# Mark James Adams

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## **Employment**

2024-	Senior Bioinformatician, Generation Scotland
2021-	Senior Research Fellow, Centre for Clinical Brain Sciences, University
	of Edinburgh
2017-2021	Data Scientist, Division of Psychiatry, University of Edinburgh
2015 – 2017	Post-doctoral Research Fellow, Division of Psychiatry, University of Ed-
	inburgh
2012 – 2015	Post-doctoral Research Associate, Department of Animal and Plant Sci-
	ences, University of Sheffield
2006 – 2007	Laboratory Technician, Drosophila Genetic Resource Center, Kyoto In-
	stitute of Technology

## Academic Service

2023– Academic Postgraduate Coordinator, Centre for Clinical Brain Sciences,

University of Edinburgh

## Education

2008-2012	PhD Psychology, University of Edinburgh
2007 - 2008	MSc Quantitative Genetics & Genome Analysis, University of Edinburgh
1999-2003	AB Theoretical Evolutionary Biology, Cornell University

### **External Roles**

#### Psychiatric Genomics Consortium

2025-	Core Analytical Group Co-Director, Major Depressive Disorder Working
	Group
2019-	Open Science Maintainer
2019 – 2025	Stage 2 Analyst, Major Depressive Disorder Working Group
2017 – 2019	Data Access Committee Representative, Major Depressive Disorder
	Working Group

#### **Publications**

#### As Lead Author

Studies designed and lead.

Adams, M. J., Streit, F., Meng, X., Awasthi, S., Adey, B. N., Choi, K. W., Chundru, V. K., Coleman, J. R. I., Ferwerda, B., Foo, J. C., Gerring, Z. F., Giannakopoulou, O., Gupta, P., Hall, A. S. M., Harder, A., Howard, D. M., Hübel, C., Kwong, A. S. F., Levey, D. F., ... McIntosh, A. M. (2025). Trans-ancestry genome-wide study of depression identifies 697 associations implicating cell types and pharmacotherapies. *Cell.* https://doi.org/10.1016/j.cell.2024.12.002

Adams, M. J., Thorp, J. G., Jermy, B. S., Kwong, A. S. F., Kõiv, K., Grotzinger, A. D., Nivard, M. G., Marshall, S., Milaneschi, Y., Baune, B. T., & et al. (2024). Genome-wide meta-analysis of ascertainment and symptom structures of major depression in case-enriched and community cohorts. *Psychological Medicine*, 54 (12), 3459–3468. https://doi.org/10.1017/S00332917240018

Adams, M., Hill, W., Howard, D., Dashti, H., Davis, K., Campbell, A., Clarke, T.-K., Deary, I., Hayward, C., Porteous, D., Hotopf, M., & McIntosh, A. (2019). Factors associated with sharing e-mail information and mental health survey participation in large population cohorts. *International Journal of Epidemiology*. https://doi.org/10.1093/ije/dyz134

Adams, M., Howard, D., Luciano, M., Clarke, T.-K., Davies, G., Hill, W., Smith, D., Deary, I., Porteous, D., McIntosh, A., 23andMe Research Team, & Major Depressive Disorder Working Group of the Psychiatric Genomics Consortium. (2019). Genetic stratification of depression by neuroticism: Revisiting a diagnostic tradition. *Psychological Medicine*, 1–10. https://doi.org/10.1017/S0033291719002629

Arden, R., & Adams, M. (2016). A general intelligence factor in dogs. *Intelligence*, 55, 79–85. https://doi.org/10.1016/j.intell.2016.01.008

Adams, M., Bonaventura, M., Ostner, J., Schulke, O., De Marco, A., Thierry, B., Engelhardt, A., Widdig, A., Gerald, M., & Weiss, A. (2015). Personality structure and social style in macaques. Journal of Personality and Social Psychology, 109(2), 338–353. https://doi.org/10.1037/pspp0000041

Adams, M., Robinson, M., Mannarelli, M., & Hatchwell, B. (2015a). Social genetic and social environment effects on parental and helper care in a cooperatively breeding bird. *Proceedings of the Royal Society B-Biological Sciences*, 282(1810). https://doi.org/10.1098/rspb.2015.0689

Adams, M. (2014). Feasibility and uncertainty in behavior genetics for the nonhuman primate. *International Journal of Primatology*, 35(1), 156–168. https://doi.org/10.1007/s10764-013-972 2-8

Hatchwell, B., Gullett, P., & Adams, M. (2014). Helping in cooperatively breeding long-tailed tits: A test of Hamilton's rule. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 369(1642). https://doi.org/10.1098/rstb.2013.0565

Adams, M., King, J., & Weiss, A. (2012). The majority of genetic variation in orangutan personality and subjective well-being is nonadditive. *Behavior Genetics*, 42, 675–686. https://doi.org/10.1007/s10519-012-9537-y

#### Reviews & Commentary

Adams, M. J. (2023). Leveraging family relatedness to detect participation bias in genetic studies. *Nature Genetics*. https://doi.org/10.1038/s41588-023-01440-9

Arden, R., Bensky, M., & Adams, M. (2016). A review of cognitive abilities in dogs, 1911 through 2016: More individual differences, please! *Current Directions in Psychological Science*, 25(5), 307–312. https://doi.org/10.1177/0963721416667718

#### As Main Author

Provided primary data, analysis, and design.

Davyson, E., Shen, X., Huider, F., Adams, M. J., Borges, K., McCartney, D. L., Barker, L. F., van Dongen, J., Boomsma, D. I., Weihs, A., Grabe, H. J., Kühn, L., Teumer, A., Völzke, H., Zhu, T., Kaprio, J., Ollikainen, M., David, F. S., Meinert, S., ... McIntosh, A. M. (2025). Insights from a methylome-wide association study of antidepressant exposure. *Nature Communications*, 16(1), 1908. https://doi.org/10.1038/s41467-024-55356-x

Edmondson-Stait, A. J., Davyson, E., Shen, X., Adams, M. J., Khandaker, G. M., Miron, V. E., McIntosh, A. M., Lawrie, S. M., Kwong, A. S., & Whalley, H. C. (2025). Associations between il-6 and trajectories of depressive symptoms across the life course: Evidence from alspac and uk biobank cohorts. *European Psychiatry*, 68(1), e27. https://doi.org/10.1192/j.eurpsy.2025.7

Kanjira, S. C., Adams, M. J., Jiang, Y., Tian, C., 23andMe Research Team, Lewis, C. M., Kuchenbaecker, K., & McIntosh, A. M. (2025). Polygenic prediction of major depressive disorder and related traits in african ancestries uk biobank participants. *Molecular Psychiatry*, 30(1), 151–157. https://doi.org/10.1038/s41380-024-02662-x

Grimes, P. Z., Adams, M. J., Thng, G., Edmonson-Stait, A. J., Lu, Y., McIntosh, A., Cullen, B., Larsson, H., Whalley, H. C., & Kwong, A. S. F. (2024). Genetic Architectures of Adolescent Depression Trajectories in 2 Longitudinal Population Cohorts. *JAMA Psychiatry*. https://doi.org/10.1001/jamapsychiatry.2024.0983

Thng, G., Shen, X., Stolicyn, A., Adams, M. J., Yeung, H. W., Batziou, V., Conole, E. L. S., Buchanan, C. R., Lawrie, S. M., Bastin, M. E., & et al. (2024). A comprehensive hierarchical comparison of structural connectomes in major depressive disorder cases v. controls in two large population samples. *Psychological Medicine*, 54 (10), 2515–2526. https://doi.org/10.1017/S0033 291724000643

Yeung, H. W., Stolicyn, A., Shen, X., Adams, M. J., Romaniuk, L., Thng, G., Buchanan, C. R., Tucker-Drob, E. M., Bastin, M. E., McIntosh, A. M., Cox, S. R., Smith, K. M., & Whalley, H. C. (2024). Classification accuracy of structural and functional connectomes across different depressive phenotypes. *Imaging Neuroscience*, 2, 1–24. https://doi.org/10.1162/imag\_a\_00064

Davyson, E., Shen, X., Gadd, D. A., Bernabeu, E., Hillary, R. F., McCartney, D. L., Adams, M., Marioni, R., & McIntosh, A. M. (2023). Metabolomic investigation of major depressive disorder identifies a potentially causal association with polyunsaturated fatty acids. *Biological Psychiatry*. https://doi.org/10.1016/j.biopsych.2023.01.027

de Nooij, L., Adams, M. J., Hawkins, E. L., Romaniuk, L., Munafò, M. R., Penton-Voak, I. S., Elliott, R., Bland, A. R., Waiter, G. D., Sandu, A.-L., & et al. (2023). Associations of negative affective biases and depressive symptoms in a community-based sample. *Psychological Medicine*, 53(12), 5518–5527. https://doi.org/10.1017/S0033291722002720

Gao, C., Amador, C., Walker, R. M., Campbell, A., Madden, R. A., Adams, M. J., Bai, X., Liu, Y., Li, M., Hayward, C., Porteous, D. J., Shen, X., Evans, K. L., Haley, C. S., McIntosh, A. M., Navarro, P., & Zeng, Y. (2023). Phenome-wide analyses identify an association between the parent-of-origin effects dependent methylome and the rate of aging in humans. *Genome Biology*, 24(1), 117. https://doi.org/10.1186/s13059-023-02953-6

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- Chuong, M., Adams, M. J., Kwong, A. S. F., Haley, C. S., Amador, C., & McIntosh, A. M. (2022). Genome-by-Trauma Exposure Interactions in Adults With Depression in the UK Biobank. JAMA Psychiatry, 79(11), 1110–1117. https://doi.org/10.1001/jamapsychiatry.2022.2983
- Grotzinger, A. D., Mallard, T. T., Akingbuwa, W. A., Ip, H. F., Adams, M. J., Lewis, C. M., McIntosh, A. M., Grove, J., Dalsgaard, S., Lesch, K.-P., Strom, N., Meier, S. M., Mattheisen, M., Børglum, A. D., Mors, O., Breen, G., Meier, S. M., Lee, P. H., Kendler, K. S., ... Schizophrenia Working Group of the Psychiatric Genetics Consortium. (2022). Genetic architecture of 11 major psychiatric disorders at biobehavioral, functional genomic and molecular genetic levels of analysis. *Nature Genetics*. https://doi.org/10.1038/s41588-022-01057-4
- Shen, X., Caramaschi, D., Adams, M. J., Walker, R. M., Min, J. L., Kwong, A., Hemani, G., Barbu, M. C., Whalley, H. C., Harris, S. E., Deary, I. J., Morris, S. W., Cox, S. R., Relton, C. L., Marioni, R. E., Evans, K. L., McIntosh, A. M., & Genetics of DNA Methylation Consortium. (2022). DNA methylome-wide association study of genetic risk for depression implicates antigen processing and immune responses. *Genome Medicine*, 14(1), 36. https://doi.org/10.1186/s13073-022-01039-5
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- Shen, X., MacSweeney, N., Chan, S., Barbu, M., Adams, M., Lawrie, S., Romaniuk, L., McIntosh, A., & Whalley, H. (2021). Brain structural associations with depression in a large early adolescent sample (the ABCD study®). *EClinicalMedicine*, 42. https://doi.org/10.1016/j.eclinm.2021.10 1204
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Contributed data to secondary analysis or as a consortium member.

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Czamara, D., Eraslan, G., Page, C., Lahti, J., Lahti-Pulkkinen, M., Hämäläinen, E., Kajantie, E., Laivuori, H., Villa, P., Reynolds, R., Nystad, W., Håberg, S., London, S., O'Donnell, K., Garg, E., Meaney, M., Entringer, S., Wadhwa, P., Buss, C., ... Consortium, M. (2019). Integrated analysis of environmental and genetic influences on cord blood DNA methylation in new-borns. *Nature Communications*, 10(1). https://doi.org/10.1038/s41467-019-10461-0

Walters, R., Polimanti, R., Johnson, E., Mcclintick, J., Adams, M., Adkins, A., Aliev, F., Bacanu, S.-A., Batzler, A., Bertelsen, S., Biernacka, J., Bigdeli, T., Chen, L.-s., Clarke, T.-K., Chou, Y.-l., Degenhardt, F., Docherty, A., Edwards, A., Fontanillas, P., ... Agrawal, A. (2018). Transancestral GWAS of alcohol dependence reveals common genetic underpinnings with psychiatric disorders. *Nature Neuroscience*, 21(12), 1656–1669. https://doi.org/10.1038/s41593-018-0275-1

Marioni, R., Ritchie, S., Joshi, P., Hagenaars, S., Okbay, A., Fischer, K., Adams, M., Hill, W., Davies, G., Nagy, R., Amador, C., Läll, K., Metspalu, A., Liewald, D., Campbell, A., Wilson, J., Hayward, C., Esko, T., Porteous, D., ... Gale, C. (2016). Genetic variants linked to education predict longevity. *Proceedings of the National Academy of Sciences*, 113(47), 13366–13371. https://doi.org/10.1073/pnas.1605334113

#### **Book Chapters**

Weiss, A., & Adams, M. (2013). Differential behavioral ecology. In C. Carere & D. Maestripieri (Eds.), *Animal personalities: Behavior, physiology, and evolution* (pp. 94–123). The University of Chicago Press.

Adams, M. (2011). Evolutionary genetics of personality in nonhuman primates. In M. Inoue-Murayama, A. Weiss, & S. Kawamura (Eds.), From genes to animal behavior: Social structures, personality, communication by color (pp. 137–164). Springer. https://doi.org/10.1007/978-4-431-53892-9\_6

Weiss, A., & Adams, M. (2010, January). Personality, temperament, and behavioral syndromes. In G. Koob, M. Le Moal, & R. Thompson (Eds.), *Encyclopedia of behavioral neuroscience* (3rd ed., pp. 47–53). Elsevier. https://doi.org/10.1016/B978-0-08-045396-5.00117-2

#### Invited talks

2019 College of Medicine, University of Malawi
 2014 Institute of Psychiatry, King's College London
 Department of Psychology, University of Sheffield

Department of Psychology, University of Sheffield Department of Psychology, University of York

2013 German Primate Center. Göttingen

## **Teaching**

#### Undergraduate

Genetic and Environmental Influences on Behaviour and Mental Health Data Science for Health and Biomedical Sciences Medical Science 4 seminar on "Psychiatric Genetics" Psychology 2 Practical Course (tutor) Psychology 3 Methods (tutor)

#### Postgraduate

Univariate and Multivariate Statistics with R

#### Workshops

GenomicSEM Module, International Statistical Genetics Workshop

# Supervision

#### **Doctoral students**

2021	Keira Johnston, Precision Medicine
2023	Melissa Lewins, Precision Medicine

2025 Ella Davyson, Biomedical Artificial Intelligence

#### MSc & Honours Students

U of Edinburgh Quantitative Genetics & Genome Analysis

Biomedical Artificial Intelligence

Integrative Neuroscience

Biomedical Sciences and Medical Sciences

U of Sheffield Undergraduate Research Experience

## Grants

2025-2029	Wellcome Trust. What is the molecular genetic basis of anxiety in a very-low-income African setting? The Genetics of Anxiety In Malawi (G-AIM) Study. (309744/Z/24/Z) £3,976,039. (Co-I)
2025	BHF REA4 Pump Priming Award. Multi-ancestry finemapping of gene clusters implicated in cardiovascular disease and mental health. (RE/24/130012). £3500
2021-2024	Medical Research Council. DATAMIND: Data Hub for Mental health INformatics research Development. £225,575. (Co-I)
2014	Wellcome Trust. Inferring genetic architecture from high-density genemic data. £2000 (Co-I)
2010	Moray Endowment Fund Award. Selection on human personality. £2280.
2009	Sasakawa Foundation. Personality in Japanese macaques. £1000.

## Awards

2012	Fulker Award, Behavior Genetics Association (Given to a paper of unusual merit that appeared in the most recent volume of Behavior Genet-
2008	ics) Sir Kenneth Mather Memorial Prize, Genetics Society. (Outstanding performance in the area of quantitative genetics.)

# Knowledge Exchange

2021	Evidence Submitted to Cross Party Group – Mental Health, Scottish
	Parliament
	Depression Detectives, online participant-led research forum.
2020	Consultation on Digital Strategy for Scotland, Scottish Government NHS Research Scotland Mental Health Annual Scientific Meeting

# Consulting & Industry Collaborations

23andMe Baillie Gifford

### **Open Science**

#### Code repositories

Personal https://github.com/mja

Group https://github.com/ccbs-stradl

Consortium https://github.com/psychiatric-genomics-consortium

#### **Datasets**

Wigmore, E., Hafferty, J., Hall, L., Howard, D., Clarke, T.-K., Fabbri, C., Lewis, C., Uher, R., Navrady, L., Adams, M., Zeng, Y., Campbell, A., Gibson, J., Thomson, P., Hayward, C., Smith, B., Hocking, L., Padmanabhan, S., Deary, I., ... McIntosh, A. (2020). Genome-wide association summary statistics of antidepressant treatment resistance meta-analysis, [dataset]. https://doi.org/10.7488/ds/2791

Adams, M., McIntosh, A., Campbell, A., Dashti, H., Hill, W. D., Howard, D., Davis, K., Clarke, T.-K., Deary, I., Hayward, C., Porteous, D., & Hotopf, M. (2019). Factors associated with sharing email information and mental health survey participation in large population cohorts, 2006-2017 [dataset]. https://doi.org/10.7488/ds/2554

Howard, D., Adams, M., Clarke, T.-K., Hafferty, J., Gibson, J., Shirali, M., Coleman, J., Ward, J., Wigmore, E., Alloza, C., Shen, X., Barbu, M., Xu, E., Whalley, H., Marioni, R., Porteous, D., Davies, G., Deary, I., Hemani, G., ... McIntosh, A. (2019). Genome-wide meta-analysis of depression identifies 102 independent variants and highlights the importance of the prefrontal brain regions, [dataset]. https://doi.org/10.7488/ds/2458

Howard, D., Adams, M., Shirali, M., Clarke, T.-K., Marioni, R., Davies, G., Coleman, J., Alloza, C., Shen, X., Barbu, M., Wigmore, E., Gibson, J., 23andMe Research Team, Hagenaars, S., Lewis, C., Ward, J., Smith, D., Sullivan, P., Haley, C., ... McIntosh, A. (2018a). Summary statistics for three depression phenotypes in UK Biobank, [dataset]. https://doi.org/10.7488/ds/2350

Adams, M. J., Robinson, M. R., Mannarelli, M.-E., & Hatchwell, B. (2015b). Data from: Social genetic and social environment effects on parental and helper care in a cooperatively breeding bird. https://doi.org/10.5061/dryad.9nj6s

#### **Journals**

#### **Editorial Boards**

2014–2016 Frontiers in Evolutionary and Population Genetics

#### Reviewer

American Journal of Primatology, Animal Behaviour, BJPsychOpen, Behavioral Ecology and Sociobiology, Biological Psychiatry, Evolution, Intelligence, International Journal of Primatology, JAMA Psychiatry, Journal of Comparative Psychology, Journal of Research in Personality, Journal of the American Academy of Child and Adolescent Psychiatry, Lancet Psychiatry, Molecular Psychiatry, Proceedings of the Royal Society B, Psychological Science,