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Employment History

2019 – **National University of Singapore**; *Associate Professor of Biology*
2011 – 2019 **National University of Singapore**; *Assistant Professor of Biology*
2006 – 2011 **California Institute of Technology**; *Postdoctoral scholar with Grant Jensen*
2001 – 2006 **The Scripps Research Institute**; *Graduate student with Jack Johnson*
2000 – 2001 **California Institute of Technology**; *Undergrad Research with Pamela Bjorkman*

Academic Qualifications

The Scripps Research Institute, La Jolla, CA
Ph.D., Biology, 2006

California Institute of Technology, Pasadena, CA
B.S., Physics, 2001

Publications

† = equal contribution; * = corresponding authors

2020

1. Cai S[†], Tan ZY[†], Nie X, Shi J, **Gan L*** (2020), Macromolecular and biochemical changes of G0 fission yeast nuclei, *bioRxiv* (www.biorxiv.org/content/10.1101/2020.01.11.899559v1)
2. Ng CT, **Gan L*** (2020), Investigating eukaryotic cells with cryo-ET. *Molecular Biology of the Cell* 31: 87-100 (Review)

2019

3. Ma OX, Cai S, Shi J, **Gan L*** (2019), Cryo-ET analysis of budding yeast synaptonemal complexes *in situ*. *bioRxiv preprint* (www.biorxiv.org/content/10.1101/746982v1)
4. **Gan L***, Ng CT, Chen C, Cai S (2019), A collection of yeast cellular electron cryotomography data, *GigaScience* 8: giz077
5. Ng CT, Deng L, Chen C, Lim HH, Shi J, Surana U, **Gan L*** (2019), Electron cryotomography analysis of Dam1C/DASH at the kinetochore-spindle interface *in situ*. *Journal of Cell Biology* 218: 455-473

2018

6. Cai, S., Chen, C., Tan, Z.Y., Huang, Y., Shi, J., and **Gan, L.** (2018), Cryo-ET reveals the macromolecular reorganization of *S. pombe* mitotic chromosomes *in vivo*. *Proceedings of the National Academy of Sciences* 115: 10977-10982
7. Cai, S.[†], Böck, D.[†], Pilhofer, M.*, **Gan, L.*** (2018), The *in situ* structures of mono-, di-, and trinucleosomes in human heterochromatin, *Molecular Biology of the Cell* 29: 2450-2457
8. Cai, S., Song, Y., Chen, C., Shi, J., and **Gan, L.** (2018), Natural chromatin is heterogeneous and self-associates *in vitro*. *Molecular Biology of the Cell* 29: 1652-1663

2016

9. Chen, C., Lim, H.H., Shi, J., Tamura, S., Maeshima, K., Surana, U., **Gan, L.** (2016), Budding yeast chromatin is dispersed in a crowded nucleoplasm *in vivo*. *Molecular Biology of the Cell* 27: 3357-3368

2013

10. **Gan, L.**, Ladinsky, M.S., Jensen, G.J. (2013), Chromatin in a marine picoeukaryote is a disordered assemblage of nucleosomes. *Chromosoma* 122: 377-386

2012

11. **Gan, L.** and Jensen, G.J. (2012), Electron Tomography of Cells. *Q. Rev. Biophys.* 45: 27-56 (Review)

2011

12. **Gan, L.**, Ladinsky, M.S., Jensen, G.J. (2011), Organization of the Smallest Eukaryotic Spindle. *Current Biology* 21: 1578-1583

2010

13. Fu, C.Y., Wang, K., **Gan, L.**, Lanman, J., Khayat, R., Young, M.J., Jensen, G.J., Doerschuk, P.C., Johnson, J.E. (2010), In Vivo Assembly of an Archaeal Virus Studied with Whole-Cell Electron Cryotomography. *Structure* 18: 1579-1586
14. Chen, S., McDowall, A., Dobro, M. J., Briegel, A., Ladinsky, M., Shi, J., Tocheva, E., Beeby, M., Pilhofer, M., Ding, H. J., Li, Z., **Gan, L.**, Morris D. M., and Jensen, G. J. (2010), Electron Cryotomography of Bacterial Cells. *JoVE* 39: e1943

2009

15. Gertsman, I., **Gan, L.**, Guttman, M., Lee, K., Speir, J.A., Duda, R.L., Hendrix, R.W., Komives, E.A., Johnson, J.E. (2009), An Unexpected Twist in Viral Capsid Maturation. *Nature* 458: 646-650

2008

16. **Gan, L.**, Chen, S., Jensen, G.J. (2008), Molecular Architecture of Gram-negative Peptidoglycan. *PNAS* 105: 18953-18957
17. Lee, K.K., **Gan, L.**, Tsuruta, H., Conway, J.F., Hendrix, R.W., Steven, A.C., Duda, R.L., Johnson, J.E. (2008), Virus capsid expansion driven by the capture of mobile surface loops. *Structure* 16: 1491-1502
18. **Gan, L.** and Johnson, J.E. (2008), An Optimal Exposure Strategy for Cryoprotected Virus Crystals with Lattice Constants Greater than 1000 Å. *J. Synchrotron Rad.* 15: 223-226

2007

19. Henderson, G.P., **Gan, L.**, Jensen, G.J. (2007), 3-D Ultrastructure of *Ostreococcus tauri*: Electron cryotomography of an entire eukaryotic cell. *PLoS ONE* 8: e749
20. Szymczyzna, B.R., **Gan, L.**, Johnson, J.E., Williamson, J.R. (2007), Solution NMR Studies of the Maturation Intermediates of a 13MDa Viral Capsid. *J. Am. Chem. Soc.* 129: 7867-7876

2006

21. Iancu, C.V., Tivol, W.F., Schooler, J.B., Dias, D.P., Henderson, G.P., Murphy, G.E., Wright, E.R., Li, Z., Yu, Z.H., Briegel, A., **Gan, L.**, He, Y.N., Jensen G.J. (2006), Electron cryotomography sample preparation using the Vitrobot. *Nature Protocols* 1: 2813-2819

22. **Gan, L.**, Speir, J.A., Conway, J.F., Lander, G., Cheng, N., Firek, B.A., Duda, R.L., Hendrix, R.W., Liljas, L., Johnson, J.E. (2006), Capsid conformational sampling in HK97 maturation visualized by X-ray crystallography and Cryo-EM. *Structure* 14: 1655-1656 (Cover)
23. Wikoff, W.R., Conway, J.F., Tang, J., Lee, K.K., **Gan, L.**, Cheng, N., Duda, R.L., Hendrix, R.W., Steven, A.C., Johnson, J.E. (2006), Time-resolved molecular dynamics of Bacteriophage HK97 capsid maturation interpreted by electron cryo-microscopy and X-ray crystallography. *J. Struct. Biology* 153: 300-306 (Cover)

2004

24. Lee, K.K., **Gan, L.**, Tsuruta, H., Hendrix, R.W., Duda, R.L., Johnson, J.E. (2004), Evidence that a Local Refolding Event Triggers Maturation of HK97 Bacteriophage Capsid. *J. Mol. Biol.* 340: 419-433
25. **Gan, L.**, Conway, J.F., Firek, B.A., Cheng, N., Hendrix, R.W., Steven, A.C., Johnson, J.E., Duda, R.L. (2004), Control of Crosslinking by Quaternary Structure Changes during Bacteriophage HK97 Maturation. *Molecular Cell*, 14: 559-569

2003

26. Tomassini, J.E., Boots, E., **Gan, L.**, Graham, P., Munshi, V., Wolanski, B., Fay, J.F., Getty, K., LaFemina, R. (2003), An in vitro Flaviviridae replicase system capable of authentic RNA replication. *Virology* 313: 274-285

2001

27. Martin, W.L., West, Jr. A.P., **Gan, L.**, Bjorkman P.J. (2001), Crystal Structure at 2.8Å of an FcRn/Heterodimeric Fc Complex: Mechanism of pH Dependent Binding. *Molecular Cell* 7: 867-877