Proposal to Establish the Center for Hereditary Deafness at the University of Miami
Leonard M. Miller School of Medicine

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Mission:

The goal of the Center for Hereditary Deafness is to promote and support basic and clinical research in genetic deafness and to translate these discoveries into clinical practice. The creation of a formal center will allow us to continue playing a leadership role in the arena of hereditary deafness and remain at the forefront of research and clinical care for this common sensory disorder. The Center will bring together several well-funded investigators (five NIH R01 grants with over 10 million dollars over the next five years) interested in basic and clinical aspects of genetic deafness. The Center will provide a multi-disciplinary platform through its research labs and special clinics while building on the existing strengths and interests of the faculty in the Departments of Human Genetics and Otolaryngology. Furthermore, the Center would provide more visibility for promotion, marketing, and philanthropy resulting in additional financial support for related clinical and academic programs.
The University of Miami Miller School of Medicine Center for Hereditary Deafness

Background:

Having secured over $10 million in grant funding over the next five years with five NIH R01 grants to conduct basic and translational research on hereditary deafness, the investigators propose to formally establish a Center for Hereditary Deafness. The Center builds upon the research acumen and clinical care of the programs in genetic hearing loss in the Departments of Otolaryngology and Human Genetics. Currently, UM has a highly interactive group of investigators who individually represent unique strengths in many areas of hereditary deafness ranging from basic sciences to patient care. The five R01 grants awarded speak to the reputation of our research and put UM’s otogenetics program at the top in the country in terms of NIH funding.

The great challenge for studies of human genetic deafness is not only to provide new scientific discoveries, but to develop applications of these discoveries for medical diagnosis and treatment in an ethical fashion. Given the success of gene mapping/identification in Mendelian forms of hearing loss, it is a natural progression to begin to investigate more complex forms of hearing loss. Such studies will affect a greater proportion of the population, as they include noise-induced and age-related hearing losses. While the genes identified for the Mendelian forms comprise an excellent starting set of candidate genes, it will require the investigation of large datasets combined with state-of-the-art statistical and laboratory methods to make substantial inroads into our understanding of these disease processes. In addition to our current strengths, a solid multi-institutional basic to clinical collaborative effort through a strong team of investigators with expertise in various aspects of genetic deafness will assure the success of our strategies.

What is learned from one aspect of a study clearly feeds into the other pieces of the group’s research results, making a whole center greater than the sum of the individual research programs. With growth and recruitment resulting from the success in NIH funding, this group of researchers will cover all aspects of hereditary hearing loss, from the clinical assessment, to initial gene identification and correlation of mutations with phenotype and risk, and then ultimately to understanding the biology behind the hearing loss. This will lead to better predictive models for risk, especially for complex forms, and ultimately to better treatment and/or prevention. The clinical component will take the information learned from the genotype/phenotype studies, the risk prediction models, and the functional studies and translate these results into clinical care.

The Department of Otolaryngology is one the busiest departments of its kind in the United States due, in part, to the Ear Institute and Otology program. The Department has been one of the nation’s leading hubs for the treatment of diseases of the ears, nose, throat and neck for over 45 years. Consistently ranked as a top specialty program by US. News & World Report, its national reputation continues to grow significantly.

Programs and Services:

Hearing loss is an economically and socially important cause of human morbidity. Genetic factors are one of the main etiologies underlying hearing loss. The Center for Hereditary Deafness would be uniquely positioned to improve patient care through the research programs and clinical services described below. The clinical component would be responsible for identifying/categorizing patients and for systematically collecting phenotypic data for use in phenotype/genotype studies. The gene mapping/identification would involve both genetic epidemiologists and molecular geneticists. They would work closely with the clinician on study design, as well as on developing phenotype/genotype correlations and developing models for predicting risk. The functional group will work with the gene mapping group to prioritize genes for evaluation in appropriate models. In turn, the functional group will provide feedback for likely candidate genes and mutations.
Research Programs

The Center will develop research programs that use state-of-art genomic and genetic techniques to identify the genes underlying Mendelian and complex forms of hereditary deafness, study their underlying functionality and phenotypic correlations as well as investigate the social and population genetic sequelae of hereditary deafness.

**Gene identification research led by Drs. Liu, Tekin, and Blanton:** During the past decade, our Miami Otogenetic Program has made significant contributions to the identification of genes for hereditary hearing loss and has amassed an extensive and expanding collection of DNA samples and clinical data from the several unique population-based cohorts. We have been involved in mapping 10% of all known non-syndromic hearing loss loci and cloned 15% of all genes implicated in deafness, providing an extraordinary resource for the Center. We will use state-of-the-art technologies – such as whole exome sequencing and exome chips with next generation sequencing - to identify the genes underlying Mendelian and complex forms of hereditary deafness.

**Gene functional research led by Drs. Liu and Lu:** With his new NIH R01 funding, Dr. Liu has recently established a new Gene Function Lab which would add a novel dimension to deafness research not found at most institutions. We are now able to conduct *in vitro* structural and functional studies of deafness genes using instrumentation such as the BioRad Helios GeneGun system. We have also set up a system to generate animal models of human deafness. A state-of-the-art zebrafish facility located in the Department of Biology led by Dr. Lu is available for the assessment of auditory function of target human genes that are conserved in zebrafish. Dr. Lu has collaborated with Drs. Liu and Tekin on defining auditory function of the zebrafish models for new deafness genes identified in their labs.

**Translational Research led by Drs. Liu, Angeli, Tekin, and Blanton:** The Center will provide a unique platform for us to translate laboratory research into clinically deliverable genetic services including next generation sequencing (NGS) information. We have established guidelines for diagnosis and counseling of patients with genetic deafness at UM. The Center will create a novel Genomic Deafness Database (GDD) and Personalized Sequence Profile (PSP) for the clinical care of deaf patients where data is ranked based on clinical validity and utility. This is an innovative way to provide a unique opportunity to make genetic testing the most important diagnostic test after a history, physical examination and audiological assessment. The databases and DNA repository are a unique resource because of our diverse patient population, since little is known about the emergence of deafness in African Americans and recent immigrants from Latin America. With Hispanics as the fastest growing minority, this resource will be crucial for the study and treatment of deafness in this ethnic group. The Center will also search for clinically relevant genotype-phenotype correlations to better understand individual genetic variation in patients suffering from hearing loss and how the variation affects the reaction to specific treatments, such as defining the performance of cochlear implants (CI) as a function of genotype.
Clinical Services:

Clinical diagnosis and management efforts - Hearing Loss Clinics: We have extensive experience in diagnosis and management of individuals with hearing loss. Drs. Liu and Angeli have Hearing Loss Clinics weekly on the 5th floor of CRB to provide services to patients with genetic deafness. The Center also benefits from resources within the Department of Otolaryngology – with four physician neurotologists - and the University of Miami Ear Institute, which includes one of the largest academic audiology divisions in the country. The Ear Institute houses a unique cross disciplinary clinical and research facility involved in the diagnosis and management of hearing loss and related disorders. The available state-of-the-art equipment and processes allow for the characterization of hearing phenotypes, including human auditory measurements, surgical imaging, physiology, auditory processing, vestibular testing, and analysis of therapy outcomes. The sister divisions and personnel that group together for the management of patients with hearing disorders also include a) staff in the division of Audiology, The Hearing Aid Center, and the tinnitus Clinic; b) diagnostic services including vestibular and balance evaluations; c) the Cochlear and Auditory Implant centers and the Barton G Kids Hear Now Cochlear Implant Family Resource Center; d) surgeons skilled not only in surgery for hearing loss, but also in procedures for various diseases of the temporal bone and skull base.

Molecular diagnosis and genetic counseling – Multi-Specialty Hereditary Deafness Clinics: Drs. Tekin and Liu, along with genetic counselors, audiologists, and nurse specialists, have established the Hereditary Hearing Loss Clinic which is held on the first floor of the Mailman Center. The genetic counselor provides information on the risks (e.g. may affect ability to obtain life insurance or have psychological effects), benefits (e.g. improved preventive care or clinical management), and limits (e.g. not all disease causing variants will be found).

Organization Leadership

The Center for Hereditary Deafness will be led by a Director who will report to the Dean of the Miller School and represent the Center in the Miller School and the University. He/she will articulate the Center vision and enhance the synergism and cross-fertilization of its programs by promoting common research, clinical collaborations, education, and community outreach activities. The Director will work to integrate the Center within the structure and mission of the Miller School and UHealth system by nurturing interactions among academic departments, Centers, and Institutes. There will be two Associate Directors who will report to the Director – one managing the Center’s research activities and the other focused on clinical services.

The proposed Director is Xue Zhong Liu, MD., Ph.D., FACS, Director of Research, Department of Otolaryngology, Associate Professor of Otolaryngology and Pediatrics. Dr. Liu is an American Board Certified Otolaryngologist and Fellow of the American College of Surgeons who has been fully trained in Human Genetics...
(Ph.D.) and Molecular Genetics (Postdoctoral training). He has had a career-long interest in genetic deafness and has directed the Laboratory of Molecular Genetics for Deafness since creating the lab in 2001. He and his collaborators established The Hereditary Hearing Loss Clinical Program. Dr. Liu has published or co-authored more than 100 peer reviewed manuscripts in high impact journals – covering a wide range of topics in genetics, molecular biology, clinical diagnosis, and treatments in otolaryngology. His laboratories on hearing loss have received numerous grants from the National Institutes of Health over the past decade. The proposed Associated Director for research services is Mustafa Tekin, M.D., an Associate Professor in the Dr. John T. Macdonald Foundation Department of Human Genetics (DHG), a member of the John P. Hussman Institute for Human Genomics and a board certified Clinical Geneticist. Dr. Tekin’s main research interest is in the identification of new genes for inherited deafness and he has extensive laboratory, clinical and genetic counseling experience with hearing loss. The proposed Associated Director for clinical services is Simon Angeli, M.D., a Professor of Clinical Otolaryngology, Co-Director of the University of Miami Ear Institute, and Director of the ACGME-accredited Neurotology Fellowship Program at UM. He is a board-certified otolaryngologist and board-certified neurotologist with more than 15 years of experience in the diagnosis and treatment of hearing disorders. He has focused on translational research covering all aspects of diagnosis, treatments, outcome-studies, and genotype-phenotype correlations of hereditary hearing loss.

**Steering Committee:**
A Steering Committee will meet at least annually to advise the Director on the management, operations, and governance of the Center, including project prioritization and allocation of resources. The Committee will be chaired by the Center Director and will include the Associate Directors and University of Miami faculty who are demonstrated experts in hearing loss and genetics. The faculty members will be determined by a majority vote of the Committee and will serve for three-year terms, which will be renewable at the discretion of the Committee.

The Committee will reflect the interdisciplinary nature of the Center and include representatives with expertise in deafness and genetics, animal models, and genomics, the Chair of the Department of Otolaryngology, the Chair of Department of Human Genetics. The Committee may allow other members of the University community to attend the meetings.

**Professional Staff:**
The Center is staffed by clinical and research faculty (otolaryngologists, medical geneticists, population geneticist, biologists, and audiologists), research scientists/fellows, a genetic counselor, a registered nurse, and a secretary. The staff will emphasize a team approach, be it in the research, clinical, education, and/or community outreach activities of the Center.

**Membership:**
The Center openly seeks and supports research and activities related to its mission and does not have a formal membership policy. Per University of Miami policy, all faculty and physicians are required to have an appointment through a Miller School of Medicine Department. University faculty interested in affiliating with the Center can contact Dr. Liu.

**Space:**
No additional space is required for Center activities.

**Research Programs:** The Molecular Genetic laboratories of the Center are located at the 6th floor of the Mailman Center (Dr. Liu) and the 6th floor of the Hussman Institute of Human Genomics (Dr. Tekin); The Gene Function laboratories are located on the 3rd floor of the Rosenstiel Medical Sciences Building (Dr. Liu) with the University of Miami Ear Institute and at The Auditory Neurobiology Laboratory in the Department of Biology in Cox Science Building (Dr. Lu).
Clinical Services: The clinical services are housed on the fifth floor of the Clinical Research Building (Drs. Angeli and Liu) and the first floor of Mailman Center (Drs Tekin and Liu) on the Miller School campus. They include high-tech offices for diagnostic evaluations, genetic counseling, and treatment visits.

Funding Resources and Budget Projections:
The creation of the Center is not associated with any additional expenses for space, staff, or faculty - therefore the Center does not require any new dollars from the Miller School of Medicine or from other University sources. The Center will be funded through five NIH R01 grants ($10 million) for hereditary deafness. As the Center’s activities are an expansion of research programs and services currently provided, it is anticipated that the cost of Center operations will change in parallel with research funds and philanthropy. The Department of Otolaryngology will provide administrative support.

Salary support on grants
Until a gift is secured, there will be no change in how Center members’ salaries are supported. Currently, sources of funds include grants (see attachment 1), clinical activities, and their primary departments.

Below are the projections for (1) sponsored activity: we are planning to submit a Core Facilities P30 or Clinical Center P50 proposals to the National Institute on Deafness and Other Communication Disorders (NIDCD) within three years; (2) philanthropy over the next five years.

Current funding resources for genetic hearing loss research:

Identification of new deafness gene
1. PI - Liu, NIH /NIDCD R01 DC05575 (since 2001), 3/1/12- 2/30/017. $ 584,596 / year “Molecular basis of non-syndromic hearing loss (NSHL)”.
3. PI - Tekin, CoIs - Liu, Blanton, and Lu NIH/NIDCD R01 10/01/12 – 09/31/17, $600.000/year “Genetic Studies of Inner Ear Anomalies”

Gene function/therapeutic studies
1. PI - Liu, NIH/NIDCD 1R01DC012546-01 (8/1/2012-7/30/2017), $325,120/year.“Molecular Genetics of autosomal dominant non-syndromic hearing loss”.

Translational studies
1. PI - Liu, CoIs -Tekin and Blanton. NIDCD/NIH R01 3/1/2013-2/28/2018 “Implementing genomic medicine in clinical care of deaf patients”. The grant is for NIDCD Translational PAR11-003. The grant will focus on implication of molecular advances in deafness patient care., $650,000/ cost per year,

Grant pending review
1. PI - Lu, CoI – Liu “Zebrafish model for human hereditary hearing loss”

Grants in preparation
2. PI - Liu, CoIs - Blanton, and Angeli “Genetic studies of age-related hearing loss (presbycusis)”
3. PI - Lu, CoIs - Tekin and Liu” Zebrafish in human genetic deafness”
4. PI - Liu, Co - Lu “Molecular mechanisms of PRPS1 deafness” The studies will dissect in vitro and in vivo pathophysiology of the PRPS1 related hearing impairment.

**Center Members and Involved Departments**

The following departments and institutes are involved in this multidisciplinary Center; their letters of support can be found in the attachments.

1. Department of Otolaryngology
2. Dr. John T. Macdonald Foundation Department of Human Genetics (DHG)
3. Hussman Institute for Human Genomics (HIHG)
4. Department of Biology
5. Department of Biochemistry and Molecular Biology

**Xue Zhong Liu, M.D., Ph.D., FACS, (Center Director),** is the Director of Research, Department of Otolaryngology, and an Associate Professor of Otolaryngology and Pediatrics. Dr. Liu is an American Board Certified Otolaryngologist and Fellow of the American College of Surgeons. He has 3 NIH R01 grants for genetic deafness covering gene identification, molecular epidemiology, gene function, and translational studies.

**Mustafa Tekin, M.D., (Center Associate Director for Research)** is an Associate Professor in the Dr. John T. Macdonald Foundation Department of Human Genetics (DHG), a member of the John P. Hussman Institute for Human Genomics and a board certified Clinical Geneticist. Dr. Tekin’s main research interest is in the identification of new genes for inherited deafness and he has extensive laboratory, clinical and genetic counseling experience with hearing loss with 2 NIH R01 funding.

**Simon Angeli, M.D., (Center Associate Director for Clinics)** is a Professor of Clinical Otolaryngology, Co-Director of the University of Miami Ear Institute, and Director of the ACGME-accredited Neurotology Fellowship Program at UM. He is a board-certified otolaryngologist and board-certified neurotologist with more than 15 years of experience in the diagnosis and treatment of hearing disorders. He has focused on translational research covering all aspects of diagnosis, treatments, outcome-studies, and genotype-phenotype correlations of hereditary hearing loss with industrial funding.

**Susan Blanton, Ph.D,** is the Executive Director, John P. Hussman Institute for Human Genomics (HIHG), Associate Professor of Human Genetics and Neurology, Dr. John T. Macdonald Foundation Department of Human Genetics, Associate Director, Communications and Compliance, HIHG, University of Miami Miller School of Medicine. She is a genetic epidemiologist with extensive experience in the mapping of Mendelian and complex diseases and has been studying deafness for nearly two decades. She has been collaborating with Drs. Tekin and Liu for over a decade. She will continue her work with Drs. Liu and Tekin for gene identification and genomic database management.

**Zhongmin (John) Lu, Ph.D.,** an Associate Professor from the Department of Biology at UM specializing in fish mechanosensory systems. With his recent NIH R21 grant, he has developed a physiological method to assess auditory function of zebrafish embryos and larvae. He will use zebrafish to model human genetic deafness and investigate biological mechanisms underlying hearing loss due to mutations in candidate human genes, collaborating with Drs. Liu and Tekin. A state-of-the art zebrafish facility located in the Department of Biology is available for the Center projects using the zebrafish as a model.

**Yanbin Zhang, PhD.,** is an Assistant Professor in the Department of Biochemistry and Molecular Biology. His NIH funded research is focused on the molecular mechanisms of DNA repair and mutagenesis that is directly
related to cancers and other human diseases. He has collaborated with Dr. Liu to work on investigations of molecular mechanism of deafness genes using biochemical approaches.

Adrien A. Eshraghi, MD, MSc, FACS is an Associate Professor of Clinical Otolaryngology at the University of Miami Miller School of Medicine. His peer-reviewed funded researches has been focused on management of hearing loss, preservation of residual hearing, improvement of cochlear implant devices. He will work with future therapeutic aspects of genetic deafness.

Evidence of past collaboration: Below is a sampling of joint publications by the proposed Center members.

<table>
<thead>
<tr>
<th>Sampling of Joint Publication</th>
<th>Center Members and Authors</th>
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<tbody>
<tr>
<td>Mitochondrial DNA mutation screening in an ethnically diverse nonsyndromic deafness cohort. Genetic testing and molecular biomarkers 2012;16(9):1146-8.</td>
<td>Liu, Angeli</td>
</tr>
<tr>
<td>Mutation screening of the GJA7 (Cx45) gene in a large international series of probands with nonsyndromic hearing impairment. Genetic testing and molecular biomarkers 2011;15(5):333-6</td>
<td>Tekin, Liu</td>
</tr>
</tbody>
</table>

Letters of Commitment
Attachment 2
Attachment 1. Grant funding resources for the key members

Xue Z. Liu, MD., Ph.D.

PI:
NIH/NIDCD R01 DC05575 (since 2001), 3/1/12- 2/30/017. $584,596 / year “Molecular basis of non-syndromic hearing loss (NSHL)”.

NIH/NIDCD 1R01DC012546-01 (8/1/2012-7/30/2017), $325,120/year. “Molecular Genetics of autosomal dominant non-syndromic hearing loss”.

NIDCD/NIH R01 3/1/2013-2/28/2018 “Implementing genomic medicine in clinical care of deaf patients”. The grant is for NIDCD Translational PAR11-003. $610,000/ cost per year,

Co-Investigator:
NIH/NIDCD R01 03/01/12 – 02/28/18, $610.000/year “Genetic Studies of Inner Ear Anomalies” (PI: Tekin)

Mustafa Tekin, M.D.

PI:
PI – Tekin,Cols-Liu, Blanton, and Lu NIH/NIDCD R01 10/01/12 – 09/31/17, $600.000/year “Genetic Studies of Inner Ear Anomalies”

Co-Investigator:
NIDCD/NIH R01 3/1/2013-2/28/2018 “Implementing genomic medicine in clinical care of deaf patients”. The grant is for NIDCD Translational PAR11-003. $610,000/ cost per year, (PI: Liu)

Susan Blanton, Ph.D.

1U54NS065712-03 (Shy, ME) 09/01/09 – 08/31/14 .36 cal mo
NIH/RDCRC/WSU $300,000 (subcontract DC)
“Inherited Neuropathies Consortium – Project 2: Inherited neuropathies; an integrated approach leading to therapy”
The proposed CMT consortium will deliver high quality clinical data and collect a large number of CMT families/patients. The HIHG research team will apply innovative study designs using the latest technology to tackle some of the most pressing genetic issues in CMT that will ultimately pave the way for new therapeutic approaches. Role: Senior Statistical Geneticist and Epidemiologist on Project 2.

7R01NS040807-09 (Sacco, Ralph) 10/01/09 – 06/30/17 1.8 cal mo
NINDS $349,842
“Family Study of Stroke Risk and Carotid Atherosclerosis”
The purpose of this grant is to identify genetic determinants of quantitative cerebrovascular risk phenotypes. Role: Co-investigator

2 T15 HG000026-17 (Scott, WK) 03/01/10 – 11/30/14 .24 cal mo
NIH/NHGRI $99,929
“Genetic Analysis Methods for Medical Researchers”
In order to successfully move into the next phase of disease gene mapping, and thus attain one of the primary goals of the Human Genome Initiative, it is critical that physician scientists and laboratory scientists be
educated with respect to pedigree ascertainment, sampling and basic gene localization experimental design along with the understanding of the plethora of analytic tools available. Role: Co-course organizer.

1R01DC009645-01A2-02 (Tekin, M) 06/01/10 – 05/31/15 0.6 cal mo
NIH $487,900
“A Collaborative Search for New Genes for Non-Syndromic Deafness”
The purpose of this grant is to identify new genes for deafness in inbred families from Turkey. Role: Co-investigator

1R01NS065114-02 (Tatjana Rundek, Susan Blanton) 07/01/10 – 06/30/15 2.4 cal mo
NIH-NINDS $235,000
“Novel factors for unexplained extreme phenotypes of subclinical atherosclerosis”
The purpose of this grant is to identify genes associated with extreme phenotypes of subclinical atherosclerosis. Role: Co-Principal Investigator

(Dong, C) 07/01/11 – 06/30/14 .36 cal mo
James & Esther King Biomedical Research $117,391
“Gene-Smoking Interactions and Atherosclerosis”
Role: Collaborator

2R01DE011931-13 (Hecht, J; Blanton S) University of Texas 12/26/12 – 11/30/17 1.8 cal mo
NIH-NIDCR $665,223
“Mapping nonsyndromic cleft lip and palate genetic loci”
Nonsyndromic cleft lip with or without cleft palate (NSCLP) is a common birth defect affecting 4000 newborns in the US and 135,000 worldwide each year. The etiology is poorly understood and currently, only 20% of the NSCLP genetic liability has been identified, limiting our ability to identify at-risk individuals or provide accurate counseling for families. In these studies, we apply the newest technology to identify the genetic variation underlying NSCLP in families with multiple cases, will test the variants for expression and functionality in a fish model and develop ethnic-specific risks. The results of this study will ultimately be utilized to identify and test for potential at-risk genotypes. Role: Principle Investigator

1R01 DC012836-01 (Tekin, M) 03/01/13-02/28/18 0.6 cal mo
NIH $498,930
“Genetic Studies of Inner Ear Anomalies”
The goals of the project are to identify new genes for deafness associated with inner ear anomalies and to establish a resource for research in inner ear anomalies including biological samples and clinical data from large numbers of affected families. Role: Co-Investigator

1R01DC012115-01A1 (Liu, X) 03/08/13 – 02/28/18 0.6 cal mo
NIH $399,891
“Implementing Genomic Medicine in Clinical Care of Deaf Patients”
We will develop a comprehensive genetic testing platform and genomic deafness database for clinical care of deaf individuals to: 1) improve the clinical care of deaf and hard of hearing persons; and 2) determine the epidemiology of hereditary hearing loss in the United States. The successful completion of the proposed aims will significantly improve our ability to provide genetic counseling for affected patients/families and to expand our knowledge on the genomic basis of hereditary hearing. Role: Co-Investigator
John Lu, Ph.D.

NIH/NIDCD, R01 Research Grant, Co-Investigator (PI: Mustafa Tekin), 13% effort “Genetic studies of inner ear anomalies,” Total cost: $3,159,700, 10/1/2012 – 8/31/2017 (annual average DC: $413,033)
Provoest Research Award, University of Miami, $17,000
Gabelli Senior Scholar Fellowship, College of Arts and Sciences, University of Miami, $15,000

Adrien Eshraghi, M.D.

PI:

Title: ‘Pre-clinical investigations of Dexamethasone Drug Eluting Cochlear Implant Feasibility Study in a pigmented Guinea Pig Model of Cochlear Implant surgery”
Principal Investigator: AA Eshraghi M.D.
Total amount: $874,000.

Title: ‘Pre-clinical investigations of AM-111 (D-JNK inhibitor) otoprotective effect after cochlear implant trauma in a Albinos Guinea Pig Model of cochlear implant surgery”
Total amount: $341,000.

Simon Angeli, M.D.

PI:

Grant from Medtronic Corp. $64,500.00
3/1/13- 2/28/14
Removal of biofilm from the middle ear with hydrodebrider in an animal model of Otitis media.
The goal of this project is to develop a micro-hydrodebrider to eradicate biofilm colonies from the middle ear of a chinchilla’s model of Otitis media.

Yanbin Zhang, Ph.D.

5R01HL105631-03 “Role of fanconi anemia core complex in the incision of DNA interstrand crosslink”, 12/1/2010-11/30/2015, $345,000/year.

Grants in pending

PI-Liu, Cols –Blanton “Genetic studies of age-related hearing loss (presbycusis)”
Subproject in MUSC’s NIH/NIDCD P50 clinic center grant for presbycusis. 09/1/2013-08/1/2018

PI-Lu, Co-Investigators: Liu and Grati, NIH/NIDCD, R01 Research Grant, Principal Investigator (“Zebrafish model for human hereditary hearing loss,”
Total cost: ~$1,100,000, 12/1/2013 to 11/30/2016

PI-Tekin, Cols –Liu and Blanton” Genetic deafness of newborn screening” in the NIH program grant for newborn screening.
09/1/2013-08/1/2018
Attachment 2. Letters of Support
January 10, 2013

Richard L. Williamson, J.D.
Chair, Faculty Senate
Room 325 Ashe Administration Building
1252 Memorial Dr.
Coral Gables, FL 33146

Dear Mr. Williamson,

It is my great pleasure to offer my fullest support for the establishment of the “The University of Miami Miller School of Medicine Center for Hereditary Deafness”. This Center is a logical consequence of the outstanding work in the area of hereditary deafness led by Drs. Liu (Department for Otolaryngology) and Tekin (Department of Human Genetics). Both are world-renowned leaders in this field and have been able to secure significant NIH grant support. A dedicated Center will help to further expand this concept into important areas such as presbycusis.

The Department of Human Genetics will provide full access to facilities and expertise. We share a vision of implementing Genomic Medicine into daily practice. Our research and educational activities align very well with the Center concept of translation of research knowledge to the bedside. In addition, the Department for Human Genetics will be able to offer the services of clinical molecular and biochemical laboratories for gene testing.

Sincerely,

Stephan Züchner, M.D.
(Interim) Chair, Dr. John T. Macdonald Foundation Department of Human Genetics
Associate Professor of Human Genetics
Neurology Director, Center for Human Molecular Genomics
John P. Hussman Institute for Human Genomics
University of Miami Miller School of Medicine Biomedical Research Building
To: Richard Williamson, the Faculty Senate Chair  

From: Fred F. Telischi, MEE, MD, FACS  
Chairman of Otolaryngology and Professor  

Date: January 10, 2013  

Subject: Support for Hereditary Hearing Loss  

As Chair of the Department of Otolaryngology at the University of Miami/Miller School of Medicine, I am writing to support the proposal to formally establish the University of Miami Miller School of Medicine Center for Hereditary Deafness. The goal of the Center is to promote and support basic and clinical research in genetic deafness and to translate these discoveries into clinical practice. Furthermore, the Center would provide more visibility for promotion, marketing, and philanthropy to further support the related clinical and academic programs.

Dr. Xue Zhong Liu, MD., Ph.D., FACS, Director of Research, Department of Otolaryngology, Associate Professor of Otolaryngology, Human Genetics, and Pediatrics, directs the center. Dr. Liu has had a career-long interest in genetic deafness and has directed the Laboratory of Molecular Genetics for Deafness since creating the lab in 2001. He and his collaborators established The Hereditary Hearing Loss Clinical Program. His laboratories on hearing loss have received numerous grants from the National Institutes of Health over the past decade.

The Center builds upon the strengths of the department and its experience in treating hearing loss. In addition to sharing expertise of the Department, the Center also benefits from its excellence in clinical services for deaf patients and its cutting-edge molecular research facility. The faculty of the Department enthusiastically support the formal establishment of this Center. We are committed to its success in improving our knowledge of deafness.

Sincerely,  

Fred F. Telischi, MEE, MD, FACS  
James R. Chandler Chair in Otolaryngology  
Chairman of Otolaryngology and Professor,  
Neurological Surgery and Biomedical Engineering
April 10, 2013

Norman Altman, V.M.D., DACVP
Speaker, Medical School Faculty Council
University of Miami Leonard M. Miller School of Medicine
Miller, FL

Richard L. Williamson, J.D.
Chair, Faculty Senate
University of Miami
Coral Gables, FL

Dear Dr. Altman and Mr. Williamson,

As future member of the Center for Hereditary Deafness, I am writing to support the proposal to formally establish the Center for Hereditary Deafness at the University of Miami Leonard M. Miller School of Medicine. This Center strategically complements my own research in hereditary deafness and allows for the focused attention to further this important work to make a difference in the lives of people. At the interface of research, education, and clinical, Dr. Liu is a fantastic choice to lead the Center. The formation of this Center will help unite the multidisciplinary approach that will leverage the collective expertise of our members to have an impact that is greater than the sum of our parts.

Thank you for your consideration of this important proposal.

Sincerely,

Simon I. Angeli, MD
Professor
Program Director, Neurotology Fellowship at University of Miami Ear Institute
Otolaryngology, Otology, Neurotology, Skull Base Surgery
April 29, 2013

Norman Altman, V.M.D., DACVP
Speaker, Medical School Faculty Council
University of Miami Leonard M. Miller School of Medicine
Miller, FL

Richard L. Williamson, J.D.
Chair, Faculty Senate
University of Miami
Coral Gables, FL

Dear Dr. Altman and Mr. Williamson,

As a future member of the Center for Hereditary Deafness and Executive Director of the Hussman Institute for Human Genomics, I am writing to support the proposal to formally establish the Center for Hereditary Deafness at the University of Miami Leonard M. Miller School of Medicine. This Center strategically complements my own research in hereditary deafness and allows for the focused attention to further this important work to make a difference in the lives of people. At the interface of research, education, and clinical, Dr. Liu is an excellent choice to lead the Center. The formation of this Center will help cement our multidisciplinary approach to hearing loss and will leverage the collective expertise of our members to have an impact that is greater than the sum of our individual parts.

Thank you for your consideration of this important proposal.

Sincerely,

Susan Halloran Blanton, Ph.D.
Executive Director
John P. Hussman Institute for Human Genomics (HIHG)
Associate Professor of Human Genetics and Neurology
Dr. John T. Macdonald Foundation Department of Human Genetics
Associate Director, Communications and Compliance, HIHG
Leonard M. Miller School of Medicine, University of Miami
sblanton@med.miami.edu

SHB/dm
April 10, 2013

Norman Altman, V.M.D., DACVP
Speaker, Medical School Faculty Council
University of Miami Leonard M. Miller School of Medicine
Miller, FL

Richard L. Williamson, J.D.
Chair, Faculty Senate
University of Miami
Coral Gables, FL

Dear Dr. Altman and Mr. Williamson,

As future member of the Center for Hereditary Deafness and Associate Professor of Otolaryngology and Biomedical Engineering, I am writing to support the proposal to formally establish the Center for Hereditary Deafness at the University of Miami Leonard M. Miller School of Medicine. This Center strategically complements my own research in hereditary deafness and allows for the focused attention to further this important work to make a difference in the lives of people. At the interface of research, education, and clinical, Dr. Liu is a fantastic choice to lead the Center. The formation of this Center will help unite the multidisciplinary approach that will leverage the collective expertise of our members to have an impact that is greater than the sum of our parts.

Thank you for your consideration of this important proposal.

Sincerely,

Adrien Eshraghi, MD
Associate Professor of Otolaryngology and Biomedical Engineering
University of Miami Miller School of Medicine
April 10, 2013

Norman Altman, V.M.D., DACVP
Speaker, Medical School Faculty Council
University of Miami Leonard M. Miller School of Medicine
Miller, FL

Richard L. Williamson, J.D.
Chair, Faculty Senate
University of Miami
Coral Gables, FL

Dear Dr. Altman and Mr. Williamson,

As a future member of the Center for Hereditary Deafness, I am writing to support the proposal to formally establish the Center for Hereditary Deafness at the University of Miami Leonard M. Miller School of Medicine. This Center strategically complements my own research in hereditary deafness and allows for the focused attention to further this important work to make a difference in the lives of people. At the interface of research, education, and clinical, Dr. Liu is a fantastic choice to lead the Center. The formation of this Center will help unite the multidisciplinary approaches that will leverage the collective expertise of our members to have an impact that is greater than the sum of our parts.

Thank you for your consideration of this important proposal.

Sincerely,

Zhongmin Lu, Ph.D.
Associate Professor
Department of Biology
Tel: (305) 284-6813
Fax: (305) 2843973
Email: zlu@mimai.edu
April 10, 2013

Norman Altman, V.M.D., DACVP
Speaker, Medical School Faculty Council
University of Miami Leonard M. Miller School of Medicine
Miller, FL

Richard L. Williamson, J.D.
Chair, Faculty Senate
University of Miami
Coral Gables, FL

Dear Dr. Altman and Mr. Williamson,

As future member of the Center for Hereditary Deafness and associate director of the Center, I am writing to support the proposal to formally establish the Center for Hereditary Deafness at the University of Miami Leonard M. Miller School of Medicine. This Center strategically complements my own research in hereditary deafness and allows for the focused attention to further this important work to make a difference in the lives of people. At the interface of research, education, and clinical, Dr. Liu is a fantastic choice to lead the Center. The formation of this Center will help unite the multidisciplinary approach that will leverage the collective expertise of our members to have an impact that is greater than the sum of our parts.

Thank you for your consideration of this important proposal.

Sincerely,

Mustafa Tekin, M.D.
Associate Professor
Dr. John T. Macdonald Foundation
Department of Human Genetics
John P. Hussman Institute for Human Genomics
1501 NW 10th Avenue, BRB-610 (M-860)
Miami, FL 33136
Phone: 305-243-1889 or 305-243-2381
April 15, 2013

Norman Altman, V.M.D., DACVP
Speaker, Medical School Faculty Council
University of Miami Leonard M. Miller School of Medicine
Miller, FL

Richard L. Williamson, J.D.
Chair, Faculty Senate
University of Miami
Coral Gables, FL

Dear Dr. Altman and Mr. Williamson,

As future member of the Center for Hereditary Deafness and a current faculty member of the Department of Biochemistry & Molecular Biology, I am writing to support the proposal to formally establish the Center for Hereditary Deafness at the University of Miami Leonard M. Miller School of Medicine. This Center strategically complements my own research in hereditary deafness and allows for the focused attention to further this important work to make a difference in the lives of people. At the interface of research, education, and clinical, Dr. Liu is a fantastic choice to lead the Center. The formation of this Center will help unite the multidisciplinary approach that will leverage the collective expertise of our members to have an impact that is greater than the sum of our parts.

Thank you for your consideration of this important proposal.

Sincerely,

Yanbin Zhang, PhD
Assistant Professor
Department of Biochemistry & Molecular Biology
University of Miami Miller School of Medicine
Miami, FL 33136
Tel.: 305-243-9237
E-mail: yzhang4@med.miami.edu