

Baptiste Couvy-Duchesne

Researcher

Contact

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Metrics

55+ peer-reviewed
articles
14 as first author
1 as last author
6005 citations
h-index: 26
i10-index: 39

IT

Statistical
R (incl. OpenMx),
gcta, PLINK,
SAS
Languages
R, Bash, SQL, Matlab,
JAVA, Python

Languages

French Mother tongue
English Full
professional
proficiency

Work and Education

- 2021–now Inria starting faculty position Paris Brain Institute, Paris, France
New methods for the analysis of big-data neuroimaging
- 2019–now NHMRC Early career fellowship Paris Brain Institute, Paris, France
Multi-modal MRI analysis of psychiatric and neurological disorders, from brain markers to prediction
- 2017–2019 Post-Doctorate Researcher in human genetics Institute for Molecular Bioscience, the University of Queensland, Brisbane, Australia
Brain MRI images and genetics of complex traits
- 2013–2017 PhD in Neuroimaging genetics Queensland Brain Institute, The University of Queensland (UQ), Brisbane, Australia
Breaking down the genetics of Major Depressive Disorder using brain imaging endophenotypes
- 2009–2012 Dual Master of Science in Statistics “*Diplome d’Ingénieur*” and in Epidemiology and Pharmacology
National School for Statistics and Information Analysis (ENSAI), Faculty of Health, University of Rennes 1, Rennes, France

Talks and Posters

- 2023 Ethics by design: Recommendations for good practice to integrate ethics from the development stage of Artificial Intelligence solutions in Health
CONFERENCE PRESENTATION, Australian Dementia Research Forum, Gold Coast, Australia
- 2021 Association and prediction of phenotypic traits from neuroimaging data using a multi-component mixed model excluding the target vertex
CONFERENCE PRESENTATION, SPIE Medical Imaging, (online)
- 2020 Linear Mixed Models minimise false positive rate and enhance precision of mass-univariate vertex-wise analyses of grey-matter
POSTER, Organisation for Human Brain Mapping (OHBM), (online)
POSTER, International Symposium on Biomedical Imaging, Iowa (online)
- 2019 Widespread associations between grey-matter structure and the human phenotype
CONFERENCE PRESENTATION, UK Biobank conference, London, UK
- 2018 CONFERENCE PRESENTATION, GENEMAPPER conference, Noosa, Australia
CONFERENCE PRESENTATION, Imaging @ Brisbane, Australia
- 2017 Multi-Instrument Mendelian Randomisation
INVITED SPEAKER, International Congress of Twin Studies, Madrid, Spain
- 2017 Inter-individual cortical and subcortical similarity is associated with differences in psychiatric, cognition and socio-economic traits
POSTER, World Congress in Psychiatry Genetics, Orlando, Florida
- 2016 Power of multivariate GWAS: real case scenarios using brain phenotypes from MRI
CONFERENCE PRESENTATION, Behavioural Genetics Association, Brisbane, Australia

2015	Non-linear association of anxiety-depression (SPHERE) score with cortical surface and surface area CONFERENCE PRESENTATION, Behavioural Genetics Association, San Diego, California POSTER, American Society of Human Genetics, Baltimore, MD
2014	Depression / Anxiety and somatoform trajectories across adolescence in relation with later diagnosis of Major Depressive Disorder: a longitudinal twin study POSTER, World Congress of Psychiatry Genetics, Copenhagen, Denmark
2012	Heritability of resting-state functional connectivity with Broca's language area POSTER, GENEMAPPER conference, 2012, Port Douglas, Australia

Grants, Scholarships and Awards

2021	EU Joint Program – Neurodegenerative Disease Research	3 years grant funding
2019	3rd best age prediction from MRI images	Predictive Analytics Competition
2019	UK Biobank early career researcher award (runner-up)	UK Biobank conference
2018	Early career fellowship (CJ. Martin)	National Health and Medical Research Council
2018	Best lightening talk	GENEMAPPERS
2017	Early Career Investigator Award	World Congress of Psychiatry Genetics
2016	QBI postgraduate conference, best exit seminar	Queensland Brain Institute
2015	Thompson Award, Best student presentation	Behavioural Genetic Association
2015	Bursary	PGC Analyst Training Summer School
2015	GSITA travel scholarship	UQ Graduate School
2015	Conference Travel Award	Behavioural Genetic Association
2014	International Travel Award	School of Psychology
2013	PhD living stipend and fee waiver	UQ International Scholarship

Supervision

2022	Lead supervision of PhD student <i>Methods for big-data neuroimaging</i>	Paris, France
2021	Co-supervision of PhD student <i>study of incomplete Hippocampal Inversion</i>	Paris, France
2021	Supervision of Master's student <i>Brain markers of risk taking behaviour</i>	Paris, France
2020	Supervision of Master's student <i>Predicting Alzheimer's risk from polygenic risk scores and grey-matter structure</i>	Paris, France
2018	Co-supervision of PhD student <i>Genetic influences on substance use behaviour and disorders and psychiatric disorders</i>	Brisbane, Australia
2018	Supervision of undergraduate students <i>Factors associated with advanced brain ageing in ADNI</i>	Brisbane, Australia
2017	Co-supervision of Honours students <i>Cortical and subcortical brain changes in depression</i>	Brisbane, Australia

2016	Supervision of summer/winter students <i>Genetic architecture of brain phenotypes - Comorbidities in Psychiatry</i>	Brisbane, Australia
2015	Supervision of a summer student <i>Studying the impact of fMRI processing options on measurement reliability</i>	Brisbane, Australia

Teaching

2022	iMind Master degree <i>Ethical issues with predictions based on OMICS or imaging data</i>	Paris, France
2022	International Statistical Genetics Workshop <i>A review of genetic models and analyses</i>	Boulder, USA
2021	iMind Master degree <i>Ethical issues with predictions based on OMICS or imaging data</i>	Paris, France
2021	International Statistical Genetics Workshop <i>Practical tutor</i>	Boulder, USA

First or last author papers

Main existing datasets for open data research on humans

Couvy-Duchesne, B., S. Bottani, E. Camenen, F. Fang, M. Fikere, J. Gonzalez-Astudillo, J. Harvey, R. Hassanaly, I. Kassam, P.A. Lind, Q. Liu, Y. Lu, M. Nabais, T. Rolland, J. Sidorenko, L. Strike, and M. Wright
Springer book (2022)

Parsimonious model for mass-univariate vertexwise analysis

Couvy-Duchesne, B., F. Zhang, K.E. Kemper, J. Sidorenko, N. Wray, P.M. Visscher, O. Colliot, and J. Yang
Journal of Medical Imaging (2022)

A quantified comparison of cortical atlases on the basis of trait morphometricity

Fürtjes, Anna E., James H. Cole, Baptiste Couvy-Duchesne, and Stuart J. Ritchie
Cortex (2022)

Association and prediction of phenotypic traits from neuroimaging data using a multi-component mixed model excluding the target vertex

Couvy-Duchesne, B., F. Zhang, K.E. Kemper, J. Sidorenko, N. Wray, P.M. Visscher, J. Yang, and O. Colliot
Medical Imaging 2021: Image Processing (Apr. 2021)

A unified framework for association and prediction from vertex-wise grey-matter structure

Couvy-Duchesne, B., F. Zhang, K.E. Kemper, J. Sidorenko, O. Colliot, N. Wray, J. Yang, and P.M. Visscher
Human Brain Mapping (Feb. 2020)

Linear Mixed Models minimise false positive rate and enhance precision of mass-univariate vertex-wise analyses of grey-matter

Couvy-Duchesne, B., F. Zhang, K.E. Kemper, J. Sidorenko, N. Wray, P.M. Visscher, O. Colliot, and J. Yang
IEEE proceedings (Apr. 2020)

Higher Genetic Risk For Schizophrenia Is Associated With Living In Urban And Populated Areas

Colodro Conde*, L., B. Couvy-Duchesne*, G. Zhu, A. Meyer-Lindenberg, M. Rietschel, S. Medland, J. Whitfield, and N. Martin
JAMA psychiatry (Sept. 2018)

Nineteen and Up study (19Up): understanding pathways to mental health disorders in young Australian twins

Couvy-Duchesne*, B., V. O'Callaghan*, R. Parker, N. Mills, K.M. Kirk, J. Scott, A. Vinkhuyzen, D.F. Hermens, P.A. Lind, T.A. Devenport, J.M. Burns, M. Connell, B.P. Zietsch, J. Scott, M.J. Wright, S.E. Medland, J. McGrath, N.G. Martin, I.B. Hickie, and N.A. Gillespie

BMJ Open (Apr. 2018)

A Fast Method for Estimating Statistical Power of Multivariate GWAS in Real Case Scenarios: Examples from the Field of Imaging Genetics

Couvry-Duchesne, B., L. Strike, K.L. McMahon, G.I. de Zubicaray, P.M. Thompson, N. Martin, S.E. Medland, and M.J. Wright

Behavior Genetics (Dec. 2018)

Lingual Gyrus surface area is associated with anxiety-depression severity in young adults: a genetic clustering approach

Couvry-Duchesne, B., L.T. Strike, G.I. de Zubicaray, K.L. McMahon, P.M. Thompson, I.B. Hickie, N.G. Martin, and M.J. Wright

eNeuro (Jan. 2018)

A direct test of the diathesis-stress model for depression

Colodro-Conde*, L., B. Couvy-Duchesne*, G. ZU, W.L. Coventry, E. Byrne, S. Gordon, M.J. Wright, G.W. Montgomery, P.A.F. Madden, MDD working group of the PGC, S. Ripke, L.J. Eaves, A.C. Heath, N.R. Wray, S.E. Medland, and N.G. Martin

Molecular Psychiatry (July 2017)

Validation and psychometric properties of the Somatic and Psychological Health REport (SPHERE) in a young Australian-based population sample using non-parametric item response theory

Couvry-Duchesne, B., T.A. Davenport, N.H. Martin, M.J. Wright, and I.B. Hickie

BMC Psychiatry 17 (Aug. 2017)

Head Motion and Inattention/Hyperactivity Share Common Genetic Influences: Implications for fMRI Studies of ADHD

Couvry-Duchesne, B., J.L. Ebejer, N.A. Gillespie, D.L. Duffy, I.B. Hickie, P.M. Thompson, N.G. Martin, G.I. de Zubicaray, K.L. McMahon, S.E. Medland, and M.J. Wright

PLoS ONE (Jan. 2016)

Genetics and Brain Morphology

Strike*, L.T., B. Couvy-Duchesne*, N.K. Hansell*, G. Cuellar-Partida, S.E. Medland, and M.J. Wright

Neuropsychology Review (Feb. 2015)

Heritability of head motion during resting state functional MRI in 462 healthy twins

Couvry-Duchesne, B., G.A.M. Blokland, I.B. Hickie, P.M. Thompson, N.G. Martin, G.I. de Zubicaray, K.L. McMahon, and M.J. Wright

NeuroImage 102, Part 2 (Nov. 2014) pp. 424–434

Consortia and collaboration papers (selection)

The role of critical immune genes in brain disorders: insights from neuroimaging immunogenetics

Brain communications, 2022

Structural brain alterations associated with suicidal thoughts and behaviors in young people: results from 21 international studies from the ENIGMA Suicidal Thoughts and Behaviours consortium

Molecular Psychiatry, 2022

Brain aging in major depressive disorder: results from the ENIGMA major depressive disorder working group

Molecular Psychiatry (2021)

Risk prediction of late-onset Alzheimer's disease implies an oligogenic architecture

Nature Communications (2020)

Region-specific sex differences in the hippocampus

Neuroimage (2020)

ENIGMA MDD: seven years of global neuroimaging studies of major depression through worldwide data sharing

Translational Psychiatry (2020)

Associations between brain structure and perceived intensity of sweet and bitter tastes

Behavioural Brain Research (2019)

Genome-wide association analyses identify 44 risk variants and refine the genetic architecture of major depression

Nature (2018)

Genetic Complexity of Cortical Structure: Differences in Genetic and Environmental Factors Influencing Cortical Surface Area and Thickness

Cerebral Cortex (2018)

The Genetic Relationship Between Psychological Distress, Somatic Distress, Affective Disorders, and Substance Use in Young Australian Adults: A Multivariate Twin Study

Twin Research and Human Genetics (2018)

Hair Cortisol in Twins: Heritability and Genetic Overlap with Psychological Variables and Stress-System Genes

Scientific Reports (2017)

Subcortical brain structure and suicidal behaviour in major depressive disorder: a meta-analysis from the ENIGMA-MDD working group

Translational Psychiatry (2017)

Genetic effects influencing risk for major depressive disorder in China and Europe

Translational Psychiatry (2017)

Cortical Abnormalities in Adults and Adolescents with Major Depression based on Brain Scans from 20 Cohorts Worldwide in the ENIGMA Major Depressive Disorder Working Group

Molecular Psychiatry (2016)

Genome-wide analysis of over 106,000 individuals identifies 9 neuroticism-associated loci

Molecular Psychiatry (2016)

Association of psychiatric profile measures with binocular rivalry rate (BRR): Implications for slow BRR as an endophenotype for bipolar disorder

Twin Research and Human Genetics (2016)

Subcortical Brain Alterations in Major Depressive Disorder: findings from the ENIGMA Major Depressive Disorder Working Group

Molecular Psychiatry (2015)