MATTHEW PAHL

Bioinformatics Scientist | Computational Biologist

Creative and self-driven scientist with 10+ years of hands-on experience in bioinformatics. Looking for a position that integrates large omics datasets and statistical modeling to uncover novel biological insight.

EDUCATION

2018 | 2012

Ph.D, Biology
University of Virginia — Charlottesville, VA

2012 | 2008

B.S Biology
Susquehanna University — Selinsgrove, PA

PROFESSIONAL EXPERIENCE

Current | 2019

Post Doctoral Fellow
Children's Hospital of Philadelphia — Philadelphia, PA

- Performed integrated analyses of NGS datasets (ATAC-seq, ChIP-seq, RNA- seq, HiC/Promoter Capture C) to answer biological questions in metabolic, neuroscience, and immune relevant traits
- Incorporated functional genomics datasets to implicate potential target genes of disease associated variants (variant to gene)
- Investigated the potential genetic contribution of the hypothalamus in puberty, obesity, sleep, and mood disorders
- Consulted with bench scientists on experimental design to minimize batch effects and ensure experimental validity
- Recruited and trained bioinformatics fellows, staff, and graduate students.
- Published 11 peer reviewed publications

2018 | 2012

Graduate Researcher
University of Virginia — Charlottesville, VA

- Initiated and led research project on the regulation of neural stem cell proliferation and cell death during development.
- Designed custom code to mine public ChIP-seq data and predicted a list of screen candidate genes.
- Initiated a directed screen for genes involved in terminating neural stem cell divisions.
- Developed lab protocol for primary cell culture.
- Published two peer-reviewed papers.

2012 | 2010

Research Intern
Weis Center for Research, Geisinger — Danville PA

- Analyzed miRNA microarray and ChIP-Chip data from patient samples to investigate the pathogenesis of abdominal aortic aneurysms.
- Published four peer-reviewed research articles and presented results at two conferences.

CONTACT INFO

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Google Scholar

SKILL HIGHLIGHTS

- NGS analysis
- Integrative Multiomics
- Human Genetics
- R, Python, and Shell programming
- tidyverse/ggplot2
- Git/GitHub
- HPC (PBS, SLURM and SGE)

Last updated on 2022-10-19.

Prepared by {Pagedown}

SELECTED PUBLICATIONS

2022

3D chromatin maps of the human pancreas reveal lineage-specific regulatory architecture of T2D risk

Cell Metabolism

- Chun Su, Lin Gao, Catherine L. May, James A. Pippin, Keith Boehm, Michelle Lee M, Chengyang Liu, **Matthew C Pahl**, Maria L Golson, Ali Naji; HPAP Consortium, Strua FA Grant, Andrew D. Wells, Klaus H. Kaestner

2022

Implicating effector genes at COVID-19 GWAS loci using promoter-focused Capture C in disease relevant immune cell types.

Genome Biology

- **Matthew C Pahl**, Carol Le Coz, Chun Su, Prabhat Sharma, Rajan M Tomas, Jame A Pippin, EC Caberara, Matthew E Johnson, Michelle Leonard, Sumei Lu, Alessandra Chesi, Katherine E Sullivan, Neil Romberg, Struan FA Grant, Andrew D Wells

2021

Cis-regulatory architecture of human ESC-derived hypothalamic neuron differentiation aids in variant-to-gene mapping of relevant complex traits

Nature Communication

- **Matthew C Pahl**, Claudia A. Doege, Kenyaita M. Hodge, Sheridan H. Littleton, Michelle E. Leonard, Sumei Lu, Rick Rausch, James A. Pippin, Maria Caterina De Rosa, Alisha Basak, Jonathan P. Bradfield, Reza K. Hammond, Keith Boehm, Robert I. Berkowitz, Chiara Lasconi, Chun Su, Alessandra Chesi, Matthew E. Johnson, Andrew D. Wells, Benjamin F. Voight, Rudolph L. Leibel, Diana L. Cousminer & Struan F. A.

2021

Genome-wide association study implicates novel loci and reveals candidate effector genes for longitudinal pediatric bone accrual through variant-to-gene mapping.

Genome Biology

- Diana L Cousminer, Yadav Wagley, James A Pippin, Ahmed Elhakeem, Gregory P Way, **Matthew C Pahl**, Shana E McCormack, Alessandra Chesi, Jonathan A Mitchell, Joseph M Kindler, Denis Baird, April Hartley, Laura Howe, Heidi J Kalkwarf , Joan M Lappe, Sumei Lu, Michelle Leonard, Matthew E. Johnson, Hakon Hakonarson, Vicente Gilsanz, John A Shepherd, Sharon E Oberiield, Casey S Greene, Andrea Kelly, Deborah A Lawlor, Ben F Voight, Andrew Wells, Babette S Zemel, Kurt D Hankenson, Struan FA Grant

2019

E93 Integrates Neuroblast Intrinsic State with Developmental Time to Terminate MB Neurogenesis via Autophagy.

Current Biology

- **Matthew C Pahl**, Susan E Doyle, Sarah E Siegrist

2015

Transcriptional (ChIP-Chip) Analysis of ELF1, ETS2, RUNX1 and STAT5 in Human Abdominal Aortic Aneurysm

Int J Mol Sci

- **Matthew C Pahl**, Robert Erdman, Helena Kuivaniemi, John H Lillvis, James R Elmore, Gerard Tromp.

2012

MicroRNA expression signature in human abdominal aortic aneurysms

BMC Medical Genomics

- **Matthew C Pahl**, Kimberly Derr, Gabor Gabel, Irene Hinterseher, James R Elmore, Charles M Schworer, Thomas C Peeler, David P Franklin, John L Gray, Gerard Tromp, Helena Kuivaniemi