

## Curriculum Vitae Reyna L. Gordon, PhD

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### Education

- 2001 University of Southern California (Los Angeles, CA), Bachelor of Music, (Summa cum Laude).  
Major: Vocal Arts. Minor: Italian.
- 2004 Université de Provence (Aix-Marseille I) (Marseille, France), Master of Science, Neuroscience,  
Master's thesis: "A Study of the Neural Basis of Song Perception."
- 2010 Florida Atlantic University (Boca Raton, FL), Ph.D, Complex Systems and Brain Sciences,  
Dissertation: "Neural and Behavioral Correlates of Song Prosody."

### Postdoctoral training

- 2010-2013 Research Fellow, Vanderbilt Kennedy Center, Vanderbilt University (Nashville, Tennessee).  
Mentors: Dr. Paul Yoder and Dr. Bruce McCandliss. Faculty collaborators: Dr. Alexandra Key,  
Dr. Elisabeth Dykens, Dr. Sarika Peters.
- 2014-2015 Research Fellow, Department of Otolaryngology, Vanderbilt University (Nashville, Tennessee),  
Research Fellow. Mentors: Dr. Bernard Rousseau & Dr. Stephen Camarata.

### Academic Appointments

- 2015-2016 Research Assistant Professor, Department of Otolaryngology, Vanderbilt University Medical  
Center (primary appointment)

- 2016-present Assistant Professor (tenure-track), Department of Otolaryngology, Vanderbilt University Medical Center (primary appointment)
- 2016-present Assistant Professor, Department of Psychology, Vanderbilt University (secondary appointment)

### **Affiliated institutional appointments**

- 2015-present Member, Vanderbilt Kennedy Center
- 2016-present Faculty appointment, the Graduate School, Vanderbilt University
- 2016-2017 Affiliate Faculty, Vanderbilt Brain Institute
- 2017-present Training (full) Faculty, Vanderbilt Brain Institute
- 2017-present Investigator, Vanderbilt Genetics Institute
- 2018-present Fellow, Curb Center for Art, Enterprise, & Public Policy

### **Major Administrative responsibilities**

- 2015-2016 Director, Department of Otolaryngology's Program for Music, Mind & Society, Vanderbilt University Medical Center
- 2015-present Director, Music Cognition Lab, Vanderbilt University Medical Center
- 2016-present Associate Director, Program for Music, Mind & Society at Vanderbilt (campus-wide initiative)

### **Professional Organizations**

- 2006-present Entrainment Network
- 2008-2012 American Association of University Women
- 2009-present Society for Music Perception and Cognition
- 2010-2015 Society for the Neurobiology of Language
- 2010-2015 State of Tennessee Council of Certified Professional Midwifery (Consumer Member)
- 2011-2012 Association for Women in Science
- 2013-2015 Acoustical Society of America
- 2014-2015 Alliance for Cochlear implants
- 2018-present American Speech-Language-Hearing Association

### **Professional Activities**

#### **Intramural Activities**

- 2013-2014 Co-organizer, Music and Brain Seminar and Discussion Series, Vanderbilt University
- 2014 Program Committee, Vanderbilt Music & Mind: Melding Music and Mind in Music City, Vanderbilt University, June 12, 2014
- 2014-2015 Planning committee, Vanderbilt Kickoff to Society for Music Perception & Cognition Meeting
- 2015-2017 Implementation Team, Program for Music, Mind & Society at Vanderbilt. Led implementation of campus-wide Program for Music, Mind & Society at Vanderbilt, including organizing weekly Science of Music seminar with guest speakers, and strategic program development with the Steering Committee and other Vanderbilt infrastructure
- 2015-present Steering Committee, Program for Music, Mind & Society at Vanderbilt
- 2015-present Facilitator, Music Research Design Clinic and Science of Music Research Forums
- 2016 Program Committee, Pitch, Pace & Rhythm: the Essentials to Conducting Music Treatment Research Workshop, April 16, 2016

- 2016 Judge, Vanderbilt Bill Wilkerson Center Joint Poster Session
- 2016 Symposium Chair, Vanderbilt Music, Mind & Society Annual Symposium, the Science of Song, September 12, 2016
- 2017-2018 Faculty Advisor, *Scientific Salon: A Soirée of Science and Song*. Program for Music, Mind & Society at Vanderbilt, Annual event held at Vanderbilt University.

## **Extramural Activities**

### Board/Committee Positions

- 2006 Conference Coordinator, Fourth Entrainment Network Meeting, hosted by the Music Dynamics Lab at Florida Atlantic University, 2006.
- 2015 Co-Chair, Society of Music Perception and Cognition (SMPC) Conference, 2015. [vkc.mc.vanderbilt.edu/smpc2015](http://vkc.mc.vanderbilt.edu/smpc2015). Spearheaded successful bid to host conference, appointed committees, created and supervised logistical and programmatic details including Vanderbilt Music & Mind Kickoff to SMPC, networking events, and guest speakers. 360 individuals from twenty nations attendees, making it the largest ever conference on music cognition research to take place in Nashville.
- 2016 Scientific Advisory Board, International Conference for Music Perception & Cognition
- 2016-present American Foundation for Science of Music, Founding Member; Board of Directors
- 2016-2018 At-Large (elected) Board Member, Society for Music Perception and Cognition
- 2019 Co-organizer, KNAW Colloquium and Master Class on Musicality and Genomics

### Research Consortia

- 2017- present Member, GenLang Consortium
- 2017- present Member, ENIGMA Consortium EEG working group

### Editorial Appointments

- 2016-present Review Editor, Frontiers in Auditory Cognitive Neuroscience

### Ad-hoc reviewer for Journals

PLoS ONE  
 Cortex  
 Psychology of Music  
 Developmental Neuropsychology  
 Psychological Research  
 Archives of Medical Research  
 Psychomusicology: Music, Mind, & Brain  
 Music Perception  
 Journal of Neurolinguistics  
 Speech Language and Hearing  
 Frontiers in Auditory Cognitive Neuroscience  
 Research in Intellectual Disabilities  
 Child Development  
 Musicae Scientiae

Journal of Experimental Psychology: General  
 Child Development Perspectives  
 Annals of the New York Academy of Sciences  
 Learning & Instruction  
 Attention, Perception, & Psychophysics  
 Journal of Speech, Language, & Hearing Research  
 Developmental Science

Ad hoc reviewer for Funding Agencies and Tenure Review for external institutions

2016-2017 Ad-hoc reviewer, National Science Foundation  
 2016 Tenure reviewer, peer institution  
 2018 Ad-hoc reviewer, United States-Israel Binational Foundation  
 2019 Ad-hoc reviewer, Canadian Foundation for Innovation

Professional Development Activities

2014 Participation in ASHA Lessons-For-Success Workshop,  
 2017-2018 Junior Faculty Leadership Development Program, Vanderbilt University School of Medicine  
 2018 International Workshop on Statistical Genetics, Boulder, Colorado  
 2018 Brain Imaging Genetics Workshop – Cognomics, Nijmegen, Netherlands  
 2018 Elliot Newman Society, Vanderbilt University School of Medicine  
 2018 Women in Leadership Certificate, Cornell University  
 2019 AAMC Early Career Women in Academic Medicine Workshop  
 2019 International Workshop on Statistical Genetics, Boulder, Colorado, Advanced course

**Special Awards or Recognition for Professional Activities**

2001 USC Renaissance Scholar –Excellence in Multidisciplinary studies  
 2004 Best Poster Award, Conference on Interdisciplinary Musicology  
 2006-2007 National Institute of Mental Health Pre-doctoral Trainee Fellowship  
 2007-2008 American Association of University Women Dissertation Fellowship (\$20,000)  
 2007 Florida Atlantic University Graduate Committee Travel Grant  
 2007 SEMPRE Bursary Travel Award  
 2008-2009 Dr. Daniel B. and Aurel B. Newell Doctoral Fellowship, Florida Atlantic University  
 2012 Theodore Tjossem Travel Award to Attend Gatlinburg Conference  
 2013 Honorable Mention, Poster at Vanderbilt Kennedy Center Science Day  
 2018 NIH Director's New Innovator Awardee

**Keynote Lectures**

*Singing for Neurons: Breakthroughs in the study of language and music in the brain.* Keynote Lecture, Middle Tennessee Psychological Association 2012 spring meeting, Murfreesboro, TN, April 21, 2012.

*What a child's rhythm profile can tell us about their language development.* Keynote Lecture, NeuroMusic Conference, McMaster University, Hamilton, Ontario, Canada, November 19, 2016.

*Musical rhythm and what it means for children's grammar skills: a multi-methodological approach.* Keynote Lecture for the Nebraska Psychological Society Conference, York College, York, Nebraska, November 4, 2017.

## **Invited lectures**

### Internal at Vanderbilt

*Studying the Neural bases of language, music and song.* Guest Lecture in Engineering course at Vanderbilt University, November 2011.

*An EEG and behavioral approach to investigating the relationship between musical rhythm and language skills in children,* Developmental Lunch Bunch, Vanderbilt University, November 2012.

*Who's got rhythm? The surprising link between rhythm and grammar in typical and atypical language development.* Clinical Brownbag, Department of Psychology, Vanderbilt University, August 2014.

*Auditory Processing in Developmental Disabilities: strengths and weakness of music cognition.* Neurotology Fellowship lecture, Department of Otolaryngology, Vanderbilt University Medical Center, October 29, 2015.

*What do we know about music in children with language impairment?* Clinical Brownbag, Department of Psychology, Vanderbilt University, January 19, 2016.

*From Rhythm and Language to Music, Mind & Society: New Developments in Music-Related Research at Vanderbilt.* Otolaryngology Grand Rounds, Vanderbilt University Medical Center, May 27, 2016.

*Exploring rhythm as a foundational component of language development: from brain and behavioral mechanisms to music intervention approaches.* Joint lecture sponsored by The Science of Music Seminar Series and the Cognition and Cognitive Neuroscience Brown Bag series, Vanderbilt University, November 16, 2016.

*How much fun can we have with grammar? Hint: Add Rhythm.* New faculty talk at Vanderbilt Brain Institute Annual Retreat, Cheekwood Botanical Gardens, Nashville, TN, September 26, 2017.

*Music and the Mind.* Joint public lecture with world-renowned singer and arts ambassador Renée Fleming, and collaborator Dr. Miriam Lense, Vanderbilt University, November 29, 2017.

*Untangling shared neural and cognitive resources for music and speech: What can plasticity and genomics approaches tell us about language development?* Cognition and Cognitive Neuroscience Brown Bag series, Department of Psychology, Vanderbilt University, Feb. 7, 2018.

*Musical rhythm and grammar skills: a multi-method framework.* Applied Music Cognition Course guest lecture, Department of Special Education, Vanderbilt University, February 16, 2018.

Chern A. & Gordon, R.L. *Why rhythm and timing are important for clinical outcomes in pediatric cochlear implant users.* Neurotology Fellowship lecture, Department of Otolaryngology, Vanderbilt University Medical Center, May 10, 2018.

*New ways to think about rhythm and language.* Guest lecture in Music and Spiritual Development Course, Divinity School, Vanderbilt University, January 29, 2019.

*Rhythm Genetics.* Guest lecture in Human Genetics course, School of Medicine, Vanderbilt University, April 17, 2019.

*Rhythm & Language: the first steps on a genetics odyssey.* Invited seminar, Vanderbilt Genetics Institute, April 24, 2019.

### External

*EEG oscillatory approach to studying emotional, timbral, and rhythmic features of music perception in Williams syndrome.* Invited talk at Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, July 11, 2012.

*Exploring strengths and weaknesses of language and music cognition in developmental disabilities,* Public lecture at University of Memphis, Memphis, TN, November 20, 2013.

*Investigating a shared neurobiological basis for rhythm and grammar traits: groundwork and new horizons.* Invited lecture to take place at Max Planck Institute for Psycholinguistics, Nijmegen, Netherlands. July 6, 2017.

Gordon, R. & Myers, B. *Musical rhythm and spoken grammar in children: mechanisms and music-based intervention.* Invited talk, International Auditory Journal Club (hosted by Newcastle University), September 19, 2017.

*Music and meaning.* “Tema della semana” Guest talk at Netflix, Los Gatos, California, November 17, 2017.

*The biology of musical rhythm and what it means for language development.* Invited lecture at Genetics & Neurobiology of Language course, Cold Springs Harbor Laboratory, July 30-August 5, 2018.

*Individual differences in language and rhythm skills: a journey from behavior to brain to genetics.* Invited lecture, Western Washington University, Bellingham, WA, November 5, 2018.

*Connecting Musicality with other traits.* Lecture at KNAW Master Class on Musicality and Genomics, Amsterdam, June 19, 2019.

### **Talks and Panels: Public Outreach**

*My Fellowship Year: AAUW Educational Foundation Dissertation Fellowship,* American Association of University Women, Murfreesboro, TN branch, October 9, 2008.

*Singing Neurons: How your brain processes music, speech and song.* Workshop presenter at Expanding your Horizons, a science enrichment conference for high-school girls, Middle Tennessee State University, Murfreesboro, TN, Oct. 31, 2009.

*Rhythm and Language Development in Children.* Lightning talk at Vanderbilt Music & Mind Kickoff to SMPC 2015 conference, Blair School of Music at Vanderbilt University, August 1, 2015.

*Why rhythm matters for Language Development.* Lightning talk at Science of Song: Music, Mind & Society Annual Symposium. Blair School of Music at Vanderbilt University, September 12, 2016,

Lense, Gordon & Dykens. *Musical Engagement in Language Impairment, Autism, and Williams Syndrome.* American Association of Intellectual and Developmental Disabilities Webinar series. April 4, 2017, Broadcast on AAIDD website.

*Adventures in rhythm and language development: from neurobiology to intervention.* Mainly Mozart Festival: Music and the Mind, Invited Featured Lecture. June 10, 2017, La Jolla, CA.

*Can Nashville hear the beat? A pathway to rhythm and language in Music City.* Keynote speaker, Discovery Society Dinner, Adventure Science Center, November 8, 2018, Nashville, TN.

Gordon & Boorum. *Language development, rhythm, and the brain.* Lecture, teacher professional development workshop, Montessori Academy, February 16, 2019, Brentwood, TN.

## Teaching Activities

### Coursework

- 2010-2011 *EEG Analysis Methods Workshop.* Developed and taught Vanderbilt Kennedy Center workshop to graduate and postdoctoral trainees, including creating 41-page manual “EEG Analysis Tutorial: A step-by-step guide to Time-Frequency Analyses” and over 40 accompanying MATLAB scripts. Led group and individual meetings to teach analysis skills and
- 2016 *Science of Music Seminar* (undergraduate course NSC 3851 and graduate course NURO 8350). Neuroscience Program, Vanderbilt University. Secured 14 expert guest speakers (one per week for a semester), developed curriculum for student learning.
- 2016- present *Careers in Science series* (career development talks and discussions for Music Cognition Lab trainees). Monthly sessions covered the following topics: Time management and goal setting, how to pace writing projects, the process of collecting pilot data, NIH grant submission and grant review process, authorship, impact of government policy on research, overcoming obstacles, statistical analyses, public outreach and scientific communication, diversity and bias in STEM, and efficient research workflow.

### Independent Studies/Directed Research for course credit

<u>Semester</u>	<u>Course, Student</u>
Fall 2015	Biomedical Engineering 3860, <i>Undergraduate Research</i> , Alison Williams
Fall 2015	Biomedical Engineering 4959, <i>Senior Engineering Design Project Part I</i> Cathleen Trepasz, Madeline Girard, Ben Christ, Zeynep Sayar
Spring 2016	Biomedical Engineering 4959, <i>Senior Engineering Design Project Part II “Clinical Analysis of Speech Rhythms Using MATLAB”</i> Cathleen Trepasz, Madeline Girard, Ben Christ, Zeynep Sayar
Summer 2016	Neuroscience 3861, <i>Undergraduate Research</i> , Kacie Dunham
Summer 2016	Hearing and Speech Sciences 8389, <i>Independent Study/Readings in Audiology</i> , Kristen D’Onofrio
Summer 2016	Audiology 5389, <i>Independent Study in Audiology</i> , Max Gilbane

Fall 2016	Neuroscience 3862, <i>Undergraduate Research</i> , Kacie Dunham
Spring 2017	Neuroscience 3861, <i>Undergraduate Research</i> , Cara Petrucci
Spring 2017	Neuroscience 3861, <i>Undergraduate Research</i> , Courtney Walters
Spring 2017	Neuroscience 3861, <i>Undergraduate Research</i> , Kristin Gummersheimer
Summer 2017	Neuroscience 3861, <i>Undergraduate Research</i> , Jason Antwi
Fall 2017	Neuroscience 3862, <i>Undergraduate Research</i> , Jason Antwi
Fall 2017	Neuroscience 3862, <i>Undergraduate Research</i> , Cara Petrucci
Fall 2017	Neuroscience 3862, <i>Undergraduate Research</i> , Courtney Walters
Spring 2018	Neuroscience 3862, <i>Undergraduate Research</i> , Kristin Gummersheimer
Fall 2018	Neuroscience 3861, <i>Undergraduate Research</i> , Maya Martin-Gonzalez
Fall 2018	Psychology Honors Thesis, Leyao Yu
Spring 2019	Neuroscience 3862, <i>Undergraduate Research</i> , Maya Martin-Gonzalez
Spring 2019	Psychology Honors Thesis, PSY-4998, Leyao Yu

Consulting for external student projects (not including thesis committees)

2015	Hannah Han, Student at Virginia Commonwealth Governor's School, Senior research project
2015- present	Jessica Lawson, PhD student in Teaching and Learning, Vanderbilt University

**Research Supervision**

Name	Level at time of Supervision	Type of Supervision	Date	Current Position
Post-doctoral Supervision				
Miriam Lense, Ph.D.	Post-doctoral Research Fellow	Mentor, Collaborator	2016	Assistant Professor, Vanderbilt University Medical Center
Eniko Ladanyi, PhD	Post-doctoral Research Fellow	Mentor	2019	Post-doctoral Research Fellow, Vanderbilt University Medical Center
Graduate Students				
Miriam Lense, Ph.D.	Doctoral Student in Clinical Psychology	Mentor, Collaborator	2011-2014	Assistant Professor, Vanderbilt University Medical Center
Carolyn Shivers, Ph.D.	Doctoral Student in Developmental Psychology	Mentor, Collaborator	2012-2013	Assistant Professor, Virginia Polytechnic Institute and State University
Gloria Han	Research Assistant, Psychology	Research Supervisor	2015-2016	Doctoral Student in Psychology, Vanderbilt University
Kylie Korsnack	Research Assistant	Research Supervisor	2015-2016	Doctoral Student in English, Vanderbilt University
Rita Pfeiffer, M.S.	Research Assistant	Research Supervisor	2015-2017	Speech-Language Pathologist, Williamson County Schools, TN
Peter Bamikole	Research Assistant	Research Supervisor	2016	Medical Student, Meharry Medical College
Aysu Erdemir, Ph.D.	PhD candidate	Mentor, Collaborator	2016	Clinical-Translational Research Coordinator, Vanderbilt University



Natalie Wiens	Research Assistant	Research Supervisor, Primary Research Mentor for Master's thesis	2016-2017	Speech-Language Pathologist, Aegis Therapies
Allison Aaron	Research Analyst	Research Supervisor	2016-2017	Master's Student in Speech-Language Pathology, MGH Institute of Health Professions
Sara Beck, PhD	PhD candidate	Collaborator, PhD Committee Member	2016-2018	Assistant Professor, Randolph College
Alexander Chern, M.D.	Vanderbilt Medical Scholar Research Fellow	Research Supervisor	2016-present	Medical Resident in Otolaryngology, Columbia-Cornell, New York
Katherine Margulis, M.S.	Research Assistant	Research Supervisor	2016-2018	Speech-Language Pathologist, Kennedy Krieger Research Center
Brett Myers, M.A., CCC-SLP	PhD candidate	Research Supervisor	2016-2019	Doctoral student in Interdisciplinary studies, Vanderbilt University
Chloe Vaughan	Research Assistant	Research Supervisor	2016-present	Doctoral student in Audiology, Vanderbilt University School of Medicine
Delphanie Wu	Research Assistant	Research Supervisor	2017-2018	Doctoral student in Audiology, Vanderbilt University School of Medicine
Rachana Nitin	PhD student	Research Supervisor/Advisor	2018-present	PhD student in Neuroscience, Vanderbilt University
Anna Kasdan	PhD student	Research Supervisor/Advisor	2018-present	PhD student in Neuroscience, Vanderbilt University
Valentina Persici	PhD student (visiting)	Research Supervisor/Mentor	2018-2019	PhD student in Psychology, Linguistics, and Cognitive Neuroscience, University of Milan-Bicocca
Undergraduate				
Rita Pfeiffer	Research Assistant	Research Supervisor	2012-2015	Speech-Language Pathologist, Williamson County Schools, TN
Scott Blain	Research Analyst, Research Assistant (Cognitive Sciences)	Research Supervisor	2015-2016	Doctoral student in Personality Psychology at University of Minnesota: Twin Cities
Alison Williams	Research Assistant (Biomedical Engineering, Vanderbilt University)	Research Supervisor	2015-2016	Engineer, Cook Medical, Bloomington, IN
Michaela Novakovic	Research Assistant (Music and Cellular & Molecular Biology)	Research Supervisor	2016	Doctoral student in Neuroscience at Northwestern University
Kacie Dunham	Research Assistant	Research Supervisor	2016-2017	Doctoral student in Neuroscience, Vanderbilt University
Apurva Jolepalem	Research Assistant	Research Supervisor	2016-2017	

Kristin Gummersheimer	Research Assistant (Neuroscience)	Research Supervisor	2016-2018	Current Vanderbilt Undergraduate Student
Genevieve Kupsky	Research Assistant (Medicine, Health & Society)	Research Supervisor	2016-2017	Medical Student, George Washington University
Cara Petrucci	Research Assistant (Neuroscience)	Research Supervisor	2016-2018	Medical Assistant
Courtney Walters	Research Assistant (Neuroscience)	Research Supervisor	2016-present	Current Vanderbilt Undergraduate Student
Jason Antwi	Research Assistant (Neuroscience)	Research Supervisor	2016-2017	Independent Musician
Kenesha Ryce	Summer Research Intern	Research Supervisor	2017	Suzuki Violin Instructor
Rebecca Embalabala	Summer Research Intern	Research Supervisor	2018	Research Assistant, Sarko Lab, University of Southern Illinois
Leah Boyd	Summer Research Intern	Research Supervisor	2018	Undergraduate, Mississippi State University
Mari McCarville	Summer Research Intern	Research Supervisor	2018	Undergraduate, University of Denver
Leyao Yu	Research Assistant (Psychology)	Research Supervisor	2018-present	Current Vanderbilt Undergraduate Student
Maya Martin-Gonzalez	Research Assistant (Neuroscience)	Research Supervisor	2018-present	Current Vanderbilt Undergraduate Student
High School				
Rachel Waters Joyner	School for Science and Math at Vanderbilt	Research Supervisor	2011-2012	Area Administrator, Tallahassee Young Life
Alaina Baird	Harpeth Hall High School STEM Research Course	Research Supervisor	2016-2017	Undergraduate at Baylor University

## Thesis/Dissertation Supervision

### Chair or Co-Chair

Degree	Student/Program
PhD	Brett Myers, Ph.D. in Interdisciplinary Studies, defended April 2019.
Master	Natalie Wiens, M.S. in Speech Language Pathology, defended May 2017 (Co-Chair with Stephen Camarata)
B.A.	Leyao Yu, Undergraduate Honors Thesis in Psychology, defended April 2019

### Committee Member (Vanderbilt degree programs)

Degree	Student/Program
PhD	Sara Beck, Ph.D. in Psychological Sciences (Developmental track), defended March 2018
PhD	Kristen D'Onofrio, PhD in Hearing & Speech Sciences, in progress
PhD	Allison Whitten, PhD in Hearing & Speech Sciences, defended December 2018
PhD	Cristina Robinson, PhD in Biological Sciences, in progress
PhD	Resh Gupta, PhD in Neuroscience, in progress
Clinical Doctorate	Max Gilbane, Au.D. in Audiology, defended April 2018
Master	Rita Pfeiffer, M.S. in Speech Language Pathology, defended August 2017

### Committee Member or Thesis Examiner (External programs)

Brittany McCormack, PhD in Education. Griffith University, Australia, September 2017.  
Courtney Rooker, Bachelor of Arts in Communication Sciences, Butler University, April 2019.  
Kierla Ireland, PhD in Psychology, Concordia University, August 2019.

### **Extramural Grant proposals mentored**

Alexander Chern, Vanderbilt Medical Scholars, 2016-2017 (Awarded: \$30,000). *Influence of rhythm on grammatical performance in children with cochlear implants, developmental language disorders, and typical development.*

Adam Horin, NSF Graduate Fellowship, Honorable Mention, 2017-2020. *Development of Multiple Rhythm Skills: Behavioral, Neural, and Genetic Correlates.*

Katherine Margulis, ASH Foundation Student Research Grant in Early Childhood Language Development, 2017-2018. (Not funded) *Tracking natural language and rhythm during a musical intervention study for children with language impairment.*

Miriam Lense, NIH NIDCD Early Career R21 (Awarded: \$474,000). *Social Rhythmic Entrainment and Language Development in Autism Spectrum Disorder.*

Jessica Ross, NIH BRAIN Fellows F32 program (Not funded). *Functional Connectivity of Prediction for Musical Rhythm Perception: A Transcranial Magnetic Brain Stimulation and Electroencephalography Mixed Methods Study of Neural Dynamics.*

## **Research Program**

### **Current Research Support**

R03DC014802	NIH NIDCD (Early Career R03)	\$478,489
<i>Rhythm in Atypical Language Development: Mechanisms and Individual Differences</i>		
Gordon (PI)	2015-2019 (currently in no-cost extension)	
Vanderbilt Kennedy Center Hobbs Discovery Award		
		\$29,896
<i>Uncovering the genetic etiology of developmental language disorder</i>		
Gordon (PI)	2018-2019	
K18DC017383	NIH NIDCD K18: Research Career Enhancement Award for Established Investigators	
<i>Mapping the genetic and neural architecture of human rhythm and communication traits</i>		\$236,576
Gordon (PI)	61% effort 2018-2020	
DP2HD098859	NIH Director's New Innovator Award (DP2)	\$2,370,000
<i>Biomarkers of Rhythmic Communication: Integrating Foundational and Translational Approaches</i>		
Gordon (PI)	25% effort 2018-2023	
R01DC016977	NIH NIDCD (R01)	\$3,453,554
<i>Neurobiological markers of rhythm: risk and resilience for language acquisition</i>		
Gordon (PI)	15% effort 2019-2024	

KNAW Academy Colloquia Proposal (Dutch Royal Academy Symposium) <i>Deciphering the biology of human musicality through state-of-the-art genomics</i> Honing (PI), Gordon (Co-I)	€16,500  2019
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### Completed Research Support

Vanderbilt Kennedy Center Hobbs Discovery Award, Vanderbilt University <i>Investigating the Relationship between Syntax and Rhythm in SLI</i> Yoder (PI), Gordon (Co-I)	\$29,636  2012-2015
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Vanderbilt Trans-Institutional Programs (TIPs) <i>The Science of Music Research: Creating a Program for Music, Mind &amp; Society</i> Eavey (PI), Gordon (Co-I)	\$200,000  2015-2017
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Vanderbilt Institute for Clinical and Translational Research - VR18434 <i>Exploring genetic contributions to language and rhythm skills</i> Gordon (PI)	\$9,836  2016-2017
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Community Engagement Research Grant <i>SERENADE Project: Parent Child Music Classes to Promote Social and Rhythmic Engagement in Autism Spectrum Disorder</i> Gordon (PI), Lense (Co-PI)	\$10,000  2016-2017
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Vanderbilt Trans-Institutional Programs (TIPs) <i>Making Music City a Magnet for Music Research</i> Gordon (PI)	\$50,000  2017-2018
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### Publications and Presentations

*Student/trainee authors are underlined*

#### Articles in Refereed Journals

Magne, C., Aramaki, M., Astésano, C., **Gordon, R. L.**, Ystad, S., Farner, S., Kronland-Martinet, R., Besson, M. (2005). Comparison of Rhythmic Processing in Language and Music: An Interdisciplinary Approach. *The Journal of Music and Meaning*, JMM3, pp. 1-8.

Schön, D., **Gordon, R. L.**, & Besson, M. (2005). Musical and Linguistic Processing in Song Perception. *Annals of the New York Academy of Sciences* (1060), pp. 71-81. [Journal impact factor: 4.3]

Schön, D., **Gordon, R.L.**, Campagne, A., Magne, C., Astésano, C., Anton, J.L., Besson, M. (2010). Similar cerebral networks in language, music and song perception. *NeuroImage* 51, pp. 450-461. [Journal impact factor: 6.96]

**Gordon, R.L.**, Schön, D., Magne, C., Astésano, C., Besson, M. (2010). Words and melody are intertwined in perception of sung words: EEG and behavioral evidence. *PLoS ONE* 5(3): e9889, pp. 1-12. [Journal impact factor: 3.53]

**Gordon, R.L.**, Magne, C.L., Large, E.W. (2011). EEG Correlates of Song Prosody: A new look at the relationship between linguistic and musical rhythm. *Frontiers in Psychology: Auditory Cognitive Neuroscience* 2(352), pp. 1-13. [Journal impact factor: 2.84]

Lense, M.D., **Gordon, R.L.**, Key, A. P., Dykens, E.M. (2014). Neural Correlates of Cross-Modal Affective Priming by Music in Williams Syndrome. *Social, Cognitive and Affective Neuroscience* 9(4), pp.529-37. Epub 2013 Feb 5. [Journal impact factor: 5.89]

Peters, S.U., **Gordon, R.L.**, Key, A.P. (2015). Induced gamma oscillations differentiate familiar and novel voices in children with MECP2 Duplication and Rett syndromes. *Journal of Child Neurology*. 30(2), pp. 145-152. Epub 2014 Apr 27. [Journal impact factor: 1.67]

**Gordon, R.L.**, Shivers, C.M., Wieland, E.A., Kotz, S.A., Yoder, P.J., McAuley, J.D. (2015). Musical rhythm discrimination explains individual differences in grammar skills in children. *Developmental Science*. 18(4), pp. 635-644. Epub 2014 Sep 7. <https://doi.org/10.1111/desc.12230> [Journal impact factor: 4.28]

**Gordon, R.L.**, Jacobs, M.S., Schuele, C.M., McAuley, J.D. (2015) Perspectives on the rhythm-grammar link and its implications for typical and atypical language development. *Annals of the New York Academy of Sciences*. 1337, pp. 16-25. [Journal impact factor: 4.30]

**Gordon, R.L.**, Fehd, H.M., McCandliss, B.M. (2015). Does music training enhance literacy skills? A meta-analysis. *Frontiers in Psychology*. 6:1777. doi: 10.3389/fpsyg.2015.01777 [Journal impact factor: 2.60]

Magne, C., Jordan, D., **Gordon, R.L.**, (2016). Speech Rhythm Sensitivity and Musical Aptitude: ERPs and Individual Differences. *Brain & Language*. 153 (13-19). [Journal impact factor: 3.21]

Wiens, N. & **Gordon, R.L.**, (2018). The case for treatment fidelity in active music interventions: Why and How. *Annals of the New York Academy of Sciences*. <https://doi.org/10.1111/nyas.13639> [Journal impact factor: 4.04]

Chern, A., Tillmann, B., Vaughan, C., **Gordon, R.L.** (2018). New evidence of a rhythmic priming effect that enhances grammaticality judgments in children. *Journal of Experimental Child Psychology*. 173 (371-379) <https://doi.org/10.1016/j.jecp.2018.04.007> [Journal impact factor 2.60]

Myers, B., Lense, ML., **Gordon, RL.** (2019) Pushing the envelope: Developments in neural entrainment to speech suggest a missing link in biological underpinnings of prosody perception. *Brain Sciences*, 9:3 (70). <https://doi.org/10.3390/brainsci9030070>

## Manuscripts in preparation

Niarchou, Sathirapongsasuti, Jacoby, 23andMe research team, McAuley, Bell, Mosing, MacArthur, Straub, Creanza, Ullén, Capra, Hinds, Davis, & Gordon (*in preparation*). New insight into human musical rhythm ability: a large-scale genome-wide association study.  
Target journal: Nature.

Walters, Nitin, Margulis, Boorom, Below, Davis, Cox, Camarata, & Gordon (in preparation). A New Phenotyping Algorithm for Identifying Cases of Developmental Language Disorder in Large-Scale Electronic Health Record Systems.

Target journal: JSLHR.

Yu, Persici, Boorom, McAuley, Schuele, Camarata, Gordon (in preparation). Rhythm processing in children with developmental language disorder and typically developing peers

Target journal: Journal of Cognitive Neuroscience

### Peer-reviewed book chapters and conference proceedings

**Gordon, R. L.**, Racette, A., & Schön, D. (2006). *Sensory-motor networks in singing and speaking: A comparative approach*. In E. Altenmüller (Ed.), *Music, Motor Control and the Brain*. New York: Oxford University Press. pp. 223-238.

Magne, C., **Gordon, R.L.**, Midha, S. (2010). *Influence of Metrical Expectancy on Reading Words: An ERP Study*. Proceedings of the Fifth International Conference on Speech Prosody. Chicago, May 11-14, 2010, pp. 1-4.

Lense, M.D., **Gordon, R.L.**, Key, A.P., and Dykens, E.M. (2012). *Neural correlates of musical timbre perception in Williams syndrome*. Proceedings of the 12<sup>th</sup> International Conference on Musical Perception and Cognition, (Thessaloniki, Greece). pp. 576-582.

Foss, K. & **Gordon, R.L.** (2013) 'We just have this one breastfeeding brochure' *Exploring breastfeeding resources and agenda-setting in pediatricians' offices, WIC, LLL and the community hospital*. Proceedings of the Breastfeeding and Feminism Symposium (Chapel Hill, NC). pp. 1-6.

**Gordon, R.L.** & Magne, C. (2017). *Music and the brain: Music and cognitive abilities*. Invited chapter. In (Eds R. Ashley & R. Timmers) *Routledge Companion to Music Cognition*, pp. 49-62.

### Presentations at Scientific Meetings

Magne, C., **Gordon, R.L.**, & Besson, M. The Influence of rhythmic, melodic, and semantic violations in language and music on the electrical activity of the brain. Podium presentation at the Rhythm Perception and Production Workshop, Ile de Tatihou, France, June 21-25, 2003.

**Gordon, R.L.**, Schön, D., Magne, C., Astésano, C., Ystad, S., Kronland-Martinet, R. & Besson, M. An fMRI study of the neural basis of song perception. Poster presented at the Conference on Interdisciplinary Musicology, Graz, Austria, April 15-18, 2004. Best Poster Award.

**Gordon, R.L.**, Neurocognition of Sung Language: Interrelated roles of Melody, Semantics, and Meter. Podium presentation at Fourth Entrainment Network Meeting, Boca Raton, FL, May 5-8, 2006.

**Gordon, R.L.** & Large, E.W. EEG correlates of text-setting and semantic integration in song prosody. Podium Presentation at Language and Music as Cognitive Systems Conference. Cambridge, U.K., May 11-13, 2007.

**Gordon, R.L.** & Large, E.W. The Influence of temporal alignment of lyrics and melody on semantic integration in song: EEG and behavioral evidence. Podium Presentation at Society for Music Perception and Cognition, Montreal, Canada, Jul. 30-Aug. 3, 2007.

**Gordon, R.L.**, Magne, C., Schrader, S., Large, E.W. EEG study of temporal alignment of words and melody in song perception. Poster presented at The Neurosciences and Music III: Disorders and plasticity conference. Montreal, Canada, June 25-28, 2008.

**Gordon, R.L.**, Magne, C. L. & Large, E.W. Song Prosody: Electrophysiological correlates of temporal alignment and metrical regularity in textsetting. Poster presented at Society for Music Perception and Cognition, Indianapolis, IN, Aug. 3-7, 2009.

**Gordon, R.L.**, Magne, C. L. & Large, E.W. The influence of metrical alignment on the perception of song lyrics. Poster presented at the Annual Summer Interdisciplinary Conference, Bend, OR, July 31-Aug. 5, 2010.

**Gordon, R.L.**, & Large, E.W. High Frequency EEG correlates of rhythmic attending in song perception. Poster presented at the Neurobiology of Language Conference, San Diego, CA, Nov. 11-12, 2010.

Magne, C., & **Gordon, R.L.** Electrophysiological evidence for metrical expectancy during silent word reading. Poster presented at the Neurobiology of Language Conference, San Diego, CA, Nov. 11-12, 2010.

Lense, M.D., **Gordon, R.L.**, Key, A.P.F., Dykens, E. Neural Correlates of the Affective Priming Effects of Music on Facial Expressions in Williams Syndrome. Poster presented at the Neurosciences and Music IV, Edinburgh, U.K., June 9-11, 2011.

Magne, C., Jordan, D., **Gordon, R.L.** Influence of Music Aptitude on Metrical Expectancy during Speech Perception. Poster presented at the Third Annual Neurobiology of Language Conference, Annapolis, MD, November 10-11, 2011.

**Gordon, R.L.**, Hundley, R.J., Wilson, A.K., Key, A.P.F., Peters, S.U. Alterations of MECP2 Expression and brain indices of autism-related social engagement. Poster presentation at the 45<sup>th</sup> Annual Gatlinburg Conference, Annapolis, MD, March 7-9, 2012.

Lense, M.D., **Gordon, R.L.**, Key, A.P.F., Dykens, E.M. Neural correlates of timbre perception in Williams Syndrome. Poster presentation at the 24<sup>th</sup> Annual Association for Psychological Science Convention, Chicago, IL, May 24-27, 2012.

**Gordon, R.L.**, Lense, M.D., Magne, C.L., Key, A.P.F., Dykens, E.M. The influence of musical rhythm on the perception of prosody in Williams Syndrome. Poster presentation at the 24<sup>th</sup> Annual Association for Psychological Science Convention, Chicago, IL, May 24-27, 2012.

Magne, C., Jordan, D., **Gordon, R.L.** Music Aptitude Influences Speech Meter Sensitivity. Poster presented at the Perspectives on Rhythm and Timing Workshop, Glasgow, Scotland, July 19-21, 2012.

**Gordon, R.L.**, Lense, M.D., Magne, C.L., Key, A.P.F., Dykens, E.M. The influence of musical rhythm on the perception of word stress in Williams Syndrome. Podium presentation at the Perspectives on Rhythm and Timing Workshop, Glasgow, Scotland, July 19-21, 2012.

**Gordon, R.L.**, Shivers, C.M., Waters, R.E., Key, A.P.F., Yoder, P.J. Have they got rhythm? An EEG and behavioral approach to musical rhythm and language skills in children. Poster presented at Vanderbilt Kennedy Center Science Day, January 15, 2013. Honorable Mention

Gu, C., Yoncheva, Y., **Gordon, R.L.**, Shu, H. McCandliss, B. Language experience influences the neural synchronization for auditory speech processing: A cross-language MMN study using time-frequency analysis. Poster presented at Cognitive Neuroscience Society 2013 Meeting, San Francisco, CA, April 13-16, 2013.

Pridmore, M., Magne, C., Lense, M., **Gordon, R.L.**, Key, A., Dykens, E. Affective Priming Effect of Music on Emotional Prosody in Williams Syndrome. Poster presented at Society for Neurobiology of Language Annual Meeting, San Diego, CA, Nov 6-9, 2013.

**Gordon, R.L.**, Shivers, C.M., Wieland, E., Kotz, S.A., Yoder, P.J., & McAuley, J.D. Individual differences in discrimination of musical rhythms relate to expressive language skills in children. Poster presented at Society for Neurobiology of Language Annual Meeting, San Diego, CA, Nov 6-9, 2013.

Pridmore, M., Magne, C., Key, A.P.F., **Gordon, R.L.**, Lense, M.D., Dykens, E.M. Affective Priming Effect of Music on Emotional Prosody in Williams Syndrome. Poster presentation at Neurosciences and Music V, Dijon, France, May 29-June 1, 2014.

**Gordon, R.L.** Rhythm perception relates to syntactic production in children: implications for typical and atypical language development. Musical rhythm and language development: Basic research and translation to rhythm-based interventions. **Symposium Co-Organizer**. Podium presentation at Neurosciences and Music V, Dijon, France, May 29-June 1, 2014.

**Gordon, R.L.** From musical rhythm to prosody to grammar: Shared neural mechanisms for language acquisition in adults and children. Poster presentation at 14th Symposium on Cochlear Implants in Children, Nashville, TN, December 11-14, 2014.

**Gordon, R.L.** Strengths and Weakness of Music Cognition in Developmental Disabilities. Invited talk at Southern Society for Philosophy and Psychology Conference, April 3-5, 2015, New Orleans, LA.

Nave, K., McAuley, J.D., **Gordon, R.L.**, Musical rhythm discrimination and language development in children ages 4 to 7 years. Podium presentation at the Society for Music Perception and Cognition Biennial Meeting, Nashville, TN, August 1-5 2015.

**Gordon, R.L.**, Jacobs, M.S., Kotz, S.A., Schuele, C.M., Key, A.P.F., Yoder, P.J., & McAuley, J.D. Relating individual differences in musical rhythm skills to grammar development: a behavioral and EEG approach. Podium presentation at the Society for Music Perception and Cognition Biennial Meeting, Nashville, TN, August 1-5, 2015.

Pfeiffer, R., Williams, A., Shivers, C., **Gordon, R.L.** Examining Rhythmically Constrained Speech Production in Typically Developing Six-Year-Old Children and its Potential Intersections with Musical and Language Abilities. Poster presentation at the Society for Music Perception and Cognition Biennial Meeting, Nashville, TN, August 1-5, 2015.

**Gordon, R.L.**, Pfeiffer, R.E., Williams, A.J., Jacobs, M.S., Schuele, C.M., & McAuley, J.D. Examining the contributions of musical rhythm and speech rhythm to typical and disordered language acquisition. Poster presentation at BRAMS: The Next Ten Years, Montreal, Canada, October 21-23, 2015.



**Gordon, R.L.**, Hirsch, A.B., Bingham, E. Can Music Training Help Children with Language Impairment? A Framework for Longitudinal Investigation. Pace, Pitch, & Rhythm-The Essentials of Conducting Music Treatment Research, April 16, 2016.

Pfeiffer, R.E., Williams, A.J., Shivers, C., **Gordon, R.L.** Using a Rhythmic Speech Production Paradigm to Elucidate the Rhythm-Grammar Link: A Pilot Study. Podium presentation at International Conference for Music Perception & Cognition 14, San Francisco, CA., July 5-9, 2016.

**Gordon, R.L.**, Pfeiffer, R.E., Williams, A.J., Jones, K.B., Hirsch, A.B., Morrill, T.H., McAuley, J.D. Musical rhythms, speech rhythms, and brain rhythms: new applications for child language development. Podium presentation at International Conference for Music Perception & Cognition 14, San Francisco, CA., July 5-9, 2016. **Symposium Co-Chair.**

**Gordon, R.L.**, & Wiens, N. What does Rhythm Have to Do With Language Impairment? School Speech-Language Pathology Conference at Vanderbilt, August 1, 2016.

Bamikole, P., Erdemir, A., **Gordon, R.L.** Foundations of Musical and Speech Rhythm – A Pilot Study. Poster presented at The Program for Music, Mind & Society Annual 2016 Symposium: The Science of Song, Nashville, TN., September 12, 2016.

Blain, S.D., Jacoby, N., **Gordon, R.L.** Non-verbal Auditory Working Memory Across a Range of Language Skills. Poster presented at The Program for Music, Mind & Society Annual 2016 Symposium: The Science of Song, Nashville, TN., September 12, 2016 and The Vanderbilt Kennedy Center Science Day 2016, Nashville, TN., September 19, 2016.

Blain, S.D., Wiens, N., Chern, A., Bamikole, P., Jacobs, M., Schuele, C.M., Iversen, J.R., **Gordon, R.L.** Neural and Behavioral Metrics of Rhythm Processing Predict Individual Differences in Grammar. Poster presented at The Program for Music, Mind & Society Annual 2016 Symposium: The Science of Song, Nashville, TN., September 12, 2016 and The Vanderbilt Kennedy Center Science Day 2016, Nashville, TN, September 19, 2016.

Chern, A., Tillmann, B., **Gordon, R.L.** Influence of rhythm on grammatical performance in children with cochlear implants, developmental language disorders, and typical development. Poster presented at The Program for Music, Mind & Society Annual 2016 Symposium: The Science of Song, Nashville, TN., September 12, 2016 and Vanderbilt Kennedy Center Science Day 2016, Nashville, TN, September 19, 2016.

Novakovic, M., Kupsky, G., Hirsch, A.M., Cox, N.J., **Gordon, R.L.** Genetic Implications of Rhythm and Grammar Development. Poster presented at The Program for Music, Mind & Society Annual 2016 Symposium: The Science of Song, Nashville, TN., September 12, 2016 and Vanderbilt Kennedy Center Science Day 2016, Nashville, TN, September 19, 2016.

Lense, M., Pfeiffer, R., Gould, S., Bennett, J., Dunham, K., Beck, S., Han, G., **Gordon, R.L.** SERENADE: Social and Rhythm Engagement in Autism Spectrum Disorder. The Program for Music, Mind & Society Annual 2016 Symposium: The Science of Song, Nashville, TN., September 12, 2016.

Pfeiffer, R., Williams, A., Shivers, C., **Gordon, R.L.** Piloting a Rhythmic Speech Production Paradigm for Children and Potential Links to Language and Music Skills. Poster presented at The Program for Music, Mind & Society Annual 2016 Symposium: The Science of Song, Nashville, TN., September 12, 2016 and Vanderbilt Kennedy Center Science Day 2016, Nashville, TN, September 19, 2016.

Vaughan, C., Blain, S.D., Jones, K., Soman, U., Hirsch, A.M., McAuley, J.D., **Gordon, R.L.** Assessing Prosody-related Language Skills in Typical and Atypical Language Development. Poster presented at The Program for Music, Mind & Society Annual 2016 Symposium: The Science of Song, Nashville, TN., September 12, 2016 and Vanderbilt Kennedy Center Science Day 2016, Nashville, TN., September 19, 2016.

Wiens, N., Bingham, E., Jolepalem, A., Hirsch, A.M., **Gordon, R.L.** Do children with language impairment benefit from music and movement training? Poster presented at The Program for Music, Mind & Society Annual 2016 Symposium: The Science of Song, Nashville, TN., September 12, 2016 and Vanderbilt Kennedy Center Science Day 2016, Nashville, TN, September 19, 2016.

Chern, A., Tillmann, B., **Gordon, R.L.** Rhythm and Language in Cochlear Implant Users. Poster presented at the International Symposium on Music and Cochlear Implants, Snekersten, Denmark, October 13-14, 2016.

**Gordon, R.L.** Exploring the Relationship Between Music, Language, and Literacy. Invited Symposium, Literacy Research Association, Nashville, TN, November 30, 2016.

**Gordon, R.L.** If you don't have rhythm, you might not have grammar: From a neurobiological basis of language impairment to music intervention. Invited podium presentation, Auditory Cognitive Neuroscience Society, Gainesville, FL, January 6-7, 2017.

**Gordon, R.L.**, The Contribution of rhythm to grammar skills in children: Lessons from typical development and language impairment. Invited Symposium, Neurosciences and Music VI, Boston, MA, June 15-18, 2017.

Aaron, A., Margulis, K., Vaughan, C., Blain, S., Chern, A., McAuley, J.D., **Gordon, R.L.** The role of auditory working memory in rhythm and language performance. Poster presented at Neurosciences and Music VI, Boston, MA, June 15-18, 2017.

Baird, A., Myers, B., **Gordon, R.L.** Brain and Behavioral Study of Rhythm Perception in Children. Poster presented at Neurosciences and Music VI, Boston, MA, June 15-18, 2017.

Chern, A., Vaughan, C., Tillmann, B., **Gordon, R.L.** Testing the Influence of Rhythmic Listening on Grammar Performance in Children with Cochlear Implants. Poster presented at Neurosciences and Music VI, Boston, MA, June 15-18, 2017.

Margulis, K., Wiens, N., Aaron, A., Bingham, E., Hirsch, A., **Gordon, R.L.** M.I.L.E.Stone: A musical training program designed to enhance grammar skills in children with language impairment. Poster presented at Neurosciences and Music VI, Boston, MA, June 15-18, 2017.

Myers, B., Dunham, K., Korsnack, K., **Gordon, R.L.** Neural encoding of speech in children with specific language impairment. Poster presented at Neurosciences and Music VI, Boston, MA, June 15-18, 2017.

Pfeiffer, R., **Gordon, R.L.**, Wallace, M., Lense, M. Feasibility of Semi-Automated Movement Synchrony Measures during Adult-Child Interactions in Preschoolers with and without Autism. Poster presented at Neurosciences and Music VI, Boston, MA, June 15-18, 2017.

Vaughan, C., Soman, U., Blain, S., Hirsch, A., **Gordon, R.L.** Individual Differences in Prosody-Matching Skills and Connection to Musical Rhythm Abilities. Poster presented at Neurosciences and Music VI, Boston, MA, June 15-18, 2017.

Kroger, C., Vaughan, C., Aaron, A., Jones, K., Gordon, R.L., and McAuley, J. D. (2017, June). Rhythm perception in typical and atypical language development. Poster presented at Neurosciences and Music VI, Boston, MA, June 15-18, 2017.

**Gordon, R.L., Wiens, N.W., Vaughan, C., Myers, B., McAuley, J.D.** Individual differences in rhythm relate to grammar skills in children: Mechanisms and rhythm-based training. Podium presentation at the 16<sup>th</sup> Rhythm Production and Perception Workshop, Birmingham, UK, July 3-5, 2017.

Myers, B., Dunham, K., Korsnack, K., Gordon, R.L. Cortical Activity in Response to Rhythmic Speech Patterns: A Comparison of Children with Specific Language Impairment and Children with Typical Development. Poster presented at the 16<sup>th</sup> Rhythm Production and Perception Workshop, Birmingham, UK, July 3-5, 2017.

**Gordon, R.L., Blain, S.D.,** McAuley, J.D. Why we should take rhythm and working memory into account when investigating grammar skills in children. Invited Symposium, 14th International Congress for the Study of Child Language, Lyon, France, July 17-21, 2017.

Aaron, A., Wiens, N., Margulis, K., Bingham, E., Hirsch, A., Gordon, R.L. M.I.L.E.Stone: Music Impacting Language Expertise? A musical training program for children with language impairment. Talk given at Society for Music Perception and Cognition 2017, San Diego, CA, July 30-August 4, 2017.

Margulis, K., Aaron, A., Vaughan, C., Blain, S., Chern, A., McAuley, D., & Gordon, R.L. Auditory working memory and musical rhythm as a predictor of grammar outcomes. Talk given at Society for Music Perception and Cognition 2017, San Diego, CA, July 30-August 4, 2017.

Myers, B., Gordon, R.L. Neural Entrainment to Rhythmic Speech through Speech Envelope Analysis. Talk given at Society for Music Perception and Cognition 2017, San Diego, CA, July 30-August 4, 2017.

Chern, A., Vaughan, C., Tillmann, B., Gordon, R.L. Examining rhythm and language in children with cochlear implants, developmental language disorders, and typical development. Poster presented at Society for Music Perception and Cognition 2017, San Diego, CA, July 30-August 4, 2017.

Vaughan, C., Soman, U., Blain, S., Hirsch, A., Gordon, R.L. Prosody Matching: The relationship between rhythm, grammar, and prosody discrimination. Poster presented at Society for Music Perception and Cognition 2017, San Diego, CA, July 30-August 4, 2017.

**Gordon, R.L.** In search of biomarkers of rhythm and language: The potential contributions of genomic approaches to auditory cognitive neuroscience. Invited podium presentation, Auditory Cognitive Neuroscience Society, Tampa, FL, January 4-6, 2018.

Walters, C.E., Margulis, K., Below, J., Cox, N.J., Camarata, S.M. Gordon, R.L. A new phenotyping algorithm for identifying cases of developmental language disorder in large-scale electronic health record systems. Poster presented at American Society of Human Genetics 2018 meeting, San Diego, CA, October 16-20, 2018.

**Gordon, R.L.,** Rhythm and grammar in human communication traits. Invited podium presentation, 2018 Vanderbilt Translational Forum. October 26, 2018.

Yu, L., Myers, B.M., Gordon, R.L., Neural convergence of rhythm and language: from trait to state. Invited podium presentation for Music, Speech, and the Brain session, 176th Meeting of the Acoustical Society of America and 2018 Acoustics Week, Victoria, Canada, November 6, 2018.

**Gordon R.L.** Paving the way to the genomics of musical rhythm traits. Invited podium presentation, Auditory Cognitive Neuroscience Society, Gainesville, FL, January 3-5, 2019.

Can you clap to the beat? Findings from the first large-scale genome-wide association study of a musical rhythm trait in 606,825 individuals. Niarchou, M., Sathirapongsasuti, J. F., Jacoby, N., 23andme Research Team, McAuley, J.D., Bell, E., Mosing, M., Straub, P., Creanza, N., Ullén, F., Cox, N.J., Hinds, D., Davis, L.K. & **Gordon, R.L.**, Poster presentation at NIH High-Risk, High-Reward Symposium, Bethesda, MD, June 5-7, 2019.

Can you clap to the beat? Findings from the first large-scale genome-wide association study on rhythm. **Gordon, R.L.**, Niarchou, M., Sathirapongsasuti, J. F., Jacoby, N., 23andme Research Team, McAuley, J.D., Bell, E., Mosing, M., Straub, P., Creanza, N., Ullén, F., Cox, N.J., Hinds, D. & Davis, L.K. Podium presentation at Behavioral Genetics Association conference, Stockholm, June 26-30, 2019.

Kasdan, A., Lense, M. & **Gordon, R.L.** Neural evidence of dynamic attending in Williams Syndrome. Poster to be presented at Rhythm Production and Perception Workshop, Traverse City, Michigan, June 17-20, 2019.

Kasdan, A., Lense, M. & **Gordon, R.L.** Neural correlates of beat tracking in Williams Syndrome. Poster to be presented at Society for Music Perception and Cognition Conference, New York, NY, August 5-7, 2019.  
RPPV

**Gordon, R.L.** Towards the genomic basis of rhythm: Building blocks of a research program. Invited podium presentation at KNAW Colloquium on Musicality and Genomics, Amsterdam, June 20-21, 2019.

## Media coverage and other publicity

“Round table discussion on multi-linguism”  
**RTTR in Trento, Italy, 2002.**

“Learning by singing”  
**Scientific television show E=M6, French TV channel 6 (M6), September 19, 2004.**

“Researchers explore links between grammar, rhythm”  
**Research News @ Vanderbilt, October 30, 2014.**  
<http://news.vanderbilt.edu/2014/10/researchers-explore-links-between-grammar-rhythm/>

“Links between grammar, rhythm explored by researchers”  
**Science Daily, November 5, 2014.**  
<http://www.sciencedaily.com/releases/2014/11/141105101238.htm>

“Music education can improve grammar skills”  
**Pakistan Tribune, November 9, 2014.**  
<http://tribune.com.pk/story/788218/music-education-can-improve-grammar-skills/>

“Les liens entre le rythme musical et la grammaire”  
**Ecole Branchée, November 20, 2014.**  
<http://www.infobourg.com/2014/11/20/les-liens-entre-le-rythme-musical-et-la-grammaire/>

“Children’s rhythmic aptitude linked to grammar skills”

**San Francisco Chronicle, December 3, 2014.**

<http://www.sfchronicle.com/health/article/Children-s-rhythmic-aptitude-linked-to-grammar-5926095.php?t=c0177e648faf83a867&cmpid=twitter-desktop>

“The most popular research news stories of 2014”

**Research News @ Vanderbilt, December 26, 2014.**

<http://news.vanderbilt.edu/2014/12/the-most-popular-research-news-stories-of-2014/>

“Vanderbilt to host conference of leading music cognition researchers”

**Research News @ Vanderbilt, July 30, 2015.**

<http://news.vanderbilt.edu/2015/07/vanderbilt-to-host-conference-of-leading-music-cognition-researchers/>

“Vanderbilt Music & Mind: 2015 Society for Music Perception and Cognition Kickoff”

**The Tennessean: Events, August 1, 2015.**

[http://events.tennessean.com/event/detail/441923511/Vanderbilt\\_Music\\_Mind\\_2015\\_Society\\_for\\_Music\\_Perception\\_and\\_Cognition\\_Kickoff](http://events.tennessean.com/event/detail/441923511/Vanderbilt_Music_Mind_2015_Society_for_Music_Perception_and_Cognition_Kickoff)

“Vanderbilt scientists search for elusive benefits of music on the brain”

**Nashville Public Radio, January 26, 2015.**

<http://nashvillepublicradio.org/post/vanderbilt-scientists-search-elusive-benefits-music-brain>

“New program set to explore effects of music on the mind”

**Research News @ Vanderbilt, September 3, 2015.**

<http://news.vanderbilt.edu/2015/09/new-program-set-to-explore-effects-of-music-on-the-mind/>

“Science of music comes alive at 2015 SMPC Conference”

**Vanderbilt Kennedy Center Notables, September 3, 2015.**

<http://vkc.mc.vanderbilt.edu/notables/2015/09/science-of-music-comes-alive-at-2015-society-of-music-perception-and-cognition-conference/>

“Brain’s Song”

**Nashville Scene (Cover Story), November 12, 2015.**

<http://www.nashvillescene.com/nashville/vanderbilt-researchers-seek-a-new-kind-of-harmony-as-music-unlocks-the-secrets-of-the-mind/Content?oid=6094821>

“Does musical training help reading skills?”

**Music Psychology (Blog by Dr. Victoria Williamson), March 16, 2016.**

<http://musicpsychology.co.uk/does-musical-training-help-reading-skills/>

“Class of 2016: Michaela Novakovic mixes music and science”

**MyVU, May 5, 2016**

<https://news.vanderbilt.edu/2016/05/05/class-of-2016-michaela-novakovic/>

Can music make you a better athlete?

**PBS NewsHour Online. August 8, 2016.**

<http://www.pbs.org/newshour/rundown/can-music-make-you-a-better-athlete/>

“VU Music, Mind & Society Program may feed Nashville innovation”

**Venture Nashville Website, August 15, 2016.**

<http://venturenashville.com/reporters-notebook-br-vu-music-mind-society-program-may-feed-nashville-innovation-cms-1409>

“Singing the Way to a Shorter length of Stay”

**Hospitals & Health Networks Website, August 29, 2016.**

[http://www.hhnmag.com/articles/7584-singing-the-way-to-a-shorter-length-of-stay-at-vanderbilt?utm\\_source=twitter&utm\\_medium=social&utm\\_campaign](http://www.hhnmag.com/articles/7584-singing-the-way-to-a-shorter-length-of-stay-at-vanderbilt?utm_source=twitter&utm_medium=social&utm_campaign)

“Symposium explores using music to ease social skills, PTSD”

**Vanderbilt University Medical Center Reporter, September 15, 2016.**

<https://news.vanderbilt.edu/2016/09/15/symposium-explores-using-music-to-improve-social-skills-ease-ptsd/>

“Teaching Grammar Through Rhythm”

**informED Open Colleges website, November 24, 2016.**

<http://www.opencolleges.edu.au/informed/features/teaching-grammar-rhythm/>

“Program for Music, Mind and Society brings together researchers to examine how and why music affects us”

**VUBreakThru, January 6, 2017.**

<https://my.vanderbilt.edu/universityfundingprograms/2017/01/program-for-music-mind-and-society-brings-together-researchers-to-examine-how-and-why-music-affects-us/>

“The Program for Music, Mind, and Society makes Music City more musical through the SeREnADe project”

**VUBreakThru, February 2, 2017.**

<https://my.vanderbilt.edu/universityfundingprograms/2017/02/the-program-for-music-mind-and-society-makes-music-city-more-musical-through-the-serenade-project/>

“Can music training improve language outcomes in children? Program for Music, Mind and Society provides violin lessons for children with language impairments”

**VUBreakThru, February 16, 2017.**

<https://my.vanderbilt.edu/universityfundingprograms/2017/02/can-music-training-improve-language-outcomes-in-children-program-for-music-mind-and-society-provides-violin-lessons-for-children-with-language-impairments/>

“The Rhythm of Research in the Music Cognition Lab”

**VUBreakThru, March 16, 2017.**

<https://my.vanderbilt.edu/universityfundingprograms/2017/03/the-rhythm-of-research-in-the-music-cognition-lab/>

“Vanderbilt Program for Music, Mind & Society to host free event May 3”

**MyVU, April 20, 2017.**

<https://news.vanderbilt.edu/2017/04/20/vanderbilt-program-for-music-mind-society-to-host-free-event-may-3/>

“A Musical Awakening”

**VUBreakThru, May 24, 2017**

<https://my.vanderbilt.edu/universityfundingprograms/2017/05/a-musical-awakening/>

“Using Music and rhythm to help kids with grammar and language”

**NPR's All Things Considered, June 1, 2017**

<http://www.npr.org/sections/health-shots/2017/06/01/530723046/using-music-and-rhythm-to-help-kids-with-grammar-and-language>

“Sing-Song Speech”

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