

Curriculum Vitae

Anderson M. Winkler, M.D., D.Phil.

Associate Professor
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Education & Training

2013 - 2016	DPhil. Clinical Neurosciences. University of Oxford, United Kingdom.
2012 - 2016	PhD. Biomedical and Pharmaceutical Sciences. Universiteit Maastricht, The Netherlands, and Université de Liège, Belgium.
2005 - 2007	M.Sc. Biomedical Engineering, Universidade Tecnológica Federal do Paraná, Curitiba, Brazil.
1999 - 2004	M.D., Universidade Federal do Paraná, Curitiba, Paraná, Brazil

Current Position and Appointments

Aug 2022 - present	Associate Professor. UTRGV School of Medicine.
Nov 2011 - present	Assistant Clinical Professor (Adjunct). Department of Psychiatry, Yale School of Medicine

Career History

2021 - 2022	Senior Associate Scientist. National Institute of Mental Health, Bethesda, Maryland, USA
2017 - 2021	Staff Scientist. National Institute of Mental Health, Bethesda, Maryland, USA.
2017 - 2017	Data Scientist. Hospital Israelita Albert Einstein, São Paulo, Brazil.
2011 - 2013	Honorary Research Associate, Nuffield Department of Clinical Neurosciences, University of Oxford, UK.
2009 - 2011	Postdoctoral Associate. Department of Psychiatry, Yale School of Medicine, New Haven, Connecticut, USA.
2007 - 2009	Postdoctoral Associate. Department of Psychiatry, University of Texas Health Science Center at San Antonio, Texas, USA.
2005 - 2007	Physician. Centro Municipal de Urgências Médicas Boa Vista, Curitiba, PR, Brazil.

Research Interests

My research program involves four areas:

- Image phenotyping, that is, obtaining fine and accurate measurements of brain anatomy and function, *in vivo*, with methods such as magnetic resonance imaging.
- Statistical methods for brain imaging, that is, methods for testing hypotheses about how measurements from brain imaging relate to other measurements of health and disease, including genetics and behavior.
- Psychiatric genetics, with investigation of common and rare variants associated with continuous variation on psychiatric symptoms, and their use for nosology.
- Computational psychiatry towards large, multiparametric models for brain function in health and disease states.

Publications

Peer-reviewed

1. Zugman A, Jett L, Antonacci C, Winkler AM, Pine DS. **A systematic review and meta-analysis of resting-state fMRI in anxiety disorders: Need for data sharing to move the field forward.** J Anxiety Disord. 2023 Oct;99:102773. doi: 10.1016/j.janxdis.2023.102773.

2. Schaper FLWVJ, Nordberg J, Cohen AL, Lin C, Hsu J, Horn A, Ferguson MA, Siddiqi SH, Drew W, Soussand L, Winkler AM, Simó M, Bruna J, Rheims S, Guenot M, Bucci M, Nummenmaa L, Staals J, Colon AJ, Ackermans L, Bubrick EJ, Peters JM, Wu O, Rost NS, Grafman J, Blumenfeld H, Temel Y, Rouhl RPW, Joutsa J, Fox MD. **Mapping Lesion-Related Epilepsy to a Human Brain Network.** *JAMA Neurol.* 2023 Sep 1;80(9):891-902. doi: 10.1001/jamaneurol.2023.1988.
3. Zugman A, Allende LM, Medel V, Bethlehem RAI, Seidlitz J, Ringlein G, Arango C, Arnatkevičiūtė A, Asmal L, Bellgrove M, Benegal V, Bernardo M, Billeke P, Bosch-Bayard J, Bressan R, Busatto GF, Castro MN, Chaim-Avancini T, Compte A, Costanzi M, Czepielewski L, Dazzan P, de la Fuente-Sandoval C, Di Forti M, Díaz-Caneja CM, María Díaz-Zuluaga A, Du Plessis S, Duran FLS, Fittipaldi S, Fornito A, Freimer NB, Gadelha A, Gama CS, Garani R, Garcia-Rizo C, Gonzalez Campo C, Gonzalez-Valderrama A, Guinjoan S, Holla B, Ibañez A, Ivanovic D, Jackowski A, Leon-Ortiz P, Lochner C, López-Jaramillo C, Luckhoff H, Massuda R, McGuire P, Miyata J, Mizrahi R, Murray R, Ozerdem A, Pan PM, Parellada M, Phahladira L, Ramirez-Mahaluf JP, Reckziegel R, Reis Marques T, Reyes-Madrigal F, Roos A, Rosa P, Salum G, Scheffler F, Schumann G, Serpa M, Stein DJ, Tepper A, Tiego J, Ueno T, Undurraga J, Undurraga EA, Valdes-Sosa P, Valli I, Villarreal M, Winton-Brown TT, Yalin N, Zamorano F, Zanetti MV; cVEDA; Winkler AM, Pine DS, Evans-Lacko S, Crossley NA. **Country-level gender inequality is associated with structural differences in the brains of women and men.** *Proc Natl Acad Sci U S A.* 2023 May 16;120(20):e2218782120. doi: 10.1073/pnas.2218782120.
4. Ji JL, Demšar J, Fonteneau C, Tamayo Z, Pan L, Kraljič A, Matkovič A, Purg N, Helmer M, Warrington S, Winkler A, Zerbi V, Coalson TS, Glasser MF, Harms MP, Sotiropoulos SN, Murray JD, Anticevic A, Repovš G. **QuNex—An integrative platform for reproducible neuroimaging analytics.** *Front. Neuroinform.* 2023; 17:1104508. doi: 10.3389/fninf.2023.1104508.
5. Leerssen L, Aghajani M, Bresser T, Rösler L, Winkler AM, Foster-Dingley JC, Van Someren EJW. **Cognitive, behavioral and circadian rhythm interventions for insomnia alter emotional brain responses.** *Biol Psychiatry Cogn Neurosci Neuroimaging.* 2023 Mar 21; doi: 10.1016/j.bpsc.2023.03.007. Online ahead of print.
6. Williams LZJ, Fitzgibbon SP, Bozek J, Winkler AM, Dimitrova R, Poppe T, Schuh A, Makropoulos A, Cupitt J, O'Muircheartaigh J, Duff EP, Cordero-Grande L, Price AN, Hajnal JV, Rueckert D, Smith SM, Edwards AD, Robinson EC. **Structural and functional asymmetry of the neonatal cerebral cortex.** *Nat Hum Behav.* 2023 Mar 16. doi: 10.1038/s41562-023-01542-8. Online ahead of print.
7. Groenewold NA, Bas-Hoogendam JM, Amod AR, Laansma MA, Van Velzen LS, Aghajani M, Hilbert K, Oh H, Salas R, Jackowski AP, Pan PM, Salum GA, Blair JR, Blair KS, Hirsch J, Pantazatos SP, Schneier FR, Talati A, Roelofs K, Volman I, Blanco-Hinojo L, Cardoner N, Pujol J, Beesdo-Baum K, Ching CRK, Thomopoulos SI, Jansen A, Kircher T, Krug A, Nenadić I, Stein F, Dannlowski U, Grotegerd D, Lemke H, Meinert S, Winter A, Erb M, Kreifelts B, Gong Q, Lui S, Zhu F, Mwangi B, Soares JC, Wu MJ, Bayram A, Canli M, Tükel R, Westenberg PM, Heeren A, Cremers HR, Hofmann D, Straube T, Doruyter AGG, Lochner C, Peterburs J, Van Tol MJ, Gur RE, Kaczkurkin AN, Larsen B, Satterthwaite TD, Filippi CA, Gold AL, Harrewijn A, Zugman A, Bülow R, Grabe HJ, Völzke H, Wittfeld K, Böhnlein J, Dohm K, Kugel H, Schrammen E, Zwanzger P, Leehr EJ, Sindermann L, Ball TM, Fonzo GA, Paulus MP, Simmons A, Stein MB, Klumpp H, Phan KL, Furmark T, Måansson KNT, Manzouri A,

- Avery SN, Blackford JU, Clauss JA, Feola B, Harper JC, Sylvester CM, Lueken U, Veltman DJ, Winkler AM, Jahanshad N, Pine DS, Thompson PM, Stein DJ, Van der Wee NJA. **Volume of subcortical brain regions in social anxiety disorder: mega-analytic results from 37 samples in the ENIGMA-Anxiety Working Group.** Mol Psychiatry. 2023 Mar;28(3):1079-1089. doi: 10.1038/s41380-022-01933-9. Epub 2023 Jan 19.
8. Salvan P, Fonseca M, Winkler AM, Beauchamp A, Lerch JP, Johansen-Berg H. **Serotonin regulation of behavior via large-scale neuromodulation of serotonin receptor networks.** Nat Neurosci. 2023 Jan;26(1):53-63. doi: 10.1038/s41593-022-01213-3. Epub 2022 Dec 15.
 9. Khosravi P, Zugman A, Amelio P, Winkler AM, Pine DS. **Translating Big Data to Clinical Outcomes in Anxiety: Potential for Multimodal Integration.** Curr Psychiatry Rep. 2022 Dec;24(12):841-851. doi: 10.1007/s11920-022-01385-6. Epub 2022 Dec 5. Review. PubMed PMID: 36469202.
 10. Zhang W, Paul SE, Winkler A, Bogdan R, Bijsterbosch JD. **Shared brain and genetic architectures between mental health and physical activity.** Transl Psychiatry. 2022 Oct 3;12(1):428. doi: 10.1038/s41398-022-02172-w. PubMed PMID: 36192376; PubMed Central PMCID: PMC9530213.
 11. Bas-Hoogendam JM, Bernstein R, Benson BE, Buss KA, Gunther KE, Pérez-Edgar K, Salum GA, Jackowski AP, Bressan RA, Zugman A, Degnan KA, Filippi CA, Fox NA, Henderson HA, Tang A, Zeytinoglu S, Harrewijn A, Hillegers MHJ, White T, van IJzendoorn MH, Schwartz CE, Felicione JM, DeYoung KA, Shackman AJ, Smith JF, Tillman RM, van den Berg YHM, Cillessen AHN, Roelofs K, Tyborowska A, Hill SY, Battaglia M, Tettamanti M, Dougherty LR, Jin J, Klein DN, Leung HC, Avery SN, Blackford JU, Clauss JA, Hayden EP, Liu P, Vandermeer MRJ, Goldsmith HH, Planalp EM, Nichols TE, Thompson PM, Westenberg PM, van der Wee NJA, Groenewold NA, Stein DJ, Winkler AM, Pine DS. **Structural Brain Correlates of Childhood Inhibited Temperament: An ENIGMA-Anxiety Mega-analysis.** J Am Acad Child Adolesc Psychiatry. 2022 Sep;61(9):1182-1188. doi: 10.1016/j.jaac.2022.04.023. Epub 2022 Jun 13. PubMed PMID: 36038199; PubMed Central PMCID: PMC9434711.
 12. Nandi T, Puonti O, Clarke WT, Nettekoven C, Barron HC, Kolasinski J, Hanayik T, Hinson EL, Berrington A, Bachtiar V, Johnstone A, Winkler AM, Thielscher A, Johansen-Berg H, Stagg CJ. **tDCS induced GABA change is associated with the simulated electric field in M1, an effect mediated by grey matter volume in the MRS voxel.** Brain Stimul. 2022 Sep-Oct;15(5):1153-1162. doi: 10.1016/j.brs.2022.07.049. Epub 2022 Aug 18. PubMed PMID: 35988862; PubMed Central PMCID: PMC7613675.
 13. Abend R, Burk D, Ruiz SG, Gold AL, Napoli JL, Britton JC, Michalska KJ, Shechner T, Winkler AM, Leibenluft E, Pine DS, Averbeck BB. **Computational modeling of threat learning reveals links with anxiety and neuroanatomy in humans.** Elife. 2022 Apr 27;11. doi: 10.7554/eLife.66169. PubMed PMID: 35473766; PubMed Central PMCID: PMC9197395.
 14. Douaud G, Lee S, Alfaro-Almagro F, Arthofer C, Wang C, McCarthy P, Lange F, Andersson JLR, Griffanti L, Duff E, Jbabdi S, Taschler B, Keating P, Winkler AM, Collins R, Matthews PM, Allen N, Miller KL, Nichols TE, Smith SM. **SARS-CoV-2 is associated with changes in brain structure in UK Biobank.** Nature. 2022 Apr;604(7907):697-707. doi: 10.1038/s41586-022-04569-5. Epub 2022 Mar 7. PubMed PMID: 35255491; PubMed Central PMCID: PMC9046077.

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16. Abend R, Ruiz SG, Bajaj MA, Harrewijn A, Linke JO, Atlas LY, Winkler AM, Pine DS. **Threat imminence reveals links among unfolding of anticipatory physiological response, cortical-subcortical intrinsic functional connectivity, and anxiety.** Neurobiol Stress. 2022 Jan;16:100428. doi: 10.1016/j.ynstr.2022.100428. eCollection 2022 Jan. PubMed PMID: 35036479; PubMed Central PMCID: PMC8749274.
17. Bas-Hoogendam JM, Groenewold NA, Aghajani M, Freitag GF, Harrewijn A, Hilbert K, Jahanshad N, Thomopoulos SI, Thompson PM, Veltman DJ, Winkler AM, Lueken U, Pine DS, van der Wee NJA, Stein DJ. **ENIGMA-anxiety working group: Rationale for and organization of large-scale neuroimaging studies of anxiety disorders.** Hum Brain Mapp. 2022 Jan;43(1):83-112. doi: 10.1002/hbm.25100. Epub 2020 Jul 3. Review. PubMed PMID: 32618421; PubMed Central PMCID: PMC8805695.
18. Zugman A, Harrewijn A, Cardinale EM, Zwiebel H, Freitag GF, Werwath KE, Bas-Hoogendam JM, Groenewold NA, Aghajani M, Hilbert K, Cardoner N, Porta-Casteràs D, Gosnell S, Salas R, Blair KS, Blair JR, Hammoud MZ, Milad M, Burkhouse K, Phan KL, Schroeder HK, Strawn JR, Beesdo-Baum K, Thomopoulos SI, Grabe HJ, Van der Auwera S, Wittfeld K, Nielsen JA, Buckner R, Smoller JW, Mwangi B, Soares JC, Wu MJ, Zunta-Soares GB, Jackowski AP, Pan PM, Salum GA, Assaf M, Diefenbach GJ, Brambilla P, Maggioni E, Hofmann D, Straube T, Andreeescu C, Berta R, Tamburo E, Price R, Manfro GG, Critchley HD, Makovac E, Mancini M, Meeten F, Ottaviani C, Agosta F, Canu E, Cividini C, Filippi M, Kostić M, Munjiza A, Filippi CA, Leibenluft E, Alberton BAV, Balderston NL, Ernst M, Grillon C, Mujica-Parodi LR, van Nieuwenhuizen H, Fonzo GA, Paulus MP, Stein MB, Gur RE, Gur RC, Kaczurkin AN, Larsen B, Satterthwaite TD, Harper J, Myers M, Perino MT, Yu Q, Sylvester CM, Veltman DJ, Lueken U, Van der Wee NJA, Stein DJ, Jahanshad N, Thompson PM, Pine DS, Winkler AM. **Mega-analysis methods in ENIGMA: The experience of the generalized anxiety disorder working group.** Hum Brain Mapp. 2022 Jan;43(1):255-277. doi: 10.1002/hbm.25096. Epub 2020 Jun 29. Review. PubMed PMID: 32596977; PubMed Central PMCID: PMC8675407.
19. Thompson PM, Jahanshad N, Schmaal L, Turner JA, Winkler AM, Thomopoulos SI, Egan GF, Kochunov P. **The Enhancing Neurolmaging Genetics through Meta-Analysis Consortium: 10 Years of Global Collaborations in Human Brain Mapping.** Hum Brain Mapp. 2022 Jan;43(1):15-22. doi: 10.1002/hbm.25672. Epub 2021 Oct 6. PubMed PMID: 34612558; PubMed Central PMCID: PMC8675422.
20. Lazari A, Salvan P, Cottaar M, Papp D, Jens van der Werf O, Johnstone A, Sanders ZB, Sampaio-Baptista C, Eichert N, Miyamoto K, Winkler A, Callaghan MF, Nichols TE, Stagg CJ, Rushworth MFS, Verhagen L, Johansen-Berg H. **Reassessing associations between white matter and behaviour with multimodal microstructural imaging.** Cortex. 2021 Dec;145:187-200. doi: 10.1016/j.cortex.2021.08.017. Epub 2021 Oct 8. PubMed PMID: 34742100; PubMed Central PMCID: PMC8940642.
21. Axelrud LK, Simioni AR, Pine DS, Winkler AM, Pan PM, Sato JR, Zugman A, Parker N, Picon F, Jackowski A, Hoexter MQ, Barker G, Martinot JL, Martinot MLP, Satterthwaite T, Rohde LA, Milham M, Barker ED, Salum GA. **Neuroimaging**

- Association Scores: reliability and validity of aggregate measures of brain structural features linked to mental disorders in youth.** Eur Child Adolesc Psychiatry. 2021 Dec;30(12):1895-1906. doi: 10.1007/s00787-020-01653-x. Epub 2020 Oct 8. PubMed PMID: 33030612; PubMed Central PMCID: PMC9077631.
22. Zugman A, Winkler AM, Pine DS. **Recent advances in understanding neural correlates of anxiety disorders in children and adolescents.** Curr Opin Psychiatry. 2021 Nov 1;34(6):617-623. doi: 10.1097/YCO.0000000000000743. Review. PubMed PMID: 34475352; PubMed Central PMCID: PMC8490291.
 23. Harrewijn A, Cardinale EM, Groenewold NA, Bas-Hoogendam JM, Aghajani M, Hilbert K, Cardoner N, Porta-Casteràs D, Gosnell S, Salas R, Jackowski AP, Pan PM, Salum GA, Blair KS, Blair JR, Hammoud MZ, Milad MR, Burkhouse KL, Phan KL, Schroeder HK, Strawn JR, Beesdo-Baum K, Jahanshad N, Thomopoulos SI, Buckner R, Nielsen JA, Smoller JW, Soares JC, Mwangi B, Wu MJ, Zunta-Soares GB, Assaf M, Diefenbach GJ, Brambilla P, Maggioni E, Hofmann D, Straube T, Andreeescu C, Berta R, Tamburo E, Price RB, Manfro GG, Agosta F, Canu E, Cividini C, Filippi M, Kostić M, Munjiza Jovanovic A, Alberton BAV, Benson B, Freitag GF, Filippi CA, Gold AL, Leibenluft E, Ringlein GV, Werwath KE, Zwiebel H, Zugman A, Grabe HJ, Van der Auwera S, Wittfeld K, Völzke H, Bülow R, Balderston NL, Ernst M, Grillon C, Mujica-Parodi LR, van Nieuwenhuizen H, Critchley HD, Makovac E, Mancini M, Meeten F, Ottaviani C, Ball TM, Fonzo GA, Paulus MP, Stein MB, Gur RE, Gur RC, Kaczkurkin AN, Larsen B, Satterthwaite TD, Harper J, Myers M, Perino MT, Sylvester CM, Yu Q, Lueken U, Veltman DJ, Thompson PM, Stein DJ, Van der Wee NJA, Winkler AM, Pine DS. **Cortical and subcortical brain structure in generalized anxiety disorder: findings from 28 research sites in the ENIGMA-Anxiety Working Group.** Transl Psychiatry. 2021 Oct 1;11(1):502. doi: 10.1038/s41398-021-01622-1. PubMed PMID: 34599145; PubMed Central PMCID: PMC8486763.
 24. Filippi CA, Ravi S, Bracy M, Winkler A, Sylvester CM, Pine DS, Fox NA. **Amygdala Functional Connectivity and Negative Reactive Temperament at Age 4 Months.** J Am Acad Child Adolesc Psychiatry. 2021 Sep;60(9):1137-1146. doi: 10.1016/j.jaac.2020.11.021. Epub 2020 Dec 29. PubMed PMID: 33385507; PubMed Central PMCID: PMC8239057.
 25. Tackley G, Kong Y, Minne R, Messina S, Winkler A, Cavey A, Everett R, DeLuca GC, Weir A, Craner M, Tracey I, Palace J, Stagg CJ, Emir U. **An In-vivo 1H-MRS short-echo time technique at 7T: Quantification of metabolites in chronic multiple sclerosis and neuromyelitis optica brain lesions and normal appearing brain tissue.** Neuroimage. 2021 Sep;238:118225. doi: 10.1016/j.neuroimage.2021.118225. Epub 2021 May 30. PubMed PMID: 34062267; PubMed Central PMCID: PMC7611458.
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1. Jenkinson M, Bijsterbosch J, Chappell M, Winkler A. **Short Introduction to the General Linear Model: An Introduction for Neuroimaging.** Oxford Neuroimaging Primers/Primer Appendix (Jenkinson M, Chappell M, eds.). Oxford University Press, Oxford, 2020.
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Reviewer Activity

Since 2009, served as a referee to several journals, namely:

- *NeuroImage*: 54 papers reviewed.
- *Human Brain Mapping*: 23 papers.
- *American Journal of Psychiatry*: 13 papers.
- *American Journal of Neuroradiology*: 8 papers.
- *Frontiers* (various titles): 7 papers.
- *Scientific Reports*: 6 papers.
- *Neuroscience and JAMA Psychiatry* (formerly *Archives of General Psychiatry*): 5 papers for each.
- *Network Neuroscience, NeuroImage: Reports, European Neurology, IEEE Transactions on Medical Imaging, Revista Brasileira de Psiquiatria, Journal of the American Academy of Child and Adolescent Psychiatry, Schizophrenia Research, eNeuro*: 3 papers reviewed for each.
- *Biological Psychiatry, Biometrics, Brain Imaging and Behavior, Cerebral Cortex, Cognitive Neuroscience, F1000 Research, Journal of Statistical Computation and Simulation, Nature, Nature Communications, PLOS Computational Biology, PLOS ONE, Schizophrenia, Science, and Translational Psychiatry*: 2 papers reviewed for each.
- *Annals of Human Genetics, Bipolar Disorders, Brain and Behavior, Development and Psychopathology, Brain Stimulation, Development and Cognitive Neuroscience, Imaging Neuroscience, International Journal of Imaging Systems and Technology, Journal of Affective Disorders, Journal of*



the American Heart Association, Journal of Neuroscience Methods, Molecular Psychiatry, Nature Computational Methods, Nature Methods, Neuroinformatics, NPJ Schizophrenia, Proceedings of the National Academy of Sciences (PNAS), Quantitative Imaging in Medicine and Surgery (QIMS), Schizophrenia Bulletin, eLife: 1 paper reviewed for each.

Member of the Editorial Board of the *Imaging Neuroscience* journal (that replaces *Neuroimage* as the leading journal in the field), and of *Aperture Neuro*, published by the Organization for Human Brain Mapping (OHBM).