|  |
| --- |
| Disclosure statements |
| Adam Fullenkamp, Ph.D., is employed by Bowling Green State University. He has no nonfinancial relationships to disclose. |
| Alesha Reed is a combined MSc-SLP- PhD Rehabilitation Science student in the Department of Communication Sciences and Disorders, Faculty of Rehabilitation Medicine at the University of Alberta. Her research was funded by two Discovery Grants (Cummine, PI; Boliek PI) from the Natural Sciences and Engineering Council, Canada. |
| Allison Deemer is a graduate student at Bowling Green State University that has no financial or nonfinancial relationships to disclose. |
| Allison Hilger is a student at Northwestern University and has received a pre-doctoral fellowship from the National Institutes of Health. She has no financial relationships to disclose. |
| Amanda Dalton has no relevant financial or nonfinancial benefit to disclose. |
| Amy Lacross is research professor at Arizona State University. She has no financial or non financial relationships to disclose. |
| Amy Neel is employed by the University of New Mexico. She received an internal research grant from the University of New Mexico for this project. She has no nonfinancial relationships to disclose. |
| Anna Gravelin, M.S. is employed by Bowling Green State University. She does not have non-financial relationships to disclose. |
| Anniek van Doornik is employed by HU University of Applied Sciences and Utrecht University, and has no relevant financial or nonfinancial benefit related to his presentation. She has no nonfinancial relationships to disclose. This research was funded by HU University of Applied Sciences, Utrecht, grant number [DHR\PD-MP\2015-1300-1299-1303]. |
| Ashka Thakar is a master’s graduate from University of Central Florida, School of Communication Sciences and Disorders. She recently graduated (3rd August 2019) and will be shortly starting with her CFY. She has no nonfinancial relationships to disclose. |
| Ashley Waito is employed by the Sunnybrook Research Institute (SRI). She has no nonfinancial relationships to disclose. |
| Ashling A. Lupiani is currently a Ph.D. in the Neuromuscular Engineering Research Laboratory at the University of North Carolina Chapel Hill & North Carolina State University Joint Department of Biomedical Engineering. Previously, she worked in the Stepp Lab for Sensorimotor Rehabilitation Engineering at Boston University as an undergraduate Computational Neuroscience Fellow and later as a Visiting Fellow. She has no financial relationships to disclose. |
| Austeja Subaciute is an undergraduate student in Biomedical Engineering at Boston University and an undergraduate research assistant in the Stepp Lab for Sensorimotor Rehabilitation Engineering. She has no financial relationships to disclose. |
| Austin Thompson is a graduate student at Louisiana State University and has no relevant financial or non-financial benefit related to this presentation. |
| Ayoub Daliri is employed by Arizona State University and has no relevant financial or nonfinacial benefit related to his presentation. He has no nonfinancial relationships to disclose. |
| Beatriz Barragan is an assistant professor at California State University Los Angeles. She has no nonfinancial relationships to disclose. |
| Ben Parrell is an Assistant Professor of Communication Sciences and Disorders at the University of Wisconsin–Madison and received a research grant from the National Institutes of Health (NIDCD). He has no financial or non-financial relationships to disclose. |
| Brianna Kiefer has no relevant financial or nonfinancial benefit to disclose. |
| Caitlin Coughler has no financial or nonfinancial relationships to disclose. |
| Cara Sauder is a doctoral student at the University of Washington and is supported by Dr. Eadie's NIH/NCI grant. She has no nonfinancial relationships to disclose. |
| Caroline Niziolek is an Assistant Professor of Communication Sciences and Disorders at the University of Wisconsin–Madison and received a research grant from the National Institutes of Health (NIDCD). She serves on the board of directors of the Future of Research. She has no financial or non-financial relationships to disclose |
| Caroline Spencer currently receives grant funds (stipend) from 1F31DC017654-01A1, which supports the analysis of this data. She previously received grant funds from 1R01DC017301-01, which supported the data collection. She has no nonfinancial relationships to disclose. |
| Cecilia Jobst is a Laboratory Research Project Manager at the Hospital for Sick Children. She has no conflicts of interest to disclose. |
| Charles Bernick is employed by the Cleveland Clinic Lou Ruvo Center for Brain Health and the University of Washington. The Professional Fighters Brain Health Study is supported by Belator, UFC, the August Rapone Family Foundation, Top Rank, Haymon Boxing, and an Institutional Development Award (IDe from the National Institute of General Medical Sciences [NIGMS]) of the National Institutes of Health under grant number P20GM109025. He has been a speaker for Allergan Pharmaceuticals. |
| Charlotte Wiltshire is a DPhil student at the University of Oxford and is fully funded by the ESRC and EPSRC. She has no financial or nonfinancial relationships to disclose. |
| Chelsea Tanchip is employed by the Department of Speech-Language Pathology at University of Toronto and received a research award from the Natural Sciences and Engineering Research Council of Canada (NSERC). She has no nonfinancial relationships to disclose. |
| Chi Fai, The Chinese University of Hong Kong, has no financial and nonfinancial relationships to disclose. |
| Chiara Repetti-Ludlow is a student at New York University, and has no financial or nonfinancial relationships to disclose. |
| Christina Gildersleeve-Neumann is employed by Portland State University. She receives a consultant fee through a research grant from NIDCD (R01 DC017768; PI: Maas). She also serves on the Professional Advisory Council of Apraxia Kids. She has no other financial or nonfinancial relationships to disclose. |
| Christina Nessler is employed by the VA Salt Lake City Health Care System. She received a salary from her employer to conduct research. She has no nonfinancial relationships to disclose. |
| Cindy Cui is employed by the Sunnybrook Research Institute (SRI). She has no nonfinancial relationships to disclose. |
| Courtney Cassar completed her Honours degree from The University of Sydney in November 2019. Patricia McCabe and Steven Cumming are employed by The University of Sydney. The authors have no nonfinancial relationships to disclose. |
| Dallin Bailey is an assistant professor employed by Auburn University and the recipient of an Auburn University Internal Grant Program Seed Grant. He has no nonfinancial disclosures. |
| Daniel Kim is a PhD students at Vanderbilt University and receives a stipend and tuition waiver from the Department of Hearing and Speech Sciences. The author has no nonfinancial relationship to disclose. |
| Dante Cilento is a recent graduate from the Department of Health Sciences at Boston University and worked as an undergraduate research assistant in Stepp Lab for Sensorimotor Rehabilitation Engineering. He has no financial relationships to disclose. |
| David H. Salat is an Associate Professor of Radiology. He is employed by the Athinoula A. Martinos Center for Biomedical Imaging at Massachusetts General Hospital, Harvard Medical School. He has no relevant financial or nonfinancial benefit related to this study. He has no nonfinancial relationships to disclose. |
| Defne Abur is a Ph.D. student in Speech, Language, and Hearing Sciences at Boston University and a graduate research assistant in Stepp lab for Sensorimotor Rehabilitation Engineering. She has no financial relationships to disclose. |
| Diego Guarín is employed by the University Health Network – Toronto Rehabilitation Institute (UHN-TRI). He has no nonfinancial relationships to disclose. |
| Dr. Abrahao is employed by the Sunnybrook Research Institute, has no relevant financial or nonfinacial benefit related to his presentation, and has no nonfinancial relationships to disclose. |
| Dr. Adam Buchwald is an Associate Professor of Communicative Sciences and Disorders at New York University, and the director of the Psycholinguistics, Aphasia, and Neuromodulation Lab. His work focuses on the spoken and written language production of neurotypical adult populations and adults with acquired language deficits (e.g., aphasia, apraxia of speech). He has no financial and nonfinancial relationships to disclose. |
| Dr. Alexander Kain is employed by the Oregon Health & Science University, and has no relevant financial or nonfinancial benefit related to his presentation. He has no nonfinancial relationships to disclose. |
| Dr. Ali is employed by Mayo Clinic and receives research support from the National Institutes of Health. |
| Dr. Allison is employed by Northeastern University and received a research grant from the National Institutes of Health. She has no nonfinancial relationships to disclose. |
| Dr. Allyson Page is an Associate Professor at Western University and she is employed by Western University. She has no relevant financial or non-financial benefit related to her presentation. She has no non-financial relationships to disclose. |
| Dr. Angela Roberts is an Assistant Professor at Northwestern University and an Adjunct Research Faculty at the University of Western Ontario. Dr. Roberts sits on the program committee for the 2020 Conference on Motor Speech. She has no other relevant financial or non-financial benefits and/or relationships to disclose. |
| Dr. Anita Abeyesekera is employed as an Assistant Professor at SUNY Buffalo State. She has no relevant financial or non-financial benefit related to this presentation. She has no financial or non-financial relationships related to this research study to disclose. |
| Dr. Anja Kuschmann is employed by Strathclyde University, Glasgow, UK and has no relevant financial or non-financial relationships to disclose. |
| Dr. Anja Staiger is employed by LMU Munich. She received a research grant from the German Research Foundation (DFG; STA 1513/1-1) related to the present study. She has no nonfinancial relationship to disclose. |
| Dr. Antje Mefferd is employed by Vanderbilt University Medical Center and has funding from the National Institute on Deafness and Other Communication Disorders. The author has no nonfinancial relationship to disclose. |
| Dr. Ayoub Daliri is an Assistant Professor in the Department of Speech, Language, and Hearing Sciences at Arizona State University. He has no financial relationships to disclose. |
| Dr. Barnett Tapia is employed by the University health network, received a research grant from the NIH-NIDCD and has no nonfinancial relationships to disclose. |
| Dr. Barrett employed by the University of Virginia (UVA), received a collaborative research grant from the 4-VA initiative https://4-va.org/ as a co-investigator for this study. He has no other financial or non-financial relationships to disclose. |
| Dr. Bauerly is employed at the University of Vermont and has no relevant financial or nonfinancial benefit related to her presentation. She has no nonfinancial relationships to disclose. |
| Dr. Baylor is employed by the University of Washington. She received consulting fees from the 2018 Switzer Fellowship from the National Institute of Disability, Independent Living, and Rehabilitation Research for her work on this project. She has no nonfinancial relationships to disclose. |
| Dr. Beal is employed by Holland Bloorview Children's Rehabilitation Hospital and the University of Toronto and has no relevant benefits - financial or nonfinancial - or relationships related to the presentation to disclose. |
| Dr. Bedell is employed by Tufts University, Medford, MA. He was supported by the 2018 Tufts Clinical and Translation Science Institute (CTSI) Pilot Studies Program for his work on this project. He has no nonfinancial relationships to disclose. |
| Dr. Behroozmand is a salaried Assistant Professor in the Department of Communication Sciences and Disorders at the University of South Carolina. He has received research grants from the National Institute of Health (PI: K01-DC015831 and Co-I: R01-DC015260) and is currently an editorial board member of the speech section for the Journal of Speech, Language, and Hearing Research (JSLHR) receiving an annual membership honorarium. Dr. Behroozmand has also served as a reviewer for the American Speech-Language-Hearing Association (ASHA) Grant Review and Reviewer Training (GRRT) and has served as reviewer for several peer-reviewed journals with no financial compensation. |
| Dr. Ben Maassen is employed by the University of Groningen, and has no relevant financial or nonfinancial benefit related to this presentation. He has no nonfinancial relationships to disclose. |
| Dr. Berry is employed by Marquette University and received a stipend from JMU College of Health and Behavioral Studies to provide technical support on electromagnetic articulography and relevant techniques for this study. He has no other financial or non-financial relationships to disclose. |
| Dr. Bert de Swart is employed by Radboud University Medical Center, Nijmegen, and has no relevant financial or nonfinancial benefit related to this presentation. He has no nonfinancial relationships to disclose. |
| Dr. Bitan is employed by the University of Haifa. She has no conflicts of interest to disclose. |
| Dr. Black is employed by Sunnybrook Research Institute, has no relevant financial or nonfinancial benefit related to this presentation, and has no nonfinancial relationships to disclose. |
| Dr. Bohdan Pomahac is a Professor of Surgery at Brigham and Women’s Hospital and Harvard Medical School. He has no relevant financial or nonfinancial benefit related to this study. He also has no nonfinancial relationships to disclose. |
| Dr. Bolt is employed by the University of Wisconsin-Madison and currently receives support from research grants through NIH and the Wisconsin Department of Children and Families. He has no nonfinancial relationships to disclose. |
| Dr. Borrie is an associate professor employed by Utah State University and is currently funded by a research grant from the National Institute of Deafness and Other Communication Disorders: R21 DC016084-01: Speech Rhythm Entrainment in the Context of Dysarthria. She has no nonfinancial relationships to disclose. |
| Dr. Botha is employed by Mayo Clinic and receives research support from the National Institutes of Health. |
| Dr. Boyce received grant funds for the R01 and serves as sponsor on the F31 but has no other nonfinancial disclosures relevant to this presentation. |
| Dr. Brickell is a contract employee hired to work on the Congressionally funded Defense and Veterans Brain Injury Center 15-Year Longitudinal TBI study (Sec721 NDAA FY2007). No nonfinancial relationships to disclose. |
| Dr. Bridget Perry is a postdoctoral research associate employed by Tufts Medical Center and the MGH Institute of Health Professions and has no relevant financial or nonfinancial benefit related to this study. She has no nonfinancial relationships to disclose. |
| Dr. Brumberg received a research grant from the National Institute on Deafness and Other Communication Disorders. He has no nonfinancial relationships to disclose. |
| Dr. Brungart is employed by the US Department of Defense and conducted this research as part of the official duties. No nonfinancial relationships to disclose. |
| Dr. Bunton is employed by the University of Arizona. She has no nonfinancial relationships to disclose. |
| Dr. Cai is employed at Google, Inc. and he has no relevant financial or non-financial relationships to disclose. |
| Dr. Cara Stepp is the Principal Investigator of Stepp Lab for Sensorimotor Rehabilitation Engineering at Boston University and received research grants from the National Institutes of Health that supported this work. She has no financial relationships to disclose. |
| Dr. Carolyn Baylor, PhD, CCC-SLP is Associate Professor at the University of Washington. She was the PI on a grant from the National Institute for Deafness and Other Communication Disorders that funded this research. She has no non-financial interests to disclose. |
| Dr. Chang is employed by the University of Michigan, received research grants from the NIDCD/NIH. She has no nonfinancial relationships to disclose. |
| Dr. Charles Larson is a Professor at Northwestern University. He has no relevant financial or non-financial benefits and/or relationships to disclose. |
| Dr. Chenausky is employed by Beth Israel-Deaconess Medical Center and receives funding from the National Institute of Deafness and Other Communication Disorders. She has no nonfinancial relationships to disclose. |
| Dr. Chester is employed by the University of Oxford. No financial or nonfinancial relationships to disclose. |
| Dr. Chiu is employed by Saint Louis University. No nonfinancial relationships to disclose. |
| Dr. Chow is employed by the University of Delaware, received a research grant from the NIDCD/NIH. He has no nonfinancial relationships to disclose. |
| Dr. Christopher Dromey is a professor employed by Brigham Young University. He has no nonfinancial disclosures. |
| Dr. Claire Cordella is a postdoctoral research fellow employed by the Massachusetts General Hospital and has no relevant financial or nonfinancial benefit related to this study. She has no nonfinancial relationships to disclose. |
| Dr. Cler is employed by the University of Oxford and received a research grant from the National Institute on Deafness and Other Communication Disorders. He has no financial or nonfinancial relationships to disclose. |
| Dr. Cohen is a graduate student and has no financial or nonfinancial relationships to disclose. |
| Dr. Connaghan is employed by Northeastern University and the MGH Institute of Health Professions. She received funding for this study from the National Institute of Disability, Independent Living, and Rehabilitation Research and the Tufts Clinical and Translation Science Institute (CTSI) Pilot Studies Program. Her work on this project was funded by the Winthrop Family Fund for ALS Science at Massachusetts General Hospital. She has no nonfinancial relationships to disclose. |
| Dr. Darling-White is employed by the University of Arizona and received a research grant from the National Institutes of Health, National Institute on Deafness and Other Communication Disorders to conduct this work. She has no nonfinancial relationships to disclose. |
| Dr. David Purcell has no financial or nonfinancial relationships to disclose. |
| Dr. De Nil is employed by the University of Toronto and received a grant from the Natural Sciences and Engineering Council of Canada. He has no conflicts of interest to disclose. |
| Dr. Deanna Britton, PhD, CCC-SLP is Assistant Professor at Portland State University. She received funding as a Research Speech-Language Pathologist on the NIDCD grant that funded this research. She has no non-financial interests to disclose. She also receives royalties from Plural Publishing, Pro-Ed, Inc and Medbridge |
| Dr. Dickerson is employed by Massachusetts General Hospital, receives grant money from the NIH, and serves on scientific advisory boards for Merck, Lilly, Biogen, and Wave LifeSciences. He has no nonfinancial relationships to disclose. |
| Dr. Douglas Cheyne is a Senior Scientist at the Hospital for Sick Children. He has a research grant from the Natural Sciences and Engineering Research Council of Canada. He has no conflicts of interest to disclose. |
| Dr. Duncan is employed at Louisiana State University and receives funding from the Louisiana Board of Regents. She has no other relationships to disclose. |
| Dr. Edwin Maas is employed by Temple University. He is Principal Investigator on a research grant from the National Institute on Deafness and Other Communication Disorders (R01 DC017768) and has received research funding from Apraxia Kids. He serves on the Professional Advisory Council of Apraxia Kids. He has no other financial or nonfinancial relationships to disclose. |
| Dr. Eitel is a contract employee hired to work on the Congressionally funded Defense and Veterans Brain Injury Center 15-Year Longitudinal TBI study (Sec721 NDAA FY2007). No nonfinancial relationships to disclose. |
| Dr. Emily Michaela Hamel has no financial or nonfinancial relationships to disclose. |
| Dr. Erika Levy is employed by Teachers College, Columbia University, and has no relevant financial or nonfinancial benefit related to her presentation. |
| Dr. Evan Usler is employed at the University of Delaware and has no financial or non-financial relationships to disclose. |
| Dr. Feenaughty is employed by The University of Memphis and received a research grant from the UofM to conduct this research. She has no nonfinancial relationships to disclose. |
| Dr. Fletcher is an Assistant Professor at the University of North Texas. Conducting research is part of her assigned responsibilities. She has no other financial or non-financial relationships to disclose. |
| Dr. French is employed by the US Department of Defense and conducted this research as part of the official duties. No nonfinancial relationships to disclose. |
| Dr. Frits van Brenk is employed by the University at Buffalo, and has no relevant financial or nonfinancial benefit related to his presentation. He has no nonfinancial relationships to disclose. |
| Dr. Garnett is a postdoctoral fellow at the University of Michigan. She has no financial and nonfinancial relationships to disclose. |
| Dr. Gemma Moya-Galé is employed by Long Island University, and has no relevant financial or nonfinancial benefit related to her presentation. |
| Dr. Guenther is employed at Boston University, has research grants from the National Institute on Deafness and Other Communication Disorders, and is the author of the book Neural Control of Speech, for which he receives royalty payments. He has no non-financial relationships to disclose. |
| Dr. Haley is employed at the University of North Carolina at Chapel Hill, serves on the Executive Board for Aphasia Access, and receives royalties from Medbridge. |
| Dr. Hayo Terband is employed by Utrecht University, and has no relevant financial or nonfinancial benefit related to his presentation. He has no nonfinancial relationships to disclose. |
| Dr. Heather Clark is employed by Mayo Clinic, receives research support from the National Institutes of Health, and serves on the MSC2020 planning committee. |
| Dr. Heller Murray is currently supported on an NIH NIDCD T32 training grant at Boston University. A version of this project appeared in Dr. Heller Murray’s doctoral dissertation at Boston University “Vocal Motor Control In School-Age Children With And Without Vocal Fold Nodules” and was supported by two NIH grants DC016197 (PI: Heller Murray) and DC015446 (PI: Hillman). She has no non-financial relationships to disclose. |
| Dr. Heyne is employed by Boston University and receives salary support from grants provided by the National Institute on Deafness and Other Communication Disorders. He has no relevant financial or nonfinancial benefit related to the presentation and has no nonfinancial relationships to disclose. |
| Dr. Houri K. Vorperian, Ph.D. is employed at the University of Wisconsin-Madison, and has received research grants from NIH-NIDCD, and a Fall Competition grant from University of Wisconsin-Madison. She has no non-financial relationships to disclose. |
| Dr. Jacks receives a salary from the University of North Carolina at Chapel Hill and serves as co-chair of the research committee at Triangle Aphasia Project, Unlimited. There are no relevant financial or non-financial conflicts of interest related to this proposal. |
| Dr. Janine Diehl-Schmid is employed by TU Munich. She received a research grant from the German Research Foundation (DFG; DI 900/6-1) related to this study. She has no nonfinancial relationship to disclose. |
| Dr. Janis Oram Cardy has no financial or nonfinancial relationships to disclose. |
| Dr. Jeanette Hoit is employed by the University of Arizona, receives royalties from Plural Publishing. She has no nonfinancial relationships to disclose. |
| Dr. Jennifer Cole is employed by Northwestern University. She has no financial relationships to disclose.  |
| Dr. Jérôme Farinas is employed by Toulouse University III (Paul Sabatier). He leads the 2018 2018 RUGBI project “Looking for Relevant linguistic Units to improve the intelliGiBIlity measurement of speech production disorders” funded by the French National Research Agency (Grant ANR-18-CE45-0008). He has no nonfinancial relationships to disclose. |
| Dr. Jessica Huber is the inventor of the SpeechVive device. She serves on the Board of Directors and owns stock in SpeechVive, Inc. Dr. Huber has no relevant nonfinancial benefits to disclose. |
| Dr. Joanne Cleland and Prof James M. Scobbie have no relevant financial or non-financial relationships to disclose |
| Dr. Johnson is employed by the University of Kentucky and received grants from the National Science Foundation that have supported this work. He has no nonfinancial relationships to disclose. |
| Dr. Jordan Green is employed at the MGH Institute of Health Professions, and received funding from Nestec Ltd and from NIH grant K24DC016312. The sponsor, Nestec, Ltd, played a role in the design of the study. |
| Dr. Josephs is employed by Mayo Clinic and receives research support from the National Institutes of Health. |
| Dr. Julie Wambaugh is employed by the University of Utah and the VA Salt Lake City Health Care System. She received grants from the Department of Veterans Affairs, Rehabilitation Research and Development and salary from her employers to conduct research. She has no nonfinancial relationships to disclose. |
| Dr. Julien Pinquier is employed by Toulouse University III (Paul Sabatier). He has no nonfinancial relationships to disclose. |
| Dr. Katherine Hustad is employed by the University of Wisconsin-Madison and receives research grant support from the NIH. She has no nonfinancial relationships to disclose. |
| Dr. Kathleen Nagle is employed by Seton Hall University and received a research grant from the American Speech-Language-Hearing Foundation. She has no financial relationships to disclose. |
| Dr. Kathryn Yorkston, PhD, BC-NCD is Professor Emeritus at the University of Washington. She received funding as a co-investigator on the NIDCD grant that funded this research. She has no non-financial interests to disclose. |
| Dr. Kearney is employed by Boston University and has no relevant financial or nonfinancial benefit related to the presentation. She has no nonfinancial relationships to disclose. |
| Dr. Keith is employed by Sunnybrook Research Institute, has no relevant financial or nonfinancial benefit related to this presentation, and has no nonfinancial relationships to disclose. |
| Dr. Kennedy is employed by Louisiana State University and has no other financial and non-financial relationships to disclose. |
| Dr. Kent is employed by the University of Wisconsin-Madison and works on a NIH-supported research grant. He has no nonfinancial relationships to disclose. |
| Dr. Kim is employed by Louisiana State University and received research grants from the Louisiana Board of Regents and Louisiana State University. She has no other financial and non-financial relationships to disclose.  |
| Dr. Kimbrough Oller, PhD is a Professor and the Plough Chair of Excellence at the University of Memphis. He receives research funding support from the NIDCD and the Plough Foundation. He also serves on the scientific advisory board of the LENA Foundation. He has no nonfinancial relationships to disclose. |
| Dr. Kris Tjaden is employed by the University at Buffalo, and received a research grant from the National Institute of Health (NIH-NIDCD R01DC004689). She has no nonfinancial relationships to disclose. |
| Dr. Krishnan is employed by Royal Holloway, University of London and has an honorary appointment at the University of Oxford. She has no financial or nonfinancial relationships to disclose. |
| Dr. Kristie Spencer is employed by the University of Washington and has no financial or nonfinancial relationships to disclose. |
| Dr. Kuo is employed by James Madison University (JMU), received a collaborative research grant from the 4-VA initiative https://4-va.org/ and a faculty research grant from JMU College of Health and Behavioral Studies. She has no other financial or non-financial relationships to disclose. |
| Dr. Laforce is employed by the Chu de Québec-Université Laval and received a research grant from the Quebec Network for Research on Aging. He has no nonfinancial relationships to disclose. |
| Dr. Lange is a contract employee hired to work on the Congressionally funded Defense and Veterans Brain Injury Center 15-Year Longitudinal TBI study (Sec721 NDAA FY2007). No nonfinancial relationships to disclose. |
| Dr. Lansford is an Associate Professor at Florida State University. She has no nonfinancial relationships to disclose. |
| Dr. Lenie van den Engel-Hoek is employed by Radboud University Medical Center, Nijmegen, and has no relevant financial or nonfinancial benefit related to this presentation. She has no nonfinancial relationships to disclose. |
| Dr. Lentz is employed by the University of Amsterdam. He has no financial or nonfinancial relationships to disclose. |
| Dr. Lippa is a contract employee hired to work on the Congressionally funded Defense and Veterans Brain Injury Center 15-Year Longitudinal TBI study (Sec721 NDAA FY2007). No nonfinancial relationships to disclose. |
| Dr. Lisa Archibald has no financial or nonfinancial relationships to disclose. |
| Dr. Lisa Edmonds receives a salary from Teachers College, Columbia University. She has no financial or non-financial relationships to disclose. |
| Dr. Lorinda Kwan-Chen is employed by the Education University of Hong Kong. She has no nonfinancial relationship to disclose. |
| Dr. Mandar Jog is the Director of the National Parkinson Foundation Centre of Excellence at London Health Sciences Centre, Director of the Movement Disorders Centre in London, Ontario and Professor of Neurology at Western University. Dr. Mandar Jog receives speaker and consultant honoraria from Merz Pharmaceuticals, Allergan, AbbVie. He also receives research grants from CIHR, AMOSO, Allergan, Merz Pharmaceuticals and Lawson Health Research Institute and is part of the AGE-WELL Network of Centers of Excellence (NCE) of Canada program. From time to time, he serves on advisory boards of Allergan, Boston Scientific, AbbVie and Merz Pharmaceuticals. He has no relevant financial or non-financial benefit related to this presentation. He has no financial or non-financial relationships related to this research study to disclose. |
| Dr. Martel-Sauvageau is employed by Université Laval (Quebec, Canada) and received a research grant from Fonds de Recherche Québec - Société et Culture. He has no nonfinancial relationships to disclose. |
| Dr. Martino is employed by the University of Toronto, received a research grant from the NIH-NIDCD, and has no nonfinancial relationships to disclose. |
| Dr. Marziye Eshghi is a postdoctoral research associate employed by the MGH Institute of Health Professions and has no relevant financial or nonfinancial benefit related to this study. She has no nonfinancial relationships to disclose. |
| Dr. Matthias Schroeter is employed by Universitätsklinikum Leipzig. He received a research grant from the German Research Foundation (DFG; SCHR 774/5-1) related to the present study. He has no nonfinancial relationship to disclose. |
| Dr. McAuliffe is a Professor at the University of Canterbury. Data collection for this project was supported by a grant from the Royal Society of New Zealand Marsden Fund (UOC1303). She has no non-financial relationships to disclose. |
| Dr. McCabe is employed by the University of Sydney, holds an honorary position at South Western Sydney Local Health District and works as a private practitioner in Sydney, Australia. She is an honorary member of the Professional Advisory Committee of Apraxia-Kids and of the Professional Standards Committee of Speech Pathology Australia and receives grants and reimbursement for various expenses from both organizations. She has no other financial or non-financial relationships to disclose. |
| Dr. Mili Kuruvilla-Dugdale is employed by the University of Missouri and has funding from the National Institute on Deafness and Other Communication Disorders as well as the Missouri Spinal Cord Injury/Disease Research Program. The author has no nonfinancial relationship to disclose. |
| Dr. Monetta is a professor at Laval University and received a research grant from the Quebec Network for Research on Aging. He has no nonfinancial relationships to disclose. |
| Dr. Murray is employed by The University of Sydney and is self-employed in private practice. The team received a research grant from Apraxia-Kids. Drs Preston, Velleman and McCabe are members of the Professional Advisory Committee of Apraxia-Kids. |
| Dr. Nicholson is employed at Massachusetts General Hospital; is a current Clinical Research Training Scholar with the American Academy of Neurology and Muscular Dystrophy Association; completed the Anne B. Young Fellowship in Therapeutic Development at Massachusetts General Hospital and Biogen; serves as investigator for clinical trials supported by Biogen, Brainstom Therapeutics and the Salah Foundation; received research grant support from ALS Finding a Cure, Target ALS, and the ALS Association; served on advisory boards with Biohaven Pharmaceuticals Inc and Avanir Pharmaceuticals and receives a consulting fee. She has no non-financial relationships to disclose. |
| Dr. Nieto-Castañón is employed at Boston University and StatsANC. He has no non-financial relationships to disclose. |
| Dr. Nip is a faculty member at San Diego State University. He has no nonfinanical relationships to disclose. |
| Dr. Oh graduated from Dr. Barlow's lab, and he has no nonfinancial relationships to disclose. |
| Dr. Onnela is an Associate Professor in the Department of Biostatistics Harvard T.H. Chan School of Public Health Harvard University. He has received support from the National Institutes of Health. He has no nonfinancial relationships to disclose. |
| Dr. Papp is employed by the University of Oxford. No financial or nonfinancial relationships to disclose. |
| Dr. Preston receives grant funding from the National Institutes of Health to conduct research on speech sound disorders in children. He is employed at Syracuse University.Non-Financial: Dr. Preston is a member of the Professional Advisory Committee for Apraxia-Kids. |
| Dr. Rebecca Custead graduated from Dr. Barlow's lab, and she has no nonfinancial relationships to disclose. |
|  Dr. Redle has no financial disclosures relevant to this presentation. She serves as mentor on the F31 but has no other nonfinancial disclosures relevant to this presentation. |
| Dr. Reilly is employed by the University of Tennessee Health Science Centers. He has no nonfinancial relationships to disclose. |
| Dr. Rong receives the New Faculty General Research Fund from the University of Kansas. She has no nonfinancial conflict to disclose. |
| Dr. Rosemary A. Lester-Smith is an Assistant Professor in the Department of Speech, Language, and Hearing Sciences at The University of Texas at Austin. She has no financial relationships to disclose. |
| Dr. Rountrey is employed by the University of Cincinnati and has nothing to disclose. |
| Dr. Scott Adams is a Professor at Western University and he is employed by Western University. He has no relevant financial or non-financial benefit related to this presentation. He has no non-financial relationships to disclose. |
| Dr. Segawa is employed by Stonehill College and has no relevant benefits - financial or nonfinancial - or relationships related to the presentation to disclose. |
| Dr. Sergio Escorial is employed by Universidad Complutense de Madrid and has no relevant financial or nonfinancial benefit related to his presentation. |
| Dr. Shannon Mauszycki is employed by the VA Salt Lake City Health Care System. She received salary from her employer to conduct research. She has no nonfinancial relationships to disclose. |
| Dr. Sidtis is a Research Scientist at the Nathan Kline Institute and a Research Professor at the New York University School of Medicine. This work was supported by a National Institutes of Health research grant awarded to Drs. Sidtis and Van Lancker Sidtis. He has no financial or non-financial relationships to disclose. |
| Dr. Smidt is employed part-time by the University of Sydney and also works as a consultant to a small NGO providing clinical supervision to speech pathologists. She is a volunteers as a member of the committee for Key Word Sign NSW. She has no other financial or non-financial relationships to disclose. |
| Dr. Solomon is employed by the US Department of Defense and conducted this research as part of the official duties. No nonfinancial relationships to disclose. |
| Dr. Story is employed by the University of Arizona and is part of a research grant from the NIH/NIDCD. He has no nonfinancial relationships to disclose. |
| Dr. Sugden has no relevant financial or nonfinancial relationships to disclose. |
| Dr. Tanya Eadie, PhD, CCC-SLP is Professor at the University of Washington. She received funding as a co-investigator on the NIDCD grant that funded this research. She has no non-financial interests to disclose. |
| Dr. Thea Knowles is employed as an Assistant Professor at the University at Buffalo. She has no relevant financial or non-financial benefit related to this presentation. She has no financial or non-financial relationships related to this research study to disclose. |
| Dr. Theresa Schölderle is employed by the Ludwig-Maximilians-University in Munich, Germany, and received a research grant from the German Research Foundation. She has no nonfinancial relationships to disclose.  |
| Dr. Tourville is employed by Boston University and receives salary support from grants provided by the National Institute on Deafness and Other Communication Disorders. He has no relevant financial or nonfinancial benefit related to the presentation and has no nonfinancial relationships to disclose. |
| Dr. Tremblay is employed by the University of Toronto. He has no conflicts of interest to disclose. |
| Dr. Van Lancker Sidtis is a Professor Emerita at the New York University and a Research Scientist at the Nathan Kline Institute. She has no financial or non-financial relationships to disclose. |
| Dr. Vannest has no financial disclosures relevant to this presentation. She serves as mentor on the F31 but has no other nonfinancial disclosures relevant to this presentation. |
| Dr. Virginie Woisard is employed by Hospitals of Toulouse and Toulouse Oncopole Universitary Institute of Cancer. She has no relevant financial or non-financial benefit related to her presentation. She has no nonfinancial relationships to disclose. |
| Dr. Vitali is employed by the CIUSSS Nord-de-l’Île-de-Montréal and the McGill University Research Centre for Studies in Aging. He has no relevant financial or nonfinancial benefit related to this presentation. |
| Dr. Vuolo is employed by The Ohio State University. This research was supported by the NIH NIDCD Grant F31 DC015176 (Vuolo) and R01 DC04826 (Goffman). There are no nonfinancial relationships to disclose.  |
| Dr. Waito is employed by the Sunnybrook Research Institute, has no relevant financial or nonfinacial benefit related to his presentation, and has no nonfinancial relationships to disclose. |
| Dr. Walsh is employed by Michigan State University. This research was funded by the NIH/NIDCD. She has no nonfinancial relationships to disclose. |
| Dr. Wang is employed by the University of Nebraska-Lincoln, received a research grant from NIDCD. She has no nonfinancial relationships to disclose.  |
| Dr. Whitwell is employed by Mayo Clinic and receives research support from the National Institutes of Health. |
| Dr. Wilson works on an NIH-supported research grant at the University of Wisconsin-Madison. She has no relevant financial or non-financial relationships to disclose. |
| Dr. Yana Yunusova is employed by the Department of Speech-Language Pathology at University of Toronto. She serves as an Associate Scientist at Sunnybrook Research Institute (SRI) and Senior Scientist at University Health Network – Toronto Rehabilitation Institute (UHN-TRI). She has no nonfinancial relationships to disclose. |
| Dr. Zinman is employed by the Sunnybrook Research Institute, received a research grant from the NIH-NIDCD, and has no nonfinancial relationships to disclose. |
| Eddy Wong, The Chinese University of Hong Kong, has no financial and nonfinancial relationships to disclose. |
| Edythe Strand is Emeritus Professor of Speech Pathology, Mayo College of Medicine. She receives royalties for the Dynamic Evaluation of Motor Speech Skills from Brookes Publishers, Royalties for books from Pro-Ed and Thieme publishers, 1999 to present. A nonfinancial disclosure is that she is a member of the Professional Advisory Council for Apraxia Kids. |
| Elisabet Haas received a PhD fellowship from the German National Academic Foundation. She has no nonfinancial relationships to disclose. |
| Elise LeBovidge and Ludo Max are funded by research grants from NIH/NIDCD and CIHR, but have no other financial or nonfinancial relationships to disclose. |
| Elizabeth Hoffman, Jake Greenwood, Jaehoon Lee, and Steven M. Barlow have no financial or nonfinancial relationships to disclose. |
| Elizabeth Pullen has no nonfinancial relationships to disclose. |
| Ellika Schalling is an Associate professor at the Division of Speech and Language Pathology, Department of Clinical Science, Intervention and Technology, Karolinska Institutet. She is also employed as a speech-language pathologist by the Karolinska University Hospital in Stockholm. She has no financial and non-financial relationships to declare. |
| Emilia Vitti is employed by the University of Utah. She received salary from her employer to conduct research. She has no nonfinancial relationships to disclose. |
| Emily Wang is a doctoral student in the Department of Communicative Sciences and Disorders at New York University under the advisement of Dr. Maria Grigos. Emily has no financial relationships to disclose. |
| Fatima is a graduate student fully funded by Dr. Wang. She has no nonfinancial relationships to disclose. |
| Fiona Höbler is a graduate student at the University of Toronto. She has no conflicts of interest to disclose. |
| Fredrik Karlsson holds a PhD in Phonetics and is an Associate professor at the Division of Speech and Language Pathology, Department of Clinical Science, Umeå University. He has no financial and non-financial relationships to declare. |
| Hannah Rowe, MA, CCC-SLP is a doctoral student at the MGH Institute of Health Professions. Portions of this data have been presented at the Boston Speech Motor Control Symposium 2019 and will be presented and published at INTERSPEECH 2019. She has no financial or nonfinancial relationships to disclose. |
| Hantao Wang and Ludo Max are funded by research grants from NIH/NIDCD and CIHR, but have no other financial or nonfinancial relationships to disclose. |
| Hasini Weerathunge is a Ph.D. student in the Biomedical Engineering Department of Boston University and a graduate research assistant in Stepp lab for Sensorimotor Rehabilitation Engineering. She has no financial relationships to disclose. |
| Hayden M. Ventresca is a research assistant employed by the MGH Institute of Health Professions and has no relevant financial or nonfinancial benefit related to this study. She has no nonfinancial relationships to disclose. |
| Helen Long, MS, CCC-SLP is a PhD candidate and graduate assistant in the School of Communication Sciences and Disorders at the University of Memphis. She receives funding support from the NIDCD awarded to D. Kimbrough Oller, PhD. She has no nonfinancial relationships to disclose. |
| Helen Mach, PhD, CCC-SLP is a Post-Doctoral Fellow at the University of Delaware. She received funding as a Research Assistant on the NIDCD grant that funded this research. She has no non-financial interests to disclose. |
| Helen Vradelis worked on this project while employed by the UW-Madison Waisman Center. She has no relevant nonfinancial relationships to disclose. |
| Helena Hybbinette is a PhD- student at the Division of Speech and Language Pathology, Department of Clinical Science, Intervention and Technology, Karolinska Institutet. She is also employed as a speech-language pathologist by the Department of Rehabilitation Medicine, Danderyd Hospital. She has no financial and non-financial relationships to declare. |
| Hung-Shao Cheng is a third-year PhD student of Communicative Sciences and Disorders at New York University. He has been working in the Psycholinguistics, Aphasia, and Neuromodulation Lab since the fall of 2017. He has started working with Dr. Tara McAllister in the Biofeedback Intervention Technology for Speech Lab since the summer of 2019. He has no financial and nonfinancial relationships to disclose. |
| Izabela Grzebyk is a second-year Master’s student of Speech-Language Pathology at New York Medical College. She has been working in the Psycholinguistics, Aphasia, and Neuromodulation Lab since the fall of 2018. She has no financial and non-financial relationships to disclose. |
| Jaehoon Lee has no financial or nonfinancial relationships to disclose. |
| Jake Greenwood is one of the principal inventors of the ForceWIN10 system. Intellectual property disclosure is on file with the University of Nebraska and NUtech Ventures. He has no financial or nonfinancial relationships to disclose. |
| Jakob Pfab is a web-developer, his contribution is supported by the Bayerische Sparkassen foundation. He has no conflict of interest to disclose. |
| James D. Berry has consulted for Clene Nanomedicine, Denali Therapeutics, and Alexion. He receives research funding from MTPA, Brainstorm Cell Therapeutics, Anelixis Therapeutics, Amylyx Pharmaceuticals, ALS Association, MDA, ALS Finding a Cure, ALS One, EGL Foundation, Project ALS, and NINDS. |
| Jason Kim is a doctoral candidate at Northwestern University. He has no relevant financial or non-financial benefits and/or relationships to disclose. |
| Jason Whitfield, Ph.D., is employed by Bowling Green State University and received an internal research grant from Bowling Green State University. He has no nonfinancial relationships to disclose. |
| Jeanette Plantin is a PhD- student at the Department of Clinical Sciences, Danderyd Hospital, Karolinska Institutet. She is also employed as a physiotherapist by the Department of Rehabilitation Medicine, Danderyd Hospital. She has no financial and non-financial relationships to declare. |
| Jennifer Vojtech receives financial compensation from the National Science Foundation Graduate Research Fellowship Program under Grant# 1247312 through employment by Boston University and; James T. Heaton receives financial compensation through employment by the Massachusetts General Hospital Department of Surgery, employment by the MGH Institute of Health Professions Department of Communication Sciences and Disorders, grant support from DARPA (ST16C-003 ), the Voice Health Institute and National Philanthropic Trust, and through serving as a scientific advisor to Delsys Inc; Geoffrey S. Meltzner receives financial compensation through employment by VocaliD, Inc; Rupal Patel receives financial compensation through employment by VocaliD, Inc and Northeastern University; and Michael D. Chan, Bhawna Shiwani, Serge H. Roy, Paola Contessa, Gianluca De Luca and Joshua C. Kline receive financial compensation through employment by Delsys, Inc. Disclosure: both Delsys, Inc and VocaliD, Inc are commercial companies; Delsys, Inc manufactures, markets and sells Electromyographic Sensors and other Physiological Measurement Systems; and VocaliD, Inc develops, markets and sells personalized digital voices. The research reported in this work was supported in part by a grant from the National Institute on Deafness and Other Communication Disorders of the National Institutes of Health under award number R43DC017097 and by the De Luca Foundation. There are no other nonfinancial relationships to disclose. |
| Jessica Richardson receives salary from the University of New Mexico. She is also funded by NIH and DoD as well as internal grants. She has no nonfinancial relationships to disclose. |
| Jingwei Wu is employed by Temple University. He is Co-Investigator on a research grant from NIDCD (R01 DC017768; PI: Maas). He has no other financial or nonfinancial relationships to disclose. |
| John Houde is an Associate Professor of Otolaryngology at University of California, San Francisco and received a research grant from the National Institutes of Health (NIDCD). He has no financial or non-financial relationships to disclose. |
| Jonathan Rogers, University of Memphis, has no relevant financial or non-financial relationships to disclose. Research was supported by the U of M SCSD 2018 Faculty Research Grant. |
| Jordan Manes is a PhD student at Northwestern University. She has no financial relationships to disclose. |
| Joseph McManaman is a graduate student at Seton Hall University. He has no financial relationships to disclose. |
| Juhi Kidway has no disclosures. |
| Julie Case is an employed by Hofstra University. This work was supported by a doctoral student research grant awarded by Apraxia Kids, the ASH Foundation New Century Doctoral Student Scholarship, and the NYU Steinhardt doctoral student research grant. |
| Julie Liss is a professor at Arizona State University. She has equity in Aural Analytics, Inc., a company founded at Arizona State University. She has no non financial relationships to disclose. |
| K. Hwang, A. Bahrami, A. Cerva, A. Choi, and C. Kraemer are graduate students at Teachers College, Columbia University, and have no relevant financial or nonfinancial relationships to disclose. |
| Kaila L. Stipancic is a doctoral student employed by the MGH Institute of Health Professions and has no relevant financial or nonfinancial benefit related to this study. She has no nonfinancial relationships to disclose. |
| Kan Kawabata worked on this project while employed as a graduate research assistant at Arizona State University. He has no relevant nonfinancial relationships to disclose. |
| Kate Nealon receives a student fellowship stipend and has no relevant financial or non-financial benefit related to her poster. |
| Katelynn Getchell is employed by Massachusetts General Hospital. She has no nonfinancial relationships to disclose. |
| Katharina Lehner holds a scholarship at the Clinical Neuropsychology Research Group at the Institute of Phonetics and Speech Processing, LMU Munich. She has no conflict of interest to disclose. |
| Katherine Brown is a doctoral student at the University of Washington whose research was supported in part by the Pat Tillman Foundation Scholars program. She has no nonfinancial relationships to disclose. |
| Kathy Lee, The Chinese University of Hong Kong, has no financial and nonfinancial relationships to disclose. |
| Katie Threlkeld and Molly Sifford are graduate students at the University of Missouri who receive a stipend and tuition waiver through graduate assistantships from the Department of Speech, Language and Hearing Sciences. Gwen Nolan is employed by the University of Missouri and was awarded Phase II and Phase III funding from the Parkinson Voice Project as part of their National SPEAK OUT! and LOUD Crowd Grant Program. Lindsey Heidrick is employed by the University of Kansas Medical Center and receives salary support from Dr. Kuruvilla’s NIDCD grant. |
| Kelly Richardson has no relevant financial or nonfinancial benefit to disclose. |
| Kimberly Grubbs is a graduate student at Louisiana State University and has no relevant financial or non-financial benefit related to this presentation. |
| Lacee Fitzgerald is an undergraduate student in Arizona State University and has no relevant financial or nonfinacial benefit related to this presentation. She has no nonfinancial relationships to disclose. |
| Larisa Kalinowski is an undergraduate student at Bowling Green State University and received an internal grant from the Center for Undergraduate Research and Scholarship at Bowling Green State University. She has no nonfinancial relationships to disclose. |
| Lauren Bennett is currently employed by Hoag Memorial Presbyterian Hospital. She was previously employed as a postdoctoral fellow at the Cleveland Clinic Lou Ruvo Center for Brain Health where she worked on the Professional Fighters Brain Health Study which is supported by Belator, UFC, the August Rapone Family Foundation, Top Rank, Haymon Boxing, and an Institutional Development Award (IDe from the National Institute of General Medical Sciences [NIGMS]) of the National Institutes of Health under grant number P20GM109025. |
| Lauren Sullivan is an undergraduate student at Bowling Green State University and received an internal grant from the Center for Undergraduate Research and Scholarship at Bowling Green State University. She has no nonfinancial relationships to disclose. |
| Leenke van Haaften is employed by Radboud University Medical Center, Nijmegen, and has no relevant financial or nonfinancial benefit related to this presentation. She has no nonfinancial relationships to disclose. |
| Lena Hartelius works as a professor in speech and language pathology at the Institute of Neuroscience and Physiology at the University of Gothenburg. She is also a certified speech and language pathologist working at Skaraborg Hospital in Skövde. She has no financial and non-financial relationships to declare. |
| Linda Sandström is a PhD student at the Division of Speech and Language Pathology, Department of Clinical Science, Umeå University. She is also a certified speech and language pathologist working at Umeå University Hospital. She has no financial and non-financial relationships to declare. |
| Linna Jingyu Jin, MScA, CCC-SLP is a PhD student at the University of Washington. She has no financial or non-financial interests to disclose. |
| Liziane Bouvier is a PhD student at Laval University and received graduate scholarships from the Fonds de recherche du Québec en santé, the Canadian Institutes of Health Research and the Research Chair on Aging. He has no nonfinancial relationships to disclose. |
| Lydia Kallhoff is employed by the University of Utah. She received a salary from her employer to conduct research. She has no nonfinancial relationships to disclose. |
| Mara Kapsner-Smith, MS, CCC-SLP is a Lecturer and PhD student at the University of Washington. She received funding as a co-investigator on the NIDCD grant that funded this research. She has no non-financial interests to disclose. |
| Maria Grigos is Chair and Associate Professor in the Department of Communicative Sciences and Disorders at New York University. Dr. Grigos’ research focuses on speech motor development and disorders in children, with an emphasis on the relationship between articulatory control and linguistic development. Financial Disclosures: This research is supported by the NYU Mega Grant fund Nonfinancial Disclosures: Member of the Professional Advisory Council for Apraxia Kids |
| Marisha Speights is an assistant professor employed by Auburn University and the recipient of an Auburn University Internal Grant Program Seed Grant. She has no nonfinancial disclosures. |
| Mathes Burke III graduated with his MS in Kinesiology from San Diego State University and currently works at Personally Fit, Inc. He has no nonfinancial relationships to disclose. |
| Matthew Masapollo is currently at postdoctoral research associate at Boston University and has no competing interests to declare. |
| Michael Tong, The Chinese University of Hong Kong, has no financial and nonfinancial relationships to disclose. |
| Mohsen Hozan has no financial or nonfinancial relationships to disclose. |
| Molly Beiting is a doctoral student at Temple University. She received the First Summers Research Initiative grant from the Temple University Graduate School to support this research. She receives no other relevant financial or non-financial benefit related to this presentation. |
| Monique Tardif is currently a Research Fellow in the Stepp Lab for Sensorimotor Rehabilitation Engineering at Boston University. She has no financial relationships to disclose. |
| Morgan Hakenewerth and Alexandra Linderer are graduate students at the University of Missouri who receive a stipend and tuition waiver through graduate research assistantships from the Department of Speech, Language and Hearing Sciences. |
| Mr. Boley is a graduate student at the George Washington University. He has no financial and nonfinancial relationships to disclose. |
| Mr. Brian D. Richburg is a research coordinator employed by the MGH Institute of Health Professions and has no relevant financial or nonfinancial benefit related to this study. He has no nonfinancial relationships to disclose. |
| Mr. Mathieu Balaguer is employed by Toulouse University III (Paul Sabatier), received funding from the French National Research Agency (Grant ANR-18-CE45-0008 in 2018 RUGBI project “Looking for Relevant linguistic Units to improve the intelliGiBIlity measurement of speech production disorders” led by Jérôme Farinas at IRIT), works as a PhD student at the “Institut de Recherche en Informatique de Toulouse” (Toulouse Institute for Computer Science Research). He has no nonfinancial relationships to disclose. |
| Mr. Patil is undergraduate student at the Pennsylvania State University. He has no financial and nonfinancial relationships to disclose. |
| Mr. Smith receives a graduate student stipend from Boston University and has no relevant financial or nonfinancial benefit related to the presentation. He has no nonfinancial relationships to disclose. |
| Mr. Timothy Pommée is employed by Toulouse University III (Paul Sabatier), received funding from the European Union's Horizon 2020 research and innovation programme under Marie Skłodowska-Curie grant agreement No 766287, works as a PhD student at the “Institut de Recherche en Informatique de Toulouse” (Toulouse Institute for Computer Science Research). He has no nonfinancial relationships to disclose. |
| Ms Ho Kin Yee was a postgraduate student at the Education University of Hong Kong at the time of the study. She has no nonfinancial relationship to disclose. |
| Ms Scarcella has nothing to disclose. Ms Michelazzo is employed in private practice. Dr. McCabe is employed by The University of Sydney. They have no nonfinancial relationships to disclose. |
| Ms. Abramowitz is a graduate student and has no financial or nonfinancial relationships to disclose. |
| Ms. Durr recently graduated from the master's SLP program at the University of Washington and was supported by Dr. Eadie's NIH/NCI grant; she has no nonfinancial relationships to disclose. |
| Ms. Eichhorn is employed by the University of Wisconsin-Madison and works on a NIH-supported research grant. She has no non-financial relationships to disclose. |
| Ms. Gutz is a PhD student in the Speech and Hearing Bioscience and Technology program at Harvard University in the Division of Medical Sciences. She is funded through a training grant from the National Institute on Deafness and Other Communication Disorders. She has no nonfinancial relationships to disclose. |
| Ms. Hayden M. Ventresca is a research assistant employed by the MGH Institute of Health Professions and has no relevant financial or nonfinancial benefit related to this study. She has no nonfinancial relationships to disclose. |
| Ms. Healy is employed by the University of Oxford. She has no financial or nonfinancial relationships to disclose. |
| Ms. Korkalainen is employed by Cerebral Palsy Alliance as a consultant to speech pathology. She as no relevant financial or non-financial benefit related to this presentation. She has no financial or non-financial relationships to disclose. |
| Ms. Nada Elhayek is a graduate student at Western University. She has no relevant financial or non-financial benefit related to this presentation. She has no non-financial relationships to disclose. |
| Ms. Romanczyk is a student in the Department of Communication Science and Disorders at Northeastern University. She received funding from the Tufts Clinical and Translation Science Institute (CTSI) Pilot Studies Program for her assistance with this project. She has no nonfinancial relationships to disclose. |
| Ms. Russell is a graduate student at Northeastern University. She has no financial or nonfinancial relationships to disclose. |
| Ms. Shellikeri is employed by the University of Toronto, has no relevant financial or nonfinancial benefit related to this presentation, and has no nonfinancial relationships to disclose. |
| Ms. Wince is a graduate student and has no financial or nonfinancial relationships to disclose. |
| Naomi Eichorn, PhD, CCC-SLP is an Assistant Professor in the School of Communication Sciences and Disorders at the University of Memphis. She has no nonfinancial relationships to disclose. |
| Nicole Enos is a recent graduate from the Biomedical Engineering Program at Boston University and worked as an undergraduate research assistant in Stepp Lab for Sensorimotor Rehabilitation Engineering during the time of the presented research. She has no financial relationships to disclose. |
| Patric Blomstedt is a Professor at the Division of Clinical Neuroscience, Department of Clinical Science, Umeå University, a consultant for Abbott and Medtronic, and a shareholder in Mithridaticum AB. He has no non-financial relationships to declare |
| Påvel Lindberg is an Associate Professor at the Department of Clinical Sciences, Danderyd Hospital, Karolinska Institutet. He is also employed as a research scientist at INSERM Université Paris Descartes, Paris. He has no financial and non-financial relationships to declare. |
| Per Ostberg is an Associate professor at the Division of Speech and Language Pathology, Department of Clinical Science, Intervention and Technology, Karolinska Institutet. He is also employed as a speech-language pathologist by the Karolinska University Hospital in Stockholm. He has no financial and non-financial relationships to declare. |
| Pranav Ambadi is a PhD student at Arizona State University. He has no nonfinancial relationships to disclose. |
| Prof Lowit and Ms Egan are both employed by Strathclyde University. Prof Lowit received a grant from Ataxia UK to conduct the therapy trial. Neither have any further financial or non-financial relationships to disclose. |
| Prof. Ellen Gerrits is employed by HU University of Applied Sciences, and Utrecht University, and has no relevant financial or nonfinancial benefit related to his presentation. She has no nonfinancial relationships to disclose. |
| Prof. Sharynne McLeod is employed by Charles Sturt University, Bathurst, Australia, and is co-author of the Intelligibility in Context Scale. She has no financial relationships to disclose. |
| Prof. Watkins is employed by the University of Oxford and received research funding for this work from the Medical Research Council. She has no financial or nonfinancial relationships to disclose. |
| Prof. Wolfram Ziegler received a research grant from the German Research Foundation. He has no nonfinancial relationships to disclose. |
| Rich Ivry is a Professor of Psychology at University of California, Berkeley and received a research grant from the National Institutes of Health (NIDCD). He has no financial or non-financial relationships to disclose. |
| Rick Arenas is employed by the University of New Mexico. He has no nonfinancial disclosures. |
| Ruth Stoeckel is retired from the Mayo Clinic. She receives a consultant fee through a research grant from NIDCD (R01 DC017768; PI: Maas). She also serves on the Professional Advisory Council of Apraxia Kids. She has no other financial or nonfinancial relationships to disclose. |
| Sandy Snyder owns stock in SpeechVive, Inc. Ms. Snyder has no relevant nonfinancial benefits to disclose. |
| Sanne Diepeveen is employed by HAN University of Applied Sciences, Nijmegen, and has no relevant financial or nonfinancial benefit related to this presentation. She has no nonfinancial relationships to disclose. |
| Saraching Chao is a graduate student in Arizona State University and has no relevant financial or nonfinacial benefit related to this presentation. She has no nonfinancial relationships to disclose. |
| Sarah Banks is employed by the University of California San Diego. She was previously employed by the Cleveland Clinic Lou Ruvo Center for Brain Health. The Professional Fighters Brain Health Study is funded by Belator, UFC, the August Rapone Family Foundation, Top Rank, Haymon Boxing, and an Institutional Development Award (IDeA NIGMS; P20GM109025). She has no nonfinancial relationships to disclose. |
| Saul Frankford is employed by Boston University and has no financial or nonfinancial relationships to disclose. |
| Serena Holdosh is a doctoral student employed by Bowling Green State University. She has no nonfinancial relationships to disclose. |
| Sharon Tang worked on this project while employed by the UW-Madison Waisman Center. She has no relevant nonfinancial relationships to disclose. |
| Silvia Isabella is a graduate student at the University of Toronto. She has no conflicts of interest to disclose. |
| Sofiya Krasilshchikova is a graduate student at the University of New Mexico. She received payment for work on this project from an internal grant from the University of New Mexico. She has no nonfinancial relationships to disclose. |
| Srikanthan Nagarajan is a Professor of Radiology at University of California, San Francisco and received a research grant from the National Institutes of Health (NIDCD). He has no financial or non-financial relationships to disclose. |
| Steven M. Barlow is one of the principal inventors of the ForceWIN10 system. Intellectual property disclosure is on file with the University of Nebraska and NUtech Ventures.  |
| Susan Caspari is employed by Temple University. She is Co-Investigator on a research grant from NIDCD (R01 DC017768; PI: Maas). She is also owner of a private practice in speech-language pathology. She serves on the Professional Advisory Council of Apraxia Kids. She donated videos to the Dynamic Evaluation of Motor Speech Skill, and receives no compensation for the donations. She has no other financial or nonfinancial relationships to disclose. |
| Symone Whitney Banks is a second year graduate student at the University of Arizona. She is paid as a graduate research assistant (GRA) as part of the research grant that funds this work. As a GRA, she receives a tuition compensation and a monthly stipend. She has no nonfinancial relationships to disclose. |
| Tara McAllister is an Associate Professor of Communicative Sciences and Disorders at New York University, and the director of the Biofeedback Intervention Technology for Speech Lab. Her work focuses on speech development in children with and without phonological delay or disorder and the use of biofeedback technology for speech sound intervention. Her research is funded by research grant R01DC017476 from the National Institutes of Health National Institute on Deafness and Other Communication Disorders. She has no nonfinancial relationships to disclose. |
| Tristan Mahr worked on this project while employed by the UW-Madison Waisman Center. He has no relevant nonfinancial relationships to disclose. |
| Tyson Harmon is a salaried employee of Brigham Young University. He has no nonfinancial relationships to disclose. |
| Vikram Ramanarayan, University of Calfornia, San Francisco, does not have any financial or non-financial relationships to disclose. |
| Visar Berisha is an associate professor at Arizona State University. He has equity in Aural Analytics, Inc., a company founded at Arizona State University. He has no non financial relationships to disclose. |
| Yishan Jiao is a research scientist at Pearson Learning. She has no financial or non financial relationships to disclose. |
| YoungHwa Michelle Chang is a Ph.D. candidate in Communication Sciences and Disorders at Teachers College, Columbia University, and has no relevant financial or nonfinacial benefit to disclose related to her presentation. |
| Yuet Sheung, The Chinese University of Hong Kong, has no financial and nonfinancial relationships to disclose. |
| Zoe Kriegel is a doctoral student employed by Bowling Green State University and received a research grant from the Ohio Speech Language Hearing Association. She has no nonfinancial relationships to disclose. |