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Biography

Matthijs Biesbroek obtained his medical degree in 2011 at Utrecht University. He received his PhD in Neurology after defending his thesis entitled "lesion-symptom mapping in vascular cognitive impairment" in 2016. He finished his training as neurologist at the UMC Utrecht in 2019. He currently combines his clinical work as a neurologist at the Diaconessenhuis with his research on vascular cognitive impairment at the UMC Utrecht. His research focuses on location and patterns of vascular lesions in the brain as a source of new information on disease mechanisms and cognitive impact. He aims to use this information to develop tools that enable a more accurate diagnosis of the cause of cognitive decline in clinical practice, and an individualized cognitive prognosis after ischemic stroke. His research is funded by personal grants from the UMCU Brain Center (Rudolf Magnus Young Talent Fellowship in 2018), and ZonMw (VIMP grant, and off road grant in 2019).

Matthijs Biesbroek is sinds 2011 werkzaam in het UMC Utrecht. Hij studeerde geneeskunde aan de universiteit Utrecht en behaalde zijn artsexamen in 2011. In datzelfde jaar begon hij aan zijn opleiding tot neuroloog in het UMC Utrecht (opleiders prof. dr. J.H.J. Wokke en prof. dr. T. Seute), die hij in 2019 voltooide. In 2016 promoveerde hij op het proefschrift 'lesion symptom-mapping in vascular cognitive impairment'. In 2019 deed hij een fellowship bij het Alzheimer Centrum van het VU medisch centrum in Amsterdam. Sinds 2020 is hij als neuroloog werkzaam in het Diaconessenhuis, en doet hij wetenschappelijk onderzoek in het UMC Utrecht. Zijn onderzoek richt zich op het belang van de locatie van vaatschade in de hersenen in relatie tot cognitief functioneren, met als doel om de diagnostiek en behandeling van patiënten met vasculaire cognitieve stoornissen te verbeteren.

Prizes

UMC Utrecht, Rudolf Magnus Young Talent Fellowship

Biesbroek, M. (Recipient), 2018

University Utrecht Neuroscience and Cognition, Seed grant.

Biesbroek, M. (Recipient), 2016

ZonMw Off Road grant

Biesbroek, M. (Recipient), 2019

ZonMw, VIMP grant

Biesbroek, M. (Recipient), 2019

Research outputs

Signature White Matter Hyperintensity Locations Associated With Vascular Risk Factors Derived From 15 653 Individuals

Biesbroek, J. M., de Kort, F. A. S., Anblagan, D., Bastin, M. E., Beiser, A., Brodaty, H., Chaturvedi, N., Chen, C. P. L. H., Cheng, B., Cheng, C.-Y., Cox, S. R., DeCarli, C., Enzinger, C., Fletcher, E., Frayne, R., de Groot, M., Hilal, S., Huang, F., Ikram, M. A. & Jiang, J. & 22 others, Lam, B. Y. K., Maillard, P., Mayer, C., McCreary, C. R., Mok, V., Muñoz Maniega, S., Petersen, M., Roshchupkin, G., Sachdev, P. S., Schmidt, R., Seiler, S., Seshadri, S., Sudre, C. H., Thomalla, G., Valdés Hernández, M., Venketasubramanian, N., Vernooij, M. W., Vinke, E. J., Wardlaw, J. M., Wen, W., Kuijff, H. J. & Biessels, G. J., Oct 2025, In: *Stroke*. 56, 10, p. 3047-3059 13 p.

Tract-specific white matter hyperintensities and neuropsychiatric syndromes: a multicentre memory clinic study

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Cerebral white matter hyperintensity volumes: Normative age- and sex-specific values from 15 population-based cohorts comprising 14,876 individuals

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Enhancing cognitive performance prediction by white matter hyperintensity connectivity assessment

Petersen, M., Coenen, M., DeCarli, C., De Luca, A., van der Lelij, E., Barkhof, F., Benke, T., Chen, C. P. L. H., Dal-Bianco, P., Dewenter, A., Duering, M., Enzinger, C., Ewers, M., Exalto, L. G., Fletcher, E. M., Franzmeier, N., Hilal, S., Hofer, E., Koek, H. L. & Maier, A. B. & 21 others, Maillard, P. M., McCreary, C. R., Papma, J. M., Pijnenburg, Y. A. L., Schmidt, R., Smith, E. E., Steketee, R. M. E., van den Berg, E., van der Flier, W. M., Venkatraghavan, V., Venketasubramanian, N., Vernooij, M. W., Wolters, F. J., Xu, X., Horn, A., Patil, K. R., Eickhoff, S. B., Thomalla, G., Biesbroek, J. M., Jan Biessels, G. & Cheng, B., 1 Dec 2024, In: *Brain : a journal of neurology*. 147, 12, p. 4265-4279 15 p.

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Architecture and anatomy of executive processes: evidence from verbal fluency and Trail Making Test in 2009 stroke patients

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Enhancing Cognitive Performance Prediction through White Matter Hyperintensity Connectivity Assessment: A Multicenter Lesion Network Mapping Analysis of 3,485 Memory Clinic Patients

Petersen, M., Coenen, M., DeCarli, C., De Luca, A., van der Lelij, E., Barkhof, F., Benke, T., Chen, C. P. L. H., Dal-Bianco, P., Dewenter, A., Duering, M., Enzinger, C., Ewers, M., Exalto, L. G., Fletcher, E. F., Franzmeier, N., Hilal, S., Hofer, E., Koek, H. L. & Maier, A. B. & 22 others, Maillard, P. M., McCreary, C. R., Papma, J. M., Pijnenburg, Y. A. L., Schmidt, R., Smith, E. E., Steketee, R. M. E., van den Berg, E., van der Flier, W. M., Venkatraghavan, V., Venketasubramanian, N., Vernooij, M. W., Wolters, F. J., Xu, X., Horn, A., Patil, K. R., Eickhoff, S. B., Thomalla, G., Biesbroek, J. M., Biessels, G. J., Cheng, B. & Alzheimer's Disease Neuroimaging Initiative, 11 Apr 2024, medRxiv, 15 p.

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Strategic white matter hyperintensity locations for cognitive impairment: A multicenter lesion-symptom mapping study in 3525 memory clinic patients

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Strategic infarct locations for post-stroke depressive symptoms: a lesion- and disconnection-symptom mapping study

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Spatial distributions of white matter hyperintensities on brain MRI: A pooled analysis of individual participant data from 11 memory clinic cohorts

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Strategic infarct locations for post-stroke cognitive impairment: a pooled analysis of individual patient data from 12 acute ischaemic stroke cohorts

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The Impact of Strategic White Matter Hyperintensity Lesion Location on Language

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