ALEXANDRE AMLIE-WOLF

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EDUCATION

University of Pennsylvania, Philadelphia, Pennsylvania, USA. *2013-Present*
Ph.D. Genomics and Computational Biology, GPA: 3.86
Thesis Advisor: Li-San Wang

Oberlin College, Oberlin, Ohio, USA. *2009-2013*
B.A. Computer Science with High Honors and B.A. Neuroscience, Phi Beta Kappa
GPA: Computer Science 3.93, Neuroscience 3.7, Cumulative 3.8
Thesis: "A Swarm of Salesmen: Algorithmic Approaches to Multiagent Modeling"
http://rave.ohiolink.edu/etdc/view?acc_num=oberlin1368052652
Thesis Advisor: Tom Wexler

PUBLICATIONS

*: co-first author

Manusripts under preparation

1. **Amlie-Wolf A***, Tang M*, Dombroski B, Way J, Vrettos N, Chou YF, Mlynarski EE, Schellenberg GD, Wang LS. Integrative analysis identifies immune-related enhancers and lncRNAs perturbed by genetic variants associated with Alzheimers disease.
2. Hwang YC*, Kuksa P*, **Amlie-Wolf A***, Gregory BD, Wang LS. Identifying the transcription factors mediating enhancertarget gene regulation in the human genome.

Preprints under review

1. **Amlie-Wolf A**, Tang M, Mlynarski EEM, Kuksa PK, Valladares O, Katanic Z, Tsuang D, Brown CD, Schellenberg GD, Wang LS. (2017) INFERNO - INFERring the molecular mechanisms of NOncoding genetic variants. bioRxiv. doi: doi.org/10.1101/211599. https://biorxiv.org/content/early/2017/10/30/211599

Journal Articles

1. Nativio R, Donahue G, Berson A, Lan Y, **Amlie-Wolf A**, Tuzer F , Toledo J , Gosai S, Gregory B, Torres C, Trojanowski J , Wang LS, Johnson FB, Bonini N, Berger S. (2018) Dysregulation of the epigenetic landscape of normal aging in Alzheimer's disease. Nature Neuroscience. doi:10.1038/s41593-018-0101-9
2. Leung YY, Kuksa P, **Amlie-Wolf A**, Valladares O, Ungar L, Kannan S, Gregory B, Wang LS. (2016) DASHR: database of small human noncoding RNAs. Nucleic Acids Research. doi: 10.1093/nar/gkv1188
3. **Amlie-Wolf A**, Ryvkin P, Tong R, Dragomir I, Suh E, Van Deerlin VM, Gregory BD, Kwong LK, Trojanowski JQ, Lee VM, Wang LS, Lee EB. (2015) Transcriptomic Changes Due to Cytoplasmic TDP-43 Expression Reveal Dysregulation of Histone Transcripts and Nuclear Chromatin. PLoS ONE 10(10): e0141836. doi: 10.1371/journal.pone.0141836

Published Conference Abstracts

1. **Amlie-Wolf A**, Tang M, King J, Dombroski BA, Wang LS, Schellenberg GD. (2016) Computational identification of regulatory mechanisms affected by noncoding variants associated with late-onset Alzheimer's disease. Alzheimer's & Dementia: The Journal of the Alzheimer's Association 12(7), P640-P641.

PRESENTATIONS

Invited Talks

1. **Alzheimer's Disease Genetics Consortium** 01/30/2018
   University of Pennsylvania *Philadelphia, PA*
2. **Genomics and Computational Biology Retreat** 06/08/2017
   University of Pennsylvania *Philadelphia, PA*
3. **Alzheimer's Disease Genetics Consortium** 02/16/2017
   Case Western Reserve University *Cleveland, OH*

Refereed Conference Posters

1. **Amlie-Wolf A**, Qu L, Mlynarski EE, Brown CD, Schellenberg DG, Wang LS. (2017) The regulatory landscape of genetic variants associated with psychiatric disorders and neurodegenerative diseases. The 67th Annual Meeting of the American Society of Human Genetics, Oct 17-21, Orlando, Florida.
2. Kuksa PP, Leung YY, **Amlie-Wolf A**, Valladares O, Wang LS. (2017) DASHR 2.0 - database of small non-coding RNAs in normal human tissues and cell types. The 67th Annual Meeting of the American Society of Human Genetics, Oct 17-21, Orlando, Florida.
3. Leung YY, Kuksa PP, **Amlie-Wolf A**, Wang LS. (2017) The landscape of short RNAs in human cell types and tissues. The 67th Annual Meeting of the American Society of Human Genetics, Oct 17-21, Orlando, Florida.
4. **Amlie-Wolf A**, Tang M, King J, Dombroski BA, Chou YF, Mlynarski EE, Schellenberg DG, Wang LS. (2017) Integrative analysis identifies immune-related enhancers and lncRNAs perturbed by genetic variants associated with Alzheimer's disease. UPenn Institute on Aging Retreat, May 23, Philadelphia, Pennsylvania.
5. **Amlie-Wolf A**, Tang M, Kuksa PP, Leung YY, Slaff B, King J, Dombroski BA, Schellenberg DG, Wang LS. (2016) INFERNO - INFERring the molecular mechanisms of NOncoding genetic variants. The 66th Annual Meeting of the American Society of Human Genetics, Oct 18-22, Vancouver, Canada and MidAtlantic Bioinformatics Conference, Oct 26, Philadelphia, PA, USA.
6. Leung YY, Kuksa PP, **Amlie-Wolf A**, Wang LS. (2016) The landscape of regulatory post-transcriptionally derived small noncoding RNAs in the human transcriptome. The 66th Annual Meeting of the American Society of Human Genetics, Oct 18-22, Vancouver, Canada.
7. **Amlie-Wolf A**, Tang M, King J, Dombroski BA, Wang LS, Schellenberg GD. (2016) Computational identification of regulatory mechanisms affected by noncoding variants associated with late-onset Alzheimer's disease. Alzheimer's Association International Conference, July 24-28, Toronto, Canada.
8. Kuksa PP, Leung YY, **Amlie-Wolf A**, Gregory BD, Wang LS. (2015) SPAR - Sequencing-based pipeline for annotating novel small non-coding RNAs. The 65th Annual Meeting of the American Society of Human Genetics, Oct 6-10, Baltimore, USA.
9. Leung YY, Kuksa PP, **Amlie-Wolf A**, Gregory BD, Wang LS. (2015) DASHR - Database of small human noncoding RNA. The 65th Annual Meeting of the American Society of Human Genetics, Oct 6-10, Baltimore, USA.
10. Freedman J, **Amlie-Wolf A**, Wittenberg R, Shoham O, Aronson S, Loose MD. (2014) Identifying the relative influence of multiple prior events on predictions of a probabilistic future: An artificial neural network analysis. Society for Neuroscience 2014, Nov 15-19, Washington D.C., USA.
11. Aronson S, **Amlie-Wolf A**, Loose MD. (2012) Making predictions in a stochastic environment: Strategies underlying the probability matching phenomenon and corresponding event-related potentials. Society for Neuroscience 2012, Oct 13-17, New Orleans, USA.
12. Loose MD, Aronson S, Scott H, Mehta T, Wang A, **Amlie-Wolf A**, Welch K. (2011) Salience is not always salient: Neither magnitude nor valence of expected outcome contributes to the N2/P3

event-related potential complex in a Go/NoGo task. Society for Neuroscience 2011, Nov 12-16, Washington D.C., USA.

ACADEMIC AND PROFESSIONAL HONORS

2017: 1^{st} place poster award in basic science category at UPenn Institute on Aging Retreat
2015 - Present: Predoctoral Trainee in Age Related Neurodegenerative Diseases, NIH/NIA T32 AG00255
2013: Nancy Robell Prize in Neuroscience, Oberlin College
2013: Graduated with High Honors in Computer Science
2013: Inducted into Phi Beta Kappa
2009-2013: John F. Oberlin Merit Scholarship
2009-2013: National Merit Scholarship Finalist
2005-2009: Lower Merion High School Honor Roll

RESEARCH EXPERIENCE

Graduate Student January 2014-Present
Department of Pathology and Laboratory Medicine, University of Pennsylvania
Advisor: Li-San Wang *Philadelphia, PA*

- Developing integrative computational methods to characterize the regulatory effects of noncoding genetic variation in Alzheimer's disease and related neurodegenerative diseases

Rotation Student March 2014-June 2014
Advisor: Edward B. Lee *Philadelphia, PA*

Rotation Student September 2013-December 2013
Advisor: Yoseph Barash *Philadelphia, PA*

Computer Science Honors Student Fall 2012-Spring 2013
Department of Computer Science, Oberlin College
Advisor: Tom Wexler *Oberlin, OH*

DAAD RISE Scholar May 2012-August 2012
Department of Computer Science, Humboldt-Universität zu Berlin
Advisors: Michael Frey, Mesut Günes, Joachim Fischer *Berlin, Germany*

Research Assistant Spring 2011-Spring 2013
Department of Neuroscience, Oberlin College
Advisor: Michael Loose *Oberlin, OH*

Research Assistant Fall 2011-Spring 2012
Department of Neuroscience, Oberlin College
Advisor: Keith Downing *Oberlin, OH*

Summer Undergraduate Research Assistant Summer 2011
Center for Neurodegenerative Disease Research, University of Pennsylvania
Advisors: Virginia Lee and Li-San Wang *Philadelphia, PA*

Summer Undergraduate Research Assistant Summer 2010
Center for Neurodegenerative Disease Research, University of Pennsylvania
Advisor: Virginia Lee *Philadelphia, PA*

ACADEMIC SERVICE

Member of committee to update individual development plans (IDP) 2016-2017
Biomedical Graduate Studies, University of Pennsylvania *Philadelphia, PA*

Reviewer for APBC and BIBM Conferences 2017-2018

Organizer for student-invited Penn Bioinformatics Forum talks Fall 2014-Spring 2016
Institute for Biomedical Informatics, University of Pennsylvania *Philadelphia, PA*

TEACHING EXPERIENCE

TA and course development for GCB535: Introduction to Bioinformatics Spring 2016
Biomedical Graduate Studies, University of Pennsylvania *Philadelphia, PA*

Tutor for BIOM555: Regulation of the Genome Spring 2015
Biomedical Graduate Studies, University of Pennsylvania *Philadelphia, PA*

Grader for Computer Science 275: Programming Abstractions Spring 2013
Department of Computer Science, Oberlin College *Oberlin, OH*

Grader for Computer Science 151: Principles of Computer Science II Fall 2012
Department of Computer Science, Oberlin College *Oberlin, OH*

Grader for Computer Science 150: Principles of Computer Science I Spring 2012
Department of Computer Science, Oberlin College *Oberlin, OH*

Tutor for Computer Science 151: Principles of Computer Science II Fall 2011
Department of Computer Science, Oberlin College *Oberlin, OH*

RESEARCH SKILLS

Programming languages:
Strong - R, Python, bash, Java, C/C++, LaTeX
Moderate - Mathematica, Assembly, Perl, MATLAB, Scheme
Wet lab skills:
Molecular cloning, cell culture, transient transfection, luciferase assay, protein biochemistry

SOCIETY MEMBERSHIPS

American Society of Human Genetics, Alzheimer's Association, Phi Beta Kappa (Zeta of Ohio Chapter), Sigma Xi, The Pledge of the Computing Professional, Society for Neuroscience

EXTRACURRICULAR ACTIVITIES

Avid Musician: Oboe, Bass Guitar, Guitar, Piano, Drums, Vocals, Double Bass, Mandolin.
`https://alexamliewolf.bandcamp.com`
`https://soundcloud.com/alexamlie/`
`https://www.youtube.com/c/AlexAmlieWolf`

'Honorary' Member of Oberlin Conservatory Oboe Studio, played with the Oberlin Chamber Orchestra (usually open only to Conservatory music students, extremely rare for a wind player)

Member of the Competitive Computer Programming Club at Oberlin, competed at the Denison Programming Contest and the ACM International Collegiate Programming Contest

Languages: English (native), French (conversational)