

# Curriculum Vitae and Bibliography

## Hugo Botha, M.B.Ch.B

### Personal Information

Place of Birth: Pretoria, South Africa  
Citizenship: South Africa  
Work Address: Department of Neurology  
Mayo Clinic  
ROCHESTER, MN 55905  
Email Address: botha.hugo@mayo.edu

### Present Academic Rank and Position

**Assistant Professor of Neurology** - Mayo Clinic College of Medicine and Science 05/2018 - Present  
**Senior Associate Consultant** - Division of Behavioral Neurology, Department of Neurology, Mayo Clinic 07/2019 - Present

### Education

University of Stellenbosch - Medical School 01/2006 - 12/2011  
Internal Medicine Internship, Mayo School of Graduate Medical Education, Mayo Clinic College of Medicine - Internship 06/2012 - 06/2013  
Adult Neurology Residency, Mayo School of Graduate Medical Education, Mayo Clinic College of Medicine - Residency 07/2013 - 06/2016  
Division of Behavioral Neurology, Department of Neurology - Fellowship 07/2016 - 06/2017  
Clinician-Investigator Training Program, Mayo School of Graduate Medical Education, Mayo Clinic College of Medicine - Fellowship 07/2017 - 06/2019

### Certification

#### Board Certifications

**American Board of Psychiatry and Neurology (ABPN)**  
Neurology 2016 - Present  
**Educational Commission for Foreign Medical Graduates (ECFMG)**  
ECFMG Certificate 2012 - Present  
**Mayo Clinic Quality Academy**  
Mayo Clinic Quality Fellow: Bronze Level Certification 2016

### Licensure

Minnesota 57980 (Medical) 2014 - Present

## Honors and Awards

<b>Graduated with Honors</b> - University of Stellenbosch	2011
<b>Rector's Award for Excellent Achievement: Academics</b> - University of Stellenbosch Awarded for outstanding achievement in either academics, sport or culture	2011
<b>Faculty of Health Sciences Medal for Best Undergraduate Student</b> - University of Stellenbosch Awarded to the best undergraduate student from the graduating classes in health and allied health sciences	2012
<b>ANA 2015 Travel Award</b> - American Neurological Association	2015
<b>Mayo Brothers Distinguished Fellowship Award</b> - Mayo Graduate School of Medical Education Based on the qualities associated with the founders, including outstanding clinical performance, humanitarianism, and scholarly activity	2016
<b>Department of Neurology Research Award</b> - Department of Neurology, Mayo Clinic Recognition of outstanding basic or clinical research during residency or fellowship	2016
<b>Young Investigator Travel Scholarship</b> - Human Amyloid Imaging	2018

## Previous Professional Positions and Major Appointments

<b>Instructor in Neurology</b> - Mayo Clinic College of Medicine and Science	03/2014 - 04/2018
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## Professional Memberships and Societies

### Professional Memberships and Services

Alzheimer's Association	
Alzheimer's Association International Conference	
Abstract Reviewer	2018 - 2019
International Society to Advance Alzheimer's Research and Treatment	
Member	2017 - Present
American Academy of Neurology	
Member	2013 - Present
Annual Meeting	
Monitor	2015
American Medical Association	
Member	2012 - Present
Organization for Human Brain Mapping	
Member	2017 - Present

## Journal Responsibilities

**Journal Other Responsibilities**

Alzheimer's Research & Therapy Ad Hoc Reviewer	2017 - Present
Brain Ad Hoc Reviewer	2019 - Present
JAMA Psychiatry Ad Hoc Reviewer	2019 - Present
Journal of Alzheimer's Disease Ad Hoc Reviewer	2016 - Present
Journal of the Neurological Sciences Ad Hoc Reviewer	2016 - Present
Mayo Clinic Proceedings Ad Hoc Reviewer	2019 - Present
Medical Education Ad Hoc Reviewer	2013 - Present
Medical Image Analysis Ad Hoc Reviewer	2019 - Present
Nature: Scientific Reports Ad Hoc Reviewer	2017 - Present
Neurobiology of Aging Ad Hoc Reviewer	2019 - Present
NeuroImage: Clinical Ad Hoc Reviewer	2016 - Present
Neuropsychologia Ad Hoc Reviewer	2016 - Present
Parkinsonism and Related disorders Ad Hoc Reviewer	2013 - Present

**Education Interests and Accomplishments****Curriculum and Course Development**

Introduction to Research Workshop Co-Organizer University of Stellenbosch, South Africa	2012
Behavioral Neurology Conference Coordinated bi-monthly case conferences Mayo Clinic Rochester, Minnesota	2016 - 2017

**Teaching**

Science Based Medicine Introduction to the research toolkit (Seminar series) University of Stellenbosch, South Africa	2012
Quantitative Research Introduction to the research toolkit (Seminar series) University of Stellenbosch, South Africa	2012

60-year-old man admitted with a painful skin rash Friday Medicine Conference Mayo Clinic Rochester, Minnesota	2012
Stroke in adults with Fontan circulations Child and Adolescent Neurology Conference Mayo Clinic Rochester, Minnesota	2014
DVT prophylaxis in the EMU Neurology Morbidity and Mortality Conference Mayo Clinic Rochester, Minnesota	2015
Left Speechless: Dealing with the word salad of progressive aphasia and apraxia of speech Neurology Friday Subspecialty Conference Mayo Clinic Rochester, Minnesota	2015
Neurology Clinicopathologic Conference - A young man with progressive language difficulty Neurology Grand Rounds Mayo Clinic Rochester, Minnesota	2015
Two second opinions for progressive cerebellar ataxia Case of The Week Mayo Clinic Rochester, Minnesota	2016
Behavioral Neurology RITE Review Mayo Clinic Rochester, Minnesota	2016
PCA: Making a Diagnosis Lay Public Presentation Posterior Cortical Atrophy Education Seminar Rochester, Minnesota	2016
Bedside Cognitive Testing Neurology Summer Lecture Series Mayo Clinic Rochester, Minnesota	2016 - 2019
An update on PPA and PAOS work at Mayo Clinic ADRC Staff Meeting Mayo Clinic Alzheimer's Disease Research Center, Minnesota	2016
The left hand of neurology: sinistrality, hemispheric specialization and neurodegenerative disease Neurology Friday Subspecialty Conference Mayo Clinic Rochester, Minnesota	2017
CBD and PSP: Journey to the Diagnosis Lay Public Presentation CBD and PSP Education Seminar Rochester, Minnesota	2017
FTD/PPA: Pathology and Pathophysiology Lay Public Presentation Frontotemporal Dementia and Primary Progressive Aphasia Education Seminar Rochester, Minnesota	2017
FTD/PPA: Making a Diagnosis Lay Public Presentation Frontotemporal Dementia and Primary Progressive Aphasia Education Seminar Rochester, Minnesota	2017

Latest Findings and Trends in Research Invited lecture Chesley Center on Aging 2017 Dementia Care Conference Mankato, Minnesota	10/2017
Cortex: Cytoarchitecture and Organization Neuroanatomy Course	2019 - Present
Cortex: Lobes and Functions Neuroanatomy Course	2019 - Present

## **Institutional/Departmental Administrative Responsibilities, Committee Memberships and Other Activities**

### **Mayo Clinic**

Department of Neurology; Artificial Intelligence Core Deputy Director	2020 - Present
Mayo Machine Learning Journal Club Section Chair	2020 - Present

### **Mayo Clinic in Rochester**

Department of Education Administration Mayo Clinic College of Medicine Mayo Graduate School of Medicine Mayo Internal Medicine Residents Council Representative Prelim year representative	2012 - 2013
Department of Neurology Recruitment Committee Member	2014 - 2016
Summer Scientific Session Committee Member	2014 - 2015
Neurology Research Committee Member	08/2019 - Present

## **Presentations Extramural**

### **National or International**

#### **Oral**

FDG-PET in tau-negative amnesic dementia resembles that of autopsy proven hippocampal sclerosis Human Amyloid Imaging 2018 Miami Beach, Florida	2018
A novel FDG-PET based marker of TDP-43 and hippocampal sclerosis pathology 24th Mayo-KI Annual Scientific Research Meeting Rochester, MN	2018
Data-driven characterization of cross-sectional and longitudinal molecular imaging in aging and Alzheimer's disease Human Amyloid Imaging 2019 Miami Beach, Florida	2019

Disrupted brain dynamics across the Alzheimer's disease spectrum is related to tau accumulation Featured Research Session: Person-centered prediction of tau spreading in Alzheimer's disease and related disorders AIC2020	2020
<b>Poster</b>	
An analysis of the level of discourse used by final year medical students during clinical case presentations Association for Medical Education in Europe (AMEE) Annual Meeting Glasgow, United Kingdom	2010
Differentiating atrial masses can be challenging American College of Physicians Annual Meeting San Francisco, California	2013
The Pimple Sign of Progressive Supranuclear Palsy American Neurologic Association Annual Meeting New Orleans, Louisiana	2013
Diffusion tensor imaging in primary progressive aphasia and apraxia of speech International Frontotemporal Dementia Conference Vancouver, British Columbia, Canada	2014
Nonverbal Oral Apraxia in Primary Progressive Aphasia and Apraxia of Speech American Academy of Neurology Annual Meeting Philadelphia, Pennsylvania	2014
Category Specific Imaging Correlates in Neurodegenerative Anomia American Neurologic Association Annual Meeting Philadelphia, Pennsylvania	2015
A Novel PGRN Mutation Presenting as Progressive Aphasic Dementia and Evolving into Corticobasal Syndrome American Neurologic Association Annual Meeting Baltimore, Maryland	2016
Language network dysfunction in primary progressive apraxia of speech Fifth Biennial Conference on Resting-State and Brain Connectivity Vienna, Austria	2016
Non-right handed primary progressive aphasia and apraxia of speech International Frontotemporal Dementia Conference Munich, Germany	2016
Variability in pDMN Connectivity and Relative Hubness in Amyloid-Negative Cognitively Normal Individuals Predicts Amyloid and Tau Deposition Patterns in Typical Alzheimer's Disease AIC2018 Chicago, Illinois	2018
Brain States and Tau PET Patterns Interact across the Aging-Alzheimer's Continuum AIC2019 Chicago, Illinois	2019

## Clinical Practice, Interests, and Accomplishments

Led the effort to improve the standardization of the administration and scoring of the Short Test of Mental Status within the Behavioral Neurology group. Subsequently reworked the web-form, including providing detailed scoring instruction, assisted with the creation of the Epic electronic form and provided answers to frequently asked questions for the clinic practice as a whole.

**Research Interests and Accomplishments**

Neurodegenerative Disorders, Clinicopathologic Correlations, Neuroimaging

**Research Grants Awarded****Active Grants****Federal**

Co-Investigator	The neurobiology of two distinct types of progressive apraxia of speech. Funded by National Institute on Deafness and Other Communication Disorders. (R01 DC 14942)	08/2017 - 07/2022
Co-Investigator	Longitudinal multi-modality imaging in progressive apraxia of speech . Funded by National Institute on Deafness and Other Communication Disorders. (R01 DC 12519)	07/2018 - 06/2023
Co-Investigator	ARTFL LEFFTDS Longitudinal Frontotemporal Lobar Degeneration (ALLFTD). Funded by National Institute on Aging. (U19 AG 63911)	09/2019 - 06/2024

## Bibliography

### Peer-reviewed Articles

1. **Botha H**, van Schalkwyk GI, Bezuidenhout J, Van Schalkwyk SC. Discourse of final-year medical students during clinical case presentations African Journal of Health Professions Education.2011;3:(1):3-6.
2. **Botha H**, Ackerman C, Candy S, Carr JA, Griffith-Richards S, Bateman KJ. Reliability and diagnostic performance of CT imaging criteria in the diagnosis of tuberculous meningitis. PLoS One. 2012; 7 (6):e38982. Epub 2012 Jun 29. PMID: 22768055 PMCID: 3387202 DOI: 10.1371/journal.pone.0038982
3. van Schalkwyk G, **Botha H**, Seedat S. Comparison of 2 dementia screeners, the Test Your Memory Test and the Mini-Mental State Examination, in a primary care setting. J Geriatr Psychiatry Neurol. 2012 Jun; 25 (2):85-8. PMID: 22689700 DOI: 10.1177/0891988712447895
4. **Botha H**, Carr J. Attention and visual dysfunction in Parkinson's disease. Parkinsonism Relat Disord. 2012 Jul; 18(6):742-7. Epub 2012 Apr 11. PMID: 22503538 DOI: 10.1016/j.parkreldis.2012.03.004
5. **Botha H**, Whitwell JL, Madhavan A, Senjem ML, Lowe V, Josephs KA. The pimple sign of progressive supranuclear palsy syndrome. Parkinsonism Relat Disord. 2014 Feb; 20: (2)180-5. PMID: 24252300 DOI: 10.1016/j.parkreldis.2013.10.023
6. Zalewski N, **Botha H**, Whitwell JL, Lowe V, Dickson DW, Josephs KA. FDG-PET in pathologically confirmed spontaneous 4R-tauopathy variants. J Neurol. 2014 Apr; 261(4):710-6. Epub 2014 Feb 04. PMID: 24492888 DOI: 10.1007/s00415-014-7256-4
7. Zalewski N, **Botha H**, Whitwell J, Lowe V, Dickson D, Josephs KA. FDG-PET in Pathologically Confirmed 4R-Tauopathy Variants Neurology. 2014; 82(10):P5.251.
8. **Botha H**, Duffy JR, Strand EA, Machulda MM, Whitwell JL, Josephs KA. Nonverbal oral apraxia in primary progressive aphasia and apraxia of speech. Neurology. 2014 May 13; 82 (19):1729-35 Epub 2014 Apr 11 PMID: 24727315 PMCID: 4032207 DOI: 10.1212/WNL.0000000000000412
9. Martinez-Thompson JM, **Botha H**, Katz BS. Clinical reasoning: a woman with subacute progressive confusion and gait instability. Neurology. 2014 Jul 29; 83 (5):e62-7 PMID: 25074896 DOI: 10.1212/WNL.0000000000000648
10. **Botha H**, Moore SA, Rabinstein AA. Teaching neuroimages: massive cerebral edema after CT myelography: an optical illusion. Neurology. 2014 Oct 28; 83: (18)e170. PMID: 25349278 DOI: 10.1212/WNL.0000000000000946
11. **Botha H**, Duffy JR, Whitwell JL, Strand EA, Machulda MM, Schwarz CG, Reid RI, Spychalla AJ, Senjem ML, Jones DT, Lowe V, Jack CR, Josephs KA. Classification and clinicoradiologic features of primary progressive aphasia (PPA) and apraxia of speech. Cortex. 2015 Aug; 69:220-36 Epub 2015 May 27 PMID: 26103600 PMCID: 4522343 DOI: 10.1016/j.cortex.2015.05.013
12. **Botha H**, Boeve BF, Jones LK, Parisi JE, Klaas JP. A Young Man With Progressive Language Difficulty and Early-Onset Dementia. JAMA Neurol. 2016 May 01; 73: (5)595-9. PMID: 27019131 DOI: 10.1001/jamaneurol.2016.0246
13. Cohen A, Kenney-Jung D, **Botha H**, Tillema JM. NeuroDebian Virtual Machine Deployment Facilitates Trainee-Driven Bedside Neuroimaging Research. J Child Neurol. 2017 Jan; 32 (1):29-34 Epub 2016 Sept 29 PMID: 27655470 DOI: 10.1177/0883073816668113
14. Yost MD, Chou CZ, **Botha H**, Block MS, Liewluck T. Facial diplegia after pembrolizumab treatment. Muscle Nerve. 2017 Sep; 56 (3):E20-E21 Epub 2017 May 06 PMID: 28398689 DOI: 10.1002/mus.25663
15. **Botha H**, Finch NA, Gavrilova RH, Machulda MM, Fields JA, Lowe VJ, Petersen RC, Jack CR Jr, Dheel CM, Gearhart DJ, Knopman DS, Rademakers R, Boeve BF. Novel GRN mutation presenting as an aphasic dementia and evolving into corticobasal syndrome. Neurol Genet. 2017 Dec; 3 (6):e201 Epub 2017 Dec 11 PMID: 29264393 PMCID: 5733247 DOI: 10.1212/NXG.0000000000000201
16. Jones DT, Graff-Radford J, Lowe VJ, Wiste HJ, Gunter JL, Senjem ML, **Botha H**, Kantarci K, Boeve BF, Knopman DS, Petersen RC, Jack CR Jr. Tau, amyloid, and cascading network failure across the Alzheimer's disease spectrum. Cortex. 2017 Dec; 97:143-159 Epub 2017 Oct 03 PMID: 29102243 PMCID: 5773067 DOI: 10.1016/j.cortex.2017.09.018



17. Townley RA, **Botha H**, Graff-Radford J, Boeve BF, Petersen RC, Senjem ML, Knopman DS, Lowe V, Jack CR Jr, Jones DT. (18)F-FDG PET-CT pattern in idiopathic normal pressure hydrocephalus. *Neuroimage Clin.* 2018; 18:897-902 Epub 2018 Feb 28 PMID: 29876274 PMCID: 5987871 DOI: 10.1016/j.nicl.2018.02.031
18. **Botha H**, Utianski RL, Whitwell JL, Duffy JR, Clark HM, Strand EA, Machulda MM, Tosakulwong N, Knopman DS, Petersen RC, Jack CR Jr, Josephs KA, Jones DT. Disrupted functional connectivity in primary progressive apraxia of speech. *Neuroimage Clin.* 2018; 18:617-629 Epub 2018 Mar 03 PMID: 29845010 PMCID: 5964833 DOI: 10.1016/j.nicl.2018.02.036
19. Josephs KA, Martin PR, **Botha H**, Schwarz CG, Duffy JR, Clark HM, Machulda MM, Graff-Radford J, Weigand SD, Senjem ML, Utianski RL, Drubach DA, Boeve BF, Jones DT, Knopman DS, Petersen RC, Jack CR Jr, Lowe VJ, Whitwell JL. [(18) F]AV-1451 tau-PET and primary progressive aphasia. *Ann Neurol.* 2018 Mar; 83 (3):599-611 Epub 2018 Mar 13 PMID: 29451323 PMCID: 5896771 DOI: 10.1002/ana.25183
20. **Botha H**, Mantyh WG, Graff-Radford J, Machulda MM, Przybelski SA, Wiste HJ, Senjem ML, Parisi JE, Petersen RC, Murray ME, Boeve BF, Lowe VJ, Knopman DS, Jack CR Jr, Jones DT. Tau-negative amnesic dementia masquerading as Alzheimer disease dementia. *Neurology.* 2018 Mar 13; 90 (11):e940-e946 Epub 2018 Feb 07 PMID: 29438037 PMCID: 5858947 DOI: 10.1212/WNL.0000000000005124
21. Tetzloff KA, Duffy JR, Strand EA, Machulda MM, Boland SM, Utianski RL, **Botha H**, Senjem ML, Schwarz CG, Josephs KA, Whitwell JL. Clinical and imaging progression over 10 years in a patient with primary progressive apraxia of speech and autopsy-confirmed corticobasal degeneration. *Neurocase.* 2018 Apr; 24 (2):111-120 Epub 2018 May 25 PMID: 29799310 PMCID: 6095655 DOI: 10.1080/13554794.2018.1477963
22. **Botha H**, Mantyh WG, Murray ME, Knopman DS, Przybelski SA, Wiste HJ, Graff-Radford J, Josephs KA, Schwarz CG, Kremers WK, Boeve BF, Petersen RC, Machulda MM, Parisi JE, Dickson DW, Lowe V, Jack CR Jr, Jones DT. FDG-PET in tau-negative amnesic dementia resembles that of autopsy-proven hippocampal sclerosis. *Brain.* 2018 Apr 1; 141 (4):1201-1217 PMID: 29538658 PMCID: 5889045 DOI: 10.1093/brain/awy049
23. **Botha H**, Duffy JR, Whitwell JL, Strand EA, Machulda MM, Spychalla AJ, Tosakulwong N, Senjem ML, Knopman DS, Petersen RC, Jack CR Jr, Lowe VJ, Josephs KA. Non-right handed primary progressive apraxia of speech. *J Neurol Sci.* 2018 Jul 15; 390:246-254 Epub 2018 May 07 PMID: 29801898 PMCID: 5986290 DOI: 10.1016/j.jns.2018.05.007
24. Utianski RL, Duffy JR, Clark HM, Strand EA, **Botha H**, Schwarz CG, Machulda MM, Senjem ML, Spychalla AJ, Jack CR Jr, Petersen RC, Lowe VJ, Whitwell JL, Josephs KA. Prosodic and phonetic subtypes of primary progressive apraxia of speech. *Brain Lang.* 2018 Sep; 184:54-65 Epub 2018 July 04 PMID: 29980072 PMCID: 6171111 DOI: 10.1016/j.bandl.2018.06.004
25. Utianski RL, Whitwell JL, Schwarz CG, Duffy JR, **Botha H**, Clark HM, Machulda MM, Senjem ML, Knopman DS, Petersen RC, Jack CR Jr, Lowe VJ, Josephs KA. Tau uptake in agrammatic primary progressive aphasia with and without apraxia of speech. *Eur J Neurol.* 2018 Nov; 25 (11):1352-1357 Epub 2018 July 26 PMID: 29935044 PMCID: 6181763 DOI: 10.1111/ene.13733
26. Jones DT, Townley RA, Graff-Radford J, **Botha H**, Knopman DS, Petersen RC, Jack CR Jr, Lowe VJ, Boeve BF. Amyloid- and tau-PET imaging in a familial prion kindred. *Neurol Genet.* 2018 Dec; 4 (6):e290 Epub 2018 Dec 03 PMID: 30584595 PMCID: 6283453 DOI: 10.1212/NXG.0000000000000290
27. Utianski RL, **Botha H**, Duffy JR, Clark HM, Martin PR, Butts AM, Machulda MM, Whitwell JL, Josephs KA. Rapid rate on quasi-speech tasks in the semantic variant of primary progressive aphasia: A non-motor phenomenon? *J Acoust Soc Am.* 2018 Dec; 144 (6):3364 PMID: 30599666 PMCID: 6296908 DOI: 10.1121/1.5082210
28. Whitwell JL, Tosakulwong N, Schwarz CG, **Botha H**, Senjem ML, Spychalla AJ, Ahlskog JE, Knopman DS, Petersen RC, Jack CR Jr, Lowe VJ, Josephs KA. MRI Outperforms [18F]AV-1451 PET as a Longitudinal Biomarker in Progressive Supranuclear Palsy. *Mov Disord.* 2019 Jan; 34 (1):105-113 Epub 2018 Nov 23 PMID: 30468693 PMCID: 6361527 DOI: 10.1002/mds.27546
29. Graff-Radford J, **Botha H**, Rabinstein AA, Gunter JL, Przybelski SA, Lesnick T, Huston J 3rd, Flemming KD, Preboske GM, Senjem ML, Brown RD Jr, Mielke MM, Roberts RO, Lowe VJ, Knopman DS, Petersen RC, Kremers W, Vemuri P, Jack CR Jr, Kantarci K. Cerebral microbleeds: Prevalence and relationship to amyloid burden. *Neurology.* 2019 Jan 15; 92 (3):e253-e262 Epub 2018 Dec 19 PMID: 30568001 PMCID: 6340386 DOI: 10.1212/WNL.00000000000006780

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31. Whitwell JL, Martin PR, Duffy JR, Clark HM, Machulda MM, Schwarz CG, Weigand SD, Sintini I, Senjem ML, Ertekin-Taner N, **Botha H**, Utianski RL, Graff-Radford J, Jones DT, Boeve BF, Knopman DS, Petersen RC, Jack CR Jr, Lowe VJ, Josephs KA. The influence of beta-amyloid on [(18)F]AV-1451 in semantic variant of primary progressive aphasia. Neurology. 2019 Feb 12; 92 (7):e710-e722 Epub 2019 Jan 11 PMID: 30635491 PMCID: 6382367 DOI: 10.1212/WNL.0000000000006913
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33. Ali F, **Botha H**, Whitwell JL, Josephs KA. Utility of the Movement Disorders Society Criteria for Progressive Supranuclear Palsy in Clinical Practice. Mov Disord Clin Pract. 2019 Jul; 6 (6):436-439 Epub 2019 July 24 PMID: 31392243 PMCID: 6660232 DOI: 10.1002/mdc3.12807
34. Townley RA, Syrjanen JA, **Botha H**, Kremers WK, Aakre JA, Fields JA, Machulda MM, Graff-Radford J, Savica R, Jones DT, Knopman DS, Petersen RC, Boeve BF. Comparison of the Short Test of Mental Status and the Montreal Cognitive Assessment Across the Cognitive Spectrum. Mayo Clin Proc. 2019 Aug; 94 (8):1516-1523 Epub 2019 July 04 PMID: 31280871 PMCID: 6937135 DOI: 10.1016/j.mayocp.2019.01.043
35. Tetzloff KA, Duffy JR, Clark HM, Utianski RL, Strand EA, Machulda MM, **Botha H**, Martin PR, Schwarz CG, Senjem ML, Reid RI, Gunter JL, Spychalla AJ, Knopman DS, Petersen RC, Jack CR, Lowe VJ, Josephs KA, Whitwell JL. Progressive agrammatic aphasia without apraxia of speech as a distinct syndrome. Brain. 2019 Aug 1; 142 (8):2466-2482 PMID: 31199471 PMCID: 6658844 DOI: 10.1093/brain/awz157
36. Ali F, Martin PR, **Botha H**, Ahlskog JE, Bower JH, Masumoto JY, Maraganore D, Hassan A, Eggers S, Boeve BF, Knopman DS, Drubach D, Petersen RC, Dunkley ED, van Gerpen J, Uitti R, Whitwell JL, Dickson DW, Josephs KA. Sensitivity and Specificity of Diagnostic Criteria for Progressive Supranuclear Palsy. Mov Disord. 2019 Aug; 34 (8):1144-1153 Epub 2019 Feb 06 PMID: 30726566 PMCID: 6688972 DOI: 10.1002/mds.27619
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38. Utianski RL, **Botha H**, Martin PR, Schwarz CG, Duffy JR, Clark HM, Machulda MM, Butts AM, Lowe VJ, Jack CR Jr, Senjem ML, Spychalla AJ, Whitwell JL, Josephs KA. Clinical and neuroimaging characteristics of clinically unclassifiable primary progressive aphasia. Brain Lang. 2019 Oct; 197:104676 Epub 2019 Aug 13 PMID: 31419589 PMCID: 6726500 DOI: 10.1016/j.bandl.2019.104676
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\* Indicates that the primary author was a mentee of this author.