




Anthony J. Ricci, PhD

Edward C. and Amy H. Sewall Professor in the School of Medicine and Professor of Otolaryngology - Head & Neck Surgery (OHNS) and, by courtesy of Molecular and Cellular Physiology

Otolaryngology - Head & Neck Surgery Divisions

 Curriculum Vitae available Online

CONTACT INFORMATION

• Administrative Contact

Vanessa Pulido - Research Administrator

Email vgpulido@stanford.edu

Tel 650-862-8339

Bio

BIO

Anthony Ricci, PhD got his PhD in Neuroscience at Tulane University School of Medicine where he was studying the peripheral vestibular system. He did a postdoctoral fellowship with Manning Correia at UTMB and then at the University of Wisconsin with Robert Fettiplace. His work has focused upon hair cell function, using electrophysiological and imaging tools for this work. Dr. Ricci has contributed at many levels to understanding signal processing from the periphery to the CNS. He also has a translational component to his work where he is collaborating to develop non ototoxic antibiotics, developing new drug delivery systems for the ear to facilitate gene therapy treatments and more recently investigating how hearing loss impacts cognitive function. As a PI, Dr. Ricci has trained numerous students both medical and graduate. He has also trained postdocs and residents. Dr. Ricci served as the director of the Neuroscience Graduate Program at Stanford for almost eight years. He was a co-founder of the ADVANCE Summer Institute, an onboarding program for incoming bioscience graduate students from underserved backgrounds. He has been the faculty lead for this program for the past 9 years. He is presently the faculty lead on a new postdoctoral fellows program, Propel, that targets scholars from underrepresented communities who are interested in academic careers.

Most recently, Dr. Ricci is part of a team launching a new postbaccalaureate program REACH that provides a strong research based opportunity to scholars from underrepresented backgrounds interested in a research or medical career. Dr. Ricci is presently the Associate Dean of Graduate Education and Postdoctoral Affairs and the Director of Research for the Department of Otolaryngology.

ACADEMIC APPOINTMENTS

- Professor, Otolaryngology - Head & Neck Surgery Divisions
- Professor (By courtesy), Molecular & Cellular Physiology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Associate Dean of Graduate Education and Postdoctoral Affairs, Stanford University School of Medicine, (2020- present)
- Director of the Neuroscience Training Program, Stanford University, (2013-2019)

- Director of Research for Department of Otolaryngology, Stanford University, (2018- present)
- Director of the Advance Summer Institute, Stanford University, (2012-2019)

HONORS AND AWARDS

- Excellence in Diversity and Inclusion, Biosciences (2018)
- Excellence in Diversity and Inclusion, Stanford Biosciences (2014)
- Burt Evans Young Investigator Award, National Organization for Hearing (2002)
- Young Investigator Award, Deafness Research Foundation (1999)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- VPGE Faculty Advisory Committee, Stanford University (2020 - present)
- Program Committee, Association for Research in Otolaryngology (2021 - present)
- Board of Scientific Councillors, NIDCD (2014 - 2017)
- Faculty Mentoring Champions, Stanford Medical school (2019 - present)
- Admissions Committee, Neuroscience training program (2006 - 2018)
- Program Committee, Neuroscience Training Program (2010 - 2018)
- Postdoc Reviewing Committee, SNI (2017 - present)
- Graduate student Sustainable funding group, Stanford Medical School (2014 - present)
- BDAC committee, Stanford Medical School (2015 - present)
- Nominating Committee, Association for Research in Otolaryngology (2014 - 2015)

PROFESSIONAL EDUCATION

- PhD, Tulane University , Neuroscience (1992)
- BA, Case Western Reserve University , Chemistry (1985)

PATENTS

- Anthony Ricci, Alan Cheng, Robert Greenhouse. "United States Patent 61/792,256 Aminoglycoside Antibiotics with Reduced Ototoxicity", Leland Stanford Junior University, Mar 15, 2013

LINKS

- Lab site: <https://riccilab.stanford.edu/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

The auditory system is a remarkable feat of engineering capable of detecting motion at the atomic level and transmitting this information to the brain with precise timing and fidelity. We use advanced electrophysiologic, imaging, molecular and pharmacologic techniques to probe mechanisms of mechanotransduction and synaptic transmission at the auditory periphery. There are several independent lines of research in the laboratory.

Mechanotransduction, the conversion of mechanical stimulation into an electrical signal, is complex and involves a variety of proteins, many of which have not yet been identified. A major goal of the laboratory is to delineate the functional relevance of mechanotransduction and to identify proteins and their function in this process. To date, we have identified and characterized the tuning properties of the sensory hair bundle and mechanotransducer channels, identifying at least two new physiologically relevant contributions of these channels. We have performed the only single channel study of mechanotransducer channels, demonstrating tonotopic variations in the intrinsic channel properties. We have also performed the only kinetic analysis of activation, again demonstrating tonotopic variations in the kinetics of the mechanotransduction channel. In addition, we have pharmacologically characterized and biophysically mapped the transducer channel pore. Recently we have

developed a high speed confocal imaging system that will allow us to optically monitor calcium changes associated with mechanotransduction, allowing us to localize the site of mechanotransduction and directly investigate mechanisms of calcium, regulation.

A second major direction of the laboratory is synaptic transmission where we are interested in identifying mechanisms associated with specializing these synapses to graded and tonic release of transmitter at high rates and with high fidelity. We have morphologically and biophysically characterized these synapses, quantifying release properties at different frequency locations. We are one of only a handful of laboratories who have recorded directly from synaptic terminals where we are investigating mechanisms of multivesicular release. Recently we have developed a technique for measuring vesicular fusion during stimulation so that true release parameters can be investigated. We plan to further develop this technique to be used while measuring membrane potential changes.

A third area of interest for our laboratory is the development of the peripheral system. We are particularly interested in identifying mechanisms associated with the establishment of the tonotopic organization of the cochlea. In addition, indentifying factors that control cell differentiation and specialization, those intrinsic and those extrinsic to the cells is a key priority. This work is critical when trying to repair or replace hair cells either via regenerative or stem cell type therapies.

Although fundamentally a basic science laboratory we have strong ties to translational research both directly and through collaborative efforts. Each of our three major research areas have translationally oriented projects associated with them. In addition, we are developing a project to create a nontoxic aminoglycoside based on biophysical data collected while investigating mechanotransduction.

The auditory sensory cell, the hair cell, detects mechanical stimulation at the atomic level and conveys information regarding frequency and intensity to the brain with high fidelity. Our interests are in identifying specializations associated with mechanotransduction and synaptic transmission leading to the amazing sensitivities of the auditory system. We are also interested in the developmental process, particularly in how development gives insight into repair and regenerative mechanisms.

Teaching

COURSES

2021-22

- Advance 1: BIOS 300 (Sum)

2018-19

- Advance 1: BIOS 300 (Sum)
- Responsible Conduct of Neuroscience Research: NEPR 212 (Aut)
- Responsible Conduct of Neuroscience Research Refresher Course: NEPR 212R (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Suzanna Bennett, Raymond McKoy, Gabriella Muwanga

Postdoctoral Faculty Sponsor

Sriram Hemachandran, Jamis McGrath, Shefin Sam George

Postdoctoral Research Mentor

Jason Qian

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Molecular and Cellular Physiology (Phd Program)
- Neurosciences (Phd Program)

Publications

PUBLICATIONS

- **ANKRD24 organizes TRIOBP to reinforce stereocilia insertion points.** *The Journal of cell biology*
Krey, J. F., Liu, C., Belyantseva, I. A., Bateschell, M., Dumont, R. A., Goldsmith, J., Chatterjee, P., Morrill, R. S., Fedorov, L. M., Foster, S., Kim, J., Nuttall, A. L., Jones, et al
2022; 221 (4)
- **Identifying targets to prevent aminoglycoside ototoxicity.** *Molecular and cellular neurosciences*
Kim, J., Hemachandran, S., Cheng, A. G., Ricci, A. J.
2022: 103722
- **In vivo real-time imaging reveals megalin as the aminoglycoside gentamicin transporter into cochlea whose inhibition is otoprotective.** *Proceedings of the National Academy of Sciences of the United States of America*
Kim, J., Ricci, A. J.
2022; 119 (9)
- **The functional role of connectors in outer-hair-cell hair bundles**
Zhu, Z., Ricci, A. J., Maoileidigh, D. O.
CELL PRESS.2022: 436A
- **A two-photon FRAP protocol to measure the stereociliary membrane diffusivity in rat cochlear hair cells.** *STAR protocols*
George, S. S., Steele, C. R., Ricci, A. J.
2021; 2 (3): 100637
- **Functional subgroups of cochlear inner hair cell ribbon synapses differently modulate their EPSC properties in response to stimulation.** *Journal of neurophysiology*
Niwa, M., Young, E. D., Glowatzki, E., Ricci, A. J.
2021
- **Loxhd1 mutations cause mechanotransduction defects in cochlear hair cells.** *The Journal of neuroscience : the official journal of the Society for Neuroscience*
Trouillet, A., Miller, K. K., George, S. S., Wang, P., Ali, N., Ricci, A., Grillet, N.
2021
- **Fluid Jet Stimulation of Auditory Hair Bundles Reveal Spatial Non-uniformities and Two Viscoelastic-Like Mechanisms.** *Frontiers in cell and developmental biology*
Peng, A. W., Scharr, A. L., Caprara, G. A., Nettles, D., Steele, C. R., Ricci, A. J.
2021; 9: 725101
- **In situ motions of individual inner-hair-cell stereocilia from stapes stimulation in adult mice.** *Communications biology*
Wang, Y., Steele, C. R., Puria, S., Ricci, A. J.
2021; 4 (1): 958
- **Rat Auditory Inner Hair Cell Mechanotransduction and Stereociliary Membrane Diffusivity Are Similarly Modulated by Calcium.** *iScience*
George, S. S., Steele, C. R., Ricci, A. J.
2020; 23 (12): 101773
- **Dissociating antibacterial from ototoxic effects of gentamicin C-subtypes.** *Proceedings of the National Academy of Sciences of the United States of America*
O'Sullivan, M. E., Song, Y., Greenhouse, R., Lin, R., Perez, A., Atkinson, P. J., MacDonald, J. P., Siddiqui, Z., Lagasca, D., Comstock, K., Huth, M. E., Cheng, A. G., Ricci, et al
2020
- **Effects of cochlear hair cell ablation on spatial learning/memory.** *Scientific reports*
Qian, Z. J., Ricci, A. J.
2020; 10 (1): 20687
- **Hair bundle stimulation mode modifies manifestations of mechanotransduction adaptation.** *The Journal of neuroscience : the official journal of the Society for Neuroscience*
Caprara, G. A., Mecca, A. A., Wang, Y., Ricci, A. J., Peng, A. W.

2019

- **A Bundle of Mechanisms: Inner-Ear Hair-Cell Mechanotransduction.** *Trends in neurosciences*
O Maoileidigh, D., Ricci, A. J.
2019
- **Uncoordinated maturation of developing and regenerating postnatal mammalian vestibular hair cells.** *PLoS biology*
Wang, T. n., Niwa, M. n., Sayyid, Z. N., Hosseini, D. K., Pham, N. n., Jones, S. M., Ricci, A. J., Cheng, A. G.
2019; 17 (7): e3000326
- **Dye Tracking Following Posterior Semicircular Canal or Round Window Membrane Injections Suggests a Role for the Cochlea Aqueduct in Modulating Distribution.** *Frontiers in cellular neuroscience*
Talaei, S., Schnee, M. E., Aaron, K. A., Ricci, A. J.
2019; 13: 471
- **Aminoglycoside ribosome interactions reveal novel conformational states at ambient temperature** *NUCLEIC ACIDS RESEARCH*
O'Sullivan, M. E., Poitevin, F., Sierra, R. G., Gati, C., Dao, E., Rao, Y., Aksit, F., Ciftci, H., Corsepis, N., Greenhouse, R., Hayes, B., Hunter, M. S., Liang, et al
2018; 46 (18): 9793–9804
- **A mechano-electrical mechanism for detection of sound envelopes in the hearing organ** *NATURE COMMUNICATIONS*
Nuttall, A. L., Ricci, A. J., Burwood, G., Harte, J. M., Stenfelt, S., Caye-Thomasen, P., Ren, T., Ramamoorthy, S., Zhang, Y., Wilson, T., Lunner, T., Moore, B. J., Fridberger, et al
2018; 9: 4175
- **TRPV6, TRPM6 and TRPM7 Do Not Contribute to Hair-Cell Mechanotransduction** *FRONTIERS IN CELLULAR NEUROSCIENCE*
Morgan, C. P., Zhao, H., LeMasurier, M., Xiong, W., Pan, B., Kazmierczak, P., Avenarius, M. R., Bateschell, M., Larisch, R., Ricci, A. J., Muller, U., Barr-Gillespie, P. G.
2018; 12: 41
- **The presynaptic ribbon maintains vesicle populations at the hair cell afferent fiber synapse** *ELIFE*
Becker, L., Schnee, M. E., Niwa, M., Sun, W., Maxeiner, S., Talaei, S., Kachar, B., Rutherford, M. A., Ricci, A. J.
2018; 7
- **Cell Membrane Organization is Important for Inner Hair Cell MET-Channel Gating**
Effertz, T., Scharr, A. L., Ricci, A. J., Bergevin, C., Puria, S.
AMER INST PHYSICS.2018
- **Inner Hair Cell Stereocilia Movements Captured In-Situ by a High-Speed Camera with Subpixel Image Processing**
Wang, Y., Puria, S., Steele, C. R., Ricci, A. J., Bergevin, C., Puria, S.
AMER INST PHYSICS.2018
- **Stimulus Dependent Properties of Mammalian Cochlear Hair Cell Mechano-electrical Transduction**
Scharr, A. L., Ricci, A., Bergevin, C., Puria, S.
AMER INST PHYSICS.2018
- **Phosphoinositol-4,5-Bisphosphate Regulates Auditory Hair-Cell Mechanotransduction-Channel Pore Properties and Fast Adaptation** *JOURNAL OF NEUROSCIENCE*
Effertz, T., Becker, L., Peng, A. W., Ricci, A. J.
2017; 37 (48): 11632–46
- **Towards the Prevention of Aminoglycoside-Related Hearing Loss.** *Frontiers in cellular neuroscience*
O'Sullivan, M. E., Perez, A., Lin, R., Sajjadi, A., Ricci, A. J., Cheng, A. G.
2017; 11: 325
- **Activity-Dependent Phosphorylation by CaMKII β Alters the Ca²⁺ Affinity of the Multi-C2-Domain Protein Otoferlin.** *Frontiers in synaptic neuroscience*
Meese, S., Cepeda, A. P., Gahlen, F., Adams, C. M., Ficner, R., Ricci, A. J., Heller, S., Reisinger, E., Herget, M.
2017; 9: 13
- **Rise time reduction of thermal actuators operated in air and water through optimized pre-shaped open-loop driving** *JOURNAL OF MICROMECHANICS AND MICROENGINEERING*
Larsen, T., Doll, J. C., LOIZEAU, F., Hosseini, N., Peng, A. W., Fantner, G. E., Ricci, A. J., Pruitt, B. L.

2017; 27 (4)

- **Hair Cells and Their Synapses** *UNDERSTANDING THE COCHLEA*
Schnee, M. E., Ricci, A., Manley, G. A., Gummer, A. W., Popper, A. N., Fay, R. R.
2017; 62: 183–213
- **Development and localization of reverse-polarity mechanotransducer channels in cochlear hair cells** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Beurg, M., Goldring, A. C., Ricci, A. J., Fettiplace, R.
2016; 113 (24): 6767-6772
- **Adaptation Independent Modulation of Auditory Hair Cell Mechanotransduction Channel Open Probability Implicates a Role for the Lipid Bilayer** *JOURNAL OF NEUROSCIENCE*
Peng, A. W., Gnanasambandam, R., Sachs, F., Ricci, A. J.
2016; 36 (10): 2945-2956
- **Calcium-induced calcium release supports recruitment of synaptic vesicles in auditory hair cells.** *Journal of neurophysiology*
Castellano-Muñoz, M., Schnee, M. E., Ricci, A. J.
2016; 115 (1): 226-239
- **Glass Probe Stimulation of Hair Cell Stereocilia.** *Methods in molecular biology (Clifton, N.J.)*
Peng, A. W., Ricci, A. J.
2016; 1427: 487-500
- **Thyroid hormone is required for pruning, functioning and long-term maintenance of afferent inner hair cell synapses** *EUROPEAN JOURNAL OF NEUROSCIENCE*
Sundaresan, S., Kong, J., Fang, Q., Salles, F. T., Wangsawihardja, F., Ricci, A. J., Mustapha, M.
2016; 43 (2): 148-161
- **Thyroid hormone is required for pruning, functioning and long-term maintenance of afferent inner hair cell synapses.** *The European journal of neuroscience*
Sundaresan, S., Kong, J. H., Fang, Q., Salles, F. T., Wangsawihardja, F., Ricci, A. J., Mustapha, M.
2015
- **Underestimated Sensitivity of Mammalian Cochlear Hair Cells Due to Splay between Stereociliary Columns** *BIOPHYSICAL JOURNAL*
Nam, J., Peng, A. W., Ricci, A. J.
2015; 108 (11): 2633-2647
- **Development and Characterization of Chemical Cochleostomy in the Guinea Pig** *OTOLARYNGOLOGY-HEAD AND NECK SURGERY*
Alyono, J. C., Corrales, C. E., Huth, M. E., Blevins, N. H., Ricci, A. J.
2015; 152 (6): 1113-1118
- **Activity-dependent regulation of prestin expression in mouse outer hair cells.** *Journal of neurophysiology*
Song, Y., Xia, A., Lee, H. Y., Wang, R., Ricci, A. J., Oghalai, J. S.
2015; 113 (10): 3531-3542
- **Designer aminoglycosides prevent cochlear hair cell loss and hearing loss.** *journal of clinical investigation*
Huth, M. E., Han, K., Sotoudeh, K., Hsieh, Y., Effertz, T., Vu, A. A., Verhoeven, S., Hsieh, M. H., Greenhouse, R., Cheng, A. G., Ricci, A. J.
2015; 125 (2): 583-592
- **Cytoarchitecture of the mouse organ of corti from base to apex, determined using in situ two-photon imaging.** *Journal of the Association for Research in Otolaryngology : JARO*
Soons, J. A., Ricci, A. J., Steele, C. R., Puria, S.
2015; 16 (1): 47-66
- **Cytoarchitecture of the mouse organ of corti from base to apex, determined using in situ two-photon imaging.** *Journal of the Association for Research in Otolaryngology : JARO*
Soons, J. A., Ricci, A. J., Steele, C. R., Puria, S.
2015; 16 (1): 47-66
- **The how and why of identifying the hair cell mechano-electrical transduction channel.** *Pflügers Archiv : European journal of physiology*

- Effertz, T., Scharr, A. L., Ricci, A. J.
2015; 467 (1): 73-84
- **Adaptation of Mammalian auditory hair cell mechanotransduction is independent of calcium entry.** *Neuron*
Peng, A. W., Effertz, T., Ricci, A. J.
2013; 80 (4): 960-972
 - **Response properties from turtle auditory hair cell afferent fibers suggest spike generation is driven by synchronized release both between and within synapses** *JOURNAL OF NEUROPHYSIOLOGY*
Schnee, M. E., Castellano-Munoz, M., Ricci, A. J.
2013; 110 (1): 204-220
 - **The elusive hair cell gating spring, a potential role for the lipid membrane.** *journal of the Acoustical Society of America*
Kim, J., Pinsky, P. M., Steele, C. R., Puria, S., Ricci, A. J.
2013; 133 (5): 3509-?
 - **A Novel Ion Channel Formed by Interaction of TRPML3 with TRPV5** *PLOS ONE*
Guo, Z., Grimm, C., Becker, L., Ricci, A. J., Heller, S.
2013; 8 (2)
 - **Patch-Clamp Recordings from Lateral Line Neuromast Hair Cells of the Living Zebrafish** *JOURNAL OF NEUROSCIENCE*
Ricci, A. J., Bai, J., Song, L., Lv, C., Zenisek, D., Santos-Sacchi, J.
2013; 33 (7): 3131-3134
 - **Integrity and Regeneration of Mechanotransduction Machinery Regulate Aminoglycoside Entry and Sensory Cell Death** *PLOS ONE*
Vu, A. A., Nadaraja, G. S., Huth, M. E., Luk, L., Kim, J., Chai, R., Ricci, A. J., Cheng, A. G.
2013; 8 (1)
 - **Faster than the Speed of Hearing: Nanomechanical Force Probes Enable the Electromechanical Observation of Cochlear Hair Cells** *NANO LETTERS*
Doll, J. C., Peng, A. W., Ricci, A. J., Pruitt, B. L.
2012; 12 (12): 6107-6111
 - **Swept Field Laser Confocal Microscopy for Enhanced Spatial and Temporal Resolution in Live-Cell Imaging** *7th Omaha Imaging Symposium*
Castellano-Munoz, M., Peng, A. W., Salles, F. T., Ricci, A. J.
CAMBRIDGE UNIV PRESS.2012: 753-60
 - **Permeation properties of the hair cell mechanotransducer channel provide insight into its molecular structure** *JOURNAL OF NEUROPHYSIOLOGY*
Pan, B., WAGUESPACK, J., Schnee, M. E., Leblanc, C., Ricci, A. J.
2012; 107 (9): 2408-2420
 - **Tracking vesicle fusion from hair cell ribbon synapses using a high frequency, dual sine wave stimulus paradigm.** *Communicative & integrative biology*
Schnee, M. E., Castellano-Muñoz, M., Kong, J., Santos-Sacchi, J., Ricci, A. J.
2011; 4 (6): 785-787
 - **Integrating the biophysical and molecular mechanisms of auditory hair cell mechanotransduction** *NATURE COMMUNICATIONS*
Peng, A. W., Salles, F. T., Pan, B., Ricci, A. J.
2011; 2
 - **Functional Hair Cell Mechanotransducer Channels Are Required for Aminoglycoside Ototoxicity** *PLOS ONE*
Alharazneh, A., Luk, L., Huth, M., Monfared, A., Steyger, P. S., Cheng, A. G., Ricci, A. J.
2011; 6 (7)
 - **Calcium-Dependent Synaptic Vesicle Trafficking Underlies Indefatigable Release at the Hair Cell Afferent Fiber Synapse** *NEURON*
Schnee, M. E., Santos-Sacchi, J., Castellano-Munoz, M., Kong, J., Ricci, A. J.
2011; 70 (2): 326-338
 - **Somatic motility and hair bundle mechanics, are both necessary for cochlear amplification?** *HEARING RESEARCH*
Peng, A. W., Ricci, A. J.
2011; 273 (1-2): 109-122

- **Mechanisms of aminoglycoside ototoxicity and targets of hair cell protection.** *International journal of otolaryngology*
Huth, M. E., Ricci, A. J., Cheng, A. G.
2011; 2011: 937861-?
- **New Devices for Investigating Hair Cell Mechanical Properties** *11th International Workshop on the Mechanics of Hearing*
Doll, J. C., Peng, A., Ricci, A., Pruitt, B. L.
AMER INST PHYSICS.2011
- **Exploring the Role of Mechanotransduction Activation and Adaptation Kinetics in Hair Cell Filtering Using a Hodgkin-Huxley Approach** *11th International Workshop on the Mechanics of Hearing*
Wells, G. B., Ricci, A. J.
AMER INST PHYSICS.2011
- **Elastostatic Analysis of the Membrane Tenting Deformation of Inner-Ear Stereocilia** *11th International Workshop on the Mechanics of Hearing*
Kim, J., Pinsky, P. M., Ricci, A. J., Puria, S., Steele, C. R.
AMER INST PHYSICS.2011
- **Three-Dimensional Imaging of the Mouse Organ of Corti Cytoarchitecture for Mechanical Modeling** *11th International Workshop on the Mechanics of Hearing*
Puria, S., Hartman, B., Kim, J., Oghalai, J. S., Ricci, A. J., Liberman, M. C.
AMER INST PHYSICS.2011
- **Mechanosensitive Hair Cell-like Cells from Embryonic and Induced Pluripotent Stem Cells** *CELL*
Oshima, K., Shin, K., Diensthuber, M., Peng, A. W., Ricci, A. J., Heller, S.
2010; 141 (4): 704-716
- **Rethinking How Hearing Happens** *NEURON*
Xu, Z., Ricci, A. J., Heller, S.
2009; 62 (3): 305-307
- **Localization of inner hair cell mechanotransducer channels using high-speed calcium imaging** *NATURE NEUROSCIENCE*
Beurg, M., Fettiplace, R., Nam, J., Ricci, A. J.
2009; 12 (5): 553-558
- **LOCALIZING HAIR CELL MECHANOTRANSDUCER CHANNELS USING HIGH SPEED CALCIUM IMAGING**
Ricci, A. J., Beurg, M., Nam, J., Fettiplace, R.
SPRINGER JAPAN KK.2009: 76-76
- **Hair bundles teaming up to tune the mammalian cochlea** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Prakash, R., Ricci, A. J.
2008; 105 (48): 18651-18652
- **Functional auditory hair cells produced in the mammalian cochlea by in utero gene transfer** *NATURE*
Gubbels, S. P., Woessner, D. W., Mitchell, J. C., Ricci, A. J., Brigande, J. V.
2008; 455 (7212): 537-U47
- **Stepwise morphological and functional maturation of mechanotransduction in rat outer hair cells** *JOURNAL OF NEUROSCIENCE*
Waguespack, J., Salles, F. T., Kachar, B., Ricci, A. J.
2007; 27 (50): 13890-13902
- **A helix-breaking mutation in TRPML3 leads to constitutive activity underlying deafness in the varitint-waddler mouse** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Grimm, C., Cuajungco, M. P., van Aken, A. F., Schnee, M., Jors, S., Kros, C. J., Ricci, A. J., Heller, S.
2007; 104 (49): 19583-19588
- **Hair cell mechanotransduction: the dynamic interplay between structure and function.** *Current topics in membranes*
Ricci, A. J., Kachar, B.
2007; 59: 339-74

- **Steady-state adaptation of mechanotransduction modulates the resting potential of auditory hair cells, providing an assay for endolymph [Ca²⁺]** *JOURNAL OF NEUROSCIENCE*
Farris, H. E., Wells, G. B., Ricci, A. J.
2006; 26 (48): 12526-12536
- **Mechano-electrical transduction: New insights into old ideas** *JOURNAL OF MEMBRANE BIOLOGY*
Ricci, A. J., Kachar, B., Gale, J., van Netten, S. M.
2006; 209 (2-3): 71-88
- **The role of mechanoelectric transduction and** *Journal of Neuroscience*
Farris, H., Wells, G., Ricci, AJ
2006; 26: 12526
- **Aminoglycoside ototoxicity: permeant drugs cause permanent hair cell loss** *JOURNAL OF PHYSIOLOGY-LONDON*
Waguespack, J. R., Ricci, A. J.
2005; 567 (2): 359-360
- **Auditory hair cell-afferent fiber synapses are specialized to operate at their best frequencies** *NEURON*
Schnee, M. E., Lawton, D. M., Furness, D. N., Benke, T. A., Ricci, A. J.
2005; 47 (2): 243-254
- **Voltage-clamp errors cause anomalous interaction between independent ion channels** *NEUROREPORT*
Farris, H. E., Ricci, A. J.
2005; 16 (9): 943-947
- **The transduction** *Journal of Neuroscience*
Ricci, A., Kennedy HJ, Crawford AC, Fettiplace R.
2005; 25: 7831..7839
- **Molecules and mechanisms of mechanotransduction** *34th Annual Meeting of the Society-for-Neuroscience*
Goodman, M. B., Lumpkin, E. A., Ricci, A., Tracey, W. D., Kernan, M., Nicolson, T.
SOC NEUROSCIENCE.2004: 9220-22
- **Probing the pore of the auditory hair cell mechanotransducer channel in turtle** *JOURNAL OF PHYSIOLOGY-LONDON*
Farris, H. E., LeBlanc, C. L., Goswami, J., Ricci, A. J.
2004; 558 (3): 769-792
- **Mechano-electrical transduction in the turtle utricle** *41st Annual Rocky Mountain Bioengineering Symposium/41st International ISA Biomedical Sciences Instrumentation Symposium*
Rennie, K. J., Manning, K. C., Ricci, A. J.
INSTRUMENT SOC AMER.2004: 441-446
- **Tonotopic variation in the conductance of the hair cell mechanotransducer channel** *NEURON*
Ricci, A. J., Crawford, A. C., Fettiplace, R.
2003; 40 (5): 983-990
- **Adaptation in auditory hair cells** *CURRENT OPINION IN NEUROBIOLOGY*
Fettiplace, R., Ricci, A. J.
2003; 13 (4): 446-451
- **Biophysical and pharmacological characterization of voltage-gated calcium currents in turtle auditory hair cells** *JOURNAL OF PHYSIOLOGY-LONDON*
Schnee, M. E., Ricci, A. J.
2003; 549 (3): 697-717
- **The effects of calcium on mechanotransducer channel kinetics in auditory hair cells** *Conference on Biophysics of the Cochlea - Molecules to Models*
Fettiplace, R., Crawford, A. C., Ricci, A. J.
WORLD SCIENTIFIC PUBL CO PTE LTD.2003: 65-72
- **Mechanisms of active hair bundle motion in auditory hair cells** *JOURNAL OF NEUROSCIENCE*
Ricci, A. J., Crawford, A. C., Fettiplace, R.

2002; 22 (1): 44-52

- **Clues to the cochlear amplifier from the turtle ear** *TRENDS IN NEUROSCIENCES*
Fettiplace, R., Ricci, A. J., Hackney, C. M.
2001; 24 (3): 169-175
- **Active hair bundle motion linked to fast transducer adaptation in auditory hair cells** *JOURNAL OF NEUROSCIENCE*
Ricci, A. J., Crawford, A. C., Fettiplace, R.
2000; 20 (19): 7131-7142
- **Tonotopic variations of calcium signalling in turtle auditory hair cells** *JOURNAL OF PHYSIOLOGY-LONDON*
Ricci, A. J., Gray-Keller, M., Fettiplace, R.
2000; 524 (2): 423-436
- **Two components of transducer adaptation in auditory hair cells** *JOURNAL OF NEUROPHYSIOLOGY*
Wu, Y. C., Ricci, A. J., Fettiplace, R.
1999; 82 (5): 2171-2181
- **Electrical response properties of avian lagena type II hair cells: a model system for vestibular filtering** *AMERICAN JOURNAL OF PHYSIOLOGY-REGULATORY INTEGRATIVE AND COMPARATIVE PHYSIOLOGY*
Ricci, A. J., Correia, M. J.
1999; 276 (4): R943-R953
- **The endogenous calcium buffer and the time course of transducer adaptation in auditory hair cells** *JOURNAL OF NEUROSCIENCE*
Ricci, A. J., Wu, Y. C., Fettiplace, R.
1998; 18 (20): 8261-8277
- **Calcium permeation of the turtle hair cell mechanotransducer channel and its relation to the composition of endolymph** *JOURNAL OF PHYSIOLOGY-LONDON*
Ricci, A. J., Fettiplace, R.
1998; 506 (1): 159-173
- **Vestibular type I and type II hair cells .1. Morphometric identification in the pigeon and gerbil** *JOURNAL OF VESTIBULAR RESEARCH-EQUILIBRIUM & ORIENTATION*
Ricci, A. J., Rennie, K. J., Cochran, S. L., Kevetter, G. A., Correia, M. J.
1997; 7 (5): 393-406
- **Vestibular type I and type II hair cells .2. Morphometric comparisons of dissociated pigeon hair cells** *JOURNAL OF VESTIBULAR RESEARCH-EQUILIBRIUM & ORIENTATION*
Ricci, A. J., Cochran, S. L., Rennie, K. J., Correia, M. J.
1997; 7 (5): 407-420
- **The effects of calcium buffering and cyclic AMP on mechano-electrical transduction in turtle auditory hair cells** *JOURNAL OF PHYSIOLOGY-LONDON*
Ricci, A. J., Fettiplace, R.
1997; 501 (1): 111-124
- **The delayed rectifier, I-KI is the major conductance in type I vestibular hair cells across vestibular end organs** *PFLUGERS ARCHIV-EUROPEAN JOURNAL OF PHYSIOLOGY*
Ricci, A. J., Rennie, K. J., Correia, M. J.
1996; 432 (1): 34-42
- **Electrical filtering in gerbil isolated type I semicircular canal hair cells** *JOURNAL OF NEUROPHYSIOLOGY*
Rennie, K. J., Ricci, A. J., Correia, M. J.
1996; 75 (5): 2117-2123
- **Filtering properties of vestibular hair cells: An update** *Conference on New Directions in Vestibular Research*
Correia, M. J., Ricci, A. J., Rennie, K. J.
NEW YORK ACAD SCIENCES. 1996: 138-149
- **A delayed rectifier conductance shapes the voltage response of type I hair cells** *Conference on New Directions in Vestibular Research*
Ricci, A. J., Rennie, K. J., Correia, M. J.

NEW YORK ACAD SCIENCES.1996: 690-692

- **COMPARATIVE ELECTROPHYSIOLOGICAL PROPERTIES OF GUINEA-PIG (CAVIA-COBAYA) OUTER HAIR-CELLS AND FROG (RANA-PIPIENS) SEMICIRCULAR CANAL HAIR-CELLS** *COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY A-MOLECULAR & INTEGRATIVE PHYSIOLOGY*
Ricci, A. J., Erostequi, C., BOBBIN, R. P., Norris, C. H.
1994; 107 (1): 13-21
- **THE INACTIVATING POTASSIUM CURRENTS OF HAIR-CELLS ISOLATED FROM THE CRISTA-AMPULLARIS OF THE FROG** *JOURNAL OF NEUROPHYSIOLOGY*
Norris, C. H., Ricci, A. J., Housley, G. D., Guth, P. S.
1992; 68 (5): 1642-1653
- **CYCLIC-AMP MODULATES SENSORY-NEURAL COMMUNICATION AT THE VESTIBULAR END ORGAN** *BRAIN RESEARCH*
Ricci, A., Norris, C., Guth, P.
1991; 565 (1): 78-84
- **DIFFERENTIAL MODULATION OF SPONTANEOUS AND EVOKED NEUROTRANSMITTER RELEASE FROM HAIR-CELLS - SOME NOVEL HYPOTHESES** *HEARING RESEARCH*
Guth, P. S., Aubert, A., Ricci, A. J., Norris, C. H.
1991; 56 (1-2): 69-78
- **LACTATE COMPARTMENTATION IN HIPPOCAMPAL SLICES - EVIDENCE FOR A TRANSPORTER** *METABOLIC BRAIN DISEASE*
Assaf, H. M., Ricci, A. J., Whittingham, T. S., LaManna, J. C., Ratcheson, R. A., Lust, W. D.
1990; 5 (3): 143-154
- **THE EVOLUTION OF FOCAL ISCHEMIC DAMAGE - A METABOLIC ANALYSIS** *METABOLIC BRAIN DISEASE*
Selman, W. R., Ricci, A. J., Crumrine, R. C., LaManna, J. C., Ratcheson, R. A., Lust, W. D.
1990; 5 (1): 33-44
- **IMPAIRMENT OF METABOLIC RECOVERY WITH INCREASING PERIODS OF MIDDLE CEREBRAL-ARTERY OCCLUSION IN RATS** *STROKE*
Selman, W. R., Crumrine, R. C., Ricci, A. J., LaManna, J. C., Ratcheson, R. A., Lust, W. D.
1990; 21 (3): 467-471
- **ROLE FOR GAMMA-AMINOBTYRIC ACID IN SELECTIVE VULNERABILITY IN GERBILS** *STROKE*
STERNAU, L. L., Lust, W. D., Ricci, A. J., Ratcheson, R.
1989; 20 (2): 281-287
- **EFFECTS OF METABOLIC STRESS ON THE RELEASE OF GLUTAMATE AND GABA FROM HIPPOCAMPAL SLICES** *SATELLITE SYMP OF THE 14TH INTERNATIONAL SYMP ON CEREBRAL BLOOD FLOW AND METABOLISM : NEUROTRANSMISSION AND CEREBROVASCULAR FUNCTION*
Harrington, J. F., Buczek, M., Whittingham, T. S., Lust, W. D., Ricci, A. J., Assaf, H. M., STERNAU, L. L., LaManna, J. C., Ratcheson, R. A.
ELSEVIER SCIENCE PUBL B V.1989: 433-436
- **A ROLE FOR GAMMA-AMINOBTYRIC ACID (GABA) IN THE EVOLUTION OF DELAYED NEURONAL DEATH FOLLOWING ISCHEMIA** *METABOLIC BRAIN DISEASE*
Lust, W. D., Assaf, H. M., Ricci, A. J., Ratcheson, R. A., STERNAU, L. L.
1988; 3 (4): 287-292