May 2026

Claudio Luis Ferre, PhD

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EDUCATION AND TRAINING

2015-2019	Postdoctoral Research Fellow, Burke Neurological Institute, Weill Cornell Medicine, White Plains, NY
2015	PhD, Kinesiology, Columbia University, New York, NY
2008	MA**,** Developmental Psychology, UNC-Greensboro, Greensboro, NC
2005	BS, Psychology, DePaul University, Chicago, IL

ACADEMIC APPOINTMENTS

2019-	Assistant Professor, Dept. of Occupational Therapy, College of Health & Rehabilitation Sciences: Sargent College, Boston University, Boston, MA
2019-	Faculty, Neurophotonics Center, Boston University, Boston, MA
2018-2019	TL1 Postdoctoral Fellow, Weill Cornell Medicine, New York, NY
2017-2019	Adjunct Instructor, Dept. of Physical Therapy, New York University, New York, NY

SPECIAL POSITIONS, HONORS, AND AWARDS

2025	Awardee, Young Investigator Award, Fetal, Infant, and Toddler Neuroimaging Group (FIT'NG)
2025	Awardee, Whitney R. Powers Award for Teaching Excellence
2021-2023	NIH Pediatric Loan Repayment Program Award (Renewal)
2022	NIH Ad-hoc Reviewer, Motor Function and Speech Rehabilitation Study Section
2021	NIH Early Career Reviewer
2021-2022	BU CTSI PRIME: Pathways to Research Independence and Mentoring Excellence
2019-2021	NIH Pediatric Loan Repayment Program Award
2018	Training in Grantsmanship for Rehabilitation Research, Medical University of South Carolina
2017	Diversity Travel Award, American Society for Neurorehabilitation
2015	Finalist, Gayle Arnold Award, American Academy of Cerebral Palsy and Developmental Medicine
2013	Student Scholarship, American Academy of Cerebral Palsy and Developmental Medicine
2013	Teachers College, Columbia University Minority Scholarship
2009	Office of Policy and Research Fellowship, Teachers College, Columbia University
2008	NIH/Sackler Institute Travel Award
2007	NIH/Sackler Institute Travel Award

RESEARCH FUNDING

Active

NIH NINDS K01NS117659 2021 – 2026
Faculty Development Award to Promote Diversity in Neuroscience
Title: Codevelopment of Sensory and Motor Function in Infants At-risk for Cerebral Palsy
Role: Principal Investigator
$971,557 direct + $77,750 indirect = $1,049,307

NIH NICHD R03HD114194 2024 – 2026
NCMRR Early Career Research Award
Title: Multimodal Characterization of Cerebral Reorganization in Children with Unilateral Cerebral Palsy
Role: Principal Investigator

$200,000 direct + $130,000 indirect = $330,000

Pending

NIH NINDS R01 2026 – 2031

Title: Cortical Function and Infant Manual Skills: Tracking Sensorimotor Development in Infants At-risk for Cerebral Palsy

Role: PI

$2,471,410 direct + 1,315,405 indirect = $3,786,815

(Priority Score: 16%; Impact score 32)

Completed

BU Institute for Early Childhood and Well-being 2022 – 2024

Title: Motor Function and Language Development in Infant At-risk for Neurodevelopmental Disorders

Role: Co-Principal Investigator

$15,000 direct + $0 indirect = $15,000

NIH/NCATS TL1-TR-002386 2018 - 2019

Clinical & Translational Science Postdoctoral Training Award,

Title: Combined tDCS and Bimanual Therapy in Children with Cerebral Palsy

Role: Trainee

Children's Hemiplegic and Stroke Association 2014 - 2015

Title: Comparison of Home-based bimanual training and Lower-Limb Functional Training Using Caregivers as Interventionists

Role: Co-Principal Investigator

Teachers College, Columbia University 2014

Doctoral Dissertation Grant

Title: Caregivers as Interventionists: A randomized-control study of intensive home-based bimanual training for children with hemiplegic cerebral palsy

Role: Principal Investigator

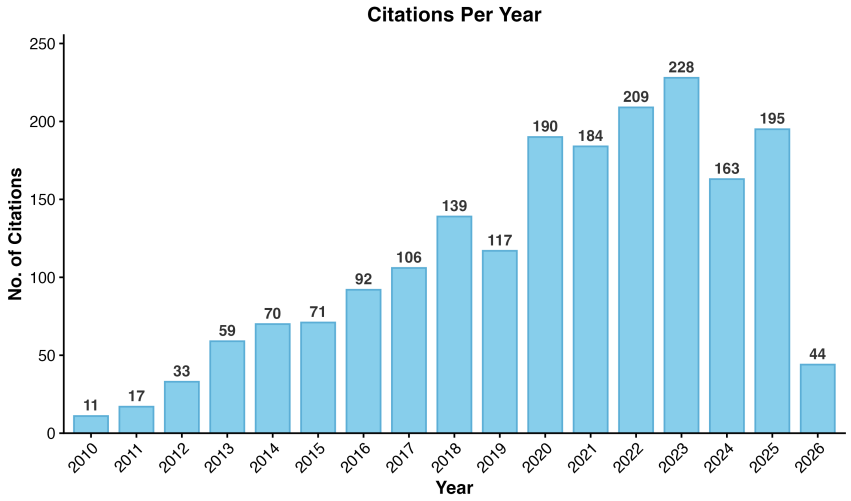
Teachers College, Columbia University 2012-2013

Vice President's Grant for Student Research in Diversity,

Title: Feasibility of a Home-based Intensive Therapy for Young Children with Hemiplegic Cerebral Palsy

Role: Principal Investigator

PUBLICATIONS



	All	Since 2021
Citations	1996	1043
h-index	20	19
i10-index	26	26

Data extracted from Google Scholar on May 7, 2026

Peer Reviewed Articles: [+]denotes students or trainees, [*]denotes funding/work directly from my lab
Abbreviations: Impact Factor (IF)

In Preparation

#	Reference	IF
38.	**Ferre, C.L.** [*], Su, X.[+], Kim, H.J. [+], Yarnall, E.[+], & Kelly, M.[+]. Spontaneous movements and development of cortical function: An fNIRS study. *In Preparation.*	NA
37.	Su, X.[+], Kelly, M.[+], Yarnall, E.[+], & **Ferre, C.L.** [*]**.** Comparison of Spontaneous Movement Measurements Using Video Observation and Inertial Measurement Units (IMUs) in Typically Developing Infants and Infants at Risk for Cerebral Palsy. *In Preparation.*	NA
36.	Kim, H.J. [+], Su, X.[+], Kelly, M.[+], Yarnall, E.[+], & **Ferre, C.L.**[*] Characterizing upper-limb force control and its underlying neurophysiological correlates in neurotypical adults. *In Preparation.*	NA
35.	Yarnall, E.[+], Su, X.[+], Kelly, M.[+], & **Ferre, C.L.** [*] Lateralized cortical activity during the development of role-differentiated bimanual manipulation. *In Preparation.*	NA

Under Review

#	Reference	IF
34.	Su, X.[+], Kim, H.J. [+], Kelly, M.[+], Yarnall, E.[+], & **Ferre, C.L.**[*] Comparative Effectiveness of Early Therapies for Infants and Young Children with or at risk for cerebral palsy: A network meta-analysis. *Neurorehabilitation and Neural Repair.*	4.8
33.	Su, X.[+], Kim, H.J. [+], Kelly, M.[+], Yarnall, E.[+], & **Ferre, C.L.** [*] fNIRS Commons: An open dataset for studying cortical activation during spontaneous movement in infancy. *Neurophotonics.*	3.8
32.	Metelski, N., Gordon, A.M., Ratnadurai-Giridharan, S., **Ferre, C.L.**, Robert, M.T., Friel, K.M. Heterogeneous recruitment curve responses to anodal transcranial direct current stimulation in children with unilateral cerebral palsy. *Neurorehabilitation and Neural Repair.*	4.8

Published

#	Reference	IF
31.	Lee, S., Kim, E., Neogi, T.D., Cha, B., **Ferre, C.L.,** Yücel, M., Kumar, D. (In press). Association of pain sensitization with prefrontal cortex activation and movement patterns during single- and dual-task walking in people with knee osteoarthritis. *Journal of Pain*.	4.8
30.	Lee, S., Kim, E., Duolikun, D., Cha, B., **Ferre, C.L.,** Yücel, M., Kumar, D. (2025). Prefrontal cortex function and gait alterations during single-and dual-task walking in knee osteoarthritis. *PloS One,* 20(9), e0331070.	3.2
29.	Kim[+], H., Kelly, M., Su, X., & **Ferre, C. L[*].** (2025). Transcranial direct current stimulation and motor function in children with cerebral palsy: A systematic review and meta-analysis. *Developmental Medicine and Child Neurology*, 10.1111/dmcn.16365. Advance online publication. https://doi.org/10.1111/dmcn.16365.	4.7
28.	Lee, S., Kim, E., Cha, B., **Ferre, C.L.,** Yücel, M., Kumar, D. (2025). Prefrontal cortex activation during daily movements and its association with clinical symptoms in knee osteoarthritis. *Osteoarthritis and Cartilage Open*, *7*(3), 100615.	2.8
27.	Kuo, H-C., **Ferre, C.L.**, Chin, K., Friel, K.M., & Gordon, A.M. (2023). Mirror movements and brain pathology in children with unilateral cerebral palsy: a cross-sectional study. *Developmental Medicine and Child Neurology*. doi: 10.1111/dmcn.15322.	4.7
26.	Gordon, A.M., **Ferre, C.L.,** Robert, M.T., Chin, K., Brandão, M.B., & Friel, K.M. (2022). HABIT+tDCS: a study protocol of a randomized controlled trial (RCT) investigating the synergistic efficacy of hand-arm bimanual intensive therapy (HABIT) plus targeted non-invasive brain stimulation to improve upper extremity function in school-age children with unilateral cerebral palsy. *BMJ Open,* doi: 10.1136/bmjopen-2021-052409.	2.5
25.	Friel, K.M., **Ferre, C.L.,** Brandão, M.B., Kuo, H-S, Chin, K.Y., Hung, Y-C, Robert, M.T., Flamand, V., Smorenburg, A., Bleyenheuft, Y., Carmel, J.B., Campos, T., Gordon, A.M. (2021). Improvements in upper extremity function following intensive training are independent of corticospinal tract organization in children with unilateral spastic cerebral palsy. *Frontiers in Neurology*. doi: 10.3389/fneur.2021.660780.	3.3
24.	Robert, M.T., Gutterman, J., **Ferre, C.L.,** Chin, K.Y., Brandão, M., Gordon, A.M., Friel, K.M. (2021). Corpus callosum integrity relates to improvement of upper extremity function following intensive rehabilitation in children with unilateral spastic cerebral palsy. *Neurorehabilitation and Neural Repair*. doi: 10.1177/15459683211011220.	4.8
23.	Robert, M.T., **Ferre, C.L.**, Chin, K.Y., Brandão, M.B., Carmel, J.C., Araneda, R., Bleyenheuft, Y., Friel, K.M., Gordon, A.M. (2021). Intensive bimanual intervention for children who have undergone hemispherectomy surgery: A pilot study. *Pediatric Physical Therapy*, 33(3), 120-127.	1.7
22.	Figueiredo, P., Mancini, M.C., **Ferre**, **C.L**., Gordon, A.M., Brandão, M. (2020). Effectiveness of hand-arm bimanual training in children with bilateral cerebral palsy: a randomized trial. *Developmental Medicine and Child Neurology,* 62(11), 1274-1282.	4.7
21.	Dekkers, K.J., Rameckers, E.A., Smeets, R.J., Gordon, A.M., Speth, L.A., **Ferre, C.L.,** Janssen-Potten, Y. (2020). Upper extremity muscle strength in children with unilateral spastic cerebral palsy: A bimanual problem? *Physical Therapy*, 100(12), 2205-2216. DOI: 10.1903/ptj/pzaa155.	3.9

20.	**Ferre**, **C.L**[*]., Babik, I., Michel, G.F. (2020). A perspective on the development of hemispheric specialization, infant handedness, and cerebral palsy. *Cortex,* 127, 208-220. doi: 10.1016/j.cortex.2020.02.017.	3.5
19.	**Ferre**, **C.L**.[*], Flamand, V. Carmel, J.B., Friel, K.M. Gordon, A.M. (2020). Anatomical and functional characterization in children with unilateral cerebral palsy: An atlas-based analysis. *Neurorehabilitation and Neural Repair.* 34(2):148-158. doi: 10.1177/1545968319899916.	4.8
18.	Surana, B., **Ferre**, **C.L**., Brandao, M., Dew, A.P., Moreau, N.G., Gordon, A.M. (2019). Effectiveness of lower extremity functional training (LIFT) in young children with unilateral spastic cerebral palsy: a randomized trial. *Neurorehabilitation and Neural Repair.* doi: 10.1177/1545968319868719	4.8
17.	Brandao, M.B., Mancini, M.C., **Ferre, C.L.,** Figueiredo, P., Oliveira, R.H., Goncalves, S.C., Dias, M.C., & Gordon, A.M. (2018). Does dosage matter? A feasibility study of Hand-arm Bimanual Intensive Training dose and dosing schedule in children with unilateral cerebral palsy. *Physical and Occupational Therapy in Pediatrics*. 38(3), 227-242.	2.1
16.	Marneweck, M., Kuo, H-C., Smorenburg, A., **Ferre, C.L.**, Flamand, V.H., Gupta, D., Carmel, J.B., Bleyenheuft, Y., Gordon, A.M., & Friel, K.M. (2018). The relationship between hand function and overlapping motor representations of the hands in the contralesional hemisphere in unilateral spastic cerebral palsy. *Neurorehabilitation and Neural Repair*, 32(1), 62-72.	4.8
15.	Gupta, D., Barachant, A., Gordon, A.M., **Ferre, C.L**., Kuo, H-C., Carmel, J.B., & Friel, K.M. (2017). Effect of sensory and motor connectivity on hand function in pediatric hemiplegia. *Annals of Neurology*, 82(5), 766-780.	8.9
14.	**Ferre, C.L.**[*] & Gordon, A.M. (2017). Coaction of Individual and Environmental Factors: A Review of Intensive Therapy Paradigms for Children with Unilateral Spastic Cerebral Palsy. *Developmental Medicine and Child Neurology,* 59(11), 1139-1145.	4.7
13.	Hung, Y.C., **Ferre, C.L.,** & Gordon, A.M. (2017). Improvements in kinematic performance after home-based bimanual training for children with unilateral cerebral palsy. *Physical and Occupational Therapy in Pediatrics,* doi: 10.1080/01942638.2017.1337663.	2.1
12.	**Ferre**[*], C.L., Brandao, M., Surana, B., Dew, A.P., Moreau, N.G., Gordon, A.M. (2017). Caregiver-directed home-based bimanual training in young children with unilateral spastic cerebral palsy: a randomized trial. *Developmental Medicine and Child Neurology*, 59(5), 497-504.	4.7
11.	Kuo, H.C., **Ferre C.L.**, Carmel, J.B., Gowatsky, J.L., Stanford, A.D., Rowny, S.B., Lisanby, S.H., Gordon, A.M., & Friel, K.M. (2017). Using diffusion tensor imaging to identify corticospinal tract projection patterns in children with unilateral spastic cerebral palsy. *Developmental Medicine and Child Neurology*, 59(1), 65-71.	4.7
10.	Smorenburg, A.R., Gordon, A.M., Kuo, H.C., **Ferre, C.L.**, Brandão, M., et al. (2017). Does corticospinal tract connectivity influence the response to intensive bimanual therapy in children with unilateral cerebral palsy? *Neurorehabilitation and Neural Repair*, 31(3), 250-260.	4.8
9.	Friel, K.M., Kuo, H.C., Fuller, J., **Ferre, C.L.,** Brandão, M., Carmel, J.B., & Gordon, A.M. (2016). Skilled bimanual training drives motor cortex plasticity in children with unilateral cerebral palsy. *Neurorehabilitation and Neural Repair*, 30(9). 834-844.	4.8
8.	**Ferre, C.L.**[*], Brandão, M., Hung, Y.C., Carmel, J.B., Gordon A.M. (2015). Feasibility of caregiver-directed home-based hand-arm bimanual intensive training: A brief report. *Developmental Neurorehabilitation*, 18(1), 69-74.	3.1

7.	Gelkop, N., Burshtein, D.G., Lahav, A., Brezne, A., Al-Oraibi, S., **Ferre C.L.**, et al. (2015). Efficacy of constraint-induced movement therapy and bimanual training in children with hemiplegic cerebral palsy in an educational setting. *Physical and Occupational Therapy in Pediatrics*, 35(1),24-39.	2.1
6.	Brandão, M., **Ferre, C.L.**, Kuo, H-C., Rameckers, E.A., Bleyenheuft, Y., Hung, Y-C., Friel, K., & Gordon, A.M. (2014). Comparison of structured skill and unstructured practice during intensive bimanual training in children with unilateral spastic cerebral palsy. *Neurorehabilitation and Neural Repair*, 28, 452-61.	4.8
5.	Gordon, A.M., Hung, Y.C., Brandão, M., **Ferre, C.L.**, Kuo, H.C., Friel, K., Petra, E., Chinnan, A., & Charles, J.R. (2011). Bimanual training and constraint-induced movement therapy in children with hemiplegic cerebral palsy: a randomized trial. *Neurorehabilitation and Neural Repair*, 25, 692-702.	4.8
4.	**Ferre, C.L*.**, Babik, I. & Michel, G.F. (2010). Development of infant prehension handedness: A longitudinal analysis during the 6- to 14-month age-period. *Infant Behavior and Development*, 33, 492-502.	2.4
3.	Kimmerle, M., **Ferre, C.L.**, Kotwica, K.A., & Michel, G.F. (2010). Development of role-differentiated bimanual manipulation during the infant's first year. *Developmental Psychobiology,* 52(2), 168-180.	2.4
2.	Kotwica, K.A., **Ferre, C.L.**, & Michel, G.F. (2008). Relation of stable hand-use preferences to the development of skill for managing multiple objects from 7- to 13-months of age. *Developmental Psychobiology*, 50(5), 519-529.	2.4
1.	Michel, G.F., Sheu, C.F., Tyler, A.N., & **Ferre, C.L.** (2006). The manifestation of infant hand-use preferences when reaching for objects during the seven- to thirteen-month age-period. *Developmental Psychobiology,* 48,436-443.	2.4

Book Chapters

1. Michel, G.F., Babik, I., Nelson, E.L., **Ferre, C.L.,** Campbell, J.M., Marcinowski, E.C. (2025). Development of Handedness and Other Lateralized Functions During Infancy and Early Childhood. *Handbook of Clinical Neurology*, *208*, 181–194.

2. Friel, K.M., **Ferre, C.L.**, Gordon, A.M. (2020). Diagnosis and Management of Cerebral Palsy and Other Types of Pediatric Brain Injury. In *APA Handbook of Intellectual and Developmental Disabilities (Vol. 2).* American Psychological Association. 153-179.

PROFESSIONAL PRESENTATIONS

Peer Reviewed (+denotes students or trainees)

38. Hawe, R., Nemanich, S.T., Surkar, S., & **Ferre, C.L.** (2024). Bimanual Skills in Unilateral Cerebral Palsy: Translating Knowledge of Development and Motor Control into Clinical Application. American Academy of Cerebral Palsy and Developmental Medicine. Quebec City, Canada. Oct. 23-26.
37. Su, X.+, Kim, H+., Kelly, M.+, & **Ferre, C.L.** (2024). Exploring the dynamics of spontaneous infant movement: a longitudinal study of movement patterns and cortical activity. American Academy of

Cerebral Palsy and Developmental Medicine. Quebec City, Canada. Oct. 23-26.

36. Su, X.$^{+}$, Kim, H.$^{+}$, Kelly, M.$^{+}$, Yarnall, E.$^{+}$ & **Ferre, C.L.** (2024). Spontaneous Movement and Cortical Activity during Early Infancy. American Society of Neurorehabilitation, San Antonio, TX. April 11-13.
35. Kim, H.$^{+}$, Kelly, M.$^{+}$, Su, X.$^{+}$, & **Ferre, C.L.** (2023). Efficacy of Transcranial Direct Current Stimulation for Improving Motor Function in Children with Cerebral Palsy: A Systematic Review and Meta-analysis. American Academy of Cerebral Palsy and Developmental Medicine. Chicago, IL. Sept. 10-13.
34. Kelly, M.$^{+}$, Kim, H.$^{+}$, Su, X.$^{+}$, & **Ferre, C.L.** (2023). Improving Motor Function in Children with Cerebral Palsy through Repetitive Transcranial Magnetic Stimulation: A Systematic Review and Meta-Analysis. American Academy of Cerebral Palsy and Developmental Medicine. Chicago, IL. Sept. 10-13.
33. Kelly, M.$^{+}$, Guan, N.$^{+}$, Frey, O.$^{+}$, Everett, I.$^{+}$, **Ferre, C.L.** (2022). Exploration of Space and Self: Tracking Early Motor Experiences to Characterize Typical and Atypical Trajectories of Motor Development. American Academy of Cerebral Palsy and Developmental Medicine. Las Vegas, NV. Sept. 21-24.
32. Su, X.$^{+}$, Kim, H.$^{+}$, Kelly, M.$^{+}$, & **Ferre, C.L.** (2022). How Does Experience Contribute to Brain Development? -Interrelation between sensorimotor function and brain activation in infants at risk of developing cerebral palsy. American Academy of Cerebral Palsy and Developmental Medicine. Las Vegas, NV. Sept. 21-24.
31. Kim, H. $^{+}$, Kelly, M.$^{+}$, Su, X.$^{+}$, & **Ferre, C.L.** (2022). Multimodal Measurement of Corticomotor Function in Children with Unilateral Cerebral Palsy. American Academy of Cerebral Palsy and Developmental Medicine. Las Vegas, NV. Sept. 21-24.
30. **Ferre, C.L.,** Su, X.$^{+}$, Kelly, M.$^{+}$, Kim, H.$^{+}$, & Gao, Y. (2022). Cortical Activation During Proprioceptive Stimulation and Spontaneous Movements in Infants: Preliminary Results. Society for Functional Near Infrared Spectroscopy, Boston, MA. Oct. 9-12.
29. **Ferre, C.L.,** Erdei, C., Yucel, M. , & Maitre, N.M. (2021). Trajectories of Brain Development in Infants at Risk for Cerebral Palsy: an fNIRS Study of Motor and Sensory Function. Society for Functional Near Infrared Spectroscopy, Virtual Meeting. Oct. 18-22.
28. Nemanich, S.T., **Ferre, C.L.**, & Papadelis, C., (2020). Progress in Multimodal Brain Imaging for Neurorehabilitation Research in Children with Cerebral Palsy: Towards Reproducible and Open Science. 74th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, New Orleans, LA. (Virtual Meeting due to COVID-19). Sep. 23-26.
27. **Ferre, C.L.**, Brandao, M.B., Chin, K., Flamand, V.H., Bonouvrie-Smorenburg, A., Campos, T.C., Robert, M., Bleyenheuft, Y., Carmel, J.B., Gordon, A.M., Friel, K.M., Kuo, H-S. (2020). Improvements in Hand Function After Unimanual or Bimanual Training Are Independent of Corticospinal Tract Laterality. 74th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, New Orleans, LA. (Virtual Meeting due to COVID-19). Sep. 23-26.
26. **Ferre, C.L.**, & Friel, K.M. (2019). Brain Anatomy and Hand Function in Children with Unilateral Cerebral Palsy. Combined Meeting of American Academy of Cerebral Palsy and Developmental Medicine and International Alliances of Academies of Childhood Disability, Anaheim, CA, Sept 18-21.
25. **Ferre, C.L.**, & Friel, K.M. (2019). Brain Wiring and Hand Function in Children with Unilateral CP: Is there a connection? Combined Meeting of American Academy of Cerebral Palsy and Developmental Medicine and International Alliances of Academies of Childhood Disability, Anaheim, CA, Sept 18-21.
24. **Ferre, C.L.**, Chin, K.Y., Gordon, A.M., & Friel, K.M. (2019). Bilateral Connectivity in Children with Unilateral Brain Injury: Implications for Upper-extremity Function. Combined Meeting of American Academy of Cerebral Palsy and Developmental Medicine and International Alliances of Academies of Childhood Disability, Anaheim, CA, Sept 18-21.
23. Robert, M.T., **Ferre, C.L.,** Chin, K.Y., Brandao, M., Carmel, J.B., Araneda, R., Bleyenheuft, Y., Friel, K.F., Gordon, A.M. (2019). Hand-Arm Bimanual Intensive Training in Children following Hemispherectomy Surgery. Pediatric Epilepsy Surgery Conference, Cleveland, OH, July 20.
22. **Ferre, C.L**., Soles, L.V., Gordon, A.M., & Friel, K.M. (2018). Relationship between sensorimotor tracts and sensorimotor function in children with unilateral spastic cerebral palsy. 72nd Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, Cincinnati, Oct. 09-13.

21. Robert, M.T., **Ferre, C.L.**, Chin, K., Brandao, M., Gordon, A.M. & Friel, K.M. (2018). Feasibility of delivering an intensive bimanual intervention to children who have undergone hemispherectomy. 72nd Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, Cincinnati, Oct. 09-13.
20. Robert, M.T., Gutterman, J., **Ferre, C.L.**, Gordon, A.M., & Friel, K.M. (2018). Improvement in upper extremity function in children with unilateral spastic cerebral palsy after intensive training correlates with interhemispheric connectivity. 72nd Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, Cincinnati, Oct. 09-13.
19. **Ferre, C.L.**, Carmel, J.B., Gordon, A.M., & Friel, K.M. (2018). Anatomical and Functional Characterization of brain injury subtypes in children with unilateral spastic cerebral palsy: An atlas-based analysis. Progress in Clinical Motor Control I: Neurorehabilitation, University Park, PA. Jul. 23-25.
18. **Ferre. C.L.,** Gordon, A.M., & Friel, K.M. (2017). Quantitative diffusion tensor tractography of motor and sensory pathways in children with unilateral spastic cerebral palsy and its relation to sensorimotor function. American Society of Neurorehabilitation Annual Meeting, Baltimore, MD. Nov 9-10.
17. Kuo, H-C, Marneweck, M., **Ferre, C.L.**, Flamand, V., Bleyenheuft, Y., Gordon, A.M., & Friel, K.M. (2017). Neurophysiological correlate of mirror movements in children with unilateral spastic cerebral palsy. 71st Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, Montreal, Quebec, Canada. Sep. 13-16.
16. Marneweck, M., Kuo, H.C., Smorenburg, A., Flamand, V., **Ferre, C.L.**, Bleyenheuft, Y., Gordon, A., & Friel, K.M. (2016). Searching for the neural correlates of hand function in unilateral spastic cerebral palsy: Does size and location of movement representations matter? 70th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine Hollywood, FL. Sep. 20-24.
15. Kuo, H.C., **Ferre, C.L.**, Friel, K.M., Gordon, A.M. (2016). The relationship between mirror movements and corticospinal tract connectivity in children with unilateral spastic cerebral palsy. 70th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine Hollywood, FL. Sep. 20-24.
14. Flamand, V.H., Smorenburg, A., Kuo, H.S., Marneweck, M., **Ferre, C.L.,** Bleyenheuft, Y., et al., (2016). Underpinnings of Intracortical motor circuits physiology in children with unilateral cerebral palsy. 70th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine Hollywood, FL. Sep. 20-24.
13. **Ferre, C.L.**, Brandao, M., Surana, B., Dew, A.P., Moreau, N.G., Gordon, A.M. (2015). Caregivers as Interventionists: A randomized trial of home-based intensive bimanual training in young children with hemiplegia. 69th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, Austin TX. Oct 21-24.
12. Surana, B., Moreau, N.G., Dew, A.P., **Ferre, C.L.**, Brandao, M., Gordon, A.M. (2015). Effectiveness of lower extremity intensive functional training (LIFT) in young children with hemiplegia delivered in the home setting: a randomized control trial. 69th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine, Austin TX. Oct 21-24.
11. Smorenburg, A., Kuo, H.C., **Ferre, C.L.,** Brandão, M., Bleyenheuft, Y., Carmel, J.B., & Gordon, A.M., & Friel, K.M. (2014). Wired for recovery? How corticospinal tract connectivity influences the efficacy of intensive bimanual therapy in children with unilateral cerebral palsy. 68th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine. San Diego, CA, Sep. 9-13.
10. **Ferre, C.L.**, Brandão, M., Hung, L. Carmel, J., Gordon, A.M. (2013). Home-based Bimanual Training for Young Children with Hemiplegia: Is it Feasible to Train Caregivers as Interventionists? 67th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine. Milwaukee, WI, Oct. 16-19.
9. Friel, K., Kuo, H-S., Gowatsky, J., **Ferre, C.L.**, Fuller, J., Carmel, J., Stanford, A., Lisanby, S., Bleyenheuft, Y., Gordon, A.M. (2013). Effects of structured vs. unstructured intensive bimanual training on hand function and plasticity in motor cortex. 67th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine. Milwaukee, WI, Oct. 16-19.
8. Gelkop, N., Gol, D.B., Lahav, A., Brezner, A., Oraibi, S., **Ferre, C.L.**, Gordon, A.M. (2013). Constraint-induced movement therapy and bimanual training in children with hemiplegic cerebral palsy provided in a

special education preschool and kindergarten setting. 67th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine. Milwaukee, WI, Oct. 16-19.

7. **Ferre, C.L**., Brandão, M., Hung, Y.C., Carmel, J.B., & Gordon, A.M. (2012). Caregivers as interventionists: A feasible home-based bimanual therapy for children with hemiplegia. Poster session presented at the 4th Meeting of the International Cerebral Palsy Conference, Pisa, Italy, Oct 11-14th.
6. Friel K.M., Kuo H.-C., Bassi B., Murphy D.L.K., Luber B.L., Carmel J.B., Gowatsky J.L., **Ferre C.L**., Stanford A.D.,Rowny S.B., Lisanby S.H., Gordon A.M. (2012). Motor cortex representations expand after bimanual training in children with hemiplegia. 4th Meeting of the International Cerebral Palsy Conference, Pisa, Italy, Oct 11-14th.
5. Kuo H.-C., **Ferre C.L**., Carmel J.B., Gowatsky J.L., Stanford A.D., Rowny S.D., Lisanby S.H., Gordon A.M., Friel K.M. (2012). Using diffusion tensor imaging to visualize physiologically responsive motor pathways in children with hemiplegia. Fourth International Cerebral Palsy Conference.
4. Friel K.M., Kuo H.-C., Bassi B., Murphy D.L.K., Luber B.L., Carmel J.B., Gowatsky J.L., **Ferre C.L**., Stanford A.D.,Rowny S.B., Lisanby S.H., Gordon A.M. (2012). Changes in the organization and excitability of the corticospinal system associated with intensive bimanual training in children with hemiplegic cerebral palsy. 66th Annual Meeting of the American Academy for Cerebral Palsy and Developmental Medicine. Toronto, ON, Canada.
3. **Ferre, C.L**., Hung, Y.C., Carmel, J.B., & Gordon, A.M. (2011). A home-based hand-arm bimanual intensive training for young children. Poster session presented at the 65th Annual Meeting of the American Academy of Cerebral Palsy and Developmental Medicine, Las Vegas, NV, Oct 12-15.
2. **Ferre, C.L.**, Babik, I., & Michel, GF. (2008). A multilevel model comparison of infant prehension handedness using varying sampling intervals. Poster session presented at the 41st Annual Meeting of the International Society for Developmental Psychobiology, Washington, DC, Nov 12-15.
1. **Ferre, C.L.** & Michel, GF. (2007). A mixed models analysis of the developmental relations among infant prehension handedness and handedness for role-differentiated bimanual manipulation. Poster session presented at the 40th Annual Meeting of the International Society for Developmental Psychobiology, San Diego, CA, Oct 31-Nov 3.

Invited Lectures

15. "Ontogeny of Skilled Manual Actions: How knowledge of Development can Inform Rehabilitation". University of Oregon. March 6, 2026
14. "Ontogeny of Motor Behavior: How knowledge of Development can Accelerate Clinical Innovation". Saban Research Institute, Children's Hospital of Los Angeles, Keck School of Medicine, University of Southern California. March 4, 2026
13. "Science, Mentorship, and Advocacy: The Legacies of Dr. Kathleen Friel". Symposium to Honor the Career of Dr. Kathleen Friel, Burke Neurological Institute. June 13, 2025.
12. "Development of Manual Control: How Knowledge of Development can Accelerate Clinical Innovation". Cook Children's Neuroscience Research Center, Cook Children's Hospital. May 19, 2025.
11. "Ontogeny of Motor Behavior: How the Study of Development can Accelerate Clinical Innovation". NIH P20 Center for Pediatric Brain Health Seminar Series. Institute for Human Neuroscience, Boys Town National Research Hospital. Sep 13., 2024.
10. "Learning to Move: The Road to Accurate Voluntary Movement". The Spectrum of Developmental Disabilities XLV: The First Year. Johns Hopkins Medicine. Mar. 19, 2024.
9. "Development of Skilled Motor Control and an Early Career in Clinical Research". Burke Neurological Institute. Feb. 26, 2024.
8. "Learning to Move: Movement During Infancy". Infant Communication Lab. Boston University, Feb. 20. 2024.
7. "Learning to Move: From Spontaneous Exploration to Skilled Motor Control". Dean's Advisory Board Meeting. Boston University, Feb. 14, 2024.

6. "Self-generated Experience: How Spontaneous Movements Shape the Development of Motor Control and Brain Function during Infancy". Columbia University Medical Center, Weinberg Family Cerebral Palsy Center, Movement Recovery Seminar, Apr. 21, 2023.
5. "From spontaneous exploration to motor control: How self-generated experience drives development of sensorimotor behavior and brain function". NIH C-Progress, Aug. 3, 2023.
4. "Cerebral palsy neurorehabilitation: Forty years of overcoming challenges". The Fletcher McDowell Inaugural Symposium, Burke Neurological Institute, Weill Cornell Medicine. White Plains, NY. (May 2018).
3. "A home-based model of skill training in children with cerebral palsy: Application to (caregiver) teaching". Ann Gentile Memorial Conference, TC Columbia University, (Nov. 2016).
2. "The Way Forward: Interventions to Promote Motor Skill Learning", Teachers College, Columbia University Academic Festival, (Apr. 2014).
1. "Constraint-induced Therapy and Bimanual Training for Children with Hemiplegic Cerebral Palsy", Occupational Therapy Department, Columbia University, (Dec. 2012)

MENTORING

Rehabilitation Sciences PhD
Hyunjoon Kim (2021-present)
Xiwen Su (2021-present)
Evan Yarnall (2023-present)

Doctoral Capstone OTD
Kimberly Chan (2021)
Lauren Gralton (2022)
Sophie Lanzel (2022)
Abigail Williams (2022)
Zara Ahmed (2023)
Andrea Sanchez (2023)
Serena Ranmal (2024)
Jessica Marc (2025)
Sarah Fetter (2026)

Dissertation/Comprehensive Examination Committees:
Maria Ayoub
PhD Program in Rehabilitation Science, Boston University
Member

Soyoung Lee
PhD Program in Rehabilitation Science, Boston University
Member

Ruoxi Wang
PhD Program in Rehabilitation Science, Boston University
Member

Undergraduate Students: *Undergraduate Research Opportunities Program (UROP) Awardee
Lucia Gonzáles-Revilla, Duke University
Govind Devandross*, Boston University
Manuel Sobol*, Boston University

Vien Tran*, Boston University
Noelle Guan*, Boston University
Paige Weldon, Boston University
Anna Dudzinski, Boston University
Sajni Shah, Boston University
Mildred Orellana Alvarado, Boston University
Aananya Asarpota Asani, Boston University
Alexis Joyce, Boston University

High School Students
Grace DeMilia, Yorktown High School

TEACHING (Boston University)

Abbreviations: EL-OTD – Entry-level Occupational Therapy Doctoral Program, PhD – Rehabilitation Sciences

Primary Instructor/Mentor

Course #	Name	Program	Class Size	Semesters	Average Rating (out of 5)
OT520	Evidence-based Practice 1	EL-OTD	38-48	Fall 2025, Fall 2024	4.10
OT620	Evidence-based Practice 2	EL-OTD	39-43	Spring 2024, Spring 2023 Spring 2022	3.87
RS750	Research Design	PhD	10	Spring 2021	4.89
OT526	Functional Movement	EL-OTD	39-40	Fall 2019, Fall 2020	4.72
RS910	Directed Reading	PhD	1-2	Fall 2023, Spring 2023 Fall 2022, Spring 2022, Fall 2021	NA
OT946, OT947 OT948	Doctoral Capstone Sequence	EL-OTD	1-3	Fall, Spring, Summer (2021-2026)	NA

Guest Lectures

Course #	Name	Semester	Topic
OT562	Learning and Behavior Change	Spring 2020	Motor Learning Principles and Application to Occupational Therapy
RS870	Emerging Topics	Spring 2021	Wearable Sensors for Measuring Pediatric Movement
OT562	Learning and Behavior Change	Spring 2021	Motor Learning Principles and Application to Occupational Therapy

RS650	Foundations of Rehabilitation Sciences	Fall 2021	Models of Pediatric Rehabilitation and Cerebral Palsy
OT562	Learning and Behavior Change	Spring 2022	Motor Learning Principles and Application to Occupational Therapy
RS890	Doctoral Seminar in Rehabilitation Sciences	Spring 2022	NIH Fellowships and Career Development Awards
HP321	Health Conditions Across the Life Course	Fall 2022	Participation in the Context of Pediatric Disability
HP321	Health Conditions Across the Life Course	Fall 2022	Prenatal Development and Risk Factors for Disabilities
HP252	Health Conditions Across the Life Course	Fall 2022	Infant Development and Health
OT562	Learning and Behavior Change	Spring 2023	Motor Learning Principles and Application to Occupational Therapy
RS650	Foundations of Rehabilitation Sciences	Fall 2023	Neuroplasticity and Upper-limb Intervention in Children with Cerebral Palsy
OT562	Learning and Behavior Change	Spring 2024	Motor Learning Principles and Application to Occupational Therapy
HP737	Instrumentation for Analysis of Motion	Fall 2024	Use of Transcranial Magnetic Stimulation for Rehabilitation Research
HP737	Instrumentation for Analysis of Motion	Fall 2024	Hands-on Laboratory Demonstration of Transcranial Magnetic Stimulation
HP771	Foundations of Motor Control	Fall 2024	Motor System Development and Neuroplasticity
OT621	Evidence-based Practice 3	Fall 2025	Presenting Data for Occupational Therapists
OT526	Functional Movement	Spring 2026	Prenatal Development and Newborn Reflexes
SH810	Doctoral Seminar in Grant Writing	Spring 2026	NIH Fellowships and Career Development Awards

PROFESSIONAL SERVICE

Internal

Department Level

2022 EBP Task Group
2020 Blackboard Cognitive Load Task Group
2020 Competence for Entry Level Practice Task Group
2020-present EL-OTD Student Advisor, Boston University

2019-present EL-OTD Admissions Review
2019-present PhD in Rehabilitation Sciences Admissions review
2019 Faculty Search Committee Training
2019 Peer Mentoring Task Group

College Level

2026 Sargent College Faculty and Staff Awards Committee
2022-present Sargent Faculty Council, Sargent College of Rehabilitation Sciences, Boston University
2023-present Member, Steering Committee, PhD in Rehabilitation Sciences, Boston University
2022 Member, Search Committee, Assistant Professor of Nutrition, Dept. of Health Sciences, Boston University.
2021 Member, Search Committee, Endowed Chair of Pediatric Rehabilitation. Dept. of Physical Therapy, Boston University.
2020 Member, Search Committee, Program Director for Entry-level OTD, Dept. of Occupational Therapy, Boston University.

University Level

2022-2024 Member, Faculty of Color Recruitment Committee, Boston University

External

2026 (Fall) Chair-elect, Research Committee, American Academy of Cerebral Palsy and Developmental Medicine
2026- Editorial Board Member, Pediatric Physical Therapy Journal
2022-present Member, Research Committee, American Academy of Cerebral Palsy and Developmental Medicine
2022-2024 Member, Diversity Committee, fNIRS Society
2025-present Member, Program Committee, Fetal, Infant, and Toddler Neuroimaging Group

Journal Manuscript Ad-hoc Reviewer

2014-Present Cerebral Cortex, Brain, NPJ Digital Medicine, Neurophotonics, Nature Scientific Reports, Brain Topography, Transactions on Neural Systems & Rehabilitation Engineering, Frontiers in Neuroscience, Developmental Neurorehabilitation, Neural Plasticity, Developmental Psychobiology, Neurorehabilitation and Neural Repair, Child Development, Developmental Medicine and Child Neurology, Journal of Neuroengineering and Rehabilitation.

Grant Review

2026 Ad-Hoc Reviewer, Cognitive, Motor and Language Habilitation and Rehabilitation SEP, NIH
2024-present NIH Loan Repayment Program, Pediatrics and Clinical Research
2023-present American Academy of Cerebral Palsy and Developmental Medicine Grant Review
2023-present Sargent College Grant Review
2022 Ad-Hoc Reviewer, Motor Function, Speech, and Rehabilitation Study Section, NIH
2021 NIH Early Career Reviewer, Motor Function, Speech, and Rehabilitation, NIH
2020 - 2022 National Science Foundation
2016 Swiss National Science Foundation, Rehabilitation, Neurophysiology and Brain Research

PROFESSIONAL MEMBERSHIPS

2025- Member, Fetal, Infant, and Toddler Neuroimaging Group (FIT'NG)
2017- Member, American Society for Neurorehabilitation
2008- Member, American Academy of Cerebral Palsy and Developmental Medicine
2005-2008 Member, International Society of Developmental Psychobiology

OUTREACH

2025	The English High School, Career Fair, Station Host
2024-present	Cambridge Science Festival, Education Station Host
2024-present	Cerebral Palsy Soccer New England, Volunteer
2024-present	Play to Thrive Perinatal Stroke Education Community Event, Education Station Host
2019	UMASS-Boston, Exercise Science Department, Increasing Diversity and Inclusion, Invited Speaker

MEDIA

2025	Career Pathways, American Society for Neurorehabilitation Blog
2025	DEMR Lab: Brain and Movement Study, Community Engagement Video
2025	Transcranial Direct Current Stimulation and Motor Function in Cerebral Palsy, Developmental Medicine and Child Neurology Podcast
2024	DEMR Lab: Infant Hand Movement Study, Community Engagement Video
2024	Childhoods Transformed, Inside Sargent Magazine
2023	DEMR Lab: Infant Movement Study, Community Engagement Video
2022	Fine-tuning Movement, Inside Sargent Magazine
2020	Moving Forward with Cerebral Palsy Research, Health Matters Podcast
2017	Unilateral Spastic Cerebral Palsy: Home-based Intensive Bimanual Training, Developmental Medicine and Child Neurology Podcast