

-Deanna Meinke, Associate Professor of Audiology and Speech-Language Sciences

RESEARCH INTERESTS:

Otoacoustic Emissions:

- ∞ Detailed DPOAE Level/Phase Mapping: A technique pioneered by Knight and Kemp (2001) has been used by Dr. Meinke and her colleagues at Loma Linda University and the Jerry Pettis Memorial Veterans Medical Center to investigate DPOAE source theory and the early detection of noise-induced hearing loss in humans.
- ∞ Narrow-Band active noise reduction for DPOAE measurement:
- ∞ Early detection of noise-induced hearing loss.

Hearing Loss Prevention:

- ∞ Hearing loss prevention in children and adolescents
- ∞ Noise exposure monitoring
- ∞ Health communication theory applied to training, motivation and intervention.

CLINICAL INTERESTS: Include the delivery of occupational hearing conservation services, hearing protector fit assessment and workers' compensation investigations.

PROFESSIONAL SOCIETIES:

- ∞ Acoustical Society of America (ASA)
- ∞ American Academy of Audiology (AAA)
- ∞ American Auditory Society (AAS)
- ∞ American Speech-Language Hearing Association (ASHA)
- ∞ Association for Research in Otolaryngology (ARO)
- ∞ International Society of Audiology (ISA)
- ∞ National Hearing Conservation Association (NHCA)

PROFESSIONAL SERVICE AND COMMUNITY OUTREACH:

- ∞ NHCA Task force Chairperson: Children and Noise www.hearingconservation.org
- ∞ NIOSH Safe-in-Sound Award: www.safeinsound.us and www.cdc.gov/niosh/topics/noise/
- ∞ Dangerous Decibels: www.dangerousdecibels.org
- ∞ Centers for Disease Control: DASH workgroup member: <http://www.cdc.gov/HealthyYouth/noise/index.htm>

- ∞ AAA DiscovEARy Zone: www.audiology.org
- ∞ CAOHC Course Director: www.caohc.org

SELECTED PEER_REVIEWED PUBLICATIONS:

Original Research and theoretical treatises:

- ∞ Tuell, C., **Meinke, D.**, Kline-Schoder, R., Clavier, O., Bright, K. and White, N. "Detection of DPOAEs using narrow-band noise reduction". Abstracts of the AudiologyNOW! 2009 annual meeting of the American Academy of Audiology. Dallas, TX. p.137. April, 2009.
- ∞ Bell-Lehmkuher, B., **Meinke, D.K.**, Sedey, A. and Tuell, C. "Reliability of audiometric thresholds obtained with insert earphones when used by certified audiometric technicians". Noise and Health Vol. 11(42), pp 59-68. Jan-March, 2009.
- ∞ **Meinke, D.K.**, Martin, W.H., Griest, S.E., Howarth, L., Sobel, J.L. and Scarlotta, T. "Dangerous Decibels® I: Noise-induced hearing loss and tinnitus prevention in children: Noise exposures, epidemiology, detection, interventions and resources." Abstracts of the 9th International Congress on Noise as a Public Health Problem. Foxwoods, CT. p 26. July 2008
- ∞ Martin, W.H., **Meinke, D.K.**, Sobel, J.L., Griest, S.E. and Howarth, L. "Dangerous Decibels® II: Critical components for an effective educational program and special considerations for hearing loss prevention devices for children. Abstracts of the 9th International Congress on Noise as a Public Health Problem. Foxwoods, CT. p 21. July 2008.
- ∞ **Meinke, D.K.**, Stagner, B.B., Lonsbury-Martin, B.L. and Martin, G.K. "Detailed DPOAE level/phase maps provide insight into normal and noise-damaged human ears". Abstracts of the 9th International Congress on Noise as a Public Health Problem. Foxwoods, CT. p 27. July 2008.
- ∞ **Meinke, D.K.**, Meade, S., Johnson, C.D., Jensema, J. "Occupational model of mobile audiometric testing for high school students". Seminars in Hearing, Noise-induced Hearing Loss in Children, Vol. 29, pp 49-58. 2008.
- ∞ **Meinke, D.K.** and Dice, N. "Comparison of audiometric screening criteria for the identification of noise-induced hearing loss in adolescents". American Journal of Audiology Vol.16 S190-S202, pp S191-S202. 2007.
- ∞ Stagner, B.B., **Meinke, D.K.**, Lonsbury-Martin, B.L., Martin, G.K. "Group Delay Contour Plots Derived from DPOAE Level/Phase Maps in Normal Hearing and Noise-Damaged Humans. Abstracts of the 30th Mid-Winter Meeting of the Association for Research in Otolaryngology. Denver, CO. Abs. #516, p. 69, February, 2007.
- ∞ **Meinke, D.K.** "Detailed DPOAE level/phase maps in normal and noise-damaged human ears." Doctoral dissertation, University of Colorado – Boulder, 2005). 224 pages. UMI AAT 3190388. 2005
- ∞ **Meinke, D.K.**, Stagner, B.B., Lonsbury-Martin, B.L. and Martin, G.K. "Detailed DPOAE Level/Phase Maps in Normal and Noise damaged Human Ears". Abstracts of the American Auditory Society Annual Meeting. Scottsdale, AZ. The Bulletin of the American Auditory Society, Vol. 31, No.1 p. 31. March, 2006.
- ∞ **Meinke, D.K.**, Lonsbury-Martin, B., Stagner, B. and Martin, G.K. (2006) "Group delay contour plots derived from human DPOAE level/phase maps". Abstracts of the Inner Ear Biology Conference, Montpellier, France, February 2006.
- ∞ **Meinke, D.K.**, Martin, G.K. and Stagner, B.B. "A Harmonic Difference-Tone Component in Low-Frequency Human DPOAEs?" Abstracts of The 29th Mid-Winter Meeting of the Association for Research in Otolaryngology. Baltimore, MD. Abs. #1152, February, 2006.

- ∞ **Meinke, D.K.**, Stagner, B.B, Martin, G.K., Lonsbury-Martin, B.L. (2005) "Adaptation of distortion product otoacoustic emissions in L₁,L₂ space in humans. Inner Ear Biology Conference, p. 96. Tubingen, Germany, p. 96., February 2005.
- ∞ **Meinke, D.K.**, Stagner, B.B., Martin, G.K. and Lonsbury-Martin, B.L. (2005) Human Efferent Adaptation of DPOAEs in the L₁,L₂ Space" Hearing Research, 208, pp 89-100.
- ∞ **Meinke, D.K.**, Stagner, B., Martin, G. and Lonsbury-Martin, B. "Human Efferent Adaptation of DPOAEs in the L₁,L₂ Space" Abstracts of the American Auditory Society annual conference. Scottsdale, AZ. The Bulletin of the American Auditory Society, Vol. 29, No.1, p. 39. March 2004
- ∞ Lankford, J.E., **Meinke, D.K.**, and Hotopp, M. (1999) Need for hearing loss prevention for agricultural aerial application service personnel. Journal of Agromedicine, 6, #2, pp 25-39.

Book Chapters

- ∞ **Meinke, D.K.** and Stephenson, M., (2007) "Noise-induced hearing loss: models for prevention". In Ackley, S; Decker, T.N. and Limb, C. (Eds.), An Essential Guide to Hearing and Balance Disorders. Taylor & Francis Group. Boca Raton, Florida. pp 287-323.
- ∞ Lankford, J.E. and **Meinke, D.K.**, (2006) "Acoustic Injuries in Agriculture". In Lessenger, J.E. (Ed.), Agricultural Medicine. Springer Publishing Company, New York. pp 484-491.

Non-experimental articles:

- ∞ **Meinke, D.K.** "Preface". Noise and Health Vol. 11(42), p1.2009
- ∞ Morata, T.C., **Meinke, D.K.** and Graydon, P.S. "Safe-in-Sound award. A partnership to identify and promote excellence in hearing loss prevention. Abstracts of the National Occupational Research Agenda (NORA) Symposium 2008: Public Market for Ideas and Partnerships. Denver, CO. July 2008. Electronic publication retrieved from <http://www.cdc.gov/niosh/nora/symp08/virtualsymposium.html> on September 29, 2008.
- ∞ Johnson, C.D. and **Meinke, D.K.** (2008) "Noise-induced hearing loss: Implications for schools". Seminars in Hearing, Noise induced Hearing Loss in Children. Vol. 29, pp 59-66. 2008.
- ∞ Martin, W.H., **Meinke, D.K.**, Madison, T.K., Griest, S.E., Howarth, L. and Sobel, J. "Dangerous Decibels: NIHL prevention for kids of all ages Part I." Abstracts of the AudiologyNOW! 2007 annual meeting of the American Academy of Audiology, Denver, CO. Abs. SM301, p. 65, April, 2007.
- ∞ Martin, W.H., **Meinke, D.K.**, Madison, T.K., Griest, S.E., Howarth, L. and Sobel, J. "Dangerous Decibels: NIHL prevention for kids of all ages Part II." Abstracts of the AudiologyNOW! 2007 annual meeting of the American Academy of Audiology. Denver, CO. Abs. SM302, p. 67, April, 2007.
- ∞ **Meinke, D.K.**, Martin, W.H. "Kids and Noise: Past Perspectives and Future Directions." Abstracts of the National Hearing Conservation Association 32nd Annual Hearing Conservation Conference. Abs. in NHCA Spectrum, Vol. 24, Supplement. 1, p. 24. Savannah, GA. February 2007.
- ∞ **Meinke, D. K.** and Dice, N. "Comparison of audiometric screening criteria for early identification of noise-induced hearing loss in adolescents". Abstracts of the Noise-Induced Hearing Loss in Children at Work and Play Scientific Conference. Cincinnati, OH. NHCA Spectrum, Vol. 23, Supplement 2, p. 22. October 2006.
- ∞ Neitzel, R. and **Meinke, D.K.** "Noise exposure among children and young adults: What do we know, and what do we need to find out?" Podium presentation at the Noise-Induced Hearing Loss in Children at Work and Play Scientific Conference. Cincinnati, OH. NHCA Spectrum, Vol. 23, Supplement 2, p. 10. October 2006.

- ∞ Lankford, J.E. and **Meinke, D.K.** "Hearing "Prevention of Noise-induced Hearing Loss Throughout the Lifespan". Abstracts of the 34th Annual American Academy of Physician Assistant Conference. San Francisco, CA. Abs. #6099, p. 110. May 2006.
- ∞ Martin, W.H., **Meinke, D.K.** and Madison, T. "Dangerous Decibels: Prevent NIHL in Kids of All Ages". Abstracts of the AudiologyNOW! 2006 annual meeting of the American Academy of Audiology, Minneapolis, MN. Abs. SM301, p. 65. April, 2006.
- ∞ American Speech-Language Hearing Association. Guidelines for manual pure-tone threshold audiometry. Rockville, MD: Available from <http://www.asha.org/members/deskref-journal/deskref/default>. Working Group on Manual Pure-tone Threshold Audiometry contributor. 2005.
- ∞ **Meinke, D.K.** Restoring the soundscape with hearing aids. Soundscape: The Journal of Ecology, 6, #1, pp 18-21. 2005.
- ∞ Madison, T., **Meinke, D.K.** and Martin, W.H. "Teaching Children about Noise and Hearing Loss: Dangerous Decibels™". Abstracts of the American Speech-Language-Hearing Association annual conference, Philadelphia, PA, Abs. SC26 the ASHA Leader, Vol. 9, No. 15, p.47. Nov. 2004
- ∞ **Meinke, D.K.**, Griest, S., Martin, B. and Beehler, A. "Sounds Like Fun", Abstracts of the National Hearing Conservation Association 29th Annual Convention. Seattle, WA. NHCA Spectrum, Vol. 21, Supplement 1, p. 21. February 2004.
- ∞ **Meinke, D.K.** and Hackel, S.R. "Hearing loss prevention in the workplace" Abstracts of the 9th Annual Art & Science of Health Promotion Conference, Monterey, CA. American Journal of Health Promotion, Vol. 12, No. 6., p. 423. April 1998.
- ∞ American Academy of Audiology. "Preventing noise-induced occupational hearing loss." Reston, VA. Available from <http://www.audiology.org/professional/positions/niohlprevention.pdf>. AAA Task Force on Prevention of Noise-Induced Occupational Hearing Loss contributor. 2003.

RESEARCH SUPPORT:

Active Research Support:

5U48DP000024 Martin, William Hal (PI) Project Dates: 09/30/2004-09/29/2009.
Centers for Health Native American Communities
Hearing Health in Native American Communities
Role: Consultant to Oregon Health & Science University

Completed Research Support:

R43/DC005112-01A1 Kline-Schoder (PI) Project Dates: 02/01/2006-01/31/2009.
Small Business Innovative Research (SBIR)
Narrow-Band Active Noise Reduction for DPOAE Measurement.
Role: Clinical Collaborator, responsible for field data collection.

1R13/OH008567-01 Martin, W.H. and Meinke, D.K. (Co-PI) Project Dates: 09/01/2006-8/31/2007.
Investigator CDC Project Number: NIOSH Support for Conferences and Scientific Meetings
Prevention of Noise-Induced Hearing Loss in Children and Adolescents
Role: Co-Principle Investigator

UR3/CCU824219 Jenkins, H.J. and Gabbard, S.A. (Co-PI) Project Dates: 08/01/2004-07/31/2006.
Centers for Disease Control and Prevention (CDC)
Marion Downs Hearing Center
Role: Hearing Loss Prevention Outreach Coordinator.

MENTORED STUDENT RESEARCH: primary advisor past 5 years

University of Northern Colorado: Au.D. Capstone Research

2009

Cassie Tuell, Au.D.

Detection of DPOAEs using narrow-band noise reduction.

Role: Research Advisor

Honors: James Jerger Award for Excellence in Student Research

2008

Sara Gill, Au.D.

Assessing parental knowledge, attitudes, and beliefs about noise-induced hearing loss in children.

Role: Research Advisor

Honors: National Hearing Conservation Association Foundation Student Research Scholarship

2008

Teresa Scarlotta, Au.D.

Noise exposure measurements of infants and young children.

Role: Research Advisor

2006

Rachel McArthur, Au.D.

Dual wearing of noise dosimeters in agricultural workers

Role: Research Advisor

Honors: National Hearing Conservation Association Foundation Student Research Scholarship

2006

Stacey Claycomb, Au.D.

Status of Colorado Newborn Hearing Screening Programs in 2004-2005

Role: Research Co-Advisor

2006

Noel Dice, Au.D.

Comparison of audiometric screening criteria for early identification of noise-induced hearing loss in adolescents

Role: Research Co-Advisor

Central Michigan University: Au.D. Capstone Research

2007

Barbara Bell-Lehmkuhler, Au.D.

Audiometric reliability of insert earphones when used by certified audiometric technicians

Role: Research Advisor