

Curriculum Vitae WUSM Format
Sheng Chih Jin, Ph.D., ScM

Date: 11/24/2021

Name Jin, Sheng Chih

Address, Telephone and email:

Washington University School of Medicine
 Jin Lab, Department of Genetics
 660 South Euclid Avenue, Campus Box 8232
 St. Louis MO, 63110-1010
 Phone: (314) 273-2710
 Email: jin810@wustl.edu

Present Position:

April 2020 – Present, Assistant Professor of Genetics and Pediatrics

Education:

National Chiao Tung University, Hsinchu, Taiwan, 2000 – 2004
 B.S., Applied Mathematics

Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA, 2006 – 2008
 ScM, Biostatistics

Washington University School of Medicine, St. Louis, MO, USA, 2010 – 2014
 Ph.D., Human & Statistical Genetics (Advisors: Alison Goate & Carlos Cruchaga)

Yale School of Medicine, New Haven, CT, USA, 2014 – 2018
 Postdoctoral Fellow (Advisor: Richard P. Lifton)

Rockefeller University, New York, NY, USA, 2018 – 2020
 Postdoctoral Fellow (Advisor: Richard P. Lifton)

Academic Positions / Employment:

2020 –	Assistant Professor of Genetics and Pediatrics Washington University School of Medicine
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Honors and Awards:

- 2007 Cancer Research Training Award, Biostatistics Branch, Division of Cancer Epidemiology & Genetics, National Cancer Institute, NIH
- 2007 Departmental Scholarship, Department of Biostatistics, Johns Hopkins University
- 2011 Lucille P. Markey Special Emphasis Pathway in Human Pathobiology Fellowship, Markey Foundation, Washington University School of Medicine
- 2012 Alzheimer's Disease International Conference Travel Fellowship, Alzheimer's Association
- 2012 Best Oral Presentation Award, Human and Statistical Genetics Program 2012 Retreat
- 2014 Finalist, Fourth Annual Hope Center Retreat Poster Session, Hope Center for Neurological Disorders, Washington University School of Medicine
- 2014 Howard Hughes Medical Institute Postdoctoral Fellowship, Department of Genetics, Yale University School of Medicine
- 2015 James Hudson Brown – Alexander Brown Coxe Postdoctoral Fellowship in the Medical Sciences, Yale University School of Medicine
- 2018 American Heart Association Postdoctoral Fellowship
- 2019 NIH/NHLBI K99/R00 Pathway to Independence Award
- 2019 Postdoctoral Association Career Development Award, Rockefeller University
- 2020 Rockefeller University Nominee, Blavatnik Regional Award for Young Scientists
- 2021 Children's Discovery Institute Faculty Scholar, St. Louis Children's Hospital
- 2021 Hydrocephalus Association Innovator Award

Editorial Responsibilities:

- 2013 – Ad hoc reviewer for BMC Neurology, Journal of Alzheimer's Disease, Molecular Neurodegeneration, Alzheimer's & Dementia, European Heart Journal, npj Genomic Medicine, Genes, Journal of Medical Genetics, Biomolecules
- 2013 – Review editor for Frontiers in Genetics, Neurogenomics Section

National Panels, Committees, Boards:

N/A

Community Service Contributions:

- **University Appointments and Committees**

2020 – DBBS Admissions Committee B, Washington University School of Medicine

- **Professional Societies and Organizations**

2011 – American Society of Human Genetics (Member)

2015 – American Heart Association (Member)

Major Invited Professorships and Lectureships:

2012	Alzheimer's Association International Conference (from submitted abstract), Vancouver, Canada
2014	Alzheimer's Association International Conference (from submitted abstract), Copenhagen, Denmark
2016	Institute of Biomedical Sciences, Academia Sinica, Taiwan
2017	NHLBI Bench to Bassinet Program Annual Face-to-Face Meeting, Rockville, MD
2017	Institute of Biomedical Sciences, Academia Sinica, Taiwan
2017	International Cerebral Palsy Genomics Consortium Conference (invited keynote presentation), Zhengzhou, China
2018	Department of Genetics, Washington University School of Medicine
2018	Eugene McDermott Center for Human Growth and Development, University of Texas Southwestern Medical Center
2018	Institute for Genomic Medicine, Nationwide Children's Hospital
2018	National Taiwan University College of Medical Institute of Medical Genomics and Proteomics
2019	Waisman Center, University of Wisconsin – Madison
2019	Mindich Child Health and Development Institute, Icahn School of Medicine at Mount Sinai
2019	International Cerebral Palsy Genomics Consortium Conference (invited presentation), Anaheim, CA
2020	American Society of Human Genetics (from submitted abstract), Virtual Meeting
2021	Mount Sinai x Open Box Science Computational Omics Seminar
2021	Washington University School of Medicine, Pediatric Neurology Research Working Group
2021	Washington University School of Medicine, Division of Genetics and Genomic Medicine
2021	Boston Taiwanese Biotechnology Association Monthly Seminar Series
2021	Washington University Department of Developmental Biology Seminar Series
2021	Washington University Department of Computer Science & Engineering Colloquia Series

Consulting Relationships and Board Memberships:

N/A

Internal Review Work

2021 Ad hoc reviewer for the Clinical and Translational Research Funding Program, Washington University Institute of Clinical and Translational Sciences

External Review Work

N/A

Research Support:

- **Governmental**

Title: Integrative Genomic Analysis of Congenital Heart Disease
 Agency: NIH/NHLBI 4R00HL143036-02
 Role: Principal Investigator
 Duration: 04/01/2020 – 03/31/2023
 Amount: \$249,005/year

Title: Human Genetics and Molecular Mechanisms of Congenital Hydrocephalus
 Agency: NIH/NINDS 1R01NS1111029-01A1
 Role: Co-Investigator
 Duration: 04/01/2020 – 01/31/2025
 Amount: \$41,678 (Year 2)

Title: Human Genetics and Molecular Mechanisms of Vein of Galen Malformation
 Agency: NIH/NINDS 1R01NS117609-01
 Role: Co-Investigator (Subaward to Yale University)
 Duration: 07/01/2020 – 06/30/2024
 Amount: \$11,907 (Year 2)

Title: Genetic Risk Factors for Severe Scoliosis
 Agency: NIH/NIAMS 2R01AR067715-06A1
 Role: Co-Investigator
 Duration: 07/01/2020 – 06/30/2024
 Amount: \$10,966 (Year 2)

Title: WashU-Northwestern Genomic Variation and Function Data and Administrative Coordinating Center
 Agency: NIH/NHGRI 1U24HG012070-01
 Role: Co-Investigator
 Duration: 07/01/2020 – 06/30/2024

Amount: TBD (Year 1)

- **Non-Governmental**

Title: A Genome-Wide Assessment of Noncoding Risk Variants in Congenital Hydrocephalus

Agency: Hydrocephalus Association

Role: Principal Investigator

Duration: 12/31/2021 – 12/30/2022

Amount: \$50,000

Title: Human Genetics and Molecular Mechanisms of Cerebral Palsy

Agency: Children's Discovery Institute - St. Louis Children's Hospital

Role: Principal Investigator

Duration: 10/01/2021 – 09/30/2026

Amount: \$300,000

Title: Long-Read Genome Sequencing and Integrative Genomic Analysis for Cerebral Palsy

Agency: CTRFP - Washington University Institute of Clinical and Translational Sciences

Role: Principal Investigator

Duration: 03/01/2021 – 02/28/2022

Amount: \$50,000

Title: Functional characterization of the Diaph1 gene using the zebrafish knock model

Agency: Children's Discovery Institute - St. Louis Children's Hospital

Role: Principal Investigator

Duration: 02/05/2021 – 06/31/2022

Amount: \$10,000

Undergraduate Mentoring:

Trainee	Period	Project Title	Support	Current Position
Joshipura, Kareena	6/2021 – 8/2021	Human genetics of cerebral palsy	Mount Holyoke College's Lynk Fellowship	BS Student Mount Holyoke College
Wrubel, Max	11/2021 –	Human genetics of cerebral palsy	Post-Baccalaureate Extensive Study Program	MGI OGR Student

Graduate Mentoring:

Trainee	Period	Project Title	Support	Current Position
Zhang, Shujuan	9/2020 – –	Human genetics and molecular mechanisms of Vein of Galen Malformation	1R01NS117609-01 + 4R00HL143036-02	PhD Candidate WUSTL
Peters, Samuel	5/2020 – 4/2021	Human genetics of primary Moyamoya disease	4R00HL143036-02	MS Student SLU
King, Spencer	5/2020 – 5/2021	Human genetics of cerebral palsy	4R00HL143036-02	Biomedical Informatics & Data Science Intern WUSTL I2
Yu, Xiaobing	2/2021 – 11/2021	Single-cell RNA-sequencing analysis for rare neurological disorders	4R00HL143036-02	MS Student WUSTL
Shaffiey, Shohaib	2/2021 – 5/2021	Whole genome sequencing analysis for rare neurological disorders	4R00HL143036-02	MS Student WUSTL

Postgraduate Mentoring:

Trainee	Period	Project Title	Support	Current Position
Wang, Yung-Chun	6/2021 –	Human genetics of cerebral palsy	4R00HL143036-02	Postdoctoral Fellow

Grants to Postdocs/Students:

Center of Regenerative Medicine Postdoctoral Fellowship
 Title: Human genomics and molecular mechanisms of Sporadic Moyamoya disease
 Agency: Washington University Center of Regenerative Medicine
 Postdoc(s)/Student(s): Yung-Chun (David) Wang
 Role: Sponsor
 Duration: 07/01/2021

Amount: \$10,000 (signing bonus)

NIH TL1 Predoctoral Clinical Research Training Fellowship (Declined)

Title: Integrative Genomic Analysis of Cerebral Palsy and Rare Pediatric Movement Disorders

Agency: Washington University Clinical Research Training Center

Postdoc(s)/Student(s): Amar Sheth

Role: Sponsor

Duration: 06/01/2021 – 05/31/2022

Amount: \$2,110/month

Thesis Committee Advisees:

Ciyang Wang	DBBS Molecular Genetics and Genomics
Chengran Yang	DBBS Human and Statistical Genetics
Tong Wu	Biomedical Engineering

Qualifying Exam Committee:

Ji-Sun Kwon	DBBS Computational and Systems Biology
Evelyn Craigen	DBBS Molecular Genetics and Genomics (Chair)

Patents:

N/A

Teaching Responsibilities:

2021 –	Lecturer, Bio5488: Genomics, Washington University School of Medicine
2021 –	Study Section Co-Leader, Bio5491: Advanced Genetics, Washington University School of Medicine

Bibliography:

- **Peer Reviewed Manuscripts (* Equal contribution; # Co-corresponding; Lab members in bold)**
1. Caporaso N*, Gu F*, Chatterjee N*, **Jin SC**, Yu K, Yeager M, Chen C, Jacobs K, Wheeler W, Landi MT, Ziegler RG, Hunter DJ, Chanock S, Hankinson S, Kraft P, Bergen AW. (2009). Genome-wide and candidate gene association study of cigarette smoking behavior. ***PLoS ONE***, 4(2):e4653.

2. Beaty TH, Murray JC, Marazita ML, Munger RG, Ruczinski I, Hetmanski JB, Liang KY, Wu T, Murray T, Fallin MD, Redett RA, Raymond G, Schwender H, **Jin SC**, Cooper ME, Dunnwald M, Mansilla MA, Leslie E, Bullard S, Lidral AC, Moreno LM, Menezes R, Vieira AR, Petrin A, Wilcox AJ, Lie RT, Jabs EW, Wu-Chou YH, Chen PK, Wang H, Ye X, Huang S, Yeow V, Chong SS, Jee SH, Shi B, Christensen K, Melbye M, Doheny KF, Pugh EW, Ling H, Castilla EE, Czeizel AE, Ma L, Field LL, Brody L, Pangilinan F, Mills JL, Molloy AM, Kirke PN, Scott JM, Arcos-Burgos M, Scott AF. (2010). A genome-wide association study of cleft lip with and without cleft palate identifies risk variants near MAFB and ABCA4. **Nature Genetics**, 42(6):525-529.
3. Beaty TH, Ruczinski I, Murray JC, Marazita ML, Munger RG, Hetmanski JB, Murray T, Redett RJ, Fallin MD, Liang KY, Wu T, Patel PJ, **Jin SC**, Zhang TX, Schwender H, Wu-Chou YH, Chen PK, Chong SS, Cheah F, Yeow V, Ye X, Wang H, Huang S, Jabs EW, Shi B, Wilcox AJ, Lie RT, Jee SH, Christensen K, Doheny KF, Pugh EW, Ling H, Scott AF. (2011). Evidence for gene-environment interaction in a genome wide study of isolated, nonsyndromic cleft palate. **Genetic Epidemiology**, 35(6):469-478.
4. **Jin SC**, Pastor P, Cooper B, Cervantes S, Benitez BA, Razquin C, Goate AM, Ibero-American Alzheimer's Disease Genetics Group Researchers, Cruchaga C. (2012). Poole-DNA sequencing identifies novel causative variants in *PSEN1*, *GRN*, and *MAPT* in a clinical early-onset and familial Alzheimer's disease Ibero-American cohort. **Alzheimer's Research & Therapy**. 4(4):34.
5. Wang H, Zhang T, Wu T, Hetmanski JB, Ruczinski I, Schwender H, Murray T, Fallin MD, Redett RJ, Raymond GV, **Jin SC**, Wu-Chou YH, Chen PK, Yeow V, Chong SS, Cheah FS, Jee SH, Jabs EW, Liang KY, Scott A, Beaty TH. (2013). The FGF&FGFR gene family and risk of cleft lip with or without cleft palate. **The Cleft Palate-Craniofacial Journal**, 50(1):96-103.
6. Patel PJ, Beaty TH, Ruczinski I, Murray JC, Marazita ML, Munger RG, Hetmanski JB, Wu T, Murray T, Rose M, Redett RJ, **Jin SC**, Lie RT, Su-Chou YH, Wang H, Ye X, Yeow V, Chong S, Jee SH, Shi B, Scott AF. (2013). X-linked Markers in the Duchenne Muscular Dystrophy Gene Associated with Oral Clefts. **European Journal of Oral Sciences**, 121(2): 63-68.
7. Benitez BA, Cooper B, Pastor P, **Jin SC**, Lorenzo E, Cervantes S, Cruchaga C. (2013). TERM2 is associated with the risk of Alzheimer's disease in Spanish population. **Neurobiology of Aging**, 34(6): 1711.e15-1711.e17.
8. Benitez BA, Karch CM, Cai Y, **Jin SC**, Cooper B, Carrell D, Bertelsen S, Chibnik L, Schneider JA, Bennett DA; Alzheimer's Disease Neuroimaging Initiative; Genetic and Environmental Risk for Alzheimer's Disease Consortium, Fagan AM, Holtzman DM, Morris JC, Goate AM, Cruchaga C. (2013). The PSEN1, p.E318G variant increases the risk of Alzheimer's disease in APOE-ε4 carriers. **PLoS Genetics**, 9(8): e1003685.
9. Cruchaga C*, Kauwe JS*, Harari O, **Jin SC**, Cai Y, Karch CM, Benitez BA, Jeng AT, Skorupa T, Carrell D, Bertelsen S, Bailey M, McKean D, Shulman JM, De Jager PL, Chibnik L, Bennett DA, Arnold SE, Harold D, Sims R, Gerrish A, Williams J, Van Deerlin VM, Lee VM, Shaw LM, Trojanowski JQ, Haines JL, Mayeux R, Pericak-Vance MA, Farrer LA, Schellenberg GD, Peskind ER, Galasko D, Fagan AM, Holtzman DM, Morris JC; GERAD Consortium; Alzheimer's Disease Neuroimaging Initiative Alzheimer's Disease Genetic Consortium, Goate AM. (2013). GWAS of cerebrospinal

- fluid tau levels identifies risk variants for Alzheimer's disease. *Neuron*, 78(2):256-268.
10. Benitez BA*, **Jin SC***, Guerreiro R, Graham R, Lord J, Harold D, Sims R, Lambert JC, Gibbs JR, Bras J, Sassi C, Harari O, Bertelsen S, Lupton MK, Powell J, Bellenguez C, Brown K, Medway C, Haddick PC, van der Brug MP, Bhangale T, Ortmann W, Behrens T, Mayeux R, Pericak-Vance MA, Farrer LA, Schellenberg GD, Haines JL, Turton J, Braae A, Barber I, Fagan AM, Holtzman DM, Morris JC; 3C Study Group; EADI consortium; Alzheimer's Disease Genetic Consortium; Alzheimer's Disease Neuroimaging Initiative; GERAD Consortium, Williams J, Kauwe JS, Amouyel P, Morgan K, Singleton A, Hardy J, Goate AM, Cruchaga C. (2014). Missense variants in *TREML2* protects against Alzheimer's disease. *Neurobiology of Aging*, 35(6): 1510.e19-1510.e26.
 11. **Jin SC**, Benitez BA*, Karch CM*, Cooper B, Skorupa T, Carrell D, Norton JB, Hsu S, Harari O, Cai Y, Bertelsen S, Goate AM, Cruchaga C. (2014). Coding variants in *TREM2* increase risk for Alzheimer's disease. *Human Molecular Genetics*, 23(21): 5838-5846.
 12. Cruchaga C, Karch CM*, **Jin SC***, Benitez BA, Cai Y, Guerreiro R, Harari O, Norton J, Budde J, Bertelsen S, Jeng AT, Cooper B, Skorupa T, Carrell D, Levitch D, Hsu S, Choi J, Ryten M; UK Brain Expression Consortium, Hardy J, Ryten M, Trabzuni D, Weale ME, Ramasamy A, Smith C, Sassi C, Bras J, Gibbs JR, Hernandez DG, Lupton MK, Powell J, Forabosco P, Ridge PG, Corcoran CD, Tschanz JT, Norton MC, Munger RG, Schmutz C, Leary M, Demirci FY, Bamne MN, Wang X, Lopez OL, Ganguli M, Medway C, Turton J, Lord J, Braae A, Barber I, Brown K; Alzheimer's Research UK Consortium, Pastor P, Lorenzo-Betancor O, Brkanac Z, Scott E, Topol E, Morgan K, Rogaeva E, Singleton AB, Hardy J, Kamboh MI, St George-Hyslop P, Cairns N, Morris JC, Kauwe JS, Goate AM. (2014). Rare coding variants in the phospholipase D3 gene confer risk for Alzheimer's disease. *Nature*, 505(7484): 550-554.
 13. **Jin SC***, Carrasquillo MM*, Benitez BA, Skorupa T, Carrell D, Patel D, Lincoln S, Krishnan S, Kachadoorian M, Reitz C, Mayeux R, Wingo TS, Lah JJ, Levey AI, Murrell AI, Hendrie H, Foroud T, Graff-Radford NR, Goate AM, Cruchaga C, Ertekin-Taner N. (2015). *TERM2* is associated with increased risk for Alzheimer's disease in African Americans. *Molecular Neurodegeneration*, 10; 10:19.
 14. Homsy J*, Zaidi S*, Shen Y*, Ware JS*, Samocha KE, Karczewski KJ, DePalma SR, McKean D, Wakimoto H, Gorham J, **Jin SC**, Deanfield J, Giardini A, Porter GA Jr, Kim R, Bilguvar K, López-Giráldez F, Tikhonova I, Mane S, Romano-Adesman A, Qi H, Vardarajan B, Ma L, Daly M, Roberts AE, Russell MW, Mital S, Newburger JW, Gaynor JW, Breitbart RE, Iossifov I, Ronemus M, Sanders SJ, Kaltman JR, Seidman JG, Brueckner M, Gelb BD, Goldmuntz E, Lifton RP, Seidman CE, Chung WK. (2015). *De novo* mutations in congenital heart disease with neurodevelopmental and other congenital anomalies. *Science*, 350(6265):1262-1266.
 15. Song W, Hooli B, Mullin K, **Jin SC**, Cella M, Ulland TK, Wang Y, Tanzi RE, Colonna M. (2016). Alzheimer's disease-associated *TREM2* variants exhibit either decreased or increased ligand-dependent activation. *Alzheimer's & Dementia*, 13(4): 381-387.
 16. Benitez BA, Davis AA, **Jin SC**, Ibanez L, Ortega-Cubero S, Pastor P, Choi J, Cooper B, Perlmutter JS, Cruchaga C. (2016). Resequencing analysis of five Mendelian genes

and the top genes from genome-wide association studies in Parkinson's Disease. ***Molecular Neurodegeneration***, 19; 11:29.

17. Duran D*, **Jin SC***, DeSpenza T Jr*, Nelson-Williams C, Cogal AG, Abrash EW, Harris PC, Lieske JC, Shimshak SJ, Mane S, Bilguvar K, DiLuna ML, Günel M, Lifton RP, Kahle KT. (2016). Digenic mutations of human OCRL paralogs in Dent's disease type 2 associated with Chiari malformation. ***Human Genome Variation***, 3:16042.
18. **Jin SC***, Homsy J*, Zaidi S*, Lu Q, Morton S, DePalma S, Zeng X, Qi H, Chang W, Hung W, Sierant M, Haider S, Zhang J, Knight J, Bjornson R, Castaldi C, Tikhonova I, Bilguvar K, Mane S, Sanders S, Mital S, Russell M, Gaynor W, Deanfield J, Giardini A, Porter G, Srivastava D, Lo C, Shen Y, Watkins S, Yandell M, Yost J, Tristani-Firouzi M, Newburger J, Roberts A, Kim R, Zhao H, Kaltman J, Goldmuntz E, Chung W, Seidman J, Gelb B, Seidman C, Lifton RP, Brueckner M. (2017). Contribution of rare transmitted and *de novo* variants among 2,871 congenital heart disease probands. ***Nature Genetics***, 49(11): 1593-1601.
19. Huang KL*, Marcora E*, Pimenova AA, Di Narzo AF, Kapoor M, **Jin SC**, Harari O, Bertelsen S, Fairfax BP, Czajkowski J, Chouraki V, Grenier-Boley B, Bellenguez C, Deming Y, McKenzie A, Raj T, Renton AE, Budde J, Smith A, Fitzpatrick A, Bis JC, DeStefano A, Adams HHH, Ikram MA, van der Lee S, Del-Aguila JL, Fernandez MV, Ibañez L; International Genomics of Alzheimer's Project; Alzheimer's Disease Neuroimaging Initiative, Sims R, Escott-Price V, Mayeux R, Haines JL, Farrer LA, Pericak-Vance MA, Lambert JC, van Duijn C, Launer L, Seshadri S, Williams J, Amouyel P, Schellenberg GD, Zhang B, Borecki I, Kauwe JSK, Cruchaga C, Hao K, Goate AM. (2017). A common haplotype lowers PU.1 expression in myeloid cells and delays onset of Alzheimer's disease. ***Nature Neuroscience***, 20(8): 1052-1061.
20. Scholl UI, Stölting G, Schewe J, Thiel A, Tan H, Nelson-Williams C, Vichot AA, **Jin SC**, Loring E, Untiet V, Yoo T, Choi J, Xu S, Wu A, Kirchner M, Mertins P, Rump LC, Onder AM, Gamble C, McKenney D, Lash RW, Jones DP, Chune G, Gagliardi P, Choi M, Gordon R, Stowasser M, Fahlke C, Lifton RP. (2018). CLCN2 chloride channel mutations in familial hyperaldosteronism type II. ***Nature Genetics***, 50(3):349-354.
21. Antwi P, Hong CS, Duran D, **Jin SC**, Dong W, DiLuna M, Kahle K. (2018). A novel association of campomelic dysplasia with hydrocephalus due to an unbalanced chromosomal translocation upstream of SOX9. ***Cold Spring Harbor Molecular Case Studies***, 4(3):a002766.
22. Fomchenko E*, Duran D*, Jin SC, Dong W, Erson-Omay EZ, Allocco A, Gaillard J, Cord B, Huttner A, Gunel M, DiLuna M, Kahle K. (2018). *De Novo MYH9* mutation in congenital scalp hemangioma. ***Cold Spring Harbor Molecular Case Studies***, 4(4):a002998.
23. Furey CG*, Choi J*, **Jin SC**, Zeng X, Timberlake AT, Nelson-Williams C, Mansuri MS, Lu Q, Duran D, Panchagnula S, Allocco A, Karimy JK, Gaillard J, Antwi P, Khanna A, Loring E, Butler WE, Smith ER, Warf BC, Limbrick DD, Storm PB, Heuer G, Iskandar BJ, Johnston JM, Bilguvar K, Mane S, Tikhonova I, Castaldi C, Lopez-Giraldez F, Knight J, Alper SL, Haider S, Guclu B, Bayri Y, Sahin Y, Duncan CC, DiLuna ML, Gunel M, Lifton RP, Kahle KT. (2018). *De novo* mutation in genes regulating neural stem cell fate in human congenital hydrocephalus. ***Neuron***, 99(2):302-314.e4.

24. Furey CG, Zeng X*, Dong W*, **Jin SC**, Choi J, Timberlake AT, Dunbar AM, Allocco AA, Gunel M, Lifton RP, Kahle KT. (2018). Human genetics and molecular mechanisms of congenital hydrocephalus. **World Neurosurgery**, 119:441-443.
25. Helbig K, Laurer R, Bahr J, Souza I, Myers C, Uysal B, Schwarz N, Gandini M, Huang S, Keren B, Mignot C, Afenjar A, Billette de Villemeur T, Heron D, Nava C, Valence S, Buratti J, Fagerberg C, Soerensen K, Kibaek M, Kamsteeg EJ, Koolen D, Gunning B, Schelhaas HJ, Kruer M, Fox Jordana, Bakhtiari S, Jarrar R, Padilla-Lopez SR, Lindstrom K, **Jin SC**, Zeng X, Bilguvar K, Papavasileiou A, Xing Q, Zhu C, Boysen K, Vairo F, Lanpher B, Klee E, Tilema JM, Payne E, Baker J, Haan E, Smith N, Corbett M, MacLennan A, Gecz J, Biskup S, Goldmann E, Rodan L, Kichula E, Segal E, Jackson K, Asamoah A, Dimmock D, McCarrier J, Botto L, Filloux F, Tvrdik T, Cascino G, Klingerman S, Neumann C, Wang R, Jacobsen J, Nolan M, Snell R, Lehnert K, Sadleir L, Guerrini R, Friez M, Lyons M, Achkar CE, Smith L, Rotenberg A, Poduri A, Sanchis-Juan A, Carss K, Rankin J, Zeman A, Raymond F, Hurles M, Blyth M, Kerr B, Ruiz K, Urquhart J, Hughes I, Banka S, Hedrich U, Scheffer I, Helbig I, Zamponi G, Lerche H, Mefford H. De novo pathogenic variants in *CACNA1E* cause developmental and epileptic encephalopathy with congenital contractures, macrocephaly, and dyskinesias. (2018). **American Journal of Human Genetics**, 103(5):666-678.
26. Duran D*, Zeng X*, **Jin SC***, Choi J*, Nelson-Williams C, Yatsula B, Gaillard J, Furey CG, Lu Q, Timberlake AT, Dong W, Sorscher MA, Loring E, Klein J, Allocco A, Hunt A, Conine S, Karimy JK, Youngblood MW, Zhang J, DiLuna ML, Matouk CC, Mane SM, Tikhonova IR, Castaldi C, López-Giráldez F, Knight J, Haider S, Soban M, Alper SL, Komiyama M, Ducruet AF, Zabramski JM, Dardik A, Walcott BP, Stapleton CJ, Aagaard-Kienitz B, Rodesch G, Jackson E, Smith ER, Orbach DB, Berenstein A, Bilguvar K, Gunel M, Lifton RP, Kahle KT. Mutation in epigenetic modifiers and signaling regulators of neurovascular development in Vein of Galen malformation (2019). **Neuron**, 101(3):429-443.e4.
27. Chang SJ, **Jin SC**, Jiao X, Galán JE. Unique features in the intracellular transport of typhoid toxin revealed by a genome-wide screen (2019). **PLoS Pathogens**, 15(4):e1007704.
28. **Jin SC***, Furey CG*, Zeng X, Alloco A, Nelson-Williams C, Karimy JK, Dong W, Ma S, Delpire E, Kahle KT. SLC12A ion transporter mutations in sporadic and familial human congenital hydrocephalus (2019). **Molecular Genetics & Genomic Medicine**, 7(9):e892.
29. Alloco A*, **Jin SC***, Duy PQ*, Furey CG, Zeng X, Dong W, Nelson-Williams C, Karimy JK, DeSpensa T, Hao LT, Reeves B, Haider S, Gunel M, Lifton RP, Kahle KT. Recessive inheritance of congenital hydrocephalus with other structural brain abnormalities caused by compound heterozygous mutations in *ATP1A3* (2019). **Frontiers Cellular Neuroscience**, 13:425.
30. Robson A, Makova S, Barish S, Zaidi S, Mehta S, Drozd J, **Jin SC**, Gelb B, Seidman C, Chung WK, Lifton RP, Khokha M, Brueckner M. Core components of the Histone H2B monoubiquitination complex regulate heart development via transcriptional control of cilia motility (2019). **PNAS**, 116(28):14049-14054.
31. Timberlake AT, **Jin SC**, Nelson-Williams C, Wu R, Furey CG, Islam B, Haider S, Loring E, Galm A, Yale Center for Genome Analysis, Steinbacher D, Larysz D, Staffenberg D, Flores R, Rodriguez E, Boggon TJ, Persing JA, Lifton RP. Damaging de novo and

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