BABY SIBLINGS
RESEARCH CONSORTIUM
2009 ANNUAL REPORT
Executive Summary

1. The Committee of Principal Investigators of the BSRC now includes 23 members.
3. Over 2100 siblings at risk for ASD have enrolled in BSRC projects; in the coming year we expect to enroll more than 800 additional high risk infants.
4. The BSRC published a high-profile paper in the May 2009 issue of *Pediatrics* – disseminating initial findings from BSRC research to the clinical community.
5. In 2009 22 papers were published in peer-review journals on topics directly relevant to the mission of the BSRC. In addition, members of the BSRC gave 93 presentations at professional conferences.
6. BSRC research programs involved 36 doctoral students and 6 post-doctoral fellows.
7. 14 new grants were awarded to members of the BSRC in 2009 to support further research on high risk infants.
8. Work on all ongoing collaborative projects and network projects is proceeding with the expectation that several will reach completion in the coming year.
Baby Sibling Research Consortium (BSRC) - Mission

The BSRC focuses on investigations of infants at risk for autism spectrum disorders (ASD) using a variety of methods, including behavioral and neurobiological measures. The organization respects the integrity of the individual researchers and research groups while at the same time creating a framework for collaborative research activities (with new or existing funding at each site) and data sharing through this new entity. We have agreed to identify new pool our data for collaborative projects, thereby considerably enhancing the prospects of achieving our research goals.

Members of the BSRC

The organization is made up of a Committee of Principal Investigators (CPI) representing major research groups participating in the BSRC. Each member of the BSRC is a PI on a funded project investigating infants/toddlers at risk for ASD.

Committee of Principal Investigators

Susan Bryson, Ph.D.  Dalhousie University, Halifax, Canada  
Alice Carter, Ph.D.  University of Massachusetts, Boston  
Leslie Carver, Ph.D.  UCSD  
Kasia Chawarska, Ph.D.  Yale University  
John Constantino, M.D.  Washington University  
Suzanne Curtin, Ph.D.  University of Calgary  
Karen Dobkins, Ph.D.  UCSD  
Deborah Fein, Ph.D.  University of Connecticut  
Jana Iverson, Ph.D.  University of Pittsburgh  
Ami Klin, Ph.D.  Yale University  
Rebecca Landa, Ph.D.  Kennedy Krieger Institute  
Catherine Lord, Ph.D.  University of Michigan  
Daniel Messinger, Ph.D.  University of Miami  
Sally Ozonoff, Ph.D.  MIND Institute, UC Davis  
Joseph Piven, M.D.  University of North Carolina  
Sally Rogers, Ph.D.  MIND Institute, UC Davis  
Marian Sigman, Ph.D.  UCLA  
Wendy Stone, Ph.D.  Vanderbilt University  
Mark Strauss, Ph.D.  University of Pittsburgh  
Helen Tager-Flusberg, Ph.D.  Boston University  
Sara Webb, Ph.D.  University of Washington  
Nurit Yirmiya, Ph.D.  Hebrew University, Jerusalem Israel  
Lonnie Zwaigenbaum, M.D.  University of Alberta, Edmonton, Canada
Autism Speaks Project Staff
Geraldine Dawson, Ph.D.
Alycia Halladay, Ph.D.
Andy Shih, Ph.D.

NIH Project Staff
NICHD: Alice Kau, Ph.D.

External Advisory Committee
The following individuals graciously served on the External Advisory Committee in 2009:

Heidi Feldman, M.D. (Stanford University)
Alan Fogel, Ph.D. (University of Utah)
Nathan Fox, Ph.D. (University of Maryland)
Peter Mundy Ph.D. (UC Davis/MIND Institute) – continuing member
Alison Singer (Autism Science Foundation and parent)
Ezra Susser, M.D. (Columbia University)

BSRC Officers: Executive Committee

The BSRC Executive Committee is responsible for organizing and coordinating all functions of the BSRC. Current officers (for 2009-10) include:

Chair       Sally Ozonoff
Past-Chair   Lonnie Zwaigenbaum
Member       Helen Tager-Flusberg
Member       Rebecca Landa

Participants in BSRC Projects

There are currently over 2100 siblings at risk for ASD enrolled and participating in active projects. In addition, almost 1200 infants from “low risk” or non-affected families are included in BSRC studies.

In the coming year, we expect to enroll an additional 845 siblings.

Annual Meeting Summary

The BSRC held its annual meeting in Miami, Florida on January 28th and 29th, 2009. The meeting focused on two major topics: (1) the “broader autism phenotype” – the milder or subclinical expression of certain features of ASD that may emerge in infants at risk who do not meet criteria for ASD and (2) regression
in infants with an older sibling affected with autism. Investigators provided new data and discussed novel approaches to these topics that were based on their studies that track the development of high risk infant siblings throughout early life.

**Broader Autism Phenotype:** Investigators at the BSRC meeting updated the group on new research studying autism in family members and reported that siblings who don’t meet criteria for ASD may demonstrate difficulties in the areas of social interaction and language, as well as subtle behavioral or biological differences including increased head circumference, emerging in the latter half of the first year, eye tracking differences to faces, and changes in brain waves (measured as electroencephalographic, or EEG, activity). It is important that these differences can be understood and recognized so that a child needing help can get treatment as soon as possible. Might want to say that these features may also provide informative data for genetic studies and for finding etiologies.

**Regression:** The BSRC members discussed the challenges in defining regression, which, according to the literature and clinical reports can vary from an abrupt and dramatic loss of skills in one or more domains, to a more gradual loss of only a subset of skills. Data obtained by prospectively studying infants at-risk for developing autism offers a unique and detailed look at early signs and different patterns of onset of symptoms in ASD. For example, prospective longitudinal studies are documenting that the patterns of onset of autism are quite variable, ranging from early signs of symptoms during the first year of life, to observations of a plateau in development during the second year, to loss of skills that were previously observed (e.g., loss of social responsiveness). These variable patterns of onset underscore the challenges of developing reliable methods for early detection that are able to capture all children at-risk for ASD, and in defining the construct of regression. Despite the challenges, the investigators agreed that by defining and studying regression, it may be possible to discover whether different patterns of ASD are associated with different causes, prognoses, or treatment responses

**Paper Published in the Journal Pediatrics**

Under the leadership of Lonnie Zwaigenbaum, members of the BSRC worked collaboratively on a highly significant paper published in the May, 2009 issue of the journal *Pediatrics*. This paper titled: “Clinical assessment and management of toddlers with suspected autism spectrum disorder: Insights from studies of high-risk infants” is the first paper to disseminate findings from the BSRC to the wider clinical community.

This publication was highlighted in the report published by the Interagency Autism Coordinating Committee 2009 *Summary of Advances in Autism Spectrum Disorder Research.*
Three major findings in high-risk infant research based on published research in 2009

1. Parental concerns are useful predictors of diagnostic outcome at and after 12 months of age. This study validates the importance of parental reports on problems detected in infants’ development. (Ozonoff et al., *Journal of Developmental and Behavioral Pediatrics*, 2009).

2. At 10 months, high-risk infants show atypical event-related EEG responses (ERP) to pictures of faces and objects. Specifically, they show the same responses to faces as low risk infants, but *faster* responses to objects. At the same time, high-risk infants, show a *lack* of lateralization for any ERP component, in contrast to low risk infants. These findings point the way to a potential early biomarker that distinguishes high and low risk infants, but it is not yet known how well these biomarkers predict a later ASD diagnosis. (McCleery et al., *Biological Psychiatry*, 2009).

3. In the toddler and preschool years more than one-third of high risk siblings who do not develop ASD nevertheless have delays in the acquisition of language. Some of these children catch up during the early school years, while others remain language-impaired. (Gamliel et al., *Journal of Autism and Developmental Disorders* 2009).
Publications in 2009

This section of the report presents a summary of the papers and book chapters published in 2009 by members of the CPI on topics directly related to their research on infants/toddlers at risk for ASD.

[** Indicates more than one CPI member as co-author]

Susan Bryson, Dalhousie University


John Constantino, Washington University

Karen Dobkins, University of California at San Diego


Deborah Fein, University of Connecticut


Ami Klin, Yale University


Daniel Messinger, University of Miami


Sally Ozonoff, University of California at Davis


**Wendy Stone, Vanderbilt University**


**Helen Tager-Flusberg, Boston University**


**Sara Jane Webb, University of Washington**


**Nurit Yirmiya, Hebrew University**

Lonnie Zwaigenbaum, University of Alberta


Conference Presentations in 2009

[** Indicates more than one CPI member as co-presenter]

Susan Bryson, Dalhousie University

Bryson, S.E. Overview of research on autism. IWK Centennial Conference: *Advances in the Science and Treatment of Autism,* Halifax, NS.

Bryson, S.E. Community-based early intervention for young children with autism: Challenges and opportunities. *Keynote address at Sick Kids Child Development Update,* Toronto, ON.

Bryson, S.E. ASD: What do we know, where are we going, and what matters? *Keynote address at the Annual General Meeting of Autism Ontario,* Toronto, ON.


Kasia Chawarska, Yale University

**Chawarska, K., Shic, F., Bradshaw, J., Macari, S. & Klin, A. Scanning strategies of static, dynamic, and speaking faces in 3, 6, 9, and 12-month-old infants with and without developmental disabilities.** International Meeting for Autism Research, Chicago, IL.


Macari, S., Bearss, K., Gengoux, G., & Chawarska, K. Infants at high risk for autism spectrum disorder: Social-communication and language skills at 12 months. International Meeting for Autism Research, Chicago, IL.


Simeone, D., Reed, J., Macari, S., Butler, B., Chawarska, K. Attention to speech and song at six months and later language abilities in siblings of children with Autism Spectrum Disorders. Society for Research in Child Development, Denver, CO.

Suzanne Curtin, University of Calgary


Karen Dobkins, UCSD


Deborah Fein, University of Connecticut

Swensen, L., Fein, D., Naigles, L. Patterns of Change in Children With Autism Compared to Typically Developing Children. Society for Research in Child Development, Denver, CO.


**Jana Iverson, University of Pittsburgh**


Mugno, B.L., Wozniak, R.H., & Iverson, J.M. *Emotional Expression and Gaze Behavior in Infants at Heightened Risk for Autism*. Society for Research in Child Development, Denver, CO.
Parladé, M.V. & Iverson, J.M. *The Temporal Coordination of Communicative Behaviors in 12-Month-Old Infants at Risk for Autism Spectrum Disorders.* Society for Research in Child Development, Denver, CO.


Jakubowski, K. & Iverson, J.M. *Look at Mommy: Attention-Related Communication in Mothers of Children at Risk for Autism.* International Meeting for Autism Research, Chicago, IL.

Johnson, J., Koterba, E., Parladé, M.V., & Iverson, J.M. *The Effects of Parental Stress on the Emergence and Development of Joint Attention Behaviors in Infant Siblings of Children with Autism.* International Meeting for Autism Research, Chicago, IL.


**Ami Klin, Yale University**


Klin, A. *Perception of audiovisual synchrony under varying degrees of social context in infants with autism.* International Meeting for Autism Research, Chicago, IL

Klin, A. *Perception of physical and social contingencies in infants with autism.* International Meeting for Autism Research, Chicago, IL

Klin, A. *Altered face scanning and impaired recognition of biological motion in 2-year-olds with autism.* International Meeting for Autism Research, Chicago, IL

Klin, A. *Where it all begins: Studies of social engagement in infants and toddlers.* II Congreso Internacional Síndrome de Asperger, Sevilla, Spain,
Rebecca Landa, Kennedy Kreiger Institute


Landa, R. Outcomes of two-year-olds enrolled in a comprehensive developmental intervention. International Meeting for Autism Research, Chicago, IL

Landa, R. & Stuart E. Developmental trajectory in ASD and broader autism phenotype in the first three years of life. International Meeting for Autism Research, Chicago, IL.

Landa, R. The early achievements model of intervention for young children with ASD. Elwyn, Inc, Philadelphia, PA

Landa, R. Transition in the early years: Early screening, identification, and intervention. CSATC Annual Autism Conference, Indianapolis, IN.


Bhat, A., Wong, C., Galloway, J. C., Landa, R. J. "A Comparison of Reaching Coordination and Arm Postures Between Infant Siblings of Children with Autism and Typically Developing Infants at 3 and 6 Months of Age", International Meeting For Autism Research, Chicago, IL

Bhat, A., Downing, K., Galloway, J. C., Landa, R. J. "A Comparison of Object Exploration Strategies Between Infant Siblings of Children with Autism and Typically Developing Infants at 6 Months of Age", International Meeting For Autism Research, Chicago, IL

Daniel Messinger, University of Miami


McDonald, N., Robinson, G., & Messinger, D. Does 24-month empathic responding predict autistic symptomatology and later ASD diagnosis? International Meeting for Autism Research, Chicago, IL.


McDonald, N. & Messinger, D. Empathic responding in toddlers at risk for an autism spectrum disorder. Society for Research in Child Development, Denver, CO.


Sally Ozonoff, UC Davis


Marian Sigman, UCLA


**Del Rosario, M., Hutman, T., Young, G.S., Rogers, S.J., Ozonoff, S., & Sigman, M., Temperament Profiles of Infants Subsequently Diagnosed with ASD. International Meeting for Autism Research, Chicago, IL.


Huang, Y.T., Hutman, T., & Sigman, M., The sharing of positive affect by 12-month-old infants at risk for autism spectrum disorders, Stanford University Undergraduate Research Conference, Stanford, CA.

Wendy Stone, Vanderbilt University


Malesa, E.E. & Stone, W.L. Characterization of the early presentation of the broad autism phenotype. International Meeting for Autism Research, Chicago, IL.

Helen Tager-Flusberg, Boston University


Sara Jane Webb, University of Washington

Davies, A., Venema, K., Jones, E., & Webb, S.J. Facial processing and habituation in toddlers with autism spectrum disorders. Mary Gates Symposium, Seattle WA.

Freed, N., Venema, K., Jones, E., & Webb, S.J. Child EEG and maternal depression. Mary Gates Symposium, Seattle WA.


Lowry, R., Venema, K., Jones, E., & Webb, S.J. Variability and self-regulation in infants at risk for ASD. Mary Gates Symposium, Seattle WA.

Shapley, J., Venema, K., Jones, E., & Webb, S.J. Attention and emotional responses to social and non-social stimuli in infants at high risk for autistic spectrum disorders. Mary Gates Symposium, Seattle WA.

Lonnie Zwaigenbaum, University of Alberta


**Baranek GT, Zwaigenbaum L, Brian J, Bryson SE, Crais E, Piven J, Reznick JS, Roberts W, Smith IM, Szatmari P, Watson L.  *Screening with the First Year Inventory at 12 Months of Age and Diagnostic Outcomes at Two Years in a High-Risk Sample of “Infant Sibs”.* International Meeting for Autism Research, Chicago, IL.


Newly Funded Grants in 2009

Susan Bryson, Dalhousie University
CIHR  Fombonne and Bryson, PIs  2009-2015
Autism Training Grant

Deborah Fein, University of Connecticut
*NICHD  Fein, PI  2009-2014
Early Detection of Pervasive Developmental Disorders

Jana Iverson, University of Pittsburgh
Autism Speaks  Parlade and Iverson, PIs  2009-2011
Weatherstone Predoctoral Fellowship to Meghan Parlade

Daniel Messinger, University of Miami
*NICHD  Messinger and Constantino, co PIs  2009-2011
Autistic Traits: Life Course and Genetic Structure.

Sally Ozonoff, University of California at Davis
NIMH  Ozonoff, PI  2009-2013
Infants at risk of autism: A longitudinal study

Wendy Stone, Vanderbilt University
*NICHD  Fein – PI, Stone – Site PI  2009-2014
Early Detection of Pervasive Developmental Disorders

Mark Strauss, University of Pittsburgh
Autism Science Foundation  Strauss, PI  2009-2010
Doctoral Training Award to Sarah Hannigen
Defining High and Low Risk Expression of Emotion in Infants At-Risk for Autism
Helen Tager-Flusberg, Boston University

NIDCDTager-Flusberg & Nelson (PIs) 2009-2014
Neurobehavioral Research on Infants at Risk for Autism or SLI

Simons Foundation Nelson & Tager-Flusberg (Co-PIs) 2009-2012
Electrophysiological, Metabolic and Behavioral Markers of Infants at Risk for Autism

Sara Jane Webb, University of Washington

Washington State Legislative Initiative Webb, PI 2009
Developmental Disabilities Project, Does atypical head growth predict autism symptoms and severity?

Washington State Legislative Initiative Webb, PI 2009
Developmental Disabilities Project
Electrophysiological risk markers in infant at risk for autism

Nurit Yirmiya, Hebrew University

Autism Speaks Ebstein PI, Yirmiya, co-PIs 2009-2012
Effect of oxytocin receptor inhibitor (Atosiban) during the perinatal period and prevalence of autism spectrum disorders

Israel Science Foundation Yirmiya and Makuta, co-PIs 2009-2012
Prenatal exposure to oxytocin or oxytocin-antagonist as a risk factor for autism spectrum disorders

The Israeli Ministry of Health Yirmiya, PI 2009-2011
The development of younger siblings of children with autism now at 10 years of age

Lonnie Zwaigenbaum, University of Alberta

Network of Centres of Excellence in Brain Development
Goldowitz (PI) and Zwaigenbaum (site PI) 2010-2014
Doctoral and Post-Doctoral Training on BSRC Projects

The following graduate students and post-doctoral fellows were actively involved in the research programs directed by members of the CPI that focused on high risk infants.

Leslie Carver, UCSD
Katherine Meltzoff – Doctoral student

Suzanne Curtin, University of Calgary
Danielle Droucker -Doctoral student

Karen Dobkins, UCSD
Pam Pallett, Ph.D. - Postdoctoral fellow

Deborah Fein, University of Connecticut
Molly Helt – Doctoral student
Katelin Carr – Doctoral student
Hilary Boorstein – Doctoral student
Alyssa Verbalis – Doctoral student
Mike Rosenthal – Doctoral student
Colby Chlebowski – Doctoral student
Eva Troyb – Doctoral student
Kelley Knoch – Doctoral student
Alyssa Orinstein – Doctoral student

Jana Iverson, University of Pittsburgh
Eve Sauer LeBarton - Postdoctoral fellow
Erin Koterba – Doctoral student
Nina Leezenbaum – Doctoral student
Meaghan Parladé – Doctoral student

Rebecca Landa, Kennedy Kreiger Institute
Annie Inge, PhD - Postdoctoral fellow
Natalie Rallis, - Doctoral student
Joanne Flanagan, – Doctoral student
Alden Gross, MPH graduate student
Allison O’Neill – Doctoral student

Sally Ozonoff, UC Davis
Amy Jo Schwichtenberg - Postdoctoral fellow

Marian Sigman, UCLA

Students, faculty and staff of the Landa Lab at the Kennedy Kreiger Institute in Maryland
Ted Hutman, Postdoctoral fellow
Kristen Gillespie-Lynch– Doctoral student
Lisa Christensen– Doctoral student

**Wendy Stone, Vanderbilt University**

Jennifer Foss-Feig – Doctoral student
Cara Damiano – Doctoral student
Elizabeth Malesa – Doctoral student
Elizabeth Catania – Doctoral student

**Mark Strauss, University of Pittsburgh**
Desiree Wilkinson – Doctoral student
Sarah Hannigen – Doctoral student

**Helen Tager-Flusberg, Boston University**
Anne Seery – Doctoral student
Meagan Thompson – Doctoral student

**Sara Jane Webb, University of Washington**
Praneeta Bremjit – MD Student
Karen Burner – Doctoral student
Emily Jones – Doctoral student

**Nurit Yirmya, Hebrew University**
Ifat Gamliel Seidman – Doctoral student
Maya Yaari – Doctoral student
Raaya Alon – Doctoral student
Noa Ben Yitzhak – Doctoral student
Shirley Mitelman – Doctoral student
Ayelet Harel – Doctoral student

**Lonnie Zwaigenbaum, University of Alberta**
Shelley Mitchell – Doctoral student
Nancy Garon -Postdoctoral fellow
AS Toddler Treatment Network: Report Update

In January of 2009, the Toddler Treatment Network, met in San Diego, Calif. to discuss the goals, objectives and directions of the network, and to share preliminary analyses of data collected so far from these randomized trials. There are two major commonalities across the studies: (1) they are parent-implemented, and (2) they all involve naturalistic delivery of interventions addressing the earliest autism behavioral phenotype and thus are heavily focused on communication: joint attention, imitation, gestures and language. The projects use different intervention models, most of which involve adaptations of existing preschool interventions to make them more infant-appropriate. The intervention involve techniques that can be implemented outside the clinic, allowing parents and caregivers to use these techniques in different settings, decreasing the time between parent’s initial concern and beginning intervention, thus hopefully improving developmental outcome in the long run. Because they require less “in clinic” time, they may also be very cost effective. A summary of each of these projects can be found here: http://www.autismspeaks.org/science/research/initiatives/toddler_treatment_network.php

The overarching goals of the network are to a) improve measurement tools regarding outcomes for toddlers and their families, b) define or identify best practices for designing and implementing parent-delivered interventions, c) improve research designs and analytic approaches for early intervention studies, d) facilitate young researchers to develop productive programs of high quality treatment research and e) disseminate evidence of efficacy of early intervention with toddlers.

In 2009, the network collaborated on the creation of a demographic form that can be used for current and future studies. Such a tool will enable researchers to better identify variables across studies which might be used to identify factors which predict responsiveness to treatment. In addition, three junior investigators began developing the first network wide paper which will identify the challenges to determining efficacy of different early intervention paradigms, obstacles encountered, as well as practical solutions which were used to solve those obstacles. This paper is aimed to support other researchers in the area who are developing early intervention programs.

At the International Meeting for Autism Research in May, 2009, members of the TTN, their trainees, junior faculty and other collaborators presented over a dozen posters or oral presentations to attendees. The meeting was attended by over 1300 scientists, clinicians, researchers and members of the public. The conference organizers dedicated an afternoon of research presentations to the topic of early intervention. In addition, network participants delivered talks on novel screening approaches to early identification of autism, including the First Year Inventory and Systematic Observation of Red Flags. There was a special emphasis on
parent delivered interventions as well as utilization of parent observations. For example, the feasibility of delivering an intervention package using a tele-health program was examined.

Late in the year, the prestigious journal *Pediatrics* published evidence of the effectiveness of one of the intervention paradigms, the Early Start Denver Model. This study was co-authored by two network members, and was the first publication of a randomized control trial using a parent-delivered intervention for autism spectrum disorders. This work will continue and expand through the support of a larger project through NIH and Autism Speaks.

**Collaborative Projects (2009)**

**A: Prospective Study of Head Circumference in Infants at Risk for ASD**

Project Leader: Lonnie Zwaigenbaum

Steering committee: Lonnie Zwaigenbaum, Wendy Stone, Karen Dobkins, Rick Urbano, Warren Lambert

This was the first collaborative data project of the BSRC. Supplemental funds were provided by AS to set up the data management team and database at Vanderbilt University. The initial set of analyses have been completed, demonstrating atypical patterns of growth in head circumference toward the end of the first year of life, especially in those infants who later meet criteria for a diagnosis of autism. An abstract was presented at IMFAR 2008. An additional funding supplement has been awarded by AS to update the data to reflect current outcome status in participating high-risk and low-risk infants, finalize quality control, and conduct additional analyses. It is expected that a draft of a manuscript from this project will be completed and submitted for publication in 2010.

**B: Gene Environment Contributions to Risk for Autism (GECRA)**

Project Leader: Lonnie Zwaigenbaum

In 2009 a grant was submitted to NIH to support the collection and analysis of DNA samples from a subset of the BSRC participating sites. The grant received favourable reviews however it was not funded. The BSRC is currently exploring other opportunities to obtain funding for collecting genetic data from our participating families.

**C. Developmental Outcomes in Later-born Siblings of Children with ASD**

Project Leader: Sally Ozonoff

Project Working Group: Alice Carter, Daniel Messinger, Nurit Yirmiya, Greg Young, Lonnie Zwaigenbaum
At the December 2007 annual meeting, several BSRC sites presented data on developmental outcomes of siblings at risk. It was agreed that this topic would be the focus of a primary project for the Consortium. Data were collected from 11 sites that had outcome data at 36 months on at least a portion of their sample. Data from over 1000 infants were analyzed (n=664 high risk, n=338 low risk controls). 18.7% of high risk infants developed an ASD, while 2.5% of low risk infants did (odds ratio 8.89). In addition to risk group, male gender and multiplex family status were significant predictors of ASD outcome, with a three-fold increase in risk for male infants and an additional three-fold increase in risk if there was more than one older affected sibling. The gender of the older sibling did not have a significant influence on the rate of ASD outcomes, nor did the age of the infant at study enrollment or multiple demographic factors. These results suggest that sibling recurrence risk of ASD is higher than previous estimates suggested. The paper will be submitted for publication in June 2010.

Goals for 2010

Based on discussions at the annual meeting held this year in January 2010 the following goals were set for the BSRC:

1. Revise Memorandum of Agreement for the BSRC.
2. Develop a set of common measures for the BSRC that would form the foundation of future collaborative studies.
3. Obtain funding for the BSRC database to house data on the common measures and to provide statistical support for primary and secondary projects. Initial implementation of the database should be underway before the end of 2010.
4. Explore funding options for the collection of genetic samples from BSRC participants.
5. Completion of papers summarizing the findings from two initial projects: head circumference and developmental outcomes.

Acknowledgements

The BSRC wishes to acknowledge and gratefully thank families who participated and contributed to the infant sibling projects in the US, Canada and Israel.

The research conducted by members of the BSRC is largely supported by funds from Autism Speaks and the National Institutes of Health. We gratefully acknowledge the support of these and several other agencies and foundations for our individual research programs. We thank members of our External Advisory Board for their advice on our current programs.