Young Jae Woo Ph.D.
Novartis Institutes for BioMedical Research
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Education

Ph.D., Biomedical Sciences (focus in Human Genetics) Albert Einstein College of Medicine, Bronx, NY USA Department of Genetics Thesis Title: 15q11.2 disease locus: from cognition to molecular mechanisms Advisor: Dr. Brett S. Abrahams	2016
M.S., Biomedical Sciences, Albert Einstein College of Medicine, Bronx, NY USA	2012
B.S., Chemical Biology, University of California Berkeley, Berkeley, CA USA	2008

Employment

Senior Expert I Data Science, Novartis Institute of Biomedical Research, San Diego, CA Focus: Human genetics-based target discovery	2021 – Present
Postdoctoral Fellow, Icahn School of Medicine at Mount Sinai, New York, NY Focus: Computational analysis of human disease leveraging transcriptomics, neuroimaging, and genetics	2016 – 2021
Bioinformatics Consultant for Magnolia Neurosciences Corporation	2019
Lab Technician, Lawrence Berkeley National Laboratory, Berkeley CA	2006 – 2010

Honors and Awards

Best Poster Award at UKC 2020	2020
KASBP-MDImmune Fellowship Award	2020
Andrew Kim Memorial Fellowship Award	2020
Scholarship for Young Professional Forum (Invitation to Seoul, Republic of Korea)	2019
Awarded for Multi-Omics Data QC user case at Multi-Omics Data Quality-Control workshop	2017
Best Poster Award at NYKB 7th Annual Conference	2015
Functional MRI Visiting Fellowship at the Martinos Center for Biomedical Imaging	2012

Educational Activities

Teaching Activities in Programs and Courses

Techniques and Approaches in Neuroscience, Lecturer	2020
Computational Genetics and Epigenetics, Teaching Assistant	2013

Updated: July 10, 2022

Advising and Mentoring

Students

Allison Cao, High School Research Program, Supervisor 2016 - 2018
Senior in High School - Accepted in Westlake competition and won bronze metal for Genius Olympiad Competition with around 1,300 finalists from 67 countries

Regina Catalogue, High School Research Program, Supervisor 2012 - 2014
Psychology Student at SUNY Stony Brook

Grants

Completed

R01 AG046170 Schadt, E, Zhu, J, and others M-PIs 2013 – 2018
Integrative Biology Approach to Complexity of Alzheimer's Disease
Description: This proposal aims to develop a multiscale-network approach to elucidating the complexity of AD based on existing AD-related large scale molecular data and the high-impact, high-resolution complementary datasets generated through this application.
Role: Postdoctoral Fellow (100% effort)

Academic Activities

Peer-reviewed publications

1. **Woo YJ**, Roussos P, Haroutunian V, Katsel P, Gandy S, Schadt EE, Jun Zhu. Comparison of brain connectomes by MRI and genomics and its implication in Alzheimer's disease. *BMC Medicine*. (2020).
2. Kanellopoulos AK, Mariano V, Spinazzi M, **Woo YJ**, McLean C, Pech U, Li KW, Armstrong JD, Giangrande A, Callaerts P, Smit AB, Abrahams BS, Fiala A, Achsel T, Bagni C. Aralar Sequesters GABA into Hyperactive Mitochondria, Causing Social Behavior Deficits. *Cell*. (2020).
3. **Woo YJ**, Kanellopoulos AK, Hemati P, Kirschen J, Nebel RA, Wang T, Bagni C, Abrahams BS. Domain-Specific Cognitive Impairments in Humans and Flies With Reduced CYFIP1 Dosage. *Biological Psychiatry*. (2019) [**BRIC nominated paper**]
4. Ross LA, Del Bene VA, Molholm S, **Woo YJ**, Andrade GN, Abrahams BS, Foxe JJ. Common variation in the autism risk gene CNTNAP2, brain structural connectivity and multisensory speech integration. *Brain and Language*. (2017).
5. **Woo YJ**, Wang T, Guadalupe T, Nebel RA, Vino A, Del Bene VA, Molholm S, Ross LA, Zwiers MP, Fisher SE, Foxe JJ, Abrahams BS. A Common CYFIP1 Variant at the 15q11.2 Disease Locus Is Associated with Structural Variation at the Language-Related Left Supramarginal Gyrus. *PLoS One*. (2016).
6. Jeong JH*, **Woo YJ***, Chua S Jr, Jo YJ. Single-Cell Gene Expression Analysis of Cholinergic Neurons in the Arcuate Nucleus of the Hypothalamus. *PLoS One*. (2016).
7. Nebel RA, Kirschen J, Cai J, **Woo YJ**, Cherian K, Abrahams BS. Reciprocal Relationship between Head Size, an Autism Endophenotype, and Gene Dosage at 19p13.12 Points to AKAP8 and AKAP8L. *PLoS One*. (2015).
8. Balamotis MA*, Tamberg N*, **Woo YJ**, Li JC, Brian-Davy, Kohwi-Shigematsu T, Kohwi Y.SATB1 ablation alters temporal expression of immediate early genes and reduce dendritic spine density during postnatal brain development. *Molecular and Cellular Biology*. (2012).

* Shared first co-authorship

Presentations, Posters & Abstracts

Woo YJ, Roussos P, Haroutunian V, Katsel P, Gandy S, Schadt EE, Jun Zhu. Comparison of brain connectomes by MRI and genomics and its implication in Alzheimer's disease. *Organization of Human Brain Mapping (OHBM),* Montreal, Canada — 2020

Woo YJ, Zhu J. Comparison of brain connectomes by MRI and genomics and its implication in Alzheimer's disease. Poster presented at *9th Annual TMII Symposium*, New York, NY — 2019

Woo, YJ, Kanellopoulos AK, Hemati P, Kirschen J, Nebel RA, Wang T, Bagni C, Abrahams B. Domain-specific cognitive impairments in humans and flies with reduced *CYFIP1* dosage. Poster presented at *EMBO workshop: Cell biology of the neuron: Polarity, plasticity and regeneration*, Heraklion, Greece — 2019

McKenzie A*, **Woo YJ***, Zhu J, Zhang B. White matter volume changes associate with regional susceptibility to Alzheimer's disease. Poster presented at 3rd *Annual Brain Imaging Center symposium*, Mount Sinai Hospital, New York, NY — 2016

Woo YJ. 15q11.2 disease locus: from behavior to molecular mechanisms. Speaker at *KSEA Northeast Regional Conference*, Edison NJ — 2015

Woo, YJ, Hemati P, Kirschen J, Nebel RA, Wang T, Abrahams B. Online assessment of 15q11.2 deletion carriers reveals domain specific cognitive impairment. Poster presented at *ESCoNS/Neurogaming 2015 Conference and Expo*, San Francisco, CA. — 2015

Woo YJ, Wang T, Guadalupe T, Zwiers MP, Ross LA, Fisher SE, Molholm S, Foxe, JJ, Abrahams, BS. A schizophrenia associated risk allele within the *ACSM1* gene is associated with altered white matter integrity at the Corpus Callosum. Poster presentation at 10th *International Imaging Genetics Conference*, UC Irvine, CA — 2014

Woo YJ, Wang T, Molholm S, Foxe, JJ, Abrahams, BS. Variation at ACSM1, but not other psychiatric disorder related risk alleles, is associated with altered white matter integrity. Poster presentation at *Wiring the Brain*, Cold Spring Harbor Laboratory, NY — 2013

* Shared first co-authorship

Professional Memberships and Activities

Korean American Society in Biotech and Pharmaceutical (KASBP) — 2015 – Present
Member, Member

The New York Academy of Sciences — 2019 – Present
Member, Member

Organization of Human Brain Mapping — 2020 – 2021
SEG Special Interest Group, Member

New York Korean Biologist (NYKB) — 2010 – 2021
Member, Member

New York Korean Biologist (NYKB) — 2016 – 2017
Council Member, Vice-President

New York Korean Biologist (NYKB) — 2014 – 2017
Council Member, IT