

**To:** Mark Weber  
Chair, The Spastic Paraplegia Foundation, Inc. (SPF)  
4 Sherwood Hill Road, Sherman, CT 06784  
860.210-8101  
www.sp-foundation.org  
markw@sp-foundation.org

**Re:** Final Grant Report

**From:** Peter Bede MD PhD  
Trinity College Dublin  
bedep@tcd.ie

Dublin, January 24<sup>th</sup> 2022

Dear Mr Weber,

Dear Board of Directors,

Further to my previous interim report, I am thrilled to provide the final list of peer-reviewed publications arising from our PLS research generously supported by The Spastic Paraplegia Foundation (SPF).

In line with our original research proposal, we have made good progress with our neuroimaging analyses. We confirm that we have not deviated from our original research proposal, and despite the COVID pandemic, we have not incurred significant delays in carrying out our research. In support of my report, I am enclosing the PDF copies of our manuscripts already published in high-impact, PubMed indexed, peer-reviewed scientific journals. Please find below a formal list of publications with the relevant DOIs and PMID IDs as they appear on PubMed. In line with the award agreement, we have acknowledged The Spastic Paraplegia Foundation (SPF) on all of these published manuscripts.

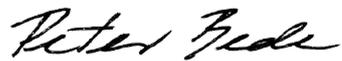
1. Finegan E, Shing SLH, Chipika RH, Chang KM, McKenna MC, Doherty MA, Hengeveld JC, Vajda A, Pender N, Donaghy C, Hutchinson S, McLaughlin RL, Hardiman O, **Bede P**. Extra-motor cerebral changes and manifestations in primary lateral sclerosis. *Brain Imaging Behav.* 2021 Jan 7. doi: 10.1007/s11682-020-00421-4. PMID: 33409820
2. Finegan E, Li Hi Shing S, Siah WF, Chipika RH, Chang KM, McKenna MC, Doherty MA, Hengeveld JC, Vajda A, Donaghy C, Hutchinson S, McLaughlin RL, Hardiman O, **Bede P**. Evolving diagnostic criteria in primary lateral sclerosis: The clinical and radiological basis of "probable PLS". *J Neurol Sci.* 2020 Oct 15;417:117052. doi: 10.1016/j.jns.2020.117052. Epub 2020 Jul 24. PMID: 32731060
3. Finegan E, Siah WF, Shing SLH, Chipika RH, Chang KM, McKenna MC, Doherty MA, Hengeveld JC, Vajda A, Donaghy C, Hutchinson S, McLaughlin RL, Hardiman O, **Bede P**. Imaging and clinical data indicate considerable disease burden in 'probable' PLS: Patients with UMN symptoms for 2-4 years. *Data Brief.* 2020 Sep 1;32:106247. doi: 10.1016/j.dib.2020.106247. eCollection 2020 Oct. PMID: 32944602
4. Chipika RH, Christidi F, Finegan E, Li Hi Shing S, McKenna MC, Chang KM, Karavasilis E, Doherty MA, Hengeveld JC, Vajda A, Pender N, Hutchinson S, Donaghy C, McLaughlin RL, Hardiman O, **Bede P**. Amygdala pathology in amyotrophic lateral sclerosis and primary lateral sclerosis. *J Neurol Sci.* 2020 Oct 15;417:117039. doi: 10.1016/j.jns.2020.117039. Epub 2020 Jul 18. PMID: 32713609
5. Chipika RH, Siah WF, Shing SLH, Finegan E, McKenna MC, Christidi F, Chang KM, Karavasilis E, Vajda A, Hengeveld JC, Doherty MA, Donaghy C, Hutchinson S, McLaughlin RL, Hardiman O, **Bede P**. MRI data confirm the selective involvement of thalamic and amygdalar nuclei in amyotrophic lateral sclerosis and primary lateral sclerosis. *Data Brief.* 2020 Sep 1;32:106246. doi: 10.1016/j.dib.2020.106246. eCollection 2020 Oct. PMID: 32944601
6. Pioro EP, Turner MR, **Bede P**. Neuroimaging in primary lateral sclerosis. *Amyotroph Lateral Scler Frontotemporal Degener.* 2020 Nov;21(sup1):18-27. doi: 10.1080/21678421.2020.1837176. PMID: 33602015
7. Tahedl M, Li Hi Shing S, Finegan E, Chipika RH, Lope J, Hardiman O, **Bede P**. Propagation patterns in motor neuron diseases: Individual and phenotype-associated disease-burden trajectories across the UMN-LMN spectrum of MNDs. *Neurobiol Aging.* 2022 Jan;109:78-87. doi: 10.1016/j.neurobiolaging.2021.04.031. Epub 2021 Oct 8. PMID: 34656922
8. Tahedl M, Li Hi Shing S, Finegan E, Chipika RH, Lope J, Murad A, Hardiman O, **Bede P**. Imaging data reveal divergent longitudinal trajectories in PLS, ALS and poliomyelitis

- survivors: Group-level and single-subject traits. *Data Brief.* 2021 Oct 14;39:107484. doi: 10.1016/j.dib.2021.107484. eCollection 2021 Dec. PMID: 34901337
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  13. Li Hi Shing S, **Bede P**. The neuroradiology of upper motor neuron degeneration: PLS, HSP, ALS. *Amyotroph Lateral Scler Frontotemporal Degener.* 2022 Feb;23(1-2):1-3. doi: 10.1080/21678421.2021.1951293. Epub 2021 Dec 13. PMID: 34894929
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  16. Chipika RH, Mulkerrin G, Pradat PF, Murad A, Ango F, Raoul C, **Bede P**. Cerebellar pathology in motor neuron disease: neuroplasticity and neurodegeneration. *Neural Regen Res.* 2022 Nov;17(11):2335-2341. doi: 10.4103/1673-5374.336139. PMID: 35535867
  17. Mulkerrin G, França MC Jr, Lope J, Tan EL, **Bede P**. Neuroimaging in hereditary spastic paraplegias: from qualitative cues to precision biomarkers. *Expert Rev Mol Diagn.* 2022 Jul;22(7):745-760. doi: 10.1080/14737159.2022.2118048. Epub 2022 Sep 5. PMID: 36042576

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I would like to thank The Spastic Paraplegia Foundation, Inc. (SPF) once again for their generous support of our Primary Lateral Sclerosis studies.

Kindest regards,



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Peter Bede MD PhD  
Professor in Neurology  
Consultant Neurologist  
Trinity College Dublin  
Email: bedep@tcd.ie