# Peter C. Mundy, Ph.D.

**Peter C. Mundy, Ph.D.**, Director of Educational Research, UC Davis MIND Institute; Professor and Lisa Capps Chair for Neurodevelopmental Disorders and Education, UC Davis School of Education and Department of Psychiatry and Behavioral Sciences, School of Medicine

#### Education

B.A., Psychology, Stockton State Collge, NJ, 1976 M.S., Developmental Psychology, University of Miami, 1979 Ph.D., Developmental Psychology, University of Miami, 1981

# Biography

Peter Mundy, Ph.D., is a developmental and clinical psychologist who has been working on defining the nature of autism and developmental disabilities for the past 30 years. His work began in 1981 at the UCLA Neuropsychiatric Institute. At that time little was known about the characteristics of the social deficits of autism. His studies with collaborators Marian Sigman and Connie Kasari contributed to the understanding that impairments in the early development of infants' ability to coordinate their visual attention with other people (i.e. joint attention) is a fundamental feature of the early onset autism. This observation was first published in 1986 and it has contributed to significant improvements in the early identification, diagnosis and treatment of children with autism. In the years since he has studied the behavioral and neurocognitive processes involved in a model of joint attention, and their role in learning, social cognition and developmental disorders. Along with colleagues at the MIND Institute (Sullivan & Mastergeorge) he has been advancing a new neurodevelopmental model of joint attention, social cognition and autism in 2009 (see paper cited below). One new avenue of application of this model is to attempt to advance research on school readiness among preschool children. He has published over 100 journal articles and chapters on early social development, autism and social cognition. He has received federal funding for his research continuously since 1982 across 16 different projects. Dr. Mundy is currently working with collaborators at the MIND Institute on a four volume series, to be entitled Autism for Educators, with Wiley/Jossey Bass Publications. The first volume of this series was publisehed in 2011 (see citation below). In 2009 NIMH granted Dr. Mundy funding to develop a collaborative, multidisciplinary Social Attention Virtual Reality Laboratory (SAV-Lab, http://edscholars.ucdavis.edu/vrlab/home) for research on social attention, learning and academic development in school-age children with Autism Spectrum Disorders. This beginning of this laboratory was a joint venture of the faculties of the UC Davis MIND Institute and the Center for Mind and Brain, as well as researchers at Stanford University and the University of Southern California. In 2012 the Institute for Education Science provided four years of funding to allow the SAV-Lab research group the opportunity to conduct a longitudinal study of the factors that impair or facilitate school based learning in elementary and secondary students with ASD. Immediately prior to his arrival at UC Davis, Dr. Mundy was a professor of psychology at the University of Miami for 17 years. There he was the founding director of the University of Miami Center for Autism and Related Disabilities, which partners with public schools in South Florida to improve the education and outcomes for over 4000 children and families.

# Publications

Mundy, P. & Mastergeorge, A. Eds. (2011). *Autism for Educators: Vol. 1, Translating Research to Schools and Classrooms*. San Francisco, CA: Jossey Bass.

The MIND Institute

Mundy, P. & Mastergeorge, A. (2011). The effects of autism on social learning and social attention, Chapter 1, In Mundy, P. & Mastergeorge, A. (Eds). *Autism for Educators: Vol. 1, Translating Research to Schools and Classrooms (pp 3-34)*. San Francisco, CA: Jossey Bass.

Burnette, C., Henderson, H. A., Sutton, S., Pradella Inge, A., Zahka, N., Schwartz, C., & Mundy, P. C. (2011). Anterior EEG asymmetry and the modifier model of autism. *Journal of Autism and Developmental Disorders*, 41, 1113-1124.

Hileman, C., Henderson, H. A., Mundy, P. C., Newell, L., & Jaime, M. (2011). Developmental and individual differences on the P1 and N170 ERP components of face processing in children with and without autism. *Developmental Neuropsychology*, *36*, 214-236.

Mundy, P. & Jarrold, W. (2010). Infant joint attention, neural networks and social-cognition. *Neural Networks, Special Issue, Social-Cognition: from babies to robots, 23*, 985-997.

Mundy, P. Gwaltney, M., Henderson, H. (2010). Self-referenced processing and neurodevelopment in autism: Perspectives from joint attention research. *Autism: The International Journal of Research and Practice*, *14*, 408-429.

Wasserman, S., Weissman, A., & Mundy, P. (2010). Parents' criticisms and attributions about their adult children with high functioning autism or schizophrenia. *Autism: International Journal of Research and Practice*, *14*, 227-237.

Henderson, H. A., Zahka, N. E., Kojkowski, N. M., Inge, A. P., Schwartz, C. B., Hileman, C. M., Coman, D. C., & Mundy, P. C. (2009). Self-referenced memory, social cognition, and symptom presentation in autism. *Journal of Child Psychology and Psychiatry*, *50*, 853-861.

Schwartz, C. B., Henderson, H. A., Inge, A. P., Zahka, N. E., Coman, D. C., Kojkowski, N. M., Hileman, C., M., & Mundy, P. (2009). Temperament as a predictor of symptomotology and adaptive functioning in adolescents with high functioning autism. *Journal of Autism and Developmental Disorders*, *39*, 842-855.

Mundy, P., Sullivan, L., & Mastergeorge, A. (2009). A parallel and distributed processing model of joint attention and autism. *Autism Research*, *2*, 2-21.

Parlade, M., Messinger, D., Delgado, C., Kaiser, M., van Hecke, A., Mundy, P. (2009). Anticipatory Smiling: Linking Early Affective Communication and Social Outcome. *Infant Behavior and Development, 32,* 33-43.

Mundy, P., Block, J., Vaughan Van Hecke, A., Delgadoa, C., Venezia Parlade, M., & Pomares, Y. (2007). Individual differences and the development of infant joint attention. *Child Development*, *78*, 938-954.

Mundy, P., Henderson, H., Pradella Inge, A. & Coman, D. (2007). The modifier model of autism and higher functioning children. *Research and Practice for Persons with Severe Disabilities, Special Autism Issue, 32,* 1-16.

Mundy, P. & Newell, L. (2007). Attention, joint attention and social cognition. *Current Directions in Psychological Science*, *16*, 269-274.

The MIND Institute

# **Presentations**

Mundy, P. (2011). Autism for Educators of School Aged Children – The Challenge of the Decade. Community In-service Training, Autism Community Training Center and the Consortium for the Advancement of Child Health, Simon Fraser University, October, 21, Vancouver, British Columbia, Canada.

Mundy, P. (2011). Community Presentation: *The Social Learning Disability of Autism -Implications for Education*. Abramson Research Center, Children's Hospital of Philadelphia, University of Philadelphia, November 22, Philadelphia, PA.

Mundy, P. (2011). The Development of Complex Social Attention in Children with ASD. Distinguished Lecture Series, the Autism Research Center, Children's Hospital of Philadelphia, University of Philadelphia, November 22, Philadelphia, PA.

Mundy, P. (2011). Joint Attention Development: Theory and Research from Infancy to Adolescence. Paper presented to the Faculty of Developmental Psychology, Department of Psychology, November, 14<sup>th</sup>,UC Berkeley, Berkeley, CA.

Mundy, P. (2011). Social attention and social learning in autism: From infancy to adolescence. Third Herzliya Symposium on Developmental Psychopathology: New Directions in Autism Research: Identification and Treatment, The Interdisciplinary Center, Herzliya, Israel, June 1<sup>st</sup>.

Hatt, N., Jarrold, W., Kim, K., Solomon, M., Ozonoff, S., Bailenson, J., Parsons, T., Wimsett, C., Mundy, P. (2011). MIND Institute social attention, virtual reality and computational methods development. A virtual reality study of complex social attention in autism. Paper presented at the International Meeting for Autism Research (IMFAR), San Diego CA, April 14<sup>th</sup>.

Jarrold, W., Gwaltney, M., Hatt, N., McIntyre, N., Kim, K., Solomon, M., Ozonoff, S., Bailenson, J., & Mundy, P. (2011). A virtual reality study of complex social attention in autism. Paper presented at the International Meeting for Autism Research (IMFAR), San Diego CA, April 14<sup>th</sup>.

Mundy, P. (2011). Complex social attention, virtual reality and school aged children with autism. NIMH Invited Research Track Symposium: Novel treatments for neurodevelopmental disorders. American Psychiatric Association Conference, Honolulu, Hawaii, May 15<sup>th</sup>.

Mundy, P. (2011). Social Attention impairments in autism: From brains to behavior in infants and adolescents. Marin Autism Collaborative Annual Meeting, San Rafael, CA., April 2<sup>nd</sup>.

Henderson, H., Ono, K., & Mundy, P. (2011). A multilevel analysis of self referenced processing in higher function children with autism. Paper presented at the Society for Research in Child Development Biennial Conference, Montreal, Canada, April 1st.

Ono, K., Henderson, H., & Mundy, P. (2011). Dopamine D4 receptor gene in relation to attention problems in typically developing and higher functioning children with autism. Paper presented at the Society for Research in Child Development Biennial Conference, Montreal, Canada, March 31<sup>st</sup>.

Mundy, P. (2011). Social attention and social learning in school aged children with autism. Santa Clara County Association of School Psychologists, Santa Clara, CA, March 4<sup>th</sup>.

The MIND Institute

Mundy, P. (2011, February). Joint attention, neural networks and social learning in autism. International Conference Autism 2011: *Communicative and symbolic behaviors in children with autism: Functional specificities and conditions of appearance.* Université Paris Descartes, February, 4th-5<sup>th</sup>.

# **Research Funding**

Principal Investigator: Virtual Reality and Social Skill in Autism, NIMH, 5/30/09-6/30/12, \$137,500.00 annual direct costs. The aim of this research program is to develop new methods for social-cognitive neuroscience research and evaluation with higher functioning children with autism. A second aim is to test novel hypotheses about the biomarkers of processes that lead to individual differences in the social learning of HFA children. The long term goal of this study is develop innovative therapeutic applications of virtual reality (VR) technology to provide a cost effective solution to the problem of improving methods for promoting generalization in social skills training (SST) for children with higher function autism (HFA).

Principle Investigator: Virtual Reality Applications for the Study of Attention and Learning in Students with Autism and ADHD, IES, 03/02/2012-02/28/2016, \$267,581.00 annual direct costs. This project will apply new virtual reality technology to create visual and auditory settings that emulate complex social environments such as classrooms. Using such technology, researchers will examine the following questions: (1) Will students with autism display significant impairments in the development of social attention skills, and will individual differences in social attention be associated with measures of learning, social outcomes, and academic outcomes (reading comprehension, written and oral expression, and mathematics)? (2) Will impairment in social attention make a unique contribution to processes that may inhibit learning, academic success, and social success in students with autism? (3) Will the presence of symptoms of attention deficit hyperactivity disorder (ADHD), which is often co-morbid with autism, mediate or moderate the impact of social attention on learning and development in students with autism? (4) Will social attention be malleable so that practice in social attention leads to positive changes in students with autism?

# Community Service

Chair, NIH Ad Hoc review committee, 2 P01 HD003008, *Autism and Related Disorders: Development and Outcomes*, 2012

NIH Study Sections: Member, Biobehavioral & Behavioral Sciences Subcommittee, 2007-2011 Ad-hoc Member, Autism Speaks, Basic and Clinical Science application review committee Executive Advisory Committee, UC Davis MIND Institute

Advisory Committee, UC Davis MIND Institute Center for Excellence in Developmental Disabilities (CEDD)

Chairperson, School of Education Learning and Adolescent Development faculty search committee.

Member and Secretary, School of Education Faculty Executive Committee School of Education Member, UC Davis Graduate Student Writing Committee

# Awards and Honors

Vice President, International Society for Research on Autism (INSAR), 2007-2009 Eden Institute Foundation Princeton Lecture Series 2009 Fellowship Award