Short Curriculum Vitae
Paolo Bonato, PhD

My research work is focused on developing and testing rehabilitation technologies. I started working in this field about 25 years ago. Over this period of time, I have been fortunate to have the opportunity to lead (as PI or Co-PI) more than 100 funded projects with focus on the development and application of technologies for a variety of clinical applications in the field of rehabilitation. Among others, my research team has developed and tested systems to facilitate motor retraining (primarily using rehabilitation robotics) and monitoring their outcomes (mainly using wearable technology) in patient populations such as stroke survivors, traumatic brain injury survivors, and children with cerebral palsy. The research work carried out by my team has been supported by federal and non-federal agencies and institutions such as the National Institutes of Health, the National Science Foundation, the Department of Defense, the Michael J Fox Foundation, and the Peabody Foundation.

Positions and Employment (selected)

1996 - 1997	Visiting Research Assistant Professor, NeuroMuscular Research Center, Boston University, Boston (Massachusetts)
1997 - 2002	Research Assistant Professor, NeuroMuscular Research Center, Boston University, Boston (Massachusetts)
2002 - present	Director, Motion Analysis Laboratory, Spaulding Rehabilitation Hospital, Boston (Massachusetts)
2003 - 2014	Assistant Professor, Department of Physical Medicine and Rehabilitation, Harvard Medical School, Boston (Massachusetts)
2004 - 2014	Member of the Affiliated Faculty, The Harvard-MIT Division of Health Sciences and Technology, Cambridge (Massachusetts)
2012 - present	Adjunct Professor of Biomedical Engineering, MGH Institute of Health Professions, Harvard Medical School, Boston (Massachusetts)
2012 - present	Associate Faculty Member, Wyss Institute for Biologically Inspired Engineering, Harvard University, Boston (Massachusetts)
2014 - present	Associate Professor, Department of Physical Medicine and Rehabilitation, Harvard Medical School, Boston (Massachusetts)
2019 - present	Adjunct Professor, Sargent College, Boston University, Boston (Massachusetts)

Other Experience and Professional Memberships (selected)

2001-present	Reviewer, National Science Foundation
2002-2014	Founding Editor-in-Chief, Journal of NeuroEngineering and Rehabilitation
2004-2009	Associate Editor, IEEE TNSRE
2004-2012	Associate Editor, IEEE TITB
2005-present	Reviewer, National Institutes of Health (various Institutes and roles on panels)
2005-2012	Reviewer, Department of Veterans Administration (various roles on panels)
2008-2010	President, International Society of Electrophysiology and Kinesiology
2013-2016	Elected Vice-President for Publications, IEEE EMBS
2013-2014	Associate Editor, IEEE JBHI
2013-present	Associate Editor, IEEE JTHEM
2014-present	Advisory Board Member, IEEE JBHI
2015	Conference Co-Chair, 37th IEEE EMBC
2015	Program Co-Chair, Wireless Health 2015
2017	Conference General Chair, 2nd IEEE International Conference on Connected Health: Applications, Systems and Engineering Technologies
2019	Founding Editor-in-Chief, IEEE Open Journal of Engineering in Medicine and Biology
2021	Program Chair, 10th International IEEE EMBS Conference on Neural Engineering
2021	Conference Chair, BSN2021 - Body Sensor Networks Conference

Publications (selected from the past 5 years)

1. Vergara-Diaz G, Daneault JF, Parisi F, Admati C, Bertoli M, Bonizzoni E, Ferreira-Carvalho G, Costante G, Fabara E, Fixler N, Golabchi FN, Growdon J, Sapienza S, Snyder P, Shpigelman S, Sudarsky L, Daeschler M, Bataille, Sieberts S, Omberg L, Moore S, ***Bonato*** P, Limb and Trunk Accelerometer Data Collected with Wearable Sensors from Subjects with Parkinson's Disease. Nature Scientific Data, 2021; 8(1): 47

2. McGibbon C, Sexton A, Gryfe P, Dutta T, Jayaraman A, Deems-Dluhy S, Novak A, Fabara E, Adans-Dester C, ***Bonato*** P, Effect of Using of a Lower-Extremity Exoskeleton on Disability of People with Multiple Sclerosis, Disability and Rehabilitation: Assistive Technology, 2021; 1-8
3. Milanezi de Andrade R, ***Bonato*** P, The Role Played by Mass, Friction and Inertia on the Driving Torques of Lower-Limb Gait Training Exoskeletons, IEEE Transactions on Medical Robotics and Bionics. 2021; 3(1): 125-136
4. Lee SI, Adans-Dester CP, O'Brien AT, Vergara-Diaz GP, Black-Schaffer R, Zafonte R, Dy JG, ***Bonato*** P, Predicting and Monitoring Rehabilitation Outcomes Using Clinical and Wearable Sensor Data. IEEE Transactions on Biomedical Engineering, 2020; 68(6): 1871-1881
5. Adans-Dester C, Hankov N, Black-Schaffer R, Zafonte R, Dy J, Lee SI, ***Bonato*** P, Enabling Precision Rehabilitation Interventions: Tracking Motor Recovery Using Machine Learning to Analyze Wearable Sensor Data. Nature Digital Medicine, 2020; 3(1):1-10
6. Van Vleet T, DeGutis J, ***Bonato*** P, Fabara E, Dabit S, Kim SJ, Chiu C, Corbetta M, Merzenich M, Alertness Training Improves Spatial Bias and Functional Ability in Spatial Neglect. Annals of Neurology, 2020; 88(4): 747-758
7. Maurizio Capra, Stefano Sapienza, Paolo Motto Ros, Alessio Serrani, Maurizio Martina, Alessandro Puiatti, ***Bonato*** P, Danilo Demarchi, Assessing the Feasibility of Augmenting Fall Detection Systems by Relying on UWB-based Position Tracking and a Home Robot. Sensors, 2020, 20(18), 5361
8. Rao HM, Talkar T, Ciccarelli G, Nolan M, O'Brien A, Vergara-Diaz G, Sherrill D, Zafonte R, Palmer J, Quatieri T, McKindles R, ***Bonato*** P, Lammert A, Sensorimotor Conflict Tests in an Immersive Virtual Environment Reveal Subclinical Impairments in Mild Traumatic Brain Injury. Scientific Reports, 2020, 10(1): 14773
9. Adans-Dester C, Fasoli S, Meinard N, Fabara E, Severini G, ***Bonato*** P, Can Kinematic Parameters of 3D Reach-to-Target Movements Be Used as a Proxy for Clinical Outcome Measures in Chronic Stroke Rehabilitation? J Neuroeng Rehabil, 2020; 17(1): 106
10. Severini G, Koenig A, Adans-Dester C, Cajigas I, Cheung V, ***Bonato*** P, Robot-Driven Locomotor Perturbations Reveal Synergy-Mediated, Context-Dependent Feedforward and Feedback Mechanisms of Adaptation. Scientific Reports, 2020; 10(10): 5104
11. Erb MK, Karlin DR, Ho BK, Thomas KC, Parisi F, Vergara-Diaz GP, Daneault JF, Wacnik P, Zhang H, Kangarloo T, Demanuele C, Brooks C, Dethridge C, Kabiri NS, Banghu J, ***Bonato*** P, mHealth and Wearable Technology Should Replace Motor Diaries to Track Motor Fluctuations in Parkinson's Disease. Nature Digital Medicine, 2020; 3(1): 1-10
12. Lee SI, Liu X, Rajan S, Ramasarma N, Kyoung E, ***Bonato*** P, A Novel Upper-Limb Function Measure Derived from Finger-Worn Sensor Data Collected in a Free-Living Setting. PLOS One, 2019 Mar 20; 14(3): e0212484
13. Liu X, Rajan S, Ramasarma N, ***Bonato*** P, Lee SI, The Use of a Finger-Worn Accelerometer for Monitoring of Hand Use in Ambulatory Settings. IEEE Journal of Biomedical and Health Informatics, 23(2): 599-606, 2019
14. Lee SI, Adans-Dester CP, Grimaldi M, Dowling AV, Horak PC, Black-Schaffer RM, ***Bonato*** P, Gwin J, Enabling Stroke Rehabilitation in Home and Community Settings: A Wearable Sensor-Based Approach for Upper-Limb Motor Training. IEEE Journal of Translational Engineering in Health and Medicine, 2018 May 2;6
15. van Hedel HJA, Severini G, Scarton A, O'Brien A, Reed T, Gaebler-Spira D, Egan T, Meyer-Heim A, Graser J, Chua K, Zutter D, Schweinfurther R, Möller JC, Paredes LL, Esquenazi A, Berweck S, Schröder S, Warken B, Chan A, Devers A, Petioky J, Paik NJ, Kim WS, ***Bonato*** P, Bonninger M, Advanced Robotic Therapy Integrated Centers (ARTIC): An International Collaboration Facilitating the Application of Rehabilitation Technologies. J Neuroeng Rehabil, 2018;15(1):30
16. Cajigas I, Koenig A, Severini G, Smith M, ***Bonato*** P, Robot-Induced Perturbations of Human Walking Reveal a Selective Process of Generation of Motor Adaptation. Science Robotics, 2017: 2(6): eaamm7749
17. Ebenbichler GR, Unterlerchner L, Habenicht R, ***Bonato*** P, Kollmitzer J, Mair P, Riegler S, Kienbacher T, Estimating Neural Control from Concentric vs Eccentric Surface Electromyographic Representations during Fatiguing, Cyclic Submaximal Back Extension Exercises. Frontiers in Physiology, 2017: 8
18. Espay AJ, ***Bonato*** P, Nahab F, Maetzler W, Dean JM, Klucken J, Eskofier BM, Merola A, Horak F, Lang AE, Reilmann R, Giuffrida J, Nieuwboer A, Horne M, Little MA, Litvan I, Simuni T, Dorsey ER, Burack MA, Kubota K, Kamondi A, Godinho C, Daneault JF, Mitsi G, Krinke L, Hausdorff JM, Bloem BR, Papapetropoulos S, on behalf of the MDS Taskforce on Technology, Technology in Parkinson Disease: Challenges and Opportunities. Movement Disorders, 2016: 31(9): 1272-1282

A full list of my publications can be found at https://tinyurl.com/ydgue5gy (Google Scholar).