

# 2012 Portfolio Analysis Projects

*Please note that data are not yet final; additional projects may be added.*

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### QUESTION 1: WHEN SHOULD I BE CONCERNED?

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## 1.S.A

Develop, with existing tools, at least one efficient diagnostic instrument (i.e., briefer, less time intensive) that is valid in diverse populations for use in large-scale studies by 2011. *IACC Recommended Budget: \$5,300,000 over 2 years.*

Project Title	Principal Investigator	Institution	Funding	Funder
Biomarkers and diagnostics for ASD	Bahn, Sabine	Institute of Biotechnology	\$149,600	Autism Speaks
Early detection of pervasive developmental disorders	Fein, Deborah	University of Connecticut	\$992,563	National Institutes of Health
Assessing the accuracy of rapid phenotyping of nonverbal autistic children	Law, Paul	Kennedy Krieger Institute	\$0	Autism Speaks
Intelligent data capture and assessment technology for developmental disabilities	Oberlietner, Ron	Caring Technologies/Southwestern Autism Research & Resource Center (SARRC)	\$50,000	Southwest Autism Research & Resource Center
The use of interactive television in identifying autism in young children	Reese, R. Matthew	University of Kansas Medical Center	\$188,750	National Institutes of Health
Validation of a screening questionnaire for ASD in older children	Smith, Christopher	Southwestern Autism Research & Resource Center (SARRC)	\$50,000	Southwest Autism Research & Resource Center
Multimedia tool for psychology graduate student ASD assessment training	Strickland, Dorothy	Virtual Reality Aids, Inc.	\$447,062	National Institutes of Health
Development of a novel biomarker test for autism risk screening	Svarovsky, Sergei	Xen Biofluidx, Inc.	\$336,569	National Institutes of Health

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## 1.S.B

Validate and improve the sensitivity and specificity of new or existing screening and diagnostic tools, including comparative studies of general developmental screening versus autism-specific screening tools, in both high-risk and population-based samples, including those from resource-poor international settings and those that are diverse in terms of age, socio-economic status, race, ethnicity, gender, characteristics of ASD, and general level of functioning by 2012. *IACC Recommended Budget: \$5,400,000 over 3 years.*

Project Title	Principal Investigator	Institution	Funding	Funder
Leadership Education in Neurodevelopmental Disabilities	Biasini, Fred	University of Alabama at Birmingham	\$2,500	Health Resources and Services Administration
Computer Assisted Autism Care (CAAC)	Downs, Stephen	Indiana University - Purdue University at Indianapolis	\$490,038	Agency for Healthcare Research and Quality
Cultural equivalence of autism assessment for Latino children	Magana, Sandra	University of Wisconsin - Madison	\$74,250	National Institutes of Health
Analysis of cultural appropriateness and necessary modifications of the Survey of Well Being for Young Children on Native American reservations	Novan, Doug	University of Colorado Denver	\$100,000	Administration for Children and Families
Intelligent data capture and assessment technology for developmental disabilities	Oberleitner, Ronald	Caring Technologies, Inc.	\$744,906	National Institutes of Health
Georgia Tech Non-Invasive Gaze Tracking Project	Rehg, James	Georgia Tech Research Corporation	\$140,347	Simons Foundation
Validation of web-based administration of the M-CHAT-R with Follow-up (M-CHAT-R/F)	Robins, Diana	Georgia State University	\$149,999	Autism Speaks

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Characterizing autism-related intellectual impairment and its genetic mechanisms	Schultz, Robert	The Children's Hospital of Philadelphia	\$59,443	Simons Foundation
Baby Siblings Research Consortium	Staff Member	Autism Speaks (AS)	\$50,000	Autism Speaks
Sensory based CNS diagnostics for the clinic	Tommerdahl, Mark	University of North Carolina at Chapel Hill	\$181,885	National Institutes of Health
Mobilized technology for rapid screening and clinical prioritization of ASD	Wall, Dennis	Harvard Medical School	\$73,456	Simons Foundation
Autism and the RASopathies	Weiss, Lauren	University of California, San Francisco	\$60,000	Simons Foundation

### 1.S.C

Conduct at least three studies to identify reasons for the health disparities in accessing early screening and diagnosis services, including identification of barriers to implementation of and access to screening, diagnosis, referral, and early intervention services among diverse populations, as defined by socioeconomic status, race, ethnicity, and gender of the child, by 2012. *IACC Recommended Budget: \$2,000,000 over 2 years.*

Project Title	Principal Investigator	Institution	Funding	Funder
Reducing barriers to autism care in Latino children	Zuckerman, Katherine	Oregon Health & Science University	\$179,521	National Institutes of Health Substance Abuse and Mental Health Services Administration
E-Quality Measures development	No PI Listed	MITRE	\$450,000	Autism Speaks
Dissemination of multi-stage screening to underserved culturally-diverse families	Martinez-Pedraza, Frances	University of	\$0	Autism Speaks

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### 1.S.E

Conduct at least one study to determine the positive predictive value and clinical utility (e.g., prediction of co-occurring conditions, family planning) of chromosomal microarray genetic testing for detecting genetic diagnoses for ASD in a clinical setting by 2012. *IACC Recommended Budget: \$9,600,000 over 5 years.*

Project Title	Principal Investigator	Institution	Funding	Funder
Gene dosage imbalance in neurodevelopmental disorders	Ledbetter, David	Weis Center for Research - Geisinger Clinic	\$195,000	National Institutes of Health
Gene dosage imbalance in neurodevelopmental disorders (supplement)	Ledbetter, David	Weis Center for Research - Geisinger Clinic	\$698,795	National Institutes of Health
The impact of uncertainty in genome-wide testing for autism spectrum disorder	Reiff, Marian	University of Pennsylvania	\$240,000	National Institutes of Health
Novel metabolic biomarker for autism spectrum disorder	Schwartz, Charles	Greenwood Genetic Center	\$148,327	National Institutes of Health

### 1.L.A

Identify behavioral and biological markers that separately, or in combination, accurately identify, before age 2, one or more subtypes of children at risk for developing ASD, and evaluate whether these risk markers or profiles can improve early identification through heightened developmental monitoring and screening by 2014. *IACC Recommended Budget: \$33,300,000 over 5 years.*

<b>Project Title</b>	<b>Principal Investigator</b>	<b>Institution</b>	<b>Funding</b>	<b>Funder</b>
Biomarkers for autism and for gastrointestinal and sleep problems in autism	Anderson, George	Yale University	\$0	Department of Defense-Army
Visual attention and fine motor coordination in infants at risk for autism	Bhat, Anjana	University of Connecticut	\$73,123	National Institutes of Health
EEG complexity trajectory as an early biomarker for autism	Bosl, William	Boston Children's Hospital	\$261,000	National Institutes of Health
Early social and emotional development in toddlers at genetic risk for autism	Campbell, Susan	University of Pittsburgh	\$369,179	National Institutes of Health
ACE Center: Gaze perception abnormalities in infants with ASD	Chawarska, Katarzyna	Yale University	\$286,420	National Institutes of Health
Are autism spectrum disorders associated with leaky-gut at an early critical period in development?	Dobkins, Karen	University of California, San Diego	\$302,820	National Institutes of Health
Serum antibody biomarkers for ASD	German, Dwight	University of Texas Southwestern Medical Center	\$0	Department of Defense-Army
Early identification of autism: A prospective study	Iverson, Jana	University of Pittsburgh	\$481,734	National Institutes of Health
Sensor-based technology in the study of motor skills in infants at risk for ASD	Iverson, Jana	University of Pittsburgh	\$191,070	National Institutes of Health
Developing fNIRS as a brain function indicator in at-risk infants	Johnson, Mark	Birkbeck College	\$205,199	Simons Foundation

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ACE Center: Neural assays and longitudinal assessment of infants at very high risk for ASD	Johnson, Scott	University of California, Los Angeles	\$186,019	National Institutes of Health
The ontogeny of social visual engagement in infants at risk for autism	Jones, Warren	Emory University	\$473,149	National Institutes of Health
Identification of lipid biomarkers for autism	Kang, Jing	Massachusetts General Hospital	\$0	Department of Defense-Army
Physical and clinical infrastructure for research on infants-at-risk for autism at Yale	Klin, Ami	Emory University	\$1549,665	Simons Foundation
Brain-behavior growth charts of altered social engagement in ASD infants	Klin, Ami	Yale University	\$431,189	Simons Foundation
Growth charts of altered social engagement in infants with autism	Klin, Ami	Emory University	\$273,481	Simons Foundation
ACE Center: Assessment Core	Klin, Ami	Yale University	\$510,544	National Institutes of Health
RNA expression studies in autism spectrum disorders	Kunkel, Louis	Children's Hospital Boston	\$500,000	Simons Foundation
Autism: Social and communication predictors in siblings	Landa, Rebecca	Kennedy Krieger Institute	\$ 805,136	National Institutes of Health
Epigenetic biomarkers of autism in human placenta	LaSalle, Janine	University of California, Davis	\$0	Department of Defense-Army
Postural and vocal development during the first year of life in infants at heightened biological risk for AS	Leezenbaum, Nina	University of Pittsburgh	\$30,000	Autism Science Foundation
Identifying early biomarkers for autism using EEG connectivity	Levin, April	Children's Hospital Boston	\$40,000	Autism Science Foundation
Electrophysiological, metabolic and behavioral markers of infants at risk	Nelson, Charles	Children's Hospital Boston	\$273,152	Simons Foundation

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Infants at risk of autism: A longitudinal study	Ozonoff, Sally	University of California, Davis	\$587,150	National Institutes of Health
Physical and clinical infrastructure for research on infants-at-risk for autism at Yale	Pelphrey, Kevin	Yale University	\$0	Simons Foundation
Studying the biology and behavior of autism at 1-year: The Well-Baby Check-Up approach	Pierce, Karen	University of California, San Diego	\$272,164	National Institutes of Health
Supplement to NIH ACE Network grant: "A longitudinal MRI study of infants at risk for autism"	Piven, Joseph	University of North Carolina at Chapel Hill	\$180,000	Simons Foundation
fcMRI in infants at high risk for autism	Pruett, John	Washington University in St. Louis	\$584,566	National Institutes of Health
ACE Center: The ontogeny of social vocal engagement and its derailment in autism	Ramsay, Gordon	Emory University	\$201,683	National Institutes of Health
ACE Network: Early biomarkers of autism spectrum disorders in infants with tuberous sclerosis	Sahin, Mustafa	Boston Children's Hospital	\$2,649,781	National Institutes of Health
Placental vascular tree as biomarker of autism/ASD risk	Salafia, Carolyn	Research Foundation for Mental Hygiene, Inc.	\$0	Department of Defense-Army
Neurophysiological investigation of language acquisition in infants at risk for ASD	Seery, Anne	Boston University	\$0	Autism Speaks
Family/Genetic study of autism	Smith, Christopher	Southwestern Autism Research & Resource Center (SARRC)	\$50,000	Southwest Autism Research & Resource Center

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Neurobehavioral research on infants at risk for SLI and autism	Tager-Flusberg, Helen	Boston University Medical Campus	\$944,962	National Institutes of Health
Dynamics of cortical interactions in autism spectrum disorders	Victor, Jonathan	Cornell University	\$60,000	Simmons Foundation
Multiplexed suspension arrays to investigate newborn and childhood blood samples for potential immune biomarkers of autism	Vogt, Robert	Centers for Disease Control and Prevention (CDC)	\$0	Department of Defense
Divergent biases for conspecifics as early markers for autism spectrum disorders	Vouloumanos, Athena	New York University	\$269,604	National Institutes of Health
Using near-infrared spectroscopy to measure the neural correlates of social and emotional development in infants at risk for autism spectrum disorder	Wagner, Jennifer	Harvard University	\$15,000	Brain & Behavior Research Foundation
A network approach to the prediction of autism spectrum disorders	West, Meredith	Indiana University	\$223,949	National Institutes of Health
Abnormal vestibulo-ocular reflexes in autism: A potential endophenotype	White, Keith	University of Florida	\$0	Department of Defense

### 1.L.B

Develop at least five measures of behavioral and/or biological heterogeneity in children or adults with ASD, beyond variation in intellectual disability, that clearly relate to etiology and risk, treatment response, and/or outcome by 2015. *IACC Recommended Budget: \$71,100,000 over 5 years.*

Project Title	Principal Investigator	Institution	Funding	Funder
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Predicting outcomes in autism with functional connectivity MRI	Barnes, Kelly Anne	National Institute of Mental Health	\$0	Brain & Behavior Research Foundation
A prospective multi-system evaluation of infants at risk for autism	Bauman, Margaret	Massachusetts General Hospital	\$0	Department of Defense-Army
Restricted repetitive behavior in autism	Bodfish, James	University of North Carolina at Chapel Hill	\$416,315	National Institutes of Health
Improved early detection of autism using novel statistical methodology	Campbell, Daniel	Yale University	\$49,880	Autism Speaks
Development of face processing in infants with autism spectrum disorders	Chawarska, Katarzyna	Yale University	\$409,613	National Institutes of Health
Collaborative research: Computational behavioral science: Modeling, analysis, and visualization of social and communicative behavior	Dey, Anind	Carnegie Mellon University	\$600,658	National Science Foundation
Translational developmental neuroscience of autism	Di Martino, Adriana	New York University School of Medicine	\$168,116	National Institutes of Health
Extraction of functional subnetworks in autism using multimodal MRI	Duncan, James	Yale University	\$360,294	National Institutes of Health
Extracellular signal-related kinase biomarker	Erickson, Craig	Cincinnati Children's Hospital Medical Center - Research Foundation	\$60,889	Simons Foundation

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Collaborative research: Computational behavioral science: Modeling, analysis, and visualization of social and communicative behavior	Forsyth, David	University of Illinois at Urbana-Champaign	\$600,000	National Science Foundation
Identification of candidate serum antibody biomarkers for ASD	German, Dwight	University of Texas Southwestern Medical Center	\$118,338	Simons Foundation
A prospective multi-system evaluation of infants at risk for autism	Herbert, Martha	Massachusetts General Hospital	\$0	Department of Defense-Army
Neural predictors of language acquisition after intensive behavioral intervention	Jeste, Shafali	University of California, Los Angeles	\$181,332	National Institutes of Health
ACE Center: Eye-tracking studies of social engagement	Klin, Ami	Yale University	\$287,074	National Institutes of Health
Perception of social and physical contingencies in infants with ASD	Klin, Ami	Yale University	\$312,944	National Institutes of Health
Using a direct observation assessment battery to assess outcome of early intensive behavioral intervention for children with autism	MacDonald, Rebecca	New England Center for Children	\$10,000	Organization for Autism Research
Collaborative research: Computational behavioral science: Modeling, analysis, and visualization of social and communicative behavior	Narayanan, Shrikanth	University of Southern California	\$600,000	National Science Foundation
Functional brain networks in autism and attention deficit hyperactivity disorder	Nigg, Joel	Oregon Health & Science University	\$112,359	Simons Foundation
Analyses of brain structure and connectivity in young children with autism	Nordahl, Christine	University of California, Davis	\$238,042	National Institutes of Health

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Collaborative research: Computational behavioral science: Modeling, analysis, and visualization of social and communicative behavior	Picard, Rosalind	Massachusetts Institute of Technology	\$600,000	National Science Foundation
Collaborative research: Computational behavioral science: Modeling, analysis, and visualization of social and communicative behavior	Rehg, James	Georgia Tech Research Corporation	\$1,314,749	National Science Foundation
The intersection of autism and ADHD	Reiersen, Angela	Washington University in St. Louis	\$160,519	National Institutes of Health
Toward outcome measurement of anxiety in youth with autism spectrum disorders	Scahill, Lawrence	Yale University	\$829,922	National Institutes of Health
CDI-Type I: Understanding regulation of visual attention in autism through computational and robotic modeling	Scassellati, Brian	Yale University	\$0	National Science Foundation
Collaborative research: Computational behavioral science: Modeling, analysis, and visualization of social and communicative behavior	Sclaroff, Stan	Trustees of Boston University	\$313,753	National Science Foundation
ERK signaling and autism: Biomarker development	Sherr, Elliott	University of California, San Francisco	\$60,000	Simons Foundation
Components of limited activity monitoring in toddlers with ASD	Shic, Frederick	Yale University	\$82,896	National Institutes of Health
Validity of an anxious subtype in autism spectrum disorders	Sterling, Lindsey	University of California, Los Angeles	\$50,294	National Institutes of Health
Social-emotional development of infants at risk for autism spectrum disorders	Stone, Wendy	University of Washington	\$662,677	National Institutes of Health

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Social-emotional development of infants at risk for autism spectrum disorders (supplement)	Stone, Wendy	University of Washington	\$39,002	National Institutes of Health
Family studies of sensorimotor and neurocognitive heterogeneity in autism spectrum disorders (ASD)	Sweeney, John	University of Texas Southwestern Medical Center at Dallas	\$0	Department of Defense-Army
Electrophysiological correlates of cognitive control in autism	Takarae, Yukari	University of California, Davis	\$130,898	National Institutes of Health
A novel quantitative framework to study lack of social interactions in autism	Torres, Elizabeth	Rutgers, The State University of New Jersey - New Brunswick	\$0	National Science Foundation
HCC: Medium: Automatic detection of atypical patterns in cross-modal affect	Van Santen, Jan	Oregon Health & Science University	\$0	National Science Foundation
Identifying neurobiological markers of the broader autism phenotype	Wilson, Sarah	University of Melbourne	\$0	Department of Defense-Army
Social evaluation in infants and toddlers	Wynn, Karen	Yale University	\$409,613	National Institutes of Health
Predicting useful speech in children with autism	Yoder, Paul	Vanderbilt University	\$726,467	National Institutes of Health

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## 1.L.C

Identify and develop measures to assess at least three "continuous dimensions" (e.g., social reciprocity, communication disorders, and repetitive/restrictive behaviors) of ASD symptoms and severity that can be used by practitioners and/or families to assess response to intervention for people with ASD across the lifespan by 2016. *IACC Recommended Budget: \$18,500,000 over 5 years.*

Project Title	Principal Investigator	Institution	Funding	Funder
The development of joint attention after infancy	Adamson, Lauren	Georgia State University	\$291,832	National Institutes of Health
Development of intermodal perception of social events: Infancy to childhood	Bahrack, Lorraine	Florida International University	\$310,903	National Institutes of Health
Intersensory perception of social events: Typical and atypical development	Bahrack, Lorraine	Florida International University	\$134,355	National Institutes of Health
Early quantitative characterization of reciprocal social behavior	Constantino, John	Washington University in St. Louis	\$590,421	National Institutes of Health
Characterizing ASD phenotypes by multimedia signal and natural language processing	Elhadad, Noemie	Columbia University	\$0	Simons Foundation
Receptive vocabulary knowledge in low-functioning autism as assessed by eye movements, pupillary dilation, and event-related potentials	Gordon, Barry	Johns Hopkins University	\$0	Department of Defense-Army
Developmental social neuroscience in infants at-risk for autism	McPartland, James	Yale University	\$181,367	National Institutes of Health
Neural correlates of social perception in autism	McPartland, James	Yale University	\$30,000	Brain & Behavior Research Foundation
Neural economics of biological substrates of valuation	Montague, P. Read	Virginia Polytechnic Institute and State University	\$379,913	National Institutes of Health

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Measuring imitation and motor control in severe autism	Munson, Jeffrey	University of Washington	\$59,256	Simons Foundation
Language development and outcome in children with autism	Naigles, Letitia	University of Connecticut	\$397,425	National Institutes of Health
Sensory integration and language processing in autism	Silverman, Laura	University of Rochester	\$149,556	National Institutes of Health
Prosodic and pragmatic processes in highly verbal children with autism	Snedeker, Jesse	President & Fellows of Harvard College	\$0	Simons Foundation
Looking at autism through the nose	Sobel, Noam	Weizmann Institute of Science	\$75,000	Simons Foundation
Language learning in autism	Ullman, Michael	Georgetown University	\$31,500	Simons Foundation

## 1. Other

Not specific to any objective

Project Title	Principal Investigator	Institution	Funding	Funder
Social-affective bases of word learning in fragile X syndrome and autism	Abbeduto, Leonard	University of California, Davis	\$703,969	National Institutes of Health
Sensory experiences in children with autism	Baranek, Grace	University of North Carolina at Chapel Hill	\$472,116	National Institutes of Health
Sensory experiences in children with autism (supplement)	Baranek, Grace	University of North Carolina at Chapel Hill	\$51,920	National Institutes of Health

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South Carolina Children's Educational Surveillance Study: Comparison of DSM-IV & DSM-5 prevalence	Carpenter, Laura	Medical University of South Carolina	\$43,198	Autism Speaks
CAREER: Enabling community-scale modeling of human behavior and its application to healthcare	Choudhury, Tanzeem	Cornell University	\$106,218	National Science Foundation
Social and statistical mechanisms of prelinguistic vocal development	Goldstein, Michael	Cornell University	\$0	National Science Foundation
ASD prevalence by DSM-IV and DSM-5: Total population study	Leventhal, Bennett	Nathan Kline Institute	\$44,660	Autism Speaks
INT2-Large: Collaborative research: Developing social robots	Messinger, Daniel	University of Miami	\$0	National Science Foundation
INT2-Large: Collaborative research: Developing social robots	Movellan, Javier	University of California, San Diego	\$0	National Science Foundation
Test of integrated language and literacy skills validation research	Nelson, Nickola	Western Michigan University	\$494,164	Department of Education
ACE Center: Auditory mechanisms of social engagement	Paul, Rhea	Yale University	\$257,504	National Institutes of Health
Dissertation research: Translating diagnoses across cultures: Expertise, autism, and therapeutics of the self in Morocco	Sharp, Lesley	Columbia University	\$0	National Science Foundation
Atypical pupillary light reflex in individuals with autism	Yao, Gang	University of Missouri	\$0	Department of Defense-Army

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