NAME	POSITION/TITLE
Disha Gupta	Senior Research Scientist, Head of Somatosensory Research Lab, National Center for Adaptive Neurotechnologies, Stratton VA Medical Center
	Affiliate Professor, Electrical & Computer Engg., University at Albany, State University of NY

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Punjab Engineering College, Punjab Univ., India	B.E.*	1998-02	Electrical Engineering
Royal Inst. of Technology, Stockholm, Sweden	M.Sc.**	2003-05	Information Technology
University of Southampton, Hampshire, UK	Ph.D. ***	2005-09	Biomedical Engineering
Donders Inst. for Brain, Cognition & Behavior, Radboud Univ.; Kempenhaeghe Epilepsy Centrum, Netherlands	Postdoc	2009-10	Neurophysiology
Albany Medical College, NY/ Wadsworth Center, NY State Dept. of Health	Postdoc/ Visiting Scientist	2010-13	Brain-Computer Interface Neuroscience
Burke Neurological Research Inst., NY/ Weill Cornell Medicine, Medical College, NY	Postdoc	2013-14	Neuroengineering
Burke Neurological Research Inst., NY/ Weill Cornell Medicine, Medical College, NY	Fellow[#]/ Instructor	2014-18	Neuroengineering, Neuromodulation

*B.E. Honors and Silver medalist; **M.Sc. Scholar; ***PhD Scholar;
[#]Instructor in Neuroscience, Horace W. Goldsmith Fellow

A.   Personal Statement. With 22 years of experience as a neuroscientist, electrical engineer, and software engineer, my passion lies in the research and development of neural engineering solutions for rehabilitation after injury, aimed at improving quality of life. I have had the privilege of engaging in neuroengineering studies with clinical experts and patients across diverse conditions, including epilepsy, stroke, traumatic brain injury, cerebral palsy, spinal cord injury and amputations. It has steered me to develop advanced signal-processing and machine-learning techniques, with a particular emphasis on detecting weak, atypical patterns within noisy, heterogeneous biosignal datasets. This is crucial, as traditional neurophysiological paradigms and analysis often fail when applied outside controlled laboratory settings in people with brain injuries, where atypical responses and artifacts due to introduce significant challenges.

I have worked extensively with both invasive and non-invasive brain and muscle recordings, designing applications that integrate a variety of hardware and software approaches, including neurostimulation and automated brain-computer interface paradigms. Beyond technical innovation, I am particularly interested in addressing the practical challenges of deploying these technologies in real-world clinical and rehabilitation settings. My applied research focuses on rehabilitating impaired somatosensory function in individuals with central nervous system injuries and disorders. This involves neuroengineering applications, that leverage neuroplasticity mechanisms to promote recovery and functional restoration.

The passion for somatosensory rehabilitation stems from the research experience on sensory-motor integration in children with cerebral palsy at Burke/Weill Cornell. While therapy and research in CP have traditionally focused on the motor system, I challenged this paradigm by investigating the role of sensory connectivity—both physiological and anatomical—in sensory-motor function, comparing it to motor connectivity. This study, made possible through extensive collaboration with Dr. Friel and Dr. Carmel (Weill Cornell/Burke) and Dr. Gordon (Columbia University), integrated advanced signal processing, machine learning, game design, and custom

electronics. We demonstrated the critical role of sensory pathways in motor impairments after brain injury, underscoring the need to incorporate sensory rehabilitation into therapy design.

Following experience at NCAN/VA, with Dr. Wolpaw's team, on operant conditioning for sensorimotor rehabilitation, has been invaluable for learning about sensorimotor neuroplasticity. The exceptional tools and resources at NCAN and Stratton Veteran's Affairs Medical Center, along with collaborative research opportunities, and clinical support, has facilitated continued immersion in aspects of rehabilitation R&D. This led me to develop novel paradigms for somatosensory evoked potential conditioning, aimed at enhancing both sensory and motor function. The intersection of sensory and pain pathways led me to explore the use of our methods for alleviating pain as well. I am enthusiastic to expand these studies into impactful applications, bridging the gap between research and practical implementation. I remain passionate for scientific growth and teaching, and humble towards learning and improving.

B. Positions and Honors.

Positions and Employment

2001   Research Internship: Terminal Ballistic Research Lab-Defense and Research Organization, India
2002-03   Asst. Systems Engineer, Tata Consultancy Services, India
2005-09   Doctoral scholar, Biomedical Group, ISVR, Univ. of Southampton, UK
2005-08   Graduate Teaching Assistant and Lab Instructor, Engineering Foundation Year,
         University of Southampton, UK (Electronics and Electrical Engg., Engineering Principles)
2010-13   Visiting Scientist, Wadsworth Labs, NY State Dept. of Health (NCAN)
2014-18   Research Instructor, Burke Neurological Research Institute, NY
2016-18   Instructor in Neuroscience, Brain Mind Research Institute, Weill Cornell Medicine, Medical College
2016-18   Visiting Scientist, Helen Hayes Rehabilitation Hospital, NY
2017-18   Graduate faculty (minor), Computational Science & Engineering, Cornell University, NY
2018-20   Research Scientist, Dept. of Neurology, Comprehensive Epilepsy Center, Langone Health, NYU
2020-23   Research Scientist, National Center for Adaptive Neurotechnologies, VA Medical Center
2020-   Affiliate Professor, Dept. of Electrical and Computer Engineering, University at Albany, SUNY
2023-   Senior Research Scientist, National Center for Adaptive Neurotechnologies, VA Medical Center
2023-   Head of Somatosensory Research Lab, National Center for Adaptive Neurotechnologies, VAMC
2026-   Research Affiliate, Sunnyview Rehabilitation Hospital, Schenectady, NY

Honors, Fellowships and Awards

1994   Silver Medalist (Mathematics, Science), Junior National Level Talent Search Contest, India
1996   Silver Medalist (Mathematics, Science), Senior National Level Talent Search Contest, India
1998   National Merit Certificate for national 1% topper, National Scholarship Scheme, India
2002   Silver medalist, BE Graduation project, 'Artificial intelligence based medical diagnosis'
2002   National Service Scheme, Excellence Award for community service, Punjab Engineering College
2004-05   Masters Research Scholarship, Fraunhofer Institute for Integrated Solutions, Germany
2005-09   PhD Scholarship and Tuition: Life Sciences Interface, UK and University of Southampton,
2006   William James Memorial Biomedical Engineering, best research paper award, Intl. MEDSIP, UK
2006   Graduate student travel grant: EPSRC Research Network on BSS ICA, UK
2007   Graduate Student Award, student paper competition, IEEE EMBS, UK
2007   Graduate student travel grant: EPSRC ICA Research Network, UK
2008   Travel grant: Fraunhofer Institute of Integrated Solutions, Germany
2013   Scholar travel grant: International Meeting, Brain Computer Interfacing, CA, USA
2018   Educational travel grant, Cerebral Palsy Alliance Research Foundation

Grants

2014-17   Horace W. Goldsmith Fellowship (PI)
2014-16   Weill Cornell- Clinical and Translational Science Center, Pilot Award, (PI)
2014-18   Eisenberg-Ahsen Foundation, grant (PI)
2022-23   American Academy for Cerebral Palsy and Developmental Medicine (Consultant)
2022-24   New York State Spinal Cord Injury Research Board (PI)

2023-25 US Dept. of Veterans Affairs, Rehabilitation RRD (SPiRE) (Co-I)
2023-28 New York State Spinal Cord Injury Research Board (Co-I)
2025-27 New York State Spinal Cord Injury Research Board (Co-PI)

Scientific Service

2006   Scientific Research Presentation at the Houses of Parliament, London, UK, SET for Britain
2008-   Invited reviewer (>200): Scientific Reports, J. Neural Eng. and Rehab., Brain Communications, J. of Neural Engineering, PNAS, Neuroimage, PLoS One, Neuro. Letters, IEEE Trans. Biomed. Engg., Human Brain mapping, Brain Computer Interfaces.
2011   Invited Faculty lecture, Intl. wkshop on advances in ECoG, SfN, Washington DC
2014   Guest Associate Editor: Frontiers in Neuroengineering
2016-   Review Editor, Ed. Board of Journal of Neuroprosthetics, Fr. in Neurology, & Neuroscience
2016-   Guest Associate Editor: Frontiers Neuroscience: Neural Technology
2017,18   Grant reviewer, National Ctr. of Neuromodulation for Rehab, South Carolina University
2018-   Academic consultant, Blythedale Children's Hospital, NY
2019-   Associate Editor, Healthcare Technology Letters, Inst. of Engineering and Technology (IET)
2020-   Review Editor for Brain-Computer Interfaces, Frontiers in Human Neuroscience
2023-   Guest Associate Editor, Frontiers of Human Neuroscience, Brain Computer Interface Section.
2020-23   Hosting monthly NCAN Seminar Series with distinguished faculty lectures.

Scientific Service: Teaching and Mentoring

2005-08 **Graduate Teaching Assistant:** Engineering Foundation Year, Univ. of Southampton, UK:
              Electronics and Electrical Engineering, FESM
              Engineering Principles, FESM
2005-08 **Lab instructor:** Engineering Foundation Year, Univ. of Southampton, UK:
              Electronics and Electrical Engineering, FESM
              Engineering Principles, FESM
2005-08 **Tutor (personal):** Mathematics, Mechanics, Engineering Principles, Electronics, Electrical Engg.
2006-08 **Staff-Student Liaison:** Engineering Foundation Year, Southampton Univ., UK.
2010   **Faculty lecture**: Dynamic imaging of generalized seizure activity, Intl. Clinical Symposium
2011-12 **Master's Supervisor:** ECoG Signal Analysis and MATLAB processing, Wadsworth Labs, NYS-Dept. of Health/ Albany Medical College, NY
2011   **Faculty lecture**: Auditory Processing and Anticipation with human ECoG, Intl. Workshop on Advances in Electrocorticography, SfN, Washington DC
2016-18 **Faculty** (minor), Computational Science and Engineering, Graduate School, Cornell University
2016-23 **Lecturer** for Neurotechnology summer course (2016, 2017, 2019, 2021, 2023), Invasive & Non-invasive Electrical Brain stimulation, NCAN, NY
2018   **Faculty lecture**, Federal Interagency Conf. on Traumatic Brain Injury USA
2018   **Invited faculty lecture**, Weill Cornell Research Day, NY
2014-16 **Supervisor:** Postdoctoral Fellow Dr. Barachant, BNI/ Weill Cornell Medical College, NY.
2015-16 **Supervisor:** Postdoctoral student, Dr. Quereshi, Burke Neurological Inst.
2016-18 **PhD Co-supervisor**: BCI based dynamic emotion self-regulation', Cornell University.
2020-22 **PhD Committee:** Dr. Parra, Mechanical Engg., Idaho University, USA:
              Using bio signals & kinematic data to assess motor performance in stroke survivors.
2020-21 **Masters Supervisor:** Neural Correlates of proprioception. Univ. of California, Irvine,
2020-21 **Postdoc Co-advisor:** Dr. Kumar, Burke Neurological Inst./Weill Cornell.
2021-22 **Supervisor:** Engineering Capstone: *Improved Vibrotactile Device for Stimuli Delivery*, SUNY.
2022-23 **Masters Co-supervisor:** Ms. Vall-llossera, EEG Analysis of finger proprioception in healthy people and those with stroke, Univ. of California.
2022-   **Advisor** (EEG research) for academic collaboration: Postdoc-PhD team, for RCT: *Robot Assisted Rehabilitation in people with Stroke*, Univ. of California, Irvine.
2023   **Intern Advisor:** N. Palamuttam, *Cellphone App dev. for somatosensory R&D*, Cornell Univ.
2023-   **Postdoc Supervisor:** Dr. Parra, NCAN, VA Medical Center, NY.

2023-24 **Lead Faculty:** NCAN Summer course workshops: a) Sensorimotor BCI, b) Robotics in BCI.
2023-24 **Supervisor, Capstone:** Engineering: *Contactless recording of vibration onset*, SUNY, Albany.
2024-25 **Mentor:** Dr. McCane, Analyzing and visualizing sensory event related potentials, NY.

Scientific Community Outreach

Organized and lectured at cross-disciplinary workshops involving industry, clinicians, care-givers, therapists, scientists, research students, game developers, programmers and federal (NIH) representatives.
2013 'Autism-outreach: A conversation for scientists and caregivers in autism', NY State Dept. of Heath
2013 'BCI for neurodevelopmental disorders', at the Intl. BCI meeting, CA, USA
2016 'Brain Computer Research and development for children', at Intl. BCI meeting, CA, USA
2016 'Novel Applications of Auditory Brain Computer Interfaces', Intl. BCI Meeting, CA, USA
2016 'Neurophysiology, Neuroimaging & BCI in Autism: Progress and Pitfalls', Intl. BCI Meeting, USA
2021 'The design of effective BCI's for Children', International BCI meeting, Brussels, Belgium
2018 Raised $1090 for Cerebral Palsy as a team leader in STEPtember Challenge, NY, USA

Scientific Membership

2001-02 Rotaract Student Chapter, vice-president, Punjab Engineering College
2000-02 National Service Scheme, coordinator, Punjab Engineering College Chapter
2008-09 International League Against Epilepsy, member UK Chapter
2006-15, 2021-22 Institute of Electrical and Electronics Engineers (IEEE) member
2006-15, 2021-22 Engineering Medicine and Biology Society (EMBS) member
2011-15 Sigma-Xi, The Scientific Research Society member
2011-17, 2021-25 Society of Neuroscience member
2012-14 American Epilepsy Society member
2013-17 New York Academy of Sciences Member
2015-16 International Society for Autism Research member
2016-17, 2022 Brain Computer Interfacing Society, Founding member
2021-22 American Society of Neurorehabilitation member

C. Selected peer-reviewed publications and preprints (under review)

Preprints

1. **Gupta D**, Brangaccio JA, Mojtabavi H, Hill NJ, A portable cortical evoked potential operant conditioning system (C-EPOCS): System development. (*under review*). *BioRxiv:* doi: https://doi.org/10.64898/2026.01.08.698448 (2026).
2. Farrens A, Garcia-Fernandez L, Rojas RD, Estrada JO, Reinsdorf D, Chan V, **Gupta D**, Perry J, Wolbrecht E, Do A, Cramer SC, Reinkensmeyer DJ., Tailored robotic training improves hand function and proprioceptive processing in stroke survivors with proprioceptive deficits: RCT, *ArXiv:2511.00259* (2025).

Peer reviewed manuscripts

1. **Gupta D**, Brangaccio JA, Hill NJ. Methodological optimization for eliciting robust median nerve somatosensory evoked potentials for realtime single trial applications. *J Neural Engineering.* (23) 016006, 1-18 (2026).
2. **Gupta D**, Brangaccio J, Mojtabavi H, Wolpaw J, Hill NJ. Frequency dependence of cortical somatosensory evoked response to peripheral nerve stimulation with controlled afferent excitation, *J. of Neural Engineering*, 22 (2), 026035 (2025).
3. **Gupta D**, Brangaccio J, Mojtabavi H, Wolpaw J, Hill NJ, Extraction of robust single-trial somatosensory evoked potentials for non-invasive brain computer interfaces, *J. of Neural Eng.* 22(5): 056004 (2025).
4. Rueda Parra S, Hardesty R, Gemoets D, Hill NJ, **Gupta D**. Reliability testing of EEG spectral features in a robot-based arm movement task, *Biomed. Phys. Engineering Express*, 11 045016 (2025).

5. Brangaccio J, **Gupta D**, Mojtabavi H, Hardesty R, Hill NJ, Carp J, Gemoets D, Vaughan T, Norton J, Perez M, Wolpaw J, Soleus H-reflex size versus stimulation rate in the presence of background muscle activity: A methodological study, *Experimental Brain Research*, 243(10): 215 (2025).
6. Alkhoury L, Scanavini G, Swissler P, Shah SA, **Gupta D**, Hill NJ. Syncgenie: A Programmable Event Synchronization Device for Neuroscience Research. *HardwareX*, 21- e00619, (2025).
7. Rueda Parra S, Perry JC, Wolbrecht ET, **Gupta D**, Neural correlates of bilateral proprioception and adaptation with training. *PLoS ONE* 19(3): e0299873, (2024).
8. Hill NJ, **Gupta D,** et al., The Evoked Potential Operant Conditioning System: A Research Tool and an Emerging Therapy for Chronic Neuromuscular Disorders. *Journal of Vis. Exp.* (186), e63736, (2022).
9. Hao Y, Yao L, Sun Q, **Gupta D**, Interaction of self-regulation and contextual effects on pre-attentive auditory processing: a combined EEG/ECG study, *Frontiers of Neuroscience*, 13:638, (2019).
10. Wen T, Sindhurakar A, Ramirez V, Park HG, **Gupta D**, Carmel J, Targeted infarction of the internal capsule in the rat using microstimulation guidance, *Stroke,* 50(9): 2531-38, (2019).
11. Giridharan SR, **Gupta D**, Pal A, Mishra A, Hill NJ, Carmel J, Motometrics: A toolbox for annotation and efficient analysis of motor evoked potentials, *Frontiers of Neuroinformatics*, (2019).
12. Wen TC, Lall S, Pagnotta C, Markward J, **Gupta D**, Ratnadurai-Giridharan S, Bucci J, Greenwald L, Klugman M, Hill NJ, Carmel J, Plasticity in One Hemi., Control from 2: Adaptation in descending motor pathways after Uni. corticospinal injury in neonatal rats*, Front. in Neural Circuits*, 12-28, (2018).
13. Marneweck M, Kuo H-C, Smorenburg ARP, Ferre C, Flamand VH, **Gupta D**, Carmel JB, Bleyenheuft Y, Gordon AM, Friel K. The relationship between hand function & overlapping motor representations of the hands in contralesional hemisphere in unilateral spastic CP, *Neurorehab. & Repair*, 32(1): 62-72, (2018).
14. **Gupta D***, Barachant A*, Gordon AM, Ferre C, Kuo H-S, Carmel JB#, Friel K#. Effect of sensory and motor connectivity on hand function in pediatric hemiplegia, *Annals of Neurology*, 82(5), 766-80, (2017).
15. Mishra A, Pal A, **Gupta D**, Carmel JB. Paired motor cortex and cervical epidural ES timed to converge in the spinal cord promotes lasting increases in motor responses. *J. of Physiology*, 595(22):6953-68, (2017).
16. Sindhurakar A, Mishra AM, **Gupta D**, et al., Clinically relevant levels of 4-Aminopyridine strengthen physiological responses in intact motor circuits in rats, especially after pyramidal tract injury. *Neurorehab. Neural Repair*. 31(4): 387-96, (2017).
17. Huggins J, Guger C, Ziat M, et al., Workshops of the Intl. BCI Meeting: brain–computer interfaces past, present, and future. *Brain Computer Interfaces*, 4(1-2): 3-36, (2017).
18. Friel KM, Lee P, **Gupta D**, Kuo HC, et al., Combined tDCS & UE robotic therapy improves UE function in an adult with CP: Pilot Study. Brain Stim.: *Basic Trans. & Clin. Res. in Neuromod*. ;10(1)e13. (2017).
19. **Gupta D**, Hill NJ, et al., Simultaneous Real-Time Monitoring of Multiple Cortical Systems. *Journal of Neural Engineering*, 31:11(5):056001, (2014).
20. **Gupta D**, Hill NJ, Adamo M, et al., A method to co-register interoperatively placed ECoG grids with the cortical anatomy, *NeuroImage: Clinical*, (6): 64-76, (2014).
21. Vuckovic A, Pineda J, Guger C, LaMarca K, **Gupta D**. Interaction of BCI with the underlying neurological conditions in patients: pros and cons. Frontiers in Neuroengineering, Research Topic (2014). (13 articles, 75 authors), doi: 10.3389 / fneng.2014.00042.
22. Miller V, **Gupta D**, Neu N, Cotroneo A, Boulay CB, Seegal RF, Novel inter-hemispheric white matter connectivity in the BTBR mouse model of autism, *Brain Research*, 1513: 26-33, (2013).
23. Huggins JE, Guger C, Allison B, Anderson CW, Batista A, Brouwer A-M, Brunner C, Chavarriaga R, Fried-Oken M, Gündüz A, **Gupta D**, et al., Wkshps of the Intl. BCI Meeting: Defining the Future. *Brain Computer Interfaces*, 1(1): 27-49, (2014).
24. Hill NJ, **Gupta D**, Brunner P, Gunduz A, Adamo MA, Ritaccio A, Schalk G, Using human ECoG signals for neuroscientific research & real-time neural-engineering applications, *J. of Vis. Experiments*, (2012).
25. Ritaccio A, Beauchamp M, Bosman C, Brunner P, Chang E, Crone N, Gunduz A, **Gupta D**, Knight R, et al., Proc. of the Intl. Wrkshp on advances in ECoG, *Epilepsy & Behavior*. 25 (4), 605-13, (2012).
26. **Gupta D**, Ossenblok P, van Luijtelaar G. Space-time network connectivity and cortical activations preceding MEG SWD in human absence epilepsy, *Med. & Bio. Engg. & Comp.*, 49(5): 555-65, (2011).

IEEE and IET Conference Papers (peer reviewed)

1. Rueda Parra S, Perry JC, Wolbrecht ET, Reinkensmeyer DJ, **Gupta D**, Multidimensional feature analysis shows stratification in robotic-motor-training gains based on the level of pre-training motor impairment in stroke. *Int Conf IEEE Eng Med Biol Soc.*, USA. 1-5, PMID: 40039510 (2024).
2. James CJ, **Gupta D**, Seizure prediction for epilepsy using a multi-stage phase synchrony-based system, IEEE Eng. in Medicine and Biology Society, USA: 25-8 (2009).
3. James CJ, Abasolo D, **Gupta D**, Space-Time ICA vs. Ensemble ICA for Ictal EEG Analysis with Component Differentiation Via Lempel-Ziv Complexity, IEEE Ann. Intl. Conf. of Engineering in Med. & Biol. Soc., France, (2007).
4. **Gupta D**, James CJ, Narrowband vs. Broadband Phase Synchronization Analysis Applied to Independent Components of Ictal and Interictal EEG, IEEE, Engg. in Med & Biology Soc, France, (Travel Award, nominated for best conference paper) (2007).
5. **Gupta D**, James CJ and Gray W. De-noising Epileptic EEG using ICA and Phase synchrony, Intl. Conf. on Adv. in Medical Signal and Information Processing, UK (Best IET conference paper award) (2006).

Conference Abstracts and posters

1. **Gupta D**, Garcia-Fernandez L, Johnson C, Rojas RD, Chan V, Reinkensmeyer D, Farrens A. Data-Driven Subgrouping in Stroke Based on Multidimensional Clinical Motor Assessments, Society of Neuroscience Annual Meeting, 2025-LBA-15577-SfN, San Diego, USA (2025).
2. Hill NJ, Brangaccio J, **Gupta D**. Eliciting single trial median nerve somatosensory evoked potentials for non-invasive brain computer interfaces, Society of Neuroscience Annual Meeting, 2025-LBA-15690-SfN, San Diego, USA (2025).
3. Hayes H, Torricella M, Reinkensmeyer D, **Gupta D**, Farrens AJ, Electroencephalogram beta-frequency band is associated with proprioceptive processing and recalibration of passive finger movements
4. **Gupta D**, Hill NJ, Development of a portable cortical evoked potential operant conditioning system, Soc. of Neuroscience Annual Meeting (2025).
5. Farrens AJ, Garcia-Fernandez L, Rojas RD, Estrada JO, Chan V, Perry J, Wolbrecht E, Reinkensmeyer D, **Gupta D**, Electroencephalogram correlates of proprioceptive processing and plasticity following training in chronic stroke survivors, Soc. of Neuroscience Annual Meeting (2025).
6. Alkhoury L, Scanavini G, Swissler P, Shah SA, **Gupta D** & Hill NJ, SyncGenie: Open-Source Hardware for Stimulus Synchronization and More, Soc. of Neuroscience Annual Meeting (2025).
7. Mojtabavi H, Wolpaw JR, **Gupta D**, Hardesty R, Locomotor Skill Acquisition Through Repeated Adaptations to Bi-directional Walking on a Split-belt Treadmill, Soc. of Neuroscience (2025).
8. Rueda Parra S, Hardesty R, Gemoets D, Hill NJ, **Gupta D**. Reliability testing of EEG spectral features in a robot-based arm movement task, Soc. of Neuroscience Annual Meeting (2024).
9. Rueda Parra S, Farrens A, Reinkensmeyer, **Gupta D**. Contralateral Parietal Low-Beta Power informs of Proprioceptive Uncertainty in Chronic Stroke, Soc. of Neuroscience Annual Meeting (2024).
10. **Gupta D**, Brangaccio J, Mojtabavi H, Wolpaw J, Hill NJ, Single-trial decoding of somatosensory evoked potentials: Effect of stimulation frequency, Soc. of Neuroscience Annual Meeting (2024).
11. **Gupta D**, Johnson C, Fernandez LG, Chan V, Rojas RD, Reinkensmeyer D, Farrens A. Relationship between cortical mechanoreceptive processing & finger proprioception in stroke rehabilitation, SfN Annual Mtg (2024).
12. Mojtabavi H, Hardesty R, **Gupta D**, Wolpaw J, Long-term motor learning acquired through repeated locomotor adaptations to bi-directional walking on a split-belt, Soc. of Neuroscience Meeting (2024).
13. Brangaccio J, **Gupta D**, Hill NJ, Mojtabavi H, Hardesty R, Carp J, Vaughan T, Norton JJS, Wolpaw JR, Soleus H-reflex size versus stimulation rate in the presence of background muscle activity: A methodological study, Soc. of Neuroscience Annual Meeting (2024).
14. Farrens A, Vall-llossera TM, Garcia FL, Johnson C, Wolbrecht ET, Reinkensmeyer DJ, **Gupta D**. Behavioral and EEG Features of Finger Proprioception and Passive Movement: Effect of Error Feedback on Proprioception, Soc. of Neuroscience Annual Meeting (2023).
15. Vall-llossera TM, Farrens A, Reinkensmeyer D, **Gupta D**. Electroencephalogram analysis of finger proprioception in healthy subjects, 11th Intl. Brain Research Organization, Spain (2023)

16. Rueda, S, Perry, J, Wolbrecht E, **Gupta D**. Neural Correlates of Bilateral and Unilateral Proprioception in People with Musical Instrument Training, Soc. of Neuroscience Meeting (2022).
17. **Gupta D**, Carp JS, Barnes J, Norton JS, Hill NJ (2021). Separating overlapping M-wave and H-reflex components of the spinal evoked potentials. Society for Neuroscience (2021).
18. Chaisson CM, Reinkensmeyer DJ, Fake TM, Vaughan TM, **Gupta D**, Determining neural correlates of proprioception in order to improve robotic-assisted movement training, SfN (2021).
19. Rueda S, Perry JC, Wolbrecht ET, **Gupta D**, Visualization of multivariate behavioral data in stroke subjects during robotic rehabilitation therapy for fingers, Society of Neuroscience (2021).
20. Rueda S, Perry JC, Wolbrecht ET, Reinkensmeyer D, **Gupta D**, Pre-training neural correlates for predicting gains from robot-assisted finger training after stroke, ASNR (2022).
21. **Gupta D**, Barachant A, Carmel JB, Friel KM, A new method for extracting neural correlates of movement in people with movement disorders: A study of ipsilateral control for bimanual function in pediatric hemiplegia, ASNR (2021).
22. **Gupta D**, Barachant A, Gordon AM, Kuo H-C, Carmel JB, Friel KM, Sensory connectivity predict hand function in children with unilateral cerebral palsy, Research Day, NY Presbyterian Hospital/ Weill Cornell Medical College, NY, USA (2018).
23. Hao Y, Yao L, **Gupta D**, Sorel E, Gelsinger M, Matteson DS, Evans GW, Dynamic emotion transition detection for affective BCI, BCI International Meeting, CA, USA (2018).
24. Ratnadurai-Giridharan S, **Gupta D**, Hill, NJ, Pal, A, Mishra A, Carmel JB. Motometrics: A toolbox for analyzing motor evoked potentials and recruitment curves. Society of Neuroscience, USA (2017).
25. **Gupta D**, Barachant A, Gordon AM, Kuo H-C, Carmel JB, Friel KM, Sensory connectivity and lesion type predict hand function in children with unilateral cerebral palsy, Soc. of Neurosc. (2016).
26. Barachant A, Carmel JB, Friel KM, Gordon AM, **Gupta D**, Extraction of motor spatial patterns in children with movement disorders via joint decomposition of brain & muscle activity, Society of Neuroscience, USA (2016).
27. **Gupta D**, Hill NJ, Seliger G, Fiorenza G, Zeitlin D, Zoltan B, Tenteromano L, Wolpaw JR, Vaughan TM, An Automated Method for Determining Awareness and Predicting Recovery after Brain Injury, Using Event-Related Potentials International Brain Computer Interfacing Meeting, USA (2016).
28. Barachant A, Carmel JB, Friel KM, **Gupta D**, Extraction of motor patterns from joint EEG/EMG recording: A Riemannian Geometry approach, Intl. Brain Computer Interfacing Meeting, (2016).
29. Mishra A, **Gupta D**, Pal A, Carmel JB, Paired brain and spinal cord stimulation to strengthen corticospinal responses, American Society of Neurorehabilitation, Annual Meeting, USA (2015).
30. Friel KM, Lee P, **Gupta D**, Smorenburg ARP, Kuo H-C, Edwards DJ, Combined transcranial direct current stimulation and upper extremity robotic therapy improves upper extremity function in an adult with cerebral palsy: a pilot study. Neuromodulation Conference, USA (2015).
31. Mishra A, Pal A, **Gupta D**, Carmel JB, Paired brain and spinal cord stimulation to strengthen corticospinal responses, North American Neuromodulation Society Meeting, USA (2015).
32. **Gupta D**, Carmel JB, Comparing anatomy and physiology of the corticospinal tract across subjects: Microstimulation motor mapping and retrograde tracing of motor cortex neurons co-registered in 3-dimensional space, Society of Neuroscience, USA (2014).
33. Mishra AM, **Gupta D**, Carmel JB, Paired motor cortex and cervical spinal cord stimulation augments corticospinal motor responses and promotes learning in the spinal cord of rats. SfN, USA (2014).
34. Friel KM, Lee P, **Gupta D**, Smorenburg ARP, Kuo H-C, Edwards DJ, Transcranial direct current stimulation and upper extremity robotic therapy improves upper extremity function in an adult with cerebral palsy: a pilot study. Society of Neuroscience, Washington DC, USA (2014).
35. Wen T, **Gupta D**, Carmel JB, Separate representations of the unimpaired and the impaired forelimbs in primary motor cortex following neonatal pyramidotomy in rats. Society of Neurosc., USA (2014).
36. **Gupta D**, Seliger G, Fioenza G, Zeitlin D, Zoltan B, Tenteromano L, Vaughan TM, Wolpaw J, Using a Brain-Computer Interface to Assess Awareness after Brain Injury. Intl. BCI Meeting, USA (2013).
37. **Gupta D**, Adamo MA, Ritaccio A, Schalk G, A Method to Co-register Interoperatively Placed ECoG Grids with the Cortical Anatomy. American Epilepsy Society, Annual Meeting, USA (2013).

38. **Gupta D**, Seliger G, Fioenza G, Zeitlin D, Zoltan B, Tenteromano L, Vaughan TM, Assessing awareness after traumatic brain injury (TBI) using spatially-constrained independent component analysis (ScICA). Society of Neuroscience, USA (2013).
39. AL Ritaccio, P Brunner, A Gunduz, M Adamo, **Gupta D**, G Schalk, Three-dimensional real-time electrophysiological functional mapping of eloquent cortex. American Epilepsy Society, USA (2012).
40. **Gupta D**, Hill J, Ritaccio A, Schalk G, Electrocorticographic (ECoG) Signals in Humans Are Predictive of Features of Anticipated Complex Acoustic Stimuli. Society of Neurosc., USA (2011).
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