Curriculum Vitae
Julian A. Tanner

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Academic Qualifications

Bachelor of Science, Chemistry, Bristol University, UK	1994-1997
Doctor of Philosophy, Chemistry, Imperial College, London, UK	1998-2001

Academic Appointments

Postdoctoral Fellow, Dept. Biochemistry, University of Hong Kong	2001-2004
Research Assistant Professor, Dept. Biochemistry, University of Hong Kong	2004-2008
Assistant Professor, Dept. Biochemistry, University of Hong Kong	2008-2013
Associate Professor (Tenured), Dept Biochem then School Biomedical Sciences	2014-present
Associate Director (Teaching & Learning), School of Biomedical Sciences	2018-present
Assistant Dean (Biomedical Sciences Curriculum), LKS Faculty of Medicine	2018-present

Major Honours and Awards

The University of Hong Kong Outstanding Teacher (Team) Award	2018
The University of Hong Kong Outstanding Research Student Supervisor Award	2017
The University of Hong Kong Outstanding Young Researcher Award	2016
The University of Hong Kong Outstanding Teacher Award	2015
Fellow of the Royal Society of Chemistry (FRSC)	2014

Research and Scholarship

1. Publications

1.1.1 Journal Publications

Google Scholar h-index 26, i10-index 45.

- *Four papers in bold most significant papers within recent 6 years.*

1. Fraser, L.A., Cheung, Y.W., Kinghorn, A.B., Guo, W., Shiu, S.C.C., Jinata, C., Liu, M., Bhuyan, S., Nan, L., Shum, H.C.* & Tanner, J.A.* Microfluidic technology for nucleic acid aptamer evolution and application. *Advanced Biosystems* (accepted in press) (2019)

2. • **Liang, S., Kinghorn, A.B., Voliotis, M., Prague, J.K., Veldhuis, J.D., Tsaneva-Atanasova, K., McArdle, C.A., Li, R.H.W., Cass, A.E.G.*, Dhillo, W.S.* & Tanner, J.A.* Measuring luteinising hormone pulsatility with a robotic aptamer-enabled electrochemical reader.** ***Nature Commun*****, 10, 852 (2019)** ***(IF 12.353, rank 3/64 in Multidisciplinary Science) (citations:0) (joint corresponding lead author)***
Brief note of significance: amongst the first ever clinical demonstrations globally of aptamer-mediated diagnostics, featured in Nature Communications Editors' Highlights, top 2% of Nature Communications publications impact by Altmetric in first week after publication as of 28 Feb 2019. Highly multidisciplinary and international with JAT leading team of collaborators across HKU, Imperial College, Bristol, Exeter, Mayo Clinic.

3. Li, L., Khong, M.L., Lui, E.L.H., Mebarek, S., Magne, D., Buchet, R. & **Tanner, J.A.** Long-chain polyphosphate in osteoblast matrix vesicles: enrichment and inhibition of mineralization. ***Biochim Biophys Acta Gen Subj***, **1863(1),** 199-209 (2019) *(IF 3.679, rank 91/292 in Biochemistry & Molecular Biology) (citations:0) (corresponding lead author)*
4. Sakai, Y., Islam, M.S., Adamiak, M., Shiu, S.C.C., **Tanner, J.A**. & Heddle, J.G. DNA aptamers for functionalisation of DNA origami nanostructures. ***Genes***, **9(12)**, 571 (2018) *(IF 3.191, rank 68/171 in Genetics & Heredity) (citations:0) (a senior author)*
5. Shiu, S.C.C., Kinghorn, A.B., Sakai, Y., Cheung, Y.W., Heddle, J.G. & **Tanner, J.A.** Three S's for aptamer-mediated control of DNA nanostructure dynamics: shape, self-complementarity and spatial flexibility. ***Chembiochem***, **19(18)**, 1900 (2018) *(IF 2.774, rank 26/59 in Chemistry, Medicinal) (citations:1) (joint corresponding lead author)*
6. Shiu, S.C.C.*, Fraser, L.A.*, Ding, Y. & **Tanner, J.A.** Aptamer display on diverse DNA polyhedron supports. ***Molecules***, **23(7)**, 1695 (2018) *(selected as the cover article from 394 articles in issue, IF 3.098, rank 133/292 in Biochemistry & Molecular Biology) (citations:2) (corresponding lead author)*
7. Tucker, W.O., Kinghorn, A.B., Fraser, L.A., Cheung, Y.W. & **Tanner, J.A.** Selection and characterization of a DNA aptamer specifically targeting human HECT ubiquitin ligase WWP1. ***Int J Mol Sci***, **19(3)**, 763 (2018) *(IF 3.687, rank 52/171 in Multidisciplinary Chemistry) (citations:4) (corresponding lead author)*
8. • **Tang, M.S.L., Shiu, S.C.C., Godonoga, M., Cheung, Y.W., Liang, S., Dirkzwager, R.M., Kinghorn, A.B., Fraser, L.A., Heddle, J.G. & Tanner, J.A. An aptamer-enabled DNA nanobox for protein sensing.** ***Nanomed. Nanotechnol Biol Med,*** **14, 1161-1168 (2018)** ***(IF 6.500, rank 11/133 in Medicine, Research & Experimental) (citations:4) (corresponding lead author)***
   Brief note of significance: amongst the first demonstrations of aptamers triggering DNA nanostructure change. Innovative approach for biosensing/diagnostics with wide potential applications across biomedicine. Highly multidisciplinary and international with JAT leading team across HKU, RIKEN and Jagiellonian University.
9. Cheung, Y.W., Dirkzwager, R.M., Wong, W.C, Cardoso, J., Costa, J.D.N. & **Tanner, J.A.** Aptamer-mediated Plasmodium-specific diagnosis of malaria. ***Biochimie***, **145**, 131-136, (2018) *(IF 3.188, rank 123/292 in Biochemistry & Molecular Biology) (citations:9) (corresponding lead author)*
10. • **Fraser, L.A., Kinghorn, A.B., Dirkzwager, R.M., Liang, S., Cheung, Y.W., Lim, B., Shiu, S.C.C., Tang, M.S.L., Andrew, D., Manitta, J., Richards, J.S. & Tanner, J.A. A portable microfluidic Aptamer-Tethered Enzyme Capture (APTEC) biosensor for malaria diagnosis.** ***Biosens Bioelectron*****, 100, 591-596 (2018)** ***(IF 8.173, rank 1/29 in Electrochemistry or 2/28 in Analytical Chemistry) (citations:14) (corresponding lead author)***
    Brief note of significance: builds upon our team's previous papers for a clinical application for aptamer-mediated diagnosis. Now undergoing trials in a larger clinical study in Ghana for application. Highly multidisciplinary and international with JAT leading collaborative study with clinical colleagues at Burnet Institute, Australia.
11. Miranda, F.M., Feng, L., Shiu, S.C.C., Dirkzwager, R.M., Cheung, Y.W., **Tanner, J.A.**, Schoning, M.J., Offenhauser, A. & Mayer, D. Aptamer-based electrochemical biosensor for highly sensitive and selective malaria detection with adjustable dynamic response range and reusability. ***Sens Actuators B Chem*****, 255**, 235-243 (2018) *(IF 5.667, rank 7/80 in Analytical Chemistry) (citations:12) (middle author)*
12. Kinghorn, A.B., Fraser, L.A., Liang, S., Shiu, S.C.C. & **Tanner, J.A.** Aptamer Bioinformatics. ***Int J Mol Sci***, **18**, 2516 (2017) *(IF 3.687, rank 52/171 in Multidisciplinary Chemistry) (citations:9) (corresponding lead author)*
13. Kinghorn, A.B. & **Tanner, J.A.** Selective Phenome Growth adapted NK model: a novel landscape to represent aptamer ligand binding. ***Complexity***, 6760852 (2017) (*IF 1.829, rank 22/64 in Multidisciplinary Sciences) (citations:1) (corresponding lead author)*
14. Gan, W., Zhang, C., Siu, K.Y., Satoh, A., **Tanner, J.A.** & Yu, S. ULK1 phosphorylates Sec23A and mediates autophagy-induced inhibition of ER-to-Golgi traffic. ***BMC Cell***

Biol, **18(1)**, 22 (2017) *(IF 2.769, rank 119/190 in Cell Biology) (citations:10) (middle author)*

15. Wang, W.X., Cheung, Y.W., Dirkzwager, R.M., Wong, W.C., **Tanner, J.A.**, Li, H.W. & Wu, Y. Specific and sensitive detection of *Plasmodium falciparum* lactate dehydrogenase by DNA-scaffolded silver nanoclusters combined with an aptamer. ***Analyst***, **142(5)**, 800-807 (2017) *(IF 3.864, rank 11/80 in Analytical Chemistry) (citations:8) (middle author)*

16. Shiu, S.C.C., Cheung, Y.W., Dirkzwager, R.M., Liang, S., Kinghorn, A.B., Fraser, L.A., Tang, M.S.L. & **Tanner, J.A.** Aptamer-mediated protein molecular recognition driving a DNA tweezer nanomachine. ***Adv Biosys***, **1**, 1600006 *(selected as a cover for inaugural issue)* (2017) *(New Journal in Advanced Materials series, predict IF>5) (citations:9) (corresponding lead author)*

17. Lui, E.L.H., Ao, C.K.L., Li., L., Khong, M.L. & **Tanner, J.A.** Inorganic polyphosphate triggers upregulation of interleukin 11 in human osteoblast-like SaOS-2 cells. ***Biochem Biophys Res Commun***, **479(4)**, 766-771 (2016) *(IF 2.559, rank 171/292 in Biochemistry & Molecular Biology) (citations:4) (corresponding lead author)*

18. Kinghorn, A.B., Dirkzwager, R.M., Liang, S., Cheung, Y.W., Fraser, L.A., Shiu, S.C.C., Tang, M.S.L. & **Tanner, J.A.** Aptamer affinity maturation by resampling and microarray selection. ***Anal Chem*****, 88(14)**, 6981-6985 (2016) *(IF 6.042, rank 4/80 in Analytical Chemistry) (citations:19) (corresponding lead author)*

19. Dirkzwager, R.M., Liang, S. & Tanner, J.A. Development of aptamer-based point-of-care diagnostic device for malaria using 3D printing rapid prototyping. *ACS Sensors,* 1(4), 420-426 (2016) *(IF 5.711, rank 33/171 in Chemistry, Multidisciplinary) (citations:29) (corresponding lead author)*

20. Godonoga, M., Lin, T.Y., Oshima, A., Sumitomo, K., Tang, M.S.L., Cheung, Y.W., Kinghorn, A.B., Dirkzwager, R.M., Zhou, C., Kuzuya, A., **Tanner, J.A.** & Heddle, J.G. A DNA aptamer recognising a malaria protein biomarker can function as part of a DNA origami assembly. ***Sci Rep***, **6**, 21266 (2016) *(IF 4.122, rank 12/64 in Multidisciplinary Sciences) (citations:42) (joint corresponding lead author)*

21. Aznar-Moreno, J.A., Venega-Caleron, M., Du, Z.Y., Garces, R., **Tanner, J.A.**, Chye, M.L., Martinez-Force, E. & Salas, J.J. Characterization of a small acyl-CoA-binding protein (ACBP) from Helianthus annus L. and its binding affinities. ***Plant Physiol Biochem***, **102**, 141-150 (2016) *(IF 2.718, rank 50/222 in Plant Sciences) (citations:3) (middle author)*

22. Kudelko, M., Chan, C.W.L., Sharma, R., Yao, Q., Lau, E., Chu, I.K., Cheah, K.S., **Tanner, J.A.** & Chan, D. Label-free quantitative proteomics reveals survival mechanisms developed by hypertrophic chondrocytes under ER stress. ***J Proteome Res***, **15**, 86-99 (2016) *(IF 3.950, rank 14/79 in Biochemical Research Methods) (citations:7) (middle author)*

23. Fraser, L.A., Kinghorn, A.B., Tang, M.S.L., Cheung, Y.W., Lim, B., Liang, S., Dirkzwager, R.M. & **Tanner, J.A.** Oligonucleotide functionalized microbeads: indispensable tools for high-throughput aptamer selection. ***Molecules***, **20**, 21298-21312 (2015) *(IF 3.098, rank 133/292 in Biochemistry & Molecular Biology) (citations:10) (corresponding lead author)*

24. Dirkzwager, R.M., Kinghorn, A.B., Richards, J.S. & Tanner, J.A. APTEC: Aptamer-Tethered Enzyme Capture as a novel rapid diagnostic test for malaria. *Chem Commun*, 51, 4697-4700 (2015) *(IF 6.290, rank 28/171 in Multidisciplinary Chemistry) (citations:30) (corresponding lead author)*

25. Lai, Y.T., Chang, Y.Y., Hu, L., Yang, Y., Chau, A., Du, Z.Y., **Tanner, J.A.**, Chye, M.L., Qian, C., Ng, K.M., Li, H. & Sun, H. Rapid labeling of intracellular His-tagged proteins in living cells. ***Proc Natl Acad Sci USA***, **112(10)**, 2948-2953 (2015) *(IF 9.504, 5/64 in Multidisciplinary Sciences) (citations:39) (middle author)*

26. Hsian, A.S., Haslam, R.P., Michaelson, L.V., Liao, P., Chen, Q.F., Sooriyaarachchi, S., Mowbray, S.L., Napier, J.A., **Tanner, J.A.** & Chye, M.L. Arabidopsis cytosolic acyl-CoA binding proteins ACBP4, ACBP5 and ACBP6 have overlapping but distinct roles in seed development. ***Biosci Rep***, **34(6)**, e00165 (2014) *(IF 2.745, 150/292 in Biochemistry & Molecular Biology) (citations:19) (middle author)*

27. Xue, Y., Xiao, S., Kim, J., Lung, S.C., Chen, L., **Tanner, J.A.**, Suh, M.C. & Chye, M.L. Arabidopsis membrane-associated acyl-coA-binding protein ACBP1 is involved in stem cuticle formation. ***J Exp Bot***, **65(18)**, 5473-5483 (2014) *(IF 5.354, 14/222 in Plant Sciences) (citations:36) (middle author)*

Articles below are from before promotion to Associate Professor

28. • **Cheung, Y.W., Kwok, J., Law, A.W.L., Watt, R.M., Kotaka, M. & Tanner, J.A. Structural basis for discriminatory recognition of *Plasmodium* lactate dehydrogenase by a DNA aptamer. *Proc Natl Acad Sci USA*, 110(40), 15967-15972 (2013) *(IF 9.504, 5/64 in Multidisciplinary Sciences) (citations:67) (joint corresponding lead author)***
Brief note of significance: this paper is amongst a small handful of aptamer-protein crystal structures solved globally, was coupled to a patent, and has been a platform which led to clinical application (Biosens Bioelec 2018 and many papers above). This paper is the foundation academic study underlying one of our School's Impact Case Studies. Highly cited, within RAE2020, within last 6 years, and not assessed at last promotion as published few weeks before promotion to Associate Professor.

29. Wang, Z., Cui, J., Wong, W.M., Li, X., Xue, W., Lin, R., Wang, J., Wang, P., **Tanner, J.A.,** Cheah, K.S., Wu, W. & Huang, J.D. Kif5b controls the localization of myofibril components for their assembly and linkage to the myotendinous junctions. ***Development***, **140(3)**, 617-626 (2013)

30. Tucker, W.O., Shum, K.T. & **Tanner, J.A.** G-quadruplex DNA Aptamers and their Ligands: Structure, Function and Application. ***Curr Pharm Des,*** **18**, 2014-2026 (2012)

31. Choi, M.Y., Wang, Y., Wong, L.L.Y., Lu, B.T., Chen, W.Y., Huang, J.D., **Tanner, J.A.** & Watt, R.M. The two PPX-GppA homologues from *Mycobacterium tuberculosis* have distinct biochemical activities. ***PLoS ONE*** **7(8)**, e42561 (2012)

32. Zong, M., Satoh, A., Yu, M.K., Siu, K.Y., Ng, W.Y., Chan, H.C., **Tanner, J.A.** & Yu, S. TRAPPC9 Mediates the Interaction between $p150^{Glued}$ and COPII Vesicles at the Target Membrane. ***PLoS ONE*** **7(1)**, e29995 (2012)

33. Shum, K. T., Lui, E.L., Wong, S.C., Yeung, P., Sam, L., Wang, Y., Watt, R.M. & **Tanner, J.A.** Aptamer-mediated inhibition of *Mycobacterium tuberculosis* polyphosphate kinase 2. ***Biochemistry***, **50**, 3261–3271 (2011)

34. Shum, K.T., Chan, C., Leung, C.M. & **Tanner, J.A.** Identification of a DNA aptamer that inhibits sclerostin's antagonistic effect on Wnt signaling. ***Biochem J***, **434**, 501-510 (2011)

35. Wu, X.G., Zong, M., Chan, C.W.L., Choi, M.Y., Chan, H.C., **Tanner, J.A.** & Yu, S. The adaptor function of TRAPPC2 in mammalian TRAPPs explains TRAPPC2-associated SEDT and TRAPPC9-associated congenital intellectual disability. ***PLoS ONE***, **6 (8)**, e23350 (2011)

36. Cheung Y.W. & **Tanner, J.A.** Targeting glutamate synthase for tuberculosis drug development ***Hong Kong Med J***, 17, **1**, 32-34 (2011)

37. Wang Z., Huang J. D., Wong K. L., Wang P. G., Zhang H. J., **Tanner J.A.,** Spiga O., Bernini A., Zheng B. J. & Niccolai N. On the mechanisms of bananin activity against severe acute respiratory syndrome coronavirus. ***FEBS J***, **278**, 383-9 (2011)

38. Huang, J.D., Sun, H.Z., **Tanner, J.A.** & Watt, R.M. Determination of the functions of the putative metal-binding domain of the SCV helicase ***Hong Kong Med J*****, 6**, 15-16 (2009)

39. Choi, M. Y., Chan, C. Y., Chan, D., Luk, K. D., Cheah, K. S., & **Tanner, J.A.** Biochemical consequences of sedlin mutations that cause spondyloepiphyseal dysplasia tarda ***Biochem J,*** **433***,* 233-242 (2009)

40. Tang, P. L., Cheung, C. L., Sham, P.C., McClurg, P., Lee, B., Chan, S.Y., Smith, D. K., **Tanner, J. A.,** Su, A.I., Cheah, K. S., Kung, A.W. & Song, Y.Q. Genome-wide haplotype association mapping in mice identifies a genetic variant in CER1 associated with bone mineral density and fracture in southern Chinese women ***J Bone Miner Res,*** **24**, 1013-21 (2009)

41. Shum, K. T. & **Tanner, J.A.** Differential inhibitory activities and stabilisation of DNA aptamers against the SARS coronavirus helicase ***Chembiochem***, **9**, 3037-3045 (2008)

42. Yang, N.*, **Tanner, J.A.*,** Wang, Z., Huang, J. D., Zheng, B. J., Zhu, N., & Sun, H. Inhibition of SARS coronavirus helicase by bismuth complexes. ***Chem Comm***, **42**, 4413-4415 (2007)

43. Yang, N.*, **Tanner, J.A.*,** Zheng, B. J., Watt, R. M., He, M. L., Lu, L. Y., Jiang, J. Q., Shum, K. T., Lin, Y. P., Wong, K. L., Lin, M. C. M., Kung, H.F., Sun, H., & Huang, J. D., Bismuth Complexes Inhibit the SARS Coronavirus. ***Angew Chem,*** **64**, 6464-6468 (2007)

44. Ge, R., Sun, X., Gu, Q., Watt, R. M., **Tanner, J. A.,** Wong, B. C., Xia, H. H., Huang, J. D., He, Q. Y., & Sun, H. A proteomic approach for the identification of bismuth-binding proteins in Helicobacter pylori**.** ***J Biol Inorg Chem,*** **12**, 831-842 (2007)

45. Wright, M., Boonyalai, N., **Tanner, J.A.,** Hindley, A.D. & Miller, A.D. The duality of LysU, a catalyst for both Ap(4)A and Ap(3)A formation. ***FEBS J,*** **273**, 3534-3544 (2006)

46. **Tanner, J.A.,** Wright, M., Christie, M., Preuss, M.K., & Miller, A.D. Investigation into the Interactions between Diadenosine 5',5'''-P1,P4-Tetraphosphate and Two Proteins: Molecular Chaperone GroEL and cAMP Receptor Protein. ***Biochemistry***, **45**, 3095-3106 (2006)

47. Melnik, S., Wright, M., **Tanner, J.A.,** Tsintsadze, T., Tsintsadze, V., Miller, A.D. & Lozovaya, N. Diadenosine polyphosphate analogue controls postsynaptic excitation in CA3-CA1 synapses via a nitric oxide (NO)-dependent mechanism. ***J. Pharm. Exp. Ther***., **318**, 579-88 (2006)

48. Peng, Y., Yang, P. H., **Tanner, J. A.,** Huang, J. D., Li, M., Lee, H. F., Xu, R. H., Kung, H. F & Lin, M.C. Cold-Inducible RNA Binding Protein is Required for the Expression of Adhesion Molecules and Embryonic Cell Movement in Xenopus Laevis. ***Biochem. Biophys. Res. Commun.*****,** **344**, 416-424 (2006)

49. Tsintsadze, V., Fedorenko, A., Tsintsadze, T., Wright, M., **Tanner, J.A.,** Miller, A. & Lozovaya, N. Effect of a non-hydrolyzable analog of diadenosine polyphosphates on NMDA-mediated currents in isolated pyramidal neurons of the rat hippocampus. ***Neurophysiology***, **37**, 169-174 (2006)

50. **Tanner, J.A.** WTO TRIPS and its effect on the supply and development of medicines in China. ***Hong Kong Med J***, **12**, 84-86 (2006)

51. Bernini, A., Spiga, O., Venditti, V., Prischi, F., Bracci, L., Huang, J., **Tanner, J.A.** & Niccolai, N. Tertiary structure prediction of SARS coronavirus helicase. *Biochem. **Biophys. Res. Commun.*****,** **343**, 1101-1104 (2006)

52. Mel'nyk, S.I., Wright, M., **Tanner, J.A.,** Tsintsadze, T., Tsintsadze, V.P., Miller, E.D. & Lozova, N.O. Diadenosine polyphosphate analogue modulates signal transduction in hippocampal slices. ***Fiziol Zh*** **52**, 9-12 (2006)

53. Hughes, S.J.*, **Tanner, J.A.*,** Miller, A.D. & Gould, I.R. Molecular dynamics simulations of LysRS: an asymmetric state. ***Proteins*** **62**, 649-662 (2006)

54. Ge, R., Watt, R.M., Sun, X., **Tanner, J.A.,** He, Q.Y., Huang, J.D. & Sun, H. Expression and characterization of a histidine-rich protein, Hpn: potential for Ni^{2+} storage in Helicobacter pylori. ***Biochem J*** **393**, 285-293 (2006)

55. Zheng, B.J., Guan, Y., He, M.L., Sun, H., Du, L., Zheng, Y., Wong, K.L., Chen, H., Chen, Y., Lu, L., **Tanner, J.A.,** Watt, R.M., Niccolai, N., Bernini, A., Spiga, O., Woo, P.C., Kung, H.F., Yuen, K.Y. & Huang, J.D. Synthetic peptides outside the spike protein heptad repeat regions as potent inhibitors of SARS-associated coronavirus. ***Antivir Ther*** **10**, 393-403 (2005)

56. Zhang, X.M., Chen, B.Y., Ng, A.H., **Tanner, J.A.,** Tay, D., So, K.F., Rachel, R.A., Copeland, N.G., Jenkins, N.A. & Huang, J.D. Transgenic mice expressing cre-recombinase specifically in retinal rod bipolar neurons. ***Invest Ophthalmol Vis Sci*** **46**, 3515-3520 (2005)

57. **Tanner, J.A.,** Zheng, B.J., Zhou, J., Watt, R.M., Jiang, J.Q., Wong, K.L., Lin, Y.P., Lu, L.Y., He, M.L., Kung, H.F., Kesel, A.J. & Huang, J.D. The Adamantane-Derived Bananins Are Potent Inhibitors of the Helicase Activities and Replication of SARS Coronavirus. ***Chem & Biol*** **12**, 303-311 (2005)

58. Zhang, X.M., Ng, A.H., **Tanner, J.A.,** Wu, W.T., Copeland, N.G., Jenkins, N.A. & Huang, J.D. Highly restricted expression of Cre recombinase in cerebellar Purkinje cells. ***Genesis*** **40**, 45-51 (2004)

59. Kao, R.Y., Tsui, W.H., Lee, T.S., **Tanner, J.A.,** Watt, R.M., Huang, J.D., Hu, L., Chen, G., Chen, Z., Zhang, L., He, T., Chan, K.H., Tse, H., To, A.P., Ng, L.W., Wong, B.C., Tsoi, H.W., Yang, D., Ho, D.D. & Yuen, K.Y. Identification of novel small-molecule inhibitors of severe acute respiratory syndrome-associated coronavirus by chemical genetics. ***Chem & Biol*** **11**, 1293-1299 (2004)

60. Wright, M., **Tanner, J.A.** & Miller, A.D. Quantitative single-step purification of dinucleoside polyphosphates. ***Anal Biochem*** **316**, 135-138 (2003)

61. **Tanner, J.A.,** Watt, R.M., Chai, Y.B., Lu, L.Y., Lin, M.C., Peiris, J.S., Poon, L.L., Kung, H.F. & Huang, J.D. The severe acute respiratory syndrome (SARS) coronavirus NTPase/helicase belongs to a distinct class of 5' to 3' viral helicases. ***J Biol Chem*** **278**, 39578-39582 (2003)

62. Hughes, S.J.*, **Tanner, J.A.*,** Hindley, A.D., Miller, A.D. & Gould, I.R. Functional asymmetry in the lysyl-tRNA synthetase explored by molecular dynamics, free energy calculations and experiment. ***BMC Struct Biol*** **3**, 5 (2003)

63. **Tanner, J.A.,** Abowath, A. & Miller, A.D. Isothermal titration calorimetry reveals a zinc ion as an atomic switch in the diadenosine polyphosphates. ***J Biol Chem*** **277**, 3073-3078 (2002)

64. McLennan, A.G., Barnes, L.D., Blackburn, G.M., Brenner, C., Guranowski, A., Miller, A.D., Rovira, J.M., Rotllan, P., Soria, B., **Tanner, J.A.** & Sillero, A. Recent progress in the study of the intracellular functions of diadenosine polyphosphates. ***Drug Develop Res*** **52**, 249-259 (2001)

65. Cox, R.J., Hitchman, T.S., Byrom, K.J., Findlow, I.S., **Tanner, J.A.,** Crosby, J. & Simpson, T.J. Post-translational modification of heterologously expressed Streptomyces type II polyketide synthase acyl carrier proteins. ***FEBS Lett*** **405**, 267-272 (1997)

1.1.2 Manuscripts under Review / Pending Submission (as of Feb 28 2019)

1. Khong, M.L., Li, L., Solesio, M.E., Pavlov, E.V. & **Tanner, J.A.** Inorganic polyphosphate controls cyclophilin B-mediated collagen folding in osteoblasts. ***Cell Reports*** (2019) *(status – undergone first round of review, resubmitted 28 Feb 2019).*

2. Cheung, Y.W., Rothlisberger, P., Kinghorn, A.B., Shiu, S.C.C., Wong, S.C., Hollenstein, M. & **Tanner, J.A.** Evolution, structure and application of cubane-modified aptamers for malaria diagnosis. ***Nature Chemical Biology*** (2019) *(status – manuscript to be submitted April 2019)*

3. Fraser, L.A., Cheung, Y.W., Kinghorn, A.B., Guo, W., Shiu, S.C.C., Jinata, C., Liu, M., Bhuyan, S., Lang, N., Shum, H.C. & **Tanner, J.A.** ***Advanced Biosystems*** (2019) *(status – recommended for publication pending suitable revisions as of Feb 2019)*

4. Tsuda, S., Fraser, L.A., Sharabi, S., Hezwani, M., Kinghorn, A.B., Liang, S., Douce, G., **Tanner, J.A.*** & Cronin, L.* A portable 3D-printed platform for point-of-care diagnostis of Clostridium difficile infection and malaria. ***Lab on a Chip*** (2019) (*status – manuscript under review after submission in Feb 2019) preprint at ChemXRiv* https://doi.org/10.26434/chemrxiv.7640414.v1

5. Shiu, S.C.C., Sakai, Y., **Tanner, J.A.*** & Heddle, J.* Observing the dynamic response of a DNA origami nanomachine. ***Methods*** (2019) *(status – manuscript as final draft submission March 2019)*

1.2 Scholarly Books, Monographs and Chapters

1. **Tanner, J.A.,** Kinghorn, A.B. & Cheung, Y.W. (2018) Aptamers. MDPI Books, Switzerland (edited book)

2. Miller, A.D. & **Tanner, J.A.** (2008) Essentials of Chemical Biology: Structure and Dynamics of Biological Macromolecules. John Wiley & Sons, Ltd, Chichester, UK. 573 pages (authored book)

1.3.1 Peer-reviewed Conference Papers - International

(listed in Supplementary Appendix A)

1.3.2 Peer-reviewed Conference Papers - Regional

(listed in Supplementary Appendix B)

1.3.3 Peer-reviewed Conference Papers - Local
(listed in Supplementary Appendix C)

1.4.1 Patents

1. **Tanner, J.A.** & Shiu, S.C.C. Nucleic acid mazzocchio and methods of making and use thereof**.** *PCT International Application*, under filing Feb 2019 (2019)
2. **Tanner, J.A.** & Cheung, Y.W. Sandwich and species-specific nucleic acid aptamers against Plasmodium lactate dehydrogenase for malaria diagnosis. December 2017, *PCT International Application,* **PCT/CN2017/115895** (2017)
3. Kinghorn, A.D. & **Tanner, J.A.** DNA display and methods thereof. Publication number **WO2016134521 A1** issued 1st September 2016, *PCT International Application*, **PCT/CN2015/073350** (2015)

Patents below are from before promotion to Associate Professor

4. **Tanner, J.A.,** Cheung, Y.W. & Kotaka, M., Nucleic acid aptamers against Plasmodium lactate dehydrogenase and histidine-rich protein II and uses thereof for malaria diagnosis. *US Patent* **20130210023, WO2013117162 A1,** *PCT International Application,* **PCT/CN2013/071467.** Application no. US 13/763051, patent right issued 7th April 2015 as *US Patent No.* **9000137, CN104245957A, EP2812453A1** (2013)
5. **Tanner, J.A.** & Cheung, Y.W. DNA aptamers against plasmodium lactate dehydrogenase and histidine-rich protein II for malaria diagnosis and therapy. *US Provisional Patent*, **61/596,774** (2012)
6. **Tanner, J. A.,** Shum, K.T. & Chan, C.S.L., High-affinity nucleic acid aptamers against sclerostin protein. *US Patent,* **US2011/0294872 A1** (prior publication), appl no **13/116244** issued Oct 8th 2013 as *US Patent No.* **8552166B2***, Chinese SIPO Patent App.* **201180025929.4** patent right issued 22nd July 2014 as **CN102971424A**, *PCT Patent,* **WO2011/147193,** *Hong Kong Intellectual Property Department No.* 1180012A published 11th October 2013, *EU Patent* **EP11785965.2 – 1212** issued as **EP2576786A1** (2011-2014)
7. **Tanner, J. A.,** Shum, K.T. & Chan, C.S.L., High-affinity nucleic acid aptamers against sclerostin protein. *US Provisional Patent,* **61/349,058** (2010)
8. Miller, A.D., Wright, M., **Tanner, J.A.** & Lozovaya, N.O. Uses of Dinucleotide Polyphosphate Derivatives. *US Patent*, **WO2008/0319184** (2008)
9. Miller, A.D., Wright, M., **Tanner, J.A.** & Lozovaya, N.O. New Uses of Dinucleotide Polyphosphate Derivatives. *US / European / Canadian Patents* **WO2006/082397 / EP1846004 / CA2596959** (2006)
10. Huang, J.D., **Tanner, J.A.** & Zhang, X.M. Method for Constructing and Modifying Large DNA Molecules. *US Patent*, **WO2005/010179** (2005), **US20040084970** appl no **10/892579** issued 24th August 2010 as US Patent No. **7,781,190**, EU Patent **EP04762003**, (2005-2010)

1.4.2 Other Research Outputs - Chapters in Edited Books as Author

1. **Tanner, J. A.** & Shum, K.T. (2010) Chemical Biology*, chapter in Kirk-Othmer Encyclopedia of Chemical Technology*. John Wiley & Sons. **27**, (pp. 1-26)
2. **Tanner, J. A.,** (2007) WTO TRIPS and its Effect on the Supply and Development of Medicines in China, *chapter in TRIPS and Pharmaceutical Industry – Impact on Developing Countries*. Icfai University Press, (pp. 154-160)

1.4.3 Other Research Outputs - Editorials / Book Reviews

1. **Tanner, J.A.** Aptamers: Binding molecules and binding disciplines. *Aptamers*, 1(1), 1-2 (2017)
2. **Tanner, J.A.,** The softer art of enzymology. Book Review of 'Practical Enzymology', second edition by Hans Bisswanger, Wiley-Blackwell, Weinheim, Germany. *Bioessays* **34**, 83-84 (2012)

2. <u>Editorship and Editorial Board Membership</u>

1. *International Journal of Molecular Sciences,* Special Issue Guest Editor (2016-2018) *(IF 3.687, rank 52/171 in Multidisciplinary Chemistry, as one of three editors of the Special Issue "Aptamers")*
2. *Aptamers,* (Official International Society on Aptamers Journal), Executive Editor (2017-). *Note: whilst this is a new journal which does not yet have an impact factor, the journal addresses a critical need of the aptamer community internationally raised in our society meetings for an aptamer-focused journal of high academic standard. I was invited to write the inaugural editorial of this journal (see 1.4.3 above).*

3. Keynote/Plenary/Other Invited Lectures in International/Regional Conferences and Events

1. **Tanner, J.A.** Aptamers for malaria diagnosis – a transdisciplinary venture from bio to nano. The Second International Workshop by the 174th Committee JSPS on Symbiosis of Biology and Nanodevices. Kyoto, Japan (2019) *(invited plenary full funding of all travel and expenses)*
2. **Tanner, J.A.** Are aptamers better? Learning from malaria diagnosis, Aptamers 2018, 5th Oxford Symposium on Aptamers, University of Oxford, United Kingdom (2018) *(invited speaker, expenses covered)*
3. **Tanner, J.A.** Nucleic acid Aptamers – versatile tools for a new bionanomedicine, Chinese University of Hong Kong (2018) *(invited speaker)*
4. **Tanner, J.A.** Aptamers for malaria diagnosis: structure, application and opening the nano toolbox, Aptamers in Bordeaux, Bordeaux, France (2017) *(invited speaker)*
5. **Tanner, J.A.** Engineering nucleic acid nanostructures using aptamers, Symposium on Engineering Complex Genetic Systems: Approaches and Applications, University of Hong Kong, Hong Kong (2017) *(invited speaker)*
6. **Tanner, J.A.** Aptamers in DNA nanostructures as molecular sensing modules, Oligo 2017 Oxford: Antisense & Therapeutic Nucleic Acids, Oxford University, United Kingdom (2017) *(invited speaker all registration and accommodation covered)*
7. **Tanner, J.A.** Aptamers for malaria diagnosis, Aptamers 2017, 4th Oxford Symposium on Aptamers, Oxford University, United Kingdom (2017) *(invited speaker all registration and accommodation covered)*
8. **Tanner, J.A.** Nucleic acid aptamers for molecular recognition in diagnostic systems: malaria diagnosis as a proof of concept. The 8th International Symposium on Microchemistry and Microsystems (ISMM2016), Hong Kong (2016) *(invited speaker, registration covered)*
9. **Tanner, J.A.** Aptasensors for point-of-care malaria diagnosis. Biosensors 2016, Gothenburg, Sweden (2016) *(invited speaker)*
10. **Tanner, J.A.** Progress in aptamer-mediated malaria diagnosis, Aptamers 2016, 3rd Oxford Symposium on Aptamers, Oxford University, United Kingdom (2016) *(invited speaker, registration and accommodation covered)*
11. **Tanner, J.**A. Aptamer-enabled diagnostics for malaria, The 1st Peking University-Hong Kong University Joint Symposium on Chemical Biology, Hong Kong (2016) *(invited speaker)*
12. **Tanner, J.A.** Nucleic acid aptamers as versatile tools for biosensing, diagnostics and nanotechnology: from evolution to application, Sadler's Symposium on Metals in Life Processes, Sun Yat Sen University, Guangzhou, China (2015) *(keynote lecture, full funding registration, accommodation, honorarium)*
13. **Tanner, J.A.** Emerging applications for nucleic acid aptamers in cell biology and stem cell research, HKU-GIBH Symposium on Stem Cells and Regenerative Medicine, GIBH, Guangzhou, China (2015) *(invited speaker)*
14. **Tanner, J.A.** DNA aptamers for point-of-care malaria diagnosis – from crystal structure to clinical application using aptamer tethered enzyme capture (APTEC), Aptamers 2015 2nd Oxford Symposium on Aptamers, Oxford University, United Kingdom (2015) *(invited speaker, registration and accommodation covered)*

15. **Tanner, J.A.** Bringing together DNA aptamer-mediated molecular recognition, nanotechnology and 3D printing for new approaches in medical diagnostics. Hong Kong Polytechnic University, Hong Kong (2015) *(invited speaker)*
16. **Tanner, J.A.** DNA aptamers for molecular recognition in medical diagnostics. 2014 International Conference on Small Science (ICSS), Hong Kong (2014) *(invited speaker, registration covered)*

Lectures below are from before promotion to Associate Professor

17. **Tanner, J.A.** Chasing Ehrlich's Magic Bullet – Nucleic acid aptamers for therapy and diagnostics. Croucher Advanced Study Institute (ASI) 'Structure-based screening and design of ligands for protein targets', Chinese University of Hong Kong, Hong Kong (2011) *(invited speaker)*
18. **Tanner, J.A.** Nucleic acid aptamers for therapeutics and diagnostics. University of Lyon, France (2011) *(invited speaker)*
19. **Tanner, J.A.** Nucleic acid aptamers – tools for chemical biology. Hong Kong Chemical Biology Symposium 2009 (2009) *(invited speaker)*
20. **Tanner, J.A.** Correlating protein structure with disease – understanding the mechanism of SEDT. Annual Symposium of the Hong Kong Proteomics Society (2007) ***(invited speaker)***

4. Peer Reviewed Conference Presentations

**See Appendices A,B,C below under international/regional/local conference papers*

5. External Peer-Reviewed Competitive Research Grants

5.1 External Peer-Reviewed Competitive Research Grants as Principal Investigator

Total external funding raised as PI: $12,902,132 across 15 grants.
GRF success rate as PI 11/14 (78%).

1. University Grants Council (Hong Kong)/General Research Fund (GRF) 2018/2019 Funding Year: "Nucleic acid aptamer decorated peptide amphiphile nanofibers for regenerative medicine applications". Project code 17102318. HK$971,860. 1/1/2019-31/12/2021. Role on grant: PI. *Status: ongoing.*
2. University Grants Council (Hong Kong)/General Research Fund (GRF) 2016/2017 Funding Year: "Expanding the functional repertoire of nucleic acid aptamers by fluorescence-activated droplet sorting". Project code 17163416. HK$1,081,775. 1/1/2017-31/12/2019. Role on grant: PI. *Status: ongoing.*
3. Health and Medical Research Fund (HMRF) 2015/2016 Funding Year: "Development of an aptamer-based sensor for monitoring luteinizing hormone pulsatility". Project code 03142546. HK$1,196,150. 1/7/2016-31/12/2018. Role on grant: PI. *Status: completed with report pending.*
4. University Grants Council (Hong Kong)/General Research Fund (GRF) 2015/2016 Funding Year: "DNA display SELEX – a new approach to evolve fluorescent tools to image RNA in living cells". Project code 17127515. HK$994,480. 1/1/2016-30/06/2019. Role on grant: PI. *Status: ongoing.*
5. University Grants Council (Hong Kong)/General Research Fund (GRF) 2014/2015 Funding Year: "DNA origami interfaced with aptamer-mediated molecular recognition for integrated modular diagnostics". Project code 17119814. HK$1,026,750. 1/1/2015-31/12/2017. Role on grant: PI. *Status: completed with report pending.*
6. University Grants Council (Hong Kong)/General Research Fund (GRF) 2013/2014 Funding Year: "3-D Printed Aptamer-enabled diagnostic dominoes for malaria". Project code HKU778813M. HK$840,051. 1/1/2014-31/12/2016. Role on grant: PI. *Status: completed with report pending.*

Grants below are from before promotion to Associate Professor

7. University Grants Council (Hong Kong)/General Research Fund (GRF) 2012/2013 Funding Year: "Defining the Roles of the Fundamental Macromolecule Inorganic Polyphosphate in Osteoblasts". Project code HKU778312M. HK$1,268,250. 1/1/2013-30/6/2016. Role on grant: PI. *Status: completed with report pending.*

8. France Procore France/HK Joint Research Scheme: "Investigation of the interplay of polyphosphates and matrix vesicles in bone mineralization". Project code F-HK37/10T. HK$27,000. 1/1/2011-31/12/2011. Role on grant: PI. *Status: completed with satisfactory rating from UGC.*
9. University Grants Council (Hong Kong)/General Research Fund (GRF) 2009/2010 Funding Year: "New approaches in the nuclear delivery and targeting of aptamers to augment osteoblast activity for osteoporosis". HK$1,162,500. Project code HKU777109M. 1/1/2010-30/06/2013. Role on grant: PI. *Status: completed with satisfactory rating from UGC.*
10. University Grants Council (Hong Kong)/General Research Fund (GRF) 2008/2009 Funding Year: "Development of an Aptamer-Nanoparticle Based Rapid Diagnostic Test for Malaria". HK$659,580. Project code HKU776108M. 1/1/2009-30/06/2011. Role on grant: PI. *Status: completed with satisfactory rating from UGC.*
11. University Grants Council (Hong Kong)/General Research Fund (GRF) 2007/2008 Funding Year: **"**Identification, validation and characterization of the eukaryotic enzymes and regulators of inorganic polyphosphate metabolism". HK$1,157,650. Project code HKU776507M. 1/1/2008-30/06/2011. Role on grant: PI. *Status: completed with satisfactory rating from UGC.*
12. University Grants Council (Hong Kong)/General Research Fund (GRF) 2006/2007 Funding Year: **"**Targeting sclerostin with aptamer-based inhibitors as an approach to osteoporosis therapy". HK$654,500. Project code HKU7488/06M. 1/1/2007-30/06/2009. Role on grant: PI. *Status: completed with satisfactory rating from UGC.*
13. Research Fund for the Control of Infectious Disease (Hong Kong) Minigrant 2006: "Targeting glutamate synthase for tuberculosis drug development". HK$78,516. Project code 05050142. 1/1/2007-31/12/2007. Role on grant: PI. *Status: completed with satisfactory rating from RFCID.*
14. University Grants Council (Hong Kong)/General Research Fund (GRF) 2005/2006 Funding Year: **"**Evolution, Validation and Delivery of Aptamer-Based Inhibitors that Target the SARS Coronavirus Helicase". HK$982,800. Project code HKU7589/05M. 1/1/2006-30/06/2008. Role on grant: PI. *Status: completed with satisfactory rating from UGC.*

5.2 External Peer-Reviewed Competitive Research Grants as Co-Investigator

Total external funding raised as CoI: $91,791,919 across 18 grants

1. University Grants Council (Hong Kong)/General Research Fund (GRF) 2018/2019 Funding Year: "Nuclease-free target recycling in aptamer-graphene oxide platform by means of redox-active transition metal ion-mediated aptamer cleavage". Project code 15305818. HK$336,865. 1/1/2019-31/12/2020. PI: Dr. Thomas M.H. Lee, PolyU. Role on grant: Co-I. *Status: ongoing.*
2. Health and Medical Research Fund (HMRF) 2016/2017 Funding Year: "Development of molecular probes for surface markers on LMP1-positive nasopharyngeal cancer cells using aptamers selected by cell-SELEX". Project code 05162386. HK$1,197,384. 1/4/2018-31/3/2020. PI: Dr. Anna C.M. Tsang, HKU. Role on grant: Co-I. *Status: ongoing.*
3. University Grants Council/Theme-based Research Scheme (TBS) 2015-2016 Funding Year. "Molecular basis for interspecies transmission and pathogenesis of Middle East Respiratory Syndrome coronavirus". $35,620,000. Project code T11-707/15-R. 1/11/2015-31/10/2020. PI: Prof. P.C. Woo, HKU. Role on grant: Co-I. *Status: ongoing.*
4. University Grants Council (Hong Kong)/General Research Fund (GRF) 2014/2015 Funding Year: "The effect of autophagy on early secretory pathway: a mechanistic study". HK$793,429. Project code 14118914. 1/1/2015-31/12/2017. PI: Dr. S.S. Yu, CUHK. Role on grant: Co-I. *Status: completed.*
5. University Grants Council (Hong Kong)/General Research Fund (GRF) 2014/2015 Funding Year: "Breaking the chain or making magic? Establishing the roles of polyphosphate hydrolase proteins in pathogenic bacteria". HK$884,691. Project code 17121814. 1/1/2015-31/12/2017. PI: Dr. R.M. Watt, HKU. Role on grant: Co-I. *Status: completed.*

Grants below are from before promotion to Associate Professor

6. University Grants Council (Hong Kong)/General Research Fund (GRF) 2012/2013 Funding Year: "'Raising the alarmone' in Staphylococcus aureus: establishing the molecular basis of the stringent response". HK$950,000. Project code 780112M. 1/1/2013-31/12/2015. PI: Dr. R.M. Watt, HKU. Role on grant: Co-I. *Status: completed.*

7. University Grants Council (Hong Kong)/General Research Fund (GRF) 2012/2013 Funding Year: "Biochemical analysis of the mammalian TRAPP complex to provide insight into TRAPP-associated genetic diseases". HK$1,020,000. 1/1/2013-31/12/2015. PI: Dr. S.S. Yu, CUHK.. Role on grant: Co-I. *Status: completed.*

8. Spain CSIC/RGC Joint Research Scheme 2012/2013 Funding Year: "Control of Lipid Synthesis in Sunflower Seeds: Role of Acyl-CoA Binding Proteins". HK$21,600. Project code S-HK006/12T. 1/9/2012-1/9/2013. PI: Prof. M.L. Chye, HKU. Role on grant: Co-I. *Status: completed with satisfactory rating from UGC.*

9. University Grants Council (Hong Kong)/General Research Fund (GRF) 2011/2012 Funding Year: "*Treponema denticola* and periodontal disease: novel analytical approaches to probe host pathogen relationships". HK$650,000. Project code 781911M. 1/1/2012-31/12/2013. PI: Dr. R.M. Watt, HKU. Role on grant: Co-I. *Status: completed with satisfactory rating from UGC.*

10. University Grants Council (Hong Kong)/General Research Fund (GRF) 2011/2012 Funding Year: "Structural and Mechanistic Analysis of Human SMARCAL1". Project code HKU776811M. HK$1,089,360. 1/12/2012-31/12/2014. PI: Dr. C.M. Qian, HKU. Role on grant: Co-I. *Status: completed with satisfactory rating from UGC.*

11. University Grants Council (Hong Kong)/General Research Fund (GRF) 2010/2011 Funding Year: "Piezoelectric Quartz Crystal Biosensor For Determining Diagnostic Protein Biomarkers Based on Aptamers Selected By Non-SELEX Using Microfluidic Chip-Capillary Electrophoresis". HK$755,700. Project code HKU702210P. 1/12/2010-30/11/2013. PI: Dr. Y.S. Fung, HKU. Role on grant: Co-I. *Status: completed with satisfactory rating from UGC.*

12. University Grants Council (Hong Kong)/General Research Fund (GRF) 2010/2011 Funding Year: "Mechanism of vesicle tethering in mammalian cells". HK$949,854. 1/1/2011-31/12/2013. PI: Dr. S.S. Yu, CUHK. Role on grant: Co-I. *Status: completed with satisfactory rating from UGC.*

13. University Grants Council (Hong Kong) Area of Excellence Scheme Sustained Funding "Developmental Genomics and Skeletal Research". HK$35,620,000. 1/7/2010-31/12/2013. PI: Prof. K.S.E. Cheah, HKU. Role on grant: Co-I. *Status: completed with satisfactory rating from UGC.*

14. University Grants Council (Hong Kong)/General Research Fund (GRF) 2009/2010 Funding Year: "Genes get 'recT': new and improved methods for bacterial DNA engineering". HK$908,850. Project code 779109M. 1/1/2010-31/12/2012. PI: Dr. R.M. Watt, HKU. Role on grant: Co-I. *Status: completed with satisfactory rating from UGC.*

15. University Grants Council (Hong Kong)/General Research Fund (GRF) 2009/2010 Funding Year: "Detecting genes and functional analysis of a novel gene (Cer1) significantly associated with bone mineral density (BMD) in mice". HK$1,044,186. Project code HKU775208M. 1/1/2009-31/12/2011. PI: Dr. Y.Q. Song, HKU. Role on grant: Co-I. *Status: completed with satisfactory rating from UGC.*

16. University Grants Council (Hong Kong) Special Equipment Grant (UGC SEG) 2008. "High-Performance Tandem Mass Spectrometry Facility for Functional Proteomics and Metabolomics". HK$8,600,000. Project code SEG_HKU02. 31/12/2008-30/6/2011. PI: Prof C.M. Che, HKU. Role on grant: Co-I. *Status: completed with satisfactory rating from UGC.*

17. University Grants Council (Hong Kong)/General Research Fund (GRF) 2007/2008 Funding Year: "Polyphosphate metabolic enzymes as potential targets for anti-tuberculosis and general antibiotic drug development" HK$545,000. Project code 705007P. 1/7/2007-31/12/2010. PI: Dr. R. M. Watt, HKU. Role on grant: Co-I. *Status: completed with satisfactory rating from UGC.*

18. Research Fund for the Control of Infectious Disease (Hong Kong) 2005 Funding Year: "Determination of the functions of the putative metal-binding domain of SARS-CoV

helicase" HK$805,000. Project code 02040192. 1/2/2005-31/1/2007. PI: Dr. J.D. Huang, HKU. Role on grant: Co-I. *Status: completed with satisfactory rating from RFCID.*

6. Other External Research Funding

1. Shirley Boyde Trust Donation Grant 2016/2017: "Next generation aptamer-mediated rapid diagnostic tests for the point-of-care diagnosis of malaria". HK$800,000. 1/9/2017-31/8/2020. Role on grant: PI. *Status: ongoing.*

7. Evidence of Excellent Applied Research

1. Member, Scientific Advisory Board, ZiO Health Limited, a startup company in Shenzhen and UK (2018-)
2. Member, Scientific Advisory Board, Ilumi Health Limited, a startup company at the Hong Kong Science Park (2016-2018)
3. 10 patent families as in section above

8. Other Evidence of International/Regional Standing and Leadership

8.1 Chairing of Major Conferences

1. Conference Chair of Aptamers 2018 at the University of Oxford, a major conference in the field (further details of conference organization in service below).

8.2 Reviewer of Major Journals and Grants

1. Reviewer of major international grants including collaborative Wellcome Trust grants – full details in service below.
2. Frequent reviewer for over 60 journals (including JACS, Small, Cell Research) – full details in service below.

8.3 Leadership of Major International Research Collaborations

1. **HKU-Imperial College, UK** between Dr. Julian Tanner / Prof Waljit Dhillo / Prof Tony Cass. Evidence: HMRF grant, Nature Communications paper (also including collaborators at Bristol, Exeter, Mayo Clinic), joint HKU-Imperial PhD student.
2. **HKU-Northwestern University, USA** between Dr. Julian Tanner / Prof. Samuel Stupp. Evidence: successful GRF grant which has just begun and PhD student went on exchange to Stupp laboratory.
3. **HKU-Glasgow University, UK** between Dr. Julian Tanner / Prof. Leroy Cronin. Evidence: PhD student went on exchange to Cronin lab and resultant paper under review at Lab on a Chip.
4. **HKU-RIKEN, Japan / Jagiellonian University, Poland** between Dr. Julian Tanner / Dr Jonathan Heddle. Evidence: successful GRF grants and several collaborative publications.
5. **HKU-Burnet Institute, Australia** between Dr. Julian Tanner / Dr. Jack Richards. Evidence: student exchange and several collaborative publications
6. **HKU-Pasteur Institute, France** between Dr. Julian Tanner / Dr. Marcel Hollenstein, publication in preparation for *Nature Chemical Biology*.
7. **HKU-University of Lyon, France** between Dr. Julian Tanner / Prof Rene Buchet. Evidence: France Procore grant and collaborative publications.
8. **HKU-Forschungszentrum Jülich, Germany** between Dr. Julian Tanner / Dr. Dirk Mayer. Evidence: collaborative biosensor publication.
9. **HKU-University of Ghana, Ghana** between Dr. Julian Tanner / Dr. Francis Krampa on malaria diagnostics.

8.3 Published Reviews/Commentaries by Others of our Research Articles and Textbooks

1. Nerger, E. Advanced Goes Bio: Welcome to Advanced Biosystems. *Advanced Science News*, March 2017 issue (2017)
2. Stimson, L. Proteins Feel the Pinch with DNA Nanotweezers. *Advanced Science News,* December 2016 issue (2016)

3. Deiters, A. Book Review of Essentials of Chemical Biology: Structure and Dynamics of Biological Macromolecules by Andrew D. Miller and Julian A. Tanner. *Chembiochem* **10**, 1568-1571 (2009)
4. Timson, D.J.. Book Review of Essentials of Chemical Biology: Structure and Dynamics of Biological Macromolecules by Andrew D. Miller and Julian A. Tanner. *Biochemist E-volution* 9780470845318 *(Biochemical Society)* (2009)
5. Furge, L.L. Book Review of Essentials of Chemical Biology: Structure and Dynamics of Biological Macromolecules by Andrew D. Miller and Julian A. Tanner. *Biochem Mol Biol Edu* **37***,* 133-134 (2009)
6. Tomich, J.M. Book Review of Essentials of Chemical Biology: Structure and Dynamics of Biological Macromolecules by Andrew D. Miller and Julian A. Tanner. February Issue of *Choice* (2009)
7. Jackson, S. Book Review of Essentials of Chemical Biology: Structure and Dynamics of Biological Macromolecules by Andrew D. Miller and Julian A. Tanner. August Issue of *Royal Society of Chemistry Chemistry World* (2009)

8.4 Leadership and Mentoring of Post-Doctoral Research Scientists

1. Dr. Andrew KINGHORN, Post-doctoral Fellow (2016-present)
2. Dr. CHEUNG Yee Wai, Post-doctoral Fellow (2015-2018)
3. Dr. CHEUNG Yee Wai, Post-doctoral Research Associate (2012-2013)
4. Dr. Cecilia CHAN Wai-ling, Post-doctoral Fellow (2009-2013)
5. Dr. Lina LI, Post-doctoral Research Associate (2010-2013)
6. Dr. Kato SHUM, Post-doctoral Research Associate (2011)
7. Dr. Eric LUI, Post-doctoral Research Associate (2011)
8. Dr. Laiju SAM, Post-doctoral Research Associate (2009)
9. Dr. Mei-yee CHOI, Post-doctoral Research Associate (2008-2009)

9. Internal Research Funding

(listed in Supplementary Appendix G)

Teaching and Learning

Undergraduate Courses Taught with a Major Contribution (>8 contact hours per annum)

"Life 2.0: Synthetic Biology and the Future Bioeconomy" CCST9001 Common Core Course (CCC) Multidisciplinary First/Second Year Course Enrolment: 20-60 per annum	**Contribution:** Course co-ordinator and lead designer and teacher of course. **Student Evaluation of Course Effectiveness** 2015/16: 82.1 (74.8 university CCC average) 2014/15: 84.4 (70.8 university CCC average) 2013/14: 73.8 (70.6 university CCC average) 2012/13: 78.1 (71.1 university CCC average) 2011/12: 85.7 (71.9 university CCC average) **Student Evaluation of Tutorial Effectiveness** 2011/12: 75.0 (73.2 university CCC average) **Teaching innovations:** Multiple modes of assessment including debates, problem based learning tutorials, web learning activities, poster team work. **Student contact hours per year (JAT):** 36 hours. **Student Evaluation of Teacher Effectiveness for Dr. J.A. Tanner (dept average in brackets)** 2015/16: 83.3 (CCC HKU average 76.0) 2014/15: 83.9 (CCC HKU average 74.4) 2013/14: 80.0 in class (CCC HKU average 73.6) 2013/14: 87.5 in tutorials (CCC HKU average 76.8) 2012/13: 76.4 (CCC HKU average 73.6) 2011/12: 78.1 (CCC HKU average 73.4) 2010/11: 70.3 (CCC HKU average 70.2)
"Exploring Human Longevity" CCST9060 Common Core Course (CCC) Multidisciplinary First/Second Year Course Enrolment: 40-60 per annum	**Contribution:** A lead course teacher **Student Evaluation of Course Effectiveness** 2017/18: 73.4 (71.1 university CCC average) **Teaching innovations:** Multiple modes of assessment including ethnographic video production, debates, problem based learning tutorials. **Student contact hours per year (JAT):** 24 hours. **Student Evaluation of Teacher Effectiveness for Dr. J.A. Tanner (dept average in brackets)** 2017/18: 69.1 (CCC HKU average 74.3)
"Transdisciplinary Team Project" CCST8001 Common Core Open Platform Course	**Contribution:** Lead teacher and designer **Student Evaluation of Course Effectiveness** 2018/19: not yet available **Teaching innovations:** HKU's first Open Platform Course at Nexus of Teaching and Research **Student contact hours per year (JAT):** 24 hours. **Student Evaluation of Teacher Effectiveness for Dr. J.A. Tanner (dept average in brackets)** 2018/19: not yet available

"Perspectives in Biochemistry"
BIOC1600
First Year Course for the 4-Year Curriculum
Enrolment: ~200 per annum

Contribution: Course co-ordinator and lead designer and teacher of course.
Student Evaluation of Course Effectiveness
2017/18: 72.2 (65.8)
2016/17: 69.3 (65.7)
2015/16: 66.8 (66.5)
2014/15: 71.1 (71)
2013/14: 72.2 (64.3)
2012/13: 66.4 (63.4)
Teaching innovations: Multiple modes of assessment including practicals, narrated Prezi, drama, MCQ testing, team work.
Student contact hours per year (JAT): 36 hours.
Student Evaluation of Teacher Effectiveness for Dr. J.A. Tanner (dept average in brackets)
2017/18: 77.9 (73.9)
2016/17: 80.5 (73.5)
2015/16: 78.0 (70.5)
2014/15: 70.8 (73.9)
2013/14: 76.7 (72.2)
2012/13: 71.1 (68.1)

"Advanced Techniques in Biochemistry and Molecular Biology"
BIOC4613
Advanced Undergraduate Biochemistry Practical Course
Enrolment: 30-50 per annum

Contribution: A major teacher, practical designer, finals examinations author.
Teaching innovations: Interactive worksheet reviews, team-building practicals, scientific presentation and report writing education.
Student contact hours per year (JAT): 22 hours.
Student Evaluation of Teacher Effectiveness for Dr. J.A. Tanner (dept average in brackets)
2017/18: 75.0 (71.4)
2016/17: 67.9 (73.5)
2015/16: 70.0 (70.8)
2014/15: 78.6 (73.9)
2013/14: 83.3 (72.2)
2012/13: 73.3 (68.1)
2011/12: 65.6 (65.6)
2010/11: 80.9 (71.7)
2009/10: 74.1 (67.1)
2008/09: 69.4 (63.6)
2007/08: 73.0 (58.7)
2006/07: 71.2 (56.2)
2005/06: 73.0 (55.0)

"Medical Humanities Year 2 - Film"
Medical Humanities
Second Year Undergraduate MBBS for Medical Students
Enrolment: 210-220 per annum

Contribution: Course co-ordinator and lead teacher.
Teaching Innovations: Film discussion workshop with discussion and reflection on theme of suffering and healing.
Student contact hours per year (JAT): 15 hours
Student evaluation of course effectiveness:
2013/2014: 3.20/4.00 (2.90)

"Essential Proteomics"
BBMS3008
Third Year Undergraduate Biomedical Sciences
Enrolment:10-20 per annum

Contribution: Course co-ordinator and lead teacher.
Student evaluation of course effectiveness:
2016/17: 78.6 (71.2)
2015/16: 82.5 (69.2)
2014/15: 71.4 (71.4)
Teaching Innovations: Extending team writing project to mimic the academic scholarly review writing process. Two-stage examination assessment.
Student contact hours per year (JAT): 15 hours
Student evaluation of teacher effectiveness (JAT):
2016/17: 87.5 (76)
2015/16: 87.5 (71.7)
2014/15: 79.2 (71.9)

"Fundamentals of Chemistry and Biology for Biomedical Engineering"
BMED1207
First Year Biomedical Engineering
Enrolment: 40-60 per annum

Contribution: Course co-ordinator, course designer and lead teacher.
Student evaluation of course effectiveness:
2018/19: not yet available
Teaching Innovations: Integration of practical work into first year biomedical engineering. Collaborative group project in BME.
Student contact hours per year (JAT): 12 hours.
2018/19: not yet available
Student Evaluation of Teacher Effectiveness for Dr. J.A. Tanner (dept average in brackets)
2018/19: not yet available

"Life Science I - Biochemistry"
MEDE0001
First Year Undergraduate Biochemistry Course for Biomedical Engineering Students
Enrolment: 40-60 per annum

Contribution: The lead teacher and finals examinations author.
Teaching innovations: Problem based learning tutorials, interactive feedback, and cross-disciplinary science education.
Student contact hours per year (JAT): 12 hours.
Student Evaluation of Teacher Effectiveness for Dr. J.A. Tanner (dept average in brackets)
2010/11: 69.8 (69.2)
2009/10: 60.0 (64.3)
2008/09: 61.1 (63.2)

"Protein Structure and Function"
BIOL2301
Second Year Undergraduate Biochemistry Course
Enrolment: 60-80 per annum

Contribution: Course co-ordinator and lead teacher for biochemistry.
Teaching innovations: Technology-led learning environment, literature awareness and student-led learning.
Student contact hours per year (JAT): 8 hours.
Student Evaluation of Teacher Effectiveness for Dr. J.A. Tanner (dept average in brackets)
2012/13: 67.6 (72.8)
2011/12: 75.0 (68.6)
2010/11: 72.4 (72.4)

"Advanced Biochemistry II"
BIOC3611
Third Year Undergraduate Biochemistry Course
Enrolment: 30-50 per annum

Contribution: A major teacher, finals examinations author.
Teaching innovations: Multidisciplinary focus with team poster session to integrate multiple perspectives on advanced biochemistry topics.
Student contact hours per year (JAT): 9 hours.
Student Evaluation of Teacher Effectiveness for Dr. J.A. Tanner (dept average in brackets)
2014/15: 75 (71.9)
2013/14: 77.9 (74.6)
2012/13: 76.7 (72.8)
2011/12: 75.0 (68.6)
2010/11: 77.1 (69.2)

"Basic Biochemistry"
BIOC1001
First Year Undergraduate Biochemistry Course
Enrolment: 140-160 per annum

Contribution: Joint lead teacher/lecturer and finals examinations author.
Teaching innovations: Large class interactivity and problem sheet exemplars.
Student contact hours per year (JAT): 10 hours.
Student Evaluation of Teacher Effectiveness for Dr. J.A. Tanner (dept average in brackets)
2012/13: 54.4 (68.1)
2011/12: 56.4 (65.6)
2010/11: 59.3 (59.9)

Undergraduate/Postgraduate Courses Taught with Minor Contributions

"Introduction to Biomedical Engineering"
ENGG1206
First Year Med Eng Course
Enrolment: 15-20 per annum

Contribution: Teacher
Teaching Innovations: active learning activities
Contact hours per year: 3 hours
Student Evaluations/Comments: N/A
Years: 2017

"Biochemistry Seminar Course"
MMPH6134
Postgraduate Biochemistry Course
Enrolment:20-30 per annum

Contribution: Teacher and course designer.
Teaching innovations: Debate and topic led discussion of contemporary research.
Student contact hours per year (JAT): 4 hours.
Student Evaluation of Teacher Effectiveness for Dr. J.A. Tanner (dept average in brackets)
2010/11: 70.2 (63)
2009/10: 77.3 (75)
2008/09: 81.2 (79.5)
2007/08: 73.6 (67.5)
2006/07: 73.7 (70.0)
2005/06: 66.7 (66.0)

First Year MBBS (6-yr) Introduction To the Art and Science of Medicine
MBBS-IASM
Enrolment: 210 per annum

Contribution: Lecturer for two hours per annum and six hours per annum of Medical Humanities teaching in Year 1 Film.
Years: 2012-2017

First Year MBBS (5-yr) Introduction to Health and Disease Block
MBBS-IHDB
Enrolment:170-190 per annum

Contribution: Lecturer for one hour per annum in IHDB block and designer of multiple choice questions for first year MBBS assessment.
Years: 2008-2014

"MBBS Problem Based Learning" Tutor for small class learning Enrolment: 10-12 per class	**Contribution:** Led PBL based learning **Years:** 2006-2012
Specialist Module in Biochemistry for Traditional Chinese Medicine First Year Undergraduates Enrolment: 20 per annum	**Contribution:** Course designer and lecturer for 12 hour course as introduction to biochemistry for TCM students. **Years:** 2004-2007
Nursing I-I First Year Undergraduate Nursing Lectures Enrolment: 200 per annum	**Contribution:** Lecturer for two hours per annum for nursing students on introduction to biochemistry. **Years:** 2007-2010

PhD and MPhil Student Supervision

1. Xingliang LIU, School of Biomedical Sciences, The University of Hong Kong; co-supervisor; PhD started October 2018. *Progress satisfactory.*
2. Daisylyn Senna Young TAN, School of Biomedical Sciences, The University of Hong Kong; co-supervisor; MPhil started September 2018. *Progress satisfactory.*
3. Mengping LIU, School of Biomedical Sciences, The University of Hong Kong; primary supervisor; PhD started September 2017. *Progress satisfactory.*
4. Chandra JINATA, School of Biomedical Sciences, The University of Hong Kong; primary supervisor; PhD started September 2016. *Progress satisfactory.*
5. Soubhagya BHUYAN, School of Biomedical Sciences, The University of Hong Kong; primary supervisor; PhD started September 2016. *Progress satisfactory.*
6. Simon SHIU Chi Chin, Department of Biochemistry, The University of Hong Kong; primary supervisor; PhD started June 2015. *Progress satisfactory.*
7. Phyllis TANG Nga Yeung, Faculty of Dentistry, The University of Hong Kong; co-supervisor; PhD transferred June 2015, awarded 2018. "Conserved protein families involved in bacterial polyphosphate alarmone metabolism". *Assessed as "Very Good" top 25%.*
8. Lewis FRASER, Department of Biochemistry, The University of Hong Kong; primary supervisor; PhD started September 2014, awarded 2018 "A multidisciplinary approach to develop aptamer-based biosensors for malaria diagnosis". *Assessed as "Excellent" top 10%. Latest appointment: Post-Doctoral Fellow at North-Western University, Chicago, USA.*
9. Marco TANG Sze Lok, Department of Biochemistry, The University of Hong Kong; primary supervisor; MPhil started September 2014, awarded 2016. "Design, construction and characterization of aptamer-functionalized DNA origami for malaria diagnosis". *Assessed as "Outstanding" top 5%. Immediate appointment after graduation: Clerical Officer with Hong Kong SAR Government. Latest appointment: Clerical Officer with Hong Kong SAR Government.*
10. Shaolin LIANG, Department of Biochemistry, The University of Hong Kong; primary supervisor; joint PhD between HKU and Imperial College, London started November 2013. "An aptamer-based sensing platform for luteinising hormone pulsatility measurement". *Assessed as "Excellent" top 10%. Immediate appointment after graduation: medtech investment advisory associate, Hong Kong.*
11. Mei Li KHONG, Department of Biochemistry, The University of Hong Kong; primary supervisor; PhD started September 2013, awarded 2018. ". *Assessed as "Excellent" top 10%. Immediate appointment after graduation: Teaching Coordinator at HKU.*
12. Roderick DIRKZWAGER, Department of Biochemistry, The University of Hong Kong; primary supervisor; PhD started October 2012, awarded 2016. *Hong Kong PhD Fellowship Scheme (HKPFS) 2012/13 Awardee.* "The development of aptamer-based technologies for point-of-care malaria diagnosis". *Assessed as "Excellent" top 10%. Immediate*

appointment after graduation: Trainee Solicitor at Covington & Burling LLP, London. Latest appointment: Trainee Solicitor at Covington & Burling LLP, London.

13. Andrew KINGHORN, Department of Biochemistry, The University of Hong Kong; primary supervisor; PhD started September 2011, awarded 2016. "*In silico* and *in vitro* approaches to aptamer enrichment, selection and evolution". *Assessed as "Excellent" top 10%. Immediate appointment after graduation: Post-doctoral Fellow at HKU. Latest appointment: Post-doctoral Fellow at HKU.*

14. Jane KWOK Hei Ching, Department of Physiology, The University of Hong Kong; co-supervisor; PhD started September 2011, awarded 2015. "Structural studies of RIG-I like receptors and DAK, a negative regulator of MDA-5, a member of the RLR family". *Assessed as "Very good" top 25%.*

15. YU Yuanyuan, Department of Biochemistry, The University of Hong Kong; primary supervisor; PhD started September 2010, awarded 2015. "Development of inhibitory nucleic acid aptamers against aggrecanase for therapeutic applications". *Assessed as "Very good" top 25%. Immediate appointment after graduation: Post-doctoral Fellow at HKBU. Latest appointment: Post-doctoral Fellow at HKBU.*

16. YUEN Kit San, Department of Biochemistry, The University of Hong Kong; co-supervisor; PhD started September 2010, awarded 2014. "Roles of Epstein-Barr virus-encoded miR-BART microRNAs in viral infection of nasopharyngeal carcinoma cells". *Assessed as "Excellent" top 10%. Latest appointment: Post-doctoral Fellow at HKU.*

17. Carl AO Ka Leong, Department of Biochemistry, The University of Hong Kong; primary supervisor; MPhil started September 2011, awarded 2014. "Studies on polyphosphate kinase 2 mechanism and inorganic polyphosphate function". *Assessed as "Excellent" top 10%. Immediate appointment after graduation: Clerk in Macao Civil Service. Latest appointment: Technician in Forensic Science Dep of Judiciary Police, Macao*.

18. Dharmatov ALBANO, Department of Chemistry, The University of Hong Kong; co-supervisor; PhD started September 2009, awarded 2014. "Study of aptamer selection methodologies for developing piezoelectric quartz crystal biosensors to detect albumin in urine, malaria and SARS protein biomarkers in serum". *Assessed as "Very Good" top 25%.*

19. Wesley TUCKER, Department of Biochemistry, The University of Hong Kong; primary supervisor; PhD started September 2008, awarded 2013. "Towards specific DNA aptamers which bind and inhibit WWP1 ubiquitin ligase in the osteoblast". *Assessed as "Good" top 50%. Immediate appointment after graduation: Consultant Scientist at Andrew Moore and Associates. Latest appointment: Scientist at eNano Hong Kong.*

20. CHEUNG Yee Wai, Department of Biochemistry, the University of Hong Kong; primary supervisor; PhD started February 2008, awarded 2012. "Development of aptamer-nanoparticle conjugates as a new approach to malaria diagnosis". *Assessed as "Excellent" top 10%. Immediate appointment after graduation: Research Associate at the University of Hong Kong. Latest appointment: Post-doctoral Fellow at the University of Hong Kong*.

21. Mari KIMURA, Department of Biochemistry, The University of Hong Kong; primary supervisor; MPhil started September 2007, awarded 2012 "Towards intracellular aptamers - delivery of anti-SCV helicase aptamers and development of aptamers against SATB1". *Type A scholarship award international student. Assessed as "Excellent" top 10%. Immediate appointment after graduation: Consultant at Deloitte Tohmatsu Consulting. Latest appointment: Consultant at Deloitte Tohmatsu Consulting.*

22. Eric LUI Lik Hang, Department of Biochemistry, The University of Hong Kong; primary supervisor; PhD started September 2007, awarded 2011 "Inorganic Polyphosphate: from assay development to impact on cell function, signaling and gene expression". *Assessed as "Very Good" top 25%. Immediate appointment after graduation: Director of Stem Union. Latest appointment: Chief Operating Officer of Dr Renew Medical Aesthetic Centre.*

23. QI Shuang, Department of Biochemistry, The University of Hong Kong; co-supervisor; PhD started January 2008; awarded 2010 "UreE-Hpn/Hpn1 interaction in *H. pylori*, and the role of cysteines in Hpn". *Assessed as "Very Good" top 25%.*

24. Kato SHUM, Department of Biochemistry, The University of Hong Kong; primary supervisor; PhD started September 2006, awarded 2010 "A comparative study of G-quadruplex aptamers against multiple protein targets". *Assessed as "Outstanding" top 5%.*

Awarded international award: Johnson & Johnson Asia Outstanding Graduate Thesis. Immediate appointment after graduation: Post-Doctoral Fellow at City of Hope National Medical Center, LA, USA. Latest appointment: Senior Scientist at Kite Pharma, USA.

25. Cecilia CHAN Wai Ling, Department of Biochemistry, The University of Hong Kong; primary supervisor; PhD started September 2005, awarded 2009 "A Proteomics Study to Reveal the Molecular Response to Protein Misfolding in Chondrocytes". *Assessed as "Excellent" top 10%. Immediate appointment after graduation: Post-Doctoral Fellow at the University of Hong Kong. Latest appointment: Scientific Officer at Invivogen Hong Kong.*

26. Bob LEE, Department of Biochemistry, The University of Hong Kong; primary supervisor; MPhil started September 2005, awarded 2007 "Probing the Molecular Mechanisms of how Polymorphisms in Cerberus-like result in Low Bone Mineral Density". *Assessed as "Very Good" top 25%. Immediate appointment after graduation: Commissioning Editor at Word Scientific Publishing and Imperial College Press. Latest appointment: Application specialist at bioMerieux Hong Kong.*

27. Celine CHAN Sze Lai, Department of Biochemistry, The University of Hong Kong; primary supervisor; PhD started September 2004, awarded 2009 "Sclerostin : a negative regulator of bone formation and a target for osteoporosis therapy". *Assessed as "Excellent" top 10%. Immediate appointment after graduation: Scientist at GlaxoSmithKline R&D, China. Latest appointment: Senior Manager at Celgene Ltd Hong Kong*

28. CHOI Mei Yee, Department of Biochemistry, The University of Hong Kong; primary supervisor; PhD started January 2004, awarded 2008 "Functional studies on sedlin and its involvement in spondyloepiphyseal dysplasia tarda". *Assessed as"Excellent" top 10%. Immediate appointment after graduation: Post-Doctoral Fellow in Faculty of Dentistry, HKU. Latest appointment: Research Scientist at Therapure Biopharma, Ontario, Canada*

Prizes and Awards for Research Postgraduate Students under Principal Supervision

1. Simon Chi-Chin SHIU, YS and Christabel Lung Postgraduate Scholarship 2017/18 (2018)

2. Mei Li KHONG, Finalist for Asia-Pacific, Asia-Pacific Three Minute Thesis (3MT) Competition 2018, University of Queensland, Brisbane, Australia (2018)

3. Mei Li KHONG, Champion and People's Choice Award Winner at the HKU Three Minute Thesis (3MT) Competition 2018 (2018)

4. Simon Chi-Chin SHIU, Selected Delegate for the Global Young Scientists Summit, Singapore (2018)

5. Lewis FRASER, Oral Presentation Prize – 1st Runner Up, 22nd Research Postgraduate Symposium of the Li Ka Shing Faculty of Medicine (2017)

6. Mei Li KHONG, Oral Presentation Prize – 2nd Runner Up, 22nd Research Postgraduate Symposium of the Li Ka Shing Faculty of Medicine (2017)

7. Simon Chi-Chin SHIU, Postgraduate Student Grant Award to organize and chair the Hong Kong 21st Research Postgraduate Symposium, University Grants Council, Hong Kong (2017)

8. Simon Chi-Chin SHIU, Certificate of Merit on Learning Excellence Outside the University, Centre of Development and Research for Students (CEDARS) HKU, Hong Kong (2017)

9. Simon Chi-Chin SHIU, Travel Grant Scholarship for University of Oxford symposium presentation awarded by Neoventures Biotechnology, Canada (2017)

10. Mei Li KHONG, Exchange Postgraduate Scholarship for New York University, USA (2017)

11. Chandra JINATA, Mary Sun Medical Scholarship Awardee from HSBC Trustee Hong Kong, Hong Kong (2017)

12. Shaolin LIANG, HAX Accelerator Startup Awardee from SOSV Venture Capital, USA (2017)

13. Mei Li KHONG, Oral Presentation Prize - 2nd Runner Up, 21st Research Postgraduate Symposium of the Li Ka Shing Faculty of Medicine (2016)

14. Mei Li KHONG, Top 5 Students Award of the 7th HKU-Pasteur Cell Biology Course (2016)
15. Simon Chi-Chin SHIU, Outstanding Poster Prize, Hong Kong Inter-University Postgraduate Symposium on Biomedical Sciences, The Chinese University of Hong Kong, Hong Kong (2016)
16. Lewis FRASER, Best Poster Presentation Prize, 21st Research Postgraduate Symposium of the Li Ka Shing Faculty of Medicine (2016)
17. Shaolin LIANG, I&E Start! Challenge Runner Up Prize, Imperial College Business School, UK (2016)
18. Shaolin LIANG, MIT HK Innovation Hackathon Runner Up Prize, MIT HK Innovation Node, USA/Hong Kong (2016)
19. Shaolin LIANG, Imperial Venture Capital Catalyst Business Plan Competition Finalist, Imperial Innovations, UK (2016)
20. Shaolin LIANG, AIA Accelerator Programme Fund Awardee, AIA & Nest, Hong Kong (2016)
21. Lewis FRASER, Pre-Doctoral Scholar Visiting Fellowship, Northwestern University, Chicago, USA (2016)
22. Roderick DIRKZWAGER, Selected Delegate for the Global Young Scientists Summit, Singapore (2015)
23. Andrew KINGHORN, Best Oral Presentation, Hong Kong Inter-University Postgraduate Symposium on Life Science, Hong Kong (2015)
24. Lewis FRASER, Exchange Fellow Awardee, Burnet Institute, Melbourne, Australia (2015)
25. Lewis FRASER, Glasgow-HKU Early Career Mobility Fund Awardee, University of Glasgow, UK (2015)
26. Shaolin LIANG, ICAH Project Boost Grant, Imperial College Advanced Hackspace, UK (2015)
27. Roderick DIRKZWAGER, Exchange Fellow Awardee, Burnet Institute, Melbourne, Australia (2014)
28. Roderick DIRKZWAGER, Best Poster Prize Awardee, 5th Hong Kong Inter-University Biochemistry Postgraduate Symposium Medicine (2014)
29. Marco TANG, Best Poster Prize Awardee, 19th Research Postgraduate Symposium of the Li Ka Shing Faculty of Medicine (2014)
30. Roderick DIRKZWAGER, Best Poster Prize Awardee, 17th Research Postgraduate Symposium of the Li Ka Shing Faculty of Medicine (2013)
31. Shaolin LIANG, Imperial-HKU Joint Scholarship Type A Studentship Awardee, HKU and Imperial College London (2013)
32. Roderick DIRKZWAGER, Hong Kong PhD Fellowship (HKPF) Awardee, University Grants Council, Hong Kong (2012)
33. Cecilia Wai-Ling CHAN, Small Project Funding Award, The University of Hong Kong, Hong Kong (2012)
34. Kato SHUM, Johnson & Johnson Asia Outstanding Graduate Thesis Award in Bio-tech, Asia (2011)
35. Kato SHUM, Oligonucleotide Therapeutics Society (OTS) Travel Award, USA (2009)
36. Kato SHUM, Novartis International Biotechnology Leadership Biocamp Awardee, Novartis Pharmaceuticals, USA (2009)
37. Kato SHUM, YS Christabel Lung Postgraduate Scholarship, Hong Kong (2008)
38. Kato SHUM, Mary Sun Medical Scholarship, Hong Kong (2009)
39. Kato SHUM, Wong Ching Yee Medical Postgraduate Scholarship, Hong Kong (2008)
40. Mari KIMURA, University Postgraduate Fellowship Type A Scholarship, Hong Kong (2007)

MMedSc Student Supervision

1. Alvin WONG Wai Chung, School of Biomedical Sciences, The University of Hong Kong; primary supervisor; part-time MMedSc started September 2016, awarded 2018. “Cubane-modified aptamers: enzymatic synthesis and characterization”.

2. Emerald NG Kwok Wai, School of Biomedical Sciences, The University of Hong Kong; primary supervisor; part-time MMedSc started September 2016, *transferred September 2018*.

Undergraduate Project Students Supervised as Capstone Learning Experiences

1. Shukla Yash SANJAYKUMAR, School of Biomedical Sciences, Biochemistry BSc Final Year Project (2019)
2. Aditi DEY POONAM, Medical Engineering Programme Final Year Project (Medical Faculty Supervisor); "Droplet-based microfluidics for screening catalytic DNA aptamers" (2019)
3. Shukla Yash SANJAYKUMAR, Undergraduate Research Fellowship Programme (URFP) Overseas Research Internship at Imperial College London (2018)
4. Yifan DING, School of Biomedical Sciences, Final Year Project BBMS4001; "Optimization of the Aptamer-Tethered Enzyme Capture (APTEC) Assay with Three-Dimensional DNA Nanostructures" (2018)
5. Anson CHAU Kwok-Hei, School of Biomedical Sciences, Directed Studies in Biochemistry BIOC3999; "A Review on Nucleic Acid Aptamers for Targeted Delivery in Cancer Treatment" (2017)
6. Shukla Yash SANJAYKUMAR, School of Biomedical Sciences, Summer Research Fellowship awardee; "Development of an aptamer-mediated sandwich assay for the detection of *Plasmodium falciparum* lactate dehydrogenase" (2016)
7. Charlie LANG Yen-Po, School of Biomedical Sciences, Summer Research Fellowship awardee; "Elucidating human cyclophilin B properties as a polyphosphate binding protein" (2016)
8. Ravneet SARAN, School of Biomedical Sciences, Summer Research Fellowship awardee; "Development of DNA aptamer-bound magnetic microbeads with HRP-mimicking properties" (2016)
9. Seles CHU Wing Tung, School of Biomedical Sciences, Biochemistry Internship BIOC4966; "Editorial Internship at Times Publishing HK" (2016)
10. Thomson PUN Hok Sum, School of Biomedical Sciences, Directed Studies in Biochemistry BIOC3999; "Aptamer Diagnostics for Cancer" (2016)
11. Matthew LI Tsun Fung, School of Biomedical Sciences, Directed Studies in Biochemistry BIOC3999; "Role in inorganic polyphosphate in health and disease" (2016)
12. Andrew TAN Ming Jun, Medical Engineering Programme Final Year Project (Medical Faculty Supervisor); "Droplet-based microfluidics for screening catalytic DNA aptamers" (2016)
13. Alvin WONG Wai Chung, Department of Biochemistry, The University of Hong Kong; Final Year Project BIOC3614; "Expression and characterization of lactate dehydrogenase from the malarial parasite *Plasmodium vivax*" (2015)
14. Tiffany CHAN Ka Ying, Department of Biochemistry, The University of Hong Kong; Final Year Project BIOC3614; "Development of aptamer-binding assays for refined screening of aptamers for malaria diagnosis" (2015)
15. Alvin WONG Wai Chung, Department of Biochemistry, The University of Hong Kong; Summer Research Fellowship awardee; "Development of aptamers for malaria diagnosis" (2014)
16. Gordon SZETO Shek Chung, Department of Biochemistry, The University of Hong Kong; Summer Research Fellowship awardee; "Development of new approaches in identifying polyphosphate-interacting proteins in osteoblasts" (2014)
17. Philipp SANDER, Department of Biochemistry, The University of Hong Kong; exchange undergraduate student research project (parent institution University of Bonn, Germany); "Dimerization of aptamers for malaria diagnosis" (2013)
18. Tep ZHANG Jin Xiao, Department of Biochemistry, The University of Hong Kong; Summer Research Fellowship awardee; "Aptamer-nanoparticle strip biosensor for rapid diagnosis of malaria" (2013)
19. Marco TANG Sze Lok, Department of Biochemistry, The University of Hong Kong; Final Year Project BIOC3614; "Development of fluorescence anisotropy techniques to probe DNA aptamer-mediated molecular recognition" (2013)

20. Eugene LAU Yu Shing, Department of Biochemistry, the University of Hong Kong; Directed Studies BIOC2616; "RNA interference: structural perspectives and therapeutic applications" (2012)
21. Inger Ødum NIELSEN, Department of Biochemistry, the University of Hong Kong; Directed Studies BIOC2616; "Developments in nucleic acid aptamer technology" (2011)
22. Daniel WAN Jia Shu, Department of Biochemistry, the University of Hong Kong; Directed Studies BIOC2616; "Anti-HIV Drug Development" (2011)
23. Sybil WONG Cheuk Ki, Department of Biochemistry, The University of Hong Kong; Final Year Project BIOC3614; "Characterisation of *Mycobacterium tuberculosis* polyphosphate kinase 2 using microcalorimetric techniques" (2010)
24. Marla WANG Nuo; Department of Biochemistry, The University of Hong Kong; Directed Studies BIOC2616; "Structural Analysis of a High-Affinity Tetracycline Aptamer by Molecular Dynamics" (2009)
25. Alvin YEUNG Pok; Department of Biochemistry, The University of Hong Kong; Final Year Project BIOC3614; "Comparative characterization of *Mycobacterium tuberculosis* polyphosphate kinases 1 and 2" (2007)
26. Kato SHUM, Department of Biochemistry, The University of Hong Kong; Final Year Project BIOC3614; "Enzymology of *Mycobacterium tuberculosis* polyphosphate kinase 2" (2006)

Undergraduate Collaborative Multidisciplinary Research Team Mentorship

1. The University of Hong Kong iGEM team 2018. Primary Instructor. "ETHERNO: *E. coli*-synthesized therapeutic nanostructures' Student leader Janice Hiu Ching LAW. *Awarded Gold Medal at iGEM 2018 and Nominee of "Best Part Collection" in Boston Massachusetts, USA* (2018)
2. Yeung, H.T & Man, M.P.H., "Super-resolution imaging technologies in the study of mitochondrial proteins" Journal of Young Investigators, **35(4)**, 67-76 (2018) *Mentor of published student coursework in Essential Proteomics course.*
3. The University of Hong Kong iGEM team 2017. Primary Instructor. "Disease diagnosis using 3D functional DNA nanostructures produced *in vivo*" Student leader Yash SHUKLA. *Awarded Bronze Medal at iGEM 2017 in Boston, Massachusetts, USA* (2017)
4. The University of Hong Kong iGEM team 2016. Primary Instructor. "*In vivo* synthesis of DNA nanostructures for disease diagnosis through miRNA-induced structural transformation". Student leader LAI Hei Wai. *Awarded Silver Medal at iGEM 2016 in Boston, Massachusetts, USA* (2016)
5. Cheng, C.W.H., Chung, M.W.H. & Ng, J.C.F. "Structural Dynamics of Amyloid-β Aggregation in Alzheimer's Disease: Computational and Experimental Approaches" *Journal of Young Investigators,* **31(6),** 44-50 (2016) *Mentor of published student coursework in Essential Proteomics course.*
6. The University of Hong Kong iGEM team 2015. Primary Instructor. "Controllable cell death and DNA degradation by CRISPR CAS system". Student leader Jeremy Ruey Lin JAHN. (2015)
7. The University of Hong Kong iGEM team 2014. Primary Instructor. "Hypericosahedron". Student leader LAI Hei Ming. *Awarded Silver Medal at iGEM 2014 in Boston, Massachusetts, USA* (2014)
8. The University of Hong Kong iGEM team 2013. Primary Instructor. "*E. capsi*: Reducing phosphate pollution using engineered *E. coli* that harvests polyphosphate". Student leader Shannon MA Tsz Shan. *Awarded Silver Medal at iGEM at Regional Jamboree: Asia* (2013)

Prizes, Awards and Grants for Teaching Achievement

1. Outstanding Teacher Award (OTA) Team award. University of Hong Kong Teaching Excellence Awards 2018. Professor Gray M. Kochhar-Lindgren (Leader) of the Common Core Office, Professor Gina Marchetti of the Faculty of Arts, Mr. Mathew R. Pryor of the Faculty of Architecture and **Dr. Julian A. Tanner** of the LKS Faculty of Medicine for Transdisciplinarity in Action: Creating Multiscalar Teaching and Learning Platforms in the Common Core (2018)

2. Teaching Development Grant (TDG) Award 2018: "A student-led transdisciplinary team project (TTP) to bridge the MBBS enrichment year and the common core curriculum: development, delivery and evaluation" $242,550. 1/4/2018-31/7/2019. Role on grant: PI. Status: *ongoing* (2018)

3. UGC Funding Scheme for Teaching and Learning Related Proposals 2016-19 Triennium. "Developing Active Learning Pedagogies and Mobile Applications in University STEM Education" $15,000,000. 1/9/2017-31/8/2020. Role on grant: CoI. Status: *ongoing* (2017)

4. Teaching Development Grant (TDG) Award 2017: "Are we doing enough for students in lecture halls? Enhancing student engagement in large lecture halls at HKU" $250,000. 1/8/2017-31/7/2018. Role on grant: CoI. Status: *ongoing* (2017)

5. Bronze Winner in Discipline Award (Life Sciences) in Reimagine Education Awards by Quacquarelli Symonds (QS) as member of multidisciplinary team led by Dr. Lap Ki Chan (2016)

6. Outstanding Teacher Award (OTA), The University of Hong Kong Teaching Excellence Award Scheme (TEAS) (2015)

7. Teaching Development Grant (TDG) Award 2015: "Integration of Collaborative Learning into Biomedical Sciences Examinations" $164,432. 1/10/2015-30/9/2016. Role on grant: PI. Status: *completed* (2015)

8. Best Poster in Education Prize at 40th FEBS Congress, Berlin, Germany for paper: "**Tanner, J.A.** Developing scientific writing and integrating feedback for undergraduate biomedical students through mimicking the professional journal article review process." (2015)

9. Finalist Prize in Oral Free Communication Session at 12th Asia Pacific Medical Education Conference, Singapore for paper: "Wong, G.T.C., Jenkins, C.R., Tsang, J.W.H., Chen, J.Y., Chan, L.C. & **Tanner, J.A.** Use of film to build student empathy and enable reflective thought in a new Medical Humanities programme embedded within the undergraduate MBBS curriculum." (2015)

10. UC Berkeley Visiting Scholar Award, Centre for Studies in Higher Education at University of California Berkeley, USA (2012)

11. Teaching Development Grant (TDG) Award, 4-Year Undergraduate Curriculum Reform 2012: "Promoting Deep Learning in First Year Biochemistry Education under the New 4-Year Curriculum" HK$200,000. 1/8/2012-1/10/2013. Role on grant: PI. Status: *completed* (2012)

12. University of Hong Kong Faculty of Medicine Teaching Medal (2011)

13. Common Core Teaching Development Grant (CC TDG) Award, 4-year Undergraduate Curriculum Reform 2009: "Understanding Life in an Age of Synthetic Biology" HK$99,880. 1/2/2010-30/11/2011. Role on grant: PI. Status: *completed* (2010)

Peer-Reviewed Pedagogical Journal Publications

1. Chan, L.K., Ganotice, F. Jr, Wong, F.K.Y, Lau, C.S., Bridges, S.M., Chan, C.H.Y., Chan, N., Chan, P.W.L., Chen, H.Y., Chen, J.Y., Chu, J.K.P., Ho, C.C., Ho, J.M.C., Lam, T.P., Lam, V.S.F., Li, Q., Shen, J.G., **Tanner, J.A.**, Tso, W.W.Y., Wong, A.K.C., Wong, G.T.C., Wong, J.Y.H., Wong, N.S., Worsley A., Yu, L.K., Yum, T.P. Implementation of an interprofessional team-based learning program involving seven undergraduate health and social care programs from two universities, and students' evaluation of their readiness for interprofessional learning. ***BMC Med Educ*****,** 17(1), 221 (2017)

2. Bevan, S.J., Chan, C.W.L. & **Tanner, J.A.** Diverse assessment and active student engagement sustain deep learning: a comparative study of outcomes in two parallel introductory biochemistry courses. ***Biochem Mol Biol Edu***, **42(6)**, 474-479 (2014)

Peer-Reviewed Pedagogical Conference Papers (International)

See Supplementary Appendix D

Peer-Reviewed Pedagogical Conference Papers (Regional/Local)

See Supplementary Appendix E

Knowledge Exchange

1. Press conference "HKU and Imperial College Develop the First Robotic Aptamer-based Platform for Hormone Pulsatility Measurement, Enabling Better Diagnosis of Reproductive Disorders" for *Nature Communications* paper (Feb 2019). *Overall impact - coverage in 8 local newspapers and 27 international news sources. >$400k total ad value by KE office calculations*
2. Major impact on local industry in aptamer-related spinoff startups in Pearl River Delta – see ZioHealth letter in Summary Table (2015-)
3. Member, Scientific Advisory Board, ZiO Health Limited, a startup company in Shenzhen and UK (2018-)
4. Member, Scientific Advisory Board, Ilumi Health Limited, a startup company at the Hong Kong Science Park (2016-2018)
5. Inventor of ten patent families (see research section above for details)
6. Invited Speaker, Hong Kong Nerd Nite, "DNA nanotech will change your life", Hong Kong (2018)
7. Invited Speaker, iGEM Hong Kong Universities and Secondary Schools Teams Meetup, University of Hong Kong (2017)
8. Invited Speaker, Connecting Learning Initiative: "Science, innovation and entrepreneurship in healthcare: Hong Kong and global perspectives", Chinese International School (2016)
9. Lecture, "Synthetic Biology and its Impact on Society", Harvard College in Asia Exchange Programme (2015)
10. Collaboration and Formal Non-Disclosure Agreement with Swiss non-profit company CSEM, Centre Suisse d' Electronique et de Microtechnique for development of malaria diagnostics (2012)
11. Advisor, medical/scientific careers, Chinese International School, Hong Kong (2009-2016)
12. Advisor, medical/scientific careers, German-Swiss International School, Hong Kong (2009-2014)
13. Scientific advisor and quoted expert opinion for article on DNA chips, South China Morning Post (2011)
14. Co-ordinator of 3-day workshop for secondary school students, "The HKU Biomedical Sciences Experience" (2012)
15. Lecture, "Wonders of Biochemistry" to 120 secondary school students as contribution to HKU Medical Summer Broadening Programme (2011)
16. Representative for HKU at Government/Public Consultation, Hong Kong Review of Water Quality Objectives (2009)

Service/Administration

Service – International as Reviewer for Journals
* Publons Peer Review Profile: https://publons.com/author/1184839/julian-a-tanner#profile,
"Publons Top 1% of Reviewers for Biology & Biochemistry" (2018)
"Publons Top 1% of Reviewers for Multidisciplinary Science" (2017)

1. *Methods (2019)*
2. *International Journal of Biological Macromolecules (2019)*
3. *Journal of Physical Chemistry,* ad hoc reviewer (2018a, 2018b)
4. ***ACS Nano,* ad hoc reviewer (2018)**
5. *The Journal of Physical Chemistry (2018)*
6. *Biomicrofluidics (2019, 2018)*
7. *Aptamers,* ad hoc reviewer (2018)
8. *Biochimica et Biophysica Acta General Subjects,* ad hoc reviewer (2018a, 2018b)
9. *Pharmaceuticals,* ad hoc reviewer (2018a, 2018b, 2018c, 2018d)
10. *Molecules,* ad hoc reviewer (2018)
11. *Malaria Journal,* ad hoc reviewer (2018)
12. ***ACS Applied Materials & Interfaces,* ad hoc reviewer (2018, 2017)**
13. *Analytical Methods,* ad hoc reviewer (2017)
14. *Journal of Structural Biology,* ad hoc reviewer (2017)
15. *Cancers,* ad hoc reviewer (2017)
16. *Molecules,* ad hoc reviewer (2018, 2017)
17. *ACS Omega,* ad hoc reviewer (2017)
18. ***ACS Sensors,* ad hoc reviewer (2018a, 2018b, 2018c, 2017)**
19. *Bioconjugate Chemistry,* ad hoc reviewer (2018, 2017)
20. *Organic and Biomolecular Chemistry,* ad hoc reviewer (2018, 2017)
21. ***Journal of the American Chemical Society,* ad hoc reviewer (2017)**
22. ***Small,* ad hoc reviewer (2017)**
23. *Organic and Biomolecular Chemistry* (2017)
24. *International Journal of Biological Macromolecules*, ad hoc reviewer (2017)
25. *Analyst,* ad hoc reviewer (2018, 2017)
26. *Biomedicines,* ad hoc reviewer (2017)
27. *Biotechnology Journal,* ad hoc reviewer (2017)
28. *Journal of Investigative Medicine,* ad hoc reviewer (2017)
29. *Molecular Neurobiology,* ad hoc reviewer (2017)
30. *Biochimie,* ad hoc reviewer (2018a, 2018b, 2018c, 2017a, 2017b, 2017c, 2017d, 2017e)
31. *Wiki Journal of Medicine*, ad hoc reviewer (2017)
32. ***Nucleic Acids Research,* ad hoc reviewer (2017, 2016a, 2016b, 2016c, 2016d, 2015)**
33. ***Analytical Chemistry,* ad hoc reviewer (2018, 2017, 2016a, 2016b, 2016c)**
34. *Sensors and Actuators B: Chemical,* ad hoc reviewer (2017a, 2017b, 2016)
35. *Biomacromolecules,* ad hoc reviewer (2016)
36. *Biotechnology Advances,* ad hoc reviewer (2018a, 2018b, 2018c, 2016)
37. *Biomedicines,* ad hoc reviewer (2016)
38. *Acta Tropica,* ad hoc reviewer (2016)
39. *Analytical Biochemistry,* ad hoc reviewer (2019, 2018a, 2018b, 2016, 2015)
40. *PLoS One,* ad hoc reviewer (2018, 2016, 2015a, 2015b, 2014a, 2014b, 2013a, 2013b, 2013c, 2012, 2011, 2010)
41. *Molecular Biotechnology,* ad hoc reviewer (2016a, 2016b, 2014)
42. *Mini-Reviews in Medicinal Chemistry,* ad hoc reviewer (2015)
43. *Marine Drugs,* ad hoc reviewer (2015)
44. *Royal Society of Chemistry Advances,* ad hoc reviewer (2014)
45. ***Cell Research,* ad hoc reviewer (2014)**
46. *Protein Science,* ad hoc reviewer (2014)
47. *International Journal of Molecular Sciences,* ad hoc reviewer (2014a, 2014b)
48. *Physical Chemistry Chemical Physics,* ad hoc reviewer (2014)
49. ***Cell Chemical Biology,* ad hoc reviewer (2014)**
50. ***ACS Chemical Biology,* ad hoc reviewer (2013)**

51. *European Journal of Clinical Microbiology & Infectious Diseases,* ad hoc reviewer (2013)
52. *BMC Infectious Diseases,* ad hoc reviewer (2013)
53. *Clinica Chimica Acta,* ad hoc reviewer (2012)
54. *BMC Microbiology,* ad hoc reviewer (2012)
55. *Antiviral Chemistry & Chemotherapy*, ad hoc reviewer (2012)
56. *Current Chemical Biology,* ad hoc reviewer (2012)
57. *Pharmaceuticals,* ad hoc reviewer (2018a, 2018b, 2016a, 2016b, 2014)
58. *Current Medicinal Chemistry*, ad hoc reviewer (2011, 2009)
59. *African Journal of Biotechnology,* ad hoc reviewer (2011)
60. *Peptide Letters,* ad hoc reviewer (2010)
61. *Journal of Nucleic Acids,* ad hoc reviewer (2010)
62. *Journal of Zhejiang University Science – B,* ad hoc reviewer (2010)
63. *International Journal of Peptides,* ad hoc reviewer (2009)

Service – International as Reviewer for International Grants/Chairs/Fellowships

1. External International Grant Reviewer, Collaborative Award in Science, The Wellcome Trust, UK (2018)
2. External International Grant Reviewer, National Science Centre, SONATA Funding Scheme, Poland (2018)
3. External Technology and Business Development Fund Grant Reviewer, Chinese University of Hong Kong, Hong Kong (2018)
4. External International Reviewer for Research Chair Professorship for National Research Foundation of South Africa, South Africa (2017)
5. Continuation Funding of External International Fellowship Reviewer, The Wellcome Trust DBT India Alliance, UK and India (2017)
6. External International Grant Reviewer, Collaborative Award in Science, The Wellcome Trust, UK (2016)
7. External International Grant Reviewer, Technology and Business Development Fund, Chinese University of Hong Kong, Hong Kong (2016)
8. External International Grant Reviewer, Fondazione Cariparo, Italy (2015)
9. External International Grant Reviewer, South Africa National Research Foundation, South Africa (2011)
10. Internal reviewer, HKU Faculty of Medicine RGC GRF grants (2009-)
11. Internal reviewer, HKU Faculty of Medicine Teaching Development Grants (2012-)

Service – International Conference Organization

1. Pacifichem 2020 Hawaii USA, Symposium co-organizer (2020)
2. 5th Oxford Symposium on Aptamers, University of Oxford, Conference Chair (2018)
3. 4th Oxford Symposium on Aptamers, University of Oxford, Scientific Advisory Board (2017)
4. 8th International Symposium on Microchemistry and Microsystems, Member of Organising Committee (2016)
5. Frontiers in Medical and Health Sciences Education Conference "Learning Wellbeing Across the Continuum", Member of Organising Committee (2015)
6. East-West Alliance Global Symposia: MOOCs in Postmodern Asia, Member of Organising Committee (2014)
7. Hong Kong Chemical Biology Symposium, Member of Organising Committee (2009)

Service/Administration – University Level

1. **AoI Convenor, "Scientific and Technological Literacy" of the University of Hong Kong Common Core Curriculum** (2018-)
2. Elected Member, Senate of the University of Hong Kong (2015-2018)
3. AoI Leader, "Scientific and Technological Literacy" of the University of Hong Kong Common Core Curriculum (2016-2018)
4. Disciplinary Committee, Senate Panel, University of Hong Kong (2016-2018)
5. Member, Selection Committee for Associate Director of Common Core Curriculum (2017)
6. Member, Common Core Curriculum (CCC) Committee (2016-)

7. Member, Board of the Faculty of Science (2015-)
8. Member, Science Faculty Teaching and Learning Quality Committee (FTLQC) (2015-2018)

Service/Administration – Faculty Level

1. **Assistant Dean T&L (Biomedical Sciences Curriculum) (2018-)**
2. Co-Programme Director (Bachelor of Biomedical Sciences (2018-)
3. Chief Examiner, Bachelor of Biomedical Sciences (2013-)
4. Co-ordinator, Education Division of Biochemistry (2015-2018)
5. Member, Management Committee of Proteomics & Metabolomics Core Facility (2016-)
6. Member, Selection Committee for LKS Faculty of Medicine Teaching Medal (2013-)
7. Member, Medical Faculty Teaching and Learning Quality Committee (FTLQC) (2012-)
8. Member, Bachelor of Biomedical Sciences (BBiomedSc) Curriculum Committee (2012-)
9. Member, Medical Humanities Planning Group (2012-2017)
10. Faculty Academic Advisor, 25 BBiomedSc students (2012-)

Service/Administration - School / Department Level

1. **Associate Director (Teaching & Learning), School of Biomedical Sciences (2018-)**
2. Member, School BSc (Biochemistry) Programme Sub-Committee (2016-)
3. Member, School Assessment (Undergraduate Programmes) Sub-Committee (2016-2018)
4. Member, School B Med Eng Programme Sub-Committee (2016-2018)
5. Member, School Time-Tabling Sub-Committee (2016-2018)
6. Member, Assistant Professor Selection and Recruitment Committee (2016)
7. Member, Lecturer Selection and Recruitment Committee (2015)
8. Member, Tenure-Track Assistant Professor Selection and Recruitment Committee (2014)
9. Member, Department of Biochemistry Curriculum Committee (2010-2015)
10. Member, Tenure-Track Assistant Professor Selection and Recruitment Committee (2009)
11. Equal Opportunity Advisor, Department of Biochemistry (2009-2015)
12. Member, Committee for the BSc Biochemistry Major (2012-2015)
13. Manager of the Protein Analysis Facility (2009-2017)

Service/Administration - Thesis Examination Committees

See Supplementary Appendix F

Service/Administration – Evidence of Continuing Professional Development

1. Leadership Skills for Engineering and Science Faculty, Massachusetts Institute of Technology (MIT) Professional Education, Cambridge, USA (2018)
2. Chinese (Mandarin) HSK (Level IV) Upper Intermediate pass (2017)
3. Fundamentals in Leadership and Management in Education (FLAME) two-day residential course, Singapore (2015)

References available on request
Julian A. Tanner
February 2019

Supplementary Appendix A

1.3.1 Peer-reviewed Conference Papers - International
(listed in Supplementary Appendix A)

1. Shiu, S.C.C. & **Tanner, J.A.** Integration of aptamers with DNA nanostructures for dynamic sensing and diagnosis. Osaka-HKU 2nd Joint Symposium on Materials Research – Diverse Aspects of Future Chemistry, Osaka University, Osaka, **Japan** (2018)
2. Guo, W., Tang, M., Kinghorn, A.D., **Tanner, J.A.,** Shum, A. Droplet Microfluidics for RNA fluorogenic aptamer screening. MNMC EMBS Micro and Nanotechnology in Medicine Conference, Koloa, Hawaii, **USA** (2018)
3. Miranda, G.F., Feng, L., Shiu, S.C.C., Dirkzwager, R.M., Cheung, Y.W., **Tanner, J.A.,** Schoning, M.J., Offenhausser, A., & Mayer, D. Aptamer-based electrochemical biosensor for highly sensitive and selective malaria detection with adjustable dynamic response range and reusability. 11th International Workshop on Impedance Spectroscopy, Chemnitz, **Germany** (2018)
4. Khong, M.L., Li, L., Solesio, M.E.T., Pavlov, E. & **Tanner, J.A.** Polyphosphate: a fundamental regulator of protein folding in human osteoblasts. The 43rd FEBS Congress, Prague, **Czech Republic** (2018)
5. **Tanner, J.A.** Aptamer-based Biosensing: Challenges and Opportunities. Biosensors 2018 29th World Congress, Miami, Florida, **USA** (2018)
6. Liang, S., Kinghorn, A., Dhillo, W., Cass, A.E.G. & **Tanner, J.A.** Continuous flow electrochemical sensing systems for monitoring luteinizing hormone pulsatility by oligonucleotide aptamer structure switching. Oligo 2018: Antisense & Therapeutic Nucleic Acids, Oxford University, **United Kingdom** (2018)
7. Liang, S., Kinghorn, A., Dhillo, W., Cass, A.E.G. & **Tanner, J.A.** Automated electrochemical sensing system for monitoring luteinizing hormone pulsatility. Aptamers 2018, 5th Oxford Symposium on Aptamers, Oxford University, **United Kingdom** (2018)
8. Cheung, Y.W., Wong, A.W.C., Rothlisberger, P., Hollenstein, M. & **Tanner, J.A**. Aptamer selection using exotic nucleic acid for targeting Plasmodium falciparum lactate dehydrogenase. Aptamers 2018, 5th Oxford Symposium on Aptamers, Oxford University, **United Kingdom** (2018)
9. Shiu, S.C.C. & **Tanner, J.A.** Aptamers in DNA nanostructures: tweezers, boxes and lattices. Global Young Scientists Summit 2018, **Singapore** (2018) (*selected for award oral presentation by National Research Foundation, Singapore)*
10. Shiu, S.C.C., Cheung, Y.W., Liang, S., Kinghorn, A.B., Fraser, L.A., Tang, M.S.L., & **Tanner, J.A.** Aptamers integrated in nucleic acid nanostructure scaffolds for malaria diagnosis. DNA topoisomerases and DNA topology LS^2 Satellite Meeting, Les Diablerets, **Switzerland** (2017)
11. Shiu, S.C.C., Tang, M.S.L., Dirkzwager, R.M., Liang, S., Kinghorn, A.B., Cheung, Y.W., Fraser, L.A., Godonoga, M., Heddle, J.G. & **Tanner, J.A.** Aptamer functionalized DNA origami for protein detection. DNA topoisomerases and DNA topology EMBO Workshop, Les Diablerets, **Switzerland** (2017)
12. Figueroa, M.G., Feng, L., Shiu, S.C.C., Dirkzwager, R.M., Cheung, Y.W., **Tanner, J.A.**, Schoning, M.J., Offenhauser A. & Mayer, D. Aptamer-based electrochemical biosensor for highly sensitive and selective malaria detection with adjustable dynamic response range and reusability. Engineering of Functional Interfaces (EnFI) 2017, University of Marburg, **Germany** (2017)
13. Kinghorn, A.B., Liang, S., Cheung, Y.W., Fraser, L.A., Shiu, S.C.C. & **Tanner, J.A.** Aptamer affinity maturation by resampling of aptamer libraries based on an aptamer family consensus motif. Aptamers in Bordeaux, Bordeaux, **France** (2017)
14. Khong, M.L., Li, L., Lang, C.Y.P. & **Tanner, J.A.** Inorganic polyphosphate – a mediator of protein folding in osteoblasts via interaction with cyclophilin B. *FASEB J* **31(1)**, 604.5 American Society for Biochemistry and Molecular Biology (ASBMB) Annual Meeting, Chicago, **USA** (2017)

15. Cheung, Y.W., Shiu, S.C.C., Fraser, L.A., Liang, S., Dirkzwager, R.M., Kinghorn, A.B., Tang, M.S.L. & **Tanner, J.A.** Aptamer-mediated biosensing: from malaria diagnosis to DNA nanostructure dynamics. 5th International Conference on Bio-Sensing Technology, Riva Del Garda, **Italy** (2017)

16. Miranda, G.F., Feng, L., Shiu, S.C.C., Dirkzwager, R.M., **Tanner, J.A.,** Schoning, M.J., Offenhausser, A. & Mayer, D. Aptamer-based electrochemical biosensor for highly sensitive and selective malaria detection. 1st International Symposium for Biomedical Research in Mexico, Berlin, **Germany** (2017)

17. Cheung, Y.W. & **Tanner, J.A.** Development of sandwich aptamer-based lateral flow strip tests for *Plasmodium* specific malaria diagnosis. Aptamers 2017, 4th Oxford Symposium on Aptamers, Oxford University, **United Kingdom** (2017)

18. Shiu, S.C.-C., Cheung, Y.W., Dirkzwager, R.M. Liang, S., Kinghorn, A.B., Fraser, L.A., Tang, M.S.L. & **Tanner, J.A.** A split aptamer can facilitate protein recognition in DNA nanotweezers. Aptamers 2017, 4th Oxford Symposium on Aptamers, Oxford University, **United Kingdom** (2017) *(awarded travel grant award)*

19. Cheung, Y.W., Shiu, S.C.-C., Wong, W.C., Tang, M.S.L., Dirkzwager, R.M., Liang, S., Kinghorn, A.B., Fraser, L.A. & **Tanner, J.A.** From DNA aptamer structure to splitting for use in DNA nanotweezers. Oligo 2017 Oxford: Antisense & Therapeutic Nucleic Acids, Oxford University, **United Kingdom** (2017)

20. Shiu, S.C.-C., Tang, M.S.L., Dirkzwager, R.M., Liang, S., Kinghorn, A.B., Cheung, Y.W., Fraser, L.A., Godonoga, M., Heddle, J.G. & **Tanner, J.A.** Protein driven aptamer toehold switches integrated into DNA origami nanostructures. Oligo 2017 Oxford: Antisense & Therapeutic Nucleic Acids, Oxford University, **United Kingdom** (2017)

21. Lang, C.Y.P., Khong, M.L., Li, L. & **Tanner, J.A.** Elucidating human cyclophilin B properties as a polyphosphate-binding protein. National Collegiate Research Conference, Harvard University, Boston, **USA** (2017)

22. Cheung, Y.W., Dirkzwager, R.M., Fraser, L.A., Richards, J.S. & **Tanner, J.A.** DNA aptamer targeting *Plasmodium falciparum* histidine rich protein 2: Development of aptamer—antibody sandwich assay for malaria rapid diagnosis. International Congress for Tropical Medicine and Malaria, Brisbane, **Australia** (2016)

23. Liang, S., Dhillo, W., Cass, A.E.G. & **Tanner, J.A.** Development of aptamer-based electrochemical sensing system for monitoring luteinizing hormone pulsatility. Aptamers in Bordeaux, Bordeaux, **France** (2016)

24. Shiu, S.C.C., Cheung, Y.W., Dirkzwager, R.M., Liang, S., Kinghorn, A.B., Fraser, L.A., Tang, M.S.L. & **Tanner, J.A.** Aptamer-mediated macromolecular recognition in facilitating DNA tweezer machinery. Aptamers in Bordeaux, Bordeaux, **France** (2016)

25. Cheung, Y.W., Dirkzwager, R.M., Cardoso, J., Wong, A.W.C. & **Tanner, J.A.** An aptamer-based diagnostic test specific for Falciparum malaria. Aptamers in Bordeaux, Bordeaux, **France** (2016)

26. Tang, M.S.L., Godonogo, M., Kinghorn, A.B., Cheung, Y.W., Heddle, J. & **Tanner, J.A.** Aptamer-gated DNA origami nanobox for malaria detection. Aptamers in Bordeaux, Bordeaux, **France** (2016)

27. Tang, M.S.L., Godonoga, M., Kinghorn, A.B., Cheung, Y.W., Heddle, J. & **Tanner, J.A.** Functionalising DNA nanostructures with aptamers for molecular recognition and dynamic response. Oligo 2016 Oxford: Antisense & Therapeutic Nucleic Acids, Oxford University, **United Kingdom** (2016)

28. Liang, S., Dirkzwager, R.M. & **Tanner, J.A.** Rapid prototyping aptamer-enabled malaria diagnostics using three-dimensional printing. Aptamers 2016, 3rd Oxford Symposium on Aptamers, Oxford University, **United Kingdom** (2016)

29. Dirkzwager, R.M., Fraser, L.A., Liang, S., Cheung, Y.W., Kinghorn, A.D., Richards, J.S. & **Tanner, J.A.** DNA aptamers as antibody surrogates for molecular recognition in rapid diagnostic tests for malaria. Molecular Approaches to Malaria, Lorne, **Australia** (2016)

30. Schmidt, C., Schroder, C., **Tanner, J.A.**, Kinghorn, A.D., Schierack, P., Rödiger, S. A multiplex high-throughput screening platform for investigation of buffer-binding conditions for aptamers. Potsdam Days on Bioanalysis, Berlin, **Germany** (2015)

31. Fraser, L.A., Dirkzwager, R.M., Liang, S., Cheung, Y.W., Kinghorn, A.D, Lim, B. & **Tanner, J.A.** 3D printing aptamer based rapid diagnostic tests for the point of care

diagnosis of malaria. Malaria in Melbourne (MiM), Monash University, Melbourne, **Australia** (2015)

32. Khong, M.L., Li, L., Lu, B., Watt, R.M. & **Tanner, J.A.** Determining proteins that specifically bind to polyphosphate in osteoblasts. Inorganic polyphosphate (polyP) physiology, Biochemical Society Hot Topic Event, London, **United Kingdom** (2015)

33. Li, L., Khong, M.L., Mebarek, R., Buchet, R. & **Tanner, J.A.** Long-chain polyphosphate is enriched in mineralized osteoblasts and matrix vesicles. Inorganic polyphosphate (polyP) physiology, Biochemical Society Hot Topic Event, London, **United Kingdom** (2015)

34. Dirkzwager, R.M., Cheung, Y.W., Kinghorn, A.D., Fraser, L.A., Liang, S., Tang, M.S.L., Kotaka, M., Richards, J.S. & **Tanner, J.A.** DNA aptamers for malaria diagnosis – from crystal structure to clinical application. *FEBS J* **282** (Suppl. 1), 344, P36-023 40th FEBS Congress 2015 "The Biochemical Basis of Life", Berlin, **Germany** (2015)

35. Li, L., Khong, M.L., Lu, B., Buchet, R., Watt, R.M. & **Tanner, J.A.** Long-chain inorganic polyphosphate is highly enriched in osteoblastic matrix vesicles. *FEBS J* **282** (Suppl. 1), 101, P08-016 40th FEBS Congress 2015 "The Biochemical Basis of Life", Berlin, **Germany** (2015**)**

36. Kudelko, M.A., Chan, C.C., Yao, Q., Cheah, K.S., **Tanner, J.A.** & Chan, D. Hypertrophic chondrocytes survive ER stress by maintaining glycolysis and mitochondrial membrane polarity. Cartilage Biology and Pathology Gordon-Kenan Research Seminar, Galveston, Texas, **USA** (2015)

37. Dirkzwager, R.M., Richard, J.S. & **Tanner, J.A.** A novel aptamer-based colorimetric test for malaria. 4th International Conference on Bio-Sensing Technology, Lisbon, **Portugal** (2015)

38. Yu, Y.Y. & **Tanner, J.A.** Highly selective DNA oligonucleotide aptamers against aggrecanase ADAMTS5 for degenerative disc disease therapy. Oligo 2015 Oxford: Antisense and Therapeutic Nucleic Acids, Oxford University, **United Kingdom** (2015)

39. Kinghorn, A.B. & **Tanner, J.A.** Aptamer library resampling. 2014 East-West Alliance Global Symposia, Hong Kong (2014)

40. Dirkzwager, R.M., Y.W. Cheung, J.S. Richards & **Tanner, J.A.** Diagnosing malaria using DNA aptamers against *P. falciparum* LDH. Point of Care Diagnostics World Congress, San Diego, **USA** (2014)

41. Yu, Y., Chan, D., Cheah, K.S.E & **Tanner, J.A.** DNA aptamers can discriminate between closely related aggrecanase drug targets for degenerative disc disease therapy. 50th International Conference on Medicinal Chemistry: Interfacing Chemical Biology and Drug Discovery, Rouen, **France** (2014)

42. Gao, W., You, M., **Tanner, J.A.**, Leung, W.K. & Watt, R.M. Development of DNA aptamers against Treponema denticola. *J. Dent Res.* **93**, special issue B, abstract no. 388 International Association for Dental Research (IADR) General Session and Exhibition, Cape Town, **South Africa** (2014)

43. **Tanner, J.A.** DNA aptamer-mediated recognition of malaria diagnostic target Plasmodium lactate dehydrogenase – structure, discrimination and application. 2014 Joint International Symposium: Biomedical Research Across the Continents, Tsinghua University, Beijing, **China** (2014)

44. **Tanner, J.A.** DNA aptamers as new therapeutic agents against sclerostin, ADAMTS-5 and WWP1 ubiquitin ligase. Hong Kong-Australia Symposium on Orthopaedic Related Research and Clinical Applications. **Hong Kong** (2014)

45. **Tanner, J.A.** A discriminatory DNA aptamer for malaria diagnostics from the blind watchmaker. Croucher Advanced Study Institute on Chemical Biology, **Hong Kong** (2013)

46. Yu, Y. & **Tanner, J.A.** A novel aptamer-mediated approach for degenerative disc disease therapy. 9th Pan Pacific Connective Tissue Societies Symposium, **Hong Kong** (2013)

47. **Tanner, J.A.**, Cheung, Y.W., Kwok, J., Law, A.W.L., Albano, D.R.B., Fung, Y.S., Watt, R.M. & Kotaka, M. Towards aptamer-mediated malaria diagnostics: structural insight into discriminatory molecular recognition by a DNA aptamer. Aptamers in Medicine and Perspectives, Naples, **Italy** (2013)

48. **Tanner, J.A.**, Cheung, Y.W., Watt, R.M. & Kotaka, M. Loops, hairpins and flipped bases: a DNA aptamer that discriminates Plasmodium lactate dehydrogenase from the blind watchmaker. 9th Annual Meeting of the Oligonucleotide Therapeutics Society, Naples, **Italy** (2013)

49. Ao, K.L., Wong, S., Shum, K.T., Watt, R.M. & **Tanner, J.A.,** Dissecting the mechanism of how *Mycobacterium tuberculosis* polyphosphate kinase 2 binds to polyphosphate. EMBO 2013, Amsterdam, **The Netherlands** (2013).

50. **Tanner, J.A.** & Tucker, W.O., Discovery and application of DNA aptamers which specifically bind and inhibit WWP1 ubiquitin ligase in the osteoblast. *FEBS J* **280** (Suppl.1) SW03.S15-18, 271 FEBS Congress 2013 "Mechanisms in Biology", St. Petersburg, **Russia** (2013)

51. **Tanner, J.A**., Cheung, Y.W., Dirkzwager, R., Kinghorn, A. & Kotaka, M. Nucleic acid aptamers against Plasmodium lactate dehydrogenase for malaria diagnosis – discovery, characterization, structure and application. *FEBS J* **280** (Suppl.1**)** SW01.W5-30, 87 FEBS Congress 2013 "Mechanisms in Biology", St. Petersburg, **Russia** (2013)

52. **Tanner, J.A.,** Lui, E.L., Ao, K.L., Shum, K.T. & Li, L. Inorganic polyphosphate triggers interleukin 11 production in osteoblasts. *FEBS J* **280** (Suppl.1) SW01.S1-53, 18 FEBS Congress 2013 "Mechanisms in Biology", St. Petersburg, **Russia** (2013)

53. Aznar-Moreno, J.A., Du, Z.Y., Venegas-Caleron, M., Salas, J.J., Chye, M.L., **Tanner, J.A.,** Garces, R. & Martinez-Force, E. Acyl-CoA binding proteins from sunflower seeds. 6th European Symposium on Plant Lipids, Bordeaux, **France** (2013)

54. **Tanner, J.A.** Nucleic acids aptamers for malaria diagnosis – discovery, structure and application. IATI-Biomed Israel 2013, Tel Aviv, **Israel** (2013)

55. Yu, Y.Y. & **Tanner, J.A.** Nucleic acid aptamers against aggrecanases: a novel method for degenerative disc disease therapy. World Biotechnology Congress 2013, Boston, **USA** (2013)

56. Tucker, W.O. & **Tanner, J.A.** DNA Aptamers Selected for the Inhibition of E3 Ubiquitin Ligase WWP1. 8th Annual Meeting of the Oligonucleotide Therapeutics Society, Harvard Medical School, Boston, USA (2012)

57. **Tanner, J.A.,** Kinghorn, A.B., & Cheung, Y.W. Nucleic Acid Aptamers for Sensing Applications – Aptamers for Diagnosing Malaria. EnGENEious, Oxford University, **United Kingdom** (2012)

58. Chan, W.L., Choi, M.Y., Chan, C.C., Chan, D., Yu, S.S., Cheah, K.S. & **Tanner, J.A.** Sedlin and prostaglandin E2 dehydrogenase – interactions and implications for spondyloepiphyseal dysplasia tarda. RE(ACT) Congress, Basel, **Switzerland** (2012)

59. Cheung, Y.W. & **Tanner, J.A.** Aptamers against *P. falciparum* histidine rich protein 2 as a new approach to malaria diagnosis. Croucher Advanced Study Institute (ASI) 'Structure-based screening and design of ligands for protein targets', Chinese University of Hong Kong, **Hong Kong** (2011)

60. Choi, M.Y., Wong, L.L., **Tanner, J.A.** & Watt, R. M. Characterization and mutational analysis of an exopolyphosphatase from *Mycobacterium smegmatis* 25th IADS-SEA Division Annual Scientific Meeting, **Singapore** (2011)

61. Choi, M.Y., Wong,. L.L., Wang, Y., Chen, W.Y., **Tanner, J.A.** & Watt, R.M. Biochemical characterization of Gppa-ppx homologues from *Mycobacterium tuberculosis* 25th IADS-SEA Division Annual Scientific Meeting, **Singapore** (2011)

62. Chan, C.C, Chan, W.L., **Tanner, J.A.,** Chan, D. & Cheah, K.S. Molecular pathogenesis of SEDT: the role of sedlin and its cytoplasmic function. 44th Annual Meeting for the Japanese Society for Developmental Biologists, Okinawa, **Japan** (2011)

63. Zheng B., Lin, Y., Shum, K.T. & **Tanner, J.A.** DNA aptamers binding H5N1 virus nucleoprotein showed antiviral effects., In: Keystone Symposia: Evolving Approaches to Early-Stage Drug Discovery., Snowbird, Utah, **USA** (2011)

64. Lina, L., Lui, E. & **Tanner, J.A.** Inorganic polyphosphate and bone - new roles for an ancient molecule. Procore Collaboration Meeting, University of Lyon, **France** (2011)

65. Lin Y., Siu K.L., **Tanner J.A.** & Zheng B., Antiviral effect of DNA aptamers binding H5N1 virus nucleoprotein., 3rd International Conference on Drug Discovery & Therapy, Dubai, **UAE** (2011)

66. Tucker, W.O. & **Tanner, J.A.** Inhibition of E3 Ubiquitin Ligase WWP1 with Selective DNA Aptamers. 3rd International Conference on Drug Discovery & Therapy, Dubai, **UAE** (2011)

67. Lui, E.L., Li, L. & **Tanner, J.A.** Impact of Extracellular Inorganic Polyphosphate on Osteoblast Proliferation, Differentiation and Apoptosis. International Biotechnology Innovation Conference, Cairo, **Egypt** (2010)

68. Chan, C.W.L., Lau, E., Chan, D., Chu, I., Cheah, K.S.E. & **Tanner, J.A.** Understanding the molecular mechanisms of skeletal dysplasia through proteomics of mutant collagen X protein-expressing chondrocytes. Human Proteome Organization Meeting HUPO2010, Sydney, **Australia** (2010)

69. Shum, K.T., Tucker, W., Chan, C., Leung, C.M., & **Tanner, J.A.** New Approaches to Osteoporosis Therapy with Aptamer-Based Inhibitors. 6th Annual Meeting of the Oligonucleotide Therapeutics Society, Dana Point, Southern California, **USA** (2010)

70. Cheung, Y.W. & **Tanner, J.A.** New avenues to malaria diagnosis – aptamers against *P. falciparum* histidine rich protein 2. FEBS Congress 2010, Gothenburg, **Sweden** (2010)

71. Lin Y., **Tanner J.A.** & Zheng B. In vivo selection and characterization of DNA aptamers against H5N1 virus nucleoprotein, European Congress of Clinical Microbiology and Infectious Diseases. Vienna, **Austria** (2010)

72. Shum, K.T., Chan, C., Leung, C.M. & **Tanner J.A.** G-Quadruplex Aptamers Inhibit Sclerostin for Osteoporosis Therapy. CUHK Croucher Advanced Study Institute "Structure-Based Screening and Design of Ligands for Protein Targets", **Hong Kong** (2009)

73. Cheung, Y.W. & **Tanner J.A.** Aptamers against *P. falciparum* lactate dehydrogenase as a new approach to malaria diagnosis. CUHK Croucher Advanced Study Institute "Structure-Based Screening and Design of Ligands for Protein Targets", **Hong Kong** (2009)

74. Lui, E.L., Shum, K.T., Yeung P., Laiju S., Wang Y., Watt R.M. & **Tanner J.A.** Aptamers Against Polyphosphate Kinase 2 (PPK2) From Mycobacterium Tuberculosis As A Potential Approach Of Novel Anti-Tuberculosis Therapy CUHK Croucher Advanced Study Institute "Structure-Based Screening and Design of Ligands for Protein Targets", **Hong Kong** (2009)

75. **Tanner, J.A.,** Zheng, B., Lin, Y.P., Kimura, M., Lui, E.L.H. & Shum, K.T. Selection, validation and delivery of DNA aptamers against infectious disease targets. 5th Annual Meeting of the Oligonucleotide Therapeutics Society, Fukuoka, **Japan** (2009)

76. Shum, K.T., Chan, C., Leung, C.M. & **Tanner, J.A.** Aptamer-mediated inhibition of sclerostin for osteoporosis therapy. 5th Annual Meeting of the Oligonucleotide Therapeutics Society, Fukuoka, **Japan** (2009)

77. Song Y., Tang L.F., Cheung C.L., Sham P.C., McClurg P., Smith D.K., **Tanner J.A.,** Su A.I., Cheah K.S.E. and Kung A.W.C. Genome-wide haplotype association mapping in mice identifies a genetic variant in CER1 associated with bone mineral density and fracture in southern Chinese women, The American Society of Human Genetics 59th Annual Meeting, Honolulu, Hawaii, **USA** (2009)

78. Chan, W.L., Chan, D., Lee, S., Cheah, K.S.E. & **Tanner, J.A.** Differential Protein Profiling of Stressed Chondrocytes and Skeletal Dysplasia Disease. Human Proteomics Organization (HUPO) meeting, Amsterdam, **The Netherlands** (2008)

79. Chan, C., Leung, M.C.M., Chan, D., Cheah, K.S.E. & **Tanner, J.A.** Periostin interacts with sclerostin and inhibits its antagonistic effect on Wnt signaling. International Bone and Mineral Society (IBMS) Workshop: Bone biology and therapeutics, Davos, **Switzerland** (2008)

80. Shum, K.T., Miller, A.D. & **Tanner, J.A.** In vitro aptamer selection against the SARS Coronavirus Helicase and their intracellular delivery. Oligonucleotide Therapeutics Society Third Annual Meeting, Berlin, **Germany** (2008)

81. Cheah, K.S.E., Chan, C.C.Y., Choi, M.Y., **Tanner, J.A.,** Luk, K.D.K. & Chan, D. Essential dose-dependent requirement for the sedlin component of the Trapp Complex in Development, Cold Spring Harbor, New York, **USA** (2008)

82. **Tanner, J.A.,** Leung, M.C.M., Wong, L.L.Y, Miller, A.D. & Shum, K. New Selection and Delivery Approaches for Nucleic Acid Aptamers against Proteomic Targets. Human Proteomics Organization (HUPO) meeting, Seoul, **South Korea** (2007)

83. Tsintadze, V., Melnik, S., Wright, M., **Tanner, J.A.,** Tsintsazde, A., Miller, A.D. & Lozovaya, N. Diadenosine polyphosphate analogue controls postsynaptic excitation in CA3/CA1 synapses via a nitric oxide (NO)-dependent mechanism. Seventh Meeting of the Gerrman Neuroscience Society, Gottingen, **Germany** (2007)

84. Yang N., **Tanner J.A.,** Huang J., Zheng B. & Sun H., Inhibition of the SARS coronavirus by Bismuth Compounds, 13th International Conference on Biological Inorganic Chemistry (ICBIC-13), Vienna, **Austria** (2007)

85. Melnik, S., Wright, M. **Tanner, J. A.,** Tsintsadze, T., Tsintsadze, V. Miller, A. D. & Lozovayaa N. Diadenosine polyphosphate analogue controls postsynaptic excitation in CA3-CA1 synapses via a nitric oxide (NO)-dependent mechanism 8th International Symposium on Adenosine and Adenine Nucleotides, Florence, **Italy** (2006)

86. Wright, M., Jones, H., **Tanner, J.A.** & Miller, A.D., Interaction of Diadenosine Polyphosphates with GroEL and GroES. Fifth International Workshop on the Molecular Biology of Stress Responses, Concepcion, **Chile** (2006)

87. Choi, M. Y., Chan, C. Y., Chan, D., Luk, K., Cheah, K. S. E. & **Tanner, J. A.** Mechanistic insight into point mutations in sedlin that result in spondyloepiphyseal dysplasia tarda. *FASEB J* , 873.9, Experimental Biology 2006, San Francisco, **USA** (2006)

88. Melnik, S., Wright, M., **Tanner, J.A.,** Tsintadze, T., Tsintadze,. V., Miller, A.D. & Lozovayaa, N. Diadenosine polyphosphate analogue controls postsynaptic excitation in CA3- CA1 synapses via a nitric oxide (NO)-dependent mechanism. Purines 2005, abstract in Purinergic Signaling Vol 2, 1-324, Chieti, **Italy** (2006)

89. Huang, J.D., Zhang, X.M., Chen, B.Y., Ng, A.H., **Tanner, J.A.,** Tay, D., So, K.F., Rachel, R.A., Copeland, N.G. & Jenkins, N.A. Cre-transgenic mouse line for conditional gene knockout in retinal rod bipolar cells. Association for Research in Vision and Opthalmology 2005 Meeting, abstract in *Invest Ophthalmol Vis Sci*, 3111S Laguna Beach, **USA** (2005).

90. **Tanner, J.A.,** Watt, R.M., Kao, R.Y. & Huang, J.D. Targeting the SARS Coronavirus Helicase - Three Approaches to Inhibitor Development. *FASEB J* 19, 217.219, Experimental Biology 2005, San Diego, **USA** (2005)

91. **Tanner, J.A.,** Wright, M. & Miller, A.D. Diadenosine polyphosphate cellomics: Characterising proteins in prokaryotic stress that evolve and involve diadenosine polyphosphates. *Drug Develop Res* 56, 53, Purines and Pyrimdines, London, **United Kingdom** (2002)

92. Sergey, M., Timur, T., Wright, M., **Tanner, J.A.,** Krishtal, O., Miller, A.D. & Lozovaya, N. The role of diadenosine polyphosphates in neurotransmission; Regulation of dendritic excitation in hippocampus by non-hydrolysable diadenosine polyphosphate analogue. *Drug Develop Res* 56, 121, Purines and Pyrimdines, London, **United Kingdom** (2002)

93. Miller, A.D., **Tanner, J.A.,** Hindley, A.D., Mussino, M., Hughes, S.J. & Gould, I.R. Ap_4A as a Signal in the Heat Shock Response: Control of Ap_4A Synthesis by LysU and Interactions with the Chaperonin GroEL. *Drug Develop Res* 50, 46, Purines and Pyrimidines, Madrid, **Spain** (2000)

Supplementary Appendix B

1.3.2 Peer-reviewed Conference Papers - Regional

1. Shiu, S.C.C. & **Tanner, J.A.** Innovative strategies of diagnostics using DNA nanotechnology. 2018 World Life Science Conference, China National Convention Center, Beijing, China (2018) *(awarded travel merit award from China Union of Life Science Societies)*
2. Shiu, S.C.C. & **Tanner, J.A.** Aptamer integrated DNA nanoswitch for heterogeneous recognition. 2017 HKUST-Tsinghua Molecular Architecture Design Form, Hong Kong University of Science & Technology, Hong Kong (2017)
3. Liang, S., Dirkzwager, R.M. & **Tanner, J.A.** 3D rapid prototyping aptamer-based malaria diagnostic device. 1st China Forum on Biosensors, Biochips and Nanobiotechnology (BBN China 2017), Foshan, Guangdong, China (2017)
4. Khong, M.L., Li, L., Solesio, M.E.T., Lang, C.Y.P., Evgeny, P. & **Tanner, J.A.** Polyphosphate: a mediator of protein folding in osteoblasts. 42nd Annual Conference of the Malaysian Society for Biochemistry and Molecular Biology, Kuala Lumpur, Malaysia (2017) *(awarded the YSN-ASM Young Investigator award)*
5. Khong, M.L., Li, L. & **Tanner, J.A.** Inorganic polyphosphate is a fundamental molecule in osteoblasts: from interactions to functions. 41st Annual Conference of the Malaysian Society for Biochemistry & Molecular Biology, Kuala Lumpur, Malaysia (2016)
6. Albano, D.R., Cheung, Y.W., **Tanner, J.A.** & Fung, Y.S. Study of aptamer selection methodologies for developing piezoelectric quartz crystal biosensors to detect microalbuminaria, malaria and SARS biomarkers. 29th Philippine Chemistry Congress, Mandaluyong City, Philippines (2014)
7. Li, L., Lui, E.L.H., Buchet, R., Mebarek, S. & **Tanner, J.A.** Uncovering functions of long-chain polyphosphate in higher eukaryotes – storage and synthesis of polyphosphate in matrix vesicles during mineralization. 9th Pan Pacific Connective Tissue Societies Symposium, Hong Kong (2013)
8. Chan, C.C., Chan, D., **Tanner, J.A.,** Luk, K.D.K & Cheah, K.S.E. Dosage-dependent requirement of sedlin component of the TRAPP complex in mouse embryonic development. 9th Pan Pacific Connective Tissue Societies Symposium, Hong Kong (2013)
9. Albano, D.R.B., **Tanner, J.A.** & Fung, Y.S. Determination of protein biomarkers by microflow injection aptamer-coated piezoelectric quartz crystal biosensor. 14th International Symposium on Electroanalytical Chemistry (14th ISEAC), Changchun, China (2013)
10. **Tanner, J.A.** DNA aptamers for diagnostic applications – structural insight into discriminatory recognition of malaria diagnostic targets. 6th China Medicinal Biotech Forum, Shenzhen, China (2013)
11. Yu, Y.Y. & **Tanner, J.A.** DNA aptamers that inhibit aggrecanase activity for degenerative disc disease and osteoarthritis therapy. 11th CGCM Consortium Meeting, Macau (2012)
12. Albano, D.R.B., **Tanner, J.A.** & Fung, Y.S., An aptamer-based piezoelectric quartz crystal biosensor for SARS coronavirus helicase, 27th Philippines Chemistry Congress, Manila, Philippines (2012)
13. Albano, D.R.B., **Tanner, J.A.** & Fung, Y.S., Aptamer-based piezoelectric quartz crystal biosensor for SARS coronavirus helicase, The 14th Beijing Conference and Exhibition on Instrumental Analysis (BCEIA 2011), China (2011)
14. Shum, K.T., Chan, C. & **Tanner, J.A.** Inhibiting sclerostin with a nucleic acid aptamer as a new approach to osteoporosis therapy. Johnson & Johnson Outstanding Graduate Thesis Award in Bio-tech One-Day Symposium, Shanghai, China (2011)
15. Albano D.R.B., **Tanner, J.A.** & Fung, Y.S. Piezoelectric quartz crystal biosensor for SARS coronavirus helicase based on aptamer. 10th Asia-Pacific International Symposium on Microscale Separation and Analysis, Hong Kong (2010)
16. Lin Y., Shum K.T., **Tanner J.A.** & Zheng B. Study of DNA aptamers binding H5N1 virus nucleoprotein. Thailand Conference on Emerging Infectious and Neglected Diseases. Chonburi, Thailand (2010)

17. Shum, K.T., Leung, C.M., Wong, L.Y., Chan, C.S.L. & **Tanner, J.A.** New Approaches for Therapeutic Aptamer Selection and Delivery. MGH-HKU-Nature China Forum, Hong Kong. (2007)

18. Yang N., **Tanner J.A.,** Huang J., Zheng B. & Sun H., Inhibition of SARS Coronavirus by Bismuth Compounds, 3rd Asian Biological Inorganic Chemistry Conference, Nanjing, P.R. China (2006)

Supplementary Appendix C

1.3.3 Peer-reviewed Conference Papers - Local

1. Shiu, S.C.C. & **Tanner, J.A.** Aptamers in DNA Nanostructures: Tweezers, Boxes, Polygons and Lattices. 23rd Research Postgraduate Symposium. The University of Hong Kong, Hong Kong (2018)
2. Shiu, S.C.C. & **Tanner, J.A.** Innovative Diagnostics with DNA Nanotechnology. School of Biomedical Sciences Research Day, The University of Hong Kong, Hong Kong (2018)
3. Liu, M.P., Yu, Y.Y., Choi, V., Cheung, Y.W. & **Tanner, J.A.** Inhibitory effects of apt21 and apt25 on the enzymatic activity of ADAMTS-5. Hong Kong Inter-University Postgraduate Symposium in Biochemical Sciences 2018, The Hong Kong University of Science and Technology (HKUST), Hong Kong (2018)
4. Jinata, C., Kinghorn, A.B., Cheung, Y.W., & **Tanner, J.A.** Design, optimization, and application of a target-free immobilization DNA aptamer selection approach against fluorophores. Hong Kong Inter-University Postgraduate Symposium in Biochemical Sciences 2018, The Hong Kong University of Science and Technology (HKUST), Hong Kong (2018)
5. Shiu, S.C.C. & **Tanner, J.A.** Biomolecule detection by 2D DNA tile nanostructure formation. Hong Kong Inter-University Postgraduate Symposium in Biochemical Sciences 2018, The Hong Kong University of Science and Technology (HKUST), Hong Kong (2018)
6. Khong, M.L. & **Tanner, J.A.** Polyphosphate mediates protein folding in human osteoblasts. HKU 22nd Research Postgraduate Symposium, Hong Kong (2017) *(awarded Second Runner Up for the Best Oral Presentation Prize)*
7. Fraser, L.A. & **Tanner, J.A.** Development of an instrument-free microfluidic biosensor for malaria diagnosis. HKU 22nd Research Postgraduate Symposium, Hong Kong (2017) *(awarded First Runner Up for the Best Oral Presentation Prize)*
8. Shiu, S.C.C., & **Tanner, J.A.** Target-induced formation of DNA lattices for signal amplification. HKU 22nd Research Postgraduate Symposium, Hong Kong (2017)
9. Jinata, C., Kinghorn, A.B. & **Tanner, J.A.** Optimization of graphene oxide-mediated DNA aptamer selections against fluorophores. HKU 22nd Research Postgraduate Symposium, Hong Kong (2017)
10. Bhuyan, S.L., Kinghorn, A.B., Tang, M.Y.H., Shum, A.S. & **Tanner, J.A.** An efficient droplet-based nucleic acid amplification method for directed evolution of functional nucleic acids. HKU 22nd Research Postgraduate Symposium, Hong Kong (2017)
11. Khong, M.L., Li, L., Solesio, M.E.T., Lang, Y.P., Pavlov, E., & **Tanner, J.A.** Inorganic polyphosphate influences cylcophilin B-mediated protein folding in osteoblasts. Hong Kong Inter-University Postgraduate Symposium in Biochemical Sciences, University of Hong Kong (2017) *(awarded best poster presentation award)*
12. Bhuyan, S.K., Kinghorn, A.B., Tang, M.Y.H., Shum, A. & **Tanner, J.A.** A high throughput approach for discovery of catalytic nucleic acids. Hong Kong Inter-University Postgraduate Symposium in Biochemical Sciences, University of Hong Kong (2017)
13. Shiu, S.C.C., Cheung, Y.W., Liang, S., Kinghorn, A.B., Fraser, L.A., Tang, M.S.L., & **Tanner, J.A.** An aptamer-mediated DNA nano-switch. Hong Kong Inter-University Postgraduate Symposium in Biochemical Sciences, University of Hong Kong (2017)
14. Zhou, N., Zhao, Y.F., Curatolo, A., Tailleur, J., Daerr, A., **Tanner, J.A.** & Huang J.D. Synthetic multicellular systems for spontaneous pattern formation. Hong Kong Inter-University Postgraduate Symposium in Biochemical Sciences, University of Hong Kong (2017)
15. Shiu, S.C.C., Cheung, Y.W., Dirkzwager, R.M., Liang, S.L., Kinghorn, A.B., Fraser, L.A., Tang, M.S.L. & **Tanner, J.A.** DNA tweezer nanomachine mediated by heterogeneous recognition. HKU 21st Research Postgraduate Symposium, Hong Kong (2016)

16. Fraser, L.A., Kinghorn, A.B., Dirkzwager, R.M., Cheung, Y.W., Richards, J. & **Tanner, J.A.** 3D printed microfluidics for point of care malaria diagnostics. HKU 21st Research Postgraduate Symposium, Hong Kong *(awarded best poster prize)* (2016)

17. Khong, M.L., Li, L., Lang, Y.P. & **Tanner, J.A.** Translating polyphosphate-cyclophilin B interaction to an understanding of polyphosphate's role in protein folding. HKU 21st Research Postgraduate Symposium, Hong Kong *(awarded best oral presentation runner-up prize)* (2016)

18. Shiu, S.C.C., Cheung, Y.W., Dirkzwager, R.M., Liang, S., Kinghorn, A.B., Fraser, L.A., Tang, S.L.M. & **Tanner, J.A.** Aptamer-Directed DNA Tweezers. Hong Kong Inter-University Postgraduate Symposium in Biochemical Sciences, Chinese University of Hong Kong, Hong Kong *(awarded best poster prize)* (2016)

19. Khong, M.L., Li, L. & **Tanner, J.A.** Elucidating the Functional Implications of Polyphosphate-protein Interactions. Hong Kong Inter-University Postgraduate Symposium in Biochemical Sciences, Chinese University of Hong Kong, Hong Kong (2016)

20. Tang, M.S.L., Godonoga, M., Kinghorn, A.B., Cheung, Y.W., Heddle, J. & **Tanner, J.A.** Construction and characterization of a three-dimensional nanoscale DNA origami box functionalized by a malaria aptamer. Hong Kong Inter-University Postgraduate Symposium in Biochemical Sciences, Chinese University of Hong Kong, Hong Kong (2016)

21. Kinghorn, A.D. & **Tanner, J.A.** Resampling of aptamer libraries to isolate the highest affinity binders Hong Kong Inter-University Postgraduate Symposium on Life Science 2015, Hong Kong *(awarded best oral presentation prize)* (2015)

22. Dirkzwager, R.M., Cheung, Y.W., Richards, J.S. & **Tanner, J.A.** New technologies for old diseases: the potential of DNA aptamers in point-of-care malaria diagnosis. Hong Kong Inter-University Postgraduate Symposium on Life Science 2015, Hong Kong (2015)

23. Liang, S. & **Tanner, J.A.** Development of an aptasensor for monitoring luteinizing hormone pulsatility – a tool to improve the management of anovulatory subfertility. Hong Kong Inter-University Postgraduate Symposium on Life Science 2015, Hong Kong (2015)

24. Tang, M.S.L., Godonoga, M., Dirkzwager, R., Kinghorn, A.D., Heddle, J.G., & **Tanner, J.A.** Aptamer-functionalized DNA origami: an emerging tool for malaria diagnosis. Hong Kong Inter-University Postgraduate Symposium on v Life Science 2015, Hong Kong (2015)

25. Fraser, L.A., Tang, Y.H., Kinghorn, A.B., Shum, H.C. & **Tanner, J.A.** Enriching catalytic DNA. Hong Kong Inter-University Postgraduate Symposium on Life Science 2015, Hong Kong (2015)

26. Khong, M.L., Li, L., Lu, B., Watt, R.M. & **Tanner, J.A.** Towards demystifying the implications of polyphosphate-protein binding. Hong Kong Inter-University Postgraduate Symposium on Life Science 2015, Hong Kong (2015)

27. Liang, S., Dhillo, W., Cass, T. & **Tanner, J.A.** Development of an aptamer-based biosensing system for measuring luteinizing hormone pulsatility for infertility treatment. HKU 19th Research Postgraduate Symposium, Hong Kong (2014)

28. Khong, M.L., Li, L., Szeto, S.C. & **Tanner, J.A.** Cloning, expression, purification and characterization of Escherichia coli polyphosphate binding domain as a new tool to understanding polyphosphate synthesis and function. HKU 19th Research Postgraduate Symposium, Hong Kong (2014)

29. Fraser, L.A., Dirkzwager, R.M., Liang, S.L. & **Tanner, J.A.** Towards a Universal Aptamer Diagnostics Platform. HKU 19th Research Postgraduate Symposium, Hong Kong (2014)

30. Tang, M.S.L., Godonoga, M., Dirkzwager, R.M., Kinghorn, A.B., Heddle, J.G. & **Tanner, J.A.** DNA origami integrated to aptamer-mediated molecular recognition. HKU 19th Research Postgraduate Symposium, Hong Kong *(awarded best poster presentation prize)* (2014)

31. Dirkzwager, R.M., Cheung, Y.W. & **Tanner, J.A.** A novel aptamer-based enzymatic assay for the diagnosis of malaria. Hong Kong Inter-University Research Postgraduate

Symposium on Life Science, Hong Kong *(awarded best poster presentation prize)* (2014)

32. Liang, S., Dhillo, W., Cass, T.. & **Tanner, J.A.** Development of an aptamer-based biosensing system for measuring luteinizing hormone pulsatility for infertility treatment. Hong Kong Inter-University Research Postgraduate Symposium on Life Science, Hong Kong (2014)

33. Kinghorn, A.B. & **Tanner, J.A.** Aptamer library resampling. Hong Kong Inter-University Research Postgraduate Symposium on Life Science, Hong Kong (2014)

34. Khong, M.L., Li, L. & **Tanner, J.A.** Inorganic polyphosphate as a 'forgotten' molecule in osteoblasts – from synthesis to function. Hong Kong Inter-University Research Postgraduate Symposium on Life Science, Hong Kong (2014)

35. You, M., Gao, W., **Tanner, J.A.**, Leung, W.K. & Watt, R.M. The selection of DNA aptamers against an oral treponeme cell surface protein. Annual Scientific Meeting of the HKU Dental Faculty, Hong Kong (2013)

36. Yu, Y. & **Tanner, J.A.** Discriminatory targeting of ADAMTS aggrecanases for high-specificity therapeutics development for degenerative disc disease. HKU 18th Research Postgraduate Symposium, Hong Kong (2013)

37. Kinghorn, A.B. & **Tanner, J.A.** The genetics of SELEX. Hong Kong Inter-University Biochemistry Postgraduate Symposium, Hong Kong (2013)

38. Dirkzwager, R.M., Cheung, Y.W. & **Tanner, J.A.** The use of aptamer-conjugated nanoparticles in novel malaria diagnosis platforms. Hong Kong Inter-University Biochemistry Postgraduate Symposium, Hong Kong (2013)

39. Ao, K.L., Lui, E.L.H., Li, L., Shum K.T. & **Tanner, J.A.** Polyphosphate regulates interleukin-11 levels of SaOS-2 cells. Hong Kong Inter-University Biochemistry Postgraduate Symposium, Hong Kong (2013)

40. Dirkzwager, R.M., Cheung, Y.W. & **Tanner, J.A.** Exploiting aptamer binding properties as a novel diagnostic technology for malaria. HKU 18th Research Postgraduate Symposium, Hong Kong *(awarded best poster presentation prize)* (2013)

41. Chan, C.W.L., Choi, M.Y., Chan, C., Zong, M., Yu, S., Chan, D., Cheah, K.S.E. & **Tanner, J. A.** Different Mutations in Sedlin Cause X-Linked Spondyloepiphyseal Dysplasia Tarda via Two Distinct Mechanisms: Protein Misfolding and Protein-Protein Interaction Abrogation. Hong Kong Society for Developmental Biology Symposium "From Embryology to Disease Mechanisms", Hong Kong (2012)

42. Chan C.C.Y., **Tanner J.A.,** Chan D., Luk K.D.K. & Cheah K.S.E. Dosage-dependent requirement of Sedlin and Sedlin-like proteins in mouse yolk-sac visceral endoderm and embryo development. Hong Kong Society for Developmental Biology Symposium "From Embryology to Disease Mechanisms", Hong Kong (2012)

43. Yu, Y., Chan, C., Shum, K.T. & **Tanner, J. A.** Selection of Nucleic Acid Aptamers against Sclerostin and Aggrecanase for Skeletal Disease Therapeutics. Hong Kong Society for Developmental Biology Symposium "From Embryology to Disease Mechanisms", Hong Kong (2012)

44. Kinghorn, A.B. & **Tanner, J.A.** SELEX in Silico. HKU 17th Research Postgraduate symposium, Hong Kong (2012)

45. Ao, C.K.L., Shum, K.T. & **Tanner, J.A.** Investigation of the Protein/Polyphosphate Binding Interface: Mutational Studies on Mycobacterium tuberculosis Polyphosphate Kinase 2 (PPK2). HKU 17th Research Postgraduate symposium, Hong Kong (2012)

46. Yu, Y.Y. & **Tanner, J.A.** Aggrecanase expression, refolding, purification and characterization as a foundation for tailored differential SELEX. HKU 17th Research Postgraduate symposium, Hong Kong (2012)

47. Tucker, W.O. & **Tanner, J.A.** E3 Ubiquitin Ligase WWP1 – An Intracellular Target for Aptameric Inhibition. HKU 17th Research Postgraduate symposium, Hong Kong (2012)

48. Tucker, W.O. & **Tanner, J.A.** DNA aptamers as inhibitors of E3 ubiquitin ligase WWP1. Hong Kong Inter-University Biochemistry Postgraduate Symposium, Hong Kong (2012)

49. Ao, C.K.L., Shum, K.T. & **Tanner, J.A.** Dissecting the mechanism of binding between polyphosphate and polyphosphate kinase 2. Hong Kong Inter-University Biochemistry Postgraduate Symposium, Hong Kong (2012)

50. Yu, Y.Y. & **Tanner, J.A.** Developing a new approach to degenerative disc disease therapy: DNA aptamers to inhibit aggrecanases. Hong Kong Inter-University Biochemistry Postgraduate Symposium, Hong Kong (2012)

51. Tucker, W.O. & **Tanner, J.A.** The Development of Therapeutic DNA Aptamers against Various E3 Ubiquitin Ligase WWP1 Truncations. HKU 16th Research Postgraduate symposium, Hong Kong (2011)

52. Cheung, Y.W. & **Tanner, J.A.** Detection of *Plasmodium falciparum* Lactate Dehydrogenase by Aptamer-Nanoparticle Conjugates. HKU 16th Research Postgraduate symposium, Hong Kong (2011)

53. Yu, Y.Y., Chan, D. & **Tanner, J.A.** Nucleic acid aptamers against ADAMTS as a new therapeutic approach against degenerative disc disease. Hong Kong Inter-University Biochemistry Postgraduate Symposium, Hong Kong (2011)

54. Cheung, Y.W. & **Tanner, J.A.** Development of nucleic acid aptamers against *Plasmodium falciparum* lactate dehydrogenase for improving the diagnosis of malaria. Hong Kong Inter-University Biochemistry Postgraduate Symposium, Hong Kong (2011)

55. Tucker, W.O. & **Tanner, J.A.** DNA aptamer selection and cellular delivery for the inhibition of E3 ubiquitin ligase WWP1. Hong Kong Inter-University Biochemistry Postgraduate Symposium, Hong Kong (2011)

56. Tucker, W.O. & **Tanner, J.A.** Inhibition of E3 Ubiquitin Ligase WWP1 with SELEX Generated DNA Aptamers. HKU 15th Research Postgraduate symposium, Hong Kong (2010)

57. Lui, E.L., Li, L. & **Tanner, J.A.** Inorganic Polyphosphate and its Impact on Osteoblast Function, Signaling and Gene Expression. HKU 15th Research Postgraduate symposium, Hong Kong (2010)

58. Lui, L.H.E., Li, L. & **Tanner, J.A.** Impact of Extracellular Inorganic Polyphosphate on Osteoblast Proliferation, Differentiation and Apoptosis. 2010 Hong Kong Inter-University Biochemistry Postgraduate Symposium, Hong Kong (2010)

59. Shum, K.T., Lui, L.H.E., Sam, L., Wang, Y., Watt, R.M. & **Tanner, J.A.** Aptamer-mediated inhibition of *Mycobacterium tuberculosis* polyphosphate kinase 2. 2010 Hong Kong Inter-University Biochemistry Postgraduate Symposium, Hong Kong (2010)

60. Tucker, W. & **Tanner, J.A.** Aptameric Inhibition of E3 Ubiquitin Ligase WWP1 for Osteoporosis Therapy. 2010 Hong Kong Inter-University Biochemistry Postgraduate Symposium, Hong Kong (2010)

61. Albano D.R.B., **Tanner, J.A.** & Fung, Y.S. Aptamer-based piezoelectric quartz crystal biosensor for the SARS coronavirus helicase. 17th Symposium on Chemistry Postgraduate Research, Polytechnic University of Hong Kong, Hong Kong (2010)

62. Cheung, Y.W., & **Tanner, J.A.** An Improved Method for Malaria Detection – an Aptamer Approach. HKU 14th Research Postgraduate Symposium, Hong Kong (2009)

63. Shum, K.T., Chan, C., Leung, C.M. & **Tanner, J.A.** Aptamer-based Inhibitor of Sclerostin for Osteoporosis Therapy. HKU 14th Research Postgraduate Symposium, Hong Kong (2009)

64. Lin, Y.P., Shum, K.T., Zhang, N.R., Chow, H.T., **Tanner, J.A.** & Zheng, B.J. In vitro selection and characterization of DNA aptamers against H5N1 Virus Nucleoprotein HKU 14th Research Postgraduate Symposium, Hong Kong (2009)

65. Lui, E.L., Shum, K.T. & **Tanner, J.A.** Effect of inorganic polyphosphate on higher eukaryotic cells. HKU 14th Research Postgraduate Symposium, Hong Kong (2009)

66. Shum, K.T. & **Tanner, J.A.** Aptamer-mediated Inhibition of *Mycobacterium tuberculosis* Polyphosphate Kinase 2. Hong Kong Chemical Biology Symposium 2009, Hong Kong (2009)

67. Cheung, Y.W., Shum, K.T., Yeung, P. & **Tanner, J. A.** Pursuing new avenues to tuberculosis therapy - characterization and validation of new molecular targets. Hong Kong Health Research Symposium, Hong Kong (2008)

68. Lin, Y.P., Shum, K.T., **Tanner, J.A. &** Zheng, B.J. In vitro selection of DNA aptamers binding H5N1 Virus nucleoprotein. HKU 13th Research Postgraduate Symposium (2008)

69. Kimura, M. & **Tanner, J.A.** Delivery of SCV helicase aptamers using cationic lipidic systems. HKU 13th Research Postgraduate Symposium, Hong Kong (2008)

70. Shum, K.T. & **Tanner, J.A.** Targeting the polyphosphate kinase 2 with aptamer-based inhibitors as an approach to tuberculosis therapy. HKU 13th Research Postgraduate Symposium, Hong Kong (2008)

71. Shum, K. & **Tanner, J.A.** Selection and delivery of aptamers against the SARS coronavirus helicase HKU 12th Research Postgraduate Symposium, Hong Kong (2007)

72. Chan, C., Leung, M.C.M., Chan, D., Cheah, K.S.E & **Tanner, J.A.** Purification and Identification of Sclerostin Interacting Partners: Steps towards Osteoporosis Therapy with Aptamer-based Inhibitors HKU 12th Research Postgraduate Symposium, Hong Kong (2007)

73. Choi, M.Y., Chan, C., Chan, D., Luk, K.D.K., Cheah, K.S.E. & **Tanner, J.A.** Correlating protein structure with disease – understanding the mechanism of SEDT. HKU 12th Research Postgraduate Symposium, Hong Kong (2007)

74. Chan, W.L., Chan, D., Lee, S., Cheah, K.S.E. & **Tanner, J.A.** The proteomics of protein misfolding in chondrocytes. HKU 12th Research Postgraduate Symposium, Hong Kong (2007)

75. Lee, B.B.C., Chan, C.S.L., Chan, D., Cheah, K.S.E., Tung, L.F., Song, Y. & **Tanner, J.A.** Understanding how polymorphisms in Cerberus-like result in low Bone Mineral Density, 12th Research Postgraduate Symposium, Hong Kong (2007)

76. Shum, K. & **Tanner, J.A.** In vitro aptamer selection against the SARS coronavirus Helicase. Annual Symposium of the Hong Kong Proteomics Society, Hong Kong (2007)

77. Chan, W.L., Chan, D., Lee, S., Cheah, K.S.E, & **Tanner, J.A.** A proteomic approach to study the molecular mechanisms of the unfolded protein response in the endoplasmic reticulum of chondrocytes. Annual Symposium of the Hong Kong Proteomics Society, Hong Kong (2007)

78. Shum, K.T. & **Tanner, J.A.** New approaches for therapeutic aptamer selection and delivery. Annual Symposium of the Hong Kong Proteomics Society, Hong Kong (2007)

79. Lee, B.B., Chan, C.S.L., Chan, D., Cheah, K.S.E., Tung, L.F., Song, Y.Q. & **Tanner, J. A.** Functional study of Cerberus-like and Noggin proteins: Toward a biochemical understanding of BMP antagonists in skeletal disorders. 11th Research Postgraduate Symposium, Faculty of Medicine, HKU, Hong Kong (2006)

80. Choi, M.Y., Chan, C., Chan D., Luk, K., Cheah K.S.E. & **Tanner J.A.** Molecular mechanism of disease for spondyloepiphyseal dysplasia tarda – effect of mutations on sedlin structure and function 11th Research Postgraduate Symposium, Faculty of Medicine, HKU, Hong Kong (2006)

81. Chan, W.L., Chan, D., Lee,. S., Cheah, K.S.E., & **Tanner, J. A.** A Proteomic Approach To Study The Molecular Mechanisms Of The Unfolded Protein Response In The Endoplasmic Reticulum Of Chondrocytes. 11th Research Postgraduate Symposium, Faculty of Medicine, HKU, Hong Kong (2006)

82. Chan, C.S.L., Leung,. C.M., Wong, L.Y., Chan, D., Cheah, K.S.E. & **Tanner, J. A.** Purification and Identification of Sclerostin Interacting Partners: Steps towards Osteoporosis Therapy with Aptamer-based Inhibitors. 11th Research Postgraduate Symposium, Faculty of Medicine, HKU, Hong Kong (2006)

83. Chan C.S.L., Chan D., Cheah K.S.E. & **Tanner J.A.** Purification and targeting sclerostin: Steps towards, osteoporosis therapy. 10th Research Postgraduate Symposium, Faculty of Medicine, HKU, (2005)

84. Choi M.Y., Chan D., Cheah K.S.E. & **Tanner J.A.** Functional studies on sedlin, 10th Research Postgraduate Symposium, Faculty of Medicine, HKU, Hong Kong (2005)

85. Leung, M.C., Chan, C.S.L., Wong, L.Y & **Tanner, J.A.** In vitro selection of DNA and RNA aptamers against sclerostin. Annual Symposium of the Hong Kong Proteomics Society, Hong Kong (2007)

86. Lee, B.C.B, Chan, C.S.L., Chan, D., Cheah, K.S.E., Tang, L.F., Song, Y. & **Tanner, J.A.** Functional study of Cerberus-like protein: towards a biochemical understanding of BMP antagonists in skeletal disorders. Annual Symposium of the Hong Kong Proteomics Society, Hong Kong (2007)

87. **Tanner, J.A.,** Mechanistic Insight into Point Mutations in Sedlin that Result in Spondyloepiphyseal Dysplasia Tarda. International Proteomics Symposium, Hong Kong (2006)

Supplementary Appendix D

T&L: Peer-Reviewed Pedagogical Conference Papers (International)

1. **Tanner, J.A.** A collaborative team-based two-stage examination in biomedical sciences: design and evaluation. Association for Medical Education in Europe (AMEE) 2017, Helsinki, **Finland** (2017)
2. **Tanner, J.A.** Assessing collaborative learning outcomes in high-stakes tests: design and evaluation of a two-stage examination. New Perspectives in Science Education. Florence, **Italy** (2017)
3. **Tanner, J.A.** Mimicking scholarly peer review within a biomedical sciences course to strengthen student learning, critical thinking, collaboration and feedback. 14th Asia Pacific Medical Education Conference – from Globalisation of Education to Global Healthcare. **Singapore** (2017)
4. **Tanner, J.A.** Design, implementation and evaluation of a two-stage examination to enhance student collaboration within a biomedical sciences course. 14th Asia Pacific Medical Education Conference – from Globalisation of Education to Global Healthcare. **Singapore** (2017)
5. **Tanner, J.A.** Developing scientific writing and integrating feedback for undergraduate biomedical students through mimicking the professional journal article review process. *FEBS J* **282** (Suppl. 1), 355, P38-007 *(awarded best poster in education prize)* 40th FEBS Congress 2015 "The Biochemical Basis of Life", Berlin, **Germany** (2015**)**
6. Wong, G.T.C., Jenkins, C.R., Tsang, J.W.H., Chen, J.Y., Chan, L.C. & **Tanner, J.A.** Use of film to build student empathy and enable reflective thought in a new Medical Humanities programme embedded within the undergraduate MBBS curriculum. *Med Educ*, **49** (Suppl. 2): 3-29, 18 *(awarded Finalist prize in the Free Communication Session)* 12th Asia Pacific Medical Education Conference, **Singapore** (2015)
7. Bevan, S.J., Chan, C.W.L. & **Tanner, J.A.** Sustaining deep learning in first year biomedical sciences courses – a quantitative comparative study provides evidence for the benefits of diverse assessment and active student engagement. 12th Asia Pacific Medical Education Conference, **Singapore** (2015)
8. **Tanner, J.A.,** Bevan, S.J., Cheng, L.Y., Chan, W.L. & Wong, B.C. Promoting deep learning in biochemistry by diversifying assessment strategies – experience at the University of Hong Kong. *FEBS J* **280** (Suppl.1**)** SA04-8, 626 FEBS Congress 2013 "Mechanisms in Biology", St. Petersburg, **Russia** (2013)

Supplementary Appendix E

T&L: Peer-Reviewed Pedagogical Conference Papers (Regional/Local)

1. Khong, M.L. & **Tanner, J.A.** Developing the research-teaching nexus within a transdisciplinary open platform Common Core Course. Co-constructing Excellence: Recognising, Scaffolding and Building Excellence in University Learning and Teaching, The University of Hong Kong, Hong Kong (2018)
2. Khong, M.L. & **Tanner, J.A.** Designing and implementing a student-led collaborative biomedical project as a transdisciplinary course. Frontiers in Medical and Health Sciences Education – Learning in Alliance: Inter-professional Health Education and Practice, The University of Hong Kong, Hong Kong (2018)
3. **Tanner, J.A.** Mimicking scholarly peer review – a feedback-rich collaborative learning opportunity. Showcasing Excellence in Teaching & Learning Symposium, The University of Hong Kong, Hong Kong (2018)
4. **Tanner, J.A.** How best improve learning in medicine? The importance of medical education research. 4th Medical Education Conference – Cultivating Professionalism and Research in Medical Education, Hong Kong Academy of Medicine, Hong Kong (2018)
5. **Tanner, J.A.** Enabling collaboration during written examinations: a pilot study in a biomedical science examination. 9th AMEA Symposium cum Frontiers in Medical and Health Sciences Education "Preparing Healthcare Learners for a Changing World", Hong Kong (2017) *(awarded Award of Merit – Oral Presentation)*
6. **Tanner, J.A.** Collaborative examinations in biomedical sciences: implementation and evaluation. Frontiers in Medical and Health Sciences Education on Promoting Excellence in Assessment, Hong Kong (2016)
7. Bevan, S.J., Chan, C.W.L. & **Tanner, J.A.** Creative and collaborative assessment strategies sustain deep student learning: Evidence from a large introductory biochemical class. International Conference: Assessment for Learning in Higher Education 2015, Hong Kong (2015)
8. **Tanner, J.A.** Learning through collaborative writing and refereeing: mimicking the professional journal review process in an undergraduate biomedical sciences course. Frontiers in Medical and Health Sciences Education: "Learner Wellbeing Across the Continuum", Hong Kong (2015)
9. Bevan, S.J., Chan, C.W.L. & **Tanner, J.A.** Building creative and collaborative assessment strategies into a large introductory biomedical sciences class – evidence for sustained deep learning and potential adaptability for MOOCs. 2014 East-West Alliance Global Symposia, Hong Kong (2014)

Supplementary Appendix F

Service/Administration - Thesis Examination Committees

1. WANG Runming, PhD "Navigation into novel medical use of bismuth based agents as breakers of antibiotic resistance and antagonists against chemotherapy side effects", Department of Chemistry, The University of Hong Kong, Internal Examiner (2018)
2. CHOW Yee Tak, PhD "Development of inhaled siRNA formulation for pulmonary deliver", Department of Pharmacology & Pharmacy, The University of Hong Kong, Chairperson (2017)
3. YU, Mengqi, MPhil "Structure-activity relationship study of small molecule interfering proteoglycan catabolism in nucleus pulposus cells", Department of Orthopaedics & Traumatology, The University of Hong Kong, Chairperson (2017)
4. HU, Xuqiao, PhD "Tracking and Characterization of arsenic(III)-binding proteins: insight into the molecular mechanism of action of arsenic trioxide for leukemia", Department of Chemistry, The University of Hong Kong, Internal Examiner (2017)
5. LUO, Xiaomin, PhD "The regulation of Rab40c function in lipid droplet homeostasis by a RasGAP DAB2IP", School of Biomedical Sciences, Chinese University of Hong Kong, External Examiner (2017)
6. ZHONG, Yi Zoe, PhD "Blood viscosity and cardiovascular disease", School of Public Health, The University of Hong Kong, Chairperson (2017)
7. TING Kai Yu, MPhil "The structure of *Plasmodium falciparum* GTP:AMP Phosphotransferase" , School of Life Sciences, The Chinese University of Hong Kong, External Examiner (2016)
8. WANG Hui, PhD "Modifiable risk factors for adolescent mental disorder" School of Public Health, The University of Hong Kong, Chairperson (2016)
9. HUA Yanhong, PhD "A study of a virus-like particle vaccine against Aspergillus fumigatus" School of Biomedical Sciences, The University of Hong Kong, Internal Examiner (*second submission*) (2016)
10. GAN Wenjia, PhD "Autophagy regulates the early secretory pathway through interaction between ULK1 and Sec23" School of Biomedical Sciences, Chinese University of Hong Kong, External Examiner (2016)
11. KOTTAWATTA Sanda, PhD "MicroRNA-212 regulates endometrial receptivity on spheroid attachment through down-regulation of olfactomedin-1 and C-terminal binding protein 1 expressions" Department of Obstetrics and Gynaecology, The University of Hong Kong, Chairperson (2015)
12. LEUNG Hiu Lan, PhD "Transmission potential of influenza in respiratory droplets" School of Public Health, The University of Hong Kong, Chairperson (2015)
13. HUA Yanhong, PhD "A study of a virus-like particle vaccine against Aspergillus fumigatus" School of Biomedical Sciences, The University of Hong Kong, Internal Examiner (2015)
14. LEE Tsz Yan, PhD (Joint HKU-ICL) "Technique and Method Development for Intervertebral Disc (IVD) Research" Dept of Orthopaedics & Traumatology, The University of Hong Kong, Chairperson (2015)
15. Davis KWOK Chun Ting, MPhil "Expression and functions of FOXM1 in human embryonic stem cells" Dept of Biochemistry, The University of Hong Kong, Internal Examiner (2014)
16. KO Reamonn, MPhil "X-ray crystallographic studies of *Plasmodium falciparum* adenylate kinases" Dept of Physiology, The University of Hong Kong, Internal Examiner (2014)
17. XIE Shujie, PhD "Functional characterization of a Phage-derived Exonuclease and DNA Recombination Protein from an Oral Neisseriaceae" Faculty of Dentistry, The University of Hong Kong, Internal Examiner (2014)
18. WANG Yun, MPhil "General parenting, smoking-specific practices and adolescent smoking in Hong Kong" School of Public Health, The University of Hong Kong, Chairperson (2013)
19. CHENG Guo, PhD "Genetic study on biliary atresia" Dept of Surgery, The University of Hong Kong, Chairperson (2013)

20. CHEN Yujie, PhD "Structural and Functional Studies of Human APPL1-APPL2 BAR-PH Heterodimeric Complex, APPL2 BAR-PH Homodimer, and Lanthionine Synthetase Component C-like Protein 2" Dept of Physiology, The University of Hong Kong, Internal Examiner (2012)

21. LAU Lincoln L, PhD "Influenza Virus Shedding and Transmission in Households" Dept of Community Medicine, The University of Hong Kong, Chairperson (2012)

22. CHENG Tianfan, PhD "Structural and functional aspects of the multifaceted SLYD in *Helicobacter pylori*" Dept of Chemistry, The University of Hong Kong, Internal Examiner (2012)

23. TAM Wai Kit, PhD "Role of Hypoxia Inducible Factor-alpha (HIF-α) Genes in Chondrogenesis", Dept of Orthopaedics & Traumatology, The University of Hong Kong, Internal Examiner (2012)

24. Kankanamge KODITHUWAKKU, PhD "Olfactomedin-1 (OLFM-1) in human endometrium and fallopian tube: its roles on endometrial receptivity and tubal ectopic pregnancy", Dept of Orthopaedics & Traumatology, The University of Hong Kong, Chairperson (2011)

25. ZHANG Endong, PhD "Beneficial effects of lycium barbarum in rat depression model", Dept of Anatomy, The University of Hong Kong, Chairperson (2011)

26. DU Xiubo, PhD "Characterization of the N-terminus of human copper transporter (HCTR1) and mechanism comparison between the cellular uptake of Cu and cisplatin via HCTR1", Dept of Chemistry, The University of Hong Kong, Internal Examiner (2010)

27. DAI Zhijie, PhD "The role of sodium/myo-inositol cotransporter 1 and myo-inositol in osteogenesis and bone formation", Dept of Medicine, The University of Hong Kong, Internal Examiner (2009)

28. CUN Shujian, PhD "The heat-shock protein A from *Helicobacter pylori*: bioinorganic characterization, biological significance and evolutionary aspect", Dept of Chemistry, The University of Hong Kong, Internal Examiner (2009)

29. WANG Ying, PhD "Comparative functional analysis of enzymes that metabolize polyphosphate and guanosine polyphosphate in bacteria", Faculty of Dentistry, The University of Hong Kong, Internal Examiner (2009)

30. YIP Kit Yan, MPhil "Identification of the protein interacting partners of testis specific protein, Y-encoded like-2 (TSPYL2)" Dept of Paediatrics & Adolescent Medicine, The University of Hong Kong, Internal Examiner (2008)

31. Ricky WU Wing Wei, MMedSci "Development of an *in vitro* assay for MMP cleavage", Dept of Biochemistry, The University of Hong Kong, Internal Examiner (2005)

Appendix G Internal Peer-Reviewed Grants

1. HKU Seed Funding for Basic Research 2018/19: "Development of tools for RNA tracking in live animals" 1/4/2019-31/3/2020. $68,000. Role on grant: PI. *Status: ongoing.*
2. HKU Seed Funding for Translational and Applied Research 2018/19: "DNA nanocage encapsulated gold nanoparticles for high-sensitivity aptamer-mediated lateral flow point-of-care medical devices" $150,000. 1/4/2019-31/3/2020. Role on grant: PI. *Status: ongoing.*
3. UGC Matching Grant Scheme 6th Phase for RAE 2020 "Measuring luteinizing hormone pulsatility with a robotic aptamer-enabled electrochemical reader". $41,000. 1/2/2019-31/1/2020. Role on grant: PI. *Status: ongoing.*
4. LKS Faculty of Medicine Special Funding Round for Impact Evidence Collection Projects 2017/18. "Aptamer-mediated malaria diagnosis'. $50,000. 1/7/2018-30/6/2019. Role on grant: PI. *Status: ongoing.*
5. HKU Seed Funding for Basic Research 2017/18. "A comparative study of unnatural base modifications in nucleic acid aptamers for a new generation of high-affinity molecular recognition agents". $111,050. 1/4/2018-31/3/2019. Role on grant: PI. *Status: ongoing.*
6. HKU Seed Funding for Translational and Applied Research 2017/18: "Aptamer-mediated electrochemical biosensing for diagnostics". HK$150,000. 1/4/2018-31/3/2019. Role on grant: PI. *Status:ongoing.*
7. HKU Seed Funding for Basic Research 2016/17: "Using unnatural base pairs from an expanded genetic code to achieve nested chain terminating PCR for applications in highly multiplexed DNA amplification". HK$77,570. 1/4/2017-31/3/2018. Role on grant: PI. *Status: ongoing.*
8. Conference Grants for Teaching Staff 2015: "40th FEBS Congress 2015 'The Biochemical Basis of Life', Berlin, Germany: DNA aptamers for malaria diagnosis – from crystal structure to clinical application". HK$16,500. 4/7/2015-9/7/2015. Role on grant: PI. *Status: completed.*
9. HKU Seed Funding Programme for Incubating Group-based Collaborative Research Projects 2014/2015: "Aptamer-mediated point-of-care diagnostics". $100,000. 1/1/2015-31/12/2016. Role on grant: PI. *Status: completed.*
10. HKU Seed Funding Programme for Applied Research 2014/2015: "Tetrapod palindromic capture aptamers for diagnostic devices". HK$100,000. 1/6/2015-31/5/2016. Role on grant: PI. *Status: completed.*
11. Conference Grants for Teaching Staff 2014: "Aptamers 2015 and Oligomer 2015: DNA aptamers for point-of-care malaria diagnosis – from crystal structure to clinical application using Aptamer Tethered Enzyme Capture (APTEC), Highly selective DNA oligonucleotide aptamers against aggrecanase ADAMTS5 for degenerative disc disease therapy". HK$16,500. 30/3/2015-1/4/2015. Role on grant: PI. *Status: completed.*
12. HKU Seed Funding Programme for Basic Research 2013/2014: "Aptamer-mediated detection of luteinizing hormone pulsatility – a transformational approach towards managing infertility". HK$83,800. 1/6/2014-31/5/2016. Role on grant: PI. *Status: completed.*
13. HKU Seed Funding Programme for Applied Research 2013/2014: "Investigating the Potential of 3-D Printing as a Transformative Technology for Point of Care Diagnostics". HK$100,000. 1/7/2013-30/6/2014. Role on grant: PI. *Status: completed.*
14. Conference Grants for Teaching Staff 2013: "Aptamers in Medicine and Oligonucleotide Therapeutics Society Meeting 2013, Naples, Italy: Loops, hairpins and flipped bases: a DNA aptamers that discriminates Plasmodium lactate dehydrogenase from the blind watchmaker". $16,500. 4/10/2013-8/10/2013. Role on grant: PI. *Status: completed.*
15. HKU Small Project Funding 2012/2013. "Quantitative Analysis of TRAPPC2 and TRAPPC9 interaction". HK$38,560. 1/4/2013-30/3/2014. PI: Dr. W.L. Chan. Role on grant: Co-I. *Status: completed.*
16. Seed Funding for Basic Research 2012: "Quantum-dot mediated laser induced fluorescence detection of protein and peptide biomarkers for microfluidic-chip capillary electrophoresis device". $51,000. 1/2/2012-31/1/2014. PI: Dr. Y.S. Fung. Role on grant: Co-I. *Status: completed.*

17. Seed Funding for Basic Research 2011: "Development and comparison of three new methodologies for more effective DNA aptamer evolution". HK$95,500. 30/6/2012-29/6/2014. Role on grant: PI. *Status: completed.*

18. Seed Funding for Basic Research 2010: "Piezoelectric Quartz Crystal Biosensor For Determining Diagnostic Protein Biomarkers Based on Aptamers Selected By Non-SELEX Using Microfluidic Chip-Capillary Electrophoresis". HK$67,000. 1/3/2010-29/2/2012. PI: Dr. Y.S. Fung. Role on grant: Co-I. *Status: completed.*

19. Conference Grants for Teaching Staff 2012: "IATI-BioMed Israel 2013, nucleic acids for malaria diagnosis – discovery, structure and application". $16,500. 10/6/2013-12/6/2013. Role on grant: PI. *Status: completed.*

20. University Development Fund 2011: "Biacore Surface Plasmon Resonance to enhance the HKU Protein Analysis Facility". HK$1,816,997. 1/9/2011-1/9/2012. Role on grant: Co-PI. *Status: completed.*

21. Conference Grants for Teaching Staff 2011: "enGENEious, Oxford University, nucleic acid aptamers for sensing applications – aptamers for diagnosing malaria". HK$16,500. 25/6/2012-26/6/2012. Role on grant: PI. *Status: completed.*

22. Conference Grants for Teaching Staff 2009: "5th Annual Meeting of the Oligonucleotide Therapeutics Society – Selection, validation and delivery of DNA aptamers against infectious disease targets". HK$13,435. 3/11/2009-6/11/2009. Role on grant: PI. *Status: completed.*

23. University Development Fund 2008: "Establishment of the HKU Protein Analysis Facility". HK$3,160,000. 1/1/2009-31/12/2009. PI: Prof KSE Cheah. Role on grant: CoI. *Status: completed.*

24. Seed Funding for Applied Research 2008: "Targeting SATB1 with Aptamers for Breast Cancer Therapy". HK$50,000. 1/6/2009-31/5/2010. Role on grant: PI. *Status: completed.*

25. Conference Grants for Teaching Staff 2007: "HUPO 6th Annual World Congress, Seoul 2007 New Selection and Delivery Approaches for Nucleic Acid Aptamers against Proteomic Targets". HK$13,500. 6/10/2007-10/10/2007. Role on grant: PI *Status: completed.*

26. Seed Funding for Basic Research 2006: "Mechanistic Insight into Polyphosphate Kinase 2 - a Fundamental Enzyme of Polyphosphate Catabolism". HK$80,000. 1/4/2006-30/9/2007. Role on grant: PI. *Status: completed.*

27. Conference Grants for Teaching Staff 2006: "Experimental Biology 2006 (ASBMB) Mechanistic Insight into Point Mutations in Sedlin that Result in Spondyloepiphyseal Dysplasia Tarda". HK$13,500. 1/4/2006-5/4/2006. Role on grant: PI. *Status: completed.*

28. Conference Grants for Teaching Staff 2005: "Experimental Biology 2005 (American Society for Biochemistry and Molecular Biology) Targeting the SARS Coronavirus Helicase - Three Approaches to Inhibitor Development". HK$13,500. 2/4/2005-6/4/2005. Role on grant: PI. *Status: completed.*

29. Seed Funding for Basic Research 2005: "Comparative Characterization of the Two Polyphosphate Kinases of *M. tuberculosis*". HK$119,890. 1/2/2005-30/11/2005. Role on grant: PI. *Status: completed.*

30. Seed Funding for Applied Research 2003: "Development of high throughput screen for the discovery of SARS coronavirus helicase inhibitors". HK$132,188. 1/10/2003-30/9/2004. PI: Dr. J.D. Huang. Role on grant: Co-I. *Status: completed.*