Curriculum Vitae

Notarization. I have read the following and certify that this *curriculum vitae* is a current and accurate statement of my professional record.

Signature  Date August 14, 2019.

I. Personal Information

I.A. Gentili, Rodolphe.

Department of Kinesiology
School of Public Health
University of Maryland
College Park, MD 20742-2611, The United States of America.
Phone: 301-405-2490
Fax: 301-405-5578
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https://sph.umd.edu/people/rodolphe-gentili
https://sph.umd.edu/laboratory-resources/neuromotor-control-and-learning-laboratory

I.B. Academic Appointments at UMD

2014-pres Assistant Professor

Department of Kinesiology, School of Public Health, Program in Neuroscience and Cognitive Science (NACS), Maryland Robotics Center, University of Maryland, College Park, MD, USA.

2009-2014 Research Assistant Professor

Department of Kinesiology, School of Public Health, Program in Neuroscience and Cognitive Science (NACS), Maryland Robotics Center, University of Maryland, College Park, MD, USA.

I.C. Other Employment

2007-2009 Post-doctoral Researcher, Cognitive-Motor Behavior

Department of Kinesiology, School of Public Health, Program in Neuroscience & Cognitive Science, University of Maryland, College Park, MD, USA

2005-2006 Post-doctoral Researcher, Neural Modeling and Neurorobotics

National Superior School of Engineering in Telecommunications[1], Signal and Images Processing, National Center for Scientific Research [2] Laboratory, Paris, France
University Pierre et Marie Curie, Action Neuro-Imaging and Modeling INSERM Laboratory, Biorobotic Division, Paris, France

2002-2004 Graduate Teaching Assistant

Department of Sciences and Techniques of Physical Activities and Sport, University of Burgundy, Dijon, France

2003 Intern, Intelligent Bio-inspired Control Systems

National Superior School of Engineering in Telecommunications, Signal and Images Processing, National Center for Scientific Research Laboratory, Paris, France

2000-2002 Graduate Teaching Assistant

Department of Sciences and Techniques of Physical Activities and Sport, University of Burgundy, Dijon, France

1999-2000 Aviator 2nd class

[1] Ecole Nationale Supérieure d'ingénieur en Télécommunications de Paris (ENST).
[2] Centre National de la Recherche Scientifique (CNRS).

French Air Forces, AFB 102, Headquarters of the Special Unit Air Force for French Army[3], Longvic, France

1999 Intern, Neural Network and Biomechanics
Laboratory of Neurophysiology and Movement Biomechanics, Institute of Movement Science, The Free University of Brussels, Brussels, Belgium

1998-1999 Graduate Teaching Assistant
Department of Sciences and Techniques of Physical Activities and Sport, University of Burgundy, Dijon, France

1996-1999 Tutor, Biomechanics
Department of Sciences and Techniques of Physical Activities and Sport, University of Burgundy, Dijon, France

I.D. Educational Background

2000 – 2005 Ph.D., Motor Neurosciences and Human Performance
INSERM-ERM [4] 0207 Laboratory, University of Burgundy, Dijon, France

2001 – 2006 Engineering education, Control Systems and Industrial Automation[5]
Department of Control Systems and Industrial Automation, School of Engineering National Institute of Arts and Trades[6], Paris, France

1999 – 2004 BSc., Computer Science[7]
Department of Mathematics and Computer Science, *University of Franche-Comté*, *Besançon*, *France*

1999 – 2002 Professional Certification of Programmer Analyst[8]
Department of Science, Information and Communication Technology, School of Engineering National Institute of Arts and Trades, Dijon, France

1997 – 1999 MSc., Motor Neurosciences and Human Performance[9]
Department of Sciences and Techniques of Physical Activities and Sport, Movement Group Analysis Laboratory[10], University of Burgundy, Dijon, France

1994 – 1997 BSc., Kinesiology and Human Motor Performance
Department of Sciences and Techniques of Physical Activities and Sport, University of Burgundy, Dijon, France

I.E. Professional Certifications, Licenses, and Memberships

North American Society for the Psychology of Sport and Physical Activity (NASPSPA) member

Collaborative Institutional Training Initiative (CITI) certification

Health Insurance Portability and Accountability Act (HIPAA) certification

[3] Commandement des Fusillers Commando de l'Air (CFCA).
[4]INSERM : Institut National de la Santé Et de la Recherche Médicale. This is the equivalent of the NIH in France. ERM: Equipe de Recherche Mixte. This acronym reflects that the research teams of this laboratory combined multi-disciplinary approaches and that an important component is oriented toward innovative methodologies and transfer of technologies.
[5] Completed all the scientific and technical core units as well as multiple optional technical units of the engineer diploma.
[6] *Conservatoire National des Arts et Métiers*
[7] The two first years of this diploma include a major in Mathematics and the last year a major in Computer Science.
[8] Completed all the units of the Professional Title of Software Programmer Analyst Diploma.
[9] Major in motor neurosciences and biomechanics.
[10] Laboratoire du Groupe d'Analyse du Mouvement (GAM).

II. Research, Scholarly, Creative and/or Professional Activities

Acronyms and symbols employed in this section II:

The following acronyms are employed when needed in the personal statement to refer to specific publications and grants.

B: Book

A: Archival refereed journal manuscript (published, in press, accepted, revision submitted, submitted)

AP: Archival refereed journal manuscript in progress

P: Refereed conference proceeding manuscript

PI: Invited conference proceeding manuscript

G: Grant

Gf: Grant provided by a foreign entity

The following symbols are employed to provide further information for the archival refereed journal and refereed conference proceeding manuscripts.

§ Denotes student/mentee of Dr. Gentili

‡ Denotes shared senior authorship

IF: Denotes the most current Thomson-Reuters impact factor (when available) for the manuscript (published, in press, accepted, revision submitted, submitted) in the archival refereed journals.

For each manuscript (published, in press, accepted, revision submitted, submitted) in the archival refereed journals the DOI is provided (when available) followed by a brief description of the role of Dr. Gentili.

Publication Impact: From Google Scholar, as of August 14, 2019: Authorship H-index = 18 (18 publications cited 18 or more times; see *Nature* 436:900, 2005). Total Citations = 1725; Average citations per article = 25 (considering both refereed archival journal and conference proceedings).

II.A. Chapters

II.A.1. Books

B2. **Gentili RJ**, Oh H, J. Molina, Contreras-Vidal JL. (2011). Neural network models for reaching and dexterous manipulation in humans and anthropomorphic robotic systems. *In V. Cutsuridis, A. Hussain, J.G. Taylor (Eds.). Perception-Action Cycle: Models, Architectures, and Hardware, p. 187-217, Springer, New York, USA.*

B1. **Gentili RJ**, Oh H, Bradberry TJ, Hatfield BD, Contreras-Vidal JL. (2010). Signal processing for non-invasive brain biomarkers of sensorimotor performance and brain monitoring. *In S. Miron (Eds.). Signal Processing, p. 461-502, In-Tech, Vienna, Austria.*

II.B. Refereed Journals

II.B.1. Refereed Journal Articles

Refereed Journals with the status 'published', 'in press', 'accepted', 'revision submitted' or 'submitted'

A40. Davis G, Katz GE, Soranzo D, Reinhard MJ, **Gentili RJ**‡, Costanzo ME‡, Reggia JA‡. (submitted) A neurocomputational model of increased saccade latency and BOLD changes in post-traumatic stress disorder. *Frontiers in Psychiatry*. [IF 3.161].

Role: Provided leadership in the modeling of cognitive-motor processes and several aspects of the manuscript preparation.

A39. Hauge TC§, Katz GE, Davis G, Huang DW, Reggia JA, **Gentili RJ**. (revision submitted). High-level motor planning assessment during performance of complex action sequences in humans and a humanoid robot. *International Journal of Social Robotics.* [IF 2.296].
Role: Provided leadership in the modeling of cognitive-motor processes.

A38. Hauge TC§, Katz GE, Davis G, Jaquess KJ, Reinhard MJ, Costanzo ME, Reggia JA, **Gentili RJ**. (accepted*).* A novel application of Levenshtein distance for assessment of high-level motor planning underlying performance during learning of complex motor sequences. *The Journal of Motor Learning and Development.* (An official publication of the North American Society for the Psychology of Sport and Physical Activity (NASPSA)). [IF NA].
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A37. Jaquess KJ§, Lu Y, Iso-Ahola SE, Zhang J, **Gentili RJ‡,** Hatfield BD‡. (accepted). Self-Controlled Practice to Achieve Neuro-Cognitive Engagement: Underlying Brain Processes to Enhance Cognitive-Motor Learning and Performance. *Journal of Motor Behavior.* [IF 1.327].
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A36. Shaw EP§, Rietschel JC, Hendershot BD, Pruziner AL, Wolf EJ, Dearth CL, Miller MW, Hatfield BD, **Gentili RJ**. (in press). A comparison of cognitive workload in individuals with transtibial and transfemoral lower limb loss during dual-task walking under varying demand. *The Journal of the International Neuropsychological Society.* [IF 3.098].
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A35. Shuggi IM§, Shaw EP§, Wu H§, Moreno A§, Oh H§, Shewokis PA, **Gentili RJ**. (in press) Motor performance, mental workload and self-efficacy dynamics during learning of reaching movements throughout multiple practice sessions. *Neuroscience.* [IF 3.244].
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A34. Katz GE, Davis GP, **Gentili RJ**, Reggia JA. (2019). A programmable neural virtual machine based on a fast store-erase learning rule. *Neural Networks, 119:10-30*. [IF 5.785]. DOI: https://doi.org/10.1016/j.neunet.2019.07.017
Role: Provided guidance in mapping the computational functions in the relevant human brain processes.

A33. Shaw EP§, Rietschel JC, Shuggi IM§, Xu Y, Chen S, Miller MW, Hatfield BD, **Gentili RJ**. (2019) Cerebral cortical networking for cognitive workload assessment under various demands during dual-task walking. *Experimental Brain Research, 237(9):2279-2295*. [IF 1.878]. DOI: https://doi.org/10.1007/s00221-019-05550-x
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A32. Ritland BM, Simonelli G, **Gentili RJ**, Smith JC, He X, Oh H, Balkin TJ, Hatfield BD. (2019). Effects of sleep extension on cognitive/motor performance and motivation in military tactical athletes. *Sleep Medicine*, *58:48-55.* [IF 3.360]. DOI: https://doi.org/10.1016/j.sleep.2019.03.013
Role: Provided direction on study design and assessment of human cognitive-motor processes.

A31. Won J, Alfini A, Weiss L, Michelson C, Callow D, Ranadive S, **Gentili RJ**, Smith JC. (2019). Semantic memory activation after acute exercise in healthy older adults. *The Journal of the International Neuropsychological Society, 25(6):557-568.* [IF 3.098]. DOI: https://doi.org/10.1017/S1355617719000171
Role: Provided feedback on various versions of the manuscript.

A30. Ritland BM, Simonelli G, **Gentili RJ**, Smith JC, He X, Oh H, Balkin TJ, Hatfield BD. (2019). Sleep health and its association with performance and motivation in tactical athletes enrolled in the Reserve Officers' Training Corps. *Sleep Health*, *5(3):309-314.* [IF NA]. DOI: https://doi.org/10.1016/j.sleh.2019.01.004
Role: Provided guidance on study design and assessment of human cognitive-motor processes.

A29. Pruziner AL, Shaw EP§, Rietschel JC, Hendershot BD, Miller MW, Wolf EJ, Hatfield BD, Dearth CL, **Gentili RJ**. (2019). Biomechanical and neurocognitive performance outcomes of walking with transtibial limb loss while challenged by a concurrent task. *Experimental Brain Research*, *237(2):477-491.* [IF 1.878]. DOI: https://doi.org/10.1007/s00221-018-5419-8
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A28. Jaquess KJ§, Lo L-C, Oh H, Lu C, Ginsberg A, Tan YY, Lohse KR, Miller MW, Hatfield BD, **Gentili RJ**. (2018). Changes in mental workload and motor performance throughout multiple practice sessions under various levels of task difficulty. *Neuroscience*, *393:305-318.* [IF 3.244]. DOI: https://doi.org/10.1016/j.neuroscience.2018.09.019
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A27. Oh H§, Braun AR, Reggia JA, **Gentili RJ**. (2018). Fronto-parietal mirror neuron system modeling: visuospatial transformations support imitation learning independently of imitator perspective. *Human Movement Science*, *65:121-141.* [IF 1.928]. DOI: https://doi.org/10.1016/j.humov.2018.05.013
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A26. Shaw EP§, Rietschel JC, Hendershot BD, Pruziner AL, Miller MW, Hatfield BD, **Gentili RJ**. (2018). Measurement of attentional reserve and mental effort for cognitive workload assessment under various task demands during dual-task walking. *Biological Psychology*, *134:39-51*. [IF 2.627]. DOI: https://doi.org/10.1016/j.biopsycho.2018.01.009
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A25. Shuggi IM§, Shewokis PA, Herrmann JW, **Gentili RJ**. (2018). Changes in motor performance and mental workload during learning of reaching movements: a team dynamics perspective. *Experimental Brain Research*, *236(2):433-451.* [IF 1.878]. DOI: https://doi.org/10.1007/s00221-017-5136-8
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A24. **Gentili RJ,** Jaquess KJ§, Shuggi IM§, Shaw EP§, Oh H§, Lo LC, Tan YY, Domingues CA, Blanco JA, Rietschel JC, Miller MW, Hatfield BD. (2018). Combined assessment of attentional reserve and cognitive effort under various levels of challenge with a dry EEG system. *Psychophysiology, 55(6):e13059.* [IF 3.118]. DOI: https://doi.org/10.1111/psyp.13059
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A23. Jaquess KJ§, **Gentili RJ**, Rietschel JC, Lo L-C, Prevost M, Miller MW, Mohler JM, Oh H§, Tan YY, Hatfield BD. (2017). Empirical evidence for the relationship between cognitive workload and attentional reserve*. International Journal of Psychophysiology, 121:46-55*. [IF 2.407]. https://doi.org/10.1016/j.ijpsycho.2017.09.007
Role: Provided conceptual guidance and supervised several aspects of the manuscript preparation.

A22. Shuggi IM§, Oh H, Shewokis PA, **Gentili RJ**. (2017). Mental workload and motor performance dynamics during practice of reaching movements under various levels of task difficulty. *Neuroscience*. *360:166-179*. [IF 3.244]. DOI: https://doi.org/10.1016/j.neuroscience.2017.07.048
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A21. Katz GE, Huang DW, Hauge TC§, **Gentili RJ,** Reggia JA. (2017). A novel parsimonious cause-effect reasoning algorithm for robot imitation and plan recognition. *IEEE Transactions on Cognitive and Developmental Systems, 10(2):177 – 193.* [IF 2.755]. DOI: https://doi.org/10.1109/TCDS.2017.2651643
Role: Conceptual leadership and oversaw all aspects of the manuscript preparation related to the human performance.

A20. Huang DW, **Gentili RJ,** Katz GE, Reggia JA. (2017). A limit-cycle self-organizing map architecture for stable arm control. *Neural Network*, *85:165-181.* [IF 5.785]. DOI: https://doi.org/10.1016/j.neunet.2016.10.005
Role: Provided conceptual guidance on the modeling of the relevant human cognitive-motor processes.

A19. Blanco JA, Johnson MK, Jaquess KJ§, Oh H§, Lo L-C, **Gentili RJ**, Hatfield BD. (2016). Quantifying cognitive workload in simulated flight using passive, dry EEG measurements. *IEEE Transactions on Cognitive and Developmental Systems, 10(2):373 - 383.* [IF 2.755]. DOI: https://doi.org/10.1109/TCDS.2016.2628702
Role: Provided conceptual guidance on the human cognitive-motor processes and supervised several aspects of the manuscript preparation.

A18. **Gentili RJ**, Oh H§, Kregling VA§, Reggia JA. (2016). A cortical model for inverse kinematics computation of a humanoid finger with mechanically coupled joints. *Bioinspiration & Biomimetics, 11(3):036013*. [IF 3.130]. DOI: https://doi.org/10.1088/1748-3190/11/3/036013
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A17. **Gentili RJ**, Papaxanthis C. (2015). Laterality effects in motor learning by mental practice in right-handers. *Neuroscience, 297:231-42.* [IF 3.244]. DOI: https://doi.org/10.1016/j.neuroscience.2015.02.055
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A16. **Gentili RJ**, Oh H§, Huang DW, Katz GE, Miller RH, Reggia JA. (2015). A neural architecture for performing actual and mentally simulated movements during self-intended and observed bimanual arm reaching movements. *International Journal of Social Robotics, 7(3):371-392.* [IF 2.296]. DOI: https://doi.org/10.1007/s12369-014-0276-5
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A15. **Gentili RJ**, Bradberry TJ, Oh H§, Costanzo ME, Kerick SE, Contreras-Vidal JL, Hatfield BD. (2015). Evolution of cerebral cortico-cortical communication during visuomotor adaptation to a cognitive-motor executive challenge. *Biological Psychology*, *105:51-65.* [IF 2.627]. DOI: https://doi.org/10.1016/j.biopsycho.2014.12.003
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A14. Huang DW, **Gentili RJ**, Reggia JA. (2015). Self-organizing maps based on limit cycle attractors. *Neural Networks, 63:208-22.* [IF 5.785]. DOI: https://doi.org/10.1016/j.neunet.2014.12.003
Role: Provided feedback on various versions of the manuscript.

A13. Miller MW, Presacco A, Groman LJ, Bur S, Rietschel JC, **Gentili RJ**, McDonald CG, Iso-Ahola S, Hatfield BD. (2014). The effects of team environment on cerebral cortical processes and attentional reserve. *Sport, Exercise, and Performance Psychology, 3(1):61-74.* [IF 1.574 / 2.188]. DOI: http://dx.doi.org/10.1037/spy0000001
Role: Provided direction on graphical representation of the results and feedback on various versions of the manuscript.

A12. **Gentili RJ**, Patricia A Shewokis, Ayaz H, Contreras-Vidal JL. (2013). Functional near-infrared spectroscopy-based correlates of prefrontal cortical dynamics during a cognitive-motor executive adaptation task. *Frontiers in Human Neuroscience, 4(7):277.* [IF 2.870]. https://doi.org/10.3389/fnhum.2013.00277
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A11. Rietschel JC, Miller MW, **Gentili RJ**, Goodman RN, McDonald CG, Hatfield BD. (2012). Cerebral-cortical networking and activation increase as a function of cognitive-motor task difficulty. *Biological Psychology, 90(2):127-133*. [IF 2.627]. DOI: https://doi.org/10.1016/j.biopsycho.2012.02.022

Role: Directed the generation of all visuals of the results and provided feedback on various versions of the manuscript.

A10. **Gentili RJ**, Bradberry TJ, Oh H, Hatfield BD, Contreras-Vidal JL. (2011). Cerebral cortical dynamics during visuomotor transformation: adaptation to a cognitive-motor executive challenge. *Psychophysiology*, *48(6):813-824.* [IF 3.118]. DOI: https://doi.org/10.1111/j.1469-8986.2010.01143.x
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A09. Bradberry TJ, **Gentili RJ**, Contreras-Vidal JL. (2011). Fast attainment of computer cursor control with noninvasively acquired brain signals. *Journal of Neural Engineering, 8(3):036010.* [IF 4.551]. DOI: https://doi.org/10.1088/1741-2560/8/3/036010
Role: Contributed to data collection and provided feedback on various versions of the manuscript.

A08. **Gentili RJ**, Han CE, Schweighofer N, Papaxanthis C. (2010). Motor learning without doing: trial-by-trial improvement in motor performance during mental training. *Journal of Neurophysiology, 104(2):774-783*. [IF 2.614]. DOI: https://doi.org/10.1152/jn.00257.2010
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A07. Bradberry TJ, **Gentili RJ**, Contreras-Vidal JL. (2010). Reconstructing three-dimensional hand movements from noninvasive electroencephalographic signals. *Journal of Neuroscience, 30(9): 3432-3437.* [IF 6.074]. DOI: https://doi.org/10.1523/JNEUROSCI.6107-09.2010
Role: Contributed to data collection and provided feedback on various versions of the manuscript.

A06. **Gentili RJ**, Papaxanthis C, Ebadzadeh M, Eskiizmirliler S, Ouanezar S, Darlot C. (2009). Integration of gravitational torques in cerebellar pathways allows for the dynamic inverse computation of vertical pointing movements of a robot arm. *Public Library of Science ONE, 4(4):e5176.* [IF 2.776]. DOI: https://doi.org/10.1371/journal.pone.0005176
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A05. **Gentili RJ**, Cahouet V, Papaxanthis C. (2007). Motor planning of arm movements is direction-dependent in the gravity field. *Neuroscience, 145(1):20-32.* [IF 3.244]. DOI: https://doi.org/10.1016/j.neuroscience.2006.11.035
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A04. **Gentili RJ**, Papaxanthis C, Pozzo T. (2006). Improvement and generalization of arm motor performance through motor imagery practice. *Neuroscience, 137(3):761-772.* [IF 3.244]. DOI: https://doi.org/10.1016/j.neuroscience.2005.10.013
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A03. Courtine G, Papaxanthis C, **Gentili RJ**, Pozzo T. (2004). Gait-dependent motor memory facilitation in covert movement execution. *Brain Research, Cognitive Brain Research, 22(1):67-75.* [IF 2.929]. DOI: https://doi.org/10.1016/j.cogbrainres.2004.07.008
Role: Provided feedback on various versions of the manuscript.

A02. **Gentili RJ**, Cahouet V, Ballay Y, Papaxanthis C. (2004). Inertial properties of the arm are accurately predicted during motor imagery. *Behavioural Brain Research, 155(2):231–239.* [IF 2.770]. Contribution: generation of the manuscript. DOI: https://doi.org/10.1016/j.bbr.2004.04.027
Role: Conceptual leader and oversaw all aspects of the manuscript preparation.

A01. Papaxanthis C, Schieppati M, **Gentili RJ**, Pozzo T. (2002). Imagined and actual arm movements have similar durations when performed under different conditions of direction and mass. *Experimental Brain Research, 143(4):447-452.* [IF 1.878]. Role: generation of the manuscript. DOI: https://doi.org/10.1007/s00221-002-1012-1
Role: Provided feedback on various versions of the manuscript.

Refereed Journal articles with the status 'in progress'

AP05. Oh H§, Braun AR, Reggia JA, **Gentili RJ**. Synthetic neuroimaging correlates of a fronto-parietal network model for visuospatial transformations during arm reaching movements. *In preparation*.

AP04. Shuggi IM§, Oh H, Shaw EP§, Galway WC§, Gaskins PC§, **Gentili RJ**. Combined assessment of attentional reserve and mental effort during practice of arm reaching movements. *In preparation*.

AP03. Gaskins PC§, Kontson KL, Shaw EP§, Shuggi IM§, Ayoub MJ§, Rietschel JC, Miller MW, **Gentili RJ**. Mental workload assessment during simulated upper-limb prosthesis performance under various cognitive-motor demands. *In preparation*.

AP02. Shaw EP§, Rietschel JC, Shuggi IM§, Xu Y, Chen S, Miller MW, Hatfield BD, **Gentili RJ**. Cortico-cortical communications for mental workload assessment in individuals with different levels of lower-limb loss during dual-task walking under various levels of challenge. *In preparation*.

AP01. Shaw EP§, Rietschel JC, Shuggi IM§, Xu Y, Chen S, Miller MW, Hatfield BD, **Gentili RJ**. Functional connectivity dynamics of mental workload in lower-limb amputees during dual-task walking under various cognitive-motor demands. *In preparation*.

II.C. Published Conference Proceedings

II.C.1. Refereed Conference Proceedings

P22. Katz GE, Huang D-W, **Gentili RJ**, Reggia JA. (2017). An empirical characterization of parsimonious intention inference for cognitive-level imitation learning. *Proceedings of the International Conference on Artificial Intelligence, p. 83-89, CSREA Press.*

P21. Katz GE, Dullnig D, Davis GP, **Gentili RJ**, Reggia JA. (2017). Autonomous causally-driven explanation of actions. *Proceedings of the International Symposium on Artificial Intelligence (CSCI), p. 772-778.*

P20. Katz GE, Huang D-W, **Gentili RJ**, Reggia JA. (2016). Imitation learning as cause-effect reasoning. *9th Artificial General Intelligence (AGI-16), July 16–19, New York City, NY, USA. In Steunebrink, B., Wang, P., & Goertzel, B. (Eds.), Artificial General Intelligence, p. 64–73, Springer.*

P19. Huang D-W§, **Gentili RJ**, Reggia JA. (2015). A self-organizing map architecture for arm reaching based on limit cycle attractors. *9th EAI International Conference on Bio-inspired Information and Communications Technologies (BICT'15), p. 1-6.*

P18. Huang D-W, Katz GE, Langsfeld J, **Gentili RJ**, Reggia JA. (2015). A virtual demonstrator environment for robot imitation learning. *IEEE International Conference on Technologies for Practical Robot Applications (TePRA 2015), p. 1-6.*

P17. Johnson MK, Blanco JA, **Gentili RJ**, Jacquess KJ§, Oh H§, Hatfield BD. (2015). Probe-independent EEG assessment of mental workload in pilots. *IEEE Neural Engineering and Rehabilitation (IEEE NER 2015), p. 381-384.*

P16. Huang D-W, **Gentili RJ**, Reggia JA. (2014). Limit cycle representation of spatial locations using self-organizing maps. *IEEE Symposium on Computational Intelligence, Cognitive Algorithms, Mind, and Brain (CCMB'14), p. 79-84.*

P15. **Gentili RJ**, Oh H§, Huang D-W, Katz GE, Miller RH, Reggia JA. (2014). Towards a multi-level neural architecture that unifies self-intended and imitated arm reaching performance.

Proceedings of the 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS '14), p. 2537 - 2540.

P14. **Gentili RJ**, Rietschel JC, Jaquess KJ§, Lo L-C, Prevost M, Miller MW, Mohler JM, Oh H, Tan YY, Hatfield BD. (2014). Brain biomarkers based assessment of cognitive workload in pilots under various task demands. *Proceedings of the 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS '14), p. 5860 - 5863.*

P13. Langsfeld JD, Kaipa KN, **Gentili RJ**, Reggia JA, Gupta SK. (2014). Incorporating failure-to-success transitions in imitation learning for a dynamic pouring task. *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS '14), p. 1-4.*

P12. **Gentili RJ**, Oh H§, Molina J, Reggia JA, Contreras-Vidal JL. (2012). Cortex inspired model for inverse kinematics computation for a humanoid robotic finger. *Proceedings of the 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS '12), p. 3052-3055.*

P11. Oh H§, **Gentili RJ**, Reggia JA, Contreras-Vidal JL. (2012). Modeling of visuospatial perspectives processing and modulation of the fronto-parietal network activity during action imitation. *Proceedings of the 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS '12), p. 2551-2554.*

P10. **Gentili RJ**, Oh H§, Molina J, Contreras-Vidal JL. (2011). Cortical network modeling for inverse kinematic computation of an anthropomorphic finger. *Proceedings of the 33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS '11), p. 8251-8254*.

P09. Oh H§**, Gentili RJ**, Reggia JA, Contreras-Vidal JL. (2011). Learning of spatial relationships between observed and imitated actions allows invariant inverse computation in the frontal mirror neuron system. *Proceedings of the 33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS '11), p. 4183-4186.*

P08. Oh H§**, Gentili RJ**, Contreras-Vidal JL. (2011). Adaptive inverse modeling in the frontal mirror neuron system for action imitation. *Proceedings of the 15th International Graphonomics Society Conference (IGS2011), p.38-41.*

P07. **Gentili RJ**, Hadavi C, Hayaz H, Shewokis PA, Contreras-Vidal JL. (2010). Hemodynamic correlates of visuomotor adaptation by functional near infrared spectroscopy. *Proceedings of the 32nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS '10), p. 2918-2921.*

P06. Gillespie RB, Contreras-Vidal JL, Shewokis PA, O'Malley MK, Brown JD, Agashe H, **Gentili RJ**, Davis A. (2010). Toward improved sensorimotor integration and learning using upper-limb prosthetic devices. *Proceedings of the 32nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS '10), p. 5077-5080.*

P05. **Gentili RJ**, Bradberry TJ, Hatfield BD, Contreras-Vidal JL. (2009). Brain biomarkers of motor adaptation using phase synchronization. *Proceedings of the 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS '09), p. 5930-5933.*

P04. Bradberry TJ, **Gentili RJ**, Contreras-Vidal JL. (2009). Decoding three-dimensional hand kinematics from electroencephalographic signals. *Proceedings of the 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBS '09), p. 5010-3013.*

P03. **Gentili RJ**, Bradberry TJ, Hatfield BD, Contreras-Vidal JL. (2008). A new generation of non-invasive biomarkers of cognitive-motor states with application to smart brain computer interfaces. *Proceeding of the 16th European Signal Processing Conference (EUSIPCO-2008), p.1-5*.

P02. **Gentili RJ**, Charalambos P, Ebadzadeh M, Eskiizmirliler S, Ouanezar S, Darlot C, Maier MA. (2006). Internal representation in the cerebellar pathway of the body limbs orientation with respect to gravity. Application to the computation of the inverse dynamic for a robotic arm executing vertical pointing movements. *NeuroComp 2006, p. 74-77.*

P01. **Gentili RJ**, Cheron G, Stapley P, Pozzo T. (1999). Comparison of the effects of different inputs to a dynamic recurrent neural network (DRNN). *XXIVth Congress of the Society of Biomechanics, Archives of physiology and biochemistry, p. 62-66.*

II.C.2. Other

Invited Conference Proceedings (all were accompanied of an oral presentation)

PI8. **Gentili RJ**, Shuggi IM§, King KM§, Oh H§, Shewokis PA. (2015). Cognitive-motor processes during arm reaching performance through a human body-machine interface. *Proceedings of the 17th Human-Computer Interaction Conference. Foundations of Augmented Cognition. Lecture Notes in Computer Science, 9183(2015), p. 381-392.*

PI7. Huang D-W§, Katz GE, Langsfeld JD, Oh H§, **Gentili RJ**, Reggia JA. (2015). An object-centric paradigm for robot programming by demonstration. *Proceedings of the 17th Human-Computer Interaction Conference. Foundations of Augmented Cognition. Lecture Notes in Computer Science, 9183(2015), p. 745-756.*

PI6. Domingues C, Domingues E, Nascimento O, Filho NR, Annunziato J, Rebelo J, Nieman S, Jaquess KJ§, **Gentili RJ**, Hatfield BD. (2015). Prolonged physical effort affects cognitive processes during Special Forces training. *Proceedings of the 17th Human-Computer Interaction Conference. Foundations of Augmented Cognition. Lecture Notes in Computer Science, 9183(2015), p. 570-582.*

PI5. Oh H§, Hatfield BD, Jaquess KJ§, Lo L-C, Tan YY, Prevost MC, Mohler JM, Postlethwaite H, Rietschel JC, Miller MW, Postlethwaite H, Blanco JA, Chen S, **Gentili RJ**. (2015). A composite cognitive workload assessment system in pilots under various task demands using ensemble learning. *Proceedings of the 17th Human-Computer Interaction Conference. Foundations of Augmented Cognition. Lecture Notes in Computer Science, 9183(2015), p. 91-100.*

PI4. **Gentili RJ**, Oh H§, Shuggi IM§, Rietschel JC, Hatfield BD, Reggia JA. (2013). Human-robotic collaborative intelligent control for reaching performance. *Proceedings of the 15th Human-Computer Interaction Conference. Foundations of Augmented Cognition. Lecture Notes in Computer Science, 8027(2013), p. 666-675.*

PI3. Oh H§, **Gentili RJ**, Costanzo ME, Lo LC, Rietschel JC, Saffer M, Hatfield BD. (2013). Understanding brain connectivity patterns during motor performance under social-evaluative competitive pressure. *Proceedings of the 15th Human-Computer Interaction Conference. Foundations of Augmented Cognition. Lecture Notes in Computer Science, 8027(2013), p. 361-370.*

PI2. Shewokis PA, Ayaz H, Izzetoglu M, Bunce S, **Gentili RJ**, Sela I, Izzetoglu K, Onaral B. (2011). Brain in the loop: Assessing learning using fNIR in cognitive and motor tasks. *Proceedings of the 14th Human-Computer Interaction Conference. Foundations of Augmented Cognition. Directing the Future of Adaptive Systems. Lecture Notes in Computer Science, 6780(2011), p. 240-249.*

PI1. **Gentili RJ**. (2011). Non-invasive functional brain biomarkers for cognitive-motor performance assessment: Towards new brain monitoring applications. *Proceedings of the 14th Human-*

Computer Interaction Conference. Foundations of Augmented Cognition. Directing the Future of Adaptive Systems. Lecture Notes in Computer Science, 6780(2011), p. 159-168.

II.D. Conferences, Workshops, and Talks

II.D.1. Invited Talks

14. **Gentili RJ**. (Planned for Spring 2020). Mental workload assessment in individuals with and without lower limb loss during dual-task walking under varying demand. *School of Kinesiology, University of Minnesota, USA. Host: Dr. J. Konczak*.

13. **Gentili RJ**. (2019). Combined mental workload assessment under various task demands in individuals with and without limb loss. *The Center for Adaptive Systems of Brain-Body Interactions (CASBBI), March 01, George Mason University, USA. Host: Dr. S Sikdar.*

12. **Gentili RJ**. (2015). Adaptive cognitive-motor control processes for arm reaching movements. *Department of Kinesiology, April 14, UMD-TAU Workshop "Motor Function and Rehabilitation in Health and in Stroke"; University of Maryland, USA. Host: Dr. J Shim.*

11. **Gentili RJ**. (2014). Adaptive cognitive-motor behavior: From human performance to human-robot collaborative Performance. *Department of Psychology, April 23, George Mason University, USA. Host: Dr. C McDonald.*

10. **Gentili RJ**. (2012). Cognitive-Motor Adaptation in Human and Neurorobotics. *Department of Physical Therapy and Rehabilitation, School of Medicine, September 28, University of Maryland-Baltimore, USA. Host: Dr. L Forrester.*

09. **Gentili RJ**. (2012). Cognitive-Motor Adaptation: From Human to Neurorobotic Applications. *NIP Conference Series, April 20, University of Maryland-Baltimore, Veterans Affairs, School of Medicine, USA. Host: Dr. G Wittenberg.*

08. **Gentili RJ**. (2010). Non-invasive functional brain biomarkers of performance and intelligent bio-inspired control systems. *College Park Scholars - Science, Technology, and Society Program, March 8, University of Maryland, College Park, USA. Host: Dr. B Mendelsohn, Dr. C Robbins.*

07. **Gentili RJ**. (2009). Non-invasive functional brain biomarkers of the performance and bio-inspired control systems: Towards a new smart generation of brain computer interface. *International Conference for the 50th Anniversary of the Documentation Center for Rehabilitation in Cerebral Palsy, December 9, Paris, France. Host: Dr. M Le Metayer.*

06. **Gentili RJ**. (2009). Non-invasive functional brain biomarkers for human sensorimotor performance and learning. *The Catholic University of America / National Hospital of Rehabilitation, September 9, Washington DC, USA. Host: Dr. P Lum.*

05. **Gentili RJ**. (2008). EEG-based correlates of brain dynamics states related to the acquisition of an internal model of a new tool. *University of Southern California, Division of Biokinesiology and Physical Therapy, November 9, Los Angeles, USA. Host: Dr. N Schweighofer.*

04. **Gentili RJ**. (2008). Implementation and demonstration of a cortical model generator trajectory to control an anthropomorphic robotic finger moved by artificial muscles. *Great Expectations Milestone Celebration, Great Expectations campaign, October 23, The University of Maryland, College Park, USA. Host: The University of Maryland.*

03. **Gentili RJ**. (2008). A new generation of smart prosthetics: Regaining mobility through neurally guided or controlled machine. *Annual Meeting of the Motor Foundation, January 18, Paris, France. Host: Dr. A Chatelin.*

02. **Gentili RJ**. (2006). Mental imagery, biorobotics and computational neuroscience: A unified framework. *Society for Studies and Care for the Disabled Children Subjected to Malformations. October 26, Antony, France. Host: Dr. JC Carlier.*

01. **Gentili RJ**. (2004). Comparison of physical and mental training effects on motor performance. *First France-Japan Joint Symposium on Human Motor Control. New perspectives of Human Movement Sciences. March 20-21, Komaba, Japan. Host: The University of Tokyo.*

II.D.2. Published Abstracts of conference presentations (refereed)

The abstracts of the North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference; Annual Conference of the American Congress of Rehabilitation Medicine; and Annual Meeting of the Society for Psychophysiological Research are published in the Journal of Sport & Exercise Psychology; Archive of Physical Medicine and Rehabilitation; and Psychophysiology, respectively.

29. Shuggi IM, Oh H, Shaw EP, Galway WC, Gaskins C, **Gentili RJ**. (2019, *accepted*). Concurrent assessment of performance, attentional reserve and cognitive-motor effort dynamics throughout practice of reaching movements. *59th Annual Meeting of the Society for Psychophysiological Research, September 25-29, Washington DC, USA. (Poster presentation).*

28. Gaskins C, **Gentili RJ**, Kontson KL (2019, *accepted*). Speech as an indicator of cognitive workload during an upper limb task. *59th Annual Meeting of the Society for Psychophysiological Research, September 25-29, Washington DC, DC, USA. (Poster presentation).*

27. Shaw EP, Rietschel JC, Kahl S, Hendershot BD, Pruziner AL, Wolf EJ, Dearth CL, Miller MW, Hatfield BD, **Gentili RJ**. (2019, *accepted*). Mental workload assessment under varied levels of cognitive and motor demand during dual-task walking. *59th Annual Meeting of the Society for Psychophysiological Research, September 25-29, Washington DC, USA. (Poster presentation).*

26. Shuggi IM, Oh H, Shaw EP, Galway WC, Gaskins C, **Gentili RJ**. (2019). Combined assessment of attentional reserve and cognitive-motor effort for mental workload evaluation during practice of reaching movements. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 5-8, Baltimore, MD, USA. (Verbal presentation).*

25. Lu C, Oh H, Jaquess K, Ginsberg A, Kahl S, **Gentili RJ**, Hatfield BD. (2019). Assessment of cognitive workload in rotorcraft piloting tasks. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 5-8, Baltimore, MD, USA. (Verbal presentation).*

24. Kahl S, **Gentili RJ**, Hatfield BD, Jaquess K. (2019). Greater left hemisphere EEG alpha coherence observed during self-controlled practice compared to externally-controlled practice. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 5-8, Baltimore, MD, USA. (Verbal presentation).*

23. Shuggi IM, Oh H, Shaw EP, Ritland BM, Shewokis PA, **Gentili RJ**. (2019). Effects of practice-induced mental workload during reaching movements on transfer of cognitive-motor performance under various demands. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 5-8, Baltimore, MD, USA. (Poster presentation).*

22. Gaskins C, Kontson KL, Shaw EP, Shuggi IM, Ayoub MJ, Rietschel JC, Miller MW, **Gentili RJ**. (2019).Cognitive-motor performance assessment during upper limb body powered bypass prosthesis performance under various conditions of challenge. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 5-8, Baltimore, MD, USA. (Poster presentation).*

21. Jaquess K, Lu Y, Ginsberg A, Lu C, Ritland B, Oh H, Kahl S, **Gentili RJ**, Hatfield BD. (2019). Effective processing of performance feedback during self-controlled practice. *North American Society for*

the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 5-8, Baltimore, MD, USA. (Verbal presentation).

20. Shaw EP, Rietschel JC, Shuggi IM, Xing Y, Chen S, Miller MW, Hatfield BD, **Gentili RJ**. (2019). Cerebral cortical networking for mental workload assessment under various demands during dual-task walking in individuals with transtibial limb loss. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 5-8, Baltimore, MD, USA. (Verbal presentation).*

19. Ayoub MJ, Shaw EP, Shuggi IM, Gaskins C, Danos EC, **Gentili RJ**. (2019). Mental workload assessment during arm reaching performance under various levels of cognitive and motor demands. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 5-8, Baltimore, MD, USA. (Poster presentation).*

18. Gaskins C, **Gentili RJ**, Kontson KL (2019). Speech as an indicator of cognitive workload during an upper limb task. *International Symposium on Human Factors and Ergonomics in Health Care (HFES 2019), March 24–27, Chicago, IL, USA. (Poster presentation).*

17. Shaw EP, Rietschel JC, Hendershot BD, Pruziner AL, Wolf EJ, Dearth CL, Miller MW, Hatfield BD, **Gentili RJ**. (2018). A combined biomechanical and neurocognitive examination for cognitive workload assessment in individuals with lower-limb loss during dual-task walking. *58th Society for Psychophysiological Research Annual Meeting, October 3-7, Quebec City, Quebec, Canada. (Poster presentation).*

16. Gaskins PC, Kontson KL, Shaw EP, Shuggi IM, Ayoub MJ, Rietschel JC, Miller MW, **Gentili RJ**. (2018). Mental workload assessment during simulated upper extremity prosthetic performance. *Annual Conference of the American Congress of Rehabilitation Medicine, September 30 - October 03, Dallas, TX, USA. (Poster presentation).*

15. Shaw EP, Rietschel JC, Shuggi IM, Xing Y, Hendershot BD, Pruziner AL, Chen S, Miller MW, Hatfield BD, **Gentili RJ**. (2018). Evaluation of cerebral cortical networking as a measure of cognitive workload during dual-task walking under various levels of challenge. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 21-23, Denver, CO, USA. (Poster presentation).*

14. Jaquess KJ, Lu YZ, Ginsberg A, Lu C, Ritland B, Oh H, Lo LC, Kahl S Jr, Hatfield BD, **Gentili RJ**. (2018). Working Memory Engagement during Self-Controlled Practice: An EEG Study. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 21-23, Denver, CO, USA. (Verbal presentation).*

13. Shuggi IM, Shaw EP, Wu H; Moreno A; Oh H, Shewokis PA, **Gentili RJ**. (2018). Changes in motor performance, mental workload, and self-efficacy throughout longitudinal training of arm reaching movements. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 21-23, Denver, CO, USA. (Poster presentation).*

12. Jaquess KJ, Lo LC, Oh H, Lu C, Ginsberg A, Tan YY, Lohse KR, Miller MW, Hatfield BD, **Gentili RJ**. (2018). Cortical correlates underlying changes in mental workload and motor performance during multiple training sessions under various levels of challenge. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 21-23, Denver, CO, USA. (Poster presentation).*

11. Gaskins PC, Kontson KL, Shaw EP, Shuggi IM, Ayoub MJ, Rietschel JC, Miller MW, **Gentili RJ**. (2018). Mental workload assessment during simulated upper extremity prosthetic performance under various conditions of cognitive and motor challenge. *North American*

Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 21-23, Denver, CO, USA. (Poster presentation).

10. Hauge TC, Katz G, Huang DW, Reggia JA, **Gentili RJ**. (2017). Development of a computational method to assess high-level motor planning during the performance of complex actions. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 4-7, San Diego, CA, USA. (Poster presentation).*

09. Jaquess KJ, Lo LC, Oh H, Lu C, Ginsberg A, Tan YY, Hatfield BD, **Gentili RJ**. (2017). Changes in mental workload and motor performance during the learning of a novel cognitive-motor task over multiple practice sessions. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 4-7, San Diego, CA, USA. (Poster presentation).*

08. Shaw EP, Rietschel JC, Hendershot BD, Pruziner AL, Miller MW, Hatfield BD, **Gentili RJ**. (2017). Combined assessment of cognitive workload under various levels of challenge during dual-task walking. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 4-7, San Diego, CA, USA. (Poster presentation).*

07. Shuggi IM, Shewokis PA, Herrmann JW, **Gentili RJ**. (2017). Motor performance and mental workload assessment during practice of reaching movements in a context of team dynamics. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 4-7, San Diego, CA, USA. (Verbal presentation).*

06. Shuggi IM, Oh H, Shewokis PA, **Gentili RJ**. (2017). Changes in mental workload and motor performance during practice of reaching movements performed under different levels of challenge. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 4-7, San Diego, CA, USA. (Poster presentation).*

05. Shewokis PA, Shariff FU, **Gentili RJ**, Izzetoglu M. (2016). Human motor behavior: From neuroimaging to human-robot dynamics--Functional near infrared spectroscopy (fNIR): Issues and considerations for application to human performance and human-robot interactions. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 15-18, Montreal, Quebec, Canada. (Poster presentation).*

04. Oh H, Braun AR, Reggia JA, **Gentili RJ**. (2016). Role of visuospatial processes during observational practice: Emergence of the view-dependent and view-independent neural dynamics. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 15-18, Montreal, Quebec, Canada. (Poster presentation).*

03. **Gentili RJ**, Oh H, Shuggi IM, Huang D-W, Katz GE, Reggia JA. (2015). Role of visuospatial processes in learning from demonstration: implications for human-robot dynamics. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 4-7, Portland, OR, USA. (Verbal presentation).*

02. Hatfield BD, **Gentili RJ**, Jaquess KJ, Lo LC, Oh H, Rietschel JC, Tan YY. (2014). Objective assessment of cognitive workload and attentional reserve in pilots during varying degrees of task difficulty and mental stress. *54th Annual Meeting of the Society for Psychophysiological Research September 10-14, Atlanta, GA, USA. (Poster presentation).*

01. **Gentili RJ**, Oh H, Shuggi IM, Rietschel JC, Shewokis PA, Hatfield BD, Reggia JA. (2014). Cognitive workload assessment for a user-prosthesis cooperative intelligent control system during reaching movements. *North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 12-14, Minneapolis, Minnesota, USA. (Poster presentation).*

II.D.3. Conference presentations (refereed)

28. Pruziner AL, Wolf EJ, Rietschel JC, Hendershot BD, Shaw EP, Miller MW, Dearth CL, Hatfield BD, **Gentili RJ**. (2017). Cognitive, biomechanical, and task performance outcomes of walking with transtibial limb loss while challenged by a secondary task. *The Military Health System Research Symposium, August 27-30, Kissimmee, FL, USA.*

27. Shuggi IM, Oh H, Shewokis PA, **Gentili RJ**. (2017). Mental workload and motor performance assessment during practice of reaching movements under various task demands. *47th Annual Meeting of the Society for Neuroscience, November 11-15, Washington DC, USA.*

26. Shaw EP, Rietschel JC, Hendershot BD, Pruziner AL, Miller MW, Hatfield BD, **Gentili RJ**. (2017). Examination of cerebral cortico-cortical communication for cognitive workload assessment during dual-task walking. *47th Annual Meeting of the Society for Neuroscience, November 11-15, Washington DC, USA.*

25. Hauge TC, Katz G, Huang DW, Davis G, Reggia JA, **Gentili RJ**. (2017). High-level motor planning assessment during performance of complex actions in humans and humanoid robots: A computational approach. *47th Annual Meeting of the Society for Neuroscience, November 11-15, Washington DC, USA.*

24. Jaquess KJ, **Gentili RJ**, Lo LC, Oh H, Zhang J, Rietschel JC, Miller MW, Tan YY, Hatfield BD. (2016). The relationship between cognitive workload and attentional reserve: An empirical investigation. *46th Annual Meeting of the Society for Neuroscience, November 12-16, San Diego, CA, USA.*

23. Jaquess KJ, Lo LC, Oh H, Tan YY, Rietschel JC, Miller MW, **Gentili RJ**, Hatfield BD. (2016). Objective assessment of mental demand in expert pilots during varying degrees of task difficulty. *46th Annual Meeting of the Society for Neuroscience, November 12-16, San Diego, CA, USA.*

22. Shaw E, Rietschel JC, McDonald C, Miller MW, **Gentili RJ**, Hatfield BD (2015). A real-time objective assessment of cognitive workload during ambulation. *45th Annual Meeting of the Society for Neuroscience, October 17-21, Chicago, IL, USA.*

21. Jaquess KJ, Rietschel JC, Lo LC, Miller MW, Oh H, Tan YY, Hatfield DB, **Gentili RJ**. (2014). Objective assessment of cognitive workload during varying degrees of task difficulty using a dry EEG system: Relevance for ecological validity. *44th Annual Meeting of the Society for Neuroscience, November 15-19, Washington DC, USA.*

20. Oh H, Huang D-W, Katz GE, Miller RH, Reggia JA, **Gentili RJ**. (2014). A preliminary multi-level neurocomputational model for overt/covert self-intended and imitated arm reaching movements. *44th Annual Meeting of the Society for Neuroscience, November 15-19, Washington DC, USA.*

19. Miller MW, Presacco A, Groman LJ, Burr S, Rietschel JC, **Gentili RJ**, McDonald CG, Iso-Ahola SE, Hatfield BD. (2012). The effect of team environment on arousal and cerebral cortical activation. *42nd Annual Meeting of the Society for Neuroscience, November 13-17, New Orleans, LA, USA.*

18. Miller MW, Presacco A, Groman LJ, Burr S, Rietschel JC, **Gentili RJ**, McDonald CG, Iso-Ahola SE, Hatfield BD. (2012). The effect of team environment on the allocation of attentional resources to novel stimuli. *5th Annual Meeting of the Social & Affective Neuroscience Society, April 20-21, New York City, New York, USA.*

17. **Gentili RJ**, Oh H, Molina-Vilaplana J, Contreras-Vidal JL. (2011). Emergence of cortical kinematics representations for 3D digit movements with a humanoid finger. *41st Annual Meeting of the Society for Neuroscience, November 12-16, Washington DC, USA.*

16. Oh H, **Gentili RJ,** Reggia JA, Contreras-Vidal JL. (2011). Coordination between the frontal and the parietal mirror neuron systems during learning by imitation. *41st Annual Meeting of the Society for Neuroscience, November 12-16, Washington DC, USA.*

15. Rietschel JC, Miller MW, **Gentili RJ**, Goodman RN, McDonald CG, Hatfield BD. (2011). Cerebral-cortical networking and activation increases as a function of task-difficulty. *41st Annual Meeting of the Society for Neuroscience, November 12-16, Washington DC, USA.*

14. Bradberry J, **Gentili RJ**, Contreras-Vidal JL. (2010). Fast calibration of an EEG-based brain-computer interface system using motor imagery and observation of cursor movement. *40th Annual Meeting of the Society for Neuroscience, November 15-19, Washington DC, USA.*

13. Bradberry J, **Gentili RJ**, Contreras-Vidal JL. (2010). An EEG-based brain-computer interface system for 2D cursor control with single-session training. *39th Annual Neural Interfaces Conference, June 21-23, Long Beach, CA, USA.*

12. **Gentili RJ**, Papaxanthis C, Ebadzadeh M, Ouanezar S, Eskiizmirliler S, Darlot C, Maier MA. (2007). Sensorimotor predictions in cerebellar pathways allow inverse dynamic computation of the gravitational forces on vertical pointing movement of a robot arm. *Northeast American Society of Biomechanics (NEASB) Conference, March 30-31, College Park, MD, USA.*

11. **Gentili RJ,** Oh H, Contreras-Vidal JL. (2009). A cortical neural model for inverse kinematics computation of an anthropomorphic robot finger. *39th Annual Meeting of the Society for Neuroscience, October 17-21, Chicago, IL, USA.*

10. Papaxanthis C, **Gentili RJ**. (2009). Effect of mental practice on the transfer of learning from the dominant to the non-dominant arm. *39th Annual Meeting of the Society for Neuroscience, October 17-21, Chicago, IL, USA.*

09. **Gentili RJ**, Contreras-Vidal JL. (2008) A neural model of cortico-spino-cerebellar learning for force computation during precision grip. *38th Annual Meeting of the Society for Neuroscience, November 15-19, Washington DC, USA.*

08. Bradberry J, **Gentili RJ**, Contreras-Vidal JL. (2008). Decoding hand kinematics of three-dimensional reaching from electroencephalographic signals. *38th Annual Meeting of the Society for Neuroscience, November 15-19, Washington DC, USA.*

07. Schweighofer N, **Gentili RJ**, Han CE, Papaxanthis C. (2007). Learning without doing. *37th Annual Meeting of the Society for Neuroscience, November 3-7, San Diego, CA, USA*.

06. **Gentili RJ**, Bradberry TJ, Hatfield BD, Contreras-Vidal JL. (2007). Power increase in specific EEG bands reflects the acquisition of an internal model of a novel environment during a visuomotor adaptation task. *37th Annual Meeting of the Society for Neuroscience, November 3-7, San Diego, CA, USA*.

05. Ouanezar S, Ebadzadeh M, Eskiizmirliler S, **Gentili RJ**, Maier M, Darlot C. (2007). A model of cerebellar pathways controls of a robotic arm actuated by artificial muscles. *From Neural Code to Brain/Machine Interface Autumn School, September 27-29, Olise, IDF, France*

04. **Gentili RJ**, Papaxanthis C, Ebadzadeh M, Ouanezar S, Eskiizmirliler S, Darlot C, Maier MA. (2006). Internal representation of gravitational forces in cerebellar pathways allows for the dynamic inverse computation of vertical pointing movements of a robot arm. *36th Annual Meeting of the Society for Neuroscience, October 14-18, Atlanta, GA, USA*.

03. **Gentili RJ**, Cahouet V, Papaxanthis C. (2005). The velocity profiles features of vertical arm pointing movements would reflect a minimization of the gravitational torque: Towards a new optimization model. *XIth ACAPS International Congress, October 26-28, Paris, France.*

02. **Gentili RJ**, Papaxanthis C, Pozzo T. (2004). Comparison of learning processes for arm pointing movements using physical and mental practice. *Pre-Olympic Congress, August 6-11, Thessaloniki, Greece.*

01. **Gentili RJ**, Papaxanthis C, Pozzo T. (2004). The CNS accurately predicts mechanical effects of gravity force during vertical arm pointing movements. *First France-Japan Joint Symposium on Human Motor Control. New Perspectives of Human Movement Sciences, The University of Tokyo, March 20-21, Komaba, Japan.*

II.D.4. Symposia

2. **Gentili RJ**, Shuggi IM. (2018). Assessing motor performance and mental workload during team practice: When robotic systems inform human motor behavior. *Symposium. North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 21-23, Denver, CO, USA.*

1. **Gentili RJ**, Miller MW. (2018). Cognitive-motor and psychological mechanisms underlying motor control and learning in a social context: From human-human to human-robot dynamics. *Symposium. North American Society for the Psychology of Sport and Physical Activity (NASPSPA) Conference, June 21-23, Denver, CO, USA.*

II.E. Professional and Extension Publications

II.E.1. Reports and Non-Refereed Monographs

Huang D-W, Katz GE, **Gentili RJ**, Reggia JA. (2014). The Maryland Virtual demonstrator environment for robot imitation learning. Technical Report CS-TR-5039, University of Maryland-College Park.

Hatfield BD, **Gentili RJ**, Rietschel JC, Lo L-C, Oh H, Jaquess KJ, Miller MW, Tan YY. (2014). Objective assessment of cognitive workload and attentional reserve in pilots during varying degrees of task difficulty. Bethesda, MD: Lockheed Martin Corp.

Hatfield BD, **Gentili RJ**, Rietschel JC, Lo L-C, Oh H, Jaquess KJ, Miller MW, Tan YY. (2013). Objective assessment of cognitive workload and attentional reserve in pilots during varying degrees of task difficulty and mental stress. Bethesda, MD: Lockheed Martin Corp.

II.E.2. Other

Comments

Bradberry TJ, **Gentili RJ**, Contreras-Vidal JL. (2011). Reply to comment on 'Fast attainment of computer cursor control with noninvasively acquired brain signals'. *Journal of Neural Engineering, 8(5):058002.*

II.F. Completed Creative Works and Scholarship

II.F.1. Websites

Website for the Office of Naval Research (ONR) grant (G06):
http://www.cs.umd.edu/~reggia/onrImitLearn/index.html

Github page for the Cause-Effect Reasoning for Imitation Learning (CERIL) architecture developed under the two Office of Naval Research (ONR) grants (G06 and G09):
https://github.com/garrettkatz/copct

II.F.2. Other

Interviews

Gentili RJ. (2008). The key of the movement, Cope[11], 3(664): 9-10. (In French). (http://www.faire-face.fr/).

Press releases

Schweighofer N, **Gentili RJ**, Han CE, Papaxanthis C. (2007). Learning without doing. *37th Annual Meeting of the Society for Neuroscience, November 3-7,* Society for Neuroscience Press Book Release, *San Diego, USA*.

Bradberry TJ, **Gentili RJ**, Contreras-Vidal JL. (2010). No implants needed: Movement-generating brain waves detected and decoded outside the head. *The Scientific American, March 2* (*http://www.scientificamerican.com/article.cfm?id=brain-controlled-movement#comments)*

Bradberry TJ, **Gentili RJ**, Contreras-Vidal JL. (2010). Mind-controlled prosthetics without brain surgery. *The New Scientist, March 2* (*http://www.newscientist.com/article/dn18603-mindcontrolled-prosthetics-without-brain-surgery.html)*

II.G. Sponsored Research and Programs – Administered by the Office of Research Administration (ORA)

II.G.1. Grants

G09. Office of Naval Research (ONR):
A neurocognitive approach to robotic cause-effect reasoning during learning.
Award Amount: $966,428
01/2019 - 12/2021
Co-PI (Dr. James Reggia (PI), University of Maryland-College Park, Computer Science).

G08. Army-Aviation Applied Technology Directorate (Department of Defense):
Influence of brain processes on cognitive workload under varying levels of challenge (DVE).
Award Amount: $499,995
10/2016 - 09/2022
Co-PI (Dr. Bradley Hatfield (PI), University of Maryland-College Park, Kinesiology).

G07. 14/15 Congressionally Reprogrammed Funds (Department of Defense):
Biomechanical and cognitive changes of walking in virtual environments: influences of lower-limb amputation.
Award Amount: $357,092
09/2015 - 11/2019
PI for University of Maryland-College Park group (Erik Wolf and Alison Pruziner as PIs for Walter Reed Hospital).

G06. Office of Naval Research (ONR)
A neurocognitive architecture using multi-level mental simulation in trainable autonomous systems.
Award Amount: $1,414,844
09/2013 - 09/2018
Co-PI (Dr. James Reggia (PI), University of Maryland-College Park, Computer Science).

G05. Lockheed Martin Corporation:
Creating trustworthy autonomous systems via imitation learning.

[11] La clé des gestes, Faireface Magazine. This review is the official review of the Association of French disabilities.

Award Amount: $100,000
01/2017 - 31/2017
Co-PI (Dr. James Reggia (PI), University of Maryland-College Park, Computer Science)

G04. Lockheed Martin Corporation
Objective assessment of cognitive workload in flight tasks as a results of learning and expertise (Phases 3 and 4).
Award Amount: $150,000
01/2014 - 02/2015
Co-PI (Dr. Bradley Hatfield (PI), University of Maryland-College Park, Kinesiology).

G03. Lockheed Martin Corporation
Personalized complex data exploration.
Award Amount: $135,000
10/2013 - 08/2014
Co-PI (Dr. Bradley Hatfield (PI), University of Maryland-College Park, Kinesiology).

G02. Lockheed Martin Corporation
Objective assessment of cognitive workload in pilots during varying degrees of task difficulty and mental stress (Phases 1 and 2).
Award Amount: $100,000
12/2012 - 12/2013
Co-PI (Dr. Bradley Hatfield (PI), University of Maryland-College Park, Kinesiology).

G01. The Motor Foundation[12]
Smart neural prosthetics: Integrating non-invasive neural interfaces, brain monitoring and bio-robotics prostheses for reaching and grasping.
Award Amount: $52,000
01/2009-01/2011.
PI

II.G.2. Contracts

3. National Institute of Health (R21)
Motor learning in cannabis users.
Award Amount: $420,750
09/2018 - 08/2020
Consultant. (Dr. Francesca Filbey (PI), University of University of Texas at Dallas, School of Behavioral and Brain Science).

2. Veterans Affairs – Washington DC (Intergovernmental Personnel Act assignment project)
Neurocomputational models of cognitive impairments in Veterans.
Award Amount: $250, 500
09/2017 - 09/2018
CoPI. (Dr. James Reggia (PI), University of University of Maryland-College Park, Computer Science).

1. Department of Veterans Affairs (Small Projects in Rehabilitation Research (SPiRE))
Brain neurophysiological biomarkers of functional recovery in stroke.
Award Amount: $154,000
01/2014 - 12/2015

[12] La Fondation Motrice. http://www.lafondationmotrice.org/eng.

Consultant. (Dr. George Wittenberg (PI), Veterans Affairs-Baltimore).

II.H. Gifts, and Funded Research not administered by ORA

Funded Research not administered by ORA

G03f. French Association Against Myopathies[13]

Combination of neural interfaces and prosthetics though neural network models of reaching and grasping.
Total cost: $30,000
12/2007-12/2008.
PI

G02f. Singer Polignac Foundation[14]

Neural network models of reaching and grasping for smart prosthetics.
Total cost: $18,000
12/2007-01/2008.
PI

G01f. Lavoisier Program Post-Doctoral Research Grant[15]

Association for Therapeutic Education, for Cerebral Palsy Rehabilitation in Children[16]

Integrating neural interfaces and prosthetics through large-scale neural network models of reaching and grasping.
Total cost: $34,000
12/2006-11/2007
PI

II.I. Patents

II.I.1. Other

Time domain-based decoding methods for noninvasive brain-machine interfaces. U.S. Patent US9468541. Inventors: Contreras-Vidal JL, Bradberry TJ, **Gentili RJ,** Harshavardhan Agashe.

II.J. Research Fellowships, Prizes and Awards

2017: MA student Theresa Hauge was awarded the first best poster in her category at the Bioscience Research and Technology Review Day (Fall 2017).

2017: Undergraduate lab student Maria Ayoub was awarded an honorable mention for her poster presentation at the Public Health Research Day (Fall 2017).

2017: PhD student Emma Shaw was awarded the Delta Omega Student Poster Award (1 out of 3 students awarded in the Kinesiology Department for research in Public Health) at the Public Health Research Day (Spring 2017).

2015: PhD student Emma Shaw was awarded the first best poster in her category at the Bioscience Research and Technology Review Day (Fall 2015).

2015: Msc student Isabelle Shuggi was awarded the second best paper at the Graduate Research Interaction Day (Spring 2015).

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[13] Association Française contre les Myopathies. http://www.afm-telethon.fr/
Grant complementing the one provided by the 'Lavoisier Program Post Doctoral Research Grant' (see above footnote #12).

[14] Fondation Singer Polignac. http://www.singer-polignac.org/.

[15] Program de Bourse postdoctorale Lavoisier. http://www.egide.asso.fr/jahia/Jahia/lang/en/accueil/etudiants

[16]Association Pour l'éducation Thérapeutique et la Réadaptation des Enfants Infirmes Moteur Cérébraux. http://anaxagore.net/apetreimc/index.php?option=com_frontpage&Itemid=1

2014: PhD student Hyuk Oh was awarded best paper at the Graduate Research Interaction Day (Spring 2014).
2013: Awarded best paper among the 10 top papers (acceptance rate of 30%) at the 15th International Conference on Human-Computer Interaction 2013.
2013: Awarded best paper among the 1666 accepted papers (with an acceptance rate of 30%) at the 7th International Conference on Augmented Cognition 2013.
2010: Awarded among the top 10 finalists for the invention of the year at the University of Maryland for the work entitled "Time domain-based decoding methods for noninvasive brain-machine interfaces".
2006: Selected by the French University Council to be authorized to apply for any tenure track Assistant Professor opening positions in any French territories.
2004: Received Ph.D. with the highest honor.
2004: Selected (PhD student category) among four national research groups to present his doctoral work at the First France-Japan Joint Symposium on Human Motor Control. New Perspectives of Human Movement Sciences, The University of Tokyo, March 20-21, Komaba, Japan.

III. Teaching, Extension, Mentoring, and Advising

III.A. Courses Taught

Title: KNES 385. Motor control and learning.
*Period (*enrollment)*:* Spring 2015 (151), 2016 (142), 2017(134), 2018(139), 2019(135)
Fall 2015 (164), 2016(151), 2017(154), 2018(119)
Role: Updated and taught the course.
Synopsis: Introduction to the underlying physiological and cognitive bases of human motor control and learning and their applications to the acquisition of movement skills and movement disorders.

Title: KNES 462. Neural basis of human movement.
*Period (*enrollment)*:* Summer 2015 (14); 2016 (28); 2017 (28); 2018 (40); 2019 (21)
Winter 2015 (33); 2016 (30); 2017 (27); 2018 (53).
Role: Updated and taught the course (online).
Synopsis: Introduction to the neuroanatomical and neurophysiological basis of motor functioning underlying postural and volitional movement.

Title: KNES 497. Independent studies seminar.
*Period (*enrollment)*:* Fall 2017 (10); Spring 2018 (20)
Role: Updated and taught the course.
Synopsis: Students examine and critically analyze current and controversial issues related to various techniques and tools for rehabilitation.

Title: KNES 789C/KNES672/KNES472. Computational motor control and learning: engineering the mind
*Period (*enrollment)*:* Spring 2017 (3); Fall 2018 (1); Fall 2018 (11)
Role: Created, updated and taught the course.
Synopsis: This course aims to critically examine how computational motor neurosciences can provide a theoretical framework to understand the underlying cognitive-/sensori- motor control and learning in human.

III.B. Teaching Innovations

III.B.1. Course or Curriculum Development

Course development

KNES 789C (KNES672/KNES472). Computational motor control and learning: engineering the mind

This course aims to critically examine how computational motor neurosciences can provide a theoretical framework to understand the underlying cognitive/sensori-motor control and learning in human.

Initially I have created this course only for graduate students however later I have updated it under KNES672/KNES472 to offer it to both undergraduate and graduate students. While native Matlab code was employed to implement illustrative examples for graduate students, a friendly GUI was developed instead for the undergraduate students to avoid any additional layer of complexity for them.

III.C. Advising: Research or Clinical

III.C.1. Undergraduate

Advising

Name: Samuel Sondheim
Department: Kinesiology (Honor Thesis advisor)
Thesis title: Comparison of kinematic performances in human and anthropomorphic index fingers for bio-inspired control system validation
Period: Fall 2012 – Spring 2013
Placement: ER doctor residency at Mount Sinai St Lukes/Roosevelt in New York City

Name: Amber Wincek
Department: Kinesiology
Period: Spring-Fall 2014
Placement: Student Physical Therapy School at University of Maryland-Baltimore

Name: Christina O'Brien
Department: Biology
Period: Fall 2014-Spring 2015
Placement: Not available

Name: Kristen King
Department: Kinesiology
Period: Fall 2014-Spring 2015
Placement: Clinical supervisor for education and training at Bromedicon LLC

Name: Cassidy Cunningham
Department: Kinesiology
Period: Spring 2015-Fall 2015
Placement: Doctor of physical therapy (graduated from Thomas Jefferson University)

Name: Noella Anyangwe
Department: Biology - UM STAR program
Period: Summer 2015
Placement: Track and field assistant coach at the University of Maryland

Name: Arianna Moreno
Department: Bioengineering - UM STAR program (Arizona State University)
Period: Summer 2015
Placement: Medical Student at the Uniformed Services University

Name: Rustin Tashayyod
Department: Bioengineering (University of Virginia)
Period: Summer 2015
Placement: Technical Sales Associate at Abbott

Name: Helena Wu
Department: Biology
Period: Spring 2015- Spring 2016
Placement: Clinical Administrative Assistant at National Intrepid Center of Excellence (NICoE)

Name: Theresa Hauge
Department: Kinesiology (Honor Thesis advisor)
Thesis title: The effect of task difficulty on motor performance, cognitive workload, and self-efficacy during learning of arm reaching movement using a human-body machine interface
Period: Spring 2015- Spring 2016
Placement: PhD student in Kinesiology at the University of Florida

Name: Sohail Hussain
Department: Kinesiology
Period: Fall 2015- Spring 2016
Placement: Not available

Name: Tina Dang
Department: Kinesiology
Period: Fall 2015- Fall 2016
Placement: Behavior analyst at Little leaves behavioral services

Name: Deon Guduru
Department: Bioengineering - UM STAR program
Period: Summer 2016
Placement: Not available

Name: Ethan Diamond
Department: Bioengineering
Period: Fall 2015 - Fall 2017
Placement: Medical student at George Washington school of medicine

Name: Maria Ayoub
Department: Kinesiology (Honor Thesis advisor)
Thesis title: Mental workload and performance assessment during an arm reaching task under various levels of cognitive and motor difficulty
Period: Spring 2016 - Spring 2018
Placement: PhD student in Rehabilitation sciences at Boston University

Name: Kathryn Costello
Department: Kinesiology
Period: Fall 2016-Spring 2017
Placement: Not available

Name: Katherine Kim
Department: Kinesiology
Period: Fall 2016-Spring 2018
Placement: Master student in Kinesiology (exercise science)

Name: Alok Shetty
Department: Kinesiology
Period: Fall 2016-Spring 2017
Placement: Not available

Name: Meghan Kimball
Department: Computer science - UM STAR program (DePaul University)
Period: Summer 2018
Placement: Student in Computer science at DePaul University

Name: Jacob Puffenbarger
Department: Kinesiology
Period: Spring 2017-Fall 2018
Placement: Not available

Name: Melissa Hewitt
Department: Kinesiology
Period: Fall 2017 - Fall 2018
Placement: Bachelor student in Kinesiology (biomechanics)

Name: Elena Danos
Department: Kinesiology (Honor Thesis advisor)
Thesis title: Neural correlates of cognitive and motor performance under varying task demands
Period: Spring 2018- Spring 2019
Placement: Physical therapy student at the University of Delaware

Name: Mckayla Kelly
Department: Biology
Period: Fall 2017 – pres.
Placement: NA

Name: Kayla Beovich
Department: Kinesiology (Honor Thesis advisor)
Period: Fall 2017 – pres.
Placement: NA

Name: Mark Houston
Department: Kinesiology
Period: Spring 2018 - pres.
Placement: NA

Name: Mycah Berson
Department: Kinesiology
Period: Spring 2018 - pres.
Placement: NA

Name: Christian Lazaro
Department: Bioengineering
Period: Fall 2018 - pres.
Placement: NA

Name: Elizabeth Sanders
Department: Kinesiology
Period: Winter 2019 - pres.
Placement: NA

Name: Daeja Harvey
Department: Kinesiology
Period: Spring 2019 - pres.
Placement: NA

Name: Nicole Matelite
Department: Kinesiology
Period: Spring 2019 - pres.
Placement: NA

III.C.2. Master's

Advising

Name: Alissa Kregling
Department: Kinesiology
Project title: A comparative kinematic analysis in human and humanoid robotic fingers for neuro-robotic system validation
Period: Fall 2012 - Spring 2013 (project supervision; non-thesis option)
Placement: Hospitality industry

Name: Isabelle Shuggi
Department: Science in Systems Engineering
Thesis title: The effect of a safety controller on user performance through a prosthetic interface
Period: Fall 2012 - Spring 2014 (Co-advisor with Dr. Jeffrey Hermann)
Placement: PhD student in Kinesiology at the University of Maryland

Name: Theresa Hauge
Department: Kinesiology
Thesis title: A new approach to assess high-level planning underlying cognitive-motor performance during complex action sequences
Period: Fall 2016 - Spring 2018
Placement: PhD student in Kinesiology at the University of Florida

Name: William Galway
Department: Kinesiology
Period: Fall 2018 - pres.
Placement: NA

Master Committee members
Isabelle Shuggi (System Engineering; Co-Chair)
Calvin Lu (Kinesiology; Advisor: Dr. Bradley Hatfield)
Theresa Hauge (Kinesiology; Chair)
Jun Won (Kinesiology; Advisor: Dr. Carson Smith)

III.C.3. Doctoral
Advising

Name: Hyuk Oh (unofficial co-advisor with Dr. Hatfield 2011-2014)
Department: Kinesiology
Thesis title: A multiple representations model of the human mirror system for learned action imitation
Period: Fall 2011-Spring 2014 (Co-advisor with Dr. Hatfield)
Fall 2014-Fall 2015 (full advisor)
Placement: Research assistant professor in kinesiology at the University of Maryland

Name: Kyle Jaquess
Department: Kinesiology
Thesis title: Investigations to understand the underlying brain processes which enhance cognitive-motor learning and performance
Period: Fall 2015-Summer 2018 (Co-advisor with Dr. Hatfield)
Placement: Advanced research fellow at the Veterans Affairs – Washington DC

Name: Isabelle Shuggi
Department: Kinesiology
Period: Fall 2015 - pres.
Placement: NA

Name: Emma Shaw
Department: Kinesiology
Period: Fall 2015 - pres.
Placement: NA

Name: P. Christopher Gaskins
Department: Kinesiology
Period: Fall 2017 - pres.
Placement: NA

Name: Alexandra Shaver
Department: Kinesiology
Period: Fall 2019 - pres.
Placement: NA

Dissertation committee members
Matt Miller (Kinesiology; Advisor: Dr. Bradley Hatfield)
Shikha Prashad (NACS program; Advisor: Dr. Jane Clark)
Li-Chuan Lo (Kinesiology; Advisor: Dr. Bradley Hatfield)
Due Yu (Kinesiology; Advisor: Dr. Dr. Jane Clark)
Ying Ying Tan (Kinesiology; Advisor: Dr. Bradley Hatfield)
Farzad Ehtemam (NACS program; Advisor: Dr. Bradley Hatfield)
Hyuk Oh (NACS program; Chair)
Di-Wei Huang (Computer science; Dr. James Reggia)
Joshua Langsfeld (Mechanical engineering; Advisor: Dr. SK Gupta)
Garrett Katz (Computer science; Dr. James Reggia)
Kyle Jaquess (Kinesiology; Co-chair)
Bradley Ritland (Kinesiology; Advisor: Dr. Bradley Hatfield)

III.C.4. Guest Lectures
Title: HONR258O. The Kinesiological bases of skilled performance.
Instructor: Dr. Seppo Iso-Ahola
Period: Fall 2014, 2015, 2016, 2017, 2018
Role: Guest lecture (1 lecture) on neural basis of motor control and learning applied to golf.

Title: KNES689M. Motor control theory.
Instructor: Dr. Tim Kiemel
Period: Spring 2015
Role: Guest lecture (1 lecture) on internal model framework in humans and neuro-robotics

III.D. Teaching Awards
Maryland Women's Lacrosse Most Valuable Professor (Spring 2019)

IV. Service and Outreach

IV.A. Editorships, Editorial Boards, and Reviewing Activities
IV.A.1. Editorial Boards
2019 – pres. Editorial Board Members for the journal Scientific Reports (Nature publishing).
2019 – pres. Associate Editor for the journal Research Quarterly for Exercise and Sport (Taylor & Francis Eds).
2016 – pres. Review Editor for the Editorial Board of Frontiers in Human Neuroscience
2012 – pres. Board member for the annual Augmented Cognition thematic affiliated conference for the International Conference on Human-Computer Interaction.
2013, 2015 Chair of the session entitled "Operational Neuroscience" for the 7th and 8th Augmented Cognition thematic affiliated conference for the 15th and 17th International Conference on Human-Computer Interaction 2013 and 2015.

IV.A.2. Reviewing Activities for Journals and Presses

Served as a reviewer for at least one time for the journal below:

Adaptive Behavior; Advances in Cognitive Psychology; Applied Bionics and Biomechanics; ASME Applied Mechanics Reviews; Applied Clinical Informatics; Behavioural Brain Research; Bioinspiration & Biomimetics; Biological Psychology; Brain Sciences; Chronobiology International; Computational Intelligence and Neuroscience; Computers in Biology and Medicine; Computer Methods and Programs in Biomedicine; Current Opinion in Behavioral Sciences; European Journal of Neuroscience; Exercise and Sport Sciences Reviews; Engineering; Engineering Science and Technology - an International Journal; European Journal of Neuroscience; Experimental Brain Research; Frontiers in Human Neuroscience; Human Brain Mapping; IEEE Access; IEEE Transactions on Neural Systems & Rehabilitation Engineering; Informatics in Medicine Unlocked; Interdisciplinary Sciences-Computational Life Sciences; International Journal of Psychophysiology; Journal of Gerontology; Journal of Intelligent & Robotic Systems; Journal of Motor Behavior; Journal of Motor Learning and Development; Journal of Near Infrared Spectroscopy (JNIRS); Journal of neural engineering; Journal of NeuroEngineering and Rehabilitation; Journal of Neurophysiology; Journal of Sport and Health Science; Medical Devices: Evidence and Research (Auckland)l; Medicine & Science in Sports & Exercise; Neural Networks; Neuroimage; Neurorehabilitation and Neural Repair; Neuroscience; Neuroscience Letters; Perceptual and Motor Skills; Psychology of Sport & Exercise; Public Library of Science ONE; Robotics and Autonomous Systems; Scientific Reports; Sensors.

IV.A.3. Reviewing Activities for Agencies and Foundations

Grant reviewer for the Austrian Science Fund (Biological and Medical Sciences Department).

IV.A.4. Reviewing Activities for Conferences

Human Computer Interaction International Proceedings (2013-present)
IEEE Engineering in Medicine and Biology Society (EMBS) Proceedings (2009-present)
IEEE Neural Engineering (NER) Proceedings (2015-present)
IEEE Technologies for Practical Robot Applications (TePRA) Proceedings (2015)
IEEE Smart Instrumentation, Measurement and Applications (ICSIMA) Proceedings (2014)

IV.B. Committees, Professional & Campus Service

IV.B.1. Campus Service – Department

2009 - pres. Reviewer committee for the Graduate Research Initiative Project[17]
2016 - pres. Member of the Graduate committee;
2018-pres. Distinguished Research Paper Committee
2016-2017 Member of the Information Technology and Computer Committee
2016-2017 Web & Computer Committee
2015: Member of the Undergraduate Committee

IV.B.2. Campus Service – College

2017 Member of the Information Technology and Computer Committee

[17] This local grant provides students the opportunity, three times a year, to apply for funds to support their research. Each year, all graduate students are eligible for funding if they are giving a first-authored paper at a scientific conference.

IV.B.3. Campus Service – University

2019-pres. NACS Executive Committee

2015-pres. NACS Admissions Committee

2015 Banneker/Key Scholarship Selection Committee

IV.B.4. Campus Service – Other

2015 – 2018 Organized laboratory demonstration during the Maryland Day.