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EDUCATION & RESEARCH EXPERIENCE

Academia Sinica, Taipei, Taiwan (2019-present)
Assistant Research Fellow, Institute of Biomedical Sciences

National Taiwan Univeristy, Taipei, Taiwan (2019-present)
Adjunt assistant professor, Genome and Systems Biology

Stanford University, Stanford, CA (2016-2018)
Research Scientist, Microbiology & Immunology

Cero Therapeutics, San Francisco, CA (2018)
Consultant, Immune Monitering and Biomarker Development

Tempest Therapeutics, Berkeley, CA (2017-2018)
Consultant, Immune Monitering and Biomarker Development

AduroBiotech, Berkeley, CA (2014-2016)
Consultant, Immune Monitering and Biomarker Development

Stanford University, Stanford, CA (2012-2016)
Post Doc., Microbiology & Immunology

University of California, Davis, CA (2005-2011)
Ph.D., Neuroscience

National Taiwan University, Taipei, Taiwan (2003)
M.D. (Honors)

AWARDS AND HONORS

Career Development Award from Academia Sinica	2021
Special outstanding talent award from Ministry of Science and Technology	2019,2020
Investigator Fellowship from Academia Sinica	2019,2020
Novo Nordisk STAR Postdoc Fellowship	2012-2014
U.C. Davis Pathology Fellowship	2007-2010
National Taiwan University President's Award	1999&2001

PUBLICATIONS

1. Chen, S.Y., Cheng, H.J. (2009). Functions of axon guidance molecules in synapse formation. ***Current Opinion in Neurobiology***, 19: 471-478.

2. Chen, S.Y., Huang, P.H., and Cheng, H.J. (2011). Disrupted-in-Schizophrenia 1-mediated axon guidance involves TRIO-RAC-PAK small GTPase pathway signaling. ***Proceedings of the National Academy of Sciences,*** 108(14): 5861-5866.

3. Liu, W.W., Chen, S.Y., Cheng, C.H, Cheng, H.J, and Huang, P.H. (2014). Blm-s, a BH3-only protein enriched in postmitotic immature neurons, is transcriptionally upregulated by p53 during DNA damage. ***Cell Reports***. 9(1): 166-79.

4. Nair, N, Mei, H, Chen, S.Y., Hale, M, Nolan, G.P., Maecker, H, Genovese, M, Fathman, C.G., Whiting, C. C. (2015). Mass cytometry as a platform for the discovery of predictive cellular biomarkers to guide effective rheumatic disease therapy. ***Arthritis Res Ther.*** 17(1): 127.

5. Frei, A.P., Bava, F.A., Zunder, E.R., Hsieh, W.Y., Chen, S.Y., Nolan, G.P., Gherardini, P.F. (2016). Highly multiplexed simultaneous detection of RNAs and proteins in single cells. ***Nature Methods.***13(3):269-75.

6. Jensen, H., Chen, S.Y., Folkersen, L., Nolan, G.P., Lanier, L.,L. (2017) EBI3 regulates the NK cell response to mouse cytomegalovirus infection. ***Proceedings of the National Academy of Sciences***, 114(7): 1625-1630.

7. Wernig, G., Chen, S.Y., Lu, C., Tsai, J., Van Neste, C., Natkunam, Y, Gilliland, D.G., Nolan, G.P., and Weissman, I.L. (2017) Unifying mechanism for different fibrotic diseases. ***Proceedings of the National Academy of Sciences***, 114(18): 4757-4762.

8. Mukherjee, S., Jensen, H., Stewart, W., Stewart, D., Ray, W.C., Chen, S.Y., Nolan, G.P., Lanier, L.L., Das, J. (2017) In silico modeling identifies CD45 as a regulator of IL-2 synergy in the NKG2D-mediated activation of immature human NK cells. ***Science Signaling*** 10(485): pii: eaai9062.

9. Vadstrup, K., Galsgaard, ED., Jensen, H., Lanier, L.L., Ryan, JC., Chen, S.Y., Nolan, G.P., Vester-Andersen, MK., Pedersen, JS., Gerwien, J., Jensen, T., Bendtsen, F. (2017) NKG2D ligand expression in Crohn's disease and NKG2D-dependent stimulation of CD8 T cell migration. ***Experimental and Molecular Pathology***, 103(1): 56-70.

10. Saito, T., Miyagawa, K., Chen, S.Y., Tamosiuniene, R., Sharpe, O., Samayoa, E., Harada, D., Grow, E., Moonen, A.J., Cao, A., Chen, P.I., Hennigs, J.K., Li, C.G., Leib, R.D., Adams, C.M., Rosario, P.A., Bill, M., Haddad, F., Montoya, J.G., Robinson, W.H., Fantl, W.J., Nolan, G.P., Zamanian, R.T., Nicolls, M.R., Chiu, C.Y., Ariza, M.E., Rabinovitch, M. (2017) Heightened Expression of the Retrovirus HERV-K is Linked to Immunity and Inflammation in Pulmonary Arterial Hypertension. ***Circulation***, 136(20): 1920-1935.

11. Han, G.J., Chen, S.Y., Gonzales, V.D., Zunder, E.R., Fantl, W.J., Nolan, G.P. (2017) Atomic mass tag of bismuth-209 for increasing the immunoassay multiplexing capacity of mass cytometry. ***Cytometry,*** 91(12): 1150-1163.

12. Gonzalez, V.D., Samusik, N., Savig, E.S., Chen, T.J., Aghaeepour, N., Quigley D.A., Huang, Y.W., Giangarra, V., Borowsky, A.D., Hubbard, N.E., Chen, S.Y., Han, G., Ashworth, A., Kipps, T.J., Berek, J.S., Nolan, G.P., Fantl, W.J. (2018) New tumour types revealed in ovarian cancer by high-dimensional mass cytometric profiling. ***Cell Reports.*** 22(7): 1875-1888.

13. Chen, S.Y., Ho, C.D., Liu, W.W., Lucanic, M., Shih, H.M., Huang, P.H., and Cheng, H.J. Regulation of Axon Repulsion by MAX-1 SUMOylation and AP-3. (2018) ***Proceedings of the National Academy of Sciences***. 115(35): 8236-8245.

14. Churko, J.M., Garg, P., Treutlein, B., Venkatasubramanian, M., Wu, H., Lee, J., Wessells, Q., Chen, S.Y., Chen, W.Y., Mantalas, G., Neff, N., Jabart, E., Sharma, A., Nolan, G.P., Salomonis, N., Wu, J.C. Defining human cardiac transcription factor hierarchies using integrated single-cell heterogeneity analysis. (2018) ***Nature Communications***. 9(1): 4906.

15. Rosental, B., Kowarsky, M.A., Seita, J., Corey, D.M., Ishizuka, K.J., Palmeri, K.J., Chen, S.Y., Sinha, R., Okamoto, J., Manttalas G, Manni L, Raveh T, Carke, D.N., Tsai, J.M., Newman, A.M., Neff, N.F., Nolan, G.P., Quake, S.R. Weissman, I.L., Voskoboynik, A. Evolutionary Origin of the Mammalian Hematopoietic System Found in a Colonial Chordate.(2018) ***Nature***. 564(7736): 425-429.

16. Nair, N., Chen, S.Y., Lemmens, E., Chang, S., Le, D., Jaffee, E.M., Murphy, A., Brockstedt, D., Whiting, C. Single cell immune competency signatures predict survival outcome in phase 2 GVAX and CRS-207 randomized studies in metastatic pancreatic cancer patients. (2020) ***Cancer Immunology Research.*** 8(5): 609-617

17. Lu, C.*, Chen, S.Y.*, Van Neste, C., Natkunam, Y, Gilliland, D.G., Nolan, G.P., Weissman, I.L. Wernig, G. Activation of JUN in fibroblasts promotes pro-fibrotic programme and dampens protective immunity. (2020) ***Nature Communications*** 11(1): 2795
**** Co-first auther***

18. Coskun A.F.*, Han, G.J.*, Ganesh, S., Chen, S.Y., Rovira-Clavé, X., Harmsen, S. ,Jiang, S.Z., Schürch, C.M., Bai, Y.H., Hitzman, C., Nolan, G.P. Nanoscopic subcellular imaging enabled by Ion Beam Tomography. (2020)
Accepted in ***Nature Communications***

19. Rovira-Clavé, X.*, Jiang, S.Z.*, Bai, Y.H., Barlow, G.L., Bhate, S., Bava, F.A., Coskun, A.F., Han, G.J., Zhu, B.K., Ho, C.M., Hitzman, C., Chen, S.Y.[#], Bava, F.A.[#], Nolan, G.P.[#] Subcellular localization of drug distribution by super-resolution ion beam imaging.
bioRxiv 557603; doi: https://doi.org/10.1101/557603. Revised manuscript under editorial consideration in ***Nature Communications***
**** Co-senior author***

20. Bava, F.A., Rovira-Clavé, X., Chen, X., Coskun, A.F., Jiang, S.Z., Ho, C.M., Han, GJ., Chang , H.Y., Nolan, G.P., Chen, S.Y.[#] ATAC-mass, a method for analysis of genome accessibility by ion beam imaging and mass cytometry. Under revision in ***Nature Communications***
[#] Corresponding author

21. Weng, R., Lu, H.H., Lin, C.T., Fan, C.C., Lin, R.S., Huang,T.C., Lin, S.Y., Huang, Y.J., Juan, Y.H., Wu,Y.C., Hung,Z.C., Liu,C., Lin, X.H., Hsieh, W.C., Chiu, T.Y., Liao, J.C., Chiu, Y.L., Chen, S.Y., Yu, C.J., Tsai, H.C. Epigenetic modulation of immune synaptic-cytoskeletal networks potentiates γδ T cell-mediated cytotoxicity in lung cancer. Revised manuscript under editorial consideration in ***Nature Communications***

22. Gonzalez, V.D., Huang, Y.W., Chen, S.Y., Donoso, K., Delgado-Gonzalez, A., Sachs, K., Porpoglia, E., Fantl, W. High-Grade Serous Ovarian Tumor Cells Modulate NK Cell Function to Create an Immune-Tolerant Microenvironment. Under revision in ***Cell Reports***

PENDING PATENT

1. LABELING OF MOLECULAR PROBES WITH NONMETAL AND METALLOID ISOTOPES FOR MULTIPLEXED HIGH RESOLUTION ANALYSIS

2. MULTIPLEXED SIGNAL AMPLIFICATION METHODS USING ENZYMATIC BASED CHEMICAL DEPOSITION

3. METHOD FOR NATURAL KILLER CELL EXPANSION USING INTRACELLULAR HYDROGELATION SYSTEM

INVITED PRESENTATIONS

National Taiwan University, Graduate Institute of Medical Genomics and Proteomics (2020)

Chinese Society of Immunology (2020)

National Taiwan University, Orthopedics (2020)

Annual meeting of Taiwan Society of Clinical Pathology and Laboratory Medicine (2019)

National Yang-Ming University, Brain Research Center (2019)

National Taiwan University, Hematology (2019)

Academia Sinica- Institute of Atomic and Molecular Sciences (2019)

Academia Sinica- Vietnam Workshop (2019)

International Conference on Inflammation & Diseases (2019)

National Yang-Ming University, Immunology (2019)

International Conference of Developmental Biology, Stem Cells and Regenerative Medicine (2019)

National Taiwan University, Oncology (2019)

Tai-Cheng Stem Cell Therapy Center (2019)

Academia Sinica- Kyoto University Bilateral Symposium (2019)

Medigen Inc. (2018)

Academia Sinica, GRC (2018)

Academia Sinica- IBMS (2017)

SATU Forum –Emerging Mosquito-Borne Human Viral Diseases (2016)

Novo Nordisk (2015)