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EDUCATION

2005	Ph.D.	Experimental Psychology	University of Connecticut, USA
2000	M.S.	Psychology	University of Canterbury, NZ
1998	B.A.	Psychology	University of Canterbury, NZ

ACADEMIC APPOINTMENTS

2017 - present	Professor	Department of Psychology, Macquarie University, NSW, Australia
2012 - 2017	Associate Professor	Department of Psychology, University of Cincinnati, USA
2009 - 2012	Assistant Professor	Department of Psychology, University of Cincinnati, USA
2006 - 2009	Assistant Professor	Department of Psychology, Colby College, USA
2005 - 2006	Postdoctoral Research Associate	Center for the Ecological Study of Perception and Action, Psychology Department, University of Connecticut, USA

RESEARCH FUNDING

2019 – 2023	Chief Investigator (w/ Kallen, R. W., Dras, M., Reichle, E., & Nalepka, P). Human Performance Research Network (HPRnet) Project: Developing Responsive and Adaptive Artificial-Agents for Team Training. Australian Department of Defence, Science and Technology (ID9024, AUD \$480,000).
2019 – 2023	Australian Research Council (ARC) Future Fellowship: Modelling human perceptual-motor interaction for human-machine applications. Australian Research Council (FT180100447, AUD \$993,643).

- 2019 – 2019 Co-Chief Investigator (w/ Kallen, R. W., & Nalepka, P). Modelling human perceptual-motor interaction for human-machine applications. Australian Department of Defence, Science and Technology (MyIP8655, AUD \$59,986).
- 2016 – 2018 Co-Principal Investigator (w/ PI Langland-Hassan, P., & Co-PI Dietz, A). *Cambridge New Directions: Inner Speech and Cognitive Phenomenology*. John Templeton Foundation and the University of Cambridge (RG73416, USD \$150,790).
- 2013 – 2018 Principal Investigator (w/ Kallen, R. W., Harrison, S. J., Saltzman, E & Schmidt, R. C). *Modeling the Behavioral Dynamics of Social Action and Coordination*. NIH - National Institute of General Medical Sciences (R01GM105045, USD \$1,422,393).
- 2016 – 2018 Co-Principal Investigator (w/ PI Lorenz, T., & Co-PIs Kumar, M., Kiefer, A., Ralescu, R.) Development of a neurophysiologically integrated exoskeleton for sit-to-stand (STS) transition support based on multimodal action intent recognition. UC Strategic Collaborative Grant, USD \$99,876.
- 2016 – 2017 Program Director: Skills in Systems Technology for Cognitive Systems Engineering. (w/ faculty contributors: Rachel Kallen (Psychology), Dr. Manish Kumar (Mechanical & Materials Engineering), Dr. Tamara Lorenz (Psychology and Electrical Engineering & Computing Systems), Dr. Ali Minai (Electrical Engineering & Computing Systems), Dr. Michael Riley (Psychology), Dr. Paula Silva (Psychology) UC, Provost Technology Innovation Grant, USD \$200,000.
- 2015 – 2017 Co-Principal Investigator & Senior Fellow Mentor (w/ PI & Postdoctoral Fellow Lamb, M., Co-PI & Co-Mentor Minai, A.). *Modeling Synergistic Coordination in Multi-Agent Human and Human-Machine Systems*. National Science Foundation SBE Postdoctoral Research Fellowship Award (#1513801, USD \$226,273).
- 2012 – 2015 Senior Personnel (w/ PI Kallen, R. W., Co-PI Kloos, H). *REU Site: Research Experiences for Undergraduates in Complex Psychological Systems*, National Science Foundation (#126314, USD \$320,577).
- 2012 – 2014 Principal Investigator (w/ Fitzpatrick, P. A., Schmidt, R. C., Bishop, S. L. & Duncan, A). *Evaluating the Time-Dependent Unfolding of Social Interactions in Autism*. NIH - National Institute of Mental Health (1R21MH094659, USD \$449,609).
- 2009 – 2012 Co-Principal Investigator (w/ Shockley, K., Riley, M., & Dale, R.). *Collaborative Research: Dynamics of Interpersonal Coordination and Embodied Communication*. National Science Foundation, BCS (Award #0926662 for USD \$418,809).
- 2008 – 2011 Principal Investigator (w/ R. C. Schmidt, College of Holy Cross). *Collaborative Research (RUI): Perceptual Pick-up Processes in Interpersonal Coordination*. National Science Foundation, BCS (Award # 0750190 for USD \$118,817).
- 2007 – 2009 Co-Principal Investigator (w/ Marsh, K. L., Fein, D., Isenhower, R. W., Schmidt, R. C., & Kinsella-Shaw, J. M.). *Assessing Synchrony as a Basis for Social Connection in Autism*. Innovative Technologies for Autism Grant, Cure Autism Now (USD \$9,967).
- 2004 – 2008 Co-Principal Investigator (w/ Marsh, K. L., Baron, R. M. & Carello, C.) *Affordances for Cooperation as a Dynamical System*. National Science Foundation, BCS (Award # 0340277 for USD \$ 327,750).
- 2003 – 2006 Co-Principal Investigator (w/ Schmidt, R.C., Fowler, C. A., & Marsh, K. L.) *Informational Constraints on Interpersonal Coordination*. National Science Foundation, BCS (Award # 0240277 for USD \$194,886).

PUBLICATIONS (* graduate and (v) undergraduate student author

Edited Books

Richardson, M. J., Riley, M. A., & Shockley, K. (2013). *Progress in motor control: Neural, computational and dynamical approaches*. New York, NY: Springer.

Book Chapters

*Eiler, B. A., Kallen, R. W. & Richardson, M. J. (2017). Interaction dominant dynamics, timescale enslavement and the emergence of social behavior. In R. Vallacher, S. Read, & A. Nowak (Eds.), *Computational Social Psychology* (pp. 105-126). NY: Routledge.

Richardson, M. J., *Washburn, A., Kallen, R. W. & Harrison, S. J. (2016). Symmetry and the Behavioral Dynamics of Social Coordination. In Passos, P., Davids, K., & Chow, J. Y. (Eds.). *Interpersonal Coordination and Performance in Social Systems* (pp. 65-81). Routledge.

*Romero, V., Fitzpatrick, P., Schmidt, R. C. & Richardson, M. J., (2016). Using Cross-Recurrence Quantification Analysis to Understand Social Motor Coordination in Children with Autism Spectrum Disorder. C.L. Webber, Jr. et al. (eds.), *Recurrence Plots and Their Quantifications: Expanding Horizons, Springer Proceedings in Physics 180*. Switzerland: Springer.

Richardson, M. J., & Kallen, R. W. (2015). Symmetry-Breaking and the Contextual Emergence of Human Multiagent Coordination and Social Activity. In E. Dzhafarov, S. Jordan, R. Zhang, and V. Cervantes (Eds.). *Contextuality from Quantum Physics to Psychology*. (pp. 229-286). World Scientific.

Richardson, M. J., & Chemero, A. (2014). Complex Dynamical Systems and Embodiment. In L. Shapiro (Ed.). *The Routledge Handbook of Embodied Cognition* (pp. 39-50). New York, NY: Routledge.

Richardson, M. J. Dale R., & Marsh, K. L., (2014). Complex Dynamical Systems in Social and Personality Psychology: Theory, Modeling and Analysis. In H. T. Reis, and C. M. Judd. (Eds.). *Handbook of Research Methods in Social and Personality Psychology, 2nd Edition*. (pp. 253-282) New York, NY: Cambridge University Press.

*Coey, C. A., *Washburn, A., & Richardson, M. J. (2014). Recurrence Quantification as an Analysis of Temporal Coordination with Complex Signals. In N. Marwan, M. Riley, A. Giuliani, and C. L. Webber (Eds.), *Translational Recurrences: From Mathematical Theory to Real-World Applications* (pp. 173-186). Springer International Publishing.

Richardson, M. J. Marsh, K. L., & Schmidt, R. C. (2010). Challenging egocentric notions of perceiving, acting, and knowing. In L. F. Barrett, B. Mesquita, and E. Smith. (Eds.). *The Mind in Context*. (pp. 307-333). New York, NY: Guilford.

Richardson, M. J., Fajen, B. R., Shockley, K., Riley, M. A., Turvey, M. T. (2008). Ecological Psychology: Six Principles for an Embodied–Embedded Approach to Behavior. In. Paco Calvo & Toni Gomila (Eds.). *Handbook of Cognitive Science: An Embodied Approach*. (pp.161-197). Elsevier.

Schmidt, R. C., & Richardson, M. J. (2008). Dynamics of Interpersonal Coordination. In A. Fuchs & V. Jirsa (Eds.). *Coordination: Neural, Behavioral and Social Dynamics*. (pp. 281-308). Heidelberg: Springer-Verlag.

Fowler, C. A. Richardson, M. J., Marsh, K. L., & Shockley, K. D. (2008). Language use, coordination, and the emergence of cooperative action. In A. Fuchs & V. Jirsa (Eds.). *Coordination: Neural, Behavioral and Social Dynamics*. (pp. 261-280). Heidelberg: Springer-Verlag.

Journal Articles

- Washburn, A., Kallen, R. W., Lamb, M., Stepp, N., Shockley, K., & Richardson, M. J. (2019). Feedback delays can enhance anticipatory synchronization in human-machine interaction. *PloS one*, *14*(8), e0221275.
- Lamb, M., *Nalepka, P., Kallen, R. W., Lorenz, T., Harrison, S. J., Minai, A. A., & Richardson, M. J. (2019). A Hierarchical Behavioral Dynamic Approach for Naturally Adaptive Human-Agent Pick-and-Place Interactions. *Complexity*, p1-16, DOI: 10.1155/2019/5964632
- *Chauvigné, L. A., *Walton, A., Richardson, M. J., & Brown, S. (2019). Multi-person and multisensory synchronization during group dancing. *Human movement science*, *63*, 199-208.
- *Nordbeck, P. C., Soter, L. K., Viklund, J. S., Beckmann, E. A., Kallen, R. W., Chemero, A. P., & Richardson, M. J. (2019). Effects of task constraint on action dynamics. *Cognitive Systems Research*, *55*, 192-204.
- *Nalepka, P., Lamb, M., Kallen, R. W., Shockley, K., Chemero, A., Saltzman, E., & Richardson, M. J. (2019). Human social motor solutions for human-machine interaction in dynamical task contexts. *Proceedings of the National Academy of Sciences*, 201813164.
- Jenkins N. B., Hunter, J. F., Richardson, M. J., Conner, T. S., & Pressman, S. D. (2019) Affect Variability and Predictability: Using Recurrence Quantification Analysis to Better Understand How the Dynamics of Affect Relate to Health. *Emotion*.
- *Coey, C. A., Kallen, R. W., Chemero, A., & Richardson, M. J. (2018). Exploring complexity matching and asynchrony dynamics in synchronized and syncopated task performances. *Human Movement Science*, *62*, 81-104.
- *Walton, A., *Washburn, A., Langland-Hassan, P., Chemero, A., Kloos, H., & Richardson, M. J. (2018). Creating time: social collaboration in music improvisation. *Topics in Cognitive Science*, *10*, 95-119.
- *Romero, V., Fitzpatrick, P., Roulier, S., Duncan, A., Richardson, M. J., & Schmidt, R. C. (2018). Evidence of embodied social competence during conversation in high functioning children with autism spectrum disorder. *PloS one*, *13*(3), e0193906.
- Patil, G., Rigoli, L., Richardson, M. J., Kumar, M., & Lorenz, T. (2018). Momentum-based trajectory planning for lower-limb exoskeletons supporting sit-to-stand transitions. *International Journal of Intelligent Robotics and Applications*, *2*(2), 180-192.
- Kiefer, A. W., Pincus, D., Richardson, M. J., & Myer, G. D. (2017). virtual reality As a training tool to treat Physical inactivity in children. *Frontiers in public health*, *5*, 349.
- Langland-Hassan, P., Gauker, C., Faries, F., Richardson, M. J., & Dietz, A. (2017). Metacognitive deficits in categorization tasks in a population with impaired inner speech. *Acta Psychologica*, *181*, 62-74.
- Varlet, M., Schmidt, R. C., & Richardson, M. J. (2017). Influence of stimulus velocity profile on visuomotor entrainment depends on eye movements. *Experimental Brain Research*, *11*, 3279-3286
- Lamb, M., Kallen, R. W., Harrison, S. J., Di Bernardo, M., Minai, A., & Richardson, M. J. (2017). To Pass or Not to Pass: Modeling the Movement and Affordance Dynamics of a Pick and Place Task. *Frontiers in Psychology*, *8*.
- Fitzpatrick, P., *Romero, V., *Amaral, J., Duncan, A., Barnard, H., Richardson, M. J., & Schmidt, R. C. (2017). Evaluating the importance of social motor synchronization and motor skill for understanding autism. *Autism Research*, *10*, 1687-1699.
- Fitzpatrick, P., *Romero, V., *Amaral, J. L., Duncan, A., Barnard, H., Richardson, M. J., & Schmidt, R. C. (2017). Social Motor Synchronization: Insights for Understanding Social Behavior in Autism. *Journal of Autism and Developmental Disorders*, 1-16.
- *Amaral, J. L., *Romero, V., Kloos, H., & Richardson, M. J. (2017). Complexity and Autism Spectrum Disorder: Exploring Hysteresis in A Grasping Task. *AIMS Medical Science*, *4*, 113-130.

- *Nalepka, P., Kallen, R. W., Chemero, A., Saltzman, E., & Richardson, M. J. (2017). Herd Those Sheep: Emergent multiagent coordination and behavioral mode switching. *Psychological Science*. DOI: 10.1177/0956797617692107.
- Kijima, A., Shima, H., Okumura, M., Yamamoto, Y., & Richardson, M. J. (2017) Effects of Agent-Environment Symmetry on the coordination dynamics of triadic jumping. *Frontiers in Cognitive Science*. 8:3. doi: 10.3389/fpsyg.2017.00003.
- *Romero, V., Amaral, J., Fitzpatrick, P., Schmidt, R. C., Duncan, A. W., & Richardson, M. J. (2017). Can low-cost motion-tracking systems substitute a Polhemus system when researching social motor coordination in children? *Behavior Research Methods*, 1-14.
- *Favela, L. H., *Coey, C. A., Griff, E. R., & Richardson, M. J., (2016). Fractal analysis reveals subclasses of neurons and suggests an explanation of their spontaneous activity. *Neuroscience Letters*.
- *Varlet, M., Richardson, M. J. & Schmidt, R. C. (2016). Noise can facilitate spontaneous movement synchronization. *Journal of Motor Behavior*. DOI:10.1080/00222895.2015.1050548
- *Coey, C. A., Washburn, A., Hasebrock, J., & Richardson, M. J. (2016). Complexity matching effects in bimanual and interpersonal syncopated finger tapping. *Neuroscience letters*, 616, 204-210.
- Castillo, R. D., Kloos, H., Richardson, M. J. & Waltzer, T., L. (2015). Beliefs as Self-Sustaining Networks: Drawing Parallels between Networks of Ecosystems and Adults' Predictions. *Frontiers in Psychology*. 6:1723. doi: 10.3389/fpsyg.2015.01723
- Wallot, S., *Coey, C. A., & Richardson, M. J. (2015) Cue predictability changes scaling in eye-movement fluctuations. *Attention, Perception, & Psychophysics*, 77, 2169–2180.
- *Romero, V., Kallen, R. W., Riley, M. A., & Richardson, M. J., (2015). Can joint action be synergistic? Studying the stabilization of interpersonal hand coordination. *Journal of Experimental Psychology: Human Perception and Performance*. DOI:10.1037/xhp0000083
- *Washburn, A., Kallen, R. W., Shockley, K., & Richardson, M. J. (2015). Harmony from chaos: anticipatory synchronization and complexity matching in aperiodic interpersonal coordination. *Journal of Experimental Psychology: Human Perception and Performance*. DOI:10.1037/xhp0000080
- Langland-Hassan, P., *Faries, F., Richardson, M. J., & Dietz, A. (2015). Inner Speech Deficits in People with Aphasia. *Frontiers in Psychology*. 6 (528). DOI:10.3389/fpsyg.2015.00528
- Varlet, M., Bucci, C., Richardson, M. J. & Schmidt, R. C. (2015). Informational Constraints on Spontaneous Visuomotor Entrainment. *Human Movement Science*. 41, 265–281.
- Castillo, R. D., Kloos, H., Holden, J. G., & Richardson, M. J. (2015). Long-range correlations and patterns of recurrence in children and adults' attention to hierarchical displays. *Frontiers in Physiology*, 6, 138. doi: 10.3389/fphys.2015.00138.
- *Washburn, A. *Coey, C. A., *Romero, V. *Malone, M. L., & Richardson, M. J. (2015). Interaction of Intention and Environmental Constraints on the Fractal Dynamics of Human Performance. *Cognitive Processing*. DOI:10.1007/s10339-015-0652-6
- *Castillo, R. D., Kloos, H., Holden, J. D., & Richardson, M. J. (2015). Fractal Coordination in Adults' Attention to Hierarchical Visual Patterns. *Nonlinear Dynamics, Psychology, and Life Sciences*. 19(2):147-72.
- *Coey, C. A., Hasebrock, J., Kloos, H., & Richardson, M. J. (2015). The Complexities of Keeping the Beat: Dynamical Structure in the Nested Behaviors of Finger Tapping. *Attention, Perception & Psychophysics*. DOI 10.3758/s13414-015-0842-4.
- Richardson, M. J., Harrison, S. J., Kallen, R. W., *Walton, A., *Eiler, B., & Schmidt, R. C. (2015). Self-Organized Complementary Coordination: Dynamics of an Interpersonal Collision-Avoidance Task. *Journal of Experimental Psychology: Human Perception and Performance*. 41, 665-79.

- Walton, A., Richardson, M. J., Langland-Hassan, P. & Chemero, A. (2015). Improvisation and the self-organization of multiple musical bodies. *Frontiers in Psychology*, 6, 313. doi: 10.3389/fpsyg.2015.00313.
- *Varlet, M., & Richardson, M. J. (2015). What Would Be Usain Bolt's 100-Meter Sprint World Record Without Tyson Gay? Unintentional Interpersonal Synchronization Between the Two Sprinters. *Journal of Experimental Psychology: Human Perception and Performance*, 41, 36-41.
- *Wallot, S., *Coey, C. A., & Richardson, M. J. (2015). Interdependence of saccadic and fixational fluctuations. *Ecological Psychology*. 27, 68-86
- *Walton, A., Richardson, M.J., Chemero, A. (2014). Self-organization and Semiosis in Jazz Improvisation. *International Journal on Signs and Semiotics Systems*. 1 (6). DOI:10.3389/fpsyg.2015.00313
- *Washburn, A., †DeMarco, M., *de Vries, S., *Ariyabuddhiphongs, K., Schmidt, R. C., Richardson, M. J., & Riley, M. A. (2014). Dancers Entrain More Effectively than Non-Dancers to Another Actor's Movements. *Frontiers in Human Neuroscience*. doi: 10.3389/fnhum.2014.00800.
- *Tolston, M. T., Shockley, K., Riley, M. A., & Richardson, M. J. (2014). Movement constraints on interpersonal coordination and communication. *Journal of Experimental Psychology: Human Perception and Performance*, 40, 1891-1902.
- *Varlet, M., *Coey, C., Schmidt, R. C., Marin, L., Bardy, B. G., & Richardson, M. J. (2014). Influence of stimulus velocity profile on rhythmic visuomotor coordination. *Journal of Experimental Psychology: Human Perception and Performance*, 40, 1849-1860.
- Schmidt, R. C., *Nie, L., †Franco, A., & Richardson, M. J., (2014). Bodily synchronization underlying joke telling. *Frontiers in Human Neuroscience*, doi: 10.3389/fnhum.2014.00633.
- Vesper, C., & Richardson, M. J. (2014). Strategic communication and behavioral coupling in asymmetric joint action. *Experimental Brain Research*, 232, 2945-2956.
- *Washburn, A. *Coey, C. A., *Romero, V. & Richardson, M. J. (2014). Unintentional Polyrhythmic Entrainment: Can 1:2, 2:3 and 3:4 Patterns of Visual Coordination Occur Spontaneously? *Journal of Motor Control*, 46, 247-57.
- *Malone, M., *Castillo, R. D., Holden, J. D., Kloos, H., & Richardson, M. J. (2014). Dynamic Structure of Joint-Action Stimulus-Response Activity. *PLoS ONE* 9(2): e89032.
- Duarte, R., Araújo, D., Correia, V., Davids, K., Marques, P., & Richardson, M. J. (2013). Competing together: Assessing the dynamics of team-team and player-team synchrony in professional association football. *Human Movement Science*. 32, 555–566.
- *Eiler, B., Kallen, R. W., Harrison, S. J., & Richardson, M. J. (2013). Origins of Order in Joint Activity and Social Behavior. *Ecological Psychology*, 25, 316–326.
- *van Rooij, M. M. J. W., *Favela, L. H., *Malone, M., & Richardson, M. J. (2013). Modeling the Dynamics of Risky Choice. *Ecological Psychology*, 25, 293–303.
- Fitzpatrick, P., Richardson, M. J., & Schmidt, R. C. (2013). Dynamical Methods for Evaluating the Time-Dependent Unfolding of Social Coordination in Children with Autism. *Frontiers in Integrative Neuroscience*, 7, doi: 10.3389/fnint.2013.00021
- Marsh, K. L., Isenhower, R. W., Richardson, M. J, Helt, M., Verbalis, A. D., Schmidt, R. C., Fein D. (2013). Autism and Social Disconnection in Interpersonal Rocking. *Frontiers in Integrative Neuroscience*. 7, 1-8.
- Schmidt, R. C., †Morr, S., Fitzpatrick, P., & Richardson, M. J. (2012). Measuring the dynamics of interactional synchrony. *Journal of Nonverbal Behavior*. 36, 263–279

- Richardson, M. J., *Garcia, A., Frank, T. D., & Gergor, M., & Marsh, K. L., (2012). Measuring Group Synchrony: A Cluster-Phase Method for Analyzing Multivariate Movement Time-Series. *Frontiers in Physiology*. 3, 405.
- *Coey, C. A., *Wallot, S., Richardson, M. J., & Van Orden, G. (2012). On the Structure of Measurement Noise in Eye-Tracking. *Journal of Eye Movement Research*, 5, 1-10.
- *Romero, V., *Coey, C., Schmidt, R. C., & Richardson, M. J. (2012). Movement Coordination or Movement Interference: Visual Tracking and Spontaneous Coordination Modulate Rhythmic Movement Interference. *PLoS ONE* 7(9): e44761.
- *Coey, C., *Varlet, M., & Richardson, M. J. (2012). Coordination dynamics in a socially situated nervous system. *Frontiers in Human Neuroscience*. 6, 164 (1-12).
- *Varlet, M., *Coey, C., Schmidt, R. C., & Richardson, M. J. (2012). Influence of Stimulus Amplitude on Spontaneous Visual Coordination. *Human Movement Science*. 31, 541-52.
- Anderson, M. L., Richardson, M. J., & Chemero, A. (2012). Eroding the boundaries of cognition: Implications of embodiment. *Topics in Cognitive Science*. 4, 1–14
- *Lumsden, J., Miles, L. K., Richardson, M. J., Smith, C. A., & Macrae, N. C. (2012). Who Syncs? Social Motives and Interpersonal Coordination. *Journal of Experimental Social Psychology*, 48, 746–751.
- *Isenhower, R. W., Marsh, K. L., Richardson, M. J., *Helt, M., Schmidt, R. C., Fein, D., (2012). Rhythmic Bimanual Coordination is Impaired in Children with Autism Spectrum Disorder. *Research in Autism Spectrum Disorders*. 6, 25-31
- *Kuznetsov, N. A., Shockley, K. D., Richardson, M. J., & Riley, M. A., (2011). Respiratory modulations and changes in the postural-respiratory synergy during supra-postural task performance. *Neuroscience Letters*, 502,13-7
- *Coey, C., *Varlet, M., Schmidt, R. C., & Richardson, M. J. (2011). Effects of Movement Stability and Congruency on the Emergence of Spontaneous Interpersonal Coordination. *Experimental Brain Research*, 211, 483-493
- Miles, L. K., *Lumsden, J., Richardson, M. J., & Macrae, N. C. (2011). Do Birds of a Feather Move Together? Group Membership and Behavioral Synchrony. *Experimental Brain Research*, 211, 495-503.
- *Varlet, M., & Richardson, M. J. (2011). Computation of Continuous Relative Phase and Modulation of Frequency. *Journal of Biomechanics*. 44, 1200-1204.
- Riley, M. A., Richardson, M. J., Shockley, K. & Ramenzoni, V. C. (2011). Interpersonal Synergies. *Frontiers in Psychology*, 2, 1-7.
- *Isenhower, R., Richardson, M. J., Marsh, K. L., Carello, C., & Baron, R. M. (2010). Affording cooperation: Dynamics and action-scaled invariance of joint lifting. *Psychonomic Bulletin and Review*. 17, 342-347.
- Frank, T. D., & Richardson, M. J. (2010). On a test statistic for the Kuramoto order parameter of synchronization: with an illustration for group synchronization during rocking chairs. *Physica D*, 239, 2084-2092.
- Goldfield, E. C. et al. (2010). Premature Infant Swallowing: Patterns of Tongue-Soft Palate Coordination Based Upon Videofluoroscopy. *Infant Behavior and Development*, 33, 209-218
- *Lopresti-Goodman, S., *Kallen, Rachel, Richardson, M. J., Marsh, K. L., Johnston, L. (2010). The influence of heightened body-awareness on passing through Apertures. *Applied Cognitive Psychology*, 24, 557-570.
- Miles, L. K., *Griffiths, J. L., Richardson, M. J., & Macrae, N. C. (2010). Too Late to Coordinate: Target Antipathy Impedes Behavioral Synchrony. *European Journal of Social Psychology*, 40, 52–60.
- Harrison, S. J. & Richardson, M. J. (2009). Horsing around: Spontaneous Four-Legged Coordination. *Journal of Motor Behavior*, 41, 519 - 524.

- Hajnal, A., Richardson, M. J., Harrison, S. J., & Schmidt, R. C. (2009). Location but not amount of stimulus occlusion influences the stability of visuo-motor coordination. *Experimental Brain Research*, 199, 89–93.
- Richardson, M. J., & Campbell, W. L. & Schmidt, R. C. (2009). Movement interference during action observation as emergent coordination. *Neuroscience Letters*, 449, 117–122.
- Frank, T. D., Richardson, M. J., *Lopresti-Goodman, S., & Turvey, M. T. (2009). Order parameter dynamics of body-scaled hysteresis and mode transitions in grasping behavior. *Journal of Biological Physics*. 35, 127-147.
- Marsh, K. L., Richardson, M. J., & Schmidt, R. C. (2009). Social connection through joint action and interpersonal coordination. *Topics in Cognitive Science*, 1, 320-339.
- *Lopresti-Goodman, S., Richardson, M. J., Marsh, K. L., Carello, C., & Baron, R. M. (2009). Task constraints on affordance boundaries. *Motor Control*. 13, 69–8.
- Marsh, K. L., Johnston, L., Richardson, M. J., & Schmidt, R. C. (2009). Toward a radically embodied, embedded social psychology. *European Journal of Social Psychology*, 39, 1217-1216.
- Richardson, M. J., *Lopresti-Goodman, S., Mancini, M., Kay, B. A., & Schmidt, R. C. (2008). Comparing the attractor strength of intra- and interpersonal interlimb coordination using cross recurrence analysis. *Neuroscience Letters*, 438, 340-345.
- *Lopresti-Goodman, S., Richardson, M. J., *Silva, P. L., & Schmidt, R. C. (2008). Period Basin of Entrainment for Unintentional Visual Coordination. *Journal of Motor Behavior*. 40, 3-10.
- Shockley, K. D., *Baker, A. A., Richardson, M. J., & Fowler, C. A. (2007). Verbal constraints on interpersonal postural coordination. *Journal of Experimental Psychology: Human Perception and Performance*. 33, 201-208.
- Richardson, M. J., Schmidt, R. C., & Kay, B. A. (2007) Distinguishing the Noise and Attractor Strength of Coordinated Limb Movements Using Recurrence Analysis. *Biological Cybernetics*, 96, 59-78.
- Richardson, M. J., Marsh, K. L., & Baron, R. M. (2007). Judging and Actualizing Intrapersonal and Interpersonal Affordances. *Journal of Experimental Psychology: Human Perception and Performance*. 33, 845-859.
- Richardson, M. J., Marsh, K. L., *Isenhower, R., & Goodman, J., & Schmidt, R. C. (2007). Rocking Together: Dynamics of Intentional and Unintentional Interpersonal Coordination. *Human Movement Science*. 26, 867-891.
- Schmidt, R. C., Richardson, M. J., & Arsenault, C., & Galantucci, B. (2007). Visual Tracking and Entrainment to an Environmental Rhythm. *Journal of Experimental Psychology: Human Perception and Performance*. 33, 860-870.
- Marsh, K. L., Richardson, M. J., Baron, R. M., & Schmidt, R. C. (2006) Contrasting approaches to perceiving and acting with others. *Ecological Psychology*. 18, 1-38.
- Goldfield, E. C., Richardson, M. J., Lee, K. G., Margets, S. (2006). Coordination of Sucking, Swallowing, and Breathing and Oxygen Saturation During Early Infant Breast-feeding and Bottle-feeding. *Pediatric Research*, 60, 450-455.
- Richardson, M. J., Marsh, K. L., & Schmidt, R. C. (2005). Effects of visual and verbal information on unintentional interpersonal coordination. *Journal of Experimental Psychology: Human Perception and Performance*, 31, 62-79.
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- Lamb, M., Lorenz, T., Harrison, S., Kallen, R., Minai, A., Richardson, M. (2017) PAPA: A Pick and Place Agent Based on Human Behavioral Dynamics. In *Proceedings of the Fifth International Conference on Human Agent Interaction (HAI '17)*. ACM, New York, NY, US. <https://dl.acm.org/citation.cfm?doi=3125739.3125771>
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Other Publications

- Richardson, M. J., Paxton, A., & Kuznetsov, N. (2017). Nonlinear methods for understanding complex dynamical phenomena in psychological science. Science brief in *APA Psychological Science Agenda*. <http://www.apa.org/science/about/psa/2017/02/dynamical-phenomena.aspx>
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PRESENTATIONS

Conference Presentations and Colloquium (selected from over 80)

- Richardson, M. J. *Symmetries of Perception, Action and Cognition*. Keynote Presentation at the inaugural *Australasian Society for Philosophy and Psychology Conference*. Macquarie University, Sydney, Australia, December, 2019.
- Richardson, M. J., & Kallen, R. W. *Embedded dynamics of social-motor coordination*. Paper presented at Japan Society of Physical Education, Health and Sport Sciences. University of Tokushima, Tokushima, Japan, August, 2018
- Richardson, M. J., & Kallen, R. W. *Symmetry-Breaking and Multiagent Coordination*. Invited colloquium at University of Tokyo, Tokyo, Japan, August, 2018
- Richardson, M. J., Task Dynamics of Multiagent Activity. *Dynamical Motor Primitives of Multiagent Activity*. Keynote Presentation at 11th meeting of the *Australasian Skill Acquisition Network*, October, 2017.
- Washburn, A., Kallen, R. W., Lamb, M., Stepp, N. Shockley, K., & Richardson, M. J. *Anticipatory Synchronization in Artificial Agents*. Paper presented to the 17th Cognitive Science Conference, London, July, 2017.
- Nordbeck, P., Soter, L., Kallen, R. W., Chemero, A., Richardson, M. J. Dynamics of Affordance Actualization. Paper presented to the 17th Cognitive Science Conference, London, July, 2017.
- Chauvigne, L., Walton, A., Richardson, M. J., & Brown, S. *Group synchrony and multi-sensory integration in Greek folk dancing*. Paper presented to the 7th Joint-Action meeting, London, July, 2017.

- Fitzpatrick, P., Lampi, A., Campbell, S., Romero, V., Amaral, J., Richardson, M. J., & Schmidt, R. C. *The Influence of Social and Motor Context on Communication and Restricted and Repetitive Behaviors in Autism*. Paper presented to the 7th Joint-Action meeting, London, July, 2017.
- Lamb, M., Nalepka, P., Lorenz, T., Kallen, R., Minai, A., Richardson, R. "Grey Boxes without Grey Matter: Identifying the Relevant Dynamics of Human Coordination for the Design of Artificial Cognitive Agents Embedded in Human-Machine Systems" *EUCognition 2016*, Vienna, Austria.
- Washburn, A., Coey, C. A., Kallen, R. W., Shockley, K., & Richardson, M. J. *Sensorimotor Feedback Delays and Anticipatory Coupling of Chaotic Behavior*. Paper presented at the 46th Society for Neuroscience Meeting, San Diego, CA, 2016.
- Richardson, M. J., & Kallen, R. W. *Symmetry-Breaking Dynamics of Multi-Agent Behavioral Coordination*. Paper presented at the 2016 Conference on Complex Systems, Amsterdam, Netherlands, September, 2016.
- Walton, A., Washburn, A., Hollensbe, E., & Richardson, M. J. Affording social interaction and collaboration in musical joint action. Paper presented at the 14th International Conference for Music Perception and Cognition, San Francisco, CA, July 2016.
- Nalepka, P., Lamb, M., Kallen, R. W., Shockley, K., Chemero, A., & Richardson, M. J. *Novice-novice, novice-expert, and novice-expert artificial agent comparison in the joint control of fleeing virtual sheep*. 2016 North American Meeting for the International Society of Ecological Psychology. Clemson, South Carolina. June, 2016.
- Walton, A., Washburn, A., Langland-Hassan, P., Chemero, A., & Richardson, M. J. (2016). *Patterns of Complexity in Improvisational Jazz Performance*. Paper presented at the 14th International Conference for Music Perception and Cognition, San Francisco, CA.
- Romero, V., Fitzpatrick, P., Schmidt, R. C., & Richardson, M. J. (2016). *Using Social Communication Dynamics Measures for Diagnostic Purposes in Adolescents with Autism Spectrum Disorder*. Paper presented at the 2016 International Meeting for Autism Research. Baltimore, MD.
- Richardson, M., Kallen, R., *Nalepka, P., Harrison, S., Lamb, M., Chemero, A., Saltzman, E. and Schmidt, R. (2016). *Modeling Embedded Interpersonal and Multiagent Coordination*. Presentation at the 1st annual International Conference on Complex Information Systems (COMPLEXIS), Rome, Italy.
- Kallen, R.W., Douglas, H.M., Chadoir, S.R., Richardson, M.J. (2016). *Postural sway dynamics and complexity matching during the disclosure of a concealable stigmatized identity*. Presentation at the 1st annual International Conference on Complex Information Systems (COMPLEXIS), Rome, Italy.
- Richardson, M. J., Kallen, R. W. & *Eiler, B. *Embedded Multi-Agent Dynamics: An Analysis and Modeling Tutorial*. Presentation at the Dynamical Systems and Computational Modeling Preconference at the 17th Annual Society for Personality and Social Psychology Convention, San Diego, California
- Richardson, M. J., & Kallen, R. W. Washburn, A., & Nalepka, P. *Symmetry, magnetic snakes, and sheep herding: Building a double-decker bandwagon*. Paper presented at the 6th Joint Action Meeting, Budapest, Hungary, July 2015.
- Walton, A., Washburn, A., Coey, C. A., Langland-Hassan, P., Chemero, A., & Richardson, M. J. *Musical improvisation: Spatiotemporal patterns of coordination, Perceiving others as joint-action: How movement impacts person perception*. Paper presented at the 6th Joint Action Meeting, Budapest, Hungary, July 2015.
- Malone, M. L., & Richardson, M. J. *Social coordination dynamics and deception*. Paper presented at the 6th Joint Action Meeting, Budapest, Hungary, July 2015.
- Eiler, B. A., Richardson, M. J., & Kallen, R. W. *Perceiving others as joint-action: How movement impacts person perception*. Paper presented at the 6th Joint Action Meeting, Budapest, Hungary, July 2015.
- Romero, V., Fitzpatrick, P., Schmidt, R. C., & Richardson, M. J. *Computational measurement of social*

- communication dynamics in adolescents with autism spectrum disorder*. Paper presented at the 6th Joint Action Meeting, Budapest, Hungary, July 2015.
- Washburn, A., Coey, C. A., Richardson, M. J. *Global coordination and complexity matching in interpersonal movement coordination*. Paper presented at the 18th biannual International Conference on Perception and Action, Minneapolis, Minnesota, July, 2015.
- Malone, M. L., & Richardson, M. J. *Social coordination dynamics and deception*, Paper presented at the 18th biannual International Conference on Perception and Action, Minneapolis, Minnesota, July, 2015.
- Romero, V., Fitzpatrick, P., Schmidt, R. C., & Richardson, M. J. *Using cross-recurrence quantification analysis to understand social motor coordination in children with autism spectrum disorder*. Paper presented at the Sixth International Symposium on Recurrence Plots, Grenoble, France, June, 2015
- Kallen, R. W., & Richardson. *Symposium on the Complex Dynamics of Social Behavior*. Symposium held at the 27th Annual Convention for the Association for Psychological Science, New York, NY, 2015.
- Richardson, M. J. *Symmetry and the Behavioral Dynamics of Social Coordination and Joint-Action*. Paper presented at the *Purdue Winer Memorial lectures*, Purdue University, November, 2014.
- Washburn, A., Kallen, R. W., Shockley, K., & Richardson, M. J. *Aperiodic Visual-Motor and Interpersonal Coordination: Feedback Delays Facilitate Anticipation*. Paper presented at *Collective Intentionality, IX*, Indiana University, Bloomington, IN, September 2014.
- Walton, A., Richardson, M. J., Chemero, A. (Sept., 2014). *Self-organization and Semiosis in Jazz Improvisation*. Paper presented at *Collective Intentionality, IX*, Indiana University, Bloomington, IN, September 2014.
- Richardson, M. J. *Symmetry and the Behavioral Dynamics of Social Coordination and Joint-Action*. Paper presented at the *Guy Van Orden UCONN Workshop on Cognition and Dynamics, IX*, University of Connecticut, Storrs, CT, August 2014.
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- Coey, C. A., Lamb, M., Richardson, M. J., Chemero, A. (2014). *Ecological information in a thermodynamic context: A robotic model*. 2014 North American Meeting of the International Society for Ecological Psychology, Miami University, Oxford, Ohio.
- Washburn, A., Kallen, R. W., Shockley, K., & Richardson, M. J. *Harmony from Chaos? Investigations in Aperiodic Visual-Motor and Interpersonal Coordination*. Paper presented at the *4th Annual Midwest Cognitive Science Conference*, Wright State University, Dayton, OH, May 2014.
- Richardson., M.J., & Kallen, R. W. *Behavioral Dynamics of Joint-Action and Social Movement Coordination*. Paper presented at the University of Aberdeen, Scotland, March 2014.
- Richardson., M.J., Kallen, R. W., Coey., C., Walton., A. *Behavioral Dynamics of Joint-Action and Social Movement Coordination*. Paper presented at "*Bridging the gap between coordination and conversation*", a workshop sponsored by Yeshiva University in New York, NY, Oct, 2013.

- Fitzpatrick, P. Romero, V. Amaral, J. Richardson, M. J. & Schmidt, R. C., *The role of joint action in evaluating social competence in autism*. Paper presented at the 5th Joint Action Meeting, Berlin, Germany, July 2013
- Malone, M.L., Kallen, R.W., Riley, M.A., & Richardson, M.J. *Dynamics of Simon Says: The structure of response behavior during joint-action*. Paper presented at the 5th Joint Action Meeting, Berlin, Germany, July 2013.
- Richardson, M. J. *Joint-Action Coordination*. Paper presented at the 35th Annual Conference of the Cognitive Science Society, Berlin, Germany, July 2013.
- van Rooij, M. J. W., Favela, L. H., Malone, M., & Richardson, M. J. *Dynamical Model of Risky Choice*. Paper presented at the 35th Annual Conference of the Cognitive Science Society, Berlin, Germany.
- Washburn, A., Coey, C. A., & Richardson, M. J. *Intention as Constraint: Effects on Voluntary and Involuntary Control*. Paper presented at the 3rd Meeting of the Society for Complex Systems in Cognitive Science, Humboldt University, Berlin, Germany, July 2013.
- Richardson, M.J., Kallen, Harrison, S. J., Saltzman, E., & Schmidt, R. C. *Behavioral Dynamics of Joint-Action and Social Movement Coordination*. Paper presented at the 17th International Conference for Perception and Action XVII, Lisbon, Portugal, July 2013
- Washburn, A., Coey, C. A., & Richardson, M. J. *Intention and the Use of Voluntary and Involuntary Control in Motor Performance*. Paper presented at the 3rd Annual Midwest Cognitive Science Conference, The Ohio State University, Columbus, OH, May 2013.
- Malone, M. L., Kallen, R.W., Riley, M. A., & Richardson, M.J. *Dynamics of Simon Says: The structure of response behavior during joint-action*. Paper presented at the 3rd Annual Midwest Cognitive Science Conference, Columbus, OH, May 2013.
- Richardson, M. J. & Kallen, R. W. *Behavioral Dynamics of Joint-Action and Social Movement Coordination*. Paper presented at the 25th American Psychology Society conference, Washington, DC, May 2013.
- Richardson, M. J., Coey, C. A., Bohache, K., Schmidt, R. C., Kloos, H., Fitzpatrick, P. A. *Linear and Nonlinear Time-Series Methods for the Investigation of Social Movement Coordination*. Paper presented at International Society for the Study of Behavioural Development (ISSBD), Edmonton, Canada, July 2012.
- Richardson, M. J., Kallen, R. W., Coey, C. A., Harrison, S. J., & Schmidt, R. C., *Interpersonal and Team Coordination: Perception-Action Processing VS. Perception-Action Dynamics*. Paper presented at North American Society for the Psychology of Sport and Physical Activity (NASPSA), Hawaii, June 2012.
- Richardson, M. J. *Self-organization in Complementary Joint Actions*. Paper presented at the 4th Joint Action Workshop, Vienna, Austria, July 2011.
- Coey, C. A., Varlet, M., Schmidt, R. C., Richardson, M. J. *Agency and rhythmic coordination: Are we naught but moving dots?* Paper presented at the 33rd Annual Conference of the Cognitive Science Society. Austin, TX, July 2011.
- Richardson, M. J. *Ecological Approach to Embodiment*. Paper presented at the Barnard Interdisciplinary Workshop on Embodiment, Barnard College, Columbia University, New York, NY, July, 2010
- Richardson, M., J. *Dynamics of Interpersonal Movement Interference: Effects of Intention, Attention and Agency*. Paper presented at the 3rd Joint Action workshop, Amsterdam, Netherlands, July 2009.
- Miles, L. K., Lumsden, J., Richardson, M. J., & Macrae, N. C. *Social Group Membership and Interpersonal Synchrony*. Paper presented at the 3rd Joint Action workshop, Amsterdam, Netherlands, July 2009.
- Richardson, M., J. & Marsh, K. L. *Social affordances: Research, reality, and myth*. Paper presented at the 15th International Conference on Perception and Action. Minneapolis, July 2009.

- Richardson, M. J. *Social Psychological Constraints on the Emergence of Interpersonal Synchrony*. Paper presented at the Society for Social and Personality Psychology (SPSP), Tampa, FL, Feb, 2009.
- Ishenower, R. W., Marsh, K. L., Silva, P. L., Richardson, M. J., & Schmidt, R. C. *Unintentional Interpersonal Coordination in Autistic and Typically-Developing Children*. Paper presented at the 14th International Conference on Perception and Action. Japan, July 2007.
- Richardson, M. J. (2006). Visual and verbal informational constraints on interpersonal coordination. Paper presented at the 3rd International Conference on Enactive Interfaces: Enaction and Complexity, Montpellier, France, October 2006.
- Lopresti-Goodman, S., Silva, P. L., Richardson, M. J., & Schmidt, R. C. *Frequency basin of entrainment for unintentional visual coordination*. Paper presented at the International Society for Ecological Psychology: North American Meeting, Cincinnati, OH, June 2006.
- Richardson, M. J. Marsh, K. L., Baron, R. M., & Ishenower, R. W. *Interpersonal affordances in embodied cooperative action*. Paper presented at the 14th General Meeting of the EAESP. Würzburg. Germany, July 2005.
- Richardson, M. J., Schmidt, R. C., & Kay, B. A. *Distinguishing noise and attractor strength in rhythmic limb movements using recurrence analysis*. Paper presented at the 13th International Conference on Perception and Action. Monterey, CA, July 2005.
- Marsh, K. L., Richardson, M. J., Schmidt, R. C., & Baron, R. M. *Social synergistic approach to perceiving and acting with others*. Paper presented at the 13th International Conference on Perception and Action. Monterey, CA, July 2005.
- Richardson, M. J., Marsh, K. L., & Schmidt, R. C. *The self-organization of interpersonal perception-action systems*. Paper presented at the 1st Joint Action workshop, Rutgers University, Newark, NJ, April 2005.
- Galantucci, B., Richardson, M. J., & Fowler, C. A. (2004). *Toward an experimental method for studying the emergence of human communication systems*. Paper presented at the Fifth International Conference on the Evolution of Language.
- Richardson, M. J., Schmidt, R. C., & Marsh, K. L. (2003). *The effects of visual and verbal couplings on interpersonal synchrony*. Paper presented at the 12th International Conference on Perception and Action. Griffith University, Gold Coast, Australia.

Conference Posters (selected from over 75)

- Lamb, M., Mayr, R., Lorenz, T., Minai, A. A., & Richardson, M. J. (2018). The Paths We Pick Together: A Behavioral Dynamics Algorithm for an HRI Pick-and-Place Task. Poster presented at the 2018 ACM/IEEE International Conference on Human-Robot Interaction.
- Patil, G., Rigoli, L. M., Chamnikar, A., Miller, A., Ralescu, A., Kiefer, A. W., ... & Kumar, M. (2017, October). Control Strategy for an Assistive Exoskeleton for Sit-to-Stand Transition. Poster presented at the ASME 2017 Dynamic Systems and Control Conference.
- *Nalepka, P., Lamb, M., Kallen, R. W., Saltzman, E., Chemero, A., & Richardson, M. J. (2017). First step is to group them: Task-dynamic model validation for human multiagent herding in a less constrained task. Poster presented at the 39th Annual Meeting of the Cognitive Science Society. (pp. 2784-2789). Austin, TX: Cognitive Science Society.
- *Washburn, A., Kallen, R. W., Lamb, M., Stepp, N., Shockley, K., & Richardson, M. J. (2017). Anticipatory Synchronization in Artificial Agents. Poster presented at the 39th Annual Meeting of the Cognitive Science Society. (pp. 1321-1326). Austin, TX: Cognitive Science Society.
- Nordbeck, P. Richardson, M. J. & Chemero, A. *Dynamics of Affordance Actualization*. Poster presented at the International Society for Ecological Psychology: North American Meeting, Clemson, SC. June 2016.
- Douglas, H.M., Kallen, R.W., Richardson, M. J. *Cusp Catastrophe Model of Disclosure Decisions*. Poster

- presented at the Dynamical Systems and Computational Modeling Preconference at the 17th Annual Society for Personality and Social Psychology Convention, San Diego, California. January, 2016.
- Foster, A.M., Douglas H.M., Romero, V.C., Richardson, M. J., Kallen, R. W. *Telling more than we know: How language dynamics affect the disclosure experience*. Poster presented at the 17th Annual Society for Personality and Social Psychology Convention. San Diego, California. January, 2016.
- Romero, R., Rigoli, L., Shockley, K., Funke, G. J., J. Strang, A. J., Richardson, M. J. *How Control Asymmetries Influence the Dynamics of Joint-Action*. Poster presented at the Sixth International Symposium on Recurrence Plots, Grenoble, France, June, 2015
- Malone, M. L., & Richardson, M. J. *The Social Coordination Dynamics of Deception*. Poster presented at the Sixth International Symposium on Recurrence Plots, Grenoble, France, June, 2015.
- Ariyabuddhiphongs, K., Eiler, B., Coey, C. A., Kallen, R. W., & Richardson, M. J. *Behavioral Dynamics of Interpersonal Collision-Avoidance: Effects of Speed and Goal Distance on a Repetitive Joint-Action Targeting Task*. Poster presented at the 27th Annual Convention for the Association for Psychological Science, New York, NY, 2015.
- Fitzpatrick, P., Romero, V.C., Amaral, J, L., Thomas, C. L., Duncan, A. W., Barnard, H., Richardson, M.J. & Schmidt, R. C. *Dynamics of Social Movement Coordination As a Pathway to Understanding ASD-Specific Social Deficits*. Poster presented at the International Meeting for Autism Research, May, 2014.
- Romero, V.C., Amaral, J, L., Fitzpatrick, P., Thomas, C. L., Duncan, A. W., Barnard, H., Schmidt, R., & Richardson, M.J. *Capturing Social Motor Coordination in Children with Autism: Comparing the Microsoft Kinect, Video Analysis and Wireless Motion Sensor Tracking*. Poster presented at the International Meeting for Autism Research, May, 2014.
- Breheim, S., Coey, C. A., & Richardson, M. J. *Following the beat: How 1/f scaling transfers across systems*. Poster presented at the 4th Annual Midwest Cognitive Science Conference, Wright State University, Dayton, Ohio. May 2014.
- Rigoli, L, Shockley, K., Richardson, M.J. *Complimentary Action Dynamics of a Joint-Action Labyrinth Task*. Poster presented at the *3rd Meeting of the Society for Complex Systems in Cognitive Science*, Humboldt University, Berlin, Germany, July 2013.
- Vesper, C. & Richardson, M.J. *When I Know More Than You: How Perceptual Information Facilitates Asymmetric Joint Action*. Poster presented at the *3rd Meeting of the Society for Complex Systems in Cognitive Science*, Humboldt University, Berlin, Germany, July 2013.
- Coey, C. A., Hassebrock, J., Kloos, H., & Richardson, M. J. *Fractal Structure of the Nested Actions in Keeping the Beat*. *Poster presented at the 35th Annual Conference of the Cognitive Science Society*, Berlin, Germany, July 2013.
- Washburn, A., Coey, C. A., & Richardson, M. J. *Intentional Constraints on the Dynamics of Human Performance and Behavioral Variability in Motor Control*. *Poster presented at the 35th Annual Conference of the Cognitive Science Society*, Berlin, Germany, July 2013.
- Romero, V.C., Malone, M.L., Fitzpatrick, P., Schmidt, R., & Richardson, M.J. *Capturing Social Motor Coordination: Comparing the Microsoft Kinect, Video Analysis and Wireless Motion Sensor Tracking*. Poster presented at the 5th Joint Action Meeting, Humboldt University, Berlin, Germany, July 2013.
- Washburn, A. & Richardson, M. J. *Aperiodic Interpersonal Coordination: The Power of Feedback Delay*. Poster presented at the 5th Joint Action Meeting, Humboldt University, Berlin, Germany, July 2013.
- Fitzpatrick, P., Romero, V., Amaral, J., Richardson, M. J. & Schmidt, R. C. *Is Social Competence a Multi-dimensional Construct? Motor and Cognitive Components in Autism*. Poster presented at the 17th International Conference for Perception and Action XVII, Lisbon, Portugal. July 2013.
- Tolston, M., Shockley, K., Richardson, M.J., Riley, M.A., & Malone, M.L. *Linguistic Constraints on Interpersonal Coordination and Communication*. Poster presented at the 17th International Conference

for Perception and Action XVII, Lisbon, Portugal, July 2013.

- Kallen, R. W., Amon, M. J., Malone, M-L, Waddell, M., & Richardson, M. J. *Social Constraints on Group Coordination: Effects of Team Membership*. Poster presented at North American Society for the Psychology of Sport and Physical Activity (NASPSPA), Hawaii, July 2012.
- Coey, C. A., Baker, H., Amaral, J., Richardson, M. J. & Kloos, H. *Children's Synchronization Of Movement Across Contexts: The Role Of Social Information*. Poster presented at Midwestern Cognitive Science Conference, Indiana University, Bloomington, Indiana, May 2012.
- Romero, V., Coey, C., & Richardson, M. J. *Movement Coordination Or Movement Interference: Visual Tracking And Spontaneous Coordination Modulate Rhythmic Movement Interference*. Poster presented at Midwestern Cognitive Science Conference, Indiana University, Bloomington, Indiana, May, 2012.
- Washburn, A. Coey, C. A., Romero, V. & Richardson, M. J. *Unintentional Polyhythmic Entrainment: Can 1:2, 2:3 and 3:4 Patterns of Visual Coordination Occur Spontaneously?* Poster presented at Midwestern Cognitive Science Conference, Indiana University, Bloomington, Indiana, May, 2012.
- Bohache, K., Kloos, H., & Richardson, M. J. *Age-Based Trends In The Spontaneous Environmental Entrainment Of Children: A Dynamical System Study*. Poster presented at Midwestern Cognitive Science Conference, Indiana University, Bloomington, Indiana, May, 2012.
- Richardson, M. J., Harrison, S. J., May, R., Kallen, R. W. & Schmidt, R. *Self-Organized Complementary Coordination: Dynamics of an Interpersonal Collision-Avoidance Task*. Poster presented at International Conference of the European SKILLS Project. Montpellier, France, Dec 15-16th 2011.
- Schmidt, R. C., Bucci, C., & Richardson, M. J. *Constraints on Spontaneous Entrainment*. Poster presented at International Conference of the European SKILLS Project. Montpellier, France. Dec, 2011.
- Coey, C. A., Wallot, S., Richardson, M. J., & Van Orden, G. *Fractal Structure in Voluntary Eye-Movements*. Poster presented at *the 33rd Annual Conference of the Cognitive Science Society*. Austin, TX, July 2011.
- Richardson, M. J., Frank, T. D., Gregor, M., Garcia, R., Marsh, K. L. *Measuring Group Synchrony: A Test Statistic based on the Kuramoto Order Parameter of Synchronization*. Poster presented at the International Society for Ecological Psychology: North American Meeting, Illinois State University, July 2010.
- Isenhower, R. W, Marsh, K. L., Silva, P., Richardson, M. J. & Schmidt, R. C. *Inter- and intra-personal coordination in autistic and typically developing children*. Poster presented at the 15th International Conference on Perception and Action. Minneapolis, July 2009.
- Lopresti-Goodman, S., Frank, T. D., Richardson, M. J., & Turvey, M. T. *Understanding the dynamics of behavioral transitions in affordance experiments*. Poster presented at the 15th International Conference on Perception and Action. Minneapolis, July 2009.
- Richardson, M. J., Marsh, K. L., & Schmidt, R. C. *Natural Constraints on Visual Interpersonal and Environmental Coordination*. Poster presented at A Natural-Physical Perspective on Perception-Action-Cognition: The Turvey Transition. University of Connecticut, June, 2008
- Lopresti-Goodman, S. M., Richardson, M. J., & Marsh, K. L. *Task Constraints on Affordance Boundaries*. Poster presented at the 14th International Conference on Perception and Action, Japan.
- Richardson, M. J., Rutherford, J. A., Thatcher, K. J., & Schmidt, R. C. *Rhythmic constraints on the perception of tempo variability and the influence of movement stability on unintentional rhythmic coordination*. Poster presented at Coordination Dynamics, Boca Raton, FL, Feb, 2007.
- Mancini, M. C., Richardson, M. J., Schmidt, R. C., & Kay, B. *Uncovering differences in the stability of intra- and inter-personal coordination using recurrence analysis*. Poster presented at the International Society for Ecological Psychology: North American Meeting, Cincinnati, OH, June 2006.

- Ishihara, R. W, Marsh, K. L., Carello, C., Baron, R. M., & Richardson, M. J. (2005). *Effect of effector discrepancy on interpersonal affordance boundaries*. Poster presented at the International Society for Ecological Psychology: North American Meeting, Cincinnati, OH, June 2006.
- Johnston, L., Miles, L., Richardson, M. J., & Schmidt, R. C. *Implicit mimicry and synchronization: Impact of group membership*. Poster presented at the International Society for Ecological Psychology: North American Meeting, Cincinnati, OH, June 2006.
- Lopresti-Goodman, S., Muzzy, A., Richardson, M. J., & Marsh, K. L. *Sequence perturbation and perceived affordance boundaries*. Poster presented at the International Society for Ecological Psychology: North American Meeting, Cincinnati, OH, June 2006.
- Richardson, M. J., Schmidt, R. C., & Kay, B. A. (2005) *Indexing Noise and Attractor Strength in Interlimb Coordination Using Cross-Recurrence Analysis*. Poster presented at Progress in Motor Control V: A Multidisciplinary Perspective, Pennsylvania State University, State College, PA.
- Schmidt, R. C. & Richardson, M. J. (2005). *Effect of eye movements on the synchronization of limb and environmental rhythms*. Poster presented at Progress in Motor Control V: A Multidisciplinary Perspective, Pennsylvania State University, State College, PA.
- Baker, A. A., Shockley, K. D., Richardson, M. J., & Fowler, C. A. (2005). *Verbal constraints on interpersonal postural coordination*. Poster presented at the 13th International Conference on Perception and Action, Monterey, CA
- Goodman J. R. L., Ishihara, R. W, Marsh, K. L., Schmidt, R. C., & Richardson, M. J. (2005). *The interpersonal phase entrainment of rocking chair movements*. Poster presented at the 13th International Conference on Perception and Action, Monterey, CA.
- Schmidt, R. C., Richardson, M. J., Arsenault, C., & Galantucci, B. (2004). *Unintentional entrainment of wrist movements to a sinusoidal display: Effects of eye tracking*. Poster presented at Symmetry and Duality: principles for an Ecological Psychology. University of Connecticut, Storrs, CT.
- Ishihara, R. W, Marsh, K. L., Carello, C., Baron, R. M., & Richardson, M. J. (2004). *The Specificity of Intrapersonal and Interpersonal Affordance Boundaries: Intrinsic Versus Absolute Metrics*. Poster presented at Symmetry and Duality: Principles for an Ecological Psychology. University of Connecticut, Storrs, CT, June 2004.
- Baker, A. A., Shockley, K. D., Richardson, M. J., & Fowler, C. A. (2004). *Constraints on Interpersonal Postural Coordination*. Poster presented at Symmetry and Duality: principles for an Ecological Psychology. University of Connecticut, Storrs, CT.
- Boonstra, T. Harrison, S. J., Richardson, M. J., & Shaw, R. E. (2003). *Intentional dynamical analysis of discreet systems*. Poster presented at the 12th International Conference on Perception and Action. Griffith University, Gold Coast, Australia.
- Carello, C., Shockley, K., Harrison, S. J., Richardson, M. J., & Turvey, M. T. (2003). *Heaviness perception depends on movement*. Poster presented at the 12th International Conference on Perception and Action. Griffith University, Gold Coast, Australia.
- Galantucci, B., Richardson, M. J., & Fowler, C. A. (2003). *Experimental investigations of the emergence of communication procedures*. Poster presented at the 12th International Conference on Perception and Action. Griffith University, Gold Coast, Australia.
- Richardson, M. J., Marsh, K. L., & Schmidt, R. C. (2002). *Effects of visual and verbal information on interpersonal phase entrainment*. Poster presented at the International Conference on Brain and Behavior: Coordination Dynamics, Delray Beach, Florida.

TEACHING

- 2009 - present **University of Cincinnati**
Introductory Psychology (undergraduate)
Sensation and Perception (undergraduate)
Human Performance (undergraduate)
Dynamics of Perception-Action (undergraduate)
Research Methods in Perception and Action (undergraduate)
Modeling Experimental and Observational Data (graduate)
Graduate Statistics (graduate)
Complex Dynamical Systems (graduate)
Computer Programming for Experimental Psychology
- 2009 - present **American Psychological Association Advanced Summer Training Institute**
APA – ATI on Nonlinear Methods in Psychological Science
- 2006 - 2009 **Colby College**
Introductory psychology
Sensation and perception
Collaborative research in human movement and coordination.
Senior integrative seminar on current issues in psychology.

AWARDS

- 2017 UC Sigma Xi Society Young Researcher of the Year
- 2015 UC Department of Psychology Graduate Instructor of the Year
- 2014 UC Department of Psychology Graduate Instructor of the Year
- 2013 UC Department of Psychology Graduate Advisor of the Year
- 2012 UC Department of Psychology Graduate Instructor of the Year
- 2012 UC Psi Chi Undergraduate Instructor of the Year

GRADUATE STUDENTS

- **Graduated – Primary PhD Advisor:** Dr. Charles Coey (Research Fellow, Harvard Medical School, Harvard, MA), Dr. Auriel Washburn (Postdoctoral Fellow, University of California San Diego, CA), Mary-Lauren Malone (Visiting Assistant Professor UC, Blue Ash), Dr. Vernoica Romero (Visiting Assistant Professor, Colby College, MA), and Dr. Ashley Walton (Postdoctoral Fellow, Harvard, MA).
- **Graduated – Co-PhD Advisor:** Tehran Davis (Assistant Professor, University of Connecticut), Julie Weast (Assistant Professor, University of Cincinnati), Nakita Kuznetsov (Postdoctoral Research Fellow, University of North Carolina, Greensboro), Marieke van Rooij (Assistant Professor, Radboud University, Netherlands), Sebastian Wallot, (Senior Research Fellow at the Max Planck Institute for Empirical

Aesthetics, Germany), Laura Buchas (Lecturer, Ohio Univeristy) Eliah White (Visting Assistant Professor, Univerity of Kentucky), Michael Tolston (Postdoctoral Research Fellow, Air Force Research Laboratory), Ramon Castillo (Associate Professor, University da Talca, Chile), Brandon Thomas (Postdoctoral Research Fellow, University of Utah), Scott Bonnette, (Postdoctoral Research Fellow, Cincinnati Children's Hospital Medical Center). Brian Eiler (Postdoctoral Research Fellow, Northern Arizona University), Kris Ariyabuddhiphongs (Lecturer, Chulalongkorn University), Patrick Nalepka (Postdoctoral Fellow, Macquarie University)

- **Current - PhD Students:** Lillian Rigoli, Hannah Douglas, Fabrizia Auletta.

POST-DOCTORAL RESEARCH FELLOWS

- Dr. Steven Harrison 2010-2012
Current Position: Assistant Professor, University of Connecticut, CT.
- Dr. Maurice Lamb 2015-2017
Currently Position: Research Assistant Professor, University of Cincinnati, OH.
- Dr. Patrick Nalepka 2018-2021
Currently Position: Postdoctoral Research Fellow (Level A, Step-7) Macquarie University (co-mentored by Assoc./Prof. Rachel Kallen).
- Dr. Gaurav Patil 2019-2022
Currently Position: Postdoctoral Research Fellow (Level A, Step-6), Macquarie University.

PROFESSIONAL POSITIONS

- | | |
|----------------|---|
| 2014 – present | Director of the American Psychological Associations Advanced Training Institute on Nonlinear Methods for Psychological Science. |
| 2014 – present | Consulting Editor, Journal of Experimental Psychology: Human Perception and Performance. |
| 2016 – 2017 | Program Director and Coordinator, SKILLs in Systems Technology for Cognitive Systems Engineering at the Center for Cognition, Action, and Perception at the University of Cincinnati. |
| 2015 – 2017 | Director of Graduate Training in Experimental Psychology, University of Cincinnati. |
| 2009 – 2017 | Co-Director, Perceptual Motor Dynamics Laboratory, University of Cincinnati. |

COLLABORATORS *(last 5-Years)*

Anderson	Michael	Franklin & Marshall
Araujo	Duarte	Technical University of Lisbon, Portugal
Bachus	Laura	University of Cincinnati
Bardy	Benoit	University of Montpellier, France
Carello	Claudia	University of Connecticut
Castillo	Ramon	University de Talca, Chile
Chemero	Anthony	University of Cincinnati

Coey	Charles	College of the Holy Cross
Correia	Vanda	Technical University of Lisbon, Portugal
Dale	Rick	University of California Merced
Davis	Tehran	University of Connecticut
Davis	Keith	Queensland University
de Bernardo	Mario	University of Naples Federico II
Dietz	Aimee	University of Cincinnati Medical School
Duarte	Ricardo	Technical University of Lisbon, Portugal
Duncan	Amy	Cincinnati Children's Hospital Medical Center
Faries	Frank	University of Cincinnati
Favela	Luis	University of Cincinnati
Fitzpatrick	Paula	Assumption College
Fowler	Carol	University of Connecticut
Frank	Till	University of Connecticut
Funke	Gregory	Air Force Research Laboratory, OH
Kijima	Akifumi	University of Yamanashi, Japan
Gauker	Christopher	University of Salzburg, Austria
Harrison	Steven	University of Nebraska Omaha
Holden	John	University of Cincinnati
Isenhower	Robert	Rutgers University
Rączaszek-Leonardi	Joanna	University of Warsaw, Poland
Jordan	Scott	University of Illinois
Kay	Bruce	University of Connecticut
Kiefer	Adam	Cincinnati Children's Hospital Medical Center
Kloos	Heidi	University of Cincinnati
Kumar	Manish	University of Cincinnati
Kuznetsov	Nikita	University of North Carolina, Greensboro
Lamb	Maurice	University of Cincinnati
Langland-Hassan	Peter	University of Cincinnati
Lorenz	Tamara	University of Cincinnati
Johnston	Lucy	University of Canterbury, New Zealand
Ludovic	Marin	University of Montpellier, France
Lumsden	Joanne	University of Aberdeen, Scotland
Macrae	Neal	University of Aberdeen, Scotland
Marsh	Kerry	University of Connecticut
Miles	Lynden	University of Aberdeen, Scotland
Minai	Ali	University of Cincinnati
Nei	Lin	University of Connecticut
Riley	Michael	University of Cincinnati
Saltzman	Elliot	Boston University
Schmidt	Richard	College of the Holy Cross
Silva	Paula	University of Cincinnati
Shockley	Kevin	University of Cincinnati
Stepp	Nigel	Hughes Research Laboratories, CA
Strang	Adam	Air Force Research Laboratory, OH
Tsaneva-Atanasova	Krasimira	University of Exeter, UK
Tolston	Michael	Air Force Research Laboratory, OH
Turvey	Michael	University of Connecticut
Varlet	Manuel	University of Western Sydney, Australia
Vesper	Cordula	Central European University, Hungary
Yamamoto	Yuji	Nagoya University, Japan
Wallot	Sebastian	Max Planck Institute for Empirical Aesthetics, Germany