providence, RI*



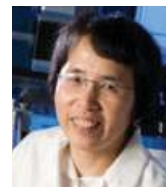
Juergen Hahn, MS, PhD
Rensselaer Polytechnic Institute



Laura Hewitson, PhD
*The Johnson Center
for Child Health and Development*



Mady Hornig, MA, MD
*Columbia University
Mailman School of Public Health*



Harumi Jyonouchi, MD
*Saint Peters University Hospital;
Robert Wood Johnson University Hospital;
Rutgers New Jersey Medical School*



Edward Levin, PhD
Duke University



Rosa Krajmalnik-Brown, PhD
Arizona State University



Lauren Moskowitz, PhD
St. John's University



Robert Rubin, PhD
*Resident Scholar, Mathematics Department
Whittier College*



Andrey Rzhetsky, PhD
*Professor of Medicine
and Human Genetics,
The University of Chicago*



Judy Van de Water, PhD
*University of California, Davis
MIND Institute;
NIEHS funded Center for
Children's Environmental Health*



Daniel Vogt, PhD
Michigan State University



Marc Weisskopf, ScD, PhD
Harvard University

Not pictured:
Mary Coleman, MD
Foundation for Autism Research



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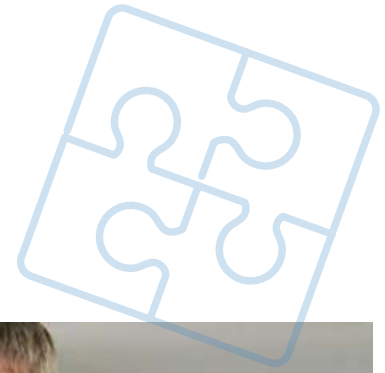
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“ Our son Barret is a light to everyone who meets him. His challenges have not stopped him from inspiring the people who get to know him. He has learned to walk through his fears and move from the sidelines to participation.

The world through Barret’s eyes is an amazing and wonderful journey—he teaches us so much about love and life.”

— WENDY SCHWARTZ
Alabama
Full-time Homeschool Mom



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The Autism Research Institute’s strong financial health and commitment to accountability and transparency have once again earned it Charity Navigator’s highest “4-star” rating and Candid GuideStar’s highest “Platinum” rating.