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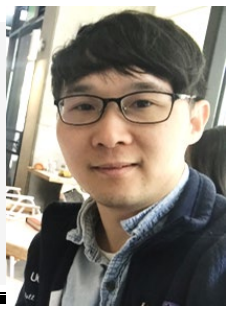


Education

- Taiwan International Graduate Program (TIGP) in Molecular Medicine, *Doctor of Philosophy,* ***Ph.D*** — 2015 - 2018
- National Yang Ming Chiao Tung University (NYCU), Taipei City, Taiwan Institute of Brain Science, *Master of Science*, ***M.Sc*** — 2013 - 2015
- National Yang Ming Chiao Tung University (NYCU), Taipei City, Taiwan *Doctor of Medicine,* ***M.D.*** — 2005 - 2012

Research and Working Experience

- Assistant Professor, National Yang Ming Chiao Tung University (NYCU) — 2026-
- Postdoctoral scholar in University of California San Francisco (UCSF) — 2021-2026
- Postdoctoral Scholar in Institute of Biomedical Science, Academia Sinica — 2019-2021
- Graduate Research Assistant — 2013-2019
- Internship-Taipei Veterans General Hospital — 2010-2012
- Undergraduate Research Assistant — 2007-2010

Honor, Award and Scholarship:

1. FocalPlane Award for CELL BIO 2024-ASCB/EMBO meeting, 2024
2. Sandler Program for Breakthrough Biomedical Research-Postdoctoral Independent Research Grant Award, 2023
   (UCSF campus-wide selection)
3. Award for Postdoctoral Research Abroad Program, Ministry of Science and Technology, 2021
   (Nation-wide selection)
4. Tien Te Lee Biomedical Award for Distinguished Thesis, 2019
   (Nation-wide selection)
5. Young Members' Symposia Award, ISN-ASN meeting in Montreal, Canada, 2019

   Selected as Oral Presentation in ISN-ASN meeting (Worldwide selection)

The International Society of Neurochemistry and the American Society for Neurochemistry

6. Regular Postdoctoral Scholars Award, 2nd session in Academia Sinica, 2019
7. Merit award in Poster Presentation Competition in TIGP, 2018
   (Campus-wide selection)
8. Yin Shuin-Ruo Memorial Award for Outstanding Thesis, 2015
   (Campus-wide selection)
9. The Best Intern Award in Taipei Veterans General Hospital, 2012
10. National Science Council Undergraduate Research Fellowship Award, 2009
11. National Yang Ming University Undergraduate Research Fellowship, 2007-2008

Certificates:

1. National Medical Licensing Examination (Taiwan) Jul, 2012
2. Objective Structure Clinical Examination (Taiwan) May, 2012

Presentation at Scientific Conferences:

1. **C. H. Chang.** (2026.01.20) **Invited talk** at Chan Zuckerberg Imaging Institute.
2. **C. H. Chang**. (2026.01.13) **Invited talk** at the 54th BSCB GenSoc UK Cilia and Centrosome Network.
3. **C. H. Chang**, V. N. Trinh, N. R. Lokesh, C. K. Montecinos, M. E. Pownall, M. Kalocsay, M. V. Nachury (2025.11.15-19). Excavation of neuronal ciliome reveals the molecular signature of cilia-mediated synaptic functions

   Invited talk in Society for Neuroscience (SfN) meeting in San Diego, U.S.A
4. **C. H. Chang**, M. V. Nachury (2024.12.14-18) Excavation of The Neuronal Ciliary Proteome

   Invited talk in Cell Bio 2024-ASCB/EMBO joint meeting in San Diego, U.S.A
5. **C. H. Chang**, M. V. Nachury (2023.09.08) Excavating the Cilia-saurus: A journey to uncover the ciliary proteome embedded in the central nervous system

   Invited talk in Cilia Supergroup at the Cardio-Vascular Research Institute, UCSF, San Francisco, California, U.S.A
6. **C. H. Chang**, M. V. Nachury (2023.05.25) A novel strategy to capture the ciliome in vivo

   Selected for **Oral presentation** on Research Day, Department of Ophthalmology, UCSF, San Francisco, California, U.S.A
7. **C. H. Chang**, T. K. Tang (2022.11.12-16) The interplay between CEP120 and protein Moonraker in the pathogenesis of Joubert syndrome

   Poster at Society for Neuroscience (SfN), San Diego, California, U.S.A.
8. **C. H. Chang**, M. V. Nachury (2022.05.23) A novel strategy to capture the ciliary proteome in the central nervous system

   Invited talk in Nutrition & Obesity Research Center (NORC) symposium on "Primary cilia in Behavior and Metabolism," San Mateo, California, U.S.A.

9. **C. H. Chang**, I. L. Lu, J. J. Tsai, T. K. Tang (2020.09.11-13) Investigating the roles of centriolar protein Cep120 during cerebellar development

   Poster at 1st Taiwan Society for Neuroscience (TSfN), Taipei, Taiwan

10. **C. H. Chang**, H. Shirvani, M. Zanini, W. J. Wang, J. W. Tsai, O. Ayrault (2019.08.04-08) Atoh1 requires primary cilia for the expansion of granule neuron progenitors by modulating centriolar satellites

    Selected for **Oral Presentation** in International Society for Neurochemistry-American Society for Neurochemistry **(ISN-ASN)** meeting in Montreal, Canada

11. C. J. Hsiao, **C. H. Chang**, J. W. Tsai (2017.08.20-24) Investigation of Gli2 functions in regulating primary cilia and cell cycle re-entry using CRISPR/Cas9 technology

    Poster at International Society for Neurochemistry-European Society for Neurochemistry **(ISN-ESN)** meeting in Paris, France

12. **C. H. Chang**, C. H. Feng, J. W. Tsai (2015.12.04-08) Mosaic manipulation of the cerebellum reveals novel linkage between Atoh1 and primary cilium in cerebellar development and medulloblastoma formation

    Poster at **EMBO Conference** on Neural Development-Function and Dysregulation, Taipei, Taiwan

13. **C. H. Chang**, S. H. Yang, S. C. Miaw, H. C. Cheng, C. P. Hung (2009.10.31) Optical control of neural activity via ChR2 and NpHR.

    First Prize for poster presentation at the Taipei Veterans General Hospital and University System of Taiwan Collaborative Research Annual Conference, Taipei, Taiwan.

Publications:

Submitted manuscripts

1. **Chang, C.H.**, Trinh, V.N., Lokesh, N.R., Montecinos, C.K., Pownall, M.E., Kalocsay, M., and Nachury, M.V. (2025). *In Situ* Proteomics Unveils Specialized Domains for Extrasynaptic Signaling on Neuronal Cilia. bioRxiv, 2025.2009.2010.675452. 10.1101/2025.09.10.675452. (Under revision).
2. Cigna, S. M., Basili, I., Severini, L.L., Bernardi, F., Forget A., **Chang, C.H.**, Yu, H., Talbot, J., Marsaud, V., Souphron, J., Cancila, G., Mercier, A., Lasgi, C., Dufour, C., Blauwblomme, T., Beccaria, K., Kawauchi, D., Filser, M., Planchon, J. M., Sterner, D., Butt, T. R., Kumar, S., Tsai, J.W., Marcotullio, L.D., and Ayrault, O. Atoh1 interactome in lethal medulloblastoma in the developing cerebellum. (Submitted).

Published papers

3. Lin, I.H., Li, Y.R., **Chang, C.H.**, Cheng, Y.W., Wang, Y.T., Tsai, Y.S., Lin, P.Y., Kao, C.H., Su, T.Y., Hsu, C.S., et al. (2024). Regulation of primary cilia disassembly through HUWE1-mediated TTBK2 degradation plays a crucial role in cerebellar development and medulloblastoma growth. *Cell death and differentiation*. 10.1038/s41418-024-01325-2.
4. **Chang, C.H.**, Chen, T.Y., and Tang, T.K. (2023). Using in vivo cerebellar electroporation to study neuronal cell proliferation and differentiation in a Joubert syndrome mouse model. *Methods in cell biology* 175, 235-249.
5. **Chang, C.H.**, Chen, T.Y., Lu, I.L., Li, R.B., Tsai, J.J., Lin, P.Y., and Tang, T.K. (2021). CEP120-mediated KIAA0753 recruitment onto centrioles is required for timely neuronal differentiation and germinal zone exit in the developing cerebellum. *Genes & development*

35, 1445-1460. Rank #2 in the Development field.

6. **Chang, C.H.**, Zanini, M., Shirvani, H., Cheng, J.S., Yu, H., Feng, C.H., Mercier, A., Hung, S.Y., Forget, A., Wang, C.H., Cigna, S.M., Lu, I.L., Chen, W.I., Leboucher, S.,Wang, W.J., Ruat, M., Spassky, N., Tsai, J.W. and Ayrault, O. (2019) Atoh1 controls primary cilia formation to allow for SHH-triggered granule neuron progenitors proliferation. *Developmental Cell* 48, 184-199.e185. Rank #1 in the Development field.

7. Hsiao, C.J., **Chang, C.H.**, Ibrahim, R.B., Lin, I.H., Wang, C.H., Wang, W.J., and Tsai, J.W. (2018). Gli2 modulates cell cycle re-entry through autophagy-mediated regulation of the length of primary cilia. *Journal of cell science* 131.

8. Kilander, M.B.C., Wang, C.H., **Chang, C.H.**, Nestor, J.E., Herold, K., Tsai, J.W., Nestor, M.W., and Lin, Y.C. (2018). A rare human CEP290 variant disrupts the molecular integrity of the primary cilium and impairs Sonic Hedgehog machinery. *Scientific reports* 8, 17335.

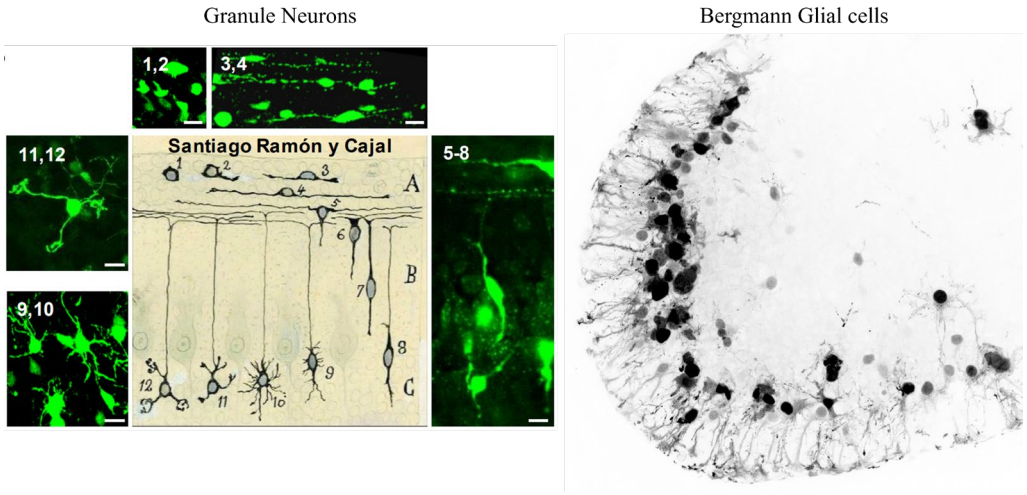
9. Lu, I.L., Chen, C., Tung, C.Y., Chen, H.H., Pan, J.P., **Chang, C.H.**, Cheng, J.S., Chen, Y.A., Wang, C.H., Huang, C.W., et al. (2018). Identification of genes associated with cortical malformation using a transposon-mediated somatic mutagenesis screen in mice. *Nature communications* 9, 2498.

10. Chen, J.L., **Chang, C.H.**, and Tsai, J.W. (2018). Gli2 Rescues Delays in Brain Development Induced by Kif3a Dysfunction. *Cerebral cortex*.

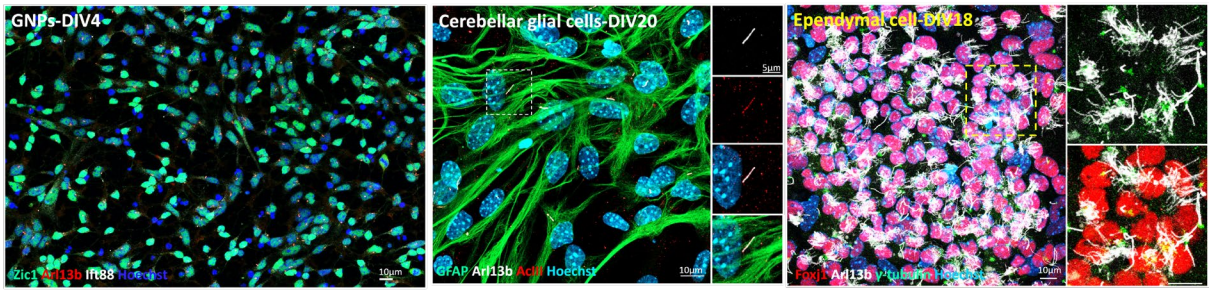
Special Scientific Techniques:

1. Mosaic manipulation of gene transfers in the developing mouse brain

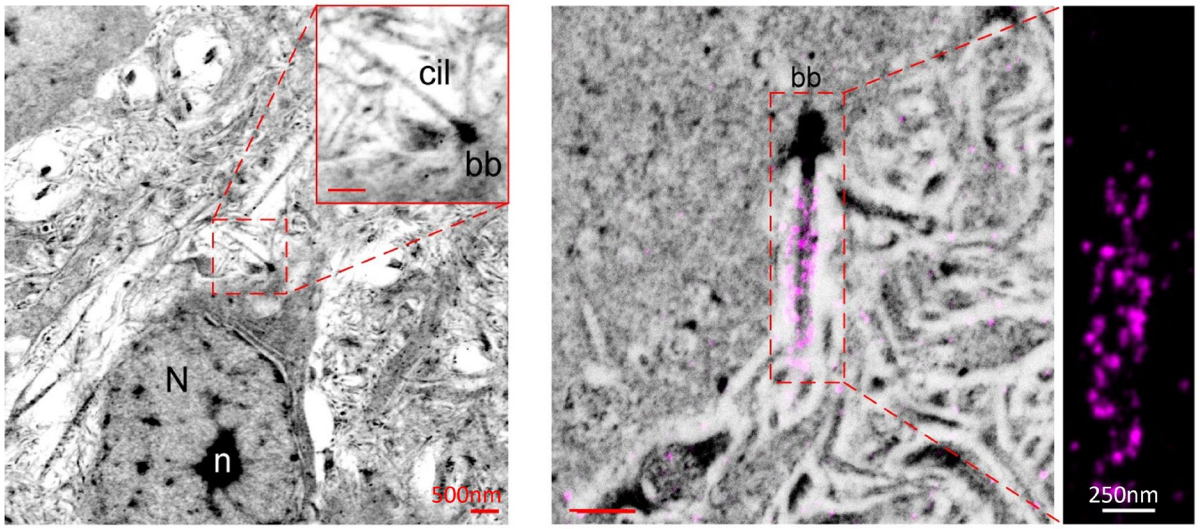
   In vivo cerebellar electroporation targeting granule neuron progenitors and Bergmann glial cells



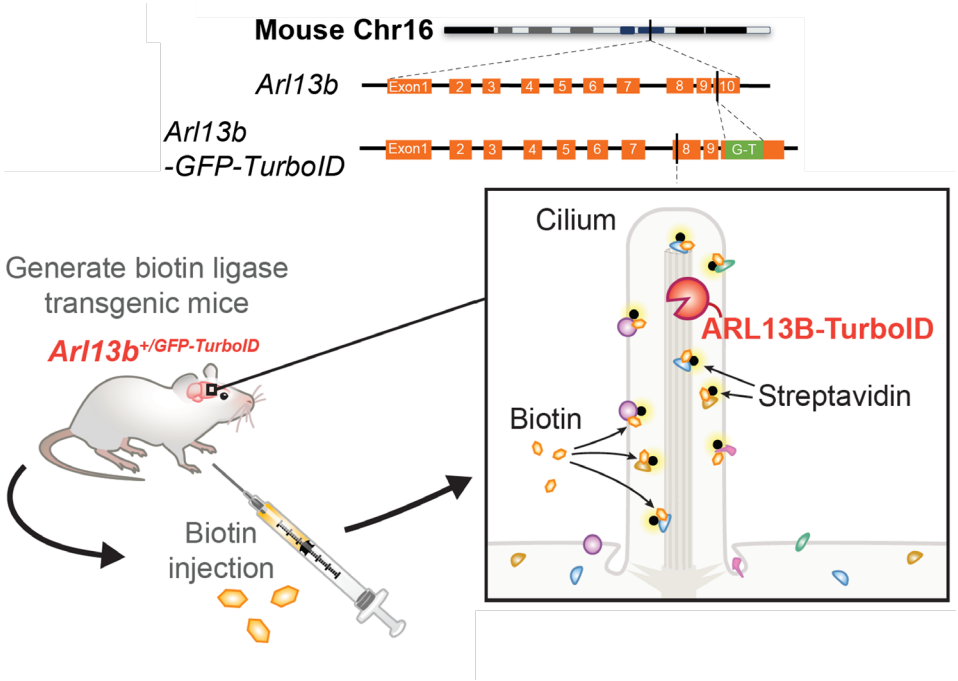
2. Primary culture of various murine cell types: Cerebellar granule neuron progenitors (99.6% purity), Glial cells, cortical neurons, and Ependymal cells



3. Live imaging of murine neural progenitors from organotypic slice culture
4. *In vivo* protein purification of mouse brain cells *in vivo* for proteomic assay (ex: Tandem Mass Tag assay) and bioinformatic analysis
5. Pan-expansion microscopy of tissues (pan-ExM-t): Visualization molecules in brain ultrastructure with 20nm resolution



6. Molecular engineering from basic molecular cloning to mouse transgenesis.



7. Deciliation and reciliation studies of multiple ciliated cells