

Samuel R. Mathias

CONTACT INFORMATION

Neurocognition, Neurocomputation and Neurogenetics (n3) Division
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EMPLOYMENT HISTORY

Yale University, New Haven, CT, USA

Associate research scientist

March 2016 – present

- Group: 'Neurocognition, Neurocomputation and Neurogenetics (n3) Division', Yale School of Medicine
- Research: Identifying genes for cognition by applying behavioural tests in pedigrees of related individuals
- Methods: Cognitive testing, genomics
- Supervisor: Prof. David C. Glahn

Postdoctoral associate

March 2014 – February 2016

- Group: 'Glahn Group', Yale School of Medicine
- Research: Identifying genes for cognition by applying behavioural tests in pedigrees of related individuals
- Methods: Cognitive testing, genomics
- Supervisor: Prof. David C. Glahn

Boston University, Boston, MA, USA

Postdoctoral associate

October 2012 – February 2014

- Group: 'Auditory neuroscience', CompNet
- Research: comparing auditory and visual memory
- Methods: psychophysics, modelling
- Supervisor: Prof. Barbara G. Shinn-Cunningham

Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

Postdoctoral research fellow

December 2010 – August 2012

- Group: 'Neural mechanisms of human communication' (independent research group)
- Research: voice recognition in normal and impaired listeners ('phonagnosia')
- Methods: psychophysics
- Supervisor: Dr. Katharina von Kriegstein

University of Minnesota, Minneapolis, MN, USA

Visiting postdoctoral research fellow

December 2011 – March 2012

- Group: 'Auditory perception and cognition', Department of Psychology
- Research: auditory frequency discrimination
- Methods: psychophysics, modelling, Bayesian statistical inference
- Supervisors: Prof. Andrew J. Oxenham and Dr. Christophe Michey

EDUCATION

University of York, York, UK

PhD, Psychology, October 2007 – November 2010

- Thesis title: *Individual differences in pitch perception*
- Supervisor: Dr. Peter J. Bailey

MSc, Cognitive Neuroscience (distinction), October 2006 – July 2007

- Dissertation title: *Cortical indices of auditory segregation revealed by MEG: A parametric study of onset asynchrony and mistuning.*
- Supervisors: Prof. A. Quentin Summerfield and Dr. Peter J. Bailey

BSc (Hons), Psychology (2:1 \approx magna cum laude), October 2003 – July 2006

- Dissertation Title: *Informational masking of pitch information in supra-threshold tones.*
- Supervisor: Dr. Peter J. Bailey

GRANTS AND AWARDS

ACN travel award, April 2014 (value: €800, declined)

ACN Erasmus Mundus grant, December 2011 (total amount: €11,450)

Winner of the K. M. Scott PhD prize, November 2011 (value: £350)

Grindley Grant travel award, Experimental Psychology Society, February 2010 (value: £500)

Travel award, guarantors of *Brain*, February 2010 (value: £400)

BBSRC PhD studentship, 2007 – 2010 (total amount: £36,000)

University of York departmental MSc studentship, 2006 – 2007 (approx. amount: ~£3,000)

Winner of the Microsoft Research undergraduate project prize, 2006 (value: £250)

PUBLICATIONS

Knowles, E. E. M., Huynh, K., Meikle, P.J., Göring, H. H., H., Olvera, R. L., **Mathias, S. R.**, Duggirala, R., Almasy, L., Blangero, J., Curran, J. E., & Glahn, D. C. (2017). The lipidome in major depressive disorder: Shared genetic influence for etherphosphatidylcholines, a plasma-based phenotype related to inflammation, and disease risk. *European Psychiatry*, 43, 44–50. doi:10.1016/j.eurpsy.2017.02.479.

Knowles, E. E. M., Huynh, K., Meikle, P.J., Göring, H. H., H., Olvera, R. L., **Mathias, S. R.**, Duggirala, R., Almasy, L., Blangero, J., Curran, J. E., & Glahn, D. C. (2017). Serum phosphatidylinositol as a biomarker for bipolar disorder liability. *Bipolar Disorders*, [Epub ahead of print]. doi:10.1111/bdi.12468.

Mathias, S. R., Knowles, E. E. M., Barrett, J., Leach, O., Buccheri S., Beetham, T., Blangero, J., Poldrack, R. A. & Glahn, D. C. (2017). The processing-speed impairment in psychosis is more than just accelerated aging. *Schizophrenia Bulletin*, [Epub ahead of print]. doi:110.1093/schbul/sbw168.

Hodgson, K., Poldrack, R. A., Curran, J. E., Knowles, E. E., **Mathias, S.**, Göring, H. H., Yao, N., Olvera, R. L., Fox, P. T., Almasy, L., Duggirala, R., Barch, D. M., Blangero, J., & Glahn, D. C. (2016). Shared genetic factors influence head motion during fMRI and body mass index. *Cerebral Cortex*, [Epub ahead of print]. doi:10.1093/cercor/bhw321.

Guadalupe, T., **Mathias, S. R.**, van Erp, T. G., Whelan, C. D., Zwiers, M. P., Abe, Y., Abramovic, L., Agartz, I., Andreassen, O. A., Arias-Vásquez, A., Aribisala, B. S., Armstrong, N. J., Arolt, V., Artiges, E., Ayasa-Arriola, R., Baboyan, V. G., Banaschewski, T., Barker, G., Bastin, M. E., Baune, B. T., Blangero, J., Bokde, A. L., Boedhoe, P. S., Bose, A., Brem, S., Brodaty, H., Bromberg, U., Brooks, S., Büchel, C., Buitelaar, J., Calhoun, V. D., Cannon, D. M., Cattrell, A., Cheng, Y., Conrod, P. J., Conzelmann, A., Corvin, A., Crespo-Facorro, B., Crivello, F., Dannlowski, U., de Zubicaray, G. I., de Zwarte, S. M., Deary, I. J., Desrivières, S., Doan, N. T., Donohoe, G., Dørum, E. S., Ehrlich, S., Espeseth, T., Fernández, G., Flor, H., Fouché, J. P., Frouin, V., Fukunaga, M., Gallinat, J., Garavan, H., Gill, M., Suarez, A. G., Gowland, P., Grabe, H. J., Grotegerd, D., Gruber, O., Hagenaars, S., Hashimoto, R., Hauser, T. U., Heinz, A., Hibar, D. P., Hoekstra, P. J., Hoogman, M., Howells, F. M., Hu, H., Hulshoff Pol, H. E., Huyser, C., Ittermann, B., Jahanshad, N., Jönsson, E. G., Jurk, S., Kahn, R. S., Kelly, S., Kraemer, B., Kugel, H., Kwon, J. S., Lemaitre, H., Lesch, K. P., Lochner, C., Luciano, M., Marquand, A. F., Martin, N. G., Martínez-Zalacaín, I., Martinot, J. L., Mataix-Cols, D., Mather, K., McDonald, C., McMahon, K. L., Medland, S. E., Menchón, J. M., Morris, D. W., Mothersill, O., Maniega, S. M., Mwangi, B., Nakamae, T., Nakao, T., Narayanaswamy, J. C., Nees, F., Nordvik, J. E., Onnink, A. M., Opel, N., Ophoff, R., Paillère Martinot, M. L., Papadopoulos Orfanos, D., Pauli, P., Paus, T., Poustka, L., Reddy, J. Y., Renteria, M. E., Roiz-Santiáñez, R., Roos, A., Royle, N. A., Sachdev, P., Sánchez-Juan, P., Schmaal, L., Schumann, G., Shumskaya, E., Smolka, M. N., Soares, J. C., Soriano-Mas, C., Stein, D. J., Strike, L. T., Toro, R., Turner, J. A., Tzourio-Mazoyer, N., Uhlmann, A., Hernández, M. V., van den Heuvel, O. A., van der Meer, D., van Haren, N. E., Veltman, D. J., Venkatasubramanian, G., Vetter, N. C., Vuletic, D., Walitza, S., Walter, H., Walton, E., Wang, Z., Wardlaw, J., Wen, W., Westlye, L. T., Whelan, R., Wittfeld, K., Wolfers, T., Wright, M. J., Xu, J., Xu, X., Yun, J. Y., Zhao, J., Franke, B., Thompson, P. M., Glahn, D. C., Mazoyer, B., Fisher, S. E., & Francks, C. (2016). Human subcortical brain asymmetries in 15,847 people worldwide reveal effects of age and sex. *Brain Imaging and Behavior*, [Epub ahead of print]. doi:10.1007/s11682-016-9629-z.

Mathias, S. R. (2016). Unified analysis of accuracy and reaction times via models of decision making. *Proceedings of Meetings on Acoustics*, 26, 050001. doi:10.1121/2.0000219.

Glahn, D. C., Knowles, E. E., **Mathias, S. R.**, Almasy, L., Hodgson, K., Yao, N., Olvera, R. L., Curran, J. E., & Blangero, J. (2016). Conceptualizing major depression: From genes to neuroanatomy to epidemiology. In T. Lehner, B. L. Miller & M. W. State (Eds.) *Genomics, circuits, and pathways in clinical neuropsychiatry* (pp. 487–501). Cambridge, MA: Academic Press. doi:10.1016/B978-0-12-800105-9.00031-7.

Sprooten, E., Barrett, J., McKay, D. R., Knowles, E. E., **Mathias, S. R.**, Winkler, A. M., Brumbaugh, M. S., Landau, S., Cyr, L., Kochunov, P., & Glahn, D. C. (2016). A comprehensive tractography study of patients with bipolar disorder and their unaffected siblings. *Human Brain Mapping*, 37(10), 3474–3485. doi:10.1002/hbm.23253.

Knowles E. E., Kent J. W. Jr, McKay, D. R., Sprooten, E., **Mathias, S. R.**, Curran, J. E., Carless, M. A., de Almeida, M. A., Harald, H. H., Olvera, R. L., Fox, P. T., Duggirala, R., Almasy, L., Blangero, J., & Glahn, D. C. (2016). Genome-wide linkage on chromosome 10q26 for a dimensional scale of major depression. *Journal of Affective Disorders*, 191, 123–131. doi:10.1016/j.jad.2015.11.012.

Mathias, S. R., Knowles, E. E., Kent, J. W. Jr, McKay, D. R., Curran, J. E., Almeida, M. A., Dyer, T. D., Göring, H. H., Olvera, R. L., Duggirala, R., Fox, P. T., Almasy, L., Blangero, J. & Glahn, D. C. (2016). Recurrent major depression and right hippocampal volume: A bivariate linkage and association study. *Human Brain Mapping*, 37(1), 191–202. doi:10.1002/hbm.23025

- Sprooten, E., Gupta, C. N., Knowles, E. E., McKay, D. R., **Mathias, S. R.**, Curran, J. E., Kent, J. W., Carless, M. A., Almeida, M. A., Dyer, T. D., Göring, H. H., Olvera, R. L., Kochunov, P., Fox, P. T., Duggirala, R., Almasy, L., Calhoun, V. D., Blangero, J., Turner, J. A., & Glahn, D. C. (2015). Genome-wide significant linkage of schizophrenia-related neuroanatomical trait to 12q24. *American Journal of Medical Genetics. Part B: Neuropsychiatric Genetics*, 168(8), 678–786. doi:10.1002/ajmg.b.32360.
- Glahn, D. C., Sprooten, E., Knowles, E. E., McKay, D. R., **Mathias, S. R.**, Almasy, L., & Blangero, J. (2015). Imaging Genetics. In A. W. Toga & R. A. Poldrack (Eds.) *Brain mapping: An encyclopedic reference* (Vol. 3, pp. 929–932). Amsterdam: Elsevier. doi:10.1016/B978-0-12-397025-1.00112-3.
- Glahn, D. C., Williams, J. T., McKay, D. R., Knowles, E. E., Sprooten, E., **Mathias, S. R.**, Curran, J. E., Kent, J. W., Carless, M. A., Göring, H. H., Dyer, T. D., Woolsey, M. D., Winkler, A. M., Olvera, R. L., Kochunov, P., Fox, P. T., Duggirala, R., Almasy, L., & Blangero, J. (2015). Discovering schizophrenia endophenotypes in randomly ascertained pedigrees. *Biological Psychiatry*, 77(1), 75–83. doi:10.1016/j.biopsych.2014.06.027
- Knowles, E. E., **Mathias, S. R.**, McKay, D. R., Sprooten, E., Blangero, J., Almasy, L., & Glahn, D. C. (2014). Genome-wide analyses of working-memory ability: A review. *Current Behavioral Neuroscience Reports*, 1(4), 224–233. doi:10.1007/s40473-014-0028-8
- Roswadowitz, C., **Mathias, S. R.**, Hintz, F., Kreitewolf, J., Schelinski, S., & von Kriegstein, K. (2014). Two cases of selective developmental voice-recognition impairments. *Current Biology*, 24(19), 2348–53. doi:10.1016/j.cub.2014.08.048
- Mathias, S. R.**, & von Kriegstein, K. (2014). How do we recognise who is speaking? *Frontiers in Bioscience (Scholar Edition)*, 6, 92–109. doi:10.2741/S417
- Mathias, S. R.**, & von Kriegstein, K. (2014). Percepts, not acoustic properties, are the units of auditory short-term memory. *Journal of Experimental Psychology: Human Perception and Performance*, 40(2), 445–50. doi:10.1037/a0034890
- Mathias, S. R.**, Bailey, P. J., Semal, C., & Demany, L. (2011). A note about insensitivity to pitch-change direction. *The Journal of the Acoustical Society of America*, 130(4), EL129–34. doi:10.1121/1.3629139
- Mathias, S. R.**, Micheyl, C., & Bailey, P. J. (2010). Stimulus uncertainty and insensitivity to pitch-change direction. *The Journal of the Acoustical Society of America*, 127(5), 3026–37. doi:10.1121/1.3365252
- ORAL PRESENTATIONS
- Mathias, S. R.**, (2016). Unified analysis of accuracy and reaction times (RTs) via models of decision making. Workshop presentation at the 171st *Meeting of the Acoustical Society of America*, Salt Lake City, UT.
- Mathias, S. R.**, Shinn-Cunningham, B. G., Micheyl, C., & Oxenham, A. J. (2014). Adaptation reveals automatic pitch-shift detectors in the human auditory system. Podium presentation at the 167th *Meeting of the Acoustical Society of America*, Providence, RI.
- Mathias, S. R.**, Micheyl, C., & Shinn-Cunningham, B. G. (2014). Auditory and visual short-term memories are forgotten differently. Podium presentation at the 37th *Annual Midwinter Research Meeting of the Association for Research in Otolaryngology*, San Diego, CA.

REFEREES

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