MARLAN R. HANSEN, M.D.
CURRICULUM VITAE

University of Iowa Carver College of Medicine
Department of Otolaryngology – Head and Neck Surgery
Iowa City, IA 52242

August 01, 2008

I. EDUCATION AND PROFESSIONAL HISTORY

Education

1984-1990	Brigham Young University Provo, UT	B.S. Microbiology *magna cum laude* University Honors
1990-1994	University of Chicago Pritzker School of Medicine Chicago, IL	Doctor of Medicine University Honors

Post-graduate Training

1994-1995	University of Iowa Iowa City, IA	Resident Department of Surgery
1995-1997	University of Iowa Iowa City, IA	NIH Research Fellow Departments of Otolaryngology- HNS and Biological Sciences
1997-2000	University of Iowa Iowa City, IA	Resident Department of Otolaryngology – HNS
2000-2001	University of Iowa Iowa City, IA	Chief Resident Department of Otolaryngology – HNS
2001-2003	House Ear Clinic Los Angeles, CA	Clinical Fellow

Academic Appointments

2001-2003	USC/LA County Medical Ctr Los Angeles, CA	Volunteer Attending Physician Dept. of Otolaryngology - HNS
2003 – present	University of Iowa Iowa City, IA	Assistant Professor Dept. of Otolaryngology – HNS
2003 – present	Veterans Affairs Medical Ctr Iowa City, IA	Assistant Professor Dept. of Otolaryngology – HNS

Certification and Licensure

1994 – present	Federal Drug Enforcement Agency
1994 – present	National Board of Medical Examiners
1995 – present	State of Iowa #30783
2001 – 04	State of California #A73929
2002 – present	American Board of Otolaryngology, Diplomat, #16900
2004 – present	American Board of Otolaryngology, certificate of added qualification, Neurotology #16900

Honors and Awards

1984	University scholarship, Brigham Young University
1987-1990	College of Biology and Agriculture scholarship, Brigham Young University
1991	NIH student research award, University of Chicago, Pritzker School of Medicine
1993	Alpha Omega Alpha, University of Chicago, Pritzker School of Medicine
1993	Fentress Student Research Award, University of Chicago, Pritzker School of Medicine
1995	NIH research training fellowship grant recipient, Dept. of Otolaryngology – HNS, University of Iowa
1999	First Place, Basic Science presentation, Resident Research Day, Department of Otolaryngology – HNS, University of Iowa
2000	Association for Research in Otolaryngology resident travel award
2004	Barry Anson Faculty Teaching Award, Department of Otolaryngology – HNS, University of Iowa
2004	Diachii Clinical Scholar, American Academy of Otolaryngology-Head and Neck Surgery
2005	Best ENT, American Academy of Otolaryngology-Head and Neck Surgery
2006-present	Best Doctors in America, Otolaryngology, Best Doctors Inc.
2008	Edmund Fowler Award, Triological Society, Best Basic Science Thesis

II. TEACHING

Classroom, Seminar, or Laboratory Teaching

1998 – 1999	Lecturer, Bi-weekly medical student orientation – University of Iowa (1.0 hr/2 wk)
1999 – 2000	Lecturer, Annual Basic Science Course for Otolaryngology residents – University of Iowa (2-3 lectures/yr)
2001-03	Instructor, *Temporal Bone Dissection Course* – House Ear Clinic, Los Angeles, CA (5 courses/yr, 4-8 hrs instruction/course)
2001-03	Instructor, Monthly Ear Rounds – Los Angeles County/USC Hospital (2 hr/mo)
2003-present	Lecturer, M3 and M4 student clinical curriculum bi-weekly lecture: *Otologic Diseases* – University of Iowa (12 lectures/yr, 1.0 hr)
2003-present	Director, *Temporal Bone Dissection Course* – Univ. of Iowa (weekly didactic and laboratory sessions, 1.5-2.0 hr/wk, 40 wk/yr)
2003-present	Lecturer, Annual Basic Science Course for Otolaryngology residents – University of Iowa (5 lectures/yr)
2004-present	Lecturer, Human Organ Systems (M1): *Auditory and vestibular systems,* Carver College of Medicine, University of Iowa (1 lecture/yr)
2004-present	Examiner, Resident clinical competency exams, Department of Otolaryngology – HNS, University of Iowa (3 sessions/yr, 1.5 hr/session)
2004-present	Instructor: Otology Resident Conference, *Management of Otologic Diseases,* Department of Otolaryngology – HNS, University of Iowa (6-8 session/yr, 1 hr/session)
2005-present	Lecturer, Foundation of Clinical Practice IV (M2): *Diagnosis and Management of Ear Disease,* Carver College of Medicine, University of Iowa (1 lecture/yr)

2008 Director, Annual Basic Science Course for Otolaryngology residents – University of Iowa (51 instructors/102 hrs of instruction)

Clinical Teaching (in ward, clinic, or operating room)

Otolaryngology Residents, Neurotology Fellows, Pediatric Otolaryngology Fellows, and Medical Students

Clinic – 1.5 - days per week
Operating Room – 1.5-2 days per week
Ward – 3-5 days per week

Students and Fellows Supervised

Undergraduate

2005-06 James Wydra
2006-07 Drew Gripentrog
2007-08 Dan Thunel
2008 John Westlund
2008 John Tingey

Graduate/Medical Students

2003-04 Jeffrey Ryan, rotating 1st year Neuroscience program, Electrical stimulation of spiral ganglion neurons, *in vitro*
2007 Jonathan Engbers (M1), Regulation of spiral ganglion axon growth by protein kinase A
2007 Natalie Freed (M4) Regulation of ErbB2 trafficking in vestibular schwannomas
2007 Hank Diggelman (M4) Effects of ErbB inhibitors on vestibular schwannoma growth
2007-08 Ph.D. Thesis committee member for Shuman He, Ph.D. (2008) Thesis: "The electrically evoked binaural interaction component of the auditory brainstem response: effect of electrode pairing and comparison with psychophysical measure of pitch matching."

Residents (research)

2003-04 Bruce Abkes, M.D. Electrical stimulation of spiral ganglion neurons in vitro
2005-07 Kevin Brown, M.D., Ph.D. Subcellular localization of ErbB2 in denervated Schwann cells and vestibular schwannoma cells
2006-07 Erika Woodson, M.D. Expression of $p75^{NTR}$ in vestibular schwannomas
2006-07 John Renton, M.D. Effects of subcellular targeted Bcl-2 on spiral ganglion neuron survival and neurite growth
2007-08 Richard Gurgel, M.D. Merlin inactivation by protein kinase A contributes to Schwann cell regenerative responses
2007 Michael Telisak, M.D. Effects of c-Jun N-terminal kinase signaling on vestibular schwannoma cell radiosensitivity
2007-08 Ryan Dempewolf, M.D. Radiologic evaluation of temporal bone trauma
2008 Paul Lenkowski, M.D., Ph.D, Regulation of auditory neuron axon growth by patterned electrical stimulation
2008 Geir Tryggvason, M.D. Effects of $p75^{NTR}$ signaling on Schwann cell proliferation and tumorigenesis.

Post-doctoral Research Fellows

2003-04 Salim Dogru, M.D, Enhanced intraoperative identification of nerves by fluorescent labeling
2004-06 Pamela C. Roehm, M.D., Ph.D. Effects of depolarization on afferent cochlear innervation.
2006-07 Matthew Provenzano, M.D. Regulation of Schwann cell proliferation and death by $p75^{NTR}$ following denervation.

2007-08 Chang Cho, M.D. Regulation of spiral ganglion neuron axon growth by c-Jun N-terminal kinase
2007-present Wei Ying Yue, Ph.D. c-Jun N-terminal kinase regulation of reactive oxygen species in vestibular schwannoma cells
2007-present Eun Ju Jeon, M.D., Ph.D. Effects of glial cells on spiral ganglion neuron axon growth

Neurotology Clinical Fellows
2003-04 Ted A. Meyers, M.D., Ph.D.,
2004-06 Pamela C. Roehm, M.D., Ph.D
2006-08 Samuel Gubbels, M.D.
2008-present Erika A. Woodson

Pediatric Otolaryngology Clinical Fellows
2003-05 Steven Goudy, M.D.
2004-06 Mark Smith, M.D.
2005-07 James Brookes, M.D.
2007-present Jodi Jones, M.D.
2007-present Deborah Kacmyrinski, M.D.

Other Contributions to Institutional Programs

1997 *Vascular lesions and anomalies of the middle ear*, Grand Rounds, Department of Otolaryngology – HNS, University of Iowa
1998 *Esthesioneuroblastoma and SUNC of the anterior cranial fossa,* Grand Rounds, Department of Otolaryngology – HNS, University of Iowa
1998 *Orbital Tumors,* Grand Rounds, Department of Otolaryngology – HNS, University of Iowa
1999 *Combination therapy for tumor of anterior cranial fossa,* Grand Rounds, Department of Otolaryngology – HNS, University of Iowa
2000 *Surgical management of cholesteatoma,* Grand Rounds, Department of Otolaryngology – HNS, University of Iowa
2001 *Mastoidectomy*, Nursing continuing education seminar, Department of Otolaryngology-HNS, Univ. of Iowa 1hr.
2004 *Lateral skull base and temporal bone lesions,* Des Moines Otolaryngology Group
2004 *Bcl2 overexpression inhibits neurite growth in SGNs*, Apoptosis seminar, Dept of Pathology, Univ. of Iowa, 1 hr
2004 *Review of Otology*, Nursing Continuing Education Seminar, Department of Otolaryngology – HNS, University of Iowa
2004 *Management of chronic otitis media*, Head and Neck RN update conference, Carver College of Medicine, Univ. of Iowa, 1 hr.
2004 *Diagnosis and management of acute facial paralysis using ENoG*, Grand Rounds, Department of Neurology, Carver College of Medicine, Univ. of Iowa, 1 hr.
2004 *Evaluation and management of tinnitus*, Tinnitus Conference, Department of Otolaryngology-HNS, Univ. of Iowa, 1 hr.
2004 *Role of activity dependent signals in auditory neuron axon growth,* Dept. of Speech and Hearing, Univ of Iowa, 1 hr.
2005 *Activity dependent signaling in auditory neurons*, Neurosurgery Research Conference, Univ. of Iowa, 1 hr.
2005 *Evaluation and management of tinnitus*, Tinnitus Conference, Department of Otolaryngology-HNS, Univ. of Iowa, 1 hr.
2005 *Indication and techniques of BAHA*, Society of Head and Neck Nurses, American Academy of Otolaryngology annual meeting, Los Angeles, CA 1 hr
2005 *Otologic Emergencies*, Department of Emergency Medicine resident rounds, Univ. of Iowa, 1 hr.

2006 *Off Balance! Vestibular Disorders*, Kirkwood Community College, Cedar Rapids, IA, 3 hr

2006 *Interpretation of Audiograms and Tympanograms*, Family practice update University of Iowa, 1 hr

2006 *Skull Base Neoplasms* Carver College of Medicine Visiting Professor Program--Siouxland Medical Education Foundation, Sioux City, Iowa, 1 hr

2006 *Evaluation and management of tinnitus*, Tinnitus Conference, Department of Otolaryngology-HNS, Univ. of Iowa, 1 hr.

2007 *Surgical management of acute facial paralysis*, Grand Rounds, Department of Neurology, Carver College of Medicine, Univ. of Iowa, 1 hr.

2007 *Hearing Loss and Complications of Otitis Media*, Carver College of Medicine Visiting Professor Program, Quad Cities Genesis Family Medicine Residency, 1.5 hr

2007 *ErbB2 regulates vestibular schwannoma cell proliferation and response to γ-irradiation*, FRRB seminar Department of Radiation Oncology, 1 hr

2007 *ErbB2 signaling regulates vestibular schwannoma cell proliferation and response to γ-irradiation*, Translational research seminar Department of Radiation Oncology, 1 hr

2007 *Evaluation and management of tinnitus*, Tinnitus Conference, Department of Otolaryngology-HNS, Univ. of Iowa, 1 hr.

2007 *Peripheral vestibular disorders*, Dubuque County Medical Society, 1 hr

2007 *Vestibular disorders*, Neurobiology of Disease, Neuroscience graduate course, Univ. of Iowa, 1 hr

2008 *Hearing loss: Etiology and evaluation*, Visiting professor, Broadlawns County Hospital, Des Moines, IA, 1 hr

2008 *Hearing loss and aging*, Mini-Medical School, Carver College of Medicine, Univ of Iowa, 1.5 hr

2008 *Advances in cochlear implants and BAHA*, Society of Head and Neck Nursing, Univ. of Iowa. 1 hr.

Student counseling

3 and 4th year medical students (2-3 students/yr, 15-20 hrs/yr.)

Current Research Concerning Teaching

I collaborate with Gregory Wiet, M.D., Nationwide Children's Hospital/Ohio State Univ., on comparing the efficacy of simulation environments for teaching specific surgical techniques in temporal bone surgery. The project seeks to determine whether a virtual environment for temporal bone dissection is equivalent to training with cadaveric temporal bone dissection in the anatomy laboratory. The project involves all residents, pediatric fellows, and two 4th yr medical students in our department as subjects and is funded by NIDCD 5R01DC006458-05 Validation/Dissemination Virtual Temporal Bone Dissect PI: Gregory Wiet.

III. SCHOLARSHIP

Publications (peer reviewed)

Hansen, MR, and Donaldson, DM. Production and characterization of monoclonal antibodies against ribulose-1, 5-bisphosphate carboxylase from *Leymus sabulosus*. 1990 Honors Thesis, Brigham Young University.

Tripathi, B, **Hansen, MR,** Li, J, and Tripathi, R. Identification of type VI collagen in the trabecular meshwork and expression of its mRNA in trabecular cells. *Experimental Eye Research* 1994; 58(2): 181-187.

Hansen, MR, Zha, X, Bok, J, and Green, SH. Multiple distinct signal pathways, including an autocrine neurotrophic mechanism, contribute to the survival-promoting effect of depolarization on spiral ganglion neurons *in vitro*. *J. Neurosci.* 2001; 21:2256-2267.

Zha, X, Bishop, JF, **Hansen, MR,** Victoria, L. Abbas, P, Mouradian, MM, Green, SH. BDNF synthesis in spiral ganglion neurons is constitutive and CREB dependant. *Hearing Research* 2001; 156(1-2): 53-68.

Hansen, MR, Vijapurkar, U, Koland, JG, Green, SH. Reciprocal signaling between spiral ganglion neurons and Schwann cells involves neuregulin and neurotrophins. *Hearing Research* 2001; 161(1-2): 87-98.

House, HP, **Hansen, MR,** Dakhail, AA, House, JW. Stapedectomy vs. stapedectomy: comparison of results with long-term follow-up. *Laryngoscope* 2002; 112(11): 2046-2050.

Hansen, MR, Bok, J, Deviah, AK, Zha, X, Green, SH. Ca^{2+} / calmodulin-dependent protein kinases II and IV both promote survival but differ in their effects on axon growth in spiral ganglion neurons. *J Neurosci Res* 2003; 72(2): 169-184.

Hansen, MR, Moffat, JC, Osteosarcoma of the skull base following radiation therapy in a patient with McCune-Albright's syndrome. *Skull Base* 2003; 13: 79-83.

Hansen, MR, Linthicum Jr, FR. Expression of neuregulin and activation of erbB receptors in vestibular schwannomas: possible autocrine loop stimulation. *Otology & Neurotology* 2004, 25(2): 155-159.

Hansen, MR, Luxford, WM. Surgical outcomes in patients with endolymphatic sac tumors. *Laryngoscope* 2004, 114(8): 1470-4.

Gantz, BJ, Wilkinson, EP, **Hansen, MR.** Canal Wall Reconstruction Tympanomastoidectomy with Mastoid Obliteration. *Laryngoscope* 2005, 115(10):1734-40.

Roehm, PC, **Hansen, MR.** Strategies to preserve or regenerate spiral ganglion neurons. *Curr Opin Otolaryngol Head Neck Surg*. 2005, 13(5):294-300.

Wilkinson, EP, **Hansen, MR**, Tschirhart, DL, De la Cruz, A: Cavernous hemangioma of the endolymphatic sac. *Otology & Neurotology* 2006, 27(8):1203-4.

Gurgel, RK, Roehm, PC, **Hansen, MR**. Disseminated histoplasmosis presenting as a unilateral eighth nerve mass: a case report. *Otology & Neurotology* 2006, 27(7):1014-6

Yao, M, Nguyen, T, **Hansen, MR**, Anderson, K; Buatti, JM. Optically guided stereotactic radiotherapy for facial nerve paralysis secondary to occult malignant neoplasms. *Otolaryngo. Head Neck Surg* 2006, 135(4):657-659.

Excoffon, KJDA, Avenarius, MR, **Hansen, MR**, Kimberling, WJ, Najmabadi, H, Smith, RJH, Zabner, J. The Coxsackievirus and Adenovirus Receptor: A New Adhesion Protein in Cochlear Development, *Hearing Research* 2006, 215(1-2):1-9* Cover

Meyer, TA, Canty, PA, Wilkinson, EP, **Hansen, MR**, Rubinstein, JT, Gantz, BJ. Small Acoustic Neuromas: Watch and Wait versus Surgical Excision. *Otology & Neurotology* 2006, 27:380-392.

Shah, VA, Yang, GS, Randhawa, G, **Hansen MR**, Lee, AG. Cerebral venous thrombosis following jugular bulb decompression. *Semin Ophthalmol* 2006, 21:41-44.

Hansen, MR, Roehm, PC, Chatterjee, P, Green, SH. Constitutive neuregulin-1/ErbB signaling contributes to human vestibular schwannoma proliferation. *Glia* 2006, 53(6):593-600.

Coelho CB, Tyler R, **Hansen MR**. Zinc as a possible treatment for tinnitus. *Prog Brain Res* 2007 166:279-85

Hansen, MR, Roehm, PC, Xu, N, Green, SH. Overexpression of Bcl-2 or Bcl-xL prevents spiral ganglion neuron death and inhibits neurite growth, *Developmental Neurobiology* 2007 67(3):316-325

Hansen, MR, Clark, JJ, Gantz, BJ, Goswami, PC. Effects of ErbB2 signaling on the response of vestibular schwannoma cells to γ-irradiation. *Laryngoscope* 2008, 118(6):1023-30.

Roehm, PC, Xu, N, Woodson, EA Green, SH, **Hansen, MR.** Membrane depolarization inhibits spiral ganglion neurite growth via activation of multiple types of voltage sensitive calcium channels and calpain. *Mol Cell Neurosci* 2008, 37(2):376-87.

Brown, KD, **Hansen, MR**. Lipid raft localization of erbB2 in vestibular schwannoma and Schwann cells. *Otology&Neurotology* 2008, 29(1):79-85.

Provenzano, M, Xu, N, Ver Meer, MR, Clark, JJ, **Hansen, MR**. Denervation results in elevated $p75^{NTR}$ and sortilin expression and apoptosis in facial nerve Schwann cells. *Laryngoscope* 2008, 118(1):87-93.

Ely, J, **Hansen, MR**, Clark, EC. Diagnosis of ear pain, *American Family Physician* 2008, 77(5):621-8.

Ealy M, Chen W, Ryu GY, Yoon JG, Welling DB, **Hansen M**, Madan A, Smith RJ. Gene expression analysis of human otosclerotic stapedial footplates. *Hearing Research* 2008 240(1-2):80-6.

Brackmann DE, Fisher LM, **Hansen M**, Halim A, Slattery WH. The effect of famciclovir on delayed facial paralysis after acoustic tumor resection. *Laryngoscope* 2008, 118(9):1617-20.

Clark, JJ, Provenzano, M, Diggelmann, HR, Xu, N, Hansen, SS, **Hansen, MR**. The ErbB inhibitors, trastuzumab and erlotinib, inhibit growth of vestibular schwannoma xenografts in nude mice: a preliminary study. *Otology&Neurotology* 2008, 29(6):846-53.

Dogru, S, Van Daele, D, **Hansen, MR**. Retrograde labeling of the rat facial nerve with carbocyanine dyes to enhance intraoperative identification. *Ann Otol Rhinol Laryngol*, 2008, 117(10):753-8.

Gantz, BJ, **Hansen, MR,** Turner, CW, Oleson, JJ, Reiss, LA, Parkinson, AJ. Hybrid 10 Clinical Trial: Preliminary Results. *Audiology & Neurotology*, in press.

Dempewolf, R, **Hansen, M,** Gubbels, S. Acute Radiographic Work-up of Blunt Temporal Bone Trauma: Maxillofacial versus Temporal Bone CT, *Laryngoscope*, in press.

Gurgel, RK, Woodson, EA, Lenkowski, PA, Gubbels, SP, **Hansen MR**. Zygomatic Root Abscess - A Rare Complication of Otitis Media. *Otology&Neurotology*, in press.

Books/Book Chapters

De la Cruz, A, **Hansen, MR**. Hearing Preservation in Acoustic Neuroma Surgery. In: Lavinsky, Luis, editor: Treatment of Ear Disorders. Revinter Publishing, Brazil, 2002.

De la Cruz, **Hansen, MR**. Treatment of Otologic Malformations: Present and Future. In: Lavinsky, Luis, editor: Treatment of Ear Disorders. Revinter Publishing, Brazil, 2002.

Hansen, MR, Brackmann, DE, Benecke, JE. Differential Diagnoses of Temporal Bone and Lateral Skull Base Lesions in: American Academy of Otolaryngology – Head and Neck Surgery, editor: Self-Instructional Package, 2003.

Friedman, RA, **Hansen, MR**. Overlay tympanoplasty. In: Haberman III, Rex A, editor: Middle Ear and Mastoid Surgery. Thieme Medical Publisher, Inc., New York. 2004.

Hansen, MR, Slattery, WH. Treatment Principles: Neuro-Otology in: Mitchel S. Berger and Michael D. Prados, eds: Textbook of Neuro-Oncology, Elsevier Saunders, Philadelphia, PA, 2004.

De la Cruz, A, **Hansen, MR**. Reconstruction Surgery of the Ear, Auditory Canal and Tympanum. In: Cummings, Charles A, editor: Otolaryngology Head and Neck Surgery, 4th edition. Mosby, Inc., St. Louis. 2006.

De la Cruz, A, **Hansen, MR.** Correction of Congenital Malformations. In: Wiet, Richard, editor: Ear Surgery: Minimizing Risks and Complications. Thieme Medical Publisher, Inc., New York. 2006.

Abstracts

Hansen, MR, Tripathi, B, and Tripathi, R. (1992) Type VI collagen and its mRNA are in the trabecular meshwork. Investigative Ophthalmology and Visual Science 33: 1157 (Suppl).

Hansen, MR, Tripathi, B, Li, J, and Tripathi, R. (1993) Expression of messenger ribonucleic acid for Type VI collagen in trabecular meshwork. Investigative Ophthalmology and Visual Science 34: 2457 (Suppl).

Hegarty, JL, **Hansen, MR,** Kay, AR, Gantz, BJ, Green, SH. Mechanisms of trophic support of mammalian spiral ganglion neurons. Association for Research in Otolaryngology mid-winter meeting, St. Petersburg, Florida, February 1996.

Hansen, MR, Hegarty, JL, and Green, SH. Convergence of neurotrophin and Ca^{2+} intracellular signaling pathways in spiral ganglion neurons. Keystone Symposia, Taos, New Mexico, March 1996.

Hegarty, JL, **Hansen, MR,** Kay, AR, Gantz, BJ, Green, SH. Molecular mechanisms of trophic support in the cochlear spiral ganglia. American Academy of Otolaryngology – Head and Neck Surgery annual meeting, Washington DC, September 1996.

Hansen, MR, and Green, SH. Depolarization promotes spiral ganglion neuron survival via multiple mechanisms including an autocrine neurotrophic response. Society for Neuroscience, Washington DC, November 1996.

Victoria, LV, **Hansen, MR,** Wu, X, Abbas, PJ, Gantz, BJ, and Green, SH. Electrical stimulation increases neurotrophin expression in rat spiral ganglion neurons *in vitro*. Association for Research in Otolaryngology, St. Petersburg, Florida, February 1997.

Hansen, MR, and Green, SH. Depolarization promotes spiral ganglion neuron survival *in vitro* via multiple mechanisms including an autocrine neurotrophic response. Association for Research in Otolaryngology, St. Petersburg, Florida, February 1997.

Hansen, MR, and Green, SH. Trophic signaling mechanisms of depolarization in spiral ganglion neurons. American Academy of Otolaryngology – Head and Neck Surgery Foundation, San Francisco, California, September 1997.

Zha, X, **Hansen, MR,** Victoria, L, Wu, X, Abbas, P, and Green, SH. Membrane depolarization promotes survival and BDNF synthesis via distinct intracellular signaling pathways in spiral ganglion neurons. Society for Neuroscience, New Orleans, Louisiana, November 1997.

Hansen, MR, and Green, SH. Ca^{2+} /Calmodulin dependent protein kinase (CAMK) mediates a depolarization dependent trophic signaling pathway in spiral ganglion neurons. Association for Research in Otolaryngology, St. Petersburg, Florida, February 1998.

Hansen, MR, and Green, SH. Molecular mechanisms underlying neurotrophic effect of membrane depolarization in spiral ganglion neurons. Molecular Biology of Hearing and Deafness, Bethesda, Maryland, October 1998.

Bok, J, **Hansen, MR,** Zha, X, and Green, SH. Ca^{2+}/calmodulin-dependent kinase II and IV promote survival but differ in their effects on neurite growth in rat spiral ganglion neurons. Society for Neuroscience, Los Angeles, California, November 1998.

Zha, XM, **Hansen, MR,** Bok, J, Bishop, JF, Mouradian, MM, and Green, SH. The transcription factor CREB participates in both survival-promoting signaling and BDNF gene transcription in spiral ganglion neurons. Association for Research in Otolaryngology mid-winter meeting, St. Petersburg, Florida, February 1999.

Zha, XM, **Hansen, MR,** Bok, J, and Green, SH. CAMK and CREB function in depolarization-induced survival of spiral ganglion. Gordon Research Conference, Newport, Rhode Island, June 1999.

Green, SH, Zha, XM, **Hansen, MR**, Bishop, JF, Mouradian, MM ,and Bok J. The transcription factor CREB participates in both survival-promoting signaling and BDNF gene transcription in rat spiral ganglion neurons. Society for Neuroscience, Miami, Florida, October 1999.

Hansen, MR, Zha, XM, Bok, J, and Green, SH. Rold and activation of the transcription factor CREB in the support of spiral ganglion neuronal survival by depolarization, neurotrophins, and cAMP. Association for Research in Otolaryngology, St. Petersburg, Florida, February 2000.

Hansen, MR, Vijapurkar, U, Koland, JG, and Green, SH. Neuregulins are expressed in spiral ganglion neurons and promote Schwann cell proliferation. Society for Neuroscience, San Diego, California, November 2001.

House, HP, Dakhail, AA, **Hansen, MR,** House, JW. Stapedectomy vs. stapedectomy: comparison of results with long-term follow-up. Triological Society, Western Section, Pasadena, California, February 2002.

Bok, J, **Hansen, MR,** and Green, SH. Support of spiral ganglion neuron survival by depolarization: role of Ca^{2+} /calmodulin-dependent protein kinases II and IV. Association for Research in Otolaryngology, St. Petersburg, Florida, February 2002.

Hansen, MR, Linthicum Jr, FR. Expression of neuregulin and activation of erbB receptors in vestibular schwannomas: possible autocrine loop stimulation. American Neurotology Society, Nashville, Tennessee, May 2003.

Hansen, MR, Luxford, WM. Surgical outcomes in patients with endolymphatic sac tumors. Triological Society, Phoenix, Arizona, May 2004.

Gantz BJ, Wilkinson EP, **Hansen MR**: Iowa experience with canal wall reconstruction and mastoid obliteration tympanomastoidectomy: Initial results in 100 patients. Seventh International Conference on Cholesteatoma and Ear Surgery, The Hague, Netherlands, June 2004.

Hansen, MR, Chatterjee, P, Huang, J, Wang, Q, Fairfield, D, Green, SH. Responses of rat spiral ganglion neurons to electrical stimulation and membrane depolarization *in vitro*. Society for Neuroscience, San Diego, California, October 2004.

Chatterjee, P, Green, SH, **Hansen, MR**. Endogenously produced neuregulin contributes to vestibular schwannoma proliferation *in vitro*. Society for Neuroscience, San Diego, California, October 2004.

Hansen, MR, Fairfield, D, Green, SH. Effects of activity – dependent protein kinases on neonatal rat spiral ganglion neuron (SGN) neurite growth *in vitro*. Association for Research in Otolaryngology, New Orleans, Louisiana, February 2005.

Chatterjee, P, Green, SH, **Hansen, MR.** Inhibition of endogenously produced neuregulin reduces vestibular schwannoma cell proliferation *in vitro*. Association for Research in Otolaryngology, New Orleans, Louisiana, February 2005.

Meyer, TA, Canty, PA, Wilkinson, EP, **Hansen, MR**, Rubinstein, JT, Gantz, BJ. Small Acoustic Neuromas: Watch and Wait versus Surgical Excision. American Neurotologic Society, Boca Raton, Florida, March, 2005.

Gantz BJ, Wilkinson EP, Hansen MR: Canal wall reconstruction and mastoid obliteration tympanomastoidectomy: Seven years of experience. Triological Society. Boca Raton, Florida, May 14-15, 2005.

Roehm, PC, Xu, N, Chatterjee, P, Green, SH, **Hansen, MR.** Biphasic modulation of spiral ganglion neurite growth by protein kinase A. Society for Neuroscience, Washington DC, November, 2005

Fairfield, DA, **Hansen, MR**, Green, SH. Patterned electrical stimulation leads to CREB phosphorylation in neonatal rat spiral ganglion neurons in vitro. Association for Research in Otolaryngology, Baltimore, Maryland February 2006.

Roehm, PC, Xu, N, Green, SH, **Hansen, MR**. Effects of activity-dependent signals on spiral ganglion neurite growth. Association for Research in Otolaryngology, Baltimore, Maryland February 2006.

Slattery, III, WM, **Hansen, MR**, Fisher, LM, Brackmann, DE. Prophylactic famvir treatment for delayed facial paresis. American Academy of Otolaryngology-Head and Neck Surgery, Toronto, Ontario September 2006

Brown, KD, Clark, J, **Hansen MR**. Differential lipid raft localization of ErbB2 in vestibular schwannoma cells and Schwann cells. Association for Research in Otolaryngology, Denver, Colorado, February 2007.

Woodson, E, Roehm, PC, Xu, N, Green, SH, **Hansen, MR**. Inhibition of spiral ganglion neurite growth by depolarization requires Ca2+ entry through multiple voltage sensitive Ca2+ channels and calpain activation. Association for Research in Otolaryngology, Denver, Colorado, February 2007.

Provenzano, M, Huang, J, Alam, S, Nymon, A, Zander, K, Xu, N, **Hansen, MR**, Green, SH. A role for $p75^{NTR}$ in regulation spiral ganglion Schwann cell proliferation and cell death following denervation. Association for Research in Otolaryngology, Denver, Colorado, February 2007.

Brown, KD, Clark, J, **Hansen MR**. Differential lipid raft localization of ErbB2 in vestibular schwannoma cells and Schwann cells. Combined Sections Meeting, Triologic Society, Marco Island, Florida, February 2007.

Gantz, BJ, **Hansen, MR**, Meyer TA, Roehm, PC. Management of small acoustic neuromas: Why watch and wait? 5th International Conference on Vestibular Schwannoma and other CPA lesions, Barcelona, Spain, June 2007

Clark, JJ, Brown, KD, Gantz, BJ, H**ansen MR**. Contribution of ErbB2 signaling to vestibular schwannoma cell proliferation and radiosensitivity. 5th International Conference on Vestibular Schwannomas and Other CPA Lesions, Barcelona, Spain, June 2007

Provenzano, MJ, Zander, K, Alam, S, Nymon, A, Xu, N, Clark, JJ, Green, SH, **Hansen, MR**. Increased p75NTR expression in spiral ganglion Schwann cells following deafness correlates with their proliferative and apoptotic responses. Association for Research in Otolaryngology, Phoenix, Arizona, February 2008.

Xu, N, Engbers, J, Green, SH, **Hansen, MR**. Activation of phosphatidylinositol 3-kinase partially overcomes the inhibition of neurite growth by protein kinase A in spiral ganglion neurons. Association for Research in Otolaryngology, Phoenix, Arizona, February 2008.

Renton JP, Xu, N, **Hansen MR**. Endoplasmic reticulum-targeted Bcl-2 promotes spiral ganglion neuron survival while mitochondrially-targeted Bcl-2 causes SGN death in prosurvival conditions. Association for Research in Otolaryngology, Phoenix, Arizona, February 2008.

Woodson, EA, Clark, JJ, Xu, N, Provenzano, MJ, **Hansen, MR**. Constitutive ERK and PI3-K activity each promote proliferation in vestibular schwannoma cells while constitutive JNK activity and p75NTR signaling protect against apoptosis. Association for Research in Otolaryngology, Phoenix, Arizona, February 2008.

Hansen, MR, Clark, JJ, Gantz, BJ, Goswami, PC. Effects of ErbB2 signaling on the response of vestibular schwannoma cells to γ-irradiation. Triologic Society, Orlando, Florida, May 2008

Areas of Research and Current Projects

Molecular and cellular signals that regulate the development, maintenance and regeneration of afferent cochlear innervation.

Contribution of growth factor receptor and intracellular kinase signaling to vestibular schwannoma formation and growth.

Factors influencing clinical outcomes with cochlear implants and treatment of vestibular schwannomas.

Grants

Active

2008-09 Plastic Surgery Education Foundation/American Academy of Otolaryngology-HNS "Contribution of merlin inactivation by protein kinase A to facial nerve Schwann cell regenerative responses." $20,000 Role: Co-investigator/Mentor Principal Investigator: Richard Gurgel

2006-10 Department of Defense NF050193 “ErbB2 trafficking and signaling in human vestibular schwannomas” First year direct costs: $182,624. Role: Principal Investigator.

2006-11 NIH NIDCD-DC00242 “Iowa Cochlear Implant Clinical Research Center, Project V.” Role: Co-investigator, Principal Investigator: Bruce J. Gantz

2004-09 NIH/Harvard University. “Sudden Hearing Loss Multicenter Treatment Trial” Role: Co-investigator, Principal Investigator: Steve Rauch.

2004-09 NIH KO8 DC006211-01A1 “Regulation of auditory neuron neurite growth by activity.” First year direct costs: $177,000 Role: Principal Investigator.

Prior awards

1996-97 American Academy of Otolaryngology-HNSF Resident Research Grant, “Intracellular signaling mechanisms in spiral ganglion neurons by depolarization.” $10,000 Role: Principal Investigator.

2000-01 National Organization for Hearing Research, "Survival-promoting effects and signaling mechanisms of patterned electrical activity in spiral ganglion neurons." $10,000 Role: Principal Investigator.

2004-06 American Otologic Society “Effects of elevated potassium on spiral ganglion neurite growth and maintenance.” $80,000 Role: Principal Investigator

2004-05 The Triological Society “Autocrine regulation of vestibular schwannoma growth.” $10,000 Role: Co-investigator/Mentor, Principal Investigator: Kevin Brown

Invited Lectures

2004 Regrowth of the auditory nerve. 1st Williams Conference on Tissue Engineering of the Inner Ear. University of Michigan, Department of Otolaryngology, Ypsilanti, Michigan, November 2004.

2005 BAHA: Indications and Techniques. Society of Otorhinolaryngology and Head-Neck Nurses, Los Angeles, CA, September, 2005

2006 Regrowth of the auditory nerve. SGC Workshop. Vienna, Austria, June 2006

Conference presentations

1992

Hansen, MR, Tripathi, B, and Tripathi, R. Type VI collagen and its mRNA are in the trabecular meshwork. Association for Research in Vision and Opthalmology, Sarasota, FL, March 1992

1993

Hansen, MR, Tripathi, B, Li, J, and Tripathi, R. Expression of messenger ribonucleic acid for Type VI collagen in trabecular meshwork. Association for Research in Vision and Opthalmology, Sarasota, FL, March 1993

1996

Hegarty, JL, Hansen, MR**,** Kay, AR, Gantz, BJ, Green, SH. Mechanisms of trophic support of mammalian spiral ganglion neurons. Association for Research in Otolaryngology mid-winter meeting, St. Petersburg, Florida, February 1996.

Hansen, MR, Hegarty, JL, and Green, SH. Convergence of neurotrophin and Ca^{2+} intracellular signaling pathways in spiral ganglion neurons. Keystone Symposia, Taos, NM, March 1996.

Hansen, MR, and Green, SH. Depolarization promotes spiral ganglion neuron survival via multiple mechanisms including an autocrine neurotrophic response. Society for Neuroscience, Washington D.C., November 1996.

1997

Victoria, LV, Hansen, MR, Wu, X, Abbas, PJ, Gantz, BJ, and Green, SH. Electrical stimulation increases neurotrophin expression in rat spiral ganglion neurons *in vitro*. Association for Research in Otolaryngology, St. Petersburg, Florida, February 1997.

Hansen, MR, and Green, SH. Depolarization promotes spiral ganglion neuron survival *in vitro* via multiple mechanisms including an autocrine neurotrophic response. Association for Research in Otolaryngology, St. Petersburg, FL, February, 1997.

Hansen, MR, and Green, SH. Trophic signaling mechanisms of depolarization in spiral ganglion neurons. American Academy of Otolaryngology-HNS, San Fransisco, CA, September, 1997.

Zha, X, Hansen, MR, Victoria, L, Wu, X, Abbas, P, and Green, SH. Membrane depolarization promotes survival and BDNF synthesis via distinct intracellular signaling pathways in spiral ganglion neurons. Society for Neuroscience, New Orleans, Louisiana, November 1997.

1998

Hansen, MR**,** and Green, SH. Ca^{2+} /Calmodulin dependent protein kinase (CAMK) mediates a depolarization dependent trophic signaling pathway in spiral ganglion neurons. Association for Research in Otolaryngology, St. Petersburg, Florida, February 1998.

Hansen, MR, and Green, SH. Molecular mechanisms underlying neurotrophic effect of membrane depolarization in spiral ganglion neurons. Molecular Biology of Hearing and Deafness, Bethesda, Maryland, October 1998.

Bok, J, Hansen, MR**,** Zha, X, and Green, SH. Ca^{2+}/calmodulin-dependent kinase II and IV promote survival but differ in their effects on neurite growth in rat spiral ganglion neurons. Society for Neuroscience, Los Angeles, California, November 1998.

1999

Zha, XM, Hansen, MR, Bok, J, Bishop, JF, Mouradian, MM, and Green, SH. The transcription factor CREB participates in both survival-promoting signaling and BDNF gene transcription in spiral ganglion neurons. Association for Research in Otolaryngology mid-winter meeting, St. Petersburg, Florida, February 1999.

Zha, XM, Hansen, MR**,** Bok, J, and Green, SH. CAMK and CREB function in depolarization-induced survival of spiral ganglion. Gordon Research Conference, Newport, Rhode Island, June 1999.

Green, SH, Zha, XM, Hansen, MR, Bishop, JF, Mouradian, MM ,and Bok J. The transcription factor CREB participates in both survival-promoting signaling and BDNF gene transcription in rat spiral ganglion neurons. Society for Neuroscience, Miami, Florida, October 1999.

2000

Hansen, MR, Zha, XM, Bok, J, and Green, SH. Role and activation of the transcription factor CREB in the support of spiral ganglion neuronal survival by depolarization, neurotrophins, and cAMP. Association for Research in Otolaryngology, St. Petersburg, Florida, February, 2000.

2001
Hansen, MR, Vijapurkar, U, Koland, JG, and Green, SH. Neuregulins are expressed in spiral ganglion neurons and promote Schwann cell proliferation. Society for Neuroscience, San Diego, California, 2001.

2002
House, HP, Dakhail, AA, Hansen, MR, House, JW. Stapedectomy vs. stapedectomy: comparison of results with long-term follow-up. Triological Society, Western Section, Pasadena, California, February 2002.

Bok, J, Hansen, MR, and Green, SH. Support of spiral ganglion neuron survival by depolarization: role of Ca^{2+}/calmodulin-dependent protein kinases II and IV. Association for Research in Otolaryngology, St. Petersburg, Florida, February 2002.

2003
Hansen, MR, Linthicum Jr, FR. Expression of neuregulin and activation of erbB receptors in vestibular schwannomas: possible autocrine loop stimulation. American Neurotology Society, Nashville, Tennessee, May 2003.

2004
Hansen, MR, Luxford, WM. Surgical outcomes in patients with endolymphatic sac tumors. Triological Society, Phoenix, Arizona, May 2004.

Gantz BJ, Wilkinson EP, Hansen MR: Iowa experience with canal wall reconstruction and mastoid obliteration tympanomastoidectomy: Initial results in 100 patients. Seventh International Conference on Cholesteatoma and Ear Surgery, The Hague, Netherlands, June 2004.

Hansen, MR, Chatterjee, P, Huang, J, Wang, Q, Fairfield, D, Green, SH. Responses of rat spiral ganglion neurons to electrical stimulation and membrane depolarization *in vitro*. Society for Neuroscience, San Diego, California, October 2004.

Chatterjee, P, Green, SH, Hansen, MR. Endogenously produced neuregulin contributes to vestibular schwannoma proliferation *in vitro*. Society for Neuroscience, San Diego, California, October 2004.

2005
Hansen, MR, Fairfield, D, Green, SH. Effects of activity – dependent protein kinases on neonatal rat spiral ganglion neuron (SGN) neurite growth *in vitro*. Association for Research in Otolaryngology, New Orleans, Louisiana, February 2005.

Chatterjee, P, Green, SH, Hansen, MR. Inhibition of endogenously produced neuregulin reduces vestibular schwannoma cell proliferation *in vitro*. Association for Research in Otolaryngology, New Orleans, Louisiana, February 2005.

Meyer, TA, Canty, PA, Wilkinson, EP, Hansen, MR, Rubinstein, JT, Gantz, BJ. Small Acoustic Neuromas: Watch and Wait versus Surgical Excision. American Neurotologic Society, Boca Raton, FL, March, 2005.

Gantz BJ, Wilkinson EP, Hansen MR: Canal wall reconstruction and mastoid obliteration tympanomastoidectomy: Seven years of experience. Triological Society. Boca Raton, FL, May, 2005.

Roehm, PC, Xu, N, Chatterjee, P, Green, SH, Hansen, MR. Biphasic modulation of spiral ganglion neurite growth by protein kinase A. Society for Neuroscience, Washington DC, November, 2005

2006

Roehm, P.C., Xu, N., Green, S.H., Hansen, M.R.. Effects of Activity-dependent Signals on Spiral Ganglion Neurite Growth. Association for Research in Otolaryngology, Baltimore, MA February 2006.

Fairfield, D.A. Hansen, M.R., Green, S.H.. Patterned electrical stimulation leads to CREB phosphorylation in neonatal rat spiral ganglion neurons in vitro. Association for Research in Otolaryngology, Baltimore, MA February 2006.

Slattery, III, W.M., Hansen, M.R., Fisher, L.M., Brackmann, D.E. Prophylactic famvir treatment for delayed facial paresis. American Academy of Otolaryngology-Head and Neck Surgery, Toronto, ON September 2006

2007

Brown, KD, Clark, J, Hansen MR. Differential lipid raft localization of ErbB2 in vestibular schwannoma cells and Schwann cells. Combined Sections Meeting, Triologic Society, Marco Island, FL, February 2007.

Provenzano, M, Huang, J, Alam, S, Nymon, A, Zander, K, Xu, N, Hansen, MR, Green, SH. A role for $p75^{NTR}$ in regulation spiral ganglion Schwann cell proliferation and cell death following denervation. Association for Research in Otolaryngology, Denver, CO, February 2007.

Woodson, E, Roehm, PC, Xu, N, Green, SH, Hansen, MR. Inhibition of spiral ganglion neurite growth by depolarization requires Ca^{2+} entry through multiple voltage sensitive Ca^{2+} channels and calpain activation. Association for Research in Otolaryngology, Denver, CO, February 2007.

Brown, KD, Clark, J, Hansen MR. Differential lipid raft localization of ErbB2 in vestibular schwannoma cells and Schwann cells. Association for Research in Otolaryngology, Denver, CO, February 2007.

Gantz, BJ, Hansen, MR, Meyer TA, Roehm, PC. Management of small acoustic neuromas: Why watch and wait? 5^{th} International Conference on Vestibular Schwannoma and other CPA lesions, Barcelona, Spain, June 2007

Clark, JJ, Brown, KD, Gantz, BJ, Hansen MR. Contribution of ErbB2 signaling to vestibular schwannoma cell proliferation and radiosensitivity. 5th International Conference on Vestibular Schwannomas and Other CPA Lesions, Barcelona, Spain, June 2007

2008

Woodson, EA, Clark, JJ, Xu, N, Provenzano, MJ, Hansen, MR. Constitutive ERK and PI3-K activity each promote proliferation in vestibular schwannoma cells while constitutive JNK activity and $p75^{NTR}$ signaling protect against apoptosis. Association for Research in Otolaryngology, Phoenix, AZ, February 2008.

Renton JP, Xu, N, Hansen MR. Endoplasmic reticulum-targeted Bcl-2 promotes spiral ganglion neuron survival while mitochondrially-targeted Bcl-2 causes SGN death in prosurvival conditions. Association for Research in Otolaryngology, Phoenix, AZ, February 2008.

Xu, N, Engbers, J, Green, SH, Hansen, MR. Activation of phosphatidylinositol 3-kinase partially overcomes the inhibition of neurite growth by protein kinase A in spiral ganglion neurons. Association for Research in Otolaryngology, Phoenix, AZ, February 2008.

Provenzano, MJ, Zander, K, Alam, S, Nymon, A, Xu, N, Clark, JJ, Green, SH, Hansen, MR. Increased p75NTR expression in spiral ganglion Schwann cells following deafness correlates with their proliferative and apoptotic responses. Association for Research in Otolaryngology, Phoenix, AZ, February 2008.

Hansen, MR, Clark, JJ, Gantz, BJ, Goswami, PC. Effects of ErbB2 signaling on the response of vestibular schwannoma cells to γ-irradiation. Candidate Thesis, Triologic Society, Orlando, FL, May 2008

Forums moderated

2006 Otology/Neurotology, Research Forum, American Academy of Otolaryngology-Head and Neck Surgery, Sept. 19, 2006, Toronto, CA
2008 American Neurotology Society 43rd Annual Spring Meeting, May 2, 2008, Orlando, FL

IV. SERVICE

Memberships

American Academy of Otolaryngology – Head and Neck Surgery
Society for Neuroscience
American Neurotology Society
American Laryngological, Rhinological and Otological Society, (The Triological Society)
Association for Research in Otolaryngology
American Association for the Advancement of Science
American Medical Association
Iowa Medical Society
Johnson County Medical Society
Alpha Omega Alpha Honor Medical Society

Review Panels

Ad hoc reviewer, *Annals of Otology, Laryngology, and Rhinology*
Ad hoc reviewer, *Laryngoscope*
Ad hoc reviewer, *Hearing Research*
Ad hoc reviewer, *Audiology, Otology, & Neurotology*
Ad hoc reviewer, *Journal of Neuroscience Methods*
Ad hoc reviewer, *Otology & Neurotology*
Ad hoc reviewer, *Biomaterials*
Ad hoc reviewer, *Archives of Otolaryngology-Head and Neck Surgery*
Ad hoc reviewer, *Journal of Neurobiology/Developmental Neurobiology*
Ad hoc reviewer, *Otolaryngology-Head and Neck Surgery*
Ad hoc reviewer, *Neuropeptides*
Ad hoc reviewer, *International Journal of Pediatric Otorhinolaryngology*
Ad hoc reviewer, *Head&Neck*
Ad hoc reviewer, *Health Research Council of New Zealand*

Carver College of Medicine Committees

1998-2001 Member, Health Information Management hospital advisory subcommittee, University of Iowa
2007 Univ of Iowa Carver College of Medicine, Review of Dept of Radiation Oncology and Free Radical and Radiation Biology Program

2008	Member, Pre/Post OR Throughput Committee, Carver College of Medicine, Univ. of Iowa

National/International Service

2004-present	American Academy of Otolaryngology – HNS, Research, Grants, and Prizes Sub-committee
2004-present	American Academy of Otolaryngology – HNS, Research Liason & Development Sub-committee
2004-present	Centralized Otolaryngology Research Efforts (C.O.R.E.) Study Section
2005-present	National Temporal Bone Registry-Scientific Advisory Board
2006-08	Association for Research in Otolaryngology, Physician Research Training Committee
2007	House Ear Institute, Review of Dept of Temporal Bone Histopathology
2008	American Board of Otolaryngology-Examiner
2008	American Board of Otolaryngology (Neurotology subspeciality) Examiner
2008-09	American Neurotology Society, Annual Spring Meeting, Reviewer for Scientific Session
2009-11	Association for Research in Otolaryngology, Chair, Physician Research Training Committee
2009-	Research Advisory Board of the Children's Tumor Foundation
2009-	Scientific Review Committee, Deafness Research Foundation