

Curriculum Vitae Darina Czamara

Personal Information

Date of birth 01.02.1982 in Munich, Germany

Nationality German

Family status married, two children

Work experience

since December 2019 Team leader for Translational Genomics at the Department of Translation Research in Psychiatry, Max-Planck-Institute of Psychiatry, Munich:

- Supervision of PhD and Master students
- Data management
- Statistical planning and analysis of:
 - genome-wide associations studies
 - epigenome-wide methylation studies
 - differential gene expression studies
- Statistical counselling
- Statistical service

February 2014 – December 2019 Staff scientist at the Department of Translation Research in Psychiatry, Max-Planck-Institute of Psychiatry, Munich:

- Supervision of PhD students
- Statistical analysis of:
 - genome-wide associations studies
 - epigenome-wide methylation studies
 - candidate-gene studies
 - gene x gene, gene x environment studies
- Statistical counselling
- Statistical service

December 2009 – January 2014 Post-doctoral scientist at the Statistical Genetics Research Group, Max-Planck-Institute of Psychiatry, Munich:

- Supervision of PhD students
- Statistical analysis of genome-wide associations studies
- Statistical analysis of candidate-gene studies
- Statistical counselling

August 2008 - August 2011	Teaching at Erasmus Summer School, Rotterdam: “Whole-genome association analysis”
December 2006-December 2009	Scientific assistant at the Statistical Genetics Research Group, Max-Planck-Institute of Psychiatry, Munich: <ul style="list-style-type: none"> • PhD thesis: “Selected statistical issues in the analysis of genome-wide association studies using quantitative and qualitative phenotypes“ • Supervision of master students • Statistical analysis of genome-wide associations studies • Statistical analysis of candidate-gene studies
November 2005-August 2006	Student assistant at the Institute for Biomathematics and Biometrics, Helmholtz-Centre, Munich: <ul style="list-style-type: none"> • Diploma thesis: “Selection of parameters for penalized log-likelihood estimation“ • Supervision of student assistants

Education

December 2009	PhD in statistics (degree Dr. rer. nat.)
April 2007-December 2009	PhD student in statistics at the Ludwig-Maximilians-University, Munich
September 2006	Diploma degree in statistics
October 2001-September 2006	Ludwig-Maximilians-University, Munich studies in statistics
September 1992-June 2001	Maria-Ward-Gymnasium, Munich

Publications (up to March 2021)

Book Chapters

- 1) **Czamara D**, Metha D. Statistical genetic concepts in psychiatric genomics. *Personalized Psychiatry*. 1st Edition, 2019. Academic Press.
- 2) Mehta D, **Czamara D**. GWAS of Behavioural Traits. *Curr Top Behav Neurosci*. 2019 Aug 3. doi:10.1007/7854_2019_105.

- 3) Keverne J, **Czamara D**, Cubells JF and Binder EB. Genetics and Genomics. In Schatzberg, A and Nemeroff CB (Eds.) *The American Psychiatric Association Publishing Textbook of Psychopharmacology*, Fifth Edition.

Peer-reviewed articles

- 1) Lopez JP, Brivio E, Santambrogio A, De Donno C, Kos A, Peters M, Rost N, **Czamara D**, Brückl TM, Roeh S, Pöhlmann ML, Engelhardt C, Ressler A, Stoffel R, Tontsch A, Villamizar JM, Reincke M, Riester A, Sbiera S, Fassnacht M, Mayberg HS, Craighead WE, Dunlop BW, Nemeroff CB, Schmidt MV, Binder EB, Theis FJ, Beuschlein F, Andoniadou CL, Chen A. Single-cell molecular profiling of all three components of the HPA axis reveals adrenal ABCB1 as a regulator of stress adaptation. *Sci. Adv.* 2021 Jan 27;7(5):eabe4497.
- 2) **Czamara D**, Tissink E, Tuhkanen J, Martins J, Awaloff Y, Drake AJ, Khulan B, Palotie A, Winter SM, Nemeroff CB, Craighead WE, Dunlop BW, Mayberg HS, Kinkead B, Mathew SJ, Iosifescu DV, Neylan TC, Heim CM, Lahti J, Eriksson JG, Räikkönen K, Ressler KJ, Provençal N, Binder EB. Combined effects of genotype and childhood adversity shape variability of DNA methylation across age. *Transl Psychiatry.* 2021 Feb 1;11(1):88.
- 3) van Dongen J, Hagenbeek FA, Suderman M, Roetman PJ, Sugden K, Chiocchetti AG, Ismail K, Mulder RH, Hafferty JD, Adams MJ, Walker RM, Morris SW, Lahti J, Küpers LK, Escaramis G, Alemany S, Jan Bonder M, Meijer M, Ip HF, Jansen R, Baselmans BML, Parmar P, Lowry E, Streit F, Sirignano L, Send TS, Frank J, Jylhävä J, Wang Y, Mishra PP, Colins OF, Corcoran DL, Poulton R, Mill J, Hannon E, Arseneault L, Korhonen T, Vuoksima E, Felix JF, Bakermans-Kranenburg MJ, Campbell A, **Czamara D**, Binder E, Corpeleijn E, Gonzalez JR, Grazuleviciene R, Gutzkow KB, Evandt J, Vafeiadi M, Klein M, van der Meer D, Ligthart L; BIOS Consortium, Kluft C, Davies GE, Hakulinen C, Keltikangas-Järvinen L, Franke B, Freitag CM, Konrad K, Hervas A, Fernández-Rivas A, Vetro A, Raitakari O, Lehtimäki T, Vermeiren R, Strandberg T, Räikkönen K, Snieder H, Witt SH, Deuschle M, Pedersen NL, Hägg S, Sunyer J, Franke L, Kaprio J, Ollikainen M, Moffitt TE, Tiemeier H, van IJzendoorn MH, Relton C, Vrijheid M, Sebert S, Jarvelin MR, Caspi A, Evans KL, McIntosh AM, Bartels M, Boomsma DI. DNA methylation signatures of aggression and closely related constructs: A meta-analysis of epigenome-wide studies across the lifespan. *Mol Psychiatry.* 2021. Jan 8, doi:10.1038/s41380-020-00987-x.
- 4) Sarmallahti S, Cortes Hidalgo AP, Tuominen S, Malmberg A, Mulder RH, Brunst KJ, Alemany S, McBride NS, Yousefi P, Heiss JA, McRae N, Page CM, Jin J, Pesce G, Caramaschi D, Rifas-Shiman SL, Koen N, Adams CD, Magnus MC, Baiz N, Ratanatharathorn A, **Czamara D**, Håberg SE, Colicino E, Baccarelli AA, Cardenas A, DeMeo DL, Lawlor DA, Relton CL, Felix JF, van IJzendoorn MH, Bakermans-Kranenburg MJ, Kajantie E, Räikkönen K, Sunyer J, Sharp GC, Houtepen LC, Nohr EA, Sørensen TIA, Téllez-Rojo MM, Wright RO, Annesi-Maesano I, Wright J, Hivert MF, Wright RJ, Zar HJ, Stein DJ, London SJ, Cecil CAM, Tiemeier H, Lahti J. Maternal anxiety during pregnancy and newborn epigenome-wide DNA methylation. *Mol Psychiatry.* 2021. Jan 7, doi:10.1038/s41380-020-00976-0.

- 5) Suarez A, Lahti J, Lahti-Pulkkinen M, Girchenko P, **Czamara D**, Arloth J, Malmberg AL, Hämäläinen E, Kajantie E, Laivuori H, Villa PM, Reynolds RM, Provençal N, Binder EB, Räikkönen K. A polyepigenetic glucocorticoid exposure score at birth and childhood mental and behavioural disorders. *Neurobiol Stress*. 2020 Nov 21; 13:100275.
- 6) Neumann A, Walton E, Alemany S, Cecil C, González JR, Jima DD, Lahti J, Tuominen ST, Barker ED, Binder E, Caramaschi D, Carracedo Á, **Czamara D**, Evandt J, Felix JF, Fuemmeler BF, Gutzkow KB, Hoyo C, Julvez J, Kajantie E, Laivuori H, Maguire R, Maitre L, Murphy SK, Murcia M, Villa PM, Sharp G, Sunyer J, Raikkönen K, Bakermans-Kranenburg M, IJzendoorn MV, Guxens M, Relton CL, Tiemeier H. Association between DNA methylation and ADHD symptoms from birth to school age: a prospective meta-analysis. *Transl Psych*. 2020 Nov 12;10(1):398.
- 7) Kappelmann N, Arloth J, Georgakis MK, **Czamara D**, Rost N, Ligthart S, Khandaker GM, Binder EB. Dissecting the Association Between Inflammation, Metabolic Dysregulation, and Specific Depressive Symptoms: A Genetic Correlation and 2-Sample Mendelian Randomization Study. *JAMA Psychiatry*. 2020 Oct 20, doi: 10.1001/jamapsychiatry.2020.3436.
- 8) Gialluisi A, Andlauer TFM, Mirza-Schreiber N, Moll K, Becker J, Hoffmann P, Ludwig KU, **Czamara D**, Pourcain BS, Honbolygo F, Toth D, Csepe V, Huguet G, Chaix Y, Iannuzzi S, Demonet JF, Morris AP, Hulslander J, Willcutt EG, DeFries JC, Olson RK, Smith SD, Pennington BF, Vaessen A, Maurer U, Lyytinen H, Peyrard-Janvid M, Leppänen PHT, Brandeis D, Bonte M, Stein JF, Talcott JB, Faucherau E, Wilcke A, Kirsten H, Müller B, Francks C, Bourgeron T, Monaco TP, Ramus F, Landerl K, Kere J, Scerri T, Paracchini S, Fisher SE, Suchmacher J, Nöthen MM, Müller-Myhsok B, Schulte-Körne G. Genome-wide association study reveals new insights into the heritability and genetic correlates of developmental dyslexia. *Mol Psychiatry*. 2020 Oct 14. doi:10.1038/s41380-020-00898-x.
- 9) Hagenaars SP, Coleman JRI, Choi SW, Gaspar H, Adams MJ, Howard DM, Hodgson K, Traylor M, Air TM, Andlauer TFM, Arolt V, Baune BT, Binder EB, Blackwood DHR, Boomsma DI, Campbell A, Cearns M, **Czamara D**, Dannlowski U, Domschke K, de Geus EJC, Hamilton SP, Hayward C, Hickie IB, Hottenga JJ, Ising M, Jones I, Jones L, Kutalik Z, Lucae S, Martin NG, Milaneschi Y, Mueller-Myhsok B, Owen MJ, Padmanabhan S, Penninx BWJH, Pistis G, Porteous DJ, Preisig M, Ripke S, Shyn SI, Sullivan PF, Whitfield JB, Wray NR, McIntosh AM, Deary IJ, Breen G, Lewis CM. Genetic comorbidity between major depression and cardio-metabolic traits, stratified by age at onset of major depression. *Am J Med Genet B Neuropsychiatr Genet*. 2020 Jul 18. doi:10.1002/ajmg.b.32807.
- 10) Rantalainen V, Binder EB, Lahti-Pulkkinen M, **Czamara D**, Laivuori H, Villa PM, Girchenko P, Kvist T, Hämäläinen E, Kajantie E, Lahti J, Räikkönen K. Polygenic Prediction of the Risk of Perinatal Depressive Symptoms. *Depress Anxiety*. 2020 Jul 5. doi: 10.1002/da.23066.
- 11) Brückl TM, Spormaker VI, Sämann PG, Brem AK, Henco L, **Czamara D**, Elbau I, Grandi NC, Jollans L, Kühnel A, Pöhlchen D, Schneider M, Tontsch A, Keck ME, Schilbach L, Czisch M, Lucae S, Erhardt A, Binder EB. The biological classification of mental disorders (BeCOME) study: a protocol for an observational deep-phenotyping study for the identification of biological subtypes. *BMC Psychiatry*. 2020 May 11; 20(1):213.

- 12) **Czamara D**. The maternal immunome as a potential biomarker for the child's neurodevelopmental trajectory. *Biol Psychiatry*. 2020 May 15; 87(10):868-869.
- 13) Yeung EH, Guan W, Zeng X, Salas LA, Mumford SL, de Prado Bert P, van Meel ER, Malmberg A, Sunyer J, Duijts L, Felix JF, **Czamara D**, Hämäläinen E, Binder EB, Räikkönen K, Lathi J, London SJ, Silver RM, Schisterman EF. Cord Blood DNA methylation reflects Cord Blood C-reactive protein levels but maternal levels: a longitudinal study and meta-analysis. *Clin Epigenetics*. 2020 April 30;12(1):60.
- 14) Alic L, Papac-Milicevic N, **Czamara D**, Rudnick RB, Ozsvar-Kozma M, Hartmann A, Gurbisz M, Hoermann G, Haslinger-Hutter S, Zipfel PF, Skerka C, Binder EB, Binder CJ. A genome-wide association study identifies key-modulators of complement factor H binding to malondialdehyde-epitopes. *PNAS*. 2020, doi:10.1073/pnas.1913970117.
- 15) Merid SK, Novoloaca A, Sharp GC, Küpers LK, Kho AT, Roy R, Gao L, Annesi-Maesano I, Jain P, Plusquin M, Kogevinas M, Allard C, Vehmeijer FO, Kazmi N, Salas LA, Rezwani FI, Zhang H, Sebert S, **Czamara D**, Rifas-Shiman SL, Melton PE, Lawlor DA, Pershagen G, Breton CV, Huen K, Baiz N, Gagliardi L, Nawrot TS, Corpeleijn E, Perron P, Duijts L, Nohr EA, Bustamante M, Ewart SL, Karmaus W, Zhao S, Page CM, Herceg Z, Jarvelin MR, Lahti J, Baccarelli AA, Anderson D, Kachroo P, Relton CL, Bergström A, Eseknazi B, Soomro MH, Vineis P, Snieder H, Bouchard L, Jaddoe VW, Sorensen TIA, Vrijheid M, Arshad SH, Holloway JW, Haberg SE, Magnus P, Dwyer T, Binder EB, DeMeo DL, Vonk JM, Newnham J, Tantisira KG, Kull I, Wiemels JL, Heude B, Sunyer J, Nystad W, Muthe-Kaas MC, Räikkönen K, Oken E, Huang RC, Weiss TC, Anto JM, Bousquet J, Kumar A, Söderhäll C, Almqvist C, Cardenas A, Gruziova O, Xu CJ, Reese SE, Kere J, Brodin P, Solomon O, Wielscher M, Holland N, Ghantous A, Hivert MF, Felix JF, Koppelman GH, London SJ, Melen E. Epigenome-wide meta-analysis of blood DNA methylation in newborns and children identifies numerous loci related to gestational age. *Genome Med*. 2020 Mar 2;12(1):25.
- 16) Comes AL, **Czamara D**, Adrojan K, Anderson-Schmidt H, Andlauer TFM, Budde M, Gade K, Hake M, Kalman JL, Papiol S, Reich-Erkelenz D, Klöhn-Saghatolislam F, Schaupp SK, Schulte EC, Senner F, Juckel G, Schmauß M, Zimmermann J, Reimer J, Reininghaus E, Anghelescu IG, Konrad C, Thiel A, Figge C, von Hagen M, Koller M, Dietrich DE, Stierl S, Scherk H, Witt SH, Sivalingsam S, Degenhardt F, Forstner AJ, Rietschel M, Nöthen MM, Wiltfang J, Falkai P, Schulze TG, Heilbronner U. The role of environmental stress and DNA methylation in the longitudinal course of bipolar disorder. *Int J Bipolar Disord*. 2020 Feb 12;8(1):9.
- 17) Forstner AJ, Awasthi S, Wolf C, Maron E, Erhardt A, **Czamara D**, Eriksson E, Lavebratt C, Allgulander C, Friedrich N, Becker J, Hecker J, Rambau S, Conrad R, Geiser F, McMahon FJ, Moebus S, Hess T, Buerfent BC, Hoffmann P, Herms S, Heilmann-Heimbach S, Kockum I, Olsson T, Alfredsson L, Weber H, Alpers GW, Arolt V, Fehm L, Fydrich T, Gerlach AL, Hamm A, Kircher T, Pane-Farre CA, Pauli P, Rief W, Ströhle A, Plag J, Lang T, Wittchen HU, Mattheisen M, Meier S, Mestpalu A, Domschke K, Reif A, Hovatta I, Lindfors N, Andersson E, Schalling M, Mbarek H, Milanesechi Y, de Geus EJC, Boomsma DI, Penninx BWJH, Thorgeirsson TE, Steinberg S, Stefansson K, Stefansson H, Müller-Myhsok B, Hansen TF, Borglum AD, Werge T, Mortensen PB, Nordentoft M, Hougaard DM, Hultman CM, Sullivan PF, Nöthen MM, Woldbye DPD, Mors O, Binder EB, Rück C, Ripke S, Deckert J, Schumacher J. Genome-wide association study of panic disorder reveals

genetic overlap with neuroticism and depression. *Mol Psychiatry*. 2019 Nov 11. doi: 10.1038/s4130-019-059-2, *epub ahead of print*.

- 18) Thomas M, Coope A, Falkenberg C, Dunlop BW, **Czamara D**, Provenal N, Craighead WE, Mayberg HS, Nemeroff CB, Binder EB, Nieratschker V. Investigation of MORC1 DNA methylation as biomarker of early life stress and depressive symptoms. *J Psychiatr Res*. 2019 Oct 26;120:154-162.
- 19) Raffington L, **Czamara D**, Mohn JJ, Falck J, Schmoll V, Heim C, Binder EB, Shing YL. Stable longitudinal associations of family income with children's hippocampal volume and memory persist after controlling for polygenic scores of educational attainment. *Dev Cogn Neurosci*. 2019 Oct 17;40:100720.
- 20) McEwen LM, O'Donnell K, McGill MG, Edgar RD, Jones MJ, MacIsaac JL, Lin DTS, Ramadori K, Morin A, Gladish N, Garg E, Unternaehrer E, Pokhvisneva I, Karnani N, Kee MZL, Klengel T, Adler NE, Barr RG, Letourneau N, Giesbrecht GF, Reynolds JN, **Czamara D**, Armstrong JM, Essex MJ, de Weerth C, Beijers R, Tollenaar MS, Bradley B, Jovanovic T, Ressler KJ, Steiner M, Entringer S, Wadhwa PD, Buss C, Bush NR, Binder EB, Boyce WT, Meaney MJ, Horvath S, Kobor MS. The PedBE clock accurately estimates DNA methylation age in pediatric buccal cells. *Proc Natl Acad Sci U S A*. 2019 Oct 14. doi:10.1073/pnas.1820843116.
- 21) Howe CG, Cox B, Fore R, Jungius J, Kvist T, Lent S, Miles HE, Salas LA, Rifas-Shiman S, Starling AP, Yousefi P, Ladd-Acosta C, Baccarelli A, Binder EB, Chatzi VL, **Czamara D**, Dabelea D, DeMeo DL, Ghantous A, Herceg Z, Kajantie E, Lahti JMT, Lawlor DA, Litonjua A, Nawrot TS, Nohr EA, Oken E, Pizzi C, Plusquin M, Räikkönen K, Relton CL, Sharp GC, Sorensen TIA, Sunyer J, Vrijheid M, Zhang W, hivert MF, Breton CV. *Diabetes Care*. 2019 Oct 10. Doi:10.2337/dc19-0524.
- 22) Misiewicz Z, Iurator S, Kuleskaya N, Salminen L, Rodrigues L, Maccarone G, Matrins J, Czamara D, Laine MA, Sokolowska E, Trontti K, Rewerts C, Novak B, Volk N, Park DI, Jokilato E, Paulin L, Auvinen P, Voikar V, Chen A, Erhardt A, Turck CW, Hovatta I. Multi-omics analysis identifies mitochondrial pathways associated with anxiety-related behavior. *PLoS Genetics*. 2019 Sep 26; 15(9):e1008358. doi: 10.1371/journal.pgen. 1008358.
- 23) Provenal N, Arloth J, Cattaneo A, Anacker C, Cattane N, Wiechmann T, Röh S, Ködel M, Klengel T, **Czamara D**, Müller NS, Lahti J, PREDO team, Räikkönen K, Pariante CM, Binder EB. Glucocorticoid exposure during hippocampal neurogenesis primes future stress response by inducing changes in DNA methylation. *Proc Natl Acad Sci U S A*. 2019 Aug 9. doi:10.1073/pnas.1820842116.
- 24) Paul R, Andlauer TFM, **Czamara D**, Hoehn D, Lucae S, Pütz B, Lewis CM, Uher R, Müller-Myhsok B, Ising M, Sämann PG. Treatment response classes in major depressive disorder identified by model-based clustering and validated by clinical prediction models. *Transl Psychiatry*. 2019 Aug 5;9(1):187.
- 25) Martins J, **Czamara D**, Lange J, Dethloff F, Binder EB, Turck C, Erhardt A. Exposure-induced changes of plasma metabolome and gene expression in patients with panic disorder. *Depress Anxiety*. 2019 Aug 2. doi:10.102/da.22946

- 26) Hüls A, **Czamara D**. Methodological challenges in constructing DNA methylation risk scores. *Epigenetics*. 2019 Jul 18. doi: 10.1080/15592294.2019.1644879.
- 27) Eberle C, Peterse Y, Jukic F, Müller-Myhsok B, **Czamara D**, Martins J, Schmoll V, Czisch M, Binder EB, Sämann PG. Endophenotype Potential of Nucleus Accumbens Functional Connectivity: Effects of Polygenic Risk for Schizophrenia Interacting with Childhood Adversity. *J Psychiatry Brain Sci*. 2019; 4:e190011.
- 28) Kazmi N, Sharp GC, Reese SE, Vehmeijer FO, Lahti J, Page CM, Zhang W, Rifas-Shiman SL, Rezwani FI, Simpkin AJ, Burrows K, Richardson TG, Santos Ferreira DL, Fraser A, Harmon QE, Zhao S, Jaddoe VWV, **Czamara D**, Binder EB, Magnus MC, Haberg SE, Nystad W, Nohr EA, Starling AP, Kechris KJ, Yang IV, DeMeo DL, Litonjua AA, Baccarelli A, Oken E, Holloway JW, Karmaus W, Arshad SH, Dabelea D, Sorensen TIA, Laivuori H, Räikkönen K, Felix JF, London SJ, Hivert MF, Gaunt TR, Lawlor DA, Relton CL. Hypertensive Disorders of Pregnancy and DNA Methylation in Newborns. *Hypertension*. 2019 Jun 24. doi:10.1161/HYPERTENSIONAHA.119.12634.
- 29) **Czamara D**, Eraslan G, Page CM, Lahti J, Lahti-Pulkkinen M, Hämäläinen E, Kajantie E, Laivuori H, Villa PM, Reynolds RM, Nystad W, Haberg SE, London SJ, O'Donnell KJ, Garg E, Meaney MJ, Entringer S, Wadhwa PD, Buss C, Jones MJ, Lin DTS, MacIsaac JL, Kobor MS, Koen N, Zar HJ, Koenen KC, Dalvie S, Stein DS, Kondofersky I, Müller NS, Theis FJ, Major Depressive Disorder Working Group of the Psychiatric Genomics Consortium, Räikkönen K, Binder EB. Integrated analysis of environmental and genetic influences on cord blood DNA methylation in new-borns. *Nat Commun*. 2019 June 11:10(2):2548.
- 30) Wiechmann T, Röh S, Sauer S, **Czamara D**, Arloth J, Ködel M, Beitner M, Knop L, Menke A, Binder EB, Provencal N. Identification of dynamic glucocorticoid-induced methylation changes at the FKBP5 locus. *Clin Epigenetics*. 2019. May 23; 11(1):83.
- 31) Küpers LK, Monnereau C, Sharp GC, Yousefi P, Salas LA, Ghantous A, Page CM, Reese SE, Wilcox AJ, **Czamara D**, Starling AP, Novoloaca A, Lent S, Roy R, Hoyo C, Breton CV, Allard C, Just AC, Bakulski KM, Holloway JW, Everson TM, Xu CJ, Huang RC, van der Plaats DA, Wielscher M, Merid SK, Ullemar V, Rezwani FI, Lahti J, van Dongen J, Langie SAS, Richardson TG, Magnus MC, Nohr EA, Xu Z, Duijts L, Zhao S, Zhang W, Plusquin M, DeMeo DL, Solomon O, Heimovaara JH, Jima DD, Gao L, Bustamante M, Perron P, Wright RO, Hertz-Picciotto I, Zhang H, Karagas MR, Gehring U, Marsit CJ, Beilin LJ, Vonk JM, Jarvelin MR, Bergström A, Örtqvist AK, Ewart S, Villa PM, Moore SE, Willemsen G, Standaert ARL, Håberg SE, Sørensen TIA, Taylor JA, Räikkönen K, Yang IV, Kechris K, Nawrot TS, Silver MJ, Gong YY, Richiardi L, Kogevinas M, Litonjua AA, Eskenazi B, Huen K, Mbarek H, Maguire RL, Dwyer T, Vrijheid M, Bouchard L, Baccarelli AA, Croen LA, Karmaus W, Anderson D, de Vries M, Sebert S, Kere J, Karlsson R, Arshad SH, Hämäläinen E, Routledge MN, Boomsma DI, Feinberg AP, Newschaffer CJ, Govarts E, Moisse M, Fallin MD, Melén E, Prentice AM, Kajantie E, Almqvist C, Oken E, Dabelea D, Boezen HM, Melton PE, Wright RJ, Koppelman GH, Trevisi L, Hivert MF, Sunyer J, Munthe-Kaas MC, Murphy SK, Corpeleijn E, Wiemels J, Holland N, Herceg Z, Binder EB, Davey Smith G, Jaddoe VWV, Lie RT, Nystad W, London SJ, Lawlor DA, Relton CL, Snieder H, Felix JF. Meta-analysis of epigenome-wide association studies in neonates reveals widespread differential DNA methylation associated with birthweight. *Nat Commun*. 2019 Apr 23:10(1):1893. doi: 10.1038/s41467-019-09671-3.

- 32) Halldorsdottir T, Piechaczek C, Soares de Matos AP, **Czamara D**, Pehl V, Wagenbuechler P, Feldmann L, Quickenstedt-Reinhardt P, Allgaier AK, Freisleder FJ, Greimel E, Kvist T, Lahti J, Räikkönen K, Rex-Haffner M, Anarson EÖ, Craighead E, Schulte-Körne G, Binder EB. Polygenic risk: predicting depression outcomes in clinical and epidemiological cohorts of youths. *Am J Psychiatry*. 2019 Apr 5; appiajp201918091014. doi: 10.1176/appi.ajp.2019.18091015.
- 33) Gailluisi A, Andlauer TMF, Mirza-Schreiber N, Moll K, Becker J, Hoffmann P, Ludwig KU, **Czamara D**, St Pourcain B, Brandler W, Honbolygo F, Toth D, Cespe V, Huguet G, Morris AP, Hulslander J, Willcutt EG, DeFries JC, Olson RK, Smith SD, Pennington BF, Vaessen A, Maurer U, Lyytinen H, Peyrard-Janvid M, Leppänen PH, Brandeis D, Bonte M, Stein JF, Talcott JB, Faucherau F, Wilcke A, Francks C, Bourgeron T, Monaco AT, Ramus F, Landerl K, Kere J, Scerri TS, Paracchini S, Fisher SE, Schumacher J, Nöthen MM, Müller-Myhsok B, Schulte-Körne G. Genome-wide association scan identifies, new variants associated with a cognitive predictor of dyslexia. *Transl Psychiatry*. 2019 Feb 11;9(1):77. doi:10.1038/s41398-019-0402-0.
- 34) Pape JC, Carrillo-Roa T, Rothbaum BO, Nemeroff CB, **Czamara D**, Zannas AS, Iosifescu D, SJ Mathew, Neylan TC, Mayberg HS, Dunlop BW, Binder EB. DNA methylation levels are associated with CRF1 receptor antagonist treatment outcome in women with post-traumatic stress disorder. *Clin Epigenetics* 2018 Nov3; 10(1):136. doi: 10.1186/s13148-018-0569-x.
- 35) Elbau IG, Brücklmeiner B, Uhr M, Arloth J, **Czamara D**, Spoomaker VI, Czisch M, Stephan KE, Binder EB, Sämann PG. The brain's hemodynamic response function rapidly changes under acute psychosocial stress in association with genetic and endocrine stress response markers. *Proc Natl Acad Sci USA*. 2018 Sep 10. doi: 10.1073/pnas. 1804340115.
- 36) Suarez A, Lahti J, **Czamara D**, Lahit-Pulkkinen M, Girchenko P, Andersson J, Strandberg TE, Kajantie E, Binder EB, Raikkönen K. The epigenetic clock and pubertal, neuroendocrine, psychiatric, and cognitive outcomes in adolescents. *Clin Epigenetics*. 2018 July 18; 10(1):96. doi:10.1186/s13148-018-0528-6.
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