



Dennis L. Molfese, Ph.D.

Professor

Department of Molecular, Cellular &
Craniofacial Biology

Distinguished University Scholar

School of Dentistry

Research Activities:

Dr. Dennis L. Molfese is an internationally recognized expert on the use of brain electrical recording techniques to study the emerging relationship between brain development and cognitive processes. He has six active NIH, NASA and DOE research grants that fund research into the early identification and treatment of babies and young children at risk for developing reading and math disabilities, the precursors of dyslexia with Dr. Victoria Molfese at the University of Louisville, the long-term impact of prenatal exposure to cocaine on child cognitive development with Dr. Linda Mayes at the Yale University Child Study Center, an investigation into the brain correlates of successful language interventions with children who have selective language impairments with Dr. Paul Yoder of the Kennedy Center at Vanderbilt University, and a study of the impact of mild sleep reductions on children's neural processing with Dr. David Gozal in the Department of Pediatrics at the University of Louisville. NASA funds his research into changes in brain processing that occur during extended space travel.

Dr. Molfese received his Ph.D. in Psychology from the Pennsylvania State University in 1972. He is currently a Distinguished University Scholar and Professor in the Birth Defects Center at the University of Louisville. Dr. Molfese served as a member and Chair of numerous of NIH grant review panels on Learning Disabilities. He is co-director of one of 15 national laboratories that make up the National Institutes of Health Reading and Learning Disabilities Research Network. He is a Fellow of the American Psychological Association and the American Psychological Society and serves as Editor-in-Chief for the scientific journal, *Developmental Neuropsychology*. He was recently recognized as "Psychologist of the Year" (2007) by the Kentucky Psychological Association. In addition to his collaborations and consultations with a number of laboratories in the USA, Finland, and The Netherlands, Dr. Molfese also serves as a consultant on infant and child development issues to the country of Belize, C.A.



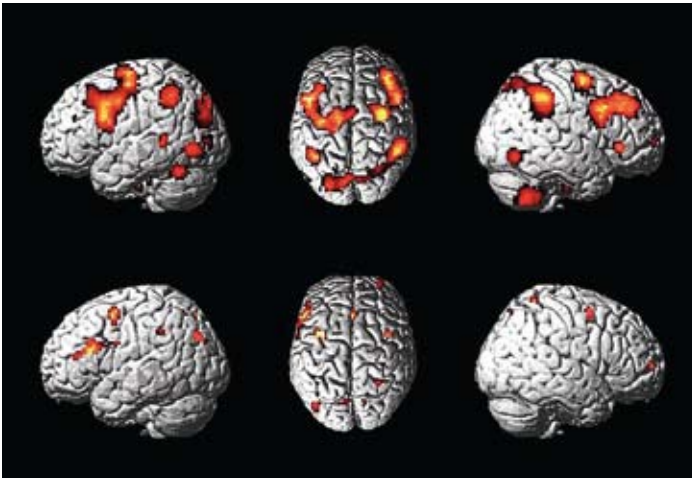
Grants Funded:

Role: Principal Investigator

Title: Impact of Sleep, Microgravity and
Stress on Cognition & the Brain

Funding Agency: NASA

Direct Costs Funded: \$1,839,383



Role: Principal Investigator
Title: Space Flight and Exploration: The impact on perception, cognition, sleep, and brain physiology
Funding Agency: NASA
Direct Costs Funded: \$1,984,000

Role: Principal Investigator
Title: Sleep and Psychophysiological Function in Children
Funding Agency: NIH: National Heart, Lung, and Blood Institute
Direct Costs Funded: \$1,837,500

Role: Co-Investigator
Title: ERP and Behavioral predictors of language intervention
Funding Agency: NIDCD
Direct Costs Funded: \$2,340,268

Role: Co-Investigator
Title: Scaling Up the Implementation of a Pre-Kindergarten Mathematics Curriculum in Public Preshool Programs
Funding Agency: U.S. Department of Education
Direct Costs Funded: \$2,000,000

Role: Principal Investigator
Title: Neonatal Dyslexia Screening Device for Clinical Use
Funding Agency: NICHD
Direct Costs Funded: \$126,000

Role: Co-Investigator
Title: Cocaine-Exposed Children & ERP Studies of Neurocognition
Funding Agency: NIH/NIDA
Direct Costs Funded: \$1,850,000

Role: Co-Investigator
Title: Scaling Up the Implementation of a Pre-Kindergarten Mathematics Curriculum in Public Preschool Programs
Funding Agency: U.S. Department of Education
Direct Costs Funded: \$2,000,000

Peer-reviewed Publications:

Molfese, D. L., Molfese, V. J., & Pratt, N. L. (2007). The Use Of Event-Related Evoked Potentials To Predict Developmental Outcomes. In M. de Haan (Ed.), *Infant EEG and Event-Related Potentials*. Psychology Press: Hove, UK.

Molfese, D., Molfese, V. & Molfese, P. (2007). Relation Between Early Measures Of Brain Responses To Language Stimuli and Childhood Performance On Behavioral Language Tasks. In D. Coch, G. Dawson, & K. Fischer (Eds). *Human Behavior and the Developing Brain, Second Edition: Atypical Development* (pp 191-211). New York: Guilford Publications, Inc.

Key, A., Ferguson, M., **Molfese, D.,** Peach, K., Lehman, C. & Molfese V. (2007). Smoking during pregnancy affects speech discrimination ability in newborn infants. *Environmental Health Perspectives*, 115(4), 623-629.

Molfese, V., **Molfese, D.,** Beswick, J., Jacobi-Vessels, J., Molfese, P., Molnar, A., Wagner, M., Haines, B. (2008). Event Related Potentials To Identify Language and Reading Skills. *Topics in Language Disorders*, 28, 28-45.





Kook, H., Gupta, L., Kota, S., **Molfese, D.L.**, & Lytinen, H. (2008), "An Offline/Real-Time Artifact Rejection Strategy to Improve the Classification of Multi-Channel Evoked Potentials, *Pattern Recognition*, 41, 1985-1996.

Molfese, D., Molfese, V., Barnes, M., Warren, C., & Molfese, P. (2008). Familial predictors of dyslexia: Evidence from preschool children with and without familial dyslexia risk. In V. Berninger, A. Fawcett, G. Reid & L Siegel (Eds). *Handbook of Dyslexia*. New York Sage Publications, 99-120.

Tan, A. & **Molfese, D. L.** (2009). ERP Correlates of Noun and Verb Processing in Preschool-Age Children. *Biological Psychology*, 80 (1), (In press).

Molfese, D., Molfese, V., & Beswick, J., Jacobi-Vessels, J., Molfese, P. & Starkey, G. (2008). Dynamic Links Between Emerging Cognitive Skills and Brain Processes. Special Issue on Neurobiological and experiential dimensions of dyslexia: Multiple perspectives. *Developmental Neuropsychology*, 33(6), 682–706.