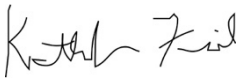
Weill Cornell Medical College, Cornell University
Faculty Curriculum Vitae Template

Name: **Kathleen Margaret Friel**

Signature: 

Date of Preparation: 05/15/2024

A. PERSONAL DATA

Office address: 104 Hewitt Bldg, Burke Neurological Institute, 785 Mamaroneck Ave White Plains NY 10605

Office telephone: 914-368-3116

Work email: kaf3001@med.cornell.edu

Home address: 33 Fieldstone Dr Apt A1 Hartsdale NY 10530

Cell phone: 646-351-9063

Personal email: Kathleen.friel@gmail.com

Is your eligibility to work in the U.S. based on an employment visa?: No

If yes, please provide Visa type (Examples: J-1, H-1B, E-3, TN, etc.):

B. EDUCATION

Academic Degree(s) (*Bachelor's and higher)*

Degree*, include field of study*	Institution*, city and state*	Dates attended *(mm/yyyy-mm/yyyy)*	Year Awarded
BA *Biology*	Rice University, *Houston, TX*	1991-1995	1995
MS *Neuroscience*	University of Texas Health Sciences Center, *Houston, TX*	1995-1997	1997
PhD *Neurophysiology*	University of Kansas Medical Center, *Kansas City, KS*	1997-2002	2002

MS *Biostatistics*	Columbia University Medical Center, *New York, NY*	2008-2010	2010

C. POSTDOCTORAL TRAINING *(Include residency/fellowships)*

Title, include area of training	Institution*, city and state*	Dates *(mm/yy - mm/yy)*
Postdoctoral Fellow, Neuroscience	Columbia University Medical Center, *New York, NY*	09/2002-06/2006

D. PROFESSIONAL POSITIONS & EMPLOYMENT

Academic Appointments *(Teaching and research, i.e. Instructor, Assistant Professor, etc.)*

Title	Institution*, city and state*	Dates *(mm/yy - mm/yy)*
Research Scientist	Columbia University Medical Center, *New York, NY*	07/2006-06/2008
Assistant Professor	Columbia University Medical Center, *New York, NY*	07/2008-01/2013
Adjunct Instructor	Teachers College of Columbia University, *New York, NY*	07/2008-01/2013
Research Scientist	City College of New York, City University of New York, NY, USA	09/2010-01/2013
Assistant Professor of Neuroscience	Brain Mind Research Institute, Weill Cornell Medical College, New York, NY, USA	02/2015-12/2019
Associate Professor of Neuroscience	Brain Mind Research Institute, Weill Cornell Medical College, New York, NY, USA	01/2020-present

Hospital Appointments *(Clinical, i.e., Assistant Attending, Attending, etc. Do not list administrative titles, such as Director or Chair here.)*

Title	Institution*, city and state*	Dates *(mm/yy - mm/yy)*
NONE		

Other Professional Positions & Employment *(Industry, private practice, etc.)*

Title	Institution*, city and state*	Dates *(mm/yy - mm/yy)*
NONE		

E. EMPLOYMENT STATUS

Name of Current Employer*(s)*:
Current Employment Status (*Please choose **one**, list here, **delete** the others*)**:**
Full-time salaried by Cornell-affiliated hospital – Burke Neurological Institute

F. LICENSURE, BOARD CERTIFICATION

Licensure:

State	Number	Date of issue *(mm/dd/yyyy)*	Date of last registration *(mm/dd/yyyy) – (mm/dd/yyyy)*
NONE			

DEA number: *(optional)*

NPI number: *(optional)*

If no license:

(1) Do you have a temporary certificate? NO
(2) Have you passed the examination for foreign medical school graduates? NO

Board Certification

Full Name of Board	Certificate # *(indicate if board eligible)*	Dates of Certification *(yyyy–yyyy)*
NONE		

G. INSTITUTIONAL/HOSPITAL AFFILIATION

Primary Hospital Affiliation: Burke Neurological Institute

Other Hospital Affiliations: NONE

Other Institutional Affiliations: NONE

H. HONORS, AWARDS

Name of award	Organization	Date awarded *(yyyy)*

Tsanoff Prize, outstantding sophomore, Rice University	1993
Fulton Prize, outstantding senior, Rice University	1995
Graduate Travel Fellowship, KU Med Center	1998
Gayle Arnold Award, American Academy for Cerebral Palsy and Developmental Medicine	2012
Distinguished Woman in Technology, Westchester County Association	2014
Member, National Advisory Board for Medical Rehabilitation Research	2015-2019
Member, Scientific Advisory Committee, Cerebral Palsy Foundation	2017-present
Corbett Ryan Pathways Pioneer Award, American Academy of Cerebral Palsy and Developmental Medicine	2017
Research Awareness Award, Cerebral Palsy Foundation	2021
Healthcare Visionary Leadership Award, Cerebral Palsy Foundation	2022
Mentoring Award, American Academy of Cerebral Palsy and Developmental Medicine	2023

I. PROFESSIONAL ORGANIZATIONS AND SOCIETY MEMBERSHIPS

Please include medical and scientific societies.)

Organization	Date *(yyyy-yyyy)*
Society for Neuroscience	1996-present
American Academy for Cerebral Palsy and Developmental Medicine	2010-present
American Society for Neurorehabilitation	2011-present

J. PERCENT EFFORT AND INSTITUTIONAL RESPONSIBILITIES

If joining WCM, report anticipated effort; if already WCM employed, report only WCM effort.

Weill Cornell Activity *(Current or Anticipated)*	**Percent Effort (%)**	**Does the activity involve Weill Cornell students/research trainees? (Yes/No)**
Teaching	10	Yes
Clinical	0	

Administrative	30	Yes
Research	60	Yes
Total	**100%**	

K. EDUCATIONAL CONTRIBUTIONS

*Please include title/audience/dates as applicable for each prompt below. Please list only teaching activities at WCM, any of its affiliates, your currently employed institution and previously employed institutions here. If your area of excellence is Educational Leadership, you **must** instead complete the Educator Portfolio. Then, refer to your report here as an attachment (e.g., see attached), and attach it to the CV.*

Didactic teaching *(lectures, seminars, tutorials,)*

	Dates
Advanced Neuromotor Processes, a full semester course, Teachers College of Columbia University	2008 and 2012
Grand Rounds: Changes in the organization and excitability of the corticospinal system associated with intensive bimanual training in children with hemiplegic cerebral palsy: Lecture at Brigham and Women's Hospital, Boston, MA	2012
Seminar: The Importance of Motor Activity in Development and Repair of the Motor System, Burke Medical Research Institute, White Plains NY	2013
Grand Rounds: The Importance of Motor Activity in Development and Repair of the Motor System, Blythedale Children's Hospital, Valhalla NY	2013
Lecture: The Importance of Motor Activity in Development and Repair of the Motor System, Summer Student Lecture Series, Burke Medical Research Institute, White Plains, NY	2014
Instructional Course: Non-invasive brain stimulation in congenital hemiparesis. American Academy of Cerebral Palsy and Developmental Medicine Annual Meeting, San Diego, CA	2014
Plenary Presentation: Stimulating controversy, stimulating the brain: non-invasive brain stimulation as a potentially disruptive change agent. American Academy of Cerebral Palsy and Developmental Medicine Annual Meeting, Austin TX	2015
Professional Development Course: Using Non-Invasive Brain Stimulation to Measure and Change the Brain, Blythedale Children's Hospital, Valhalla NY	2015
City College of New York Neuromodulation Course: TMS, Rehabilitation, and Restoration of Function, New York NY	2015
Invited Keynote Lecture: Non-Invasive Brain Stimulation: Potential to Change Pediatric Neurorehabilitation, American Physical Therapy Association Research Summit IV, Alexandria VA	2015
Grand Rounds: The Importance of Motor Activity in Development and Repair of the Motor System, University of Minnesota, Minneapolis MN	2015
Instructional Course: Non-invasive brain stimulation trials in hemiparetic cerebral palsy: making a difference? American Academy of Cerebral Palsy and Developmental Medicine Annual Meeting, Hollywood, FL	2016
Professional Development Course: What Works for Upper Extremity Therapy, Blythedale Children's Hospital, Valhalla NY	2016
Guest Lecture: Using Motor Activity to Repair the Brain, Teachers College of Columbia University, New York NY	2016

Grand Rounds: Activity-Based Strategies for Cerebral Palsy Neurorehabilitation, University of Texas Southwestern Medical Center, Dallas TX	2016
Tutorial, Diffusion Tensor Imaging Analysis, Burke Medical Research Institute, White Plains, NY	2016
Plenary Lecture: Using Non-Invasive Brain Stimulation to Map and Modulate Motor Circuits in Cerebral Palsy, NYC Neuromodulation Conference, New York NY	2017
Special Emphasis Panel Member: Ethics and Practice in Pediatric Neuromodulation, NYC Neuromodulation Conference, New York NY	2017
Instructional Course: Stepping into the arena: neuroplasticity in children and adults with cerebral palsy. American Academy of Cerebral Palsy and Developmental Medicine Annual Meeting, Montreal	2017
Instructional Course: Quantitative techniques for assessment of upper extremity movement dysfunction. American Academy of Cerebral Palsy and Developmental Medicine Annual Meeting, Montreal	2017
Professional Development Course: Using Non-Invasive Brain Stimulation to Measure and Change the Brain, Blythedale Children's Hospital, Valhalla NY	2017
Grand Rounds: Improving Upper Limb Function in Children with Cerebral Palsy, Blythedale Children's Hospital, Valhalla, NY	2017
Invited Lecture: The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation, Shirley Ryan AbilityLab, Chicago IL	2017
Invited Lecture: The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation, Weinberg Family Cerebral Palsy Center, Columbia University Medical Center, New York NY	2017
Invited Lecture: The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation, Wadsworth Center, Albany, NY	2017
Invited Lecture: The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation, New York University, New York NY	2018
Professional Development Course: Effect of Age at Brain Injury on Movement, Blythedale Children's Hospital, Valhalla NY	2018
Invited Lecture: The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation, Wadsworth Center, Albany NY	2018
Lecture: The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation, Summer Student Lecture Series, Burke Neurological Institute, White Plains, NY	2018

Invited Lecture: The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation, Kentucky Spinal Cord Injury Conference, Louisville, KY	2019
Invited Lecture: The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation, Research Summit V, American Physical Therapy Association, Alexandria, VA.	2019
Invited Lecture: Finding Joy in Clinical Research, Blythedale Children's Hospital, Valhalla NY	2020
Invited Lecture: Finding Joy in Clinical Research, Burke Neurological Institute Seminar Series, White Plains NY	2020
Invited Lecture: The Importance of Motor Activity in Cerebral Palsy Neurorehabilitation, Weill Cornell Medicine, New York, NY	2020
Invited Lecture: The Importance of Motor Activity in Cerebral Palsy Neurorehabilitation, National Center for Adaptive Neurotechnologies, Albany, NY	2021
Sykes Lecture: The Importance of Motor Activity in Cerebral Palsy Neurorehabilitation, University of Southern California, Los Angeles, CA	2021
Invited Lecture: The Importance of Motor Activity in Cerebral Palsy Neurorehabilitation, Amherst College, Amherst, MA	2021
Invited Lecture: Finding Joy in Clinical Research, presentation to summer scholars, Burke Neurological Institute	2022
Invited Lecture: Corticospinal tract motor evoked potentials from infant to Adult, International Alliance of Academies of Childhood Disability	2022
Invited Lecture: Optimizing motor recovery for people with cerebral palsy, Columbia University Irving Medical Center	2022
Invited Lecture: Spinal Reflex Conditioning to Decrease Spasticity and Improve Motor Function in Adults with Spastic Cerebral Palsy, National Center of Neuromodulation for Neurorehabilitation	2023
Invited Lecture: Building a Clinical Research Career Through Training in Basic Science, Burke Neurological Institute Seminar Series	2023
Lecture: The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation, Summer Student Lecture Series, Burke Neurological Institute, White Plains, NY	2023

Clinical teaching *(bedside teaching, teaching rounds, teaching in operating room, precepting in clinic, morning report, etc.)*
NONE

Administrative teaching *(leadership role as residency or fellowship director, course or seminar series director or co-director at WCM and previously employed institutions)*
NONE

Continuing education and professional education as teacher *(role and scope of activity)*
NONE

Other education/outreach activities *(community education or patient outreach such as medical journalism and media presentations, including television and radio appearances that educate the public about medicine, health or biomedical sciences)*
NONE

L. CLINICAL PRACTICE, INNOVATION, and LEADERSHIP

Clinical Practice
Please include duration, i.e., year(s) of practice, name and location of practice, type of activity, level of activity (e.g., sessions, days or hours per week or month). Examples include attending on inpatient units, ambulatory practice, performing procedures.
NONE

Clinical Innovations
Please include date innovation launched, title/location of innovation, role and short description of the influence on clinical care or practice management. Examples include development of innovative approaches to diagnosis, treatment or prevention of disease, applications of technologies, and/or models of care delivery.
NONE

Clinical Leadership
Include year(s), leadership role, and description of activity/program, i.e. director/head of service/clinic or procedure area.
NONE

M. RESEARCH

Research Activities: *In a paragraph or bullet points (up to 300 words), briefly highlight your various research interests and activities (similar to NIH Biosketch). List IRB protocols (both active and inactive) here. You may also refer to your "Statement of Key Contributions" and attach it. Use the subsection below to record Research Support.*

Research Support:

Current Research Funding
Duplicate table *below as needed. For each funding vehicle, please include the following:*

Award Source: *(funding agency – federal, foundation, industry; type of grant)**	Federal NIH R01
Project title:	Impact of sensory impairments on movement in children with cerebral palsy
Annual direct costs: Non-financial support *(e.g., drugs or services provided)*:	$1,594,760
Duration of support: *(mm/yyyy-mm/yyyy)*	06/2018 – 05/2023 currently in NCE
Name of Principal Investigator:	KM Friel
Your role*:	PI
Your percent (%) effort:	25

Award Source: *(funding agency – federal, foundation, industry; type of grant)**	Federal NIH R01
Project title:	Neural correlates of hand therapy efficacy in children with cerebral palsy
Annual direct costs: Non-financial support *(e.g., drugs or services provided)*:	$1,988,760 (renewed grant period, 2020-2025)
Duration of support: *(mm/yyyy-mm/yyyy)*	2014-2019; Renewed 2020-2025: the title of the renewal application was changed to Targeted transcranial direct current stimulation combined with bimanual training for children with cerebral palsy
Name of Principal Investigator:	KM Friel
Your role*:	PI
Your percent (%) effort:	30

Award Source: *(funding agency – federal, foundation, industry; type of grant)**	New York State Spinal Cord Injury Program
Project title:	Rehabilitation and cortical remodeling after surgical intervention for spinal cord injury
Annual direct costs: Non-financial support *(e.g., drugs or services provided)*:	$250,000
Duration of support: *(mm/yyyy-mm/yyyy)*	09/2022-08/2025
Name of Principal Investigator:	E Hollis II

Your role*:	CoI
Your percent (%) effort:	5

**Please annotate multi-investigator, program project, center grants (P50 etc.) and sponsored clinical trials to clarify your role on the projects (PI, site PI, project leader, co-PI, co-investigator, core director, etc.).*

Past (Completed) Funding
Please summarize as for current projects: source-type, project title, dates, your role.

American Academy of CP/Developmental Medicine
Spinal Reflex Conditioning to Decrease Spasticity and Improve Motor Function in Adults with Spastic Cerebral Palsy
Role: Principal Investigator
Percent Effort: 0%
Total direct support: $25,000

National Institutes of Health (R01 HD 076436-01A1): Neural correlates of hand therapy efficacy in children with cerebral palsy: Transcranial direct current stimulation and bimanual training for children with cerebral palsy
Supplement to R01
2022-2023
Role: Principal Investigator
Percent Effort: 5%
Total direct support: $200,000

Tom and Agnes Carvel Foundation
2013-2017
Transcranial direct current stimulation for children with cerebral palsy
Role: Principal Investigator
Percent Effort: 10%
Total direct support: $700,000

National Institutes of Health (1R03HD084971)
2015-2017
Transcranial direct current stimulation and robotic therapy for adults with cerebral palsy
Role: Principal Investigator
Percent Effort: 5%
Total direct support: $100,000

National Institutes of Health (1R03HD07351)
2012-2014
Impact of motor connectivity on efficacy of hand therapy in congenital hemiplegia
Role: Principal Investigator
Percent Effort: 5%
Total direct support: $100,000

Columbia University Professional Schools Diversity Fellowship
2010-2011
Magnetic Resonance Imaging of the Motor and Somatosensory Systems in Children with Cerebral Palsy and Healthy Controls
Role: Principal Investigator
Percent Effort: 5%
Total direct support: $20,000

National Institutes of Health (5K01NS062116)
2009-2014
Mechanisms of Cerebral Palsy Recovery Induced by Balancing Motor Cortex Activity
Role: Principal Investigator
Percent Effort: 75%
Total direct support: $790,175

Irving Center for Translational Research TRANSFORM K12 award
2008-2009
Mechanisms of Cerebral Palsy Recovery
Role: Principal Investigator
Percent Effort: 75%
Total direct support: $100,000

National Institutes of Health (R01 NS 36835) Research Supplements to Promote Diversity in Health-Related Research (disability)
2006-2008
Role: Trainee (PI: JH Martin)
Percent Effort: 100%
Total direct support of supplement: $100,000

National Institutes of Health (F32 NS 046882)
2004-2006
Role: Principal Investigator
Percent Effort: 100%
Total direct support: $100,000

National Institutes of Health Neurobehavioral Sciences Research Training Program (T32 MH 15174)
2002-2004
Role: Trainee (PI: Dr. J. D. Koester)
Percent Effort: 100%
Total direct support: $82,144

National Institutes of Health (F31NS11003)
1999-2002
Functional Segregation in Motor Cortex
Role: Principal Investigator
Percent Effort: 100%
Total direct support: $46,500

Pending Funding
Please summarize as for current projects: source-type, project title, dates, your role.
NONE

Patents & Inventions
Please include inventors, title of invention and patent number.
NONE

N. MENTORING

Mentorship is a longitudinal, collaborative learning relationship to help the mentee or protégé succeed. Mentoring can be provided within many formats, including one-to-one, small groups, or large group workshops or lectures, which cover any topic directly related to the mentee's career development.

Please list trainees and faculty that you have formally supervised both at home institution(s) and for extramural organizations, etc. Individuals listed in this section should be those supervised in a research, teaching or clinical setting. List only those on whose careers you have had a substantial impact. Do not indicate those for whom you have provided general career advice. This section may be annotated to provide more information.

If this is the candidate's first faculty appointment at WCMC, please list mentoring contributions at institutions where the candidate previously held a faculty position.

Leadership and mentoring in programs (*Describe activity; include dates)*
NONE

Institutional Training Grants and Mentored Trainee Grants
Duplicate table below as needed. Examples include serving as PI or Mentor on T32, K01, K08, K23 or other mentored grants.
NONE

Mentees

List trainees and faculty that you have formally supervised both at home institution(s) and for extramural organizations, etc*. Individuals listed in this section should be those supervised in a research, teaching or clinical setting. List only those on whose careers you have had a substantial impact; do not indicate those for whom you have provided general career advice.*

Current Mentees:
Duplicate table below as needed. For each mentee, please include the following:

Name	*Shivakeshavan Ratnadurai-Giridharan*
Site/Position	*Research Scientist*
Expected Period *(mm/yyyy-mm/yyyy)*	*09/2018-present*
Project/Accomplishments**	*Development of markerless motion capture platform*
Goals/expected Outcomes	*Deployment of platform across labs at BNI*
Type of Supervision *(research, clinical, teaching, leadership)*	*Research*

Name	*Devina Kumar*
Site/Position	*Postdoctoral fellow*
Expected Period *(mm/yyyy-mm/yyyy)*	*04/2020-07/2024*
Project/Accomplishments**	*Use of spinal reflex conditioning to decrease spasticity in adults with cerebral palsy*
Goals/expected Outcomes	*Run successful clinical trial; she will continue this project in her own lab at the Univ of Rhode Island starting Aug 2024 (tenure-track Assistant Professor)..*
Type of Supervision *(research, clinical, teaching, leadership)*	*Research*

Past Mentees:

Duplicate table below as needed. For each mentee, please include the following:

Name	*Ana Smorenburg, PhD*
Site/Position	*Postdoctoral fellow*
Mentoring Period *(mm/yyyy-mm/yyyy)*	*04/2013-08/2015*
Project/Accomplishments**	*Determined that motor system organization does not impact efficacy of bimanual training in children with cerebral palsy.*
Current Position	*Stay at home mom*
Type of Supervision *(research, clinical, teaching, leadership)*	*Research*

Name	*Disha Gupta, PhD*
Site/Position	*Postdoctoral fellow*
Mentoring Period *(mm/yyyy-mm/yyyy)*	*08/2013-06/2018*
Project/Accomplishments**	*Determined sensory contributions to movement impairments; Annals of Neurology paper; internal fellowship recipient*
Current Position	*Staff Scientist, National Center for Adaptive Neurotechnologies*
Type of Supervision *(research, clinical, teaching, leadership)*	*Research*

Name	*Alex Barachant, PhD*
Site/Position	*Postdoctoral fellow*
Mentoring Period *(mm/yyyy-mm/yyyy)*	*02/2014-12/2016*
Project/Accomplishments**	*With Dr. Gupta above, used EEG to study sensory system physiology in children with cerebral palsy*

Current Position	*Computer scientist, startup company*
Type of Supervision *(research, clinical, teaching, leadership)*	*Research*

Name	*Veronique Flamand, PhD*
Site/Position	*Postdoctoral fellow, co-mentored with Andy Gordon, collaborator, Columbia University*
Mentoring Period *(mm/yyyy-mm/yyyy)*	*09/2014-07/2015*
Project/Accomplishments**	*Used transcranial magnetic stimulation to study motor system physiology in children with cerebral palsy*
Current Position	*Assistant Professor (tenure track), University of Laval, Quebec City, QC*
Type of Supervision *(research, clinical, teaching, leadership)*	*Research*

Name	*Michelle Marnewerk, PhD*
Site/Position	*Postdoctoral fellow, co-mentored with Andy Gordon, collaborator, Columbia University*
Mentoring Period *(mm/yyyy-mm/yyyy)*	*09/2014-06/2016*
Project/Accomplishments**	*Used transcranial magnetic stimulation to study motor system physiology in children with cerebral palsy*
Current Position	*Assistant Professor (tenure track), University of Oregon*
Type of Supervision *(research, clinical, teaching, leadership)*	*Research*

Name	*Claudio Ferre, PhD*
Site/Position	*Postdoctoral fellow*
Mentoring Period *(mm/yyyy-mm/yyyy)*	*09/2015-06/2018*
Project/Accomplishments**	*Used multimodal assessments to determine contributors to movement impairments in children with cerebral palsy*
Current Position	*Assistant Professor (tenure track), Boston University*
Type of Supervision *(research, clinical, teaching, leadership)*	*Research*

Name	*Alexandra Berman, MD*

Site/Position	*Medical Student WCM*
Mentoring Period *(mm/yyyy-mm/yyyy)*	*04/2016-07/2016*
Project/Accomplishments**	*Assisted with clinical trial testing efficacy of bimanual training in children with cerebral palsy*
Current Position	*Resident, Pediatrics, WCM*
Type of Supervision *(research, clinical, teaching, leadership)*	*Research*

Name	*Maxime Robert, PhD*
Site/Position	*Postdoctoral Fellow*
Mentoring Period *(mm/yyyy-mm/yyyy)*	*09/2017-07/2018*
Project/Accomplishments**	*Used diffusion tensor imaging to determine neuroanatomical correlates of motor impairment in children with cerebral palsy.*
Current Position	*Assistant Professor (tenure track), University of Laval, Quebec City, QC*
Type of Supervision *(research, clinical, teaching, leadership)*	*Research*

O. INSTITUTIONAL LEADERSHIP ACTIVITIES

Please list activities at WCM and affiliates, NYP, and previously employed institutions. Include division or department positions, directorships, deanships, chairmanships on major institutional committees.

Role(s)/Position	Institution/Location	Dates *(yyyy-yyyy)*

P. INSTITUTIONAL ADMINISTRATIVE ACTIVITIES

List administrative activities/service to WCM and affiliates, NYP, and previously employed institutions, such as service on Departmental/Divisional committees or membership on institutional committees. Examples: WCM Admissions Committee, Institutional Review Board (IRB), Institutional Animal Care and Utilization Committee (IACUC), Data Safety and Monitoring Committees (DSMC), and Protocol Review and Monitoring Committee (PRMC), Credentials Committee, Patient Quality and Safety, Malpractice Committee.

Name of Committee	Role *(i.e., member, secretary, etc.)*	Dates *(yyyy-yyyy)*
Clinical laboratory meetings at Burke	Coordinator	2014-2018
Communications Committee, Burke	Member	2015-2018

Director, Cerebral Palsy Research, Blythedale Children's Hospital		2015-2019
Research Integrity Committee, Burke	Member	2016-present
Institutional Review Board, Burke	Member	2016-2019
Institutional Review Board, Blythedale Children's Hospital	Member	2016-2017
Consultant to institute members: Biostatistics and Trial MANagement (BATMAN), Blythedale Children's Hospital –one-on-one and group consults for manuscript preparation, grant writing, poster presentation creation, statistics, study design, IRB protocol writing, and designing databases.		2016-2020
Institutional Review Board, Burke	Oversight Co-manager	2017-2020
Blythedale Children's Hospital	Co-Director of Research	2018-2020
Seminar Committee	Member	2019-present
Postdoc Training Oversight Committee	Member	2019-present

Q. EXTRAMURAL PROFESSIONAL RESPONSIBILITIES

Leadership in Extramural Organizations

Organization	Role *(i.e., officer, secretary, chair, etc.)*	Dates *(yyyy-yyyy)*

Service on Boards and/or Committees

Regional

Name of Committee	Role *(i.e., member, fellow, etc.)*	Organization *(Institution/Location)*	Dates *(yyyy-yyyy)*

National

Name of Committee	Role *(i.e., member, fellow, etc.)*	Organization *(Institution/Location)*	Dates *(yyyy-yyyy)*
Advisory Council	*Member*	*Turning the TiDe Diversity Training Initiative (Delaware)*	*2022-present*
Advisory Board	*Member*	*National Medical Rehab Research Advisory Board, NIH (Bethesda,*	*2015-2019*

MD)

International

Name of Committee	Role *(i.e., member, fellow, etc.)*	Organization *(Institution/Location)*	Dates *(yyyy-yyyy)*
Scientific Advisory Council	*Member*	*Cerebral Palsy Foundation (NYC)*	*2017-present*
Lifespan Committee	*Member*	*[North] American Academy for Cerebral Palsy and Developmental Medicine (MN)*	*2022-present*
Board of Directors	*Member*	*American Society for Neurorehabilitation*	*2023-present*

Grant Reviewing/Study Sections s

Role(s)	Organization Name	Dates *(yyyy-yyyy)*
Special Emphasis Panels	*NIH*	*2017-present*

Editorial Activities

Editor/Co-Editor

Books / Textbooks / Journals / Organization Name	Dates *(yyyy-yyyy)*

Journals/Textbooks/Books

Journal /Textbook/Book Name	Dates *(yyyy-yyyy)*

Editorial Board Membership

Board / Organization Name	Dates *(yyyy-yyyy)*

Journal Reviewing/Ad hoc Reviewing

Journal / Organization Name	Dates *(yyyy-yyyy)*
Journal of Neuroscience	*2010-present*
Journal of Neurophysiology	*2010-present*
Neurorehabilitation and Neural Repair	*2012-present*
Experimental Brain Research	*2012-present*
Research in Developmental Disabilities	*2014-present*
Neurotherapeutics	*2014-present*
Frontiers in Neuroscience	*2018-present*
Lancet Neurology	*2022-present*
JAMA Neurology	*2024-present*

R. INVITATIONS TO SPEAK/PRESENT

Please list extramural invited activities such as presentations, grand rounds, research seminars, and lectures at meetings of professional organizations.

Regional*

Title	Institution/Location	Dates *(yyyy)*
TMS, Rehabilitation, and Restoration of Function	*City College of New York Neuromodulation Course*	*2015*
Using Motor Activity to Repair the Brain	Teachers College of Columbia University, New York NY	*2016*
Using Non-Invasive Brain Stimulation to Map and Modulate Motor Circuits in Cerebral Palsy	*NYC Neuromodulation Conference, New York NY*	*2017*
Improving Upper Limb Function in Children with Cerebral Palsy	*Blythedale Children's Hospital, Valhalla, NY*	*2017*
The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation	*Columbia University, New York, NY*	*2017*
The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation	*Wadsworth Center, Albany, NY*	*2017*
The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation	*New York University, New York, NY*	*2018*
The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation	*Weill Cornell Medicine, New York, NY*	*2020*
Optimizing motor recovery for people with cerebral palsy	*Columbia University, New York, NY*	*2022*

Spinal Reflex Conditioning to Decrease Spasticity and Improve Motor Function in Adults with Spastic Cerebral Palsy	*National Center of Neuromodulation for Neurorehabilitation*	*2023*

National*

Title	Institution/Location	Dates *(yyyy)*
Non-Invasive Brain Stimulation: Potential to Change Pediatric Neurorehabilitation	*American Physical Therapy Association Research Summit IV, Alexandria VA*	*2015*
The Importance of Motor Activity in Development and Repair of the Motor System	*U Minnesota, Minneapolis*	*2015*
The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation	*Shirley Ryann AbilityLab, Chicago, IL*	*2017*
The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation	*University of Texas Southwestern Medical Center, Dallas TX*	*2016*
The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation	*Kentucky Spinal Cord Injury Conference, Louisville, KY*	*2019*
The Importance of Skillful Motor Activity in Cerebral Palsy Neurorehabilitation	Research Summit V, American Physical Therapy Association, Alexandria, VA	*2019*
The Importance of Motor Activity in Cerebral Palsy Neurorehabilitation	*Amherst College, Amherst, MA*	*2021*

International*

Title	Institution/Location	Dates *(yyyy)*
Stimulating controversy, stimulating the brain: non-invasive brain stimulation as a potentially disruptive change agent	[North] American Academy of Cerebral Palsy and Developmental Medicine Annual Meeting, Austin TX	2015
Corticospinal tract motor evoked potentials from infant to adult	International Alliance of Academies of Childhood Disability	2022

**Categorize your entries based on your geographic location and/or the scope of the organization for which you are presenting.*

S. BIBLIOGRAPHY

Entries should follow standard journal format, listing all authors, complete titles and inclusive pagination. Please also include PMCID: PMC number (or DOI number).

Bold your name *wherever it appears in the author list. Publications also may be annotated here (or in the Statement of Key Contributions) to indicate the role of the candidate, where appropriate. This should be considered for co-first authorship, co-senior authorship, and in publications in which the candidate played an important role (leadership of a site, or methodology, etc.) that may not be apparent from the author order. Indicate if you are a co-first-author or co-senior author with an annotation*.

Number the entries. The listings must be organized by category, preferably in ***chronological*** *order (most recent last). Use the following categories:*

1. Peer-reviewed Research Articles:

Complete bibliography:

https://www.ncbi.nlm.nih.gov/sites/myncbi/kathleen.friel.1/bibliography/40329011/public/?sort=date&direction=descending

1. **Friel KM**, Nudo RJ. Recovery of motor function after cortical injury in primates: compensatory movement patterns used during rehabilitation. Somatosens Mot Res 1998; 15(3):173-189. PMID: 9874517.
2. **Friel KM**, Heddings AA, Nudo RJ. Effects of postlesion experience on behavioral and neurophysiologic reorganization after cortical injury in primates. Neurorehabil Neural Repair 2000; 14(3):187-198. DOI: 10.1080/08990229870745.
3. Heddings AA, **Friel KM**, Plautz EJ, Barbay S, Nudo RJ. Factors contributing to motor impairment and recovery after stroke. Neurorehabil Neural Repair 2000; 14(4):301-310. DOI: 10.1177/154596830001400406.
4. Nudo RJ, **Friel KM**, Delia SW. Role of sensory deficits in motor impairments after injury to primary motor cortex. Neuropharmacol 2000; 39(5):733-742. DOI: 10.1016/s0028-3908(99)00254-3.
5. Plautz EJ, Barbay S, Frost SB, **Friel KM**, Dancause N, Zoubina EV, Stowe AM, Quaney BM, Nudo, RJ. Post-infarct cortical plasticity and behavioral recovery using concurrent cortical stimulation and rehabilitative training: a feasibility study in primates. 2003; Neurolog Res 25:801-810. DOI: 10.1179/016164103771953880.
6. Frost, SB, Barbay S, **Friel KM**, Plautz EJ, Nudo RJ. Reorganization of remote cortical regions after ischemic brain injury: a potential neural substrate for stroke recovery. J Neurophysiol 2003; 89(6):3205-3214. DOI: 10.1152/jn.01143.2002
7. **Friel KM**, Martin JH. Role of sensory-motor cortex activity in postnatal development of corticospinal axon terminals in the cat. J Comp Neurol 2005; 485:43-56. DOI: 10.1002/cne.20483.
8. **Friel KM**, Barbay S, Frost SB, Plautz EJ, Hutchinson DM, Stowe AM, Dancause N, Zoubina EV, Quaney BM, Nudo RJ. Dissociation of deficits after rostral vs. caudal lesions in the primary motor cortex hand representation. J Neurophysiol 2005; 94:1311-1323. DOI: 10.1152/jn.01251.2004.
9. Dancause N, Barbay S, Frost SB, Plautz EJ, Popescu M, Dixon PM, Stowe AM, **Friel KM**, Nudo RJ. Topographically divergent and convergent connectivity between premotor and primary motor cortex. Cereb Cortex 2006; 16:1057-1068. PMID: 16221929.
10. Dancause N, Barbay S, Frost SB, Plautz EJ, Stowe AM, **Friel KM**, Nudo RJ. Ipsilateral connections of the ventral premotor cortex in a new world primate. J Comp Neurol 2006; 495:374-390. PMCID: PMC2583355.

11. Barbay S, Plautz EJ, **Friel KM**, Frost SB, Dancause N, Stowe AM, Nudo RJ. Behavioral and neurophysiological effects of delayed training following a small ischemic infarct in primary motor cortex of squirrel monkeys. Exper Brain Res 2006; 169:106-116. PMCID: PMC2740647.

12. **Friel KM**, Martin JH. Bilateral activity-dependent interactions in the developing corticospinal system. J Neurosci 2007; 27:11083-11090. PMCID: PMC2740658.

13. **Friel KM**, Drew T, Martin JH. Differential activity-dependent development of corticospinal control of movement and final limb position during visually-guided locomotion. J Neurophysiol 2007; 97:3396-3406. PMCID: PMC2740651.

14. **Friel KM**, Barbay S, Frost SB, Plautz EJ, Hutchinson DM, Stowe AM, Dancause N, Zoubina EV, Nudo RJ. Effects of a rostral motor cortex lesion on primary motor cortex hand representation topography in primates. Neurorehabil Neural Repair 2007; 21:51-61. PMCID: PMC2743898.

15. Salimi I, **Friel KM**, Martin JH. Pyramidal tract stimulation restores normal corticospinal tract connections and visuomotor skill after early postnatal motor cortex activity blockade. J Neurosci 2007; 28:7426-34. PMCID: PMC2567132.

16. Chakrabarty S, **Friel KM**, Martin JH. Activity-dependent plasticity improves M1 motor representation and corticospinal tract connectivity. J Neurophysiol 2009; 101:1283-93. PMCID: PMC2666405.

17. Gordon AM, Hung Y-C, Brandao M, Ferre CL, Kuo H-C, **Friel KM**, Petra E, Chinnan A, Charles JR. Bimanual Training and Constraint-Induced Movement Therapy in Children with Hemiplegic Cerebral Palsy: A Randomized Trial. Neurorehabil Neural Repair 2011; 25(8):692-702. DOI: 10.1177/1545968311402508.

18. **Friel KM**, Chakrabarty S, Kuo H-C, Martin JH. Using motor behavior during an early critical period to restore skilled limb movement after damage to the corticospinal motor system during development. J Neurosci 2011; 32:9265-9276. PMCID: PMC3422625.

19. Brandão MB, Ferre CL, Kuo H-C, Rameckers EA, Bleyenheuft Y, Hung YC, **Friel KM**, Gordon AM. Comparison of structured skill and unstructured practice during intensive bimanual training in children with unilateral spastic cerebral palsy. Neurorehabil Neural Repair 2014; 28:452-461. DOI: 10.1177/1545968313516871.

20. **Friel KM**, Kuo H.C., Carmel J.B., Rowny S.B., Gordon A.M. Improvements in hand function after intensive training are not associated with corticospinal tract dysgenesis in children with unilateral cerebral palsy. Exper Brain Res 2014; 232:2001-9. PMCID: PMC4037561.

21. Bleyenheuft Y, Dricot L, Gilis N, Kuo HC, Grandin C, Bleyenheuft C, Gordon AM, **Friel KM**. Capturing neuroplastic changes after bimanual intensive rehabilitation in children with unilateral spastic cerebral palsy: a combined DTI, TMS, and fMRI pilot study. Res Dev Disabil 2015; 43-44:136-149. PMCID: PMC4871716.

22. Kuo HC, Gordon AM, Henrionnet A, Hautfenne S, **Friel KM**, Bleyenheuft Y. The effects of intensive bimanual training with and without tactile training on tactile function in children with unilateral spastic cerebral palsy: A pilot study. Res Dev Disabil 2016;49-50:129-39. PMCID: PMC4871715.

23. Frost SB, Chen D, Barbay S, **Friel KM**, Plautz EJ, Nudo RJ. Effects of Forced Use on the Ventral Premotor Cortex Distal Forelimb Representation After Ischemic Infarct in Primary Motor Cortex. PM R 2016 Sep;8(9S):S158. doi: 10.1016/j.pmrj.2016.07.038.

24. Kantarcigil C, Sheppard JJ, Gordon AM, **Friel KM**, Malandraki GA. A telehealth approach to conducting clinical swallowing evaluations in children with cerebral palsy. Res Dev Disabil 2016; 55:207-217. DOI: 10.1016/j.ridd.2016.04.008.

25. **Friel KM**, Kuo HC, Fuller J, Ferre CL, Brandão M, Carmel JB, Bleyenheuft Y, Gowatsky JL, Stanford AD, Rowny SB, Luber B, Bassi B, Murphy DL, Lisanby SH, Gordon AM. Skilled Bimanual Training Drives Motor Cortex Plasticity in Children With Unilateral Cerebral Palsy. Neurorehabil Neural Repair 2016; 30:834-844. PMID: 26867559.

26. Krishnaswamy S, Coletti DJ, Berlin H, **Friel K**. Feasibility of Using an Arm Weight–Supported Training System to Improve Hand Function Skills in Children With Hemiplegia. Amer J Occupat Ther 2016; 70:7006220050p1-7006220050p7. DOI: 10.5014/ajot.2016.018929.

27. Smorenburg AR, Gordon AM, Kuo H-C, Ferre CL, Brandao M, Bleyenheuft Y, Carmel JB, **Friel KM**. Does corticospinal tract connectivity influence the response to intensive bimanual therapy in children with unilateral cerebral palsy? Neurorehabil Neural Repair 2017; 31-250-260. PMCID: PMC5567681.

28. Kuo H-C, Ferre CL, Carmel JB, Gowatsky JL, Stanford AD, Rowny SB, Lisanby SH, Gordon AM, **Friel KM**. Using diffusion tensor imaging to identify corticospinal tract projection patterns in children with unilateral spastic cerebral palsy. Dev Med Child Neurol 2017; 59:65-71. PMCID: PMC5215687.

29. Bleyenheuft Y, Ebner-Karestinos D, Surana B, Paradis J, Sidiropoulos A, Renders A, **Friel KM**, Brandao M, Rameckers E, Gordon AM. Intensive upper- and lower-extremity training for children with bilateral cerebral palsy: a quasi-randomized trial. Dev Med Child Neurol. 2017; 59:625-633. DOI: 10.1111/dmcn.13379.

30. **Friel KM**, Lee P, Soles LV, Smorenburg ARP, Kuo H-C, Edwards DJ. Combined transcranial direct current stimulation and robotic upper limb therapy improves upper limb function in an adult with cerebral palsy. NeuroRehabilitation 2017; 41:41-50. PMCID: PMC5546204.

31. Mourão LF, **Friel KM**, Sheppard JJ, Kuo HC, Luchesi KF, Gordon AM, Malandraki GA. The Role of the Corpus Callosum in Pediatric Dysphagia: Preliminary Findings from a Diffusion Tensor Imaging Study in Children with Unilateral Spastic Cerebral Palsy. Dysphagia. 2017; 32:703-713. DOI: 10.1007/s00455-017-9816-0.

32. Kuo HC, **Friel KM**, Gordon AM. Neurophysiological mechanisms and functional impact of mirror movements in children with unilateral spastic cerebral palsy. Dev Med Child Neurol. 2017; 60:155-161. PMCID: PMC8331099.

33. Gupta D, Barachant A, Gordon AM, Ferre C, Kuo HC, Carmel JB, **Friel KM**. Effect of sensory and motor connectivity on hand function in pediatric hemiplegia. Ann Neurol. 2017; 82:766-780. PMCID: PMC5708868.

34. Marneweck M, Kuo H-C, Smorenburg ARP, Ferre CL, Flamand V, Carmel JB, Gupta D, Bleyenheuft Y, Gordon AM, **Friel KM**. The relationship between hand function and overlapping motor representations of the hands in the contralesional hemisphere in unilateral spastic cerebral palsy. Neurorehabil Neural Repair. 2018; 32:62-72. PMCID: PMC5943063.

35. Hung YC, **Friel KM**, Gordon AM. Response: Commentary: Skilled bimanual training drives motor cortex plasticity in children with unilateral cerebral palsy. Front Hum Neurosci. 2018; 11:619. PMCID: PMC5736572.

36. Gillick BT, Gordon AM, Feyma T, Krach LE, Carmel J, Rich TL, Bleyenheuft Y, **Friel KM**. Non-Invasive Brain Stimulation in Children With Unilateral Cerebral Palsy: A Protocol and Risk Mitigation Guide. Front Pediatr. 2018; 6:56. PMCID: PMC5864860.

37. Ickx G, Hatem SM, Riquelme I, **Friel KM**, Henne C, Araneda R, Gordon AM, Bleyenheuft Y. Impairments of Visuospatial Attention in Children with Unilateral Spastic Cerebral Palsy. Neural Plasticity. 2018; 1435808. PMCID: PMC6311787.

38. Rich TL, Nemanich S, Chen M, **Friel KM**, Feyma T, Krach LE, Nawshin T, Meekins G, Gillick BT. Transcranial direct current stimulation (tDCS) paired with occupation-centered bimanual training in children with unilateral cerebral palsy: A preliminary study. Neural Plasticity. 2019; 9610812. PMCID: PMC6304908.

39. Nemanich S, Rich TL, Gordon AM, **Friel KM**, Gillick BT. Bimanual skill learning after transcranial direct current stimulation in children with unilateral cerebral palsy: a brief report. Devel Neurorehabil. 2019; 22(7):504-508. PMCID: PMC6710148.

40. Araneda R, Ebner-Karenstinos D, Paradis J, Saussez G, Friel KM, Gordon AM, Bleyenheuft Y. Reliability and responsiveness of Jebsen-Taylor Test of Hand Function and Box and Block Test for children with cerebral palsy. Develop Med Child Neurol 2019; 61(10):1182-1188. PMCID: PMC8284844.

41. Gerber MB, McLean AC, Stephen SJ, Chalco AG, Arshad UM, Thickbroom G. Silverstein J, Tsagaris KZ, Kuceyeski A, Friel **KM**, Santos TEG, Edwards DJ. NeuroMeasure: a software package for quantification of cortical motor maps using frameless stereotaxic transcranial magnetic stimulation. Frontiers in Neuroinformatics 2019; 16:13-23. PMCID: PMC6499165.

42. Shoval H, Levin J, **Friel KM**, Kim H. Safety of Combined Salivary Gland and Multilevel Intramuscular OnabotulinumtoxinA Injections with and without Ethanol in Pediatric Patients with Cerebral Palsy: A Retrospective Study. Develop Med Child Neurol 2019;12(2):189-196. DOI: 10.3233/PRM-180552.

43. Hung YC, Robert MT, **Friel KM**, Gordon AM. Relationship Between Integrity of the Corpus Callosum and Bimanual Coordination in Children With Unilateral Spastic Cerebral Palsy. Front Hum Neurosci. 2019 Sep 24;13:334. PMCID: PMC6769084.

44. Hung YC, Spingarn A, **Friel KM**, Gordon AM. Intensive Unimanual Training Leads to Better Reaching and Head Control than Bimanual Training in Children with Unilateral Cerebral Palsy. Phys Occup Ther Pediatr. 2020;40(5):491-505. DOI: 10.1080/01942638.2020.1712513.

45. Ferre CL, Carmel JB, Flamand VH, Gordon AM, **Friel KM**. Anatomical and Functional Characterization in Children With Unilateral Cerebral Palsy: An Atlas-Based Analysis. Neurorehabil Neural Repair. 2020 Feb;34(2):148-158. PMCID: PMC8158652.

46. Bleyenheuft Y, Dricot L, Ebner-Karestinos D, Paradis J, Saussez G, Renders A, De Volder A, Araneda R, Gordon AM, **Friel KM**. Motor Skill Training May Restore Impaired Corticospinal Tract Fibers in Children With Cerebral Palsy. Neurorehabil Neural Repair. 2020 Jun;34(6):533-546. DOI: 10.1177/1545968320918841.

47. Shoval H, **Friel K**, Levin J, Kim H. Cumulative Efficacy of Longitudinal Repeat Salivary Gland OnabotulinumtoxinA Injection: A Retrospective Study. Am J Phys Med Rehabil. 2021 Aug 1;100(8):798-802. DOI: 10.1097/PHM.0000000000001675.

48. Araneda R, Dricot L, Ebner-Karestinos D, Paradis J, Gordon AM, **Friel KM**, Bleyenheuft Y. Brain activation changes following motor training in children with unilateral cerebral palsy: An fMRI study. Ann Phys Rehabil Med. 2021 May;64(3):101502. DOI: 10.1016/j.rehab.2021.101502.

49. Robert MT, Gutterman J, Ferre CL, Chin K, Brandao MB, Gordon AM, **Friel K**. Corpus Callosum Integrity Relates to Improvement of Upper-Extremity Function Following Intensive Rehabilitation in Children With Unilateral Spastic Cerebral Palsy. Neurorehabil Neural Repair. 2021 Jun;35(6):534-544. PMID: 33955304.

50. **Friel KM**, Ferre CL, Brandao M, Kuo HC, Chin K, Hung YC, Robert MT, Flamand VH, Smorenburg A, Bleyenheuft Y, Carmel JB, Campos T, Gordon AM. Improvements in Upper Extremity Function Following Intensive Training Are Independent of Corticospinal Tract Organization in Children With Unilateral Spastic Cerebral Palsy: A Clinical Randomized Trial. Front Neurol. 2021 May 3;12:660780. PMCID: PMC8127842.

51. Robert MT, Ferre CL, Chin KY, Brandao MB, Carmel J, Araneda R, Bleyenheuft Y, **Friel K**, Gordon AM. Intensive Bimanual Intervention for Children Who Have Undergone Hemispherectomy: A Pilot Study. Pediatr Phys Ther. 2021 Jul 1;33(3):120-127. DOI: 10.1097/PEP.0000000000000804.

52. Gutterman J, Lee-Miller T, **Friel KM**, Dimitropoulou K, Gordon AM. Anticipatory Motor Planning and Control of Grasp in Children with Unilateral Spastic Cerebral Palsy. Brain Sci. 2021 Aug 31;11(9):1161. PMCID: PMC8465927.

53. Park C, Oh-Park M, Bialek A, **Friel K**, Edwards D, You JSH. Abnormal synergistic gait mitigation in acute stroke using an innovative ankle-knee-hip interlimb humanoid robot: a preliminary randomized controlled trial. Sci Rep 2021 Nov 24;11(1):22823. PMCID: PMC8613200.

54. Gordon AM, Ferre CL, Robert MT, Chin K, Brandao M, **Friel KM**. HABIT+tDCS: a study protocol of a randomised 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. 2022 Feb 21;12(2):e052409. PMCID: PMC8860006.

55. Frost SB, Chen D, Barbay S, **Friel KM**, Plautz EJ, Nudo RJ. Reorganization of Ventral Premotor Cortex After Ischemic Brain Injury: Effects of Forced Use. Neurorehabil Neural Repair. 2022 13:15459683221101622. PMCID: PMC9378490.

56. Kuo H-C, Ferre CL, Chin KY, **Friel KM**, Gordon AM. Mirror movements and brain pathology in children with unilateral cerebral palsy. Dev Med Child Neurol 2023 Feb;65(2):264-273. doi: 10.1111/dmcn.15322.

57. Araneda R, Ebner-Karestinos D, Dricot L, Herman E, Hatem SM, **Friel KM**, Gordon AM, Bleyenheuft Y. Impact of early brain lesions on the optic radiations in children with cerebral palsy. Front Neurosci 2022 5;16:924938. PMCID: PMC9378490

58. Basu A, **Friel K**, Olusanya B, Hadders-Algra M. Viewing disability: Seeing the other side. Dev Med Child Neurol 2023;65(4):443-445. PMCID: PMC9378490. **Also published online in French, Spanish, and Portuguese.**

59. Divecha AA, Bialek A, Kumar DS, Garn RM, Currie LEJ, Campos T, **Friel KM.** Effects of a 12-week, seated, virtual, home-based tele-exercise programme compared with a prerecorded video-based exercise programme in people with chronic neurological impairments: protocol for a randomised controlled trial. BMJ Open 2023 24;13(1):e065032. PMCID: PMC9378490.

60. Shahane V, Kumavor P, Morgan K, **Friel KM**, Srinivasan S. A protocol for a single-arm interventional study assessing the effects of a home-based joystick-operated ride-on-toy navigation training program to improve affected upper extremity function and spontaneous use in children with Unilateral Cerebral Palsy (UCP). BMJ Open 2023;13:e071742. doi:10.11. PMCID: PMC9378490.

61. Au KLK, Knitter JL, Morrow-McGinty S, Campos TC, Carmel JB, **Friel KM**. Combining Unimanual and Bimanual Therapies for Children with Hemiparesis: Is There an Optimal Delivery Schedule? Behav Sci (Basel). 2023 Jun 9;13(6):490. PMCID: PMC10294902.

62. Moreau NG, **Friel KM**, Fuchs RK, Dayanidhi S, Sukal-Moulton T, Grant-Beuttler M, Peterson MD, Stevenson RD, Duff SV. Lifelong Fitness in Ambulatory Children and Adolescents with Cerebral Palsy I: Key Ingredients for Bone and Muscle Health. Behav Sci (Basel). 2023 Jun 28;13(7):539. PMCID: PMC10294902.

63. Duff SV, Kimbel JD, Grant-Beuttler M, Sukal-Moulton T, Moreau NG, **Friel KM**. Lifelong Fitness in Ambulatory Children and Adolescents with Cerebral Palsy II: Influencing the Trajectory. Behav Sci (Basel). 2023 Jun 15;13(6):504. PMCID: PMC10294902.

64. Delfing D, Chin K, Hentrich L, Rachwani J, **Friel KM**, Santamaria V, Imms C, Gordon AM. Assessing Engagement in Rehabilitation: Development, Validity, Reliability, and Responsiveness to Change of the Rehabilitation Observation Measure of Engagement (ROME). Disability and Rehabilitation 2023 May 10;1-10. PMCID: PMC9378490.

65. Kumar DS, Perez G, **Friel KM.** Adults with Cerebral Palsy: Navigating the Complexities of Aging. Brain Sci. 2023 Sep 8;13(9):1296. doi: 10.3390/brainsci13091296. PMCID: PMC10526900.

66. Novak I, Fahey M, Dan B, Craig S, Griffin A, Gross P, Justiniano MD, Webb A, Namara MM, Nielsen JB, Snelling T, Ritterband-Rosenbaum A, Shrader MW; CP Global Clinical Trials Network. Answering the call: co-designing a global trials network for cerebral palsy. Lancet Reg Health Eur. 2024;44:101015. doi: 10.1016/j.lanepe.2024.101015. PMCID: 11496963.

67. Kumar DS, Bialek A, Divecha AA, Garn RM, Currie LEJ, **Friel KM.** A seated virtual exercise program to improve cardiovascular function in adults with chronic Front Rehabil Sci 2025; 6:1477969. doi: 10.3389/fresc.2025.1477969. eCollection 2025. PMCID: PMC11979118.

2. Reviews and Editorials:

1. Nudo RJ, **Friel KM**. Cortical plasticity after stroke: implications for rehabilitation. Revue Neurologique (Paris) 1999; 155(9):713-717. PMID: 10528355.

2. Nudo, RJ, Larson DM, Plautz EJ, **Friel KM**. A squirrel monkey model of post-stroke motor recovery, ILAR Journal 2003; 44(2):161-174. DOI: 10.1093/ilar.44.2.161.

3. Martin JH, **Friel KM**, Salimi I, Chakrabarty S. Activity- and use-dependent plasticity of the developing corticospinal system. Neuroscience and Biobehavioral Reviews 2007; 31:1125-1135. PMCID: PMC2769920.

4. Martin JH, Chakrabarty S, **Friel KM**. Harnessing activity-dependent plasticity to repair the damaged corticospinal tract in an animal model of cerebral palsy. Dev Med Child Neurol 2011; 53 Suppl 4:9-13. PMCID: PMC3187875.

5. **Friel KM**, Chakrabarty S, Martin, JH. Pathophysiological mechanisms of impaired limb use and repair strategies for motor systems after unilateral injury of the developing brain. Dev Med Child Neurol 2014; 4:27-31. DOI: 10.1111/dmcn.12303.

6. **Friel KM**, Williams PT, Serradj N, Chakrabarty S, Martin JH. Activity-based therapies for repair of the corticospinal system injured during development. Front Neurol eCollection 2014; 5:229. PMCID: PMC4241838.

7. Kumar DS, Perez G, **Friel KM**. Adults with cerebral palsy: navigating the complexities of aging. Brain Sci. 2023 Sep 8;13(9):1296. PMCID: PMC10526900.

8. Metelski N, Gu Y, Quinn L, **Friel KM**, Gordon AM. Safety and efficacy of non-invasive brain stimulation for the upper extremities in children with cerebral palsy: A systematic review. Develop Med Child Neurol 2023. 66(5):573-587.

3. Books:

NONE

4. Chapters:

1. Nudo, RJ, Kleim JA, **Friel KM**. Functional remodeling of motor cortex after stroke. Chapter 27, In: Cerebrovascular Disease: Momentum at the End of the Second Millennium, pp. 371-391, D. Choi, R.G. Dacey, C.Y. Hsu, and W.J. Powers, eds., Futura; 2001.

2. Martin JH, **Friel KM**, Salimi I, Chakrabarty S. Corticospinal Development. In: Squire LR (ed.) Encyclopedia of Neuroscience, volume 3, pp. 203-214. Oxford: Academic Press; 2009.

3. Gordon AM, **Friel KM**. Intensive training of upper extremity function in children with cerebral palsy. In: J. Hermsdoerfer and DA Nowak (Eds) Sensorimotor Control of Grasping: Physiology and Pathophysiology, pp. 438-468. Cambridge University Press; 2009.

4. **Friel KM**, Williams PT, Serradj N, Chakrabarty S, Martin JH. Improving outcomes in cerebral palsy with early intervention: new translational approaches. Front eBooks 2015; 229:336.

5. **Friel KM**, Gordon AM, Carmel JB, Kirton A, Gillick BT. Pediatric Issues in Neuromodulation: Safety, Tolerability and Ethical Considerations. In: A Kirton and DL Gilbert (eds) Pediatric Brain Stimulation: Mapping and Modulating the Developing Brain, pp. 132-181. Academic Press Elsevier; 2016.

6. Carmel JB, **Friel KM**. The Right Stimulation of the Right Circuits: Merging Understanding of Brain Stimulation Mechanisms and Systems Neuroscience for Effective Neuromodulation in Children. In: A Kirton and DL Gilbert (eds) Pediatric Brain Stimulation: Mapping and Modulating the Developing Brain, pp. 195-208. Academic Press Elsevier; 2016.

7. Gillick BT, **Friel KM**, Menk J, Rudser K. Therapeutic Brain Stimulation Trials in Children With Cerebral Palsy. In: A Kirton and DL Gilbert (eds) Pediatric Brain Stimulation: Mapping and Modulating the Developing Brain, pp. 209-235. Academic Press Elsevier; 2016.

5. Non-peer-reviewed Research Publications:

NONE