

CURRICULUM VITAE
BERNARD ROUSSEAU, Ph.D., MMHC, CCC-SLP, ASHA FELLOW

OFFICE ADDRESS: University of Pittsburgh
School of Health and Rehabilitation Sciences
Department of Communication Science and Disorders
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Pittsburgh, PA 15260

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MAJOR ADMINISTRATIVE RESPONSIBILITIES

2018-present Chairman, Department of Communication Science and Disorders, School of Health and Rehabilitation Sciences, University of Pittsburgh, Pittsburgh, Pennsylvania

2017-present Chief Executive Officer, Academic and Allied Health Consulting, PLLC, Nashville, Tennessee

2015-2018 Associate Vice Chair for Research, Department of Otolaryngology, Vanderbilt University School of Medicine, Nashville, Tennessee

2005-2018 Director, Laryngeal Biology Laboratory, Department of Otolaryngology, Vanderbilt University Medical Center, Nashville, Tennessee

2011-present Co-Director, Voice Specialty Track Training, Department of Hearing and Speech Sciences, Vanderbilt University Medical Center, Nashville, Tennessee

ACADEMIC APPOINTMENTS

2019-present Professor and Chairman, Department of Communication Science and Disorders, University of Pittsburgh, Pittsburgh, Pennsylvania

2015-2018 Associate Vice Chair for Research, Department of Otolaryngology, Vanderbilt University School of Medicine, Nashville, Tennessee

2015-2017 Chancellor Faculty Fellow, Vanderbilt University, Nashville, Tennessee

2013-2018 Associate Professor of Otolaryngology (Tenured), Department of Otolaryngology, Vanderbilt University School of Medicine, Nashville, Tennessee

2013-2018 Associate Professor of Hearing and Speech Sciences (Secondary Appointment), Department of Hearing and Speech Sciences, Vanderbilt University School of Medicine, Nashville, Tennessee

2013-2018 Associate Professor of Mechanical Engineering (Secondary

- Appointment), Department of Mechanical Engineering, Vanderbilt University, Nashville, Tennessee
- 2005-2013 Assistant Professor of Otolaryngology (Tenure-Track), Department of Otolaryngology, Vanderbilt University School of Medicine, Nashville, Tennessee
- 2009-2013 Assistant Professor of Hearing and Speech Sciences (Secondary Appointment), Department of Hearing and Speech Sciences, Vanderbilt University School of Medicine, Nashville, Tennessee
- 2013 Assistant Professor of Mechanical Engineering (Secondary Appointment), Department of Mechanical Engineering, Vanderbilt University, Nashville, Tennessee
- 2011-present Adjunct Member of Graduate Faculty, Department of Speech, Language and Hearing Sciences, Purdue University. West Lafayette, Indiana

HOSPITAL APPOINTMENTS

- 2004-2018 Speech-Language Pathologist, Department of Otolaryngology, Vanderbilt University Voice Center, Nashville, Tennessee

AFFILIATED INSTITUTIONAL APPOINTMENTS

- 2005-2018 Research Investigator, Center for Matrix Biology
Vanderbilt University Medical Center, Nashville, Tennessee
- 2009-2018 Training Faculty Member, Vanderbilt Neuroscience Training Program, Vanderbilt Brain Institute, Vanderbilt University Medical Center, Nashville, Tennessee

EDUCATION

- 1996-1998 B.S., Communicative Disorders, University of Central Florida, Orlando, Florida
- 1998-2000 M.A., Communicative Disorders, University of Central Florida, Orlando, Florida. Thesis: *Effects of delayed auditory feedback on speech rate and speech intelligibility in Parkinson's disease*
- 2000-2004 Ph.D., Communicative Disorders, University of Wisconsin-Madison, Madison, Wisconsin Dissertation: *Towards a better understanding of the acute and chronic stages of vocal fold wound repair*
- 2004-2005 Clinical Fellowship, Speech-Language Pathology, Vanderbilt Voice Center, Nashville, Tennessee
- 2015-2016 MMHC, Master of Management in Health Care, Owen Graduate School of Management, Vanderbilt University, Nashville, TN.

LICENSURE AND CERTIFICATION

Certificate of Clinical Competence, American Speech-Language-Hearing Association,
Speech

Language Pathology, 2005-present, License #12019218

State of Tennessee License, Department of Health, Board of Communication Sciences
and

Disorders, Speech-Language Pathology, 2005-present, License #3195

State of Tennessee Researcher License, Department of Commerce and Insurance,
Board of Pharmacy, 2006- present, License #0000010743

PROFESSIONAL ORGANIZATIONS

2004-present	American Speech Language Hearing Association (ASHA)
2004-present	ASHA Special Interest Group 3, Voice and Voice Disorders Co-Chair, Research Committee Member, Steering Committee Associate Editor, Perspectives on Voice and Voice Disorders Editor, Perspectives on Voice and Voice Disorders
2004-2008	The Voice Foundation
2004-2008	Tennessee Association of Audiology and Speech Language Pathology
2005-present	American Academy of Otolaryngology-Head and Neck Surgery
2013-present	American Laryngological Association

PROFESSIONAL ACTIVITIES

Intramural:

School of Medicine Committees

2008-2013	Laboratory-based mentor, Vanderbilt University School of Medicine Emphasis Program
2008-present	Member, Resident Research Review Committee, Vanderbilt University, Department of Otolaryngology.
2008-present	Member, Resident Applicant Review Committee, Vanderbilt University, Department of Otolaryngology
2008-present	Member, Admissions Review Committee, Vanderbilt University, Department of Hearing and Speech Sciences
2009-2010	Member, Ad-Hoc Committee, Response to Graduate Task Force Report on Ph.D. Program, Vanderbilt University, Department of Hearing and Speech Sciences.
2009-2010	Member, Ad-Hoc Committee, Ph.D. Program Teaching Requirement, Vanderbilt University, Department of Hearing and

Speech Sciences.

- 2010-2011 Member, Ad-Hoc Committee, Ph.D. Student Recruiting, Vanderbilt University, Department of Hearing and Speech Sciences.
- 2010-present Member, Junior Faculty Mentoring Committee, Vanderbilt University, Department of Hearing and Speech Sciences.
- 2011-2012 Member, Faculty Search Committee (Neurogenic Speech Disorders), Vanderbilt University, Department of Hearing and Speech Sciences.
- 2011-2012 Member, Faculty Search Committee (Autism Spectrum Disorders), Vanderbilt University, Department of Hearing and Speech Sciences.
- 2013-2014 Member, Faculty Search Committee (Chief of Rhinology), Vanderbilt University, Department of Otolaryngology.
- 2013-2014 Member, Faculty Search Committee (Open rank search in Speech Science), Vanderbilt University, Department of Hearing and Speech Sciences.
- 2015-2016 Chair, Faculty Search Committee (Open rank search in Neurogenic communication disorders *), Vanderbilt University, Department of Hearing and Speech Sciences. *Position for 1. As Chair of Search Committee, successfully recruited 2 NIH funded academic research scientists, one from the University of Iowa and one from the University of Arizona.
- 2017-2018 Member, Faculty Search Committee (Laryngology), Vanderbilt University, Department of Otolaryngology.

Departmental Service Tenure and Promotion

- 2014-2015 Member, Departmental Faculty Promotion Review Committee (Dr. Barbara Jacobson), Vanderbilt University, Department of Hearing and Speech Sciences.
- 2016-2017 Member, Departmental Faculty Tenure and Promotion Review Committee (Dr. Stephen Wilson), Vanderbilt University, Department of Hearing and Speech Sciences.
- 2016-2017 Member, Departmental Faculty Tenure and Promotion Review Committee (Dr. Melissa Duff), Vanderbilt University, Department of Hearing and Speech Sciences
- 2017-2018 Member, Departmental Faculty Promotion Review Committee (Dr. Michael de Riesthal), Vanderbilt University, Department of Hearing and Speech Sciences.

Extramural:**National Institutes of Health (Review Panels/Study Sections)**

- 2009-2011 Ad-hoc member, National Institutes of Health, R01 Special Emphasis Panel/Scientific Review Group ZDC1 SRB-L (42).
- 2011-2013 Ad-hoc member, NIDCD R03– Voice, Speech and Language, National Institutes of Health, Special Emphasis Panel/Scientific Review Group ZDC1 SRB-Y (56).
- 2012-2013 Ad-hoc member, NIDCD R03– Voice, Speech and Language, National Institutes of Health, Special Emphasis Panel/Scientific Review Group ZDC1 SRB-L (50).
- 2012-2014 Ad-hoc member, National Institutes of Health, Special Emphasis Panel/Scientific Review Group Communication Disorders Review Committee (CDRC).
- 2012-2014 Ad-hoc member, National Institutes of Health, Motor Function, Speech and Rehabilitation Study Section (MFSR), Center for Scientific Review (CSR).
- 2014-present Charter member, National Institutes of Health, Motor Function, Speech and Rehabilitation Study Section (MFSR), Center for Scientific Review (CSR).

American Speech-Language Hearing Foundation (Review Panels/Study Sections)

- 2007 Reviewer, Research Grant for New Investigators, American Speech-Language Hearing Foundation.
- 2007 Reviewer, New Century Scholars Program, New Century Scholars Research Grant Competition, American Speech-Language Hearing Foundation.
- 2011 Reviewer, New Century Scholars Program, Scholarship Review Committee, American Speech-Language Hearing Foundation.
- 2014 Reviewer, New Century Scholars Program, New Century Scholars Research Grant Competition, American Speech-Language Hearing Foundation.

Editorial Appointments (Editor or Associate Editor)

- 2010-2012 Associate Editor, Perspectives on Voice and Voice Disorders
- 2013 Guest Associate Editor, Journal of Speech-Language and Hearing Research
- 2013-2015 Editor, Perspectives on Voice and Voice Disorders

Editorial Service (Editorial Review Board)

- 2012-present Editorial Review Board, Journal of Auris, Nasus, Larynx

Ad-hoc Reviewer for Journals

2006-present Ad-hoc reviewer, Movement Disorders
2006-present Ad-hoc reviewer, Tissue Engineering
2008-present Ad-hoc reviewer, Annals of Otolaryngology, Rhinology, and Laryngology
2008-present Ad-hoc reviewer, Otolaryngology-Head-Neck Surgery
2008-present Ad-hoc reviewer, Journal of Speech-Language and Hearing Research
2009-present Ad-hoc reviewer, Laryngoscope
2009-present Ad-hoc reviewer, Wound Repair and Regeneration
2010-present Ad-hoc reviewer, Cells Tissues Organs
2011-present Ad-hoc reviewer, Acta Biomaterialia
2011-present Ad-hoc reviewer, Journal of The Royal Society Interface

Major Committee Assignments

2005-2006	Member, Ad-Hoc Committee on Research Integrity and Publication Practices, Association of American Medical Colleges/ American Speech Language Hearing Association.
2008	Member, Scientific Program Committee for the Annual Meeting of the American-Speech-Language-Hearing Association.
2008-2010	Co-chair, Research Committee, American Speech-Language-Hearing Association, Special Interest Group-3, Voice and Voice Disorders.
2013-2014	Member, American Laryngological Association Program Committee, Annual Meeting of the American Laryngological Association, Las Vegas, Nevada.
2013-2015	Steering Committee, American Speech-Language-Hearing Association, Special Interest Group-3, Voice and Voice Disorders.
2013-present	Member, Data Safety Monitoring Board (DSMB). "Assessment of Esophageal Epithelium Integrity with Mucosal Impedance".
2014	Member, Voice, Resonance, and Alaryngeal Committee, Annual Meeting of the American Speech Language Hearing Association, Orlando, Florida.
2014-2018	Member, SLP Scope of Practice Committee. American-Speech-Language-Hearing Association.
2014-2015	Member, Mathematics Textbook Selection Committee, Williamson County School System, State of Tennessee.
2015-2019	Site Visitor, Council on Academic Accreditation in Audiology and Speech Pathology (CAA). The CAA accredits eligible clinical doctoral programs in audiology and master's degree programs in speech-language pathology.

2018-2020 At-large Member, Committee on Honors (COH). The COH is appointed by the Committee on Committees and approved by the ASHA Board of Directors. Members of the COH serve 3 year terms. The COH is comprised of 3 audiologists, 3 speech-language pathologists, and 3 members from either profession, all of whom are ASHA Fellows and in good standing with the Association. The COH receives nominations for Honors, Fellows, and other Association awards.

Other Professional Activities

2010-2017 Ambassador, University Giving Program (Vanderbilt University), American-Speech-Language Hearing Foundation.

Special Awards or Recognition for Professional Activities:

Fellowship in Organizations

2013 **Associate Fellow***, American Laryngological Association ¥. * Associate fellowship of the American Laryngological Association recognizes non-physicians for distinguished contributions to the field of laryngology, care of patients with disorders of the larynx and upper aerodigestive tract, and for contributions to the teaching of laryngology in medical schools and post-graduate medical education.

2014 **Fellow***, American Speech-Language-Hearing Association ¥. * Fellowship is one of the highest honors bestowed by the American Speech-Language-Hearing to recognize outstanding contributions to the discipline of communication sciences and disorders.

¥ Dr. Rousseau is one of only 6 individuals to ever become elected fellow of both societies.

National and International

2002 David W. Brewer Award for Best Scientific Poster, The Voice Foundation's 31st Annual Symposium.

2003 Exceptional Student Authored Paper, Annual Meeting of the American Speech-Language Hearing Association.

2008 Young Faculty/Practitioner Award, American Laryngological Association. Award for Continuing Education, American Speech-Language-Hearing Association.

2010 Mentor, Students Preparing For Academic and Research Careers Award from the American Speech-Language-Hearing Association [master's students in speech-language pathology]

Award for Continuing Education, American Speech-Language-Hearing Association.

- 2012 1st place, Poster Presentation entitled “Transepithelial Resistance in the Rabbit Vocal fold.” Presented at the American Bronchoesophagological Association Spring Meeting. San Diego, CA USA.
- 2013 Invited Participant, Clinical Practice Research Institute (CPRI), American Speech-Language Hearing Association, Rockville, MD USA.
- 2013 1st place, Poster Presentation entitled “The Natural Time Course of Post-Microflap Healing and Restoration of Vibratory Function Following Vocal Fold Microflap Surgery in a Rabbit Model.” Presented at the American Laryngological Association Spring Meeting. Orlando, FL USA.
- 2013 Best Paper Award, Paper entitled “A 3D Numerical Simulation of Wave Propagation on the Vocal Fold Surface.” Presented at the 10th International Advances in Quantitative Laryngology, Voice and Speech Research. Cincinnati, OH USA.
- Award for Continuing Education, American Speech-Language-Hearing Association.
- Outstanding Alumni Award, University of Central Florida, Department of Communication Sciences and Disorders.
- 2015 Professional Achievement Award, University of Central Florida, College of Health and Public Affairs.

School of Medicine

- 2008 Resident Research Competition, 3rd place, Lesley F. Childs (resident research fellow), 16th Annual Adams Lectureship in Otolaryngology /Resident Recognition Weekend, Vanderbilt University of School Medicine.
- 2009 Resident Research Competition, 3rd place, Erik R. Swanson (resident research fellow), 17th Annual Adams Lectureship in Otolaryngology/Resident Recognition Weekend, Vanderbilt University of School Medicine.
- 2009 Junior Faculty Leadership Development Program, Vanderbilt University School of Medicine.
- 2011 Resident Research Competition, 1st place, Joseph E. Hall (resident research fellow), 19th Annual Adams Lectureship in Otolaryngology/Resident Recognition Weekend, Vanderbilt University of School Medicine.

- 2011 Resident Research Competition, 2nd place, Harry V. Wright (resident research fellow), 19th Annual Adams Lectureship in Otolaryngology/Resident Recognition Weekend, Vanderbilt University of School Medicine.
- 2013 Resident Research Competition, 1st place, Joshua Mitchell (resident research fellow), 21st Annual Adams Lectureship in Otolaryngology/Resident Recognition Weekend, Vanderbilt University of School Medicine.
- 2014 Recipient of the Elaine Sanders-Bush Award for EXCELLENCE IN TEACHING (Mentoring Graduate and/or Medical Students in the Research Setting).

Visiting Professorships, Invited Lectureships, Seminars and Workshops (National or International)

1. 9th International Workshop on Laser Voice Surgery. "Scar Wars". Paris, FRANCE, April 2004.
2. Shanghai Voice Conference. "The effects of phonation on vocal fold wound healing". Shanghai, CHINA, November 2007.
3. The International Conference in GuangZhou. "Evaluation and Treatment of Voice Disorders". GuangZhou, CHINA, September 2010.
4. The 8th International Conference on Voice Physiology and Biomechanics. "Effects of Increasing Phonation Time and Magnitude Dose on Vocal Fold Epithelial Morphology". Erlangen, GERMANY, July 2012.

Visiting Professorships, Invited Lectureships, Seminars and Workshops (National or International)

1. Phonosurgery Symposium "Excised Larynx Methodology". Madison, Wisconsin, USA, July 2004.
2. Annual Meeting of the Tennessee Association of Audiology and Speech Language Pathology "Preparing for the PRAXIS Examination". Chattanooga, Tennessee, USA, October 2004.
3. Annual Meeting of the Tennessee Association of Audiology and Speech Language Pathology. "Assessment and Treatment of Vocal Fold Scar". Chattanooga, Tennessee, USA, October 2004.
4. Phonosurgery Symposium. "Understanding the Soft Tissue Matrix and Wound Healing: In-Vivo Vibratory Effects". Madison, Wisconsin, USA, July 2006.
5. Duke University Medical Center, Grand Rounds in Otolaryngology, "Research Topics in Laryngology". Durham, North Carolina, USA, October 2008.
6. University of California San Francisco, UCSF Voice Conference, "Molecular

Pathophysiology of Acute Phonotrauma". San Francisco, California, USA, October 2011.

7. Northwestern University, CSD Speaker Series, "Voice Science: Innovations and Opportunities in Research, Education, and Global Outreach". Chicago, Illinois USA, January 2013.

8. Mount Sinai School of Medicine, Grand Rounds in Otolaryngology, "Contemporary Laryngology: Capitalizing on Innovations and Unique Opportunities in Research, Education, and Global Outreach". New York, New York, USA, June 2013.

9. 13th Biennial Phonosurgery Symposium, "Voice Rest: Science and Practice". Madison, Wisconsin, USA, July 2014.

10. University of Florida, College of Public Health and Health Professions, "Pursuit of National Preeminence in Patient Care, Research, Education, and Outreach: The Vanderbilt Experience". Gainesville, Florida, USA, January 2015.

11. University of Central Florida, College of Health and Public Affairs, Department of Communication Sciences and Disorders, "Leading Teams and Building Strategic Partnerships in an Academic Health Care System: A 10-Year Experience at Vanderbilt School of Medicine". Orlando, Florida, USA, October 2015.

Invited Panelist/Moderator (National or International)

Moderator of Annual Kay Pentax Lecture in Upper Airway Science (Susan L. Thibeault, Ph.D.). American Speech Language Hearing Association Annual Meeting, Philadelphia, Pennsylvania, USA, November 2010.

Moderator of Panel "Short term effects and management strategies for acute phonotrauma". University of California-San Francisco Voice Conference. San Francisco, California, USA, November 2011.

Moderator of Panel "Scientific Session III: Mucosa". American Laryngological Association. Las Vegas, Nevada, USA, May 2014.

Moderator of Panel, Fall Voice Conference. San Antonio, Texas, USA, October 2014.

Invited Panelist "Perioperative Voice Care" American Speech Language Hearing Association Live Online Chat in Celebration of World Voice Day, April 12th, 2016: HYPERLINK "http://www.asha.org/Events/live/04-12-2016-Voice-Care.htm" <http://www.asha.org/Events/live/04-12-2016-Voice-Care.htm>

Invited Lectures (Keynote Speaker)

1. NBASLH Awards Dinner Keynote Speaker. "Celebrate People: People are your most important asset". Nashville, Tennessee, USA, April 16-18 2015.

Invited Lectures (School of Medicine)

Vanderbilt Initiative in Surgery and Engineering (VISE), Spring Seminar Series. Vanderbilt University, Nashville, Tennessee, USA, March 2013.

TEACHING ACTIVITIES

Medical School Courses:

Vanderbilt University School of Medicine

2005-present	SLP 5583 Grand Rounds and Clinical Case Conference in Speech Language Pathology Lecturer 20-30 Graduate Students, Faculty, and Staff Meets weekly during fall and spring semesters One to two 1-hour lectures/year
2006-present	Basic Science Conference in Otolaryngology Lecturer 16-20 Residents/Fellows Meets weekly during fall and spring semesters One to two 1-hour lectures/year
2010-2012	SLP 5336 Voice Disorders Invited Lecturer 16-20 Graduate Students Meets weekly during summer semester One 3-hour lecture/year
2010-present	OTO-6150 Otolaryngology Research Director of Independent Study 1-2 Medical Students Open to 3 rd year Vanderbilt Students Each student arranges an independent study and completes a period of research work
2010-present	OTO-5950 Laryngology: Focusing on voice, airway, and swallowing Co-Director 1-2 Medical Students Open to 4 th year Medical Students from any Medical School
2010-present	SLP 5369 Master's Thesis Research Director, Developed standard curriculum 1-2 Graduate Students Meets weekly during fall, spring, and summer semesters One 2-hour conference One 1-hour laboratory interaction per week
2011-present	SLP 5378 Advanced Voice Instrumentation & Lab Course Director, Developed course and curriculum 2 Graduate Students Meets weekly during summer semester One 3-hour lecture per week
2012-2013	SLP 5301 Acoustics and Perception of Speech and Speech Disorders

Course Director, Developed standard curriculum
22 Graduate Students
Meets weekly during fall semester
One 3-hour lecture and One 1-hour laboratory interaction per week

Graduate School Courses:
Vanderbilt University

2010-2012 HRSP 344 Grants and Contracts
Instructor
6-7 Graduate Students
Meets weekly during summer semester
One 3-hour lecture per week

Continuing Medical Education:

1. Vanderbilt Videostroboscopy with Interpretation Workshop, Nashville, Tennessee, August 2005, Organizer and Invited Lecturer
2. Vanderbilt Videostroboscopy with Interpretation Workshop, Nashville, Tennessee, October 2006, Organizer and Invited Lecturer
3. Tennessee Association of Audiologist and Speech-Language Pathologists Convention. Nashville, Tennessee, October 2006, Invited Lecturer
4. Grand Rounds in Speech-Language Pathology, Vanderbilt University, Nashville, Tennessee September 2007, Invited Lecturer
5. Vanderbilt Videostroboscopy with Interpretation Workshop, Nashville, Tennessee, October 2007, Organizer and Invited Lecturer, Nashville, TN, Organizer and Lecturer
6. Vanderbilt Videostroboscopy with Interpretation Workshop, Nashville, Tennessee, August 2008, Organizer and Invited Lecturer
7. Vanderbilt Videostroboscopy with Interpretation Workshop, Nashville, Tennessee, September 2009, Organizer and Invited Lecturer
8. Vanderbilt Videostroboscopy with Interpretation Workshop, Nashville, Tennessee, September 2010, Organizer and Invited Lecturer
9. Vanderbilt Videostroboscopy with Interpretation Workshop, Nashville, Tennessee, September 2011, Organizer and Invited Lecturer
10. Vanderbilt Videostroboscopy with Interpretation Workshop, Nashville, Tennessee, September 2012, Organizer and Invited Lecturer
11. Contemporary Perspectives and Health in the Commercial Voice, Nashville, Tennessee, March 2013, Invited Lecturer
12. Contemporary Perspectives and Health in the Commercial Voice, Nashville, Tennessee, March 2014, Invited Lecturer

13. Contemporary Management of Aerodigestive Diseases in Children, Nashville, Tennessee, November 2014, Invited Lecturer

Invited Guests and Special Guest Lecturers (Host/Primary Organizer):

1. **Shigeru Hirano, M.D., Ph.D.** (Kyoto University, Kyoto Japan) (June 2-5, 2008).
2. **Rita Patel, Ph.D.** (Indiana University) (June 26, 2009).
3. **Ichiro Tateya, M.D., Ph.D.** (Kyoto University, Kyoto Japan) (July 11-13, 2010).
4. **M. Preeti Sivasankar, Ph.D.** (Purdue University) (June 22-24, 2011).
5. **Joseph Stemple, Ph.D., Richard Andreatta, Ph.D., Maria Dietrich, Ph.D.** (University of Kentucky) (August 18-19, 2011).
6. **Julie Barkmeier-Kraemer, Ph.D.** (University of California-Davis) (March 7, 2014).
7. **Mershen Pillay, Ed.D.** (Stellenbosch University, Tygerberg, South Africa) (March 6, 2014).
8. **Michael J. Pitman, M.D.** (New York Eye & Ear Infirmary of Mt Sinai, NY) (April 9, 2015).

Clinical Teaching (4 hours per week total)

2005-2013	Speech-Language Pathology Graduate Student Placement 1-3 Graduate Students. 0-1 hour/week.
2005-2013	Speech-Language Pathology Clinical Fellowship Program 0-1 Fellow in Speech-Language Pathology. 0-1 hour/week.
2005-2013	Laryngology Fellowship Program 1-2 Fellows. 0-1 hour/week.
2005-2013	Head & Neck/Laryngology Service. 1 Resident. 0-1 hour/week.

**Research Mentorship:
Mentoring Committees
Junior Faculty**

Aron Parekh, Ph.D.
Assistant Professor (tenure track), Vanderbilt University
Mentor, Faculty Mentoring Committee
9/2010-present

Jennifer Muckala, M.A., CCC-SLP
Assistant in Otolaryngology, Vanderbilt University
Mentor, Faculty Mentoring Committee
11/2012-present

Ramya Balachandran, Ph.D.
Research Assistant Professor, Vanderbilt University
Mentor, Faculty Mentoring Committee
9/2013-12/2015

Christopher Wooten, M.D.
Assistant Professor, Vanderbilt University

Mentor, Faculty Mentoring Committee
9/2013-present

David O. Francis, M.D.
Assistant Professor (tenure track), Vanderbilt University
Mentor, Faculty Mentoring Committee
9/2013-present

Reyna Gordon, Ph.D.
Assistant Professor (tenure track), Vanderbilt University
Mentor, Faculty Mentoring Committee
8/2014-present

Associate Professors

Steven Goudy, M.D.
Associate Professor, Vanderbilt University
Mentor, Faculty Mentoring Committee
9/2013-3/2014

Research Supervision: Post-doctoral research fellows

Pingjiang Ge, M.D.
Post-doctoral research fellow
Primary Mentor, Director of Post-doctoral Fellowship Program
Current position: Professor, Department of Otolaryngology, GuangDong
Academy of Medical Sciences.
12/2005-4/2007

Tsunehisu Ohno, M.D., Ph.D.
Post-doctoral research fellow
Primary Mentor, Director of Post-doctoral Fellowship Program
Current position: Clinical Fellow and Otolaryngology-Head and Neck Surgeon,
Department of Otolaryngology, Kokura Memorial Hospital, Kokura, Japan.
6/2007-1/2009

Atsushi Suehiro, M.D., Ph.D.
Post-doctoral research fellow
Primary Mentor, Director of Post-doctoral Fellowship Program
Current position: Department (Head) Chief and Otolaryngology-Head and Neck
Surgeon, Department of Otolaryngology, Kusatsu General Hospital, Shiga,
Japan.
1/2009-6/2011

Tsuyoshi Kojima, M.D., Ph.D.
Post-doctoral research fellow
Primary Mentor, Director of Post-doctoral Fellowship Program
Current position: Clinical Fellow and Otolaryngology-Head and Neck Surgeon,
Department of Otolaryngology, Tenri Hospital, Nara, Japan.
8/2011-1/2014

James Daniero, M.D.
Laryngology Research Fellow
Mentor, Research Laboratory Training Experience
Current position: Assistant Professor, University of Virginia, Charlottesville, VA.
6/2013-7/2014

Masanobu Mizuta, M.D.
Post-doctoral research fellow
Primary Mentor, Director of Post-doctoral Fellowship Program
Current position: Post-doctoral research fellow, Vanderbilt University Medical Center.
1/2014-12/2015

Reyna Gordon, Ph.D.
Post-doctoral research fellow
Primary Mentor, Director of Fellowship Program
Current position: Assistant Professor, Vanderbilt University Medical Center.
8/2014-8/2015

Maria Powell, Ph.D., CCC-SLP
Post-doctoral research fellow
Primary Mentor, Director of Post-doctoral Fellowship Program
Current position: Research fellow, Vanderbilt University Medical Center.
12/2015-present

Takashi Kurita, M.D.
Post-doctoral research fellow
Primary Mentor, Director of Post-doctoral Fellowship Program
Current position: Otolaryngologist, Kurume University Medical Center.
12/2015-06/2017

Shintaro Sueyoshi, M.D.
Post-doctoral research fellow
Primary Mentor, Director of Post-doctoral Fellowship Program
Current position: Research fellow, Vanderbilt University Medical Center.
06/2017-present

Resident Research Fellows

Lesley F. Childs, M.D.
Resident Research Fellow (Otolaryngology)
Primary Mentor, Director of Resident Research Rotation
Current position: Assistant Professor, Department of Otolaryngology, University of TexasSouthwestern Medical Center, Dallas, TX.
7/2007-1/2008

Erik R. Swanson, M.D.
Resident Research Fellow (Otolaryngology)
Primary Mentor, Director of Resident Research Rotation
Current position: Otolaryngology-Head and Neck Surgeon, Charleston Ear, Nose, and Throat Associates, Charleston, SC.
7/2008-1/2009

Harry Wright, M.D.
Resident Research Fellow (Otolaryngology)
Primary Mentor, Director of Resident Research Rotation
Current position: Fellow (Facial Plastic Surgery), University of South Florida,
Tampa, FL.
7/2010-1/2011

Joseph E. Hall, M.D.
Resident Research Fellow (Otolaryngology)
Primary Mentor, Director of Resident Research Rotation
Current position: Otolaryngology-Head and Neck Surgeon, Ohio ENT, Dublin,
OH.
1/2011-7/2011

Mark Van Deusen, M.D.
Resident Research Fellow (Otolaryngology)
Primary Mentor, Director of Resident Research Rotation
Current position: Otolaryngology-Head and Neck Surgeon, Northwest ENT and
Allergy Center, Marietta, GA.
7/2011-1/2012

Joshua Mitchell, M.D.
Resident Research Fellow (Otolaryngology)
Primary Mentor, Director of Resident Research Rotation
Current position: Fellow (Pediatric Otolaryngology), Children's Hospitals and
Clinics of Minnesota, Minneapolis, MN.
1/2012-7/2012

Scott M. Greene, M.D.
Resident Research Fellow (Otolaryngology)
Primary Mentor, Director of Resident Research Rotation
Current position: Resident, Vanderbilt University Medical Center
1/2013-7/2013

Latif M. Dharamsi, M.D.
Resident Research Fellow (Otolaryngology)
Primary Mentor, Director of Resident Research Rotation
Current position: Resident, Vanderbilt University Medical Center
1/2013-7/2013

Rachel Fee, M.D.
Resident Research Fellow (General Surgery)
Primary Mentor, Director of Laboratory Rotation
Current position: Resident, Vanderbilt University Medical Center
7/2014

Medical Students (M.D.)

Davood Abdollahian, M.D.
Medical Student, Vanderbilt University School of Medicine Emphasis Program
Primary Mentor, Director of Laboratory Rotation

Current Position: Diagnostic Radiology Resident, Johns Hopkins School of Medicine, Russell H. Morgan Department of Radiology & Radiological Sciences.
1/2008-6/2009

Mi Jin Yoo, M.D.

Medical Student, Vanderbilt University School of Medicine Emphasis Program
Primary Mentor, Director of Laboratory Rotation

Current Position: Otolaryngology Resident, Albert Einstein College of Medicine, Montefiore Medical Center, Otorhinolaryngology-Head and Neck Surgery.
1/2008-6/2009

Alexandra Schmidt, M.D.

Medical Student, Vanderbilt University School of Medicine
Emphasis Program

Primary Mentor, Director of Laboratory Rotation

Current Position: Plastic and Reconstructive Surgery Resident, Washington University School of Medicine in St. Louis, Department of Plastic and Reconstructive Surgery.

1/2009-6/2010

Nicholas Echemendia, M.D.

Medical Student, Case Western Reserve University School of Medicine

Primary Mentor, Director of Laboratory Rotation

Current Position: General Surgery Resident, University of Tennessee Graduate School of Medicine, Department of Surgery.

6/2009-8/2009

Laurence James

Medical Student, Vanderbilt University School of Medicine Emphasis Program

Primary Mentor, Director of Laboratory Rotation

Current Position: Medical Student, Vanderbilt University School of Medicine.

1/2010-6/2010

Carla Valenzuela

Medical Student, Vanderbilt University School of Medicine

Primary Mentor, Director of One Year Laboratory Rotation

Mentor, NIH Diversity Research Supplement

Current Position: Resident, Washington University St. Louis School of Medicine.
9/2012-7/2014

Rivka Chinyere Ihejirika

Medical Student, Vanderbilt University School of Medicine

Mentor, Summer Research Month

Current Position: Medical Student, Vanderbilt University School of Medicine.
6/2014-8/2014

Graduate Students (M.S.)

Danielle Elder, M.S., CCC-SLP

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine

Primary Mentor, Research Project

Current Position: Speech-Language Pathologist.
9/2009-5/2010

Christine N. Williams, M.S., CCC-SLP

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine
Director of Master's Thesis

Current Position: Speech-Language Pathologist.
5/2010-5/2011

Jeffrey P. Johnson, M.S., CFY-SLP

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine
Director of Master's Thesis

Current Position: Ph.D. Student, Boston University.
10/2010-5/2012

Jessica G. Friedman, M.S., CFY-SLP

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine
Director of Master's Thesis

Current Position: Speech-Language Pathologist.
11/2010-5/2012

Grace M. Scott

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine
Research Assistant

Current Position: Speech-Language Pathologist.
11/2011-5/2013

Lisa A. D'Oyley

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine
Primary Mentor, Voice Specialty Track Training Program

Current Position: Speech-Language Pathologist.
11/2011-5/2013

Alyssa M. Lord

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine
Research Assistant

Current Position: Speech-Language Pathology Clinical Fellow.
8/2012-5/2014

Sarah E. Almaguer

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine
Research Assistant

Current Position: Speech-Language Pathology Clinical Fellow.

8/2012-5/2014

Jodie A. Fornadley

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine

Research Assistant

Current Position: Speech-Language Pathology Clinical Fellow.
8/2012-5/2014

Aaron N. Gregory

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine

Research Assistant

Current Position: Speech-Language Pathology Clinical Fellow.
8/2012-5/2014

Sara C. Kahan

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine

Research Assistant

Current Position: Speech-Language Pathology Clinical Fellow.
8/2012-5/2014

Kiran A. Kotagal

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine

Research Assistant

Current Position: Speech-Language Pathology Clinical Fellow.
8/2012-5/2014

Renee E. King

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine

Research Assistant

Director of Master's Thesis

Current Position: Doctoral Student, University of Wisconsin-Madison.
08/2013-08/2014

Melissa A. Tucker

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine

Research Assistant

Current Position: Speech-Language Pathology Clinical Fellow.
08/2013-08/2014

Kiara Savage

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine

Member of Committee, M.S., SLP Thesis Option

Current Position: Graduate Student, Vanderbilt University School of Medicine.
08/2014-08/2015

Nathaniel Sundholm

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine
Current Position: Graduate Student, Vanderbilt University School of Medicine.
08/2015-06/2017

Jennifer Brandley

Graduate Student (M.S.), Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine
Current Position: Research Assistant, Vanderbilt University School of Medicine.
08/2017-present

Graduate Students, Pre-doctoral fellows (Ph.D.)

Carolyn K. Novaleski

Pre-doctoral (Ph.D.) Fellow, Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine
Primary Mentor, Director of Ph.D. Program
Current Position: Post-doctoral fellow, Monell Chemical Senses Center.
08/2012-5/2016

Emily Kimball

Pre-doctoral (Ph.D.) Fellow, Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine
Primary Mentor, Director of Ph.D. Program
Current Position: Pre-doctoral fellow, Vanderbilt University School of Medicine.
08/2012-present

Gary Gartling

Pre-doctoral (Ph.D.) Fellow, Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine
Primary Mentor, Director of Ph.D. Program
Current Position: Pre-doctoral fellow, Vanderbilt University School of Medicine.
08/2017-present

Elizabeth F. Levendoski

Pre-doctoral (Ph.D.) Fellow, Department of Speech, Language & Hearing
Sciences, Purdue University
Member of Committee, Ph.D. Dissertation Project
Current Position: Assistant Professor, Stanford University School of Medicine.
03/2011-5/2013

Robin M. Jones

Pre-doctoral (Ph.D.) Fellow, Department of Hearing and Speech Sciences,
Vanderbilt University School of Medicine
Member of Committee, 2nd year Ph.D. Project
Member of Committee, Ph.D. Dissertation Project
Current Position: Assistant Professor, Vanderbilt University School of Medicine.
5/2011-5/2013

Siyuan Chang
Pre-doctoral (Ph.D.) Fellow, Department of Mechanical Engineering, Vanderbilt University
Member of Committee, Ph.D. Dissertation Project
Current Position: Post-doctoral fellow, Vanderbilt University School of Engineering.
10/2011-05/2016

Tiffany Woynaroski
Pre-doctoral (Ph.D.) Fellow, Department of Hearing and Speech Sciences, Vanderbilt University School of Medicine
Member of Committee, Ph.D. Dissertation Project
Current Position: Pre-doctoral fellow, Vanderbilt University School of Medicine.
04/2014-04/2015

Undergraduate Students

Andrew Tritter
Research Assistant, Vanderbilt University
Primary Mentor, Research Project
Current Position: Medical Student, Baylor University.
1/2009-5/2010

High School Students

Jane Camarata
Student Intern, Vanderbilt University
Primary Mentor
St. Cecilia Academy, Nashville, TN.
1/2014

Michael McGaw
Student Intern, Vanderbilt University
Primary Mentor
Research Experience for H.S. students, Vanderbilt Center for Science and Outreach
6/2015-8/2015

TRAINEE OUTCOME

Career outcomes of 7 representative trainees: 4 most recent and 3 most illustrious (name, current institution, position, training start and end dates [month/year]).

Most Recent:

Carolyn K. Novaleski, Ph.D., Post-doctoral fellow, Monell Chemical Senses Center
08/2012-5/2016

Alexandra Schmidt, M.D., Plastic and Reconstructive Surgery Resident,
Department of Plastic and Reconstructive Surgery, Washington University in St. Louis 1/2009-6/2010.

Davood Abdollahian, M.D., Diagnostic Radiology Resident, Russell H. Morgan

Department of Radiology & Radiological Sciences, Johns Hopkins School of Medicine 1/2008-1/2009.

Mi Jin Yoo, M.D., Otolaryngology Resident, Department of Otorhinolaryngology-Head and Neck Surgery, Albert Einstein College of Medicine 1/2008-6/2009.

Most Illustrious:

Atsushi Suehiro, M.D., Ph.D., Department (Head) Chief and Otolaryngology-Head and Neck Surgeon, Department of Otolaryngology, Kusatsu General Hospital, Shiga, Japan, 1/2009-6/2011.

Pingjiang Ge, M.D., Professor and Vice Chair, Department of Otolaryngology, Guangdong Academy of Medical Sciences, Guangdong, China, 12/2005-4/2007.

Lesley F. Childs, M.D., Assistant Professor, Department of Otolaryngology - Head and Neck Surgery, University of Texas Southwestern Medical Center, 7/2007-1/2008.

RESEARCH, TEACHING, AND CLINICAL CONTRIBUTIONS

Narrative Report of Research, Teaching, and Clinical Contributions:

I am a Professor and Chairman of Communication Science and Disorders in the School of Health and Rehabilitation Sciences at the University of Pittsburgh. I lead a department with over 30 full-time and part-time faculty, instructional faculty, and administrative staff. I have a deep interest in training the future generation of clinical service providers in communication sciences and disorders and in providing students with high-quality clinical and research training experiences. I have in my 14 years of service to the professions served on faculty search committees, the admissions committee, a committee responsible for developing a strategic plan for Ph.D. recruiting, and a committee responsible for addressing opportunities to ensure the continued success of the Ph.D. program. Our department ranks #7 among departments of audiology and speech language pathology. My various appointments in academic medical centers and schools of health and rehabilitation sciences have provided me with a diverse combination of curriculum preparation experiences, including training of medical students, residents, graduate students in the M.S. SLP program, Ph.D. students, and post-doctoral fellows. Additionally, I co-developed and served as Co-Director of the Voice Specialty Track, a specialty training track within the M.S. SLP graduate program in the Department of Hearing and Speech Sciences at Vanderbilt University. This specialty track provided students with advanced competencies in the assessment and management of voice disorders.

My teaching includes an exceptional blend of clinical and traditional didactic classroom teaching. I have taught the Acoustics and Perception of Speech and Speech Disorders course to the second year masters of speech-language pathology (M.S. SLP) graduate students and the Advanced Voice Instrumentation Seminar to the M.S. SLP graduate students enrolled in the Voice Specialty Track. I have also co-taught the Grants and Contracts course taken by Ph.D. students in the Department of Hearing and Speech Sciences and Vanderbilt's Peabody College of Education and Human Development and lecture in the Voice Disorders course taken by the first year graduate students in the M.S. SLP program. I lecture to the otolaryngology residents in our Departmental Basic Science Research Conference in Otolaryngology and to the graduate students in

Hearing and Speech Sciences in our Speech Language Pathology Grand Rounds.

In my role as Director of the Laryngeal Biology Laboratory at Vanderbilt University School of Medicine, I directed a research program of approximately **11 research and staff**, served as PI or CO-I on **16 research awards**, secured **\$8.5 million dollars** in research funding, and led a **\$2.0 million dollar laboratory expansion** and renovation project. I have mentored in various capacities more than **50 research trainees** over the past **14 years**. My laboratory is active in the training of pre- and post-doctoral research fellows, residents, medical students, graduate students in the hearing and speech sciences and engineering, and undergraduate students with a strong interest in academic, research, and teaching careers. My federally funded research program focuses on the molecular pathophysiology of acute phonotrauma and outcomes studies related to the assessment and management of patients with benign vocal fold disease. Our program of research has experienced considerable growth, which has led to several multidisciplinary collaborative grant collaborations and large-scale space and infrastructure initiatives, including the formation of a novel interdisciplinary program of research, coined MODEL ENT: **Modulation Of Disease Environments Laboratory by Engineering Nano Therapeutics**, which brings together a core group of faculty from the School of Medicine, School of Engineering, and College of Arts and Sciences at Vanderbilt University to advance a vision for an interdisciplinary collaborative engineering and biomedical research program. In 2014, I was the recipient of the Elaine-Sanders Bush Award for Mentoring Graduate and/or Medical Students in the Research Setting. Dr. Sanders-Bush was a leader in the development of research and graduate education at Vanderbilt. In 1997, she spearheaded the creation of a new Ph.D. program in Neuroscience. She served as director of the neuroscience program until 2008. In recognition of her impact in graduate education at Vanderbilt, the Elaine-Sanders Bush Award for Mentoring Graduate and/or Medical Students in the Research Setting was established in 2006.

Throughout the course of my professional career, my clinical practice has included serving on multi-disciplinary teams involved in the assessment and treatment of patients with voice disorders, including muscle tension dysphonia, benign vocal fold lesions, paradoxical vocal fold motion, and spasmodic dysphonia. The members of the multi-disciplinary team have included fellowship-trained laryngologists, laryngology fellows, residents, singing specialists, speech-language pathologists, and nurses.

ACADEMIC LEADERSHIP

Narrative Report of Academic Leadership and Accomplishments:

Prior to accepting the position of Chairman of the Department of Communication Science and Disorders at the University of Pittsburgh, I previously served in the role of Associate Vice Chair for Research in the Department of Otolaryngology at Vanderbilt University School of Medicine. In this role, I served on the Executive Leadership Team that reported directly to the Director of the Vanderbilt Bill Wilkerson Center for Otolaryngology and Communication Sciences and the Guy M. Maness Professor and Chairman of the Department of Otolaryngology, Roland D. Eavey, M.D., S.M. This included fiscal and administrative oversight of a **\$1.0 million dollar annual operating budget** and **\$4.7 million dollars in annual grant revenue (FY 17)**. In my academic leadership role, I provided specific oversight of the basic science research programs, laboratories, and support for the basic science research missions of the department. Departmental research activities include federal, non-federal, and industry sponsored research grants and a portfolio of **15 federally funded research awards (\$3.1 million dollars)**, **10 industry sponsored clinical trials (\$700 thousand dollars)**, and **2**

internal grant awards (\$140 thousand dollars). Investments in growth of departmental research laboratories, faculty, research infrastructure, and support for faculty research activities led to a **37% increase in federal research funding** and **23% increase in funding for industry sponsored clinical trials**, since 2015. The department ranked #4 among departments of otolaryngology in NIH sponsored research. I also served on faculty search committees, and chaired (2015) a faculty search in the area of Neurogenic Speech Disorders that resulted in the successful recruitment of 2 senior/mid-career level faculty recruits to the Department of Hearing and Speech Sciences. These two positions strengthened an already strong and robust clinical program in the area of adult neurogenetics at Vanderbilt University School of Medicine and the Pi Beta Phi Rehabilitation Institute at the Vanderbilt Bill Wilkerson Center. With the successful recruitment of a junior faculty hire in the area of speech sciences (dysarthria) in 2013/2014, these two additional faculty hires in 2015/2016 led to strategic growth of the research enterprise by strengthening the academic missions of the Department of Hearing and Speech Sciences in the area of adult neurogenetics, with particular emphasis in dysarthria (speech), aphasia (language), and cognition/memory. The Department of Hearing and Speech Sciences is ranked #1 in Speech-Language Pathology by USNWR rankings.

ACADEMIC SERVICE

Narrative Report of Academic Service and Accomplishments:

In my service role, I provide service to federal agencies, currently serving as a charter member for the Motor Function Speech Rehabilitation study section, Center for Scientific Review at the National Institutes of Health, as a regular member of ad-hoc committees for our national professional association, the American Speech-Language-Hearing Association (ASHA), on the editorial review boards as editor, associate editor, or reviewer for various journals, and on various departmental and school-wide committees. I serve as a site visitor for The Council on Academic Accreditation (CAA) in Audiology and Speech Language Pathology. The CAA establishes standards for the accreditation of graduate programs in Speech Language Pathology and Audiology.

I was elected Associate Fellow of the American Laryngological Association (ALA) in 2013 for significant contributions to the field of laryngology, care of patients with disorders of the larynx and upper aerodigestive tract and for contributions to the teaching of laryngology in medical schools and post-graduate medical education, one of only 10 non-physician scientists to be elected fellow of the ALA. I have also been awarded the American Laryngological Association's Young Faculty/Practitioner Award for contributions in research. In 2014, I was elected fellow of the American-Speech-Language-Hearing Association, becoming one of only 6 individuals to be awarded fellow from both societies. Fellow of ASHA is one of the highest honors bestowed by the association to recognize individuals who have made outstanding contributions to the discipline of communication sciences and disorders.

RESEARCH PROGRAM

Narrative Report of Research Program:

Optimal function of the vocal fold lamina propria is essential to human voice production. The lamina propria is an area of connective tissue that is uniquely different from tissues found elsewhere in the body. Histological and physiological comparisons can be made with other tissues such as skin and joints that undergo frequent trauma, repeated cycles of inflammation, and decreased function secondary to injury. However, no other tissue in the body undergoes mechanical forces similar to the vibration that the vocal folds experience during phonation. Our federally funded research program investigates the

cellular and molecular events underlying phonotrauma and the identification of unique mechanisms involved in protection of the vocal fold from injury. We have developed a novel in-vivo phonation model to better understand the role of acute phonotrauma on repair of vocal fold tissues. Our laboratory was the first to report changes in the expression of key genes involved in extracellular matrix metabolism following acute phonotrauma. In addition to these more fundamental investigations, we are also deeply committed to the understanding of outcomes and the availability of health related services in the treatment of phonotrauma. Our laboratory is conducting translational investigations focusing on the role of treatment adherence in recovery from phonomicrosurgery, outcomes studies related to the assessment and management of patients with benign vocal fold disease, and multi-center randomized controlled clinical trials in voice disorders. Our research efforts are funded by the National Institutes of Health, American Academy of Otolaryngology-Head and Neck Surgery Foundation, and Industry.

Our research program has experienced considerable growth over the past 10 years. The growth and success of our research, education, and outreach efforts have been made possible through strong institutional support and cross-institutional collaborations. These joint initiatives have led to multidisciplinary intramural and extramural collaborative research grants and large-scale space and infrastructure initiatives, including an interdisciplinary collaborative engineering and biomedical research program coined **MODEL ENT: Modulation Of Disease Environments Laboratory by Engineering Nano Therapeutics**. The **MODEL ENT** concept was developed with the following four ideas in mind: 1) make a case for co-locating faculty from engineering and medicine, 2) bring together faculty with a commitment to collaborative research, 3) leverage existing institutional shared resources, and 4) advance innovative ideas with strong potential for extramural funding and sustainability. The synergies created by bringing together a core group of faculty from the School of Medicine, School of Engineering, and College of Arts and Sciences at Vanderbilt University have uniquely positioned our research programs to solve problems that are particularly tractable to interdisciplinary approaches.

The team's efforts will address an important goal in understanding proper cell and extracellular matrix interactions, a process that is critical to maintaining functional homeostasis in tissues and organs. MODEL ENT investigators utilize a range of in vitro, in vivo, and computational models to provide a fundamental understanding of the biochemical and biophysical factors that influence tissue injury and repair. These efforts will contribute to an improved understanding of extracellular matrix signaling and the mechanobiological responses of organs and tissues to environmental and chemical cues. These studies are essential to the development and testing of surgical and pharmacologic treatments for human disease. Support for these initiatives has the potential to lead to significant progress in how patients are managed in the next 10 years.

Our collaborative work with Haoxiang Luo, Ph.D. and colleagues in Mechanical Engineering on the dynamic interactions between biological structures received international attention in 2013, following a publication that appeared in the Journal of Computational Physics, entitled "Fluid-Structure Interaction Involving Large Deformations: 3D Simulations and Applications to Biological Systems". This research supported by the National Science Foundation and National Institutes of Health instantly became one the "Most Downloaded" Journal of Computational Physics papers since its publication in February 2014 and was awarded the 10th International Conference on Advances in Quantitative Laryngology Voice and Speech Research Best Paper Award.

The work profiled in the VUMC Reporter “Math Models to Aid Voice Disorders” presents a versatile numerical approach for the simulation of 3D fluid-structure interactions, representing a significant milestone in the modeling of a range of biological structures such as insect wings, fish fins, heart valves and human vocal folds. This work represents a significant contribution to the fluid dynamics community since biological systems often involve large deformations and their three-dimensional modeling has been a standing challenge. Our overarching goal is to use high-fidelity computational models that incorporate patient-specific features of the laryngeal anatomy to quantify the magnitude and spatial distribution of vocal fold biomechanical stresses and as a pre- and intra-operative surgical planning tool to improve surgical outcomes in patients with vocal fold paralysis.

Research Funding:

Ongoing Research Support

1R01DC015405-01A1 Rousseau (PI) \$3,318,645.22 07 / 01 / 2016 - 06/30/2021

NIH, NIDCD

Pre-Clinical Testing of the Safety and Efficacy of Treatments for Voice Disorders

The goal of this five-year project is to perform pre-clinical testing on the safety and efficacy of drugs used in the treatment of voice problems in humans.

Role: Principal Investigator, 40% effort

1R01DC016236-01A1 Rousseau (PI) \$2,903,271.11 12 / 01 / 2017 - 06/30/2022 *

NIH, NIDCD

Development of a Patient Specific Planning Tool for Type I Laryngoplasty

The goal of this five-year project is to develop and validate a patient specific surgical planning tool for unilateral vocal fold paralysis.

Role: Principal Investigator, 30% effort

1R01DC016033-01A1 Zelear (PI) \$3,763,990.90 12 / 01 / 2017 - 11/30/2022 *

NIH, NIDCD

Functional Electrical Stimulation of the Bilaterally Paralyzed Larynx

The goal of this five-year project is to develop and validate bilateral stimulation of the paralyzed larynx to restore glottal opening and ventilation to normal without any effects on voice quality or swallowing in patients with bilateral vocal fold paralysis.

Role: Co-Investigator, 10% effort (* Scored at 15th percentile. Pending Council Review)

5R01DC011759-01 Sivasankar (PI) \$187,572.00 04/2012 – 03/2017

NIH, NIDCD

Challenges to Vocal Fold Epithelia: Functional and Structural Consequences

The overall goal of this research program is to develop a model of vocal fold epithelia and investigate the consequences of noxious challenges on the function of vocal fold epithelia, connective tissue, and muscle.

Role: Co-Investigator; Principal Investigator of Vanderbilt Sub-contract, 10% effort

F32DC015726-01 Powell (PI) \$176,142.00 08/2016- 07/2019

NIH, NIDCD

Vocal Fold Vibratory Function during Development of and Recovery from Phonotrauma

The goal of this three-year project is to investigate the effects of phonotrauma on functional tissue outcomes and the recovery of normal laryngeal function.

Role: Applicant Sponsor/Mentor

T32 EB021937 Miga & Labadie (PI) \$189,470 07/2016-06/2021
NIH, NIBIB

Training Program for Innovative Engineering Research in Surgery and Intervention
The Vanderbilt Institute in Surgery and Engineering (VISE) is an interdisciplinary, trans-institutional center whose mission is the creation, development, implementation, clinical evaluation and commercialization of methods, devices, algorithms, and systems designed to facilitate interventional processes and their outcome. The goal of this training grant is to facilitate the exchange of ideas between physicians, engineers, and computer scientists and to promote the training of the next generation of researchers and clinicians capable of working symbiotically on new solutions to complex interventional problems, ultimately resulting in improved patient care.

Role: Training Grant Faculty/Preceptor

Completed Research Support

Chancellor Faculty Fellows Program Rousseau (PI) \$80,000.00
07/2015-06/2017

Vanderbilt University
Chancellor Faculty Fellow

Discretionary funds awarded to an inaugural class of 15 faculty members across the humanities, social sciences, natural and physical sciences, and the clinical sciences as well as engineering, law and music as a show of commitment of the Chancellor to support mid-career faculty, advance trans-institutional scholarship, and propel forward the goals and aspirations as outlined in the academic strategic plan. Faculty members hold the title of Chancellor Faculty Fellow for two years and are supported by an unrestricted allocation of \$40,000 a year for two fiscal years. These funds can be used to support innovative research, scholarship and creative expression activities that further propel the career of the awardee.

Role: Chancellor Faculty Fellow

1 F31 DC014621-01A1 Novaleski (PI) \$73,310.00
06/2015-05/2017

NIH, NIDCD

Apoptosis Signaling in Vocal Fold Epithelium in Response to Acute Phonotrauma

The goal of this application is to measure the effects of increasing time-doses and magnitude-doses of vibration exposure on apoptosis signaling in the vocal fold epithelium and expression of the pro-inflammatory cytokine, tumor necrosis factor-alpha.

Role: Applicant Sponsor/Mentor

Industry Sponsored Rousseau (PI) \$85,000.00 02/2015 –
07/2016

Cook Medical

Safety and efficacy of small intestine submucosa in the treatment of vocal fold scar

The overall goal of this research program is to evaluate the safety, efficacy, and dynamic remodeling of Cook Biotech's four layer small intestine submucosa (SIS) biomaterial in the vocal fold over time and the effect of implantation on restoration of the vocal fold mucosal wave. We will examine gene and protein expression and functional healing outcomes following SIS implantation into the scarred rabbit vocal fold.

Role: Principal Investigator, 2.5% effort

1R01DC011338-01 Rousseau (PI) \$1,869,189.00 12/2010 –
11/2015
NIH, NIDCD
Molecular Pathophysiology of Acute Phonotrauma
The overall goal of this research program is to investigate the cellular and molecular events underlying acute phonotrauma. We are using a unique combination of electron microscopy, quantitative morphometry, real-time polymerase chain reaction, western blotting, electrophysiology, and computational modeling to investigate these questions, which adds to the innovation, novelty, and strength of the approach.
Role: Principal Investigator, 40% effort

3R01DC011338-02 Rousseau (PI) \$62,306.00 08/2013 –
11/2015
NIH, NIDCD
Molecular Pathophysiology of Acute Phonotrauma: Research Supplement to Promote Diversity in Health-Related Research
This goal of this R01 administrative research supplement is to successfully foster and enhance the research capabilities and career development of the research trainee, Ms. Carla Valenzuela, an underrepresented Hispanic Female Medical Student at Vanderbilt.
Role: Principal Investigator, Mentor

1R01DC011338-01A1S1 Rousseau (PI) \$40,000.00 06/2012 –
11/2015
NIH, NIDCD
Molecular Pathophysiology of Acute Phonotrauma: Collaborative Applied Research Supplement NIDCD
This supplement for collaborative applied research will enhance the impact of the parent grant to improve the health outcomes for individuals with voice disorders, a core mission area of the NIDCD. Specifically, the critical question that will be addressed in this collaborative applied research supplement is: What is the effectiveness of: 1) voice therapy and/or 2) surgery in the treatment of discrete phonotraumatic vocal fold lesions?
Role: Principal Investigator, 40% effort, no salary charged to grant

Discovery Grant Luo (PI) \$100,000.00 06/2011-
06/2015
Vanderbilt University
A High-Fidelity Computational Tool for the Laryngeal Dynamics during Phonation
The overall goal of this research program is to develop and validate a high-fidelity computational model for human voice production that integrates current advances in medical imaging, experimental measurements of vocal fold tissues, and computational fluid dynamics.
Role: Co-Investigator, 7.7% effort

3 R33 DC00863205S1 Witsell (PI) \$39,723.00
06/2012-05/2015
NIH, NIDCD
NIDCD R21/R33 Phased Infrastructure Grant for Patient Oriented Research: Patient and practitioner perception of usefulness, barriers, challenges, and benefits of voice therapy: Collaborative Applied Research Supplement NIDCD
The goal of this administrative supplement is to collect data to understand the usage of and barriers, challenges, benefits and opportunities of Voice Therapy from both the patient and interdisciplinary practitioner perspective. This project will utilize a practice-

based research network to collect these data and engage the full range of interdisciplinary sites and provider settings and accesses a diverse population of patients, ensuring that the information collected supports expedient translation
Role: Consultant

R01 DC 008429-01 Zealear (PI) \$2,345,271.00 08/2006 – 07/2011

NIH, NIDCD

Electrical Stimulation of the Bilaterally Paralyzed Larynx Paced with Respiration

The overall goal of this five-year research program was to conceive an implantable laryngeal pacemaker for patients with bilateral vocal fold paralysis. Sensor and muscle stimulation technology was developed to reestablish bilateral glottal opening in synchrony with inspiration. Such a device has the potential to restore normal ventilation through the mouth without alteration of voice or swallowing. Studies were performed initially in the canine, and then translated into the human through a clinical trial.

Role: Co-investigator, 5% effort

5R03 DC008400-02 Rousseau (PI) \$230,000.00 04/2007 – 03/2010

NIH, NIDCD

Effect of Vocalization on Tissue Protein Levels in the Acute Vocal Fold Wound

The overall goal of this research program was to develop an animal model to investigate the effects of phonation on vocal fold tissue homeostasis and repair.

Role: Principal Investigator, 30% effort

1 R21 DC009873-01 Rousseau (PI) \$415,000.00 12/2008 – 11/2010

NIH, NIDCD

Growth Factor Treatment for Aged Vocal Folds

The goal of this R21 was to investigate growth factors for treatment of age related vocal fold changes.

Role: Principal Investigator, 20% effort

AAO-HNSF Resident Research Grant Hall (PI) \$10,000.00 07/2010 – 06/2011

Modulation of Inflammatory Signaling in Acute Phonotrauma

The overall goal of this research program was to investigate the effectiveness of pharmacological therapies directed at the inhibition of TGF- β 1, IL-1 β , and COX-2 in the context of acute phonotraumatic injury.

Role: Co-Investigator; Major Preceptor, 5% effort

AAO-HNSF Resident Research Grant Mitchell (PI) \$10,000.00 07/2011 – 06/2012

Biochemical basis for early vs. delayed vocal fold mobilization after microflap

The goal of this research program is to use an in vivo rabbit phonation model developed in our laboratory combined with the application of a modern-day phonosurgical approach (i.e., microflap) to investigate alterations in extracellular matrix gene expression and protein from vocal folds excised from a microflap control group and separate groups of animals undergoing experimentally induced phonation post-operatively.

Role: Co-Investigator; Major Preceptor, Zero effort, no salary charged to grant

AAO-HNSF Resident Research Grant Van Deusen (PI) \$10,000.00 07/2012 –

06/2013

Post-cricoid connexins in patients with erosive and non-erosive esophagitis

The goal of this research program is to quantify connexin gene expression in the human larynx of control patients and patients with objective reflux disease. We will investigate the hypothesis that connexin expression is decreased in the post-cricoid epithelium and esophageal epithelium of humans with objective reflux disease. We will accomplish our overarching goal by using quantitative PCR to measure gene expression and immunofluorescence to localize the expression of connexins in target tissues.

Role: Co-Investigator; Major Preceptor, Zero effort, no salary charged to grant

VBWC Collaborative Grant Rousseau/Gutmann (CO-PI) \$49,690.00 03/2011-02/2012

Randomized controlled trial of text-to-speech communication versus standard of care in patients on voice rest

The goal of this clinical trial was to investigate the effects of text-to-speech communication on compliance with voice rest treatment, voice related quality of life, and communicative effectiveness.

Role: Co-Principal Investigator, 5% effort

1F31 DC012729-01 King (PI) \$36,297.00
12/2012-11/2014

NIH, NIDCD

Characterization of the immune response in vocal fold injury and tissue regeneration

The goal of this application was to develop mechanistic insights into macrophage characterization in vocal fold inflammation and scar formation. This was accomplished using *in vivo* techniques to characterize the complex interaction among wound healing, macrophages and influences of MSC based constructs on extracellular matrix tissue outcomes.

Role: Consultant, zero charged effort

5 R01 DC04428-05 Bless (PI) \$1,451,322.97 05/2011-04/2006

NIDCD, NIH

Phonosurgical Optimization Criteria for Sulcus Vocalis

The overall goal of this research program was to develop optimization criteria for phonosurgical treatment of scarring represented by sulcus vocalis. This was accomplished through a unique mixture of 1) clinical and surgical trials, 2) histological studies, 3) laboratory experiments, and 4) computer modeling.

Role: Research Assistant, 50% effort

3 R01 DC04428-01S1 Bless (PI) \$55,000.00
05/2001-05/2003

NIDCD, NIH

Phonosurgical Optimization Criteria for Sulcus Vocalis

The overall of this supplement to the parent grant was for Dr. Rousseau to receive further training in collecting and analyzing data from clinical populations, histological studies, and laryngeal modeling experiments. He also attended research seminars organized by the Department of Surgery on a variety of topics such as stem cell research, grant writing, and animal handling. He was involved in setting up protocols for laboratory safety, presented findings at scientific meetings, and interacted closely with surgery residents, research fellows, and other scientists connected with the parent grant in the Department of Surgery at the University of Wisconsin-Madison. He also received extensive training in the responsible conduct of research and ethical and regulatory

issues in the design, conduct and reporting of research.
Role: Research Assistant, 50% effort

5 F31 DC006314-02 Rousseau (PI) \$57,950.00
05/2003-04/2005
NIDCD, NIH

Phytochemical Treatments for Vocal Fold Scar

The overall goal of this pre-dissertation grant award was to quantify hyaluronan levels in acute vocal fold scar during the early stages of wound repair and to investigate the effects of phytochemicals on vocal fold wound healing and tissue biomechanical properties for phonation.

Role: Principal Investigator, 50% effort

Invited Grant Consulting

1F31 DC012729-01 King (PI) \$36,297.00
12/2012-11/2014
NIH, NIDCD

Characterization of the immune response in vocal fold injury and tissue regeneration

The goal of this application was to develop mechanistic insights into macrophage characterization in vocal fold inflammation and scar formation. This was accomplished using *in vivo* techniques to characterize the complex interaction among wound healing, macrophages and influences of MSC based constructs on extracellular matrix tissue outcomes.

Role: Consultant, zero charged effort

F31 NRSA Erickson (PI)
05/2011-04/2013
NIDCD, NIH

The goal of this application was to quantify the effects of a pollutant challenge on true vocal fold transepithelial ion transport and true and false vocal fold mucin gene expression. The central hypothesis was that a decrease in transepithelial ion transport and an increase in true and false vocal fold mucin gene expression are potential mechanisms that underlie pollutant-induced changes in vocal fold tissue properties.

Role: Consultant, zero charged effort

PUBLICATIONS AND PRESENTATIONS

Articles in Refereed Journals

1. **Rousseau B**, & Watts C.R. (2002) Susceptibility of speakers with Parkinson disease to delayed feedback. *Journal of Medical Speech Language Pathology*, 10 (1), 41-49.
2. Welham NV, **Rousseau B**, Ford CN, Bless DM. (2003). Tracking outcomes after phonosurgery for sulcus vocalis: A case report. *Journal of Voice* 17(4): 571-578.
3. Hirano S, Bless DM, **Rousseau B**, Welham NV, Scheidt TD, Ford CN. (2003) Fibronectin and adhesion molecules on canine scarred vocal folds. *Laryngoscope* 113: June: 966-972.
4. **Rousseau B**, Hirano S, Scheidt T.D, Welham N.V, Thibeault S.L, Bless D.M, Chan R.W. (2003). Characterization of vocal fold scarring in a canine model. *Laryngoscope* 113: April: 620-627.
5. Hirano S, Bless DM, **Rousseau B**, Welham NV, Montequin DM, Ford CN. (2004). Prevention of vocal fold scarring by topical injection of hepatocyte growth factor in a rabbit model. *Laryngoscope* 114 (3): 548-556.
6. Thibeault SL, **Rousseau B**, Welham NV, Hirano S, Bless D.M. (2004) Hyaluronan levels in acute vocal fold scar. *Laryngoscope* 114: April: 760-764.

7. **Rousseau B**, Hirano S, Chan RW, Welham N.V, Thibeault S.L, Bless D.M, Ford C.N. (2004). Characterization of chronic vocal fold scarring in a rabbit model. *Journal of Voice* 18 (1): 116-124.
8. Hirano S, Bless DM, Nagai H, **Rousseau B**, Welham NV, Montequin DM, Ford CN. (2004). Growth factor therapy for vocal fold scarring in a canine model. *Annals of Otolaryngology, Rhinology, and Laryngology* 113 (10): 777-785.
9. **Rousseau B**, Sohn J, Montequin D.W, Tateya I, Bless D.M. (2004). Functional outcomes of reduced hyaluronan in acute vocal fold scar. *Annals of Otolaryngology, Rhinology, and Laryngology* 113 (10): 767-776.
10. **Rousseau B**, Tateya I, Lim X, Munoz-del-Rio A, Ford C.N, Bless D.B. (2006). Investigation of anti-hyaluronidase treatment on vocal fold wound healing. *Journal of Voice*. 20 (3): 443-451.
11. **Rousseau B**, Ge P, French LC, Zealear DL, Thibeault SL, Ossoff RH. (2008). Experimentally induced phonation increases matrix metalloproteinase-1 gene expression in normal rabbit vocal fold. *Otolaryngology-Head and Neck Surgery*. 138: 62-68. PMC2912225.
12. **Rousseau B**, Ge P, Ohno T, French LC, Thibeault SL (2008). Extracellular matrix gene expression after vocal fold injury in a rabbit model. *Annals of Otolaryngology, Rhinology, and Laryngology*. 117(8): 598-603.
13. Ohno T, French LC, Hirano S, Ossoff RH, **Rousseau B** (2008). Effect of hepatocyte growth factor on gene expression of extracellular matrix during wound healing of the injured rat vocal fold. *Annals of Otolaryngology, Rhinology, and Laryngology*. 117(9): 696-702.
14. Ge P, French LC, Ohno T, Zealear DL, **Rousseau B** (2009). Model of evoked rabbit phonation. *Annals of Otolaryngology, Rhinology, and Laryngology*. 118:51-5.
15. Ohno T, Hirano S, **Rousseau B** (2009). Gene expression of transforming growth factor- β 1 and hepatocyte growth factor during wound healing of injured rat vocal fold. *Laryngoscope*. 119(4): 806-810.
16. Ohno T, Hirano S, **Rousseau B** (2009). Extracellular matrix gene expression during wound healing of the injured rat vocal fold. *Otolaryngology-Head and Neck Surgery*. 140(5): 757-761.
17. Ohno T, Yoo M, Swanson ER, Hirano S, Ossoff RH, **Rousseau B** (2009). Regeneration of Aged Rat Vocal Folds using Hepatocyte Growth Factor Therapy. *Laryngoscope*. 119(7): 1424-1430. PMC3056162.
18. Swanson ER, Abdollahian D, Ohno T, Ge P, Zealear DL, **Rousseau B** (2009). Characterization of raised phonation in an evoked rabbit phonation model. *Laryngoscope*. 119(7): 1439-1443.
19. Ohno T, Yoo M, Swanson ER, Hirano S, Ossoff RH, **Rousseau B** (2009). Regenerative effects of basic fibroblast growth factor on extracellular matrix production in aged rat vocal folds. *Annals of Otolaryngology, Rhinology, and Laryngology*. 118(8): 559-64. PMC2782572.
20. Ohno T, Hirano S, **Rousseau B** (2009). Age-associated changes in the expression and deposition of collagen and hyaluronan in rat vocal folds. *Annals of Otolaryngology, Rhinology, and Laryngology*. 118(10): 735-741. PMC2782757.
21. Suehiro A, Hirano S, Kishimoto Y, Tateya T., **Rousseau B**, Ito J (2010). Effects of basic fibroblast growth factor on rat vocal fold fibroblasts. *Annals of Otolaryngology, Rhinology, and Laryngology*. 119(10): 690-6.
22. Suehiro A, Hirano S, Kishimoto Y, **Rousseau B**, Nakamura T, Ito J (2010). Treatment of acute vocal fold scar with local injection of basic fibroblast growth factor: A canine study. *Acta Oto-Laryngologica*. 130(7):844-50.
23. Singh V, Cohen SM, **Rousseau B**, Noordzij JP, Garrett CG, Ossoff RH (2010). Acute dysphonia secondary to vocal fold hemorrhage after vardenafil use. *Ear, Nose, & Throat Journal*. 89(6): E21-2.

24. Swanson ER, Ohno T, Abdollahian D, Garrett CG, **Rousseau B** (2010). Effects of raised intensity phonation on inflammatory mediator gene expression in normal rabbit vocal fold. *Otolaryngology-Head and Neck Surgery*. 143(4): 567-72. PMC2923810.
25. Suehiro A, Hirano S, Kishimoto Y, **Rousseau B**, Nakamura T, Ito J (2010). Treatment of acute vocal fold scar with local injection of basic fibroblast growth factor: a canine study. *Acta Otolaryngol*. 130(7): 844-50.
26. Watts CR, Marler J, **Rousseau B** (2011). Qualitative characterization of elastic fiber distribution in the mouse vocal fold: Further Development of an Animal Model. *Journal of Voice*. 25(1): e1-6.
27. **Rousseau B**, Cohen SM, Zeller AS, Searce L, Tritter AG, Garrett CG (2011). Compliance and quality of life in patients on prescribed voice rest. *Otolaryngology-Head and Neck Surgery*. 144(1): 104-107.
28. **Rousseau B**, Suehiro A, Echemendia N, Sivasankar M (2011). Raised intensity phonation compromises vocal fold epithelial barrier integrity. *Laryngoscope*. 121(2): 346-351. NIHMS PMC – In Process.
29. Suehiro A, Wright HV, **Rousseau B** (2011). Optimal concentration of hepatocyte growth factor for treatment of the aged rat vocal fold. *Laryngoscope*. 121(8): 1726-34.
30. Suehiro A, Bock JM, Hall JE, Garrett CG, **Rousseau B** (2012). Feasibility and acute healing of vocal fold microflap incisions in a rabbit model. *Laryngoscope*. 122(3): 600-5. PMC3387431.
31. Hall JE, Suehiro A, Branski RC, Garrett CG, **Rousseau B** (2012). Modulation of inflammatory and pro-fibrotic signaling in a rabbit model of acute phonotrauma using triamcinolone. *Otolaryngology-Head and Neck Surgery*. 147(2):302-7.
32. Rohde SL, Wright CT, Muckala JC, Wiggleton J, **Rousseau B**, Netterville JL (2012) Voice quality after RLN resection and immediate reconstruction. *Otolaryngology-Head and Neck Surgery*. May 22 [Epub ahead of print].
33. **Rousseau B** & Watts CR (2012) Slippery Elm, its Biochemistry, and use as a Complementary and Alternative Treatment for Laryngeal Irritation. *Journal of Investigational Biochemistry*. 1(1):17-23.
34. Li Y, Pearce EC, Mainthia R, Athavale SM, Dang J, Ashmead DH, Garrett CG, **Rousseau B**, Billante CR, Zeale DL. (2013) Comparison of ventilation and voice outcomes between unilateral laryngeal pacing and unilateral cordotomy for the treatment of bilateral vocal fold paralysis. *ORL J Otorhinolaryngol Relat Spec*.75(2): 68-73.
35. Mitchell JR, Kojima T, Garrett CG, **Rousseau B**. (2013) Biochemical Basis of Vocal Fold Mobilization after Microflap in a Rabbit Model. *Laryngoscope*. 124(2):487–493.
36. Chang S, Tian F, Luo H, Doyle JF, **Rousseau B**. (2013) The role of finite displacements in vocal fold modeling. *Journal of Biomechanical Engineering*. 135(11): 111008-8. doi: 10.1115/1.4025330.
37. Kojima T, Mitchell JR, Garrett CG, **Rousseau B**. (2014) Recovery of vibratory function after vocal fold microflap in a rabbit model. *Laryngoscope*. 124(2):481–486.
38. Tian F, Dai H, Luo H, Doyle JF, **Rousseau B**. (2014) Fluid-structure interaction involving large deformations: 3D simulations and applications to biological systems. *Journal of Computational Physics*. 258: 451-469.
39. Kojima T, Van Deusen M, Jerome WG, Garrett CG, Sivasankar M, **Rousseau B** (2014). Quantification of Acute Vocal Fold Epithelial Surface Damage with Increasing Time and Magnitude Doses of Vibration Exposure. *PLOS ONE*. March 2014, Volume 9, Issue 3, e91615.
40. Awan S, Novaleski CK, **Rousseau B** (2014) Nonlinear Analyses of Elicited Modal, Raised, and Pressed Rabbit Phonation. *Journal of Voice*. 28(5):538-47.
41. Pearce EC, Hall JE, Boyd KL, Beddow P, **Rousseau B**, Ries WR (2014) The ophthalmology microsurgical versus standard scalpels and wound healing in a rat model. *Otolaryngology Head and Neck Surgery*. May 27 [Epub ahead of print].

42. Kojima T, Valenzuela CV, Novaleski CK, Van Deusen M, Mitchell JR, Garrett CG, Sivasankar M, **Rousseau B** (2014). Effects of Phonation Time and Magnitude Dose on Vocal Fold Epithelial Genes, Barrier Integrity, and Function. *Laryngoscope*. 124(12): 2770-8.
43. **Rousseau B**, Gutmann ML, Mau T, Francis DO, Johnson JP, Novaleski CK, Vinson KN, Garrett CG (2015). Randomized controlled trial of supplementary text-to-speech augmentative and alternative communication during voice rest. *Otolaryngology-Head and Neck Surgery*. 152(3):494-500.
44. Chang S, Novaleski CK, Kojima T, Mizuta M, Luo H, **Rousseau B** (2015) Subject-Specific Computational Modeling of Evoked Rabbit Phonation. *Journal of Biomechanical Engineering*. 138(1): 011005.
45. Novaleski CK, Kojima T, Chang S, Luo H, Valenzuela CV, **Rousseau B** (2016) Nonstimulated rabbit phonation model: Cricothyroid approximation. *Laryngoscope*. 126(7): 1589-94.
46. Novaleski CK, Mizuta M, **Rousseau B** (2016). Evaluation of Dying Vocal Fold Epithelial Cells by Ultrastructural Features and TUNEL Method. *Cells, Tissues, Organs*. 202(5-6): 355-368.
47. Novaleski CK, Kimball EE, Mizuta M, **Rousseau B**. (2016) Acute Exposure to Vibration is an Apoptosis-Inducing Stimulus in the Vocal Fold Epithelium. *Tissue and Cell*. 48(5):407-16.
48. Gelbard A; Katsantonis NG, Mizuta M, Newcomb D, Rotsinger J, **Rousseau B**, Daniero J, Edell E, Ekbom D, Kasperbauer J, Hillel A, Yang L, Garrett CG, Netterville J, Wootten C, Francis D, Stratton C, Jenkins K, McGregor T, Gaddy J, Blackwell T, Drake W. (2016) Idiopathic Subglottic Stenosis is Associated with Activation of the Inflammatory IL-17A/IL23 axis. *Laryngoscope*. 126(11):E356-E361.
49. Gelbard A; Katsantonis NG, Mizuta M, Newcomb D, Rotsinger J, **Rousseau B**, Daniero J, Edell E, Ekbom D, Kasperbauer J, Hillel A, Yang L, Garrett CG, Netterville J, Wootten C, Francis D, Stratton C, Jenkins K, McGregor T, Gaddy J, Blackwell T, Drake W. (2017) Molecular analysis of Idiopathic Subglottic Stenosis for Mycobacterium species. *Laryngoscope*. 127(1):179-85.
50. Mizuta M, Kurita T, Dillon NP, Kimball EE, Garrett CG, Sivasankar MP, Webster RJ III, **Rousseau B** (2017) In-Vivo Measurement of Vocal Fold Surface Resistance. *Laryngoscope*. 127(10): E364-E370.
51. Pitman MJ, Kurita T, Powell ME, Kimball EE, Mizuta M, Chang S, Garrett CG, **Rousseau B** (2017) Vibratory Function and Healing Outcomes after Small Intestine Submucosa Biomaterial Implantation for Chronic Vocal Fold Scar. *Laryngoscope*. Nov 6. doi: 10.1002/lary. 26883 [Epub ahead of print].
52. Kraja I, Bing R, Hiwatashi N, **Rousseau B**, Nalband D, Kirshenbaum K, Branski RC. (2017) A novel transfection modality for in vivo siRNA delivery to vocal fold fibroblasts. *Laryngoscope*. 127(7):E231-E237.
53. Novaleski CK, Carter B, Sivasankar P, Ridner S, Dietrich M, **Rousseau B**. (2017) Apoptosis and Vocal Fold Disease: Clinically Relevant Implications of Epithelial Cell Death. *Journal of Speech, Language, and Hearing Research*. 60(5):1264-1272.
54. Mizuta M, Kurita T, Kimball EE, **Rousseau B** (2017) Structurally and Functionally Characterized In Vitro Model of Rabbit Vocal Fold Epithelium. *Tissue and Cell*. 49(3): 427-434.
55. **Rousseau B**, Kojima T, Novaleski CK, Kimball EE, Valenzuela CV, Mizuta M, Daniero JJ, Garrett CG, Sivasankar P (2017) Recovery of vocal fold epithelium after acute phonotrauma. *Cells, Tissues, Organs*. 204(2):93-104.
56. Hiwatashi, N, Kraja I, Benedict PA, Dion GR, Bing R, **Rousseau B**, Amin MR, Nalband DM, Kirshenbaum K, Branski RC. (2017) Nanoparticle Delivery of RNA-based

therapeutics to alter local vocal fold tissue response to injury. *Laryngoscope*. Dec 14. doi: 10.1002/lary.27047. [Epub ahead of print].

57. Powell ME, Gartling G, Sayce L, Kimball EE, Sueyoshi S, Schneeberger S, **Rousseau B** (submitted) Effect of increasing time dose of phonation on vocal fold vibratory function using an *in vivo* rabbit model. *Laryngoscope*.

Textbooks

1. **Rousseau B.** & Branski RB. (2018). Anatomy and Physiology of Speech and Hearing. Thieme Medical Publishers, Inc.

Book Chapters

1. Sapienza C, Ruddy B, **Rousseau B.** (2012) Laryngeal Anatomy and Physiology. In C. Sapienza and B. Ruddy (Eds.), *Voice Disorders* (Chapter 2). San Diego, CA: Plural Publishing.

2. Bradley JP, Powell, ME, **Rousseau B.** (Forthcoming, Spring 2018) Vocal Fold Scar and Sulcus Vocalis. In Merati AL, Bielamowicz SA, Sulica (Eds.), *Textbook of Laryngology*. 2nd edition, San Diego, CA: Plural Publishing.

Invited Articles and Commentaries

1. Friedman JG, Johnson JP, Novaleski CK, **Rousseau B.** (2013) Perioperative voice recovery: adherence to treatment, quality of life, and patient personality. *Perspectives on Voice and Voice Disorders*. 23(2): 61-65.

Practice Policy Documents

ASHA's Practice Policy Documents, along with other cardinal documents of the Association, are written for and by ASHA members and approved by ASHA governance to promulgate best practices and standards in the professions of audiology and speech-language pathology.

Denton D., Ingham JC, Jessen J., Kearns K., Minifie F., Moss S., Nelson P., **Rousseau B.**, Kent RD. (2007). American Speech-Language-Hearing Association (2007) Guidelines for the responsible conduct of research: ethics and the publication process [Guidelines]. Available from: HYPERLINK "http://www.asha.org/policy" www.asha.org/policy.

American Speech-Language-Hearing Association (2016) .*Scope of Practice in Speech Language Pathology* [Scope of Practice]. Available from: HYPERLINK "http://www.asha.org/policy" www.asha.org/policy.

Conference Proceedings

1. Tian F, Chang S, Luo H, **Rousseau B.** (2013) A 3D numerical simulation of wave propagation on the vocal fold surface. *Proceedings of the 10th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research*. June 3-4, 2013, Cincinnati, Ohio, USA.

Abstracts and Presentations at Scientific Meetings

1. Welham NV, **Rousseau B.**, Ford CN, Bless DM. (November 2002). *Tracking outcomes following phonosurgery for sulcus vocalis: A case study.* Presented at the Annual Convention of the American Speech-Language Hearing Association, Atlanta, GA.
2. Hirano S., Jiang J., Montequin DM, **Rousseau B.**, Welham NV, Bless DM., Ford CN. (May 2003). *Participation of vocal ligament and thyroarytenoid muscle in vocal fold vibration.* Presented at the Annual Meeting of the American Laryngological Association, Nashville, TN.
3. Hirano S., Bless DM, **Rousseau B.**, Welham NV, Ford CN. (June 2003). *Prevention of vocal fold fibrotic scar by topical injection of hepatocyte growth factor.* Presented at the Voice Foundation's 32nd Annual Symposium: Care of the Professional Voice, Philadelphia, PA.
4. Welham NV, **Rousseau B.**, Hirano S., Montequin DM, Bless DM. (August 2003). *Characterizing vocal fold scarring using animal and excised larynx models.* Presented at the 5th Pan European Voice Conference, Graz, Austria.
5. **Rousseau B.**, Hirano S., Chan RW., Welham NV., Thibeault SL., Bless DM., Ford CN. (June 2003) *Characterization of chronic vocal fold scarring in a rabbit model.* Presented at the Voice Foundation's 32nd Annual Symposium: Care of the Professional Voice, Philadelphia, PA.
6. **Rousseau B.** (October 2003) *Characterization of vocal fold scarring.* Presented at the Communicative Disorders Professional Seminar. Madison, WI.
7. **Rousseau B.**, Tateya I., Lim XinHong, Munoz A., Bless DM. (November 2003) *Cell culture investigation of Echinacea on hyaluronan production by vocal fold fibroblasts.* Presented at the 13th Annual NIDCD-Sponsored Research Symposium "Outcomes Research & Evidence Based Practice", Chicago, IL.
8. **Rousseau B.** Hirano S. Montequin DW. Welham NV, Bless DM, Ford CN. (November 2003) *Vocal fold scar vibratory & histologic properties: Pig Model.* Presented at the American Speech-Language-Hearing Association, Chicago, IL.
9. **Rousseau B.**, Sohn J., Montequin D.W., Tateya I., Bless D.M. (May 2004). *Functional Outcomes of Reduced Hyaluronan Levels in the Scarred Vocal Fold.* Presented at the American Laryngological Association Spring Meeting. Phoenix, AZ.
10. **Rousseau B.** Tateya I., Lim XinHong, Bless DM. (June 2004) *Role of interstitial proteins in chronic vocal fold scar.* Presented at the Voice Foundation's 33rd Annual Symposium: Care of the Professional Voice, Philadelphia, PA.
11. **Rousseau B.**, Tateya I., Lim XinHong, Munoz A., Bless DM. (June 2004) *An investigation of plant based medicine for wound healing.* Presented at the Voice Foundation's 33rd Annual Symposium: Care of the Professional Voice, Philadelphia, PA.
12. **Rousseau B.**, Tateya I., Sohn J., Welham NV, Ford CN, Bless DM. (September 2004). *Treatment of vocal fold scar with ACP HA gel.* Presented at the American Academy of Otolaryngology-Head-Neck Surgery. New York, NY.
13. Schuele CM, Hadley P., **Rousseau B.**, Oller DK., Thibodeau L. (November 2005) *Thinking about a Ph.D.? An information session for prospective doctoral students.* Presented at the American Speech-Language-Hearing Association. San Diego, CA.
14. Feeney P., Hogan T., Lin R., **Rousseau B.**, Thomas-Tate S. (November 2005) *The Write Stuff: Lessons for Success in Research Funding.* Presented at the American Speech-Language-Hearing Association. San Diego, CA.
15. Singh V., Cohen SM., **Rousseau B.**, Noordzij JP, Garrett CG, Ossoff RH. (January 2006). *Acute dysphonia after vardenafil use.* Presented at the Triological Society, Southern Section, Naples, FL.
16. **Rousseau B.** (October 2006). *Voice Rest: Science or Voodoo?* Presented at the

UCSF Voice Conference. San Francisco, CA.

17. **Rousseau B.**, Ge P., Zeale DL, Thibeault SL., Ossoff RH. (September 2007). *Phonation upregulates matrix metalloproteinase gene expression in normal vocal fold*. Presented at the American Academy of Otolaryngology-Head and Neck Surgery. Washington, DC.
18. Plante E., Schuele M., **Rousseau B.**, Chiasson K., Marler J. (November 2007). *Thinking about a Ph.D.? Information session for prospective doctoral students*. Presented at the Annual Convention of the American Speech-Language Hearing Association, Boston, MA.
19. Ohno T, French LC, Hirano S, Ossoff RH, **Rousseau B.** (May 2008) *The effect of hepatocyte growth factor on gene expression of extracellular matrix during wound healing of the injured rat vocal fold*. Presented at the American Bronchoesophagological Association Spring Meeting. Orlando, FL.
20. Ge P., French LC, Ohno T, Zeale DL., **Rousseau B** (May 2008). *Model of Evoked Rabbit Phonation*. Presented at the American Bronchoesophagological Association Spring Meeting. Orlando, FL.
21. **Rousseau B**, Ge P, Ohno T, French LC, Garrett CG, Ossoff RH. (May 2008). *Extracellular matrix gene expression after vocal fold injury in a rabbit model*. Presented at the American Laryngological Association Spring Meeting. Orlando, FL. Recipient of the Young Faculty/Practitioner Award.
22. Watts CR, **Rousseau B** (May 2008). *The biochemistry of slippery elm (ulmus rubra) and its use as a complementary and alternative medicine*. Presented at the Voice Foundation's 37th Annual Symposium: Care of the Professional Voice, Philadelphia, PA.
23. **Rousseau B**, Ge P, Ohno T, French LC, Thibeault SL, Ossoff RH. (May 2008). *Investigation of experimental induced phonation on gene expression of the vocal fold 48 hours after injury*. Presented at the Voice Foundation's 37th Annual Symposium: Care of the Professional Voice, Philadelphia, PA.
24. Ohno T, Hirano S, **Rousseau B.** *Gene expression of transforming growth factor- β 1 and hepatocyte growth factor during wound healing of injured rat vocal fold*. (July 2008). Presented at the International Conference on Advances in Laryngeal Biophysiology. Madison, WI.
25. French LC, Ohno T, Majdani O, Zeale DL, Labadie R, **Rousseau B.** (September 2008). *Localization of phonation integration center in rabbits*. Presented at the American Academy of Otolaryngology-Head and Neck Surgery. Chicago, IL.
26. **Rousseau B**, Ge P, French LC, Ohno T, Zeale DL, Ossoff RH. (September 2008). *Nerve Induced Rabbit Phonation: Temporal Phonation Stability*. Presented at the American Academy of Otolaryngology-Head and Neck Surgery. Chicago, IL.
27. **Rousseau B**, Ohno T, Childs LC, Garrett CG, Davidson JF, Hirano S. (October 2008). *Expression of genes coding hyaluronan, transforming growth factor-beta1, and procollagen types -I and -III in aged-rat vocal folds*. Presented at the University of California-San Francisco Voice Conference. San Francisco, CA.
28. **Rousseau B**, Ohno T, Childs LC. (November 2008). *Extracellular Matrix Gene Expression during Remodeling of Vocal Fold Injury*. Presented at the American Speech Language Hearing Association. Chicago, IL.
29. **Rousseau B**, Spencer K., Branski R, Sivasankar M. (November 2008). *Success in Academia: Perspectives from Junior Faculty*. Presented at the American Speech Language Hearing Association. Chicago, IL.
30. Ohno T, Yoo M, Swanson ER, Hirano S, Ossoff RH, **Rousseau B** (May 2009). *Regeneration of Aged Rat Vocal Folds using Hepatocyte Growth Factor*. Presented at the American Laryngological Association Spring Meeting. San Diego, CA. Recipient of the Young Faculty/Practitioner Award.
31. Ohno T, Hirano S, **Rousseau B** (May 2009). *Age-associated changes in matrix*

- metalloproteinase gene expression in aged rat vocal folds. Presented at the American Bronchoesophagological Association Spring Meeting. San Diego, CA.
32. Ohno T, Yoo M, Swanson ER, Hirano S, Ossoff RH, **Rousseau B** (May 2009). Regenerative Effect of basic Fibroblast Growth Factor on Extracellular Matrix in Aged Rat Vocal Folds. Presented at the American Bronchoesophagological Association Spring Meeting. San Diego, CA.
33. Swanson ER, Abdollahian D, Ohno T, Ge P, Zealear DL, **Rousseau B** (May 2009) Characterization of discrete phonation qualities in an evoked rabbit phonation model. Presented at the American Laryngological Association Spring Meeting. San Diego, CA.
34. Swanson ER, Ohno T, Abdollahian D, Garrett CG, **Rousseau B** (October 2009). Effects of raised intensity phonation on vocal fold gene expression. Presented at the American Academy of Otolaryngology-Head and Neck Surgery. San Diego, CA.
35. Abdollahian D, Swanson ER, **Rousseau B** (October 2009). Jitter and shimmer analysis of discrete phonation types in an evoked rabbit phonation model. Presented at the American Academy of Otolaryngology-Head and Neck Surgery. San Diego, CA.
36. Yoo M, Ohno T, Garrett CG, Ossoff RH, **Rousseau B** (October 2009). Age related fibroblast responses to vocal fold injury. Presented at the American Academy of Otolaryngology-Head and Neck Surgery. San Diego, CA.
37. Branski RC, Sivasankar P, **Rousseau B**, Thomas L (November 2009). Innovation in voice: from bench to the clinic. Presented at the American Speech Language Hearing Association. New Orleans, LA.
38. Branski RC, Murry T, **Rousseau B** (November 2009). Voice rest: when, why, and how much. Presented at the American Speech Language Hearing Association. New Orleans, LA.
39. **Rousseau B**, Spaulding T, Johnson K, Ruddy B, Fridriksson J (November 2009). Success in academia: perspectives from junior and mid career level faculty. Presented at the American Speech Language Hearing Association. New Orleans, LA.
40. **Rousseau B**, Cohen SM, Zeller AS, Tritter AG, Garrett CG (September 2010). Compliance and quality of life in patients on voice rest. Presented at the American Academy of Otolaryngology-Head and Neck Surgery. Boston, MA.
41. **Rousseau B**, Garrett CG, Vaezi MF, Jacobson B (November 2010). Diagnosis and treatment of chronic hoarseness: A multispecialty perspective. Presented at the American Speech Language Hearing Association. Philadelphia, PA.
42. Suehiro A, Wright HV, **Rousseau B** (April 2011). Optimal concentration of hepatocyte growth factor for treatment of the aged rat vocal fold. Presented at the American Laryngological Association Spring Meeting. Chicago, IL.
43. **Rousseau B**, Suehiro A, Echemendia N, Sivasankar M (2011). Raised intensity phonation compromises vocal fold epithelial barrier integrity. Presented at the American Laryngological Association Spring Meeting. Chicago, IL.
44. Awan S, **Rousseau B** (2011). Non-linear analyses of elicited modal, raised, and pressed rabbit phonation. Presented at the American Speech Language Hearing Association. San Francisco, CA.
45. Hall JE, Pearce EC, **Rousseau B**, Ries R (2012) The effects of the ophthalmology microsurgical scalpel in comparison with electrocautery and standard scalpels on wound healing in a rat model. Presented at the American Academy of Facial Plastic and Reconstructive Surgery. San Diego, CA.
46. Van Deusen MB, Kojima T, Denton JS, Wu H, Erickson-Levendoski, E., Sivasankar MP, **Rousseau B** (2012) Transepithelial Resistance in the Rabbit Vocal Fold. Presented at the American Bronchoesophagological Association Spring Meeting. San Diego, CA.
47. Kojima T, Van Deusen MB, Jerome WG, Garrett CG, Sivasankar MP, **Rousseau B** (2012) Effects of Phonation on Epithelial Morphology. Presented at the American Bronchoesophagological Association Spring Meeting. San Diego, CA.

48. **Rousseau B**, Kojima T, Van Deusen MV, Mitchell JR, Jerome WG, Garrett CG, Sivasankar M (2012) Effects of Increasing Phonation Time and Magnitude Dose on Vocal Fold Epithelial Morphology. Presented at the 8th International Conference on Voice Physiology and Biomechanics. Erlangen, Germany.
49. Watts CR & **Rousseau B** (2012) Vocal Fold Elastin in Transgenic and Knockout Mouse Models. Presented at the Fall Voice Conference. New York, NY.
50. Chang S, Tian F, Luo H, Kojima T, **Rousseau B**. (2012) Toward an integrated approach for modeling evoked rabbit phonation. Presented at the Fall Voice Conference. New York, NY.
51. Kojima T, Mitchell JR, **Rousseau B**. (2012) Early versus Delayed vocal fold mobilization: High-speed videoendoscopic evaluation of vibration in an evoked rabbit phonation model. Presented at the Fall Voice Conference. New York, NY.
52. Johnson J, Gutmann M, Friedman J, Zeller A, De Riesthal M, Francis D, Garrett CG, Vinson K, **Rousseau B**. (2012) Voice Rest and Alternative Communication: A Feasibility Study. Presented at the American Speech-Language Hearing Association Annual Meeting. Atlanta, GA.
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