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Department of Psychiatry
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GitHub: github.com/andreyshabalin

Google Scholar: scholar.google.com/citations?hl=en&user=wXj_PpsAAAAJ

NCBI Bibliography: ncbi.nlm.nih.gov/sites/myncbi/1IO_9pCfUhMkh/bibliography/51285584/public

Education:

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|--------------|---|
| 2005 – 2010, | Ph.D. in Statistics, Department of Statistics and Operations Research, University of North Carolina at Chapel Hill. Professor Andrew B. Nobel |
| 2002 – 2004, | M.A. in Economics, New Economic School, Moscow, Russia |
| 1997 – 2002, | M.S. in Mathematics (w/ honors), Moscow State University, Moscow, Russia |

Positions:

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|--------------|---|
| 2017 – now, | Research Assistant Professor, University of Utah |
| 2014 – 2017, | Research Assistant Professor, Virginia Commonwealth University |
| 2012 – 2014, | Postdoctoral Researcher in Computational Genetics, VCU |
| 2010 – 2012, | Postdoctoral Research Associate in Biostatistics, UNC |
| 2004 – 2005, | Economist, Centre for Economic and Financial Research, Moscow, Russia |
| 2004 – 2005, | Research Assistant, New Economic School, Moscow, Russia |

Publications:

Polygenic Association of Glomerular Filtration Rate Decline in World Trade Center Responders (2022)

FM Koraishy, FD Mann, MA Waszczuk, PF Kuan, K Jonas, X Yang, AR Docherty, **AA Shabalin**, S Clouston, R Kotov, B Luft

BMC Nephrology 23, Article number: 347 (2022)

<https://bmcnephrol.biomedcentral.com/articles/10.1186/s12882-022-02967-5>

DOI: 10.1186/s12882-022-02967-5, PMID: 36307804, PMCID: PMC9615399

Impact factor: 3.049

Harnessing changes in open chromatin determined by ATAC-seq to generate insulin-responsive reporter constructs (2022)

CB Merrill, AB Montgomery, M.A. Pabon, **AA Shabalin**, AR Rodan, A Rothenfluh

BMC Genomics, 23, 399 (2022)

<https://link.springer.com/article/10.1186/s12864-022-08637-y>

DOI: 10.1186/s12864-022-08637-y, PMID: 35614386, PMCID: PMC9134605

Impact factor: 3.969

Genome-wide association study meta-analysis of suicide death and suicidal behavior (2022)

QS Li, **AA Shabalin**, E DiBlasi, S Gopal, CM Canuso, FinnGen, International Suicide Genetics Consortium, A Palotie, WC Drevets, AR Docherty, H Coon

Molecular Psychiatry, 2022

<https://www.nature.com/articles/s41380-022-01828-9>

DOI: 10.1038/s41380-022-01828-9, PMID: 36253440

Impact Factor: 13.44

Clinical and genetic evaluation of substance use within suicide death in adolescents and young adults (2022)

ET Monson, E DiBlasi, **AA Shabalin**, Q Li, AR Docherty, AV Bakian, H Coon, B Keeshin

Journal of the American Academy of Child & Adolescent Psychiatry

[https://www.jaacap.org/article/S0890-8567\(22\)01738-5/fulltext](https://www.jaacap.org/article/S0890-8567(22)01738-5/fulltext)

DOI: 10.1016/j.jaac.2022.09.415

Impact Factor: 7.26

Structural variants from whole genome sequencing in 1,051 suicide deaths (2022)

H Coon, E DiBlasi, T Nicholas, E Monson, E Ferris, S Han, **AA Shabalin**, M Staley, E Christensen, WB Callor, A Bakian, B Keeshin, Q Li, V Willour, AR Docherty

European Neuropsychopharmacology, Volume 63, October 2022, Page e150

<https://www.sciencedirect.com/science/article/pii/S0924977X22005259>

DOI: 10.1016/j.euroneuro.2022.07.276

Impact Factor: 4.6

Rare variants in whole genome sequencing implicate genes associated with suicide gwas signals (2022)

E DiBlasi, E Monson, **AA Shabalin**, E Ferris, M Staley, E Christensen, WB Callor, A Bakian, B Keeshin, Q Li, AR Docherty, H Coon

European Neuropsychopharmacology, Volume 63, October 2022, Pages e27-e28

<https://www.sciencedirect.com/science/article/pii/S0924977X22002991>

DOI: 10.1016/j.euroneuro.2022.07.061

Impact Factor: 4.6

Unique and joint associations of polygenic risk for major depression and opioid use disorder with endogenous opioid system function (2022)

T Love, **AA Shabalin**, RL Kember, AR Docherty, H Zhou, V Koppelmans, J Gelernter, AK Baker, E Hartwell, J Dubroff, JK Zubieta, HR Kranzler

Neuropsychopharmacology, 47, 1784–1790 (2022)

<https://www.nature.com/articles/s41386-022-01325-1>

DOI: 10.1038/s41386-022-01325-1, PMID: 35545664 PMCID: PMC9372136

Impact factor: 8.294

Extended familial risk of suicide death is associated with younger age at death and elevated polygenic risk of suicide (2022)

H Coon, **AA Shabalin**, AV Bakian, E DiBlasi, ET Monson, A Kirby, D Chen, A Fraser, Z Yu, M Staley, WB Callor, ED Christensen, SE Crowell, D Gray, DK Crockett, QS Li, B Keeshin, AR Docherty

American Journal of Medical Genetics Part B: Neuropsychiatric Genetics, 189, 3-4, pp 60-73

<https://onlinelibrary.wiley.com/doi/10.1002/ajmg.b.32890>

DOI: 10.1002/ajmg.b.32890, PMID: 35212135 PMCID: PMC9149029

Impact factor: 3.568

Genome-wide Association Meta-analysis of Childhood and Adolescent Internalizing Symptoms (2022)

ES Jami, ..., **AA Shabalin** (author 18 of 94), ..., CM Middeldorp

Journal of the American Academy of Child & Adolescent Psychiatry, 61, 7, pp 934-945

<https://www.sciencedirect.com/science/article/pii/S0890856722001794>

DOI: 10.1016/j.jaac.2021.11.035, PMID: 35378236

Impact factor: 7.26

The benefit of diagnostic whole genome sequencing in schizophrenia and other psychotic disorders (2022)

A Alkelai, L Greenbaum, AR Docherty, **AA Shabalin**, ..., DB Goldstein

Molecular Psychiatry, 27, pp 1435–1447

<https://www.nature.com/articles/s41380-021-01383-9>

DOI: 10.1038/s41380-021-01383-9, PMID: 34799694

Impact Factor: 13.44

Suicide and Psychosis: Results From a Population-Based Cohort of Suicide Death (N = 4380) (2022)

AR Docherty, AV Bakian, E DiBlasi, **AA Shabalin**, D Chen, B Keeshin, E Monson, ED Christensen, Q Li, D Gray, H Coon

Schizophrenia Bulletin, Volume 48, Issue 2, March 2022, Pages 457–462

<https://academic.oup.com/schizophreniabulletin/article/48/2/457/6375006>

DOI: 10.1093/schbul/sbab113, PMID: 34559220, PMCID: PMC8886603

Impact Factor: 9.306

Dissecting the shared genetic architecture of suicide attempt, psychiatric disorders, and known risk factors (2022)

N Mullins, JE Kang, AI Campos, JRI Coleman, AC Edwards, H Galfalvy, DF Levey, ALori, **AA Shabalin**, ..., M Leboyer

Biological Psychiatry, Volume 91, Issue 3, Pages 313-327

<https://www.sciencedirect.com/science/article/pii/S0006322321015705>

DOI: 10.1016/j.biopsych.2021.05.029, PMID: 34861974 PMCID: PMC8851871

Impact Factor: 13.38

TwinEQTL: ultrafast and powerful association analysis for eQTL and GWAS in twin studies (2022)

K Xia, **AA Shabalín**, Z Yin, W Chung, PF Sullivan, FA Wright, M Styner, JH Gilmore, RC Santelli, F Zou

Genetics, Volume 221, Issue 4, August 2022

<https://academic.oup.com/genetics/article/221/4/iyac088/6605853>

DOI: 10.1093/genetics/iyac088, PMID: 35689615, PMCID: PMC9339336

Impact Factor: 4.402

Exploring the genetic overlap of suicide-related behaviors and substance use disorders (2021)
SMC Colbert, AS Hatoum, **AA Shabalín**, QS Li, H Coon, EC Nelson, A Agrawal, AR Docherty, EC Johnson

American Journal of Medical Genetics Part B: Neuropsychiatric Genetics, pp 445-455

<https://onlinelibrary.wiley.com/doi/full/10.1002/ajmg.b.32880>

DOI: 10.1002/ajmg.b.32880, PMID: 34821019, PMCID: PMC8692412

Impact factor: 3.387

General v. Specific Vulnerabilities: Polygenic Risk Scores and Higher-Order Psychopathology Dimensions in the Adolescent Brain Cognitive Development (ABCD) Study (2021)

MA Waszczuk, J Miao, AR Docherty, **AA Shabalín**, KG Jonas, G Michelini, R Kotov

Psychological Medicine, pp 1-10

<https://www.cambridge.org/core/journals/psychological-medicine/article/abs/ACA7540465E635C900835C1D5B3CE921>

DOI: 10.1017/S0033291721003639

Impact factor: 5.813

Genetic association study of childhood aggression across raters, instruments, and age (2021)

HF Ip, ..., **AA Shabalín** (author 49 of 149), ..., DI Boomsma

Translational psychiatry, volume 11, page 413, published 30 July 2021

<https://www.nature.com/articles/s41398-021-01480-x>

DOI: 10.1038/s41398-021-01480-x, PMID: 34330890, PMCID: PMC8324785

Impact factor: 5.182

Assessment of suicide attempt and death in bipolar affective disorder: a combined clinical and genetic approach (2021)

ET Monson, **AA Shabalín**, AR Docherty, E DiBlasi, AV Bakian, QS Li, D Gray, B Keeshin,

SE Crowell, N Mullins, VL Willour, H Coon

Translational psychiatry, volume 11, issue 1, pages 1-8, published 07 July 2021

<https://www.nature.com/articles/s41398-021-01500-w>

DOI: 10.1038/s41398-021-01500-w, PMID: 34234108, PMCID: PMC8263578

Impact factor: 5.182

Rare protein-coding variants implicate genes involved in risk of suicide death (2021)

E DiBlasi, **AA Shabalín**, ..., AR Docherty, H Coon

American Journal of Medical Genetics Part B: Neuropsychiatric Genetics, Part B,1-13

<https://onlinelibrary.wiley.com/doi/10.1002/ajmg.b.32861>

DOI: 10.1002/ajmg.b.32861, PMID: 34042246

Impact factor: 3.387

Polygenic prediction of PTSD trajectories in 9/11 responders (2020)
MA Waszczuk, AR Docherty, **AA Shabalin**, J Miao, X Yang, PF Kuan, E Bromet, R Kotov, BJ Luft
Psychological Medicine, Volume 52, Issue 10
DOI: 10.1017/S0033291720003839, PMID: 33092657, PMCID: PMC8186149
Impact factor: 5.813

Genome-wide association study of suicide death and polygenic prediction of clinical antecedents (2020)
AR Docherty, **AA Shabalin**, ..., H Coon
The American Journal of Psychiatry, volume 177, issue 10, pages 917-927
<https://ajp.psychiatryonline.org/doi/10.1176/appi.ajp.2020.19101025>
DOI: 10.1176/appi.ajp.2020.19101025, PMID: 32998551, PMCID: PMC7872505
Impact factor: 13.655

Test-statistic inflation in methylome-wide association studies (2020)
JD Guintivano, **AA Shabalin**, RF Chan, D Rubinow, PF Sullivan, S Meltzer-Brody, KA Aberg, EJCG van den Oord
Epigenetics, 2020/4/26, pages 1-4
<https://www.tandfonline.com/doi/full/10.1080/15592294.2020.1758382>
DOI: 10.1080/15592294.2020.1758382, PMID: 32425094, PMCID: PMC7595582
Impact factor: 4.918

Molecular Genetic Risk for Psychosis Is Associated with Psychosis Risk Symptoms in a Population-Based UK Cohort: Findings from Generation Scotland (2020)
AR Docherty, **AA Shabalin**, DE Adkins, F Mann, RF Krueger, SA Bacanu, A Campbell, C Hayward, DJ Porteous, AM McIntosh, KS Kendler
Schizophrenia Bulletin, sbaa042, 27 March 2020
DOI: 10.1093/schbul/sbaa042, PMID: 32221549, PMCID: PMC7505177
academic.oup.com/schizophreniabulletin/advance-article/doi/10.1093/schbul/sbaa042/5812995
Published: 27 March 2020
Impact factor: 7.575

Cell Type-Specific Methylome-wide Association Studies Implicate Neurotrophin and Innate Immune Signaling in Major Depressive Disorder (2020)
RF Chan, G Turecki, **AA Shabalin**, J Guintivano, M Zhao, LY Xie, G van Grootheest, ZA Kaminsky, B Dean, BWJH Penninx, KA Aberg, EJCG van den Oord
Biological Psychiatry Volume 87, Issue 5, 1 March 2020, Pages 431-442
DOI: 10.1016/j.biopsych.2019.10.014, PMID: 31889537
<https://www.sciencedirect.com/science/article/pii/S0006322319318128>
Impact factor: 11.501

Independent Methylome-Wide Association Studies of Schizophrenia Detect Consistent Case-Control Differences (2020)
RF Chan, **AA Shabalin**, C Montano, E Hannon, CM Hultman, MD Fallin, AP Feinberg, J Mill, EJCG van den Oord, KA Aberg
Schizophrenia Bulletin, Volume 46, Issue 2, Pages 319-327, 05 June 2019

DOI: 10.1093/schbul/sbz056, PMID: 31165892, PMCID: PMC7442362
<https://academic.oup.com/schizophreniabulletin/article/46/2/319/5511546>
Impact factor: 7.575

A methylation study of long-term depression risk (2019)
SL Clark, MW Hattab, RF Chan, **AA Shabalin**, LKM Han, M Zhao, JH Smit, R Jansen, Y Milaneschi, LY Xie, G van Grootheest, BWJH Penninx, KA Aberg, EJCG van den Oord
Molecular psychiatry, 1-10, 09 September 2019
DOI: 10.1038/s41380-019-0516-z, PMID: 31501512, PMCID: PMC7061076
<https://www.nature.com/articles/s41380-019-0516-z>
Impact factor: 11.973

Polygenic risk scoring and prediction of mental health outcomes (2019)
JS Anderson, J Shade, E DiBlasi, **AA Shabalin**, AR Docherty
Current Opinion in Psychology, Volume 27, June 2019, Pages 77-81
DOI: 10.1016/j.copsyc.2018.09.002, PMID: 30339992, PMCID: PMC6426686
<https://www.sciencedirect.com/science/article/pii/S2352250X18301015>
Impact factor: 3.430

Sequence motif and protein domain enrichment analysis of psychiatric GWAS findings (2019)
J McClay, **AA Shabalin**
European Neuropsychopharmacology, Volume 29, Supplement 3, 2019, Page S943
DOI: 10.1016/j.euroneuro.2017.08.289
<https://www.sciencedirect.com/science/article/pii/S0924977X17307538>
Impact factor: 4.468

Methylome-wide association studies for major depressive disorder in blood overlap with methylation results from brain and large-scale GWAS (2019)
K Aberg, B Dean, **AA Shabalin**, M Zhao, R Chan, M Hattab, G van Grootheest, L Han, M Aghajani, Y Milaneschi, R Jansen, L Xie, S Clark, B Penninx, E van den Oord
European Neuropsychopharmacology, Volume 29, Supplement 3, 2019, Pages S807-S808
DOI: 10.1016/j.euroneuro.2017.08.048
<https://www.sciencedirect.com/science/article/pii/S0924977X1730500X>
Impact factor: 4.468

Predicting the future disease status of depressed patients from DNA methylation patterns in blood (2019)
S Clark, M Hattab, **AA Shabalin**, L Han, R Chan, M Zhao, J Smit, R Jansen, Y Milaneschi, L Xie, G van Grootheest, B Penninx, K Aberg, E van den Oord
European Neuropsychopharmacology, Volume 29, Supplement 3, 2019, Pages S793-S794
DOI: 10.1016/j.euroneuro.2017.08.025
<https://www.sciencedirect.com/science/article/pii/S0924977X17304777>
Impact factor: 4.468

A Whole Methylome Study of Ethanol Exposure in Brain and Blood: An Exploration of the Utility of Peripheral Blood as Proxy Tissue for Brain in Alcohol Methylation Studies (2018)

SL Clark, BN Costin, RF Chan, AW Johnson, L Xie, JL Jurmain, G Kumar, **AA Shabalin**, AK Pandey, KA Aberg, MF Miles, E van den Oord
Alcoholism: Clinical and Experimental Research, Volume 42 (12), 2360-2368
DOI: 10.1111/acer.13905, PMID: 30320886, PMCID: PMC6286207
<https://onlinelibrary.wiley.com/doi/full/10.1111/acer.13905>
Impact factor: 2.716

Genome-wide significant regions in 43 Utah high-risk families implicate multiple genes involved in risk for completed suicide (2018)
H Coon, TM Darlington, E DiBlasi, WB Callor, E Ferris, A Fraser, Z Yu, N William, SC Das, SE Crowell, D Chen, JS Anderson, M Klein, L Jerominski, D Cannon, **AA Shabalin**, A Docherty, M Williams, KR Smith, B Keeshin, AV Bakian, E Christensen, QS Li, NJ Camp, D Gray
Molecular psychiatry, 23 October 2018
DOI: 10.1101/195644, PMID: 29788473, PMCID: PMC6188505
<https://www.nature.com/articles/s41380-018-0282-3>
Impact factor: 11.973

Enhancing psychosis-spectrum nosology through an international data sharing initiative (2018)
AR Docherty, ..., **AA Shabalin** (co0author 31 of 45), ..., AS Cohen
Schizophrenia bulletin, Volume 44, Issue suppl_2, November 2018, Pages S460–S467
DOI: 10.1093/schbul/sby059, PMID: 29788473, PMCID: PMC6188505
https://academic.oup.com/schizophreniabulletin/article/44/suppl_2/S460/4996806
Impact factor: 7.575

Methylome-wide association findings for major depressive disorder overlap in blood and brain and replicate in independent brain samples (2018)
KA Aberg, B Dean, **AA Shabalin**, RF Chan, LKM Han, M Zhao, G van Grootheest, LY Xie, Y Milaneschi, SL Clark, G Turecki, BWJH Penninx, EJCG van den Oord
Molecular psychiatry, 21 September 2018, pages 1-11
DOI: 10.1038/s41380-018-0247-6, PMID: 30242228, PMCID: PMC6428621
<https://www.nature.com/articles/s41380-018-0247-6>
Impact factor: 11.973

Building a schizophrenia genetic network: transcription factor 4 regulates genes involved in neuronal development and schizophrenia risk (2018)
H Xia, FM Jahr, NK Kim, L Xie, **AA Shabalin**, J Bryois, DH Sweet, MM Kronfol, P Palasuberniam, M McRae, BP Riley, PF Sullivan, EJ van den Oord, JL McClay
Human molecular genetics, Volume 27, Issue 18, September 2018, Pages 3246–3256
DOI: 10.1093/hmg/ddy222, PMID: 29905862, PMCID: PMC6354221
<https://academic.oup.com/hmg/article/27/18/3246/5037909>
Impact factor: 4.544

Convergence of evidence from a methylome-wide CpG-SNP association study and GWAS of major depressive disorder (2018)
KA Aberg, **AA Shabalin**, RF Chan, M Zhao, G Kumar, G van Grootheest, SL Clark, LY Xie, Y Milaneschi, BWJH Penninx, EJCG van den Oord

Translational psychiatry 8, Article number: 162 (2018)
DOI: 10.1038/s41398-018-0205-8, PMID: 30135428, PMCID: PMC6105579
<https://www.nature.com/articles/s41398-018-0205-8>
Impact factor: 5.182

Epigenetic aging in major depressive disorder (2018)
LKM Han, M Aghajani, SL Clark, RF Chan, MW Hattab, **AA Shabalin**, M Zhao, G Kumar, LY Xie, R Jansen, Y Milaneschi, B Dean, KA Aberg, EJCG Van Den Oord, BWJH Penninx
American Journal of Psychiatry 175 (8), 774-782, 16 Apr 2018
DOI: 10.1176/appi.ajp.2018.17060595, PMID: 29656664, PMCID: PMC6094380
<https://ajp.psychiatryonline.org/doi/full/10.1176/appi.ajp.2018.17060595>
Impact factor: 13.655

Estimation of cis-eQTL effect sizes using a log of linear model (2018)
J Palowitch, **AA Shabalin**, YH Zhou, AB Nobel, FA Wright
Biometrics 74 (2), 616-625
DOI: 10.1111/biom.12810, PMID: 29073327, PMCID: PMC5920774
<https://onlinelibrary.wiley.com/doi/full/10.1111/biom.12810>
Impact factor: 1.827

Accelerated biological aging in major depressive disorder: capturing aging patterns in DNA methylation with machine learning methods (2018)
L Han, M Aghajani, S Clark, M Hattab, **AA Shabalin**, M Zhao, G Kumar, R Chan, L Xie, R Jansen, Y Milaneschi, K Aberg, E Van den Oord, BWJH Penninx
European Neuropsychopharmacology, Volume 28, Suppl 1, March 2018, Pages S85-S86
DOI: 10.1016/j.euroneuro.2017.12.119
<https://www.sciencedirect.com/science/article/pii/S0924977X18300026>
Impact factor: 4.369

RaMWAS: Fast methylome-wide association study pipeline for enrichment platforms (2018)
AA Shabalin, MW Hattab, SL Clark, RF Chan, G Kumar, KA Aberg, EJCG van den Oord
Bioinformatics, Volume 34, Issue 13, 01 July 2018, Pages 2283–2285
DOI: 10.1093/bioinformatics/bty069, PMID: 29447401, PMCID: PMC6022807
<https://academic.oup.com/bioinformatics/article/34/13/2283/4852826>
Impact factor: 4.531

Methyl-CpG-binding domain sequencing: MBD-seq (2018)
KA Aberg, RF Chan, L Xie, **AA Shabalin**, EJCG van den Oord
DNA Methylation Protocols, 171-189
DOI: 10.1007/978-1-4939-7481-8_10
https://link.springer.com/protocol/10.1007/978-1-4939-7481-8_10

Co-expression networks reveal the tissue-specific regulation of transcription and splicing (2017)
A Saha, ..., **AA Shabalin** (co-author 87 of 150), ..., A Battle
Genome research, 27 (11), 1843-1858
DOI: 10.1101/gr.216721.116, PMID: 29021288, PMCID: PMC5668942

<https://europepmc.org/article/PMC/5668942>

Impact factor: 10.101

Identifying cis-mediators for trans-eQTLs across many human tissues using genomic mediation analysis (2017)

F Yang, ..., **AA Shabalin** (co-author 89 of 150), ..., LS Chen

Genome research, 27 (11), 1859-1871

DOI: 10.1101/gr.216754.116, PMID: 29021290, PMCID: PMC5668943

<https://europepmc.org/article/PMC/5668943>

Impact factor: 10.101

Dynamic landscape and regulation of RNA editing in mammals (2017)

MH Tan, ..., **AA Shabalin** (one of 248 collaborators), ..., J Li

Nature 550, 249–254 (2017)

DOI: 10.1038/nature24041, PMID: 29022589, PMCID: PMC5723435

<https://www.nature.com/articles/nature24041>

Impact factor: 43.070

Genetic effects on gene expression across human tissues (2017)

GTEx Consortium, ..., **A.A. Shabalin** (co-author 86 and 339 of 361), ...

Nature, Issue 550 (7675):204-213, 11 October 2017

DOI: 10.1038/nature24277, PMID: 29022597, PMCID: PMC5776756

<https://www.nature.com/nature/journal/v550/n7675/full/nature24277.html>

Impact factor: 40.137

An empirical Bayes approach for multiple tissue eQTL analysis (2017)

G. Li, **A.A. Shabalin**, I. Rusyn, F.A. Wright, and A.B. Nobel

Biostatistics, kxx048, 25 September 2017

DOI: 10.1093/biostatistics/kxx048, PMID: 29029013, PMCID: PMC6366007

<https://academic.oup.com/biostatistics/article/doi/10.1093/biostatistics/kxx048/4222688/>

Impact factor: 2.649

A MBD-seq protocol for large-scale methylome-wide studies with (very) low amounts of DNA (2017)

KA Aberg, RF Chan, **AA Shabalin**, M Zhao, G Turecki, NH Staunstrup, A Starnawska, O Mors, LY Xie, and EJCG van den Oord

Epigenetics, 13 Jul 2017

DOI: 10.1080/15592294.2017.1335849, PMID: 28703682, PMCID: PMC5739096

<http://www.tandfonline.com/doi/full/10.1080/15592294.2017.1335849>

Citations: 12

Impact factor: 5.108

Enrichment methods provide a feasible approach to comprehensive and adequately powered investigations of the brain methylome (2017)

RF Chan, **AA Shabalin**, LY Xie, DE Adkins, ..., KA Aberg, and EJCG van den Oord

Nucleic Acids Research, gkx143, 25 February 2017

DOI: 10.1093/nar/gkx143, PMID: 28334972, PMCID: PMC5499761

<https://academic.oup.com/nar/article/3052767>

Impact factor: 10.162

Deep sequencing of 71 candidate genes to characterize variation associated with alcohol dependence (2017)

SL Clark, DE Adkins, G Kumar, KA Aberg, S Nerella, L Xie, AL Collins, JJ Crowley, CR Quackenbush, CE Hilliard, **AA Shabalin**, SI Vrieze, RE Peterson, WE Copeland, JL Silberg, M McGue, H Maes, WG Iacono, PF Sullivan, EJ Costello, and EJCG van den Oord
Alcoholism: Clinical and Experimental Research, 2017 Feb 14

DOI: 10.1111/acer.13352, PMID: 28196272 PMCID: PMC5378639

<http://onlinelibrary.wiley.com/doi/10.1111/acer.13352/full>

Impact factor: 3.392

Correcting for cell-type effects in DNA methylation studies: reference-based method outperforms latent variable approaches in empirical studies (2017)

MW Hattab, **AA Shabalin**, SL Clark, M Zhao, G Kumar, RF Chan, LY Xie, R Jansen, LKM Han, PKE Magnusson, G van Grootheest, CM Hultman, BWJH Penninx, KA Aberg, and EJCG van den Oord

Genome Biology, 2017 18:24

DOI: 10.1186/s13059-017-1148-8, PMID: 28137292, PMCID: PMC5282865

<https://genomebiology.biomedcentral.com/articles/10.1186/s13059-017-1148-8>

Impact factor: 11.313

High density methylation QTL analysis in human blood via next-generation sequencing of the methylated genomic DNA fraction (2015)

JL McClay*, **AA Shabalin*** (co-first authors), ..., KA Aberg, and EJCG van den Oord

Genome Biology, 16:291

DOI: 10.1186/s13059-015-0842-7, PMID: 26699738, PMCID: PMC4699364

<http://genomebiology.biomedcentral.com/articles/10.1186/s13059-015-0842-7>

Impact factor: 11.313

A Whole Methylome CpG-SNP Association Study of Psychosis in Blood and Brain Tissue (2015)

EJCG van den Oord, SL Clark, LY Xie, **AA Shabalin**, MG Dozmorov, G Kumar, Swedish Schizophrenia Consortium, VI Vladimirov, PKE Magnusson, and KA Aberg
Schizophrenia Bulletin, 182

DOI: 10.1093/schbul/sbv182, PMID: 26656881, PMCID: PMC4903046

<http://schizophreniabulletin.oxfordjournals.org/content/early/2016/02/05/schbul.sbv182>

Impact factor: 8.800

Candidate gene methylation studies are at high risk of erroneous conclusions (2015)

AA Shabalin, KA Aberg, and EJCG van den Oord

Epigenomics, 7(1), 13-5

DOI: 10.2217/epi.14.70, PMID: 25687462, PMCID: PMC5503464

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Impact factor: 4.541

An integrated map of structural variation in 2,504 human genomes (2015)

PH Sudmant, ..., **AA Shabalín** (co-author 62 of 83), ..., J Korbel

Nature, 526, 75–81

DOI: 10.1038/nature15394, PMID: 26432246, PMCID: PMC4617611

<http://www.nature.com/nature/journal/v526/n7571/abs/nature15394.html>

Impact factor: 40.137

The Genotype-Tissue Expression (GTEx) pilot analysis: multi-tissue gene regulation in humans (2015)

KG Ardlie, ..., **AA Shabalín** (co-author 22 of 139), ..., ET Dermitzakis

Science 348 (6235), 648-660

DOI: 10.1126/science.1262110, PMID: 25954001, PMCID: PMC4547484

<http://www.ncbi.nlm.nih.gov/pubmed/25954001>

Impact factor: 37.205

Deep Sequencing of Three Loci Implicated in Large-Scale Genome-Wide Association Study Smoking Meta-Analyses (2015)

SL Clark, JL McClay, DE Adkins, KA Aberg, G Kumar, S Nerella, L Xie, AL Collins, JJ Crowley, CR Quakenbush, CE Hillard, G Gao, **AA Shabalín**, RE Peterson, WE Copeland, JL Silberg, H Maes, PF Sullivan, EJ Costello, and EJCG van den Oord

Nicotine & Tobacco Research, Volume 18, Issue 5, Pages 626–631, 1 May 2016

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<http://ntr.oxfordjournals.org/content/early/2015/08/16/ntr.ntv166.short>

Impact factor: 3.811

Combined whole methylome and genomewide association study implicates CNTN4 in alcohol use (2015)

SL Clark, KA Aberg, S Nerella, G Kumar, JL McClay, W Chen, LY Xie, A Harada, **AA Shabalín**, G Gao, SE Bergen, CM Hultman, PKE Magnusson, PF Sullivan, and EJCG van den Oord

Alcoholism: Clinical and Experimental Research, 39 (8), 1396-1405

DOI: 10.1111/acer.12790, PMID: 26146898, PMCID: PMC4515164

<http://onlinelibrary.wiley.com/doi/10.1111/acer.12790/full>

Impact factor: 3.392

Refinement of schizophrenia GWAS loci using methylome-wide association data (2015)

G Kumar, SL Clark, JL McClay, **AA Shabalín**, DE Adkins, L Xie, R Chan, S Nerella, Y Kim, PF Sullivan, CM Hultman, PKE Magnusson, KA Aberg, and EJCG van den Oord

Human Genetics, 134 (1), 77-87

DOI: 10.1007/s00439-014-1494-5, PMID: 25284466, PMCID: PMC4282961

<http://link.springer.com/article/10.1007%2Fs00439-014-1494-5>

Impact factor: 4.633

Quantitative trait locus mapping methods for diversity outbred mice (2014)

DM Gatti, KL Svenson, **AA Shabalín**, LY Wu, W Valdar, P Simecek, N Goodwin, R Cheng, D Pomp, A Palmer, EJ Chesler, KW Broman, and GA Churchill

G3: Genes Genomes Genetics, 2014 vol. 4 no. 9, 1623-1633

DOI: 10.1534/g3.114.013748, PMID: 25237114, PMCID: PMC4169154
<http://www.g3journal.org/content/4/9/1623>
Impact factor: 2.910

The Genotype-Tissue Expression (GTEx) project (2013)
J Lonsdale, J Thomas, ..., **AA Shabalin** (co-author 98 of 127), ..., HF Moore
Nature Genetics, 45 (6), 580-585
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<http://www.nature.com/ng/journal/v45/n6/abs/ng.2653.html>
Impact factor: 27.959

Heritability and genomics of gene expression in peripheral blood (2014)
FA Wright, ..., **AA Shabalin** (co-author 25 of 39), ... DI Boomsma
Nature Genetics, 46 (5), 430-437
DOI: 10.1038/ng.2951, PMID: 24728292, PMCID: PMC4012342
<http://www.nature.com/ng/journal/v46/n5/full/ng.2951.html>
Impact factor: 27.959

Resolving the polymorphism-in-probe problem is critical for correct interpretation of expression QTL studies (2013)
A Ramasamy, D Trabzuni, JR Gibbs, A Dillman, DG Hernandez, S Arepalli, R Walker, C Smith, GP Illori, **AA Shabalin**, Y Li, AB Singleton, MR Cookson, J Hardy, M Ryten, and ME Weale
Nucleic Acids Research, 41 (7), e88-e88
DOI: 10.1093/nar/gkt069, PMID: 23435227, PMCID: PMC3627570
<http://nar.oxfordjournals.org/content/41/7/e88>
Impact factor: 10.162

Reconstruction of a low-rank matrix in the presence of Gaussian noise (2013)
AA Shabalin and AB Nobel
Journal of Multivariate Analysis, 118, 67-76
DOI: 10.1016/j.jmva.2013.03.005
<http://www.sciencedirect.com/science/article/pii/S0047259X13000328>
Impact factor: 1.007

Matrix eQTL: Ultra fast eQTL analysis via large matrix operations (2012)
AA Shabalin
Bioinformatics, 28 (10): 1353-1358
DOI: 10.1093/bioinformatics/bts163, PMID: 22492648, PMCID: PMC3348564
<http://bioinformatics.oxfordjournals.org/content/28/10/1353>
Impact factor: 7.307

seeQTL: A searchable database for human eQTLs (2012)
K Xia, **AA Shabalin**, ..., and FA Wright
Bioinformatics, 28 (3): 451-452
DOI: 10.1093/bioinformatics/btr678, PMID: 22171328, PMCID: PMC3268245

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Impact factor: 7.307

Computational tools for discovery and interpretation of Expression Quantitative Trait Loci (eQTL) (2012)

FA Wright, **AA Shabalín**, and I Rusyn

Pharmacogenomics, 13 (3), 343-352

DOI: 10.2217/pgs.11.185, PMID: 22048815, PMCID: PMC3295835

<http://www.futuremedicine.com/doi/abs/10.2217/pgs.11.185>

Impact factor: 2.350

Basal-like Breast Cancer DNA copy number losses identify genes involved in genomic instability, response to therapy, and patient survival (2012)

VJ Weigman, HH Chao, **AA Shabalín**, ..., and CM Perou

Breast Cancer Research and Treatment, 133 (3), 865-880

DOI: 10.1007/s10549-011-1846-y, PMID: 22048815, PMCID: PMC3387500

<http://link.springer.com/article/10.1007/s10549-011-1846-y>

Impact factor: 3.940

Sex-specific Gene Expression in BXD Mouse Liver (2010)

D Gatti, N Zhao, E Chesler, B Bradford, **AA Shabalín**, R Yordanova, L Lu, and I Rusyn

Physiological Genomics, 42 (3), 456-468

DOI: 10.1152/physiolgenomics.00110.2009, PMID: 20551147, PMCID: PMC2929887

<http://physiolgenomics.physiology.org/content/42/3/456>

Impact factor: 3.044

Finding large average submatrices in high dimensional data (2009)

AA Shabalín, VJ Weigman, CM Perou, and AB Nobel

Annals of Applied Statistics, 3(3), 985-1012, 2009

DOI: 10.1214/09-AOAS239

<http://projecteuclid.org/euclid.aoas/1254773275>

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Impact factor: 1.464

FastMap: Fast eQTL mapping in homozygous populations (2009)

DM Gatti*, **AA Shabalín***(co-first authors), TC Lam, FA Wright, I Rusyn, and AB Nobel

Bioinformatics, 25(4):482, 2009

DOI: 10.1093/bioinformatics/btn648, PMID: 19091771, PMCID: PMC2642639

<http://bioinformatics.oxfordjournals.org/content/25/4/482>

Impact factor: 7.307

The Set2/Rpd3S pathway suppresses cryptic transcription without regard to gene length or transcription frequency (2009)

C Lickwar, B Rao, **AA Shabalín**, AB Nobel, BD Strahl, and JD Lieb

PLoS ONE, 4(3), e4886, 2009

DOI: 10.1371/journal.pone.0004886, PMID: 19295910, PMCID: PMC2654109

<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0004886>

Impact factor: 2.806

Merging two gene-expression studies via cross-platform normalization (2008)

AA Shabalin, H Tjelmeland, C Fan, CM Perou, and AB Nobel

Bioinformatics, 24(9):1154, 2008

DOI: 10.1093/bioinformatics/btn083, PMID: 18325927

<http://bioinformatics.oxfordjournals.org/content/24/9/1154>

Impact factor: 7.307

Detection of Low Rank Signals in Noise and Fast Correlation Mining with Applications to Large Biological Data (2010)

AA Shabalin

Ph.D. Dissertation. UNC-CH, Department of Statistics and Operations Research

<https://cdr.lib.unc.edu/record/uuid:6a46e597-9e72-44f1-bd73-f643501bc0db>

Working papers:

High Body Mass Polygenic Risk in Mothers Enhances De Novo Functional Mutations in Epigenetic and Microtubule Gene Pathways in Their Offspring With Autism Spectrum Disorder
B Lohman, **AA Shabalin**, A Farrell, GT Marth, AR Docherty, Hilary Coon

<https://assets.researchsquare.com/files/rs-917426/v1/fc597ffb-27a8-4620-a249-4513fd067d63.pdf>

Genome-wide association study meta-analysis of suicide attempt in 43,871 cases identifies twelve genome-wide significant loci

AR Docherty, N Mullins, AE Ashley-Koch, XJ Qin, J Coleman, **AA Shabalin**, ..., D Ruderfer

<https://www.medrxiv.org/content/10.1101/2022.07.03.22277199v1>

Polygenic Risk Scores for Asthma and Allergic Disease Predict COVID-19 Severity in 9/11 Responders

M Waszczuk, O Morozova, E Lhuillier, AR Docherty, **AA Shabalin**, ..., B Luft

<https://www.medrxiv.org/content/10.1101/2022.08.30.22279383v1>

Programming languages:

R (packages on CRAN, Bioconductor, GitHub, see Matrix eQTL, RaMWAS, ACMEeqtl)

Matlab (multithreaded and GPU programming, vectorization, see LAS, XPN, Matrix eQTL)

Java, C# (multithreaded programming, complex data structures, see LAS, FastMap)

Bash scripting and genetics tools (parallel, bcftools, see SNOWCAT)

Software developed:

Matrix eQTL. Ultra fast eQTL analysis via large matrix operations

R at CRAN, http://www.bios.unc.edu/research/genomic_software/Matrix_eQTL/

SNOWCAT. Genome-wide association studies with correction for local ancestry

R at GitHub, <https://github.com/andreyshabalin/snowcat>

RaMWAS. Fast Methylome-Wide Association Study Pipeline for Enrichment Platforms
R at Bioconductor, <https://bioconductor.org/packages/ramwas>

Filematrix. File-Backed Matrix Class with Convenient Read and Write Access
R at CRAN and GitHub, <https://github.com/andreyshabalin/filematrix>

shiftR. Very fast circular permutation analysis on binary outcomes
R at GitHub, <https://github.com/andreyshabalin/shiftR>

TwinEQTl: Fast eQTL for data with twins
R at GitHub, <https://github.com/andreyshabalin/TwinEQTl>

ACMEeqtl. Estimation of Interpretable eQTL Effect Sizes Using a Log of Linear Model
R at GitHub, <https://github.com/andreyshabalin/ACMEeqtl>

DOQTL. Genotyping and QTL Mapping in Diversity Outbred Mice
R at Bioconductor, <https://bioconductor.org/packages/release/bioc/html/DOQTL.html>

LAS Biclustering. Finding large average submatrices in high-dimensional data.
C# (with GUI) and Matlab, <https://genome.unc.edu/las/>

FastMap. Fast gene expression quantitative trait loci mapping tool.
Java (with GUI), <http://comptox.unc.edu/fastmap.php>

XPN. Cross-platform normalization method for combining gene expression data
Matlab, <https://genome.unc.edu/xpn/>

SWITCHdna. SupWald identification of DNA copy changes
R, <https://genome.unc.edu/pubsup/SWITCHdna/>

Teaching Experience:

R25 Training in Advanced Statistical Methods in Neuroimaging and Genetics, 2021-2025
Responsibilities: conduct lectures, design comp lab assignments, manage virtual machine

Talk at PGC day at WCPG on variable selection/shrinkage methods, October 15, 2021

Introduction to Statistics, Instructor, UNC-CH, Spring – Fall 2009
Responsibilities: conduct lectures, design homework and exams, grade exams.

Econometrics and Time-series analysis, Instructor,
State University of Humanities, Moscow, Russia, Fall 2003 – Spring 2004
Responsibilities: complete charge of the course – choose textbook, conduct lectures, etc.

Applied Time Series Econometrics, Econometrics IV, and Continuous Time Finance,
Instructor Assistant, New Economic School, Moscow, Russia, Fall 2004 – Spring 2005
Responsibilities: conduct sessions, grade homework and exams.

Elements of Statistics, Instructor Assistant,
International College of Economics and Finance, Moscow, Russia, Fall 2003 – Spring 2004
Responsibilities: conduct sessions, grade homework and exams.

Reviewed for:

Annals of Applied Statistics
Bioinformatics
BMC Bioinformatics
BMC Genomics
GigaScience
Human Molecular Genetics
Human Genetics
IEEE/ACM Transactions on Computational Biology and Bioinformatics
IEEE Transactions on Information Theory
Journal of Computational and Graphical Statistics
Journal of Multivariate Analysis
Nucleic Acids Research
Pattern Recognition
PLOS Genetics
PLOS One
Quantile (Moscow, Russia)
Statistics and Computing
Transactions on Computational Biology and Bioinformatics