

❧ *Curriculum Vitae* ❧

Kat Agres, PhD

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Education

- 2006–2012 **PhD**, *Cornell University*, Ithaca, NY
Experimental Psychology, with a graduate minor in Cognitive Science
Thesis: The learning trajectory of musical memory: From schematic processing of novel melodies to robust musical memory representations
Supervisors: David Field, Michael Spivey, Jason Zevin, Michael Goldstein, David Pizarro
- 2001–2005 **Bachelor of Humanities and Arts**, *Carnegie Mellon University*, Pittsburgh, PA
Cognitive Psychology and Cello Performance

Professional Experience

- 2020–present **Assistant Professor (tenure track)**, National University of Singapore (NUS)
Yong Siew Toh Conservatory of Music
- 2019–present **Research Scientist III**, Agency for Science, Technology and Research (A*STAR)
Principal Investigator, Music Cognition Group
Social & Cognitive Computing Department, Institute of High Performance Computing (IHPC), Singapore
- 2018–2019 **Adjunct Assistant Professor**, National University of Singapore (NUS)
Yong Siew Toh Conservatory of Music
- 2017–2019 **Research Scientist II**, Agency for Science, Technology and Research (A*STAR)
Principal Investigator, Music Cognition Group
Social & Cognitive Computing Department, Institute of High Performance Computing (IHPC), Singapore
- 2017–present **Scientific Consultant**, X-System Limited, London, UK
- 2015–2017 **Senior Research Scientist**, X-System Limited, London, UK
- 2013–2016 **Postdoctoral Researcher**, Queen Mary University of London
Computational Creativity Laboratory (Professor Geraint Wiggins)
Cognitive Science Group, Centre for Digital Music
School of Electronic Engineering and Computer Science
- 2014–2015 **Research Associate**, Bridge Collaboration Ltd (now TreeHouse Innovation), London, UK

- 2012–2013 **Postdoctoral Researcher**, Queen Mary University of London
 Music Cognition Laboratory (Dr. Marcus Pearce)
 Cognitive Science Group, Centre for Digital Music
 School of Electronic Engineering and Computer Science
- 2011 **Visiting Researcher**, Goldsmith's College University of London
 Centre for Cognition, Computation and Culture
 Department of Computing
Project: Computational modeling and musical memory
Hosts: Professor Geraint Wiggins and Dr. Marcus Pearce
- 2009–2011 **National Institute of Health Research Fellow**, Weill Cornell Medical College, New York, NY. IMAGINE fellowship (NIH T32HD055177)
Project: Learning Structured vs Unstructured Auditory Sequences: Investigating Neural Responses with ERP and EEG Time-Frequency Analyses
Mentor: Professor Jason Zevin
- 2005–2006 **Associate Principal Cellist**, Westmoreland Symphony Orchestra
 Greensburg, Pennsylvania
- 2004–2005 **National Institute of Mental Health (NIMH) Research Fellow**, University of Pittsburgh
Project: How Familiar Melodies Influence Context Effects in Speech Perception
Mentor: Professor Lori Holt
- 2002–2005 **Research Assistant**, Carnegie Mellon University
 Speech Perception & Learning Laboratory (Professor Lori Holt)
 Department of Psychology

Research Interests

Music perception and cognition; music technology for healthcare applications; computational models of music cognition; statistical learning in music and language; machine learning; electroencephalography (EEG) and Brain-Computer Interfaces (BCI); musical learning and memory; musical complexity, preference, and expectation mechanisms; information-theoretic structure of music; music and emotion; neural mechanisms of music cognition; Music Information Retrieval (MIR); computational creativity

Teaching Experience & Credentials

- 2020–present **Assistant Professor**, *National University of Singapore (NUS)*
- Teach 'Music Cognition' for students in the *Yong Siew Toh Conservatory of Music*, the *NUS Department of Psychology*, and *Yale-NUS*
 - Develop new modules for students in the *Yong Siew Toh Conservatory of Music*, such as 'Cognition and Music Performance'
 - Teach new module on 'Music, Health, and Well-being' at the *NUS Yong Loo Lin School of Medicine*
 - Support and establish new research activities in the *YST Conservatory of Music*

- 2018–2019 **Adjunct Assistant Professor**, *National University of Singapore (NUS)*
- Develop and teach new undergraduate modules on Music Cognition (MUA3230) and 'Independent Research in Music' for students in the *Yong Siew Toh Conservatory of Music* and the *Department of Psychology*
 - Support and establish new research activities in the *YST Conservatory of Music*
- 2017–present **PhD student supervision**
- Pinar Bilgin, Nanyang Technological University (NTU), School of Computer Science and Engineering
 - Muhammad Huzaifah Md Shahrin, National University of Singapore (NUS), Graduate School of Integrative Sciences and Engineering
 - Yin-Jyun Luo, Singapore University of Technology and Design (SUTD), Graduate School of Information Systems, Technology, and Design
 - Raven Kin Wai Cheuk, Singapore University of Technology and Design (SUTD), Graduate School of Information Systems, Technology, and Design
- 2018–present **Research Assistant and Intern supervision**
- Siddarth Sridhar, Student intern at NUS YST for for 'Technology and Music Therapy' project
 - Ren Jie Tay, Research Assistant at IHPC A*STAR for 'Music, cognition, and statistical learning in adults and the elderly' study (2018-2019)
 - Arihant Singhai, Student intern at IHPC A*STAR for 'Music, cognition, and statistical learning in adults and the elderly' study (2018)
- 2017–2018 **Supervision of five students in Undergraduate Research Opportunities Programme (UROP)**, Singapore University of Technology and Design (SUTD)
Project title: Developing a movement-based music game for preventive healthcare and well-being in the elderly.
- 2016–present **Associate Fellow of The Higher Education Academy**, UK Professional Standards Framework for teaching and learning support in higher education
- 2015–2016 **Certificate in Learning and Teaching**, Postgraduate Certificate in Academic Practice (PGCAP) program, Queen Mary, University of London
- 2014–2016 **Guest lecturer**, *Music Perception and Cognition*, School of Electronic Engineering and Computer Science, Queen Mary University of London
- *Lecture topics*: Musical Memory; The Development of Music; Music and Cross-Cultural Music Perception; Music and Evolution
- 2014–2016 **Co-Supervisor of graduate research**, Queen Mary University of London
- Assisted in supervising QMUL PhD students
- 2007–2010 **Supervisor of undergraduate research**, Cornell University
- Supervised diverse Cornell undergraduate research assistants
- 2007–2009 **Teaching Assistant**, Cornell University
- Developmental Psychology

- Psychology of Music
- Laboratory in Cognition and Perception
- Psychology of Emotion

Other training

- 2017 Project Management Professionals (PMP) course, completed at the Agency for Science, Technology and Research (A*STAR), Singapore
- 2016 Research workshop (invited participant), *From Computational Creativity to Creativity Science*, Center for Interdisciplinary Research, University of Bielefeld, Germany
- 2016 Workshop on *Auditory Neuroscience, Cognition, and Modelling*, Queen Mary, University of London, UK
- 2015 Workshop on *Music Cognition: Where Computational and Cognitive Models Meet*, University of Amsterdam, Amsterdam, The Netherlands
- 2015 Workshop on *Music Similarity: Concepts, Cognition and Computation*, Lorentz Center, Leiden, The Netherlands
- 2014 *Design Computing and Cognition (DCC)* Workshop on Computable Design Creativity Metrics, University College London, UK
- 2013 Computational Creativity School, University of Helsinki, Porvoo, Finland
- 2013 *Information Dynamics of Music* Workshop; Goldsmiths, University of London, UK
- 2010 EEGLAB workshop, University of California, San Diego, CA
- 2009 Merck Summer Institute for Developmental Neurobiology, Cornell University, Ithaca, NY
- 2008 Summer Institute on Social Cognition: Minds and Societies, The Université du Québec à Montréal, Montreal, Canada

Grants and Fellowships

- **Principal Investigator** (WP1, Project 3), RIE2020 Advanced Manufacturing and Engineering (AME) Programmatic Fund. “Next-Generation Brain-Computer-Brain Platform – A Holistic Solution for the Restoration Enhancement of Brain Functions (NOURISH)”, S\$9,950,280. 2020-2024.
- **Principal Investigator**, NUS Centre for Development of Teaching Learning (CDTL), Teaching Enhancement Grant (TEG). “Engaging deeply with Cognitive Science in a Conservatory of Music: Using student-centred, project-based learning to improve learning outcomes and performance practice in music students”, S\$14,600. 2020-2021
- Collaborator, Singapore Ministry of Education (MOE) Tier II Grant (2018-T2-2-161). “aiMuVi: AI Music generated from Videos”, S\$648,216. 2019-2022.
- **Co-Principal Investigator**, Singapore University of Technology and Design – Massachusetts Institute of Technology (SUTD-MIT) International Design Centre, Research Grant. “An intelligent system for

understanding and matching perceived emotion from video with music”, S\$497,842. 2018-2020.

- Collaborator, National Arts Council (NAC) Research Grant (awarded but declined). “Visualizing the Intangible: Mapping the Past, Present, and Future of Singapore’s Unique Musical Heritage”, S\$147,000. 2019-2021.
- Platform Grant funding, Centre for Digital Music, Queen Mary University of London, for three months of postdoctoral support and funding for research collaboration trip to Aalborg University. Funding from the EPSRC, Grant EP/E045235/1. Nov, 2016.
- PROSECCO funding to organize and chair the first Workshop on Conceptual Blending and Metaphor Generation, Josef Stefan Institute. Ljubljana, Slovenia. Funding from the European Commission Framework Programme 7. April, 2016.
- PROSECCO grant for a Short-Term Mission: Collaborative research visit to the University of Helsinki (Discovery Research Group, Department of Computer Science). Funding from the European Commission Framework Programme 7. January, 2016.
- PROSECCO grant for a Short-Term Mission: Collaborative research visit at the Austrian Institute for Artificial Intelligence. Funding from the European Commission FP7. November, 2014
- **Named Postdoctoral Researcher**, Learning to Create (Lrn2Cre8) project funded by the Future and Emerging Technologies (FET) programme within the Seventh Framework Programme for Research of the European Commission (grant #610859), 2013-2016
- **National Institute of Health (NIH) research training fellowship** (NIH T32HD055177), 2009-2011
- Cognitive Science Summer Research Fellowship, 2011
- NSF Travel Grant for CogSci 2009 (Amsterdam, NL), 2009
- NSF Pre-doctoral Fellowship Honorable Mention, 2008
- Cornell University Graduate School Conference Travel Grant, 2007, 2008
- Cognitive Science Program Travel Grant, 2007, 2008
- **Sage Fellowship**, most prestigious Cornell University fellowship for incoming Psychology PhD students, covering 2 years of a full-time research stipend and 5 years of summer support, 2006-2012
- Tomlinson Doctoral Fellowship (declined), McGill University, 2006
- **National Institute of Mental Health (NIMH) Fellowship**, 2004-2005
- Vira I. Heinz Scholarship for Study Abroad, 2003

— Awards and Professional Memberships

- Member, Association for Psychological Science, 2019–present
- Member, American Association for the Advancement of Science, 2018–present
- Member, Institute of Electrical and Electronics Engineers (IEEE), 2017–present
- Member, Cognitive Science Society, 2008–present
- Awarded funding to organize and hold a week-long workshop on ‘Music, Computing, and Health’

(€25,000), awarded by the Lorentz Center, Leiden, the Netherlands, 2019

- International Conference of Music Perception and Cognition (Sapporo, Japan), Best Student Paper award, 2008
- Induction into Phi Beta Kappa honor society, 2006
- Induction into Psi Chi and Phi Kappa Phi academic honor societies, 2005
- Phi Kappa Phi Award of Excellence (\$2000USD prize) for graduate study, 2005
- **Carnegie Mellon Presidential Scholar**, 2004-2005
- Carnegie Mellon Research Symposium, *First prize* in Studio for Creative Inquiry Research Competition and *Second prize* in Bose Competition in Auditory Research, 2005
- Senior Leader Recognition award, Carnegie Mellon University, 2005
- Carnegie Mellon Research Symposium, *First prize* in Psychology Department Research Competition and *Second prize* in Bose Competition in Auditory Research, 2004

Publications

Agres, K., et al. (Under review). Music, Computing, and Health: Current and future roles of music technology for healthcare and well-being.

Herff, S. A., Zhen, S., Yu, R., & Agres, K. R. (2020). Age-dependent statistical learning trajectories reveal differences in information weighting. *Psychology and Aging*, 35(8), 1090–1104. DOI:10.1037/pag0000567.

Cheuk, K. Wai, Anderson H., Agres K., Herremans D. (2020). nnAudio: An on-the-fly GPU Audio to Spectrogram Conversion Toolbox Using 1D Convolutional Neural Networks. *IEEE Access*, 8, 161981–162003. DOI:10.1109/ACCESS.2020.3019084.

Nahar, F., Agres, K., Balamurali, B., & Herremans, D. (2020). A dataset and classification model for Malay, Hindi, Tamil and Chinese music. Workshop on Machine Learning and Music (MML 2020), at the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD) conference. Virtual Ghent, Belgium. <https://arxiv.org/abs/2009.04459>

Agres, K. R. (2020). Developing Music Technology for Emotion Regulation and Motor Rehabilitation. Proceedings of the 16th WFMT World Congress of Music Therapy (WCMT 2020). Virtual Pretoria, South Africa.

Luo, Y-J., Hsu, C-C., Agres, K., & Herremans, D. (2020). Singing Voice Conversion with Disentangled Representations of Singer and Vocal Technique Using Variational Autoencoders. 45th International Conference on Acoustics, Speech, and Signal Processing (IEEE ICASSP 2020). Virtual Barcelona, Spain.

Cheuk, K.W., Agres, K., & Herremans, D. (2020). The impact of Audio input representations on neural network based music transcription. Proceedings of the International Joint Conference on Neural Networks (IJCNN 2020). Virtual Glasgow, Scotland.

Bilgin, P., Agres, K., Robinson, N., Phyo Wai, A.A., & Guan, C. (2019). A Comparative Study of Mental States in 2D and 3D Virtual Environments Using EEG. IEEE International Conference on Systems,

- Man, and Cybernetics (SMC 2019). Bari, Italy.
- Luo, J., Agres, K., & Herremans, D. (2019). Learning Disentangled Representations of Timbre and Pitch for Musical Instrument Sounds Using Gaussian Mixture Variational Autoencoders. Proceedings of The 20th International Society of Music Information Retrieval (ISMIR) Conference. Delft, the Netherlands.
- Cheuk, K.W., Agres, K., & Herremans, D. (2019). nnAudio: A PyTorch Audio Processing Tool Using 1D Convolution neural networks. The 20th International Society for Music Information Retrieval Conference (ISMIR) - Late Breaking Demo. Delft, The Netherlands.
- Agres, K. (2019). Change detection and schematic processing in music. *Psychology of Music*, 47(2), 173-193. DOI:10.1177/0305735617751249
- Herff, S. A., Rashid, N. A., Lee, J. L., Lee, T.S., Agres, K. R. (2019). Statistical Learning Ability as a Measure of Cognitive Function. PsyArXiv. doi.org/10.31234/osf.io/u4ry6
- Agres, K., Lui, S., & Herremans, D. (2019). A novel music-based game with motion capture to support cognitive and motor function in the elderly. IEEE Conference on Games (CoG). London, England.
- Ehrlich, S., Agres, K., Guan, C., & Cheng, G. (2019). A closed-loop, music-based BCI for emotion mediation. *PLoS ONE*, 14(3): e0213516. DOI:10.1371/journal.pone.0213516
- Agres, K., Bigo, L., & Herremans, D. (2019). The impact of musical structure on enjoyment and absorptive listening states in trance music. Invited book chapter in D. Clarke, R. Herbert, and E. Clarke (Eds.), *Music and Consciousness II*, Oxford University Press.
- McGregor, S., Agres, K., Rataj, K., Purver, M., & Wiggins, G. (2019). Re-Representing Metaphor: Modelling metaphor perception using dynamically contextual distributional semantics. *Frontiers in Psychology: Cognitive Science*, 10(765). DOI:10.3389/fpsyg.2019.00765
- Agres, K. R., Abdallah, S. A., & Pearce, M. T. (2018). Information Theoretic Properties of Tone Sequences Dynamically Influence Expectation and Memory. *Cognitive Science*, 42(1), 43-76.
- Beveridge, S., Cano, E., & Agres, K. (2018). Rhythmic Entrainment for Hand Rehabilitation Using the Leap Motion Controller. Proceedings of The 19th International Society of Music Information Retrieval (ISMIR) Conference. Paris, France.
- Agres, K., & Meredith D. (2018). Modelling Novice and Expert Listeners' Ability to Detect Changes in Short Melodies. Proceedings of the 15th International Conference for Music Perception and Cognition (ICMPC). Sydney, Australia.
- Agres, K., & Herremans, D. (2018). The Structure of Chord Progressions Influences Listeners' Enjoyment and Absorptive States in EDM. Proceedings of the 15th International Conference for Music Perception and Cognition (ICMPC). Sydney, Australia.
- Chuan, C-H., Agres, K., & Herremans, D. (2018). From Context to Concept: Exploring Semantic Relationships in Music with Word2Vec. *Neural Computing & Applications*, 1-14. DOI:10.1007/s00521-018-3923-1
- Agres, K & Herremans, D. (2017). Music and Motion-Detection: A Game Prototype for Rehabilitation and Strengthening in the Elderly. Proceedings of the IEEE International Conference on Orange Technologies (ICOT). Singapore.

- Cancino-Chacon, C., Grachten, M., & Agres, K. (2017). From Bach to the Beatles: The simulation of human tonal expectation using ecologically-trained predictive models. Proceedings of the 18th International Society for Music Information Retrieval Conference (ISMIR). Suzhou, China.
- Ibrahim, K., Grunberg, D., Agres, K., Gupta, C., & Wang, Y. (2017). Intelligibility of Sung Lyrics: a Pilot Study. Proceedings of the 18th International Society for Music Information Retrieval Conference (ISMIR). Suzhou, China.
- Agres, K., Lynch, D., Finn, S., & Osborne, N. (2017). Final report on the X-System Randomized Controlled Trial: Evidence of physiological entrainment. X-System internal publication, 1-6. London, UK.
- Agres, K., Herremans, D., Bigo, L., & Conklin, D. (2017). The Effect of Harmonic Structure on Enjoyment in Uplifting Trance Music. *Frontiers in Psychology: Cognitive Science*, 7:1999. DOI:10.3389/fpsyg.2016.01999.
- Agres, K. (2016). The X-System Randomized Controlled Trial: A detailed report on the physiological entrainment of listeners to X-System musical playlist recommendations. X-System internal publication, 1-23. London, UK.
- Agres, K., Forth, J., & Wiggins, G. (2016). Evaluation of musical creativity and musical metacreation systems. *ACM Computers in Entertainment*, 14(3), 1-33. DOI:10.1145/2967506.
- Forth, J., Agres K., Purver M., & Wiggins G. (2016). Entraining IDyOT: timing in the information dynamics of thinking. *Frontiers in Psychology: Auditory Cognitive Neuroscience*, 7:1575. DOI: 10.3389/fpsyg.2016.01575.
- Wiggins, G. A., Agres K., Forth J., & Purver M. (2016). The Information Dynamics of Thinking: a cognitive architecture for human creative cognition. Workshop on Humanlike computing.
- Agres, K., & Sauve, S. (2016). Workshop on Auditory Neuroscience, Cognition, and Modeling. *Psychomusicology: Music, Mind, and Brain*, 26, 288-292. DOI: 10.1037/pmu0000151.
- Agres, K., McGregor, S., Rataj, K., Purver, M., & Wiggins, G. (2016). Modeling metaphor perception with distributional semantics vector space models. Proceedings of the workshop on Computational Creativity, Concept Invention, and General Intelligence (C3GI). Bolzano, Italy.
- Xiao, P., Alnajjar, K., Granroth-Wilding, M., Agres, K., Toivonen, H. (2016). Meta4meaning: Automatic Metaphor Interpretation Using Corpus-Derived Word Associations. In Clark, S., Llano, M.T., Hepworth, R., Colton, S., Gow, J. & Charnley, J. (Eds), Proceedings of the Seventh International Conference on Computational Creativity. Paris, France.
- Agres, K., Bigo, L., Herremans, D., & Conklin, D. (2016). The Effect of Repetitive Structure on Enjoyment in Uplifting Trance Music. Proceedings of the 14th International Conference for Music Perception and Cognition (ICMPC). ISBN 1-876346-65-5.
- McGregor*, S., Agres*, K., Purver, M., & Wiggins, G. (2015). Distributional Semantics to Conceptual Spaces: A Novel Computational Method for Concept Creation. *Journal of Artificial General Intelligence*, 6, 55-86. DOI: 10.1515/jagi-2015-0004. *Co-first authors.
- Agres, K., Cancino, C., Grachten, M., & Lattner, S. (2015). Harmonics co-occurrences bootstrap pitch

- and tonality perception in music: Evidence from a statistical unsupervised learning model. In D. Noelle, R. Dale, A. Warlaumont, J. Yoshimi, T. Matlock, C. Jennings, & P. Maglio (Eds.), *Proceedings of the 37th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.
- Agres K., & Wiggins G. (2015). Schematic processing as a framework for learning and creativity in CBR and CC. In Höllermeier, E., & M. Minor (Eds.), *Proceedings of the 23rd International Conference on Case-Based Reasoning, Frankfurt am Main, Germany, September 28-30, 2015. Lecture Notes in Artificial Intelligence*, Vol. 9343. Springer, Berlin.
- Agres, K., McGregor, S., Purver, M., & Wiggins, G. (2015). Conceptualizing Creativity: From Distributional Semantics to Conceptual Spaces. *Proceedings of the Sixth International Conference on Computational Creativity (ICCC 2015)*. Hannu Toivonen, Simon Colton, Michael Cook, Dan Ventura (Editors). Park City, Utah, June 29 – July 2, 2015. Publisher: Brigham Young University, Provo, Utah. ISBN 9780842529709.
- Lattner, S., Grachten, M., Agres, K., & Cancino, C. (2015). Probabilistic Segmentation of Musical Sequences Using Restricted Boltzmann Machines. In T. Collins, D. Meredith, & A. Volk (eds.), *Mathematics and Computation in Music. Lecture Notes in Computer Science*, Vol. 9110. Springer, Cham. ISBN 978-3-319-20602-8.
- Agres, K., Abdallah, S., & Pearce, M. (2013). An information theoretic approach to short-term musical memory. In M. Knauff, M. Pauen, N. Sebanz, & I. Wachsmuth (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society. ISBN 978-0-9768318-9-1.
- Agres, K. (2013). *The learning trajectory of musical memory: From schematic processing of novel melodies to robust musical memory representations (Doctoral dissertation)*. Cornell University Press, Ithaca, USA.
- Agres, K., Topel, S., Spivey, M., & Moseson, S. (2010). An Auditory Twist on Visual Search Using Head Movement Controlled Ambisonics. In *Proceedings of the 2010 International Computer Music Conference*. New York, NY.
- Agres, K. R., DeLong, J. E., & Spivey, M. J. (2009). The Sparsity of Simple Recurrent Networks in Musical Structure Learning. In N. Taatgen, H. van Rijn, J. Nerbonne, & L. Schomaker (Eds.), *Proceedings of the 31st Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society. ISBN 978-0-9768318-5-3.
- Krumhansl, C. L., & Agres, K. R. (2008). Musical expectancy: The influence of musical structure on emotional response. Commentary on P. Juslin & D. Västfjäll's target article 'Emotional Responses to Music: The Need to Consider Underlying Mechanisms.' *Behavioral and Brain Sciences*, Cambridge University Press.
- Agres, K. R., & Krumhansl, C. L. (2008). Musical change deafness: The ability to detect change in a non-speech auditory domain. In B. C. Love, K. McRae, & V. M. Sloutsky (Eds.), *Proceedings of the 30th Annual Conference of the Cognitive Science Society* (pp. 969-974). Austin, TX: Cognitive Science Society. ISBN 978-0-9768318-4-6.

Conference Presentations

- Agres, K. R. (2020). A novel, music-based Brain Computer Interface (BCI) system for emotion regulation. Invited talk to be presented at the IEEE Engineering in Medicine and Biology Symposium (IEEE EMB 2020). Virtual Singapore.
- Agres, K. R. (2020). Developing Music Technology for Emotion Regulation and Motor Rehabilitation. Talk presented at the 16th WFMT World Congress of Music Therapy (WCMT 2020). Virtual Pretoria, South Africa.
- Herremans, D., Cheuk, K., Luo, J., & Agres, K. (2019). Untangling indices of emotion in music using neural networks. Paper presented at the 41st Annual Conference of the Cognitive Science Society, July. Montreal, Canada.
- Herff, S., Rashid, N., Lee, J., Lee, T., & Agres, K. (2019). Statistical Learning Ability as a Measure of Cognitive Function. Paper presented at the 41st Annual Conference of the Cognitive Science Society, July. Montreal, Canada.
- Agres, K., & Meredith D. (2018). Modelling Novice and Expert Listeners' Ability to Detect Changes in Short Melodies. Talk presented at the 15th International Conference for Music Perception and Cognition (ICMPC), July. Sydney, Australia.
- Agres, K., & Herremans, D. (2018). The Structure of Chord Progressions Influences Listeners' Enjoyment and Absorptive States in EDM. Talk presented at the 15th International Conference for Music Perception and Cognition (ICMPC), July. Sydney, Australia.
- Agres, K & Herremans, D. (2017). Music and Motion-Detection: A Game Prototype for Rehabilitation and Strengthening in the Elderly. Talk presented at the IEEE International Conference on Orange Technologies (ICOT), December. Singapore.
- Agres, K. (2017). The Intersection of Neural Networks and Music Cognition. Talk presented at the Workshop on Deep Learning for Music, International Joint Conference on Neural Networks (IJCNN), May. Anchorage, Alaska.
- Agres, K., McGregor, S., Rataj, K., Purver, M., & Wiggins, G. (2016). Modeling metaphor perception with distributional semantics vector space models. Talk presented at the workshop for Computational Creativity, Concept Invention, and General Intelligence (C3GI), August. Bozen-Bolzano, Italy.
- Agres, K. & Pearce, M. (2016). A Cross-Modal Comparison of Veridical and Schematic Expectations. Talk presented at the International Conference on Music Perception and Cognition (ICMPC), July. San Francisco, California.
- Agres, K., Bigo, L., Herremans, D., & Conklin, D. (2016). The Effect of Repetitive Structure on Enjoyment in Uplifting Trance Music. Paper presented at the International Conference on Music Perception and Cognition (ICMPC), July. San Francisco, California.
- Agres, K. (2016). Harmonic Repetition as a Mechanism for Enjoyment and Altered States in Uplifting Trance Music. Talk presented at Musedelica conference, June. Brighton, UK.
- Agres, K., & Wiggins, G. (2015). Schematic processing as a framework for learning and creativity in Case Based Reasoning and Computational Creativity. Talk presented at the 23rd International Conference on Case-Based Reasoning, September. Frankfurt am Main, Germany.

- Agres, K., Grachten, M., Cancino, C., & Lattner, S. (2015). Harmonics co-occurrences bootstrap pitch and tonality perception in music: Evidence from a statistical unsupervised learning model. Talk presented at the 37th Annual Conference of the Cognitive Science Society, July. Pasadena, California.
- Agres, K., McGregor, S., Purver, M., & Wiggins, G. (2015). Conceptualizing Creativity: From Distributional Semantics to Conceptual Spaces. Talk presented at the Sixth International Conference on Computational Creativity (ICCC 2015), June. Park City, Utah.
- Agres, K. & Pearce, M. (2014). An Information-Theoretic Approach to Learning, Memory, and Expectation in Unfamiliar Musical Styles. Talk presented at the 13th International Conference on Music Perception and Cognition, August. Seoul, South Korea.
- Agres, K. R., Pearce, M. T., & Abdallah, S. A. (2013). An information theoretic approach to short-term musical memory. Talk presented at the 32nd Annual Conference of the Cognitive Science Society, August. Berlin, Germany.
- Agres, K. R., Pearce, M. T., & Abdallah, S. A. (2013). Information-theoretic structure impacts on expectation and memory for musical sequences. Invited talk presented at Information Dynamics of Music Workshop, March. London, England.
- Agres, K. (2012). Musical Change Deafness. Invited seminar for the Music Cognition Group at New York University, April. New York, NY.
- Agres, K., Goldfine, A., & Zevin, J. (2012). Learning Structured and Unstructured Jazz Sequences: An EEG Time-Frequency Approach. Poster presented at the International Conference on Music Perception and Cognition, July. Thessaloniki, Greece.
- Agres, K., Goldfine, A., & Zevin, J. (2011). Learning Structured vs Unstructured Musical Sequences: An EEG Time-Frequency Analysis. Poster presented at Neurosciences and Music IV, June. Edinburgh, Scotland.
- Agres, K., & Goldstein, M. (2011). Infant Melodic Category Learning: The Role of Variability in Tempo and Timbre. Poster presented at Neurosciences and Music IV, June. Edinburgh, Scotland.
- Agres, K. (2011). Learning Tonal Representations Over Time: A Computational Approach. Talk presented at the Northeast Music Cognition Group (NEMCOG) at New York University, April. New York, NY.
- Agres, K., & Zevin, J. (2010). Neural Correlates of Music Learning: An EEG Study of Musical Memory. Paper presented at the International Conference on Music Perception and Cognition, August. Seattle, WA.
- Agres, K., Datta, H., & Zevin, J. (2010). Brain Response Over Time to Structured and Unstructured Musical Sequences. Poster presented at the 32nd Annual Conference of the Cognitive Science Society, August. Portland, OR.
- Agres, K. (2010). Musical Learning and Memory. Talk presented at the Cornell University Graduate Research Seminar, February. Ithaca, NY.
- Agres, K., Topel, S., Moseson, S., Brown, S., & Spivey, M. (2009). A Comparison of Auditory and Visual Perception via a Novel Auditory Search Task. Poster at the Society for Music Perception and Cognition, August. Indianapolis, IN.

- Agres, K. R., DeLong, J. E., & Spivey, M. J. (2009). The Sparsity of Simple Recurrent Networks in Musical Structure Learning. Poster presented at the 31st Annual Conference of the Cognitive Science Society, July. Amsterdam, NL.
- Agres, K. R., DeLong, J. E., & Spivey, M. J. (2008). The Role of Sparse Representation in Learning Musical Structure. Poster presented at the Auditory Perception, Cognition and Action Meeting, November. Chicago, IL.
- Agres, K. R., & Krumhansl, C. L. (2008). Musical Change Deafness. Paper presented at the International Conference on Music Perception and Cognition, August. Sapporo, Japan.
- Agres, K. R., & Krumhansl, C. L. (2008). Musical change deafness: The inability to detect change in a non-speech auditory domain. Paper presented at the 30th Annual Conference of the Cognitive Science Society, July. Washington, DC.
- Agres, K. R., & Spivey, M. J. (2008). On the development of tonal pattern representations in a simple recurrent network. Poster presented at Neurosciences and Music III: Disorders and Plasticity, June. Montreal, Canada.
- Agres, K. R., & Krumhansl, C. L. (2008). Auditory Change Deafness. Paper presented at the Music Cognition Symposium, February. Rochester, NY.
- Agres, K. R., & Krumhansl, C. L. (2007). Musical Change Deafness. Poster presented at the Auditory Perception, Cognition and Action Meeting, November. Long Beach, CA.
- Agres, K.R. (2006). Musical Change Deafness. Talk presented at the Cornell University Department of Psychology's Graduate Research Presentations, May. Ithaca, NY.
- Agres, K.R., & Holt, L. L. (2005). How familiar melodies affect context effects in speech categorization. Talk presented at the National Institute of Mental Health symposium at the University of Pittsburgh, August. Pittsburgh, PA.
- Agres, K.R., & Holt, L. L. (2005). How familiar melodies affect context effects in speech categorization. Poster presented at the Research Day at the University of Pittsburgh Medical Center, July. Pittsburgh, PA.
- Agres, K.R., & Holt, L. L. (2005). The influence of familiar melodies on context effects in speech categorization. Poster presented at the Carnegie Mellon University Research Symposium, May. Pittsburgh, PA.
- Agres, K.R., & Holt, L. L. (2004). Bridging music and psychology: Context effects in musicians with absolute pitch. Poster presented at the Carnegie Mellon University Research Symposium, May. Pittsburgh, PA.

■ Invited Talks, Keynotes, and Seminars

- Agres, K. R. (2020). A novel, music-based Brain Computer Interface (BCI) system for emotion regulation. Invited talk to be presented at the IEEE Engineering in Medicine and Biology Symposium (IEEE EMB 2020), October. Virtual Singapore.
- Agres, K. (2019). Developing music-based technologies to support cognitive, motor, and emotional well-

- ness. Invited speaker for Grand Rounds talk at National University Hospital (NUH), June. Singapore.
- Agres, K. (2019). What Music Cognition and Statistical Learning can tell us about human learning and memory. Invited Seminar at the SUTD Learning Sciences Lab, June. Singapore.
- Agres, K. (2019). The Use and Implications of AI for Creative Fields Such as Music. Distinguished Speaker at Clariden Global Conference on ‘Applying Artificial Intelligence and Deep Learning for Enterprises’, May. Singapore.
- Agres, K. (2019). The unsung hero of healthcare? Making the case for music in medical settings. Invited talk at the international Pint of Science festival, May. Singapore.
- Agres, K. (2019). Music cognition, statistical learning, and music technology for healthcare. Invited as ‘Eminent Scientist’ to present a talk and masterclass at the International Science Youth Forum, January. Singapore.
- Agres, K. (2019). Music-based medtech for emotion mediation, cognitive screening, and motor rehabilitation. Invited seminar at the Rehabilitation Research Institute of Singapore (RRIS), January. Singapore.
- Agres, K. (2018). The evaluation of computational creativity. Interview and cello performance for Channel NewsAsia, *Why It Matters*. Broadcast on Dec 24, 2018. Singapore.
- Agres, K. (2018). Expectations, expectations, expecta...: Highlighting a fundamental concept in music cognition, and exploring its relevance to healthcare. Keynote talk presented at the 3rd International Music and Performing Arts Conference (IMPAC2018), November. Malaysia.
- Agres, K. (2018). Music research and its potential for BCI medtech. Invited talk presented at ‘Towards the Next-Generation BCI-MedTech Platform’ workshop, October. Singapore.
- Agres, K. (2018). Can you trust your senses? The science of auditory perception and illusion. Invited talk presented at *Science Café SG*, October. Singapore.
- Agres, K. (2018). The Language of Life. Invited scientist and speaker for the STAR lecture, Singapore Science Festival, broadcast on TV Channel 5 by Mediacorp, October. Singapore.
- Agres, K. (2018). From Neural Networks to Music Technology for Healthcare: An Overview of Recent Research from IHPC Music Cognition. Speaker at the ‘Music Research Symposium 2018’, Agency for Science, Technology and Research (A*STAR), February. Singapore.
- Agres, K. (2017). The future of Music Information Retrieval Research. Invited panellist, International Society of Music Information Retrieval (ISMIR), National University of Singapore Suzhou Research Institute, October. Suzhou, China.
- Agres, K. (2017). Leveraging Music Cognition for Health and Well-Being. Keynote speaker at the 4th International Symposium of the Princess Galyani Vadhana Institute of Music, September. Bangkok, Thailand.
- Agres, K. (2017). The power of music for health and well-being. Invited talk at the *one-north Festival: Pioneering an Innovation Future*, August. Singapore.
- Agres, K. (2017). Simulating music cognition with neural networks. Invited speaker at the Institute for Infocomm Research (I²R, A*STAR), Deep Learning 2.0 group, June. Singapore.

- Agres, K. (2017). The intersection of neural networks and music cognition. Invited talk presented at the Workshop on Deep Learning for Music, International Joint Conference on Neural Networks (IJCNN), May. Anchorage, Alaska.
- Agres, K. (2017). Music cognition and translational research: Building a bridge between basic science and music-based therapies and interventions. Invited seminar presented at the Department of Psychological Medicine, National University Hospital (NUH), April. Singapore.
- Agres, K. (2017). Understanding human perception and memory through the lens of music cognition. Invited seminar for faculty at SIM Global Education, Singapore Institute of Management (now the Singapore University of Social Sciences), April. Singapore.
- Agres, K. (2017). Music Cognition, Caged and in the Wild. Invited seminar at the Institute of High Performance Computing, A*STAR, April. Singapore.
- Agres, K. (2016). Evaluation of Creative Music Systems. Invited panellist, 1st Conference on Computer Simulation of Musical Creativity, University of Huddersfield, June. Huddersfield, England.
- Agres, K. (2011). Musical learning and memory: A multi-method approach. Invited seminar at the University of London, Goldsmiths, February. London, England.

International Research Visits

- Research collaboration, Aalborg University. Aalborg, Denmark. Nov 6-11, 2016
- Research meetings, Lake Bled, Slovenia. Sep 14-16, 2016
- Research meetings, University of Twente. Enschede, the Netherlands. May 18-20, 2016
- Research meetings, Sony Paris. Paris, France. Apr 18-19, 2016
- Workshop and collaboration, Josef Stefan Institute. Ljubljana, Slovenia. Apr 12-15, 2016
- Research collaboration, University of Helsinki. Helsinki, Finland. Jan 13-15, 2016
- Research meetings, The Autonomous University of Madrid. Madrid, Spain. Dec 2-4, 2015
- Research collaboration and meetings Austrian Institute for Artificial Intelligence. Vienna, Austria. Nov 16-19, 2015
- Research collaboration, University of Antwerp. Antwerp, Belgium. Dec 13, 2014
- Research collaboration, Austrian Institute for Artificial Intelligence. Vienna, Austria. Nov 24-Dec 5, 2014
- Research meetings, Aalborg University. Aalborg, Denmark. Oct 1-3, 2014
- Research meetings, University of Coimbra. Coimbra, Portugal. Sep 24-26, 2014
- Research visit and workshop on Electronic Dance Music using statistical models and empirical evaluation, Sony Computer Science Laboratory. Paris, France. July 10-11, 2014
- Research visit concurrent with ICCM 2014 conference, Josef Stefan Institute. Ljubljana, Slovenia. June 9-13, 2014
- Research visit, Artificial Intelligence Research Institute. Barcelona, Spain. May 27, 2014

- Research meetings, University of the Basque Country. San Sebastian, Spain. May 21-23, 2014
- Research collaboration, Austrian Institute for Artificial Intelligence. Vienna, Austria. April 30-May 2, 2014
- Research meetings, University of Coimbra. Coimbra, Portugal. Dec 16-18, 2013
- Research collaboration, Centre for Cognition, Computation and Culture; Department of Computing, Goldsmiths College, University of London, UK. Jan 31-Feb 11 and May 15-June 15, 2011

Service

- Meta-reviewer and Program Committee member, International Society of Music Information Retrieval Conference (ISMIR), 2020
- Program Committee, International Conference on Computational Creativity (ICCC), 2020
- Main Organizer, Lorentz Center workshop on ‘Music, Computing, and Health’, Leiden, the Netherlands, March 2019
- Program Committee, The 7th International Workshop on Musical Metacreation (MUME 2019) in Charlotte, USA, June 2019
- Scientific Advisory Board and Reviewer for Cognitively Based Music Informatics Research (CogMIR) 2019
- Mentor, Women in Music Information Retrieval (WIMIR), 2018–2019
- Reviewer for the International Conference on Music Perception and Cognition (ICMPC), 2018
- Main Organizer and Program Chair, IHPC Music Research Symposium, Singapore, Feb 2018
- Member, Reachout Committee (public outreach and STEM activities for children), IHPC A*STAR, Singapore, April 2017–2019
- Reviewer for the International Society of Music Information Retrieval (ISMIR) conference, 2017-2019
- Invited panellist, 18th International Society for Music Information Retrieval Conference (ISMIR), National University of Singapore Suzhou Research Institute (NUSRI), Suzhou, China, Oct 2017
- Organizing Committee, International Society of Music Information Retrieval Conference (ISMIR), Suzhou, China, Oct 2017
- Program Committee, IEEE International Conference on Orange Technologies (IEEE ICOT), Singapore, Dec 2017
- Program Committee, 2nd Conference on Computer Simulation of Musical Creativity (CSMC) in Milton Keynes, UK, Sep 2017
- String ensemble performance for *Musical Rendezvous* at the National University Hospital (NUH), Singapore, July 2017
- Program Committee, International Conference on Computational Creativity (ICCC) in Atlanta, USA, June 2017
- Reviewer for *IEEE: Transactions on Cognitive and Developmental Systems*, 2016-2017
- Program Chair and member of Organizing Committee, Workshop on Conceptual Blending and Metaphor

Generation, Ljubljana, Slovenia, April 2016

- Program Committee, International Conference on Computational Creativity (ICCC) in Paris, France, June 2016
- Invited panellist, 1st Conference on Computer Simulation of Musical Creativity, University of Huddersfield, UK, June 2016
- Certified STEM Ambassador in Greater London for STEMNET (Science, Technology, Engineering, and Mathematics network) outreach, London, UK, 2016
- Reviewer for *Music Perception: An Interdisciplinary Journal*, 2015-2020
- Reviewer for the *International Conference on Computational Creativity*, 2015-2018, 2020
- Member, Athena SWAN charter, Queen Mary, University of London, 2015-2016
- Member, Women In Science & Engineering (WISE), Queen Mary University of London, 2015-2016
- Member, Women in Music Information Retrieval (international online community), 2015-present
- Program Committee, Workshop on Experience and Creativity, International Conference on Case-Based Reasoning (ICCBR), Frankfurt am Main, Germany, Sep 2015
- Reviewer for *Psychology of Music*, 2014-2019
- Reviewer for *Cognitive Science: A Multidisciplinary Journal*, 2013-2018
- Organizer of Computational Creativity journal club at Queen Mary, University of London, 2013-2015
- Volunteer to teach Music Psychology to prisoners at the Auburn Correctional Facility, Auburn, NY, 2011
- Reviewer for the *Annual Conference of the Cognitive Science Society*, 2009-present
- Volunteer at the Ithaca Free Healthcare Clinic, Ithaca, NY, 2007-2008
- Volunteer at the Western Psychiatric Institute and Clinic, Pittsburgh, PA, 2004-2005
- Volunteer (music therapy) for three months at the Hillman Cancer Center in Pittsburgh, PA, 2003
- Volunteer (music therapy) at the Pittsburgh Children's hospital, 2003