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WORK EXPERIENCE (relevant)

Senior Director, Biology /// 2021 -> now

Ligature Therapeutics, Pte Ltd

Lead drug discovery efforts from proof-of-concept stage to IND filing

Associate Professor, Chief of Biochemistry /// 2020 -> 2021

American University of Health Sciences, School of Medicine

Administration: LCME filing and curriculum building (biochemistry)

Research Assistant Professor /// 2020 -> 2021

National University of Singapore, Yong Loo Lin School of Medicine,
Department of Pharmacology

Research: Lipid signaling, drug development, neuroscience, cancer,
metabolic disease

Assistant Research Professor /// 2009 -> 2021

San Diego State University, Department of Biology

Role: Collaborative research, guest lectures

Co-founder/lead scientist /// 2005 -> 2021

Expression Drug Designs, LLC, San Diego, CA

Role: Management of all scientific activity, business development

Assistant Professor /// 2012 -> 2020

National University of Singapore, Yong Loo Lin School of Medicine,
Department of Pharmacology

Teaching: Pharmacology, toxicology, biotechnology

Medical Technician /// 1991 -> 1997

Northeast Regional Medical Center, Deaconess Hospital, Tuality
Community Hospital, Scripps Hospital

Medical transcription, phlebotomy, telemetry monitoring, respiratory
therapy, basic patient care

EDUCATION

The Scripps Research Institute /// Completed 2011

San Diego, CA, USA

Post-Doctoral studies, GPCR signaling and developmental neuroscience

Mentor: Jerold Chun

University of California, San Diego /// Completed 2004

San Diego, CA, USA

Joint doctoral program with SDSU, Ph.D. in Cell and Molecular Biology

Mentors: Greg L. Harris, Julie D. Saba

Truman State University /// Completed 1995

Kirkville, MO, USA

Bachelor of Science in Biology/Physiology, minor emphasis in philosophy

Mentor: Daniel Janik

PROFILE

I am a passionate scientist who believes that the greatest biomedical advancements lie at the junction between academic and industry research. As a result, I have demonstrated strong commitments both to education and to innovative, translational science.

My research interests have focused on the metabolism and signal transduction of **bioactive lipids**, with an emphasis on sphingosine 1-phosphate and lysophosphatidic acid. My lab has made progress in understanding the roles of lipid signaling in dementia, pain, hearing loss, diabetes, and cancer, and we are developing small-molecule and antibody-based *drugs* for multiple lipid-activated G protein-coupled receptors.

Areas of expertise: lipid signaling, sphingolipid metabolism, neuroscience, small molecule and biologic drug development, cell biology, genetic and behavioral animal models.

Notable accomplishments:

- >80 peer-reviewed publications including first/corresponding authorship in PNAS, JNeuro, Development, JBC, FASEBJ, Sci Rep, and JCI Insight
- >\$1M funding as PI, >\$3M funding as co-PI
- Co-founded a therapeutics start-up
- 5 corporate consultancies
- Mentored 6 PhDs and >50 undergrads

Research

Publications (84 total)

Most relevant manuscripts within the past 5 years

1. Baik SH, Selvaraji S, Fann DY, Poh L, Jo DG, Herr DR, Zhang SR, Kim HA, Silva M, Lai MKP, Chen CL, Drummond GR, Lim KL, Sobey CG, Arumugam TV. Hippocampal transcriptome profiling reveals common disease pathways in chronic hypoperfusion and aging. **Aging**. 2021 Jun 1;13(11):14651-14674. doi: 10.18632/aging.203123. Epub 2021 Jun 1. PMID: 34074801; PMCID: PMC8221317.
2. Ping Xiang, Wee Siong Chew, Wei Lun Seow, Wei-Yi Ong, Deron R. Herr[‡]. The S1P₂ receptor regulates blood-brain barrier integrity and leukocyte extravasation with implications for neurodegenerative disease. **Neurochemistry International**. 2021 Jun;146:105018. doi: 10.1016/j.neuint.2021.105018. Epub 2021 Mar 13. PMID: 33727061
3. Seah JYH, Chew WS, Torta F, Khoo CM, Wenk MR, Herr DR, Tai ES, van Dam RM. Dietary Fat and Protein Intake in Relation to Plasma Sphingolipids as Determined by a Large-Scale Lipidomic Analysis. **Metabolites**. 2021 Feb 8;11(2):93. doi: 10.3390/metabo11020093. PMID: 33567768.
4. Lam BWS, Yam TYA, Chen CP, Lai MKP, Ong WY, Herr DR[‡]. The noncanonical chronicles: Emerging roles of sphingolipid structural variants. **Cell Signal**. 2021 Mar;79:109890. doi: 10.1016/j.cellsig.2020.109890. Epub 2020 Dec 28. PMID: 33359087.
5. Chua XY, Ho LTY, Xiang P, Chew WS, Lam BWS, Chen CP, Ong WY, Lai MKP[‡], Herr DR[‡]. Preclinical and Clinical Evidence for the Involvement of Sphingosine 1-Phosphate Signaling in the Pathophysiology of Vascular Cognitive Impairment. **Neuromolecular Med**. 2020 Nov 12. doi: 10.1007/s12017-020-08632-0. Epub ahead of print. PMID: 33180310.
6. Seow WJ, Yanwen DL, Pan WC, Gunther SH, Sim X, Torta F, Herr DR, Kovalik JP, Jianhong C, Khoo CM, Wenk MR, Tai ES, van Dam RM. Coffee, Black Tea, and Green Tea Consumption in Relation to Plasma Metabolites in an Asian Population. **Mol Nutr Food Res**. 2020 Oct 29:e2000527. doi: 10.1002/mnfr.202000527. Online ahead of print.
7. Chua XY, Chai YL, Chew WS, Chong JR, Ang HL, Xiang P, Camara K, Howell AR, Torta F, Wenk MR, Hilal S, Venketasubramanian N, Chen CP, Herr DR[‡], Lai MKP[‡]. Immunomodulatory sphingosine-1-phosphates as plasma biomarkers of Alzheimer's disease and vascular cognitive impairment. **Alzheimer's Research & Therapy**. 2020 Sep 30;12(1):122. doi: 10.1186/s13195-020-00694-3.
8. Seah JYH, Chew WS, Torta F, Khoo CM, Wenk MR, Herr DR, Choi H, Tai ES, van Dam RM. Plasma sphingolipids and risk of cardiovascular diseases: a large-scale lipidomic analysis. **Metabolomics**. 2020 Aug 20;16(9):89. doi: 10.1007/s11306-020-01709-8.
9. Wang W, Shanmugam MK, Xiang P, Yam TYA, Kumar V, Chew WS, Chang JK, Ali MZB, Reolo MJY, Peh YX, Karim SNBA, Tan AYY, Sanda T, Sethi G[‡], Herr DR[‡]. Sphingosine 1-Phosphate Receptor 2 Induces Otoprotective Responses to Cisplatin Treatment. **Cancers (Basel)**. 2020 Jan 15;12(1). pii: E211. doi: 10.3390/cancers12010211.
10. Herr DR[‡], Yam TYA, Tan WSD, Koh SS, Wong WSF, Ong WY, Chayaburakul K[‡]. Ultrastructural Characteristics of DHA-Induced Pyroptosis. **Neuromolecular Medicine**. 2020 Jun;22(2):293-303. doi: 10.1007/s12017-019-08586-y.
11. Wang W, Xiang P, Chew WS, Torta F, Bandla A, Lopez V, Seow WL, Lam BWS, Chang JK, Wong P, Chayaburakul K, Ong WY, Wenk MR, Sundar R[‡], Herr DR[‡]. Activation of sphingosine 1-phosphate receptor 2 attenuates chemotherapy-induced neuropathy. **J Biol Chem. Editors' Pick and cover story**. 2020 Jan 24;295(4):1143-1152. doi: 10.1074/jbc.RA119.011699.
12. Wee Siong Chew, Federico Torta, Shanshan Ji, Hyung Won Choi, Xueling Sim, Chin Meng Khoo, Eric Yin Hao Khoo, Wei Yi Ong, Rob Martinus Van Dam, Markus R. Wenk[‡], E. Shyong

- Tai[‡], Deron R. Herr[‡]. Large-scale lipidomics identifies associations between plasma sphingolipids and T2DM incidence. **JCI Insight**. 2019 Jun 4;5(13):e126925. pii: 126925. doi: 10.1172/jci.insight.126925. IF = 6.014
13. Herr DR[‡], Chew WS, Satish RL, Ong WY[‡]. Pleiotropic Roles of Autotaxin in the Nervous System Present Opportunities for the Development of Novel Therapeutics for Neurological Diseases. **Mol Neurobiol**. 2020 Jan;57(1):372-392. doi: 10.1007/s12035-019-01719-1. IF = 5.076
 14. Wei Wang, Tatsuma Hind, Brenda Wan Shing Lam, and Deron R. Herr[‡]. Sphingosine 1-phosphate signaling induces SNAI2 expression to promote cell invasion in breast cancer cells. **FASEB J**. 2019 Jun;33(6):7180-7191. doi: 10.1096/fj.201801635R. IF = 5.595
 15. Srikanth M, Chandrasaharan K, Zhao X, Chayaburakul K, Ong WY, Herr DR[‡]. Metabolism of Docosahexaenoic Acid (DHA) Induces Pyroptosis in BV-2 Microglial Cells. **Neuromolecular Med**. 2018 Dec;20(4):504-514. doi: 10.1007/s12017-018-8511-0. IF = 2.952
 16. Srikanth M, Chew WS, Hind T, Lim SM, Hay NWJ, Lee JHM, Rivera R, Chun J, Ong WY, Herr DR[‡]. Lysophosphatidic acid and its receptor LPA₁ mediate carrageenan induced inflammatory pain in mice. **Eur J Pharmacol**. 2018 Dec 15;841:49-56. doi: 10.1016/j.ejphar.2018.10.005. IF = 3.040
 17. Thirunavukkarasan M, Wang C, Rao A, Hind T, Teo YR, Siddiquee AA, Goghari MAI, Kumar AP, Herr DR[‡]. Short-chain fatty acid receptors inhibit invasive phenotypes in breast cancer cells. **PLoS One**. 2017 Oct 19;12(10):e0186334. IF = 2.8
 18. Rao A, Herr DR[‡]. G protein-coupled receptor GPR19 regulates E-cadherin expression and invasion of breast cancer cells. **BBA Molecular Cell Research**. 2017 Jul;1864(7):1318-1327. IF = 5.128
 19. Deron R. Herr[‡], Marie J. Y. Reolo, Peh Yee Xin, Wei Wang, Chang-Wook Lee, Rich Rivera, Ian C. Paterson, Jerold Chun. (2016) Sphingosine 1-phosphate receptor 2 (S1P₂) attenuates reactive oxygen species formation and inhibits cell death: implications for otoprotective therapy. **Nature Scientific Reports**. 2016 Apr 15; 6:24541. (IF: 5.228)
 20. Chew WS, Wang W, Herr DR[‡]. (2016) To fingolimod and beyond: the rich pipeline of drug candidates that target S1P signaling. (Invited Review.) **Pharmacological Research**. 2016 Nov;113(Pt A):521-532. IF = 4.816
 21. Lai MK, Chew WS, Torta F, Rao A, Harris GL, Chun J, Herr DR[‡]. (2016) Biological Effects of Naturally Occurring Sphingolipids, Uncommon Variants, and Their Analogs. (Invited Review.) **Neuromolecular Medicine**. 2016 Sep;18(3):396-414. IF = 3.692

All other primary, peer-reviewed research articles. (Reverse chronological)

1. Marito S, Keshari S, Traisaeng S, My DTT, Balasubramaniam A, Adi P, Hsieh MF, Herr DR, Huang CM. Electricity-producing *Staphylococcus epidermidis* counteracts *Cutibacterium acnes*. **Scientific Reports**. 2021 Jun 7;11(1):12001. doi: 10.1038/s41598-021-91398-7. PMID: 34099817; PMCID: PMC8184966.
2. Huang RY, Herr DR. Quantitative circular flow immunoassays with trained object recognition to detect antibodies to SARS-CoV-2 membrane glycoprotein. **Biochem Biophys Res Commun**. 2021 Aug 6;565:8-13. doi: 10.1016/j.bbrc.2021.05.073. Epub 2021 May 29. PMID: 34087509; PMCID: PMC8164360.
3. Pham MT, Yang JJ, Balasubramaniam A, Rahim AR, Adi P, Do TTM, Herr DR, Huang CM. *Leuconostoc mesenteroides* mediates an electrogenic pathway to attenuate the accumulation of abdominal fat mass induced by high fat diet. **Scientific Reports**. 2020 Dec 14;10(1):21916. doi: 10.1038/s41598-020-78835-9. PMID: 33318546; PMCID: PMC7736347.
4. Kuo X, Herr DR, Ong WY. Anti-inflammatory and Cytoprotective Effect of *Clinacanthus nutans* Leaf But Not Stem Extracts on 7-Ketocholesterol Induced Brain Endothelial Cell

- Injury. **Neuromolecular Medicine**. 2020 Oct 21. doi: 10.1007/s12017-020-08621-3. Online ahead of print.
5. Koh SS, Ooi SC, Lui NM, Qiong C, Ho LT, Cheah IK, Halliwell B, Herr DR, Ong WY. Effect of Ergothioneine on 7-Ketocholesterol-Induced Endothelial Injury. **Neuromolecular Medicine**. 2020 Oct 16:1-15. doi: 10.1007/s12017-020-08620-4. Online ahead of print.
 6. Kao MH, Wu JS, Cheung WM, Chen JJ, Sun GY, Ong WY, Herr DR, Lin TN. Clinacanthus nutans Mitigates Neuronal Death and Reduces Ischemic Brain Injury: Role of NF- κ B-driven IL-1 β Transcription. **Neuromolecular Medicine**. 2020 Oct 6. doi: 10.1007/s12017-020-08618-y. Online ahead of print.
 7. S, Batsukh A, Chuang TH, Herr DR, Huang YF, Chimeddorj B, Huang CM. *Leuconostoc mesenteroides* fermentation produces butyric acid and mediates Ffar2 to regulate blood glucose and insulin in type 1 diabetic mice. **Scientific Reports**. 2020 May 13;10(1):7928. doi: 10.1038/s41598-020-64916-2.
 8. Keshari S, Wang Y, Herr DR, Wang SM, Yang WC, Chuang TH, Chen CL, Huang CM. Skin *Cutibacterium acnes* Mediates Fermentation to Suppress the Calcium Phosphate-Induced Itching: A Butyric Acid Derivative with Potential for Uremic Pruritus. **Journal of Clinical Medicine**. 2020 Jan 22;9(2):312. doi: 10.3390/jcm9020312.
 9. Yang JJ, Huang YC, Chuang TH, Herr DR, Hsieh MF, Huang CJ, Huang CM. Cysteine-Capped Hydrogels Incorporating Copper as Effective Antimicrobial Materials against Methicillin-Resistant Staphylococcus aureus. **Microorganisms**. 2020 Jan 21;8(2):149. doi: 10.3390/microorganisms8020149.
 10. Traisaeng S, Batsukh A, Chuang TH, Herr DR, Huang YF, Chimeddorj B, Huang CM. *Leuconostoc Mesenteroides* Fermentation Produces Butyric Acid and Mediates Ffar2 to Regulate Blood Glucose and Insulin in Type 1 Diabetic Mice. **Scientific Reports**. 2020 May 13;10(1):7928. doi: 10.1038/s41598-020-64916-2.
 11. Keshari S, Wang Y, Herr DR, Wang SM, Yang WC, Chuang TH, Chen CL, Huang CM. Skin *Cutibacterium acnes* Mediates Fermentation to Suppress the Calcium Phosphate-Induced Itching: A Butyric Acid Derivative with Potential for Uremic Pruritus. **Journal of Clinical Medicine**. 2020 Jan 22;9(2). pii: E312. doi: 10.3390/jcm9020312.
 12. Yang JJ, Huang YC, Chuang TH, Herr DR, Hsieh MF, Huang CJ, Huang CM. Cysteine-Capped Hydrogels Incorporating Copper as Effective Antimicrobial Materials against Methicillin-Resistant Staphylococcus aureus. **Microorganisms**. 2020 Jan 21;8(2). pii: E149. doi: 10.3390/microorganisms8020149.
 13. Chai JF, Raichur S, Khor IW, Torta F, Chew WS, Herr DR, Ching JH, Kovalik JP, Khoo CM, Wenk MR, Tai ES, Sim X. Associations with metabolites in Chinese suggest new metabolic roles in Alzheimer's and Parkinson's diseases. **Human Molecular Genetics**. 2019 2020 Jan 15;29(2):189-201. doi: 10.1093/hmg/ddz246.
 14. Tan A, Babak MV, Venkatesan G, Lim C, Klotz KN, Herr DR, Cheong SL, Federico S, Spalluto G, Ong WY, Chen YZ, Loo JSE, Pastorin G. Design, Synthesis and Evaluation of New Indolylpyrimidylpiperazines for Gastrointestinal Cancer Therapy. **Molecules**. 2019 Oct 11;24(20). pii: E3661. doi: 10.3390/molecules24203661.
 15. Keshari S, Balasubramaniam A, Myagmardoolonjin B, Herr DR, Negari IP, Huang CM. Butyric Acid from Probiotic Staphylococcus epidermidis in the Skin Microbiome Down-Regulates the Ultraviolet-Induced Pro-Inflammatory IL-6 Cytokine via Short-Chain Fatty Acid Receptor. **International Journal of Molecular Sciences**. 2019 Sep 11;20(18). pii: E4477. doi: 10.3390/ijms20184477.
 16. Traisaeng S, Herr DR, Kao HJ, Chuang TH, Huang CM. A Derivative of Butyric Acid, the Fermentation Metabolite of Staphylococcus epidermidis, Inhibits the Growth of a Staphylococcus aureus Strain Isolated from Atopic Dermatitis Patients. **Toxins**. 2019 May 31;11(6). pii: E311. doi: 10.3390/toxins11060311. IF = 3.273
 17. Yu B, Zanetti KA, Temprosa M, Albanes D, Appel N, Barrera CB, Ben-Shlomo Y, Boerwinkle

- E, Casas JP, Clish C, Dale C, Dehghan A, Derkach A, Eliassen AH, Elliott P, Fahy E, Gieger C, Gunter MJ, Harada S, Harris T, [Herr DR](#), Herrington D, Hirschhorn JN, Hoover E, Hsing AW, Johansson M, Kelly RS, Khoo CM, Kivimäki M, Kristal BS, Langenberg C, Lasky-Su J, Lawlor DA, Lotta LA, Mangino M, Le Marchand L, Mathé E, Matthews CE, Menni C, Mucci LA, Murphy R, Oresic M, Orwoll E, Ose J, Pereira AC, Playdon MC, Poston L, Price J, Qi Q, Rexrode K, Risch A, Sampson J, Seow WJ, Sesso HD, Shah SH, Shu XO, Smith GCS, Sovio U, Stevens VL, Stolzenberg-Solomon R, Takebayashi T, Tillin T, Travis R, Tzoulaki I, Ulrich CM, Vasani RS, Verma M, Wang Y, Wareham NJ, Wong A, Younes N, Zhao H, Zheng W, Moore SC. The Consortium of Metabolomics Studies (COMETS): Metabolomics in 47 Prospective Cohort Studies. **American Journal of Epidemiology**. 2019 Jun 1;188(6):991-1012. doi: 10.1093/aje/kwz028. IF = 4.322
18. Heng HL, Chee CF, Thy CK, Tee JT, Chin SP, [Herr DR](#), Buckle MJC, Paterson IC, Doughty SW, Abd Rahman N, Chung LY. In vitro functional evaluation of isolaureline, dicentrine and glaucine enantiomers at 5-HT₂ and α_1 receptors. **Chem Biol Drug Des**. 2018 Sep 14. doi: 10.1111/cbdd.13390.
 19. Shao YM, Ma X, Paira P, Tan A, [Herr DR](#), Lim KL, Ng CH, Venkatesan G, Klotz KN, Federico S, Spalluto G, Cheong SL, Chen YZ, Pastorin G. Discovery of indolylpiperazinylpyrimidines with dual-target profiles at adenosine A2A and dopamine D2 receptors for Parkinson's disease treatment. **PLoS One**. 2018 Jan 5;13(1):e0188212. IF = 2.8
 20. Heng, H.L., Chee, C.F., Chin, S.P., Ouyang, Y., Wang, H., Buckle, M.J.C., [Herr, D.R.](#), Paterson, I.C., Doughty, S.W., Abd Rahman, N., Chung, L.Y. Synthesis and evaluation of nuciferine and roemerine enantiomers as 5-HT₂ and α_1 receptor antagonists. **MedChemComm**. 2018 Feb 26;9(3):576-582. doi: 10.1039/c7md00629b. IF = 2.342
 21. Ho CF, Bon CP, Ng YK, [Herr DR](#), Wu JS, Lin TN, Ong WY. Expression of DHA-Metabolizing Enzyme Alox15 is Regulated by Selective Histone Acetylation in Neuroblastoma Cells. **Neurochem Res**. 2017 Dec 12. IF = 2.6
 22. Tan LH, Tan AJ, Ng YY, Chua JJ, Chew WS, Muralidharan S, Torta F, Dutta B, Sze SK, [Herr DR](#)[‡], Ong WY[‡]. Enriched Expression of Neutral Sphingomyelinase 2 in the Striatum is Essential for Regulation of Lipid Raft Content and Motor Coordination. **Mol Neurobiol**. 2018 Jul; 55(7):5741-5756. IF = 6.2
 23. Shalini SM, Ho CF, Ng YK, Tong JX, Ong ES, [Herr DR](#), Dawe GS, Ong WY. Distribution of Alox15 in the Rat Brain and Its Role in Prefrontal Cortical Resolvin D1 Formation and Spatial Working Memory. **Molecular Neurobiology**. 2018 Feb; 55(2):1537-1550. IF = 5.397
 24. Chew WS, Shalini SM, Torta F, Wenk MR, Stohler C, Yeo JF, [Herr DR](#), Ong WY. Role of prefrontal cortical calcium-independent phospholipase A2 in antinociceptive effect of the norepinephrine reuptake inhibitor antidepressant maprotiline. **Neuroscience**. 2016 Oct 24;340:91-100. IF = 3.231
 25. Shalini SM, [Herr DR](#), Ong WY. The Analgesic and Anxiolytic Effect of Souvenaid, a Novel Nutraceutical, Is Mediated by Alox15 Activity in the Prefrontal Cortex. **Molecular Neurobiology**. 2017 Oct; 54(8):6032-6045. IF = 5.397
 26. Wong SY, Tan MG, Wong PT, [Herr DR](#), Lai MK. (2016) Andrographolide induces Nrf2 and heme oxygenase 1 in astrocytes by activating p38 MAPK and ERK. **Journal of Neuroinflammation**. 2016 Sep 23;13(1):251. IF = 4.667
 27. Jayakody T, Marwari S, Lakshminarayanan R, Tan FC, Johannes CW, Dymock BW, Poulsen A, [Herr DR](#), Dawe GS. (2016) Hydrocarbon stapled B chain analogues of relaxin-3 retain biological activity. **Peptides**. Volume 84, October 2016, Pages 44–57. IF = 2.535.
 28. Keul P, van Borren MM, Ghanem A, Müller FU, Baartscheer A, Verkerk AO, Stümpel F, Schulte JS, Hamdani N, Linke WA, van Loenen P, Matus M, Schmitz W, Stypmann J, Tiemann K, Ravesloot JH, Alewijnse AE, Hermann S, Spijkers LJ, Hiller KH, [Herr D](#), Heusch G, Schäfers M, Peters SL, Chun J, Levkau B. Sphingosine-1-Phosphate Receptor 1 Regulates Cardiac Function by Modulating Ca²⁺ Sensitivity and Na⁺/H⁺ Exchange and

- Mediates Protection by Ischemic Preconditioning. **Journal of the American Heart Association**. 2016 May 20;5(5). (IF: 5.117)
29. Patmanathan SN, Johnson SP, Lai SL, Panja Bernam S, Lopes V, Wei W, Ibrahim MH, Torta F, Narayanaswamy P, Wenk MR, Herr DR, Murray PG, Yap LF, Paterson IC. (2016) Aberrant expression of the S1P regulating enzymes, SPHK1 and SGPL1, contributes to a migratory phenotype in OSCC mediated through S1PR2. **Nature Scientific Reports**. 2016 May 10; 6:25650. (IF: 5.228)
 30. Korpi ER, Linden AM, Hytönen HR, Paasikoski N, Vashchinkina E, Dudek M, Herr DR, Hyytiä P. (2016) Continuous delivery of naltrexone and nalmefene leads to tolerance in reducing alcohol drinking and to supersensitivity of brain opioid receptors. **Addiction Biology**. 2016 Mar 15. (IF: 4.543)
 31. Yang Y, Torta F, Arai K, Wenk MR, Herr DR, Wong PT, Lai MK. (2016) Sphingosine kinase inhibition ameliorates chronic hypoperfusion-induced white matter lesions. **Neurochemistry International**. 2016 Mar;94:90-7. (IF = 3.385)
 32. Godfrey J, Jeanguenin L, Castro N, Olney JJ, Dudley J, Pipkin J, Walls SM, Wang W, Herr DR, Harris GL, Brassler SM. (2015) Chronic Voluntary Ethanol Consumption Induces Favorable Ceramide Profiles in Selectively Bred Alcohol-Preferring (P) Rats. **PLoS One**. 2015 Sep 25;10(9):e0139012. (IF: 3.2)
 33. Ratliff EP, Mauntz RE, Kotzebue RW, Gonzalez A, Achal M, Barekat A, Finley KA, Sparhawk JM, Robinson JE, Herr DR, Harris GL, Joiner WJ, Finley KD. (2015) Aging and Autophagic Function Influences the Progressive Decline of Adult Drosophila Behaviors. **PLoS One**. 2015 Jul 16;10(7):e0132768. (IF: 3.2)
 34. Walls SM Jr, Attle SJ, Brulte GB, Walls ML, Finley KD, Chatfield DA, Herr DR, Harris GL. (2013) Identification of Sphingolipid Metabolites That Induce Obesity via Misregulation of Appetite, Caloric Intake and Fat Storage in Drosophila. **PLoS Genetics**. 2013 Dec;9(12):e1003970. (IF: 12.6)
 35. Herr DR, Lee CW, Wang W, Ware A, Rivera R, Chun J. (2013) Sphingosine 1-phosphate receptors are essential mediators of eyelid closure during embryonic development. **Journal of Biological Chemistry**. 2013 Oct 11;288(41):29882-9. (IF: 4.6)
 36. Harris GL, Creason MB, Brulte GB, Herr DR[†]. (2012) Antagonism of S1P₃ with a Novel Monoclonal Antibody Ameliorates Systemic Inflammation and Tumor Progression In Vivo. **PLoS One**. 7(4):e35129. Epub 2012 Apr 5. (IF: 3.7)
 37. Herr KJ, Herr DR, Lee CW, Noguchi K, Chun J. (2011) Stereotyped fetal brain disorganization is induced by hypoxia and requires lysophosphatidic acid receptor 1 (LPA1) signaling. **Proceedings of the National Academy of Science**. 2011 Sep 13;108(37):15444-9. (IF: 9.7)
 38. Ye X, Herr DR, Diao H, Rivera R, Chun J. (2011) Unique uterine localization and regulation may differentiate LPA3 from other lysophospholipid receptors for its role in embryo implantation. **Fertility Sterility**. 2011 May;95(6):2107-13, 2113.e1-4. (IF: 3.775)
 39. Choi JW*, Gardell SE*, Herr DR*, Rivera R, Lee CW, Noguchi K, Teo ST, Yung YC, Lu M, Kennedy G, Chun J. (2010). FTY720 (fingolimod) efficacy in an animal model of multiple sclerosis requires astrocyte sphingosine 1-phosphate receptor 1 (S1P1) modulation. **Proceedings of the National Academy of Science**. 2011 Jan 11;108(2):751-6. (IF: 9.8)
 40. Dubin AE, Herr DR, Chun J. (2010). Diversity of LPA receptor-mediated intracellular calcium signaling in early cortical neurogenesis. **Journal of Neuroscience**. May 26;30(21):7300-9. (IF: 7.271)
 41. Spohr TC, Choi JW, Gardell SE, Herr DR, Rehen SK, Gomes FC, Chun J. (2008). LPA receptor-dependent secondary effects via astrocytes promote neuronal differentiation. **Journal of Biological Chemistry**. Mar 21; 283(12):7470-9.
 42. Fyrst H, Zhang X, Herr DR, Byun HS, Bittman R, Phan VH, Harris GL, Saba JD. (2007). Identification and characterization by electrospray mass spectrometry of endogenous

- Drosophila* sphingadienes. **Journal of Lipid Research**. Mar;49(3):597-606.
43. Phan VH, Herr DR, Panton D, Fyrst H, Saba JD, Harris GL. (2007). Disruption of sphingolipid metabolism elicits apoptosis-associated reproductive defects in *Drosophila*. **Developmental Biology**. Sep 15; 309(2):329-41.
 44. Herr DR, Grillet N, Schwander M, Rivera R, Mueller U, Chun J. (2007). Sphingosine 1-phosphate signaling is required for maintenance of hair cells largely via activation of S1P₂. **Journal of Neuroscience**. Feb 7;27(6):1474-8. (IF: 7.5)
 45. Rehen SK, Kingsbury MA, Almeida BS, Herr DR, Peterson S, Chun J. (2006). A new method of embryonic culture for assessing global changes in brain organization. **Journal of Neuroscience Methods**. Nov 15;158(1):100-8.
 46. Chao C, Herr D, Chun J, Xu Y(2006). Ser18 and 23 phosphorylation is required for p53-dependent apoptosis and tumor suppression. **EMBO Journal**. Jun 7;25(11):2615-22.
 47. Herr DR[‡], Harris GL. (2004). Close head-to-head juxtaposition of genes facilitates their functional coexpression in *Drosophila*. **FEBS Letters**. Aug 13;572(1-3):147-53. (IF: 3.8)
 48. Herr DR, Fyrst H, Creason MB, Phan VH, Saba JD, and Harris GL. (2004). Characterization of the *Drosophila* sphingosine kinases and requirement for *Sk2* in normal reproductive function. **Journal of Biological Chemistry**. Mar 26;279(13):12685-94. (IF: 6.4)
 49. Fyrst H, Herr DR, Harris GL, and Saba JD. (2004). Characterization of Free Endogenous C₁₄ and C₁₆ Sphingoid Bases of *Drosophila melanogaster*. **Journal of Lipid Research**. Jan;45(1):54-62.
 50. Herr DR, Fyrst H, Phan V, Heinecke K, Georges R, Harris GL, Saba JD. (2003). *Sply* regulation of sphingolipid signaling molecules is essential for *Drosophila* development. **Development**. Jun;130(11):2443-53. (IF: 7.7)

All other peer-reviewed review articles. (Reverse chronological)

1. Ong WY[‡], Stohler CS, Herr DR[‡]. Role of the Prefrontal Cortex in Pain Processing. **Mol Neurobiol**. 2019 Feb;56(2):1137-1166. doi: 10.1007/s12035-018-1130-9. IF = 5.076
2. Chew WS, Seow WL, Chong JR, Lai MKP, Torta F, Wenk MR, Herr DR[‡]. Sphingolipidomics analysis of large clinical cohorts. Part 1: Technical notes and practical considerations. (Invited Review.) **Biochem Biophys Res Commun**. 2018 Oct 7;504(3):596-601. IF = 2.559
3. Chong JR, Xiang P, Wang W, Hind T, Chew WS, Ong WY, Lai MKP, Herr DR[‡]. Sphingolipidomics analysis of large clinical cohorts. Part 2: Potential impact and applications. (Invited Review.) **Biochem Biophys Res Commun**. 2018 Oct 7;504(3):602-607. doi: 10.1016/j.bbrc.2018.04.075. IF = 2.559
4. Herr DR[‡], Ong JH, Ong WY. Potential Therapeutic Applications for Inhibitors of Autotaxin, a Bioactive Lipid-Producing Lysophospholipase D, in Disorders Affecting the Nervous System. **ACS Chem Neurosci**. 2018 Mar 21;9(3):398-400. IF = 3.883
5. Patmanathan SN, Wang W, Yap LF, Herr DR, Paterson IC. Mechanisms of sphingosine 1-phosphate receptor signalling in cancer. **Cellular Signalling**. 2017 Mar 13. pii: S0898-6568(17)30071-2. IF = 4.191
6. Ong WY, Herr DR, Farooqui T, Ling EA, Farooqui AA. (2015) Role of sphingomyelinases in neurological disorders. **Expert Opin Ther Targets**. 2015 Aug 4:1-18.
7. Herr DR[‡]. (2012) Potential use of G protein-coupled receptor-blocking monoclonal antibodies as therapeutic agents for cancers. (Invited Review.) **International Review of Cell & Molecular Biology**. 297:45-81. IF = 4.973
8. Lin M, Herr DR, Chun J. (2010). Lysophosphatidic acid (LPA) receptors: Signaling properties and disease relevance. **Prostaglandins and Other Lipid Mediators**. Apr;91(3-4):130-8.
9. Choi JW*, Herr DR*, Noguchi K, Yung YC, Lee CW, Mutoh T, Lin M, Teo ST, Park KE, Mosley AN, Chun J. (2010). LPA Receptors: Subtypes and Biological Actions. **Annual Review of Pharmacology and Toxicology**. 50:157-86. (IF: 19.2)

10. Teo ST, Yung YC, Herr DR, Chun J. (2009). Lysophosphatidic acid in vascular development and disease. **IUBMB Life**. Jul 20;61(8):791-799.
11. Noguchi K, Herr D, Mutoh T, Chun J. (2009). Lysophosphatidic acid (LPA) and its receptors. **Current Opinions in Pharmacology**. 9:15-23.
12. Herr DR, Chun J. (2007). Effects of LPA and S1P on the nervous system and implications for their involvement in disease. **Current Drug Targets**. Jan; 8(1):155-67.

Book Chapters.

1. Autophagy in Health and Disease. (2012) Deron Herr & Kim D. Finley, Molecular Machinery and Genetics of the Autophagy Pathway. Chapter 2, pg.11-30. Roberta Gottlieb, Editor, Elsevier Inc. Copyright © 2013. ISBN:978-0-12-386101-7.

* Authors contributed equally.

‡ Corresponding author.

Presentations/seminars/invited lectures

1. Deron R. Herr. Sphingosine 1-phosphate receptors play complex roles in the regulation of cell invasion and chemosensitivity. *Platform talk*. 9th Barossa Meeting - Cell Signalling in Cancer Medicine, Adelaide, Australia, November 14th 2019.
2. Deron R. Herr, Kanokporn Chayaburakul, and Wei-Yi Ong. Molecular and ultrastructural characterization of DHA-induced pyroptosis. *Platform talk*. Electron Microscopy Unit School 2019 Part 2: Scanning Electron Microscopy, National University of Singapore, Oct 2 2019
3. Deron R. Herr. S1P₂ activation attenuates cisplatin-mediated neuropathy. *Platform talk*. Neuroscience Singapore 2019: Neuroscience and Society Singapore, September 26 2019.
4. Deron R. Herr. Identifying novel biological functions and drug targets within the sphingosine 1-phosphate signaling pathway. *Invited lecture*. University of Colombo, Department of Chemistry, Sri Lanka. September 6th 2019.
5. Wei Wang, Ping Xiang, Wee Siong Chew, Deron R. Herr. Activation of S1P₂ attenuates neuroinflammation and chemotherapy-induced neuropathy in vitro and in vivo. *Platform talk*. FASEB Science Research Conference. Lisbon, Portugal. July 2019.
6. Deron R. Herr. Sphingosine 1-phosphate signaling in the dorsal root ganglion modulates chemotherapy-induced neuropathy. *Plenary lecture*. The 42nd Annual Conference of the Anatomy Association of Thailand (AAT42), Songkhla, Thailand. May 22-24, 2019.
7. Deron R. Herr. Lipidomic analysis of plasma sphingolipids in an East Asian population identifies novel associations with obesity- and diabetes-related characteristics. *Keynote address*. 4th RSU National and International Research Conference on Science and Technology, Social Sciences, and Humanities 2019 (RSUSSH 2019). Pathum Thani Province, Thailand. April 26, 2019.
8. Deron R. Herr. Non-canonical structural variants of sphingosine 1-phosphate are altered in the plasma of patients with vascular dementia, but not with Alzheimer's disease. *Poster presentation*. SfN Neuroscience 2018, San Diego, CA, U.S.A. November 2018.
9. Deron R. Herr. Alterations in sphingosine 1-phosphate composition in the plasma of VaD patients. *Invited talk*. Symposium on Biomarkers in Dementia and Cognitive Impairment. Singapore, March 2018.
10. Deron R. Herr. The final education frontier. How to conquer graduate school and enjoy the ride. *Invited seminar*. NUSMed. National University of Singapore. 15 January 2018.
11. Deron R. Herr. Pharmacology of S1P signaling. *Invited seminar*. Life Sciences Institute. National University of Singapore. 12 October 2017.

12. Deron R. Herr. Derangement of specific S1P isoforms correlates with vascular dementia, but not with Alzheimer's disease. *Platform talk*. FASEB Science Research Conference. New Orleans, LA, USA. August 2017.
13. Deron R. Herr. Deorphanization of adropin receptor GPR19 and its possible role in breast cancer metastasis. *Invited seminar*. St. Louis University, St. Louis, MO, USA. 16 August 2017.
14. Deron R. Herr. The use of animal models for screening and validation of neuroprotective drugs. *Invited seminar*. IBRO-APRC Neuroscience Associate School. Singapore, 3 July 2017.
15. Deron R. Herr. Development of Otoprotective Drugs with a Novel Mechanism of Action: Sphingosine 1-Phosphate Receptor Agonists. *Invited seminar*. World Hearing Day Research Symposium. Singapore, 3 March 2017.
16. Deron R. Herr, Marie J. Y. Reolo, Yee Xin Peh, Wei Wang. Development of a novel sphingosine 1-phosphate receptor 2 (S1P₂) agonist for the prevention of cisplatin ototoxicity. *Featured oral presentation*. 25th FAOBMB International Conference, Manila, Philippines, December 2016.
17. Deron R. Herr, Marie J. Y. Reolo, Yee Xin Peh, Wei Wang. Pharmacological activation of sphingosine 1-phosphate receptor 2 (S1P₂) protects neural-derived cells from cisplatin toxicity by attenuating generation of reactive oxygen species. *Poster presentation*. SfN Neuroscience 2016, San Diego, CA, U.S.A. November 2016.
18. Malavika Srikanth, Chew Wee Siong, Ong Wei Yi, Deron R. Herr. LPA₁ Receptor Antagonism Attenuates Orofacial Inflammatory Pain *in vivo*. *Poster presentation*. SfN Neuroscience 2016, San Diego, CA, U.S.A. November 2016.
19. Deron R. Herr. Targeting sphingosine 1-phosphate receptor 2 (S1P₂) to attenuate cisplatin toxicity. *Invited seminar*. University of Strathclyde, Institute of Pharmacy and Biomedical Sciences, Glasgow, U.K. 12 May 2016.
20. J.D. Thomas, L. Jeanguenin, D.R. Herr, S.M. Walls, N.M. Idrus, G.L. Harris. Choline supplementation attenuates increased hippocampal ceramide levels associated with developmental alcohol exposure. *Poster presentation*. 39th Annual RSA Scientific Meeting. New Orleans, LA, U.S.A. June 25-29, 2016.
21. Deron R. Herr, Greg L. Harris. Selective inhibition of NADPH oxidase in the cochlea by activation of a GPCR: implications for otoprotective therapy. *Poster presentation*. Keystone Meeting. G Protein-Coupled Receptors: Structure, Signaling and Drug Discovery. Keystone, CO, U.S.A. February 21-25, 2016.
22. Deron R. Herr. S1P₂ activity is cytoprotective due to the inhibition of NADPH oxidase and reduction of reactive oxygen species. *Platform talk*. FASEB Science Research Conference. Banff, Canada. August 2015.
23. Deron R. Herr. Evidence for distinct biological roles of sphingolipid dienes. *Invited seminar*. SLING workshop: Chemical diversity of sphingolipids and their potential biological functions. National University of Singapore. 26 March 2015.
24. Deron R. Herr. Sphingosine 1-phosphate receptor type 2 (S1P₂) mediates diverse biological processes in cancer and in inner ear function. *Invited seminar*. University of Malaya, Faculty of Dentistry, Kuala Lumpur, Malaysia. 2 March 2015.
25. Deron R. Herr. To survive or to thrive? How to do well in graduate school and enjoy the ride. *Invited seminar*. NUSMed. National University of Singapore. 15 January 2015.
26. Deron R. Herr. Bioactive Lipids as Therapeutic Targets for Multiple Indications. *Invited seminar*. San Diego State University, San Diego, CA. 18 December 2014.
27. Deron R. Herr. Preclinical development of GPCR-targeted therapeutic antibodies. *Poster Presentation*. Antibody Engineering & Therapeutics 2014. Huntington Beach, CA. 7-11 December 2014.
28. Deron R. Herr, Chang-Wook Lee, Wei Wang, Adam Ware, Richard Rivera, and Jerold Chun. Sphingosine 1-phosphate receptors are essential mediators of eyelid closure during

- embryonic development. *Poster Presentation*. FASEB Science Research Conference. Niseko, Japan. August 2013.
29. Deron R. Herr. Getting Stated in a Startup. *Invited seminar*. BIOL594, Biotech Research Rounds. San Diego State University, San Diego, CA. 21 September 2011.
 30. Deron R. Herr, Michael B. Creason, Greg L. Harris. Development of an S1P₃-blocking monoclonal antibody for the treatment of breast cancer and sepsis. *Platform Talk*. FASEB Summer Research Conference. Lucca, Italy. August 2011.
 31. Deron R. Herr, Michael B. Creason, Greg L. Harris. Evaluation of a GPCR-blocking monoclonal antibody as a therapeutic for the treatment of breast cancer. *Poster Presentation*. Keystone Symposium, Antibodies as Drugs. Keystone, CO, February 2011.
 32. Deron R. Herr. Emerging therapeutics for the treatment of multiple sclerosis. MB 610: Molecular Basis of Disease. *Invited seminar*. San Diego State University, San Diego, CA. 26 October 2010.
 33. Deron R. Herr, Michael B. Creason, Greg L. Harris. Generation of a GPCR-blocking monoclonal antibody. *Poster Presentation*. Keystone Symposium, G Protein-Coupled Receptors. Breckenridge, CO, April 2010.
 34. Deron R. Herr. Sphingosine 1-phosphate signaling in cancer. *Invited seminar*. MB 610: Molecular Basis of Disease. San Diego State University, San Diego, CA. 4 November 2009.
 35. Greg L. Harris, Michael B. Creason, and Deron R. Herr. Biologic antagonism of S1P₃ for the treatment of breast cancer. *Poster Presentation*. FASEB Summer Conference. Carefree, AZ. June 2009.
 36. Deron R. Herr. Antibody antagonism of a G protein-coupled receptor. *Invited seminar*. Agency for Science, Technology, and Research, Singapore, July 7 2009.
 37. Deron R. Herr. Sphingosine 1-phosphate signaling: drug target for deafness and cancer. *Invited seminar*. Truman State University, Kirksville, MO, March 20 2009.
 38. Deron R. Herr. A transition from *Drosophila* to mammalian models and human disease. *Invited seminar*. San Diego State University, San Diego, CA. 16 October 2008.
 39. Deron R. Herr, Nicolas Grillet, Martin Schwander, Richard Rivera, Ulrich Mueller, Jerold Chun. S1P signaling is essential for maintenance of hair cells and afferent neurons in the cochlea. *Minisymposium talk*. Neuroscience Meeting. Society for Neuroscience. November 2007.
 40. Deron R. Herr, Jerold Chun. Deafness and balance defects in knockout mice reveal an essential role of S1P in hair cell maintenance. *Poster Presentation*. FASEB Summer Conference. Tuscon, AZ. June 2007.
 41. Deron R. Herr, Jerold Chun. Loss of Sphingosine 1-phosphate Signaling Causes Hair Cell Degeneration and Deafness in a Knockout Mouse Model. *Poster Presentation*. 46th Annual Meeting of the American Society for Cell Biology. San Diego, CA. December 2006.
 42. Deron R. Herr. A Genetic Model to Understand the Roles of Sphingolipids in the Development of *Drosophila melanogaster*. *Invited seminar*. March 25, 2003. University of Padova. Padova, Italy.

Patents

1. Deron R. Herr, Greg L. Harris. "Sphingosine 1-Phosphate Antagonism"
Serial Number: 12/391,664. International Application Number: PCT/US09/35001
2. Deron R. Herr, Greg L. Harris. "CDR Regions of Monoclonal Antibody that Antagonizes Sphingosine 1-phosphate and Related Methods." Publication number: WO2013022863 A1.
Application number: US 14/237,338

Research Support.

Ongoing Research Support

NUS Medicine Dean's Office: Clinical assessment of the use of reverse transcriptase inhibitors in patients with mild cognitive impairment		
Herr (Co-investigator)	01/10/2019 – 31/03/2022	S\$341,000
NMRC Clinician Scientist Award: Translational Research in Vascular Biomarkers of Dementia: Discovery, Validation and Assessment of Clinical Utility		
Herr (Co-investigator)	10/01/2017 – 31/01/2022	S\$3,200,000

Completed Research Support

NUHS Seed Fund: Discovery of the molecular mechanisms underlying delayed cerebral ischemia following subarachnoid hemorrhage		
Herr (Co-investigator)	01/10/2019 – 31/03/2021	S\$150,000
Academic Research Fund – Tier 1 (MOE): Characterization of specific bioactive lipids that mediate cognitive impairment		
Herr (Co-investigator)	31/03/2018 – 30/03/2021	S\$179,000
Academic Research Fund – Tier 1 (MOE): Identification of bioactive lipids that underlie obesity-related chronic pain		
Herr (PI)	31/03/2017 – 30/03/2020	S\$179,000
NUHS Bridging Fund: Investigating a novel molecular regulator of cochlear integrity and hearing loss.		
Herr (PI)	01/12/2017 – 30/11/2018	S\$64,811
NMRC CS-IRG: Identification of novel components of lipid signaling pathways as therapeutic targets for inflammatory pain		
Herr (Co-investigator)	01/04/2015 – 31/03/2018	S\$360,000
Aspiration Fund Partnership Grant (NUHS): The regulation of obesity by novel lipid signaling systems		
Herr (PI)	01/12/2014 – 30/11/2017	S\$360,000
NUHS-CG Seed Funding: Uncovering the Biochemical Relationship Between Pain and Depression: A Behavioral Analysis		
Herr (Co-investigator)	01/04/2015 – 31/03/2017	S\$50,000
NUHS Clinician Research Fund: Evaluating DHA and Souvenaid as Novel Analgesics		
Herr (Co-investigator)	01/04/2015 – 31/03/2017	S\$149,000
Academic Research Fund – Tier 1 (MOE): Investigating a novel molecular regulator of cochlear integrity and hearing loss.		
Herr (PI)	01/04/2014 – 31/03/2017	S\$174,000
Academic Research Fund – Tier 1 (MOE): Validation of novel approaches for non-narcotic pain management.		
Herr (PI)	01/04/2013 – 31/03/2016	S\$180,000
Cross Faculty Grant (NUS): Development of aptamer drugs for cell surface receptors.		
Herr (PI)	01/04/2014 – 31/03/2016	S\$25,000
Faculty start-up grant (NUS): Targeting lipid receptors for the treatment of cancer.		
Herr (PI)	01/09/2012 – 31/08/2014	S\$200,000

Grants4targets (Bayer Healthcare): Validating free fatty acid receptors as targets for the treatment of breast cancer.

Herr (PI) 01/01/2013 – 31/12/2014 €5,000

NIH-NCI 1R43CA156892: Characterization of a GPCR-Blocking Antibody for the Treatment of Cancer.

Herr (PI) 26/09/2011 – 31/08/2012 USD\$167,049

Capita Foundation Research Grant: Exploring new modalities for the treatment of hearing loss through the study of S1P signaling.

Herr (PI) 01/09/2008 – 31/08/2010 USD\$40,000

NIH-NCI 1R43CA32400: Targeting S1P₃ for the treatment of breast cancer.

Herr (PI) 01/09/2008 – 31/08/2009 USD\$100,000

Paid consultancies

Expression Drug Designs, LLC // 2012 – present

Zymolo, Inc // 2019 – present

Jeffries, LLC // 2016

Kyowa Hakko Kirin // 2017

RA Capital Management, LLC // 2018

Teaching/Education

Courses Developed

MDG5232: Case studies in the biotechnology industry 2016 – 2021

The purpose of this course is to introduce students to the approaches and technologies that are used by successful biotechnology companies in Singapore and abroad, and to familiarize the students with the individuals and companies that act as leaders in this sector. This will be done by examining specific companies as “case studies”. Each case study will involve the evaluation of the company’s technology and the market environment, followed by direct contact with one or more principles of the company.

Courses Coordinated

GEK2501: Understanding your medications 2012 – 2017

The module will introduce students in the humanities to the general principles of drug actions that underpin their therapeutic applications. The science of drug action (pharmacology) will include two major areas of pharmacology, pharmacodynamics and pharmacokinetics, which provide the scientific foundation for the study of drug actions. In dealing with the therapeutic applications of drug actions, examples of commonly used drugs for specific disease states will be discussed, and their possible side-effects highlighted. The examples will illustrate the use of over-the-counter as well as prescription drugs.

MDG5771: Graduate Research Seminar and Workshop 2012 – 2020

This course aims to cultivate a strong research culture among graduate students by exposing students to diversified area of current research topics and to improve their communication skills through presentations and interactions with other researchers. Students are required to attend at least 7 out of the 10 seminars held each semester for 2 consecutive semesters. In addition, they are required to present at least once during the 2 semesters.

LSM4211: Toxicology 2016 – 2020

This module aims to provide the basic principles and knowledge of modern toxicology by focusing on the adverse effects of chemicals/xenobiotics on humans. Via this module, the students are expected to understand key concepts related to toxicology, including molecular mechanisms, biotransformation, toxicokinetics and toxicodynamics, the organ/system specific effects of various toxins/toxicants, and toxicological assessment related to drug development, which will be covered by the lectures. In addition, PBL topics will be assigned to students to expand the lecture contents and to deepen the understanding of specific topics. The students will be examined by a final exam consisting of both MCQ and essay questions.

Courses Participated

LSM4214: Cancer pharmacology 2012 – 2015, 2018 – 2020

Contributed lectures on targeted therapies and drug target discovery.

This module will introduce students to the general principles of drug actions that underpin their therapeutic applications against cancers, from conventional (non-specific) chemotherapy to target-specific drugs. It will provide details of drugs used in specific cancer types, ranging from those with proven efficacy in clinics (e.g. Gleevec) to experimental agents undergoing clinical trials. Conceptual and theoretical targets (e.g. RNAi and gene therapies) will also be introduced.

MDG5227: Bio-innovation and entrepreneurship 2015

Contributed a lecture on therapeutic antibody market considerations.

This course covers comprehensively the important elements required to build and develop a bio-business through a series of lectures and highly interactive tutorials, workshops and panel discussions with experts. A diverse team of lecturers will bring in expert practitioners' experience and knowledge on different aspects of a biobusiness. The course will guide the students through the process of generating an idea and developing it to a business pitch.

Postdoctoral Fellows

1. Chew Wee Siong, Ph.D. (2015-2020)
2. Xiang Ping, Ph.D. (2016-2020)
3. Leona Ho, Ph.D. (co-supervised, 2020-present)
4. Wang Wei, Ph.D. (co-supervised, 2020)

Employees

1. Michael Creason, M.Sc., Research Assistant (2005-2010)
2. Timothy Cheong, Ph.D., Scientist (2011-2012)
3. Garret Guenther, Ph.D., Scientist (2012-2013)
4. Wang Wei, B.S., Research Assistant (2011-2019)
5. Mark Seow, B.S., Research Assistant (2016-2018)
6. Siti Nasuha Binte Abdul Karim, B.S., Research Assistant (2017-2018)
7. Mariya D/O Parimelalagan, Research Assistant (2018-2020)
8. Goh Zi Ning Louise, B.S., Research Assistant (2018-2019)
9. Lam Wan Shing Brenda, B.S., Research Assistant (2018-2019)
10. Yam Ting Yu Amelia, B.S., Research Assistant (2019-present)

Graduate Students (current).

1. Chua Xing Ying, Ph.D. candidate, NUS, Aug 2018 intake
2. Lam Wan Shing Brenda, Ph.D. candidate, NUS, Aug 2019 intake

Graduate Students (former).

1. Madhumathi Thirunavukkarasan, Ph.D. "*Characterizing the role of free fatty acid receptors (FFARs) in breast cancer cells.*" (NUS, 2017)
2. Angad Rao, Ph.D. "*Evaluating the therapeutic potential of orphan G protein-coupled receptors: GPR19 and GPR17.*" (NUS, 2017)
3. Malavika Srikanth, Ph.D. "*Role of PLA₂-derived bioactive lipids in Neuroinflammation.*" (NUS, 2019)
4. Wang Wei, Ph.D. "*Roles of sphingosine 1-phosphate receptor 2 (S1P₂) in neural and cancer cells: implications for prevention of cisplatin-induced peripheral neuropathy.*" (NUS, 2019)

Recipient of the Lilly Prize for best graduate thesis in Pharmacology 2019.

Undergraduate Students

1. Lee Yenn Ting Charmaine, B.Sc. (NUS, 2013), Undergraduate honors research. "*Free Fatty Acid Receptor 1 Promotes Proliferation and Migration of Breast Cancer Cells.*"
2. Abrar Siddiquee, B.Sc. (NUS, 2014), Undergraduate honors research. "*Free Fatty Acid Receptor 2 Promotes Proliferation and Metastasis of MCF7 Breast Cancer cells.*"
3. Lim Siew Mon, B.Sc. (NUS, 2014), Undergraduate honors research. "*Evaluating LPA₁ as treatment for inflammatory pain.*"
4. Mohamed Ally Ibrahim, B.Sc. (NUS, 2015), Undergraduate honors research. "*Free Fatty Acid Receptor 3 Reduces Proliferation and Metastasis of MCF7 Breast Cancer cells.*"
5. Lim Shilei Ella, B.Sc. (NUS, 2015), Undergraduate honors research. "*The effect of S1P₂ agonist, CYM-5478, on OC-k3 cells and its potential role in hearing loss.*"
6. Lam Yue Ning, B.Sc. (NUS, 2015), Undergraduate honors research. "*Comparison of Different Methods for the Directed Differentiation of Human Induced Pluripotent Stem Cells into Renal Proximal Tubular-Like Cells.*"
7. Reolo Marie Jennifer Yan, B.Sc. (NUS, 2015), Undergraduate research. "*Cytoprotective role of S1PR₂ agonist, CYM-5478, in rat glioma C6 cells: cochlear maintenance model.*"
8. Hee Yan Ting, B.Sc. (NUS, 2015), Undergraduate research. "*Using Calcium Imaging to Validate Antagonists of LPA₁.*"
9. Tan Hui Min, B.Sc. (NUS, 2015), Undergraduate research. "*Characterization of FFAR1 using TGF α Shedding Assay.*"
10. Ang Huili, B.Sc. (NUS, 2015), Undergraduate research. "*Characterization of FFAR1 allosteric site and its involvement with glucose in type two diabetes.*"
11. Andreas Alvin Purnomo Soetedjo, B.Sc. (NUS, 2016), Undergraduate honors research. "*Generation and Characterization of Antibodies Targeting G-Protein-Coupled Receptors: GPR17 and S1P₃.*"
12. Camelia Ortega, B.Sc. (NUS, 2016), Undergraduate honors research. "*Investigating the role of Free Fatty Acid Receptor 1 in Epithelial-Mesenchymal Transition in Breast Cancer Cells.*"
13. Chua Xin Ying, B.Sc. (NUS, 2016), Undergraduate honors research. "*Sphingosine 1-phosphate: a Potential Diagnostic Biomarker for Vascular Dementia.*" (Co-supervised by Mitchell P. Lai)
14. Teo Yuan Ru, B.Sc. (NUS, 2016), Undergraduate honors research. "*Possible Roles of Free Fatty Acid Receptors 2 and 3 in Breast Cancer Development.*"
15. Peh Yee Xin, B.Sc. (NUS, 2016), Undergraduate honors research. "*Cytoprotective Role of Sphingosine 1-Phosphate Receptor 2 Agonist (CYM-5478), Against Cisplatin, an Ototoxic Drug.*"
16. Reolo Marie Jennifer Yan, B.Sc. (NUS, 2016), Undergraduate honors research. "*Sphingosine 1-phosphate receptor 2 (S1P₂) protects cochlear integrity by attenuating reactive oxygen species generation.*"
17. Zhao Xinyuan, B.Sc. (NUS, 2017), Undergraduate honors research. "*The anti-inflammatory effect of Souvenaid in the brain mediated through DHA and its metabolites.*"
18. Ang Hui Li, B.Sc. (NUS, 2017), Undergraduate honors research. "*Mechanism of Deregulated Sphingosine 1-Phosphate Signaling In Neurological Diseases.*"

19. Sim Poh Khee, B.Sc. (NUS, 2017), Undergraduate honors research. "*HCAR₁ exhibits anti-proliferative effect and does not confer tamoxifen resistance in MCF-7 cells.*" **Recipient of the Lilly Prize for best undergraduate thesis in Pharmacology 2017.**
20. Lam Wan Shing Brenda, B.Sc. (NUS, 2018), Undergraduate honors research. "*New insights into the metabolism of non-canonical sphingolipids.*"
21. Goh Zi Ning Louise, B.Sc. (NUS, 2018), Undergraduate honors research. "*Examining the role of bioactive lipids in the link between obesity and diabetes.*"
22. P Santhia, B.Sc. (NUS, 2018), Undergraduate honors research. "*Characterizing the roles of bioactive lipids in inflammation.*"
23. Kalashobini D/O Chandrasaharan, B.Sc. (NUS, 2018), Undergraduate honors research. "*Characterizing the neuroinflammatory responses to bioactive lipids.*"
24. Tejasvene Ramesh, B.Sc. (NUS, 2019), Undergraduate honors research. "*Exploring the role of S1P₂ in Vascular dementia.*"
25. Noor Rashidha Bte Meera Sahib, B.Sc. (NUS, 2019), Undergraduate honors research. "*Novel screening assays for anti-inflammatory compounds.*"
26. Janice Lian Hui Min, B.Sc. (NUS, 2019), Undergraduate honors research. "*Development and application of a novel screening assay for GPCR targeted drugs.*"
27. Leong Hui Lin Kathleen, B.Sc. (NUS, 2019), Undergraduate honors research. "*Developing STAT3 Inhibitor Screening Assays for Drug Development.*"
28. Duryakshini Gurusamy, B.Sc. (NUS, 2019), Undergraduate honors research. "*Screening natural product libraries to identify new drug candidates for airway inflammation.*"
29. Lay Jing Rong Priscilla, B.Sc. (NUS, 2019), Undergraduate honors research. "*Establishing novel screening assays for anti-neuroinflammatory compounds.*"
30. Neville Cheong Kar Sang, B.Sc. (NUS, 2019), Undergraduate honors research. "*Screening Natural Product Libraries For Novel Inhibitors of CCL5.*"
31. Yam Ting Yu Amelia, B.Sc. (NUS, 2019), Undergraduate honors research. "*Characterising a novel neuroinflammatory pathway mediated by DHA Metabolism.*"
32. Chang Jing Kai, B.Sc. (NUS, 2019), Undergraduate honors research. "*Validation and Drug-Design for Sphingosine 1-Phosphate Receptor 2 (S1P₂) Targeted Therapeutics.*" **Recipient of the Lilly Prize for best undergraduate thesis in Pharmacology 2020.**

Exchange Students / Interns

1. Abraham Sterling, B.Sc. (UNC-CH, U.S.A., 2013), Undergraduate research. "*Exploration of the Effects of LCFFAs in relations to FFARs in the MDA-MB-231 and OVK18 cell lines.*"
2. Lam Wan Shing Brenda, Biomedical Science Diploma (Ngee Ann Polytechnic, Singapore, 2013), "*Development of aptamers as drug candidates for cell surface receptors.*"
3. Selina Setiadi Wong, Biomedical Science Diploma (Ngee Ann Polytechnic, Singapore, 2013), "*Development of aptamers as drug candidates for cell surface receptors.*"
4. Julia Han Noll, B.Sc. (University of Heidelberg, Germany, 2013), Undergraduate research. "*Targeting lipid receptors for the treatment of cancer.*"
5. Koh Pei Pei, Biomedical Science Diploma (Ngee Ann Polytechnic, Singapore, 2014), "*Isolation of therapeutic aptamers through SELEX against LPAR1 in neuropathic pain.*"
6. Jolene Sim, Biomedical Science Diploma (Ngee Ann Polytechnic, Singapore, 2014), "*Isolation of therapeutic aptamers through SELEX against LPAR1 in neuropathic pain.*"

7. Joel Chan, Biomedical Science Diploma (Ngee Ann Polytechnic, Singapore, 2014), *“Developing and Characterising Biologics for Chronic Pain Treatment via LPA₁-mediated pathway.”*
8. Siti Shahirah, Biomedical Science Diploma (Ngee Ann Polytechnic, Singapore, 2014), *“Developing and Characterising Biologics for Chronic Pain Treatment via LPA₁-mediated pathway.”*
9. Sarah Underwood, B.Sc. (UNC-CH, U.S.A., 2014), Undergraduate research. *“Evaluating the effects of lipid signaling on cancer cells by immunocytochemistry.”*
10. Tim Lohoff, B.Sc. (University of Bielefeld, Germany, 2014), Undergraduate research. *“Evaluation of free fatty acid signaling in breast cancer cells.”*
11. Nicole Isabella Tan Yi Zhen, Biomedical Science Diploma (Ngee Ann Polytechnic, Singapore, 2015), *“Validation and Characterization of Candidate LPA₁ binding Aptamers for Treating Neuropathic Pain.”*
12. Low Hui Ching Shannon, Biomedical Science Diploma (Ngee Ann Polytechnic, Singapore, 2015), *“Validation and Characterization of Candidate LPA₁ binding Aptamers for Treating Neuropathic Pain.”*
13. Michael Liu, B.Sc. (University of Toronto, Canada, 2015), Undergraduate research. *“The effect of FFAR1 on MDF-7 sensitivity to chemotherapeutic drugs.”*
14. Boi Linh Truong, B. Sc. (Ruprecht-Karls-Universität Heidelberg, Germany, 2015), Undergraduate research. *“Characterization of FFAR1 signaling in breast cancer cells.”*
15. Vidisha Singh, B.Sc. (University of Toronto, Canada, 2016), Undergraduate research. *“The cytoprotective role of CYM-5478 against serum starvation.”*
16. Heng Hui Li, Ph.D. candidate (University of Malaya, Malaysia, 2016), Graduate thesis project, *“Characterization of novel drug compounds for adrenergic and serotonergic receptors.”*
17. Lee Hui Min Jasmine, Biomedical science diploma (Ngee Ann Polytechnic, 2016) *“Characterization of Novel Drugs that target G Protein-Coupled Receptors using Transforming Growth Factor Alpha Shedding Assay.”*
18. Nicholas Hay Wei Jie, Biomedical science diploma (Ngee Ann Polytechnic, 2016), *“Characterization of Novel Drugs that target G Protein-Coupled Receptors using Transforming Growth Factor Alpha Shedding Assay.”*
19. Muhammad Adam Ihsan Boon Jia Sheng, Biomedical science diploma (Ngee Ann Polytechnic, 2017), *“Detecting Signalling Bias in Sphingosine-1-Phosphate Receptors.”*
20. Ryan Wong, Biomedical science diploma (Ngee Ann Polytechnic, 2017), *“Detecting Signalling Bias in Sphingosine-1-Phosphate Receptors.”*
21. Tatsuma Hind, (University of British Columbia, Vancouver, Canada, 2017), *“Characterization/de-orphanization of GPR19.”*
22. Phaedra Tan Ci Hui, Biomedical science diploma (Ngee Ann Polytechnic, 2018), *“Engineering reliable and sensitive biosensors for the detection of CB1 receptor and caspase-1 activity.”*
23. Lim Ching Yee Carine, Biomedical science diploma (Ngee Ann Polytechnic, 2018), *“Engineering reliable and sensitive biosensors for the detection of CB1 receptor and caspase-1 activity.”*
24. Nafeesah Bte Mohamed Ibrahim, Research Intern (NUS, 2018). *“Characterization of the induction of pyroptosis by a novel lipid mediator.”*

25. Mia Vega (Pennsylvania State University, 2019). "*Molecular characteristics of DHA-induced pyroptosis in BV2 microglial cells.*"
26. Lovelight Jonah (University of Kansas, 2019). "*Molecular characteristics of DHA-induced pyroptosis in BV2 microglial cells.*"
27. Anabel Chang Jia Wei (Ngee Ann Polytechnic, honors research). "*Examining the role of d18:1 and d16:1 sphingosine 1-phosphate in modulation of hypothalamic insulin sensitivity.*"
28. Maxino Leanette Torres (Ngee Ann Polytechnic, honors research). "*Examining the role of d18:1 and d16:1 sphingosine 1-phosphate in modulation of hypothalamic insulin sensitivity.*"
29. Gautam Narayan, Research Intern (University of California, San Diego).

Thesis Advisory Committees Served.

1. Lue Ke Xin, Ph.D. candidate, NUS, 2013-2014
2. Jayakody Pathirannehelage Tharindunee Jayakody, Ph.D. candidate, NUS, 2013-2018
3. Wu Qingqing, Ph.D. candidate, NUS, 2015-2019
4. Xianyuan Zhang, Ph.D. candidate, NUS, 2015-2018
5. Yohannes Abere Ambaw, Ph.D. candidate, NUS, 2015-2019
6. Jigna Rajesh Kumar, Ph.D. candidate, NUS, 2015-2018
7. Suku-Maran Shalini, Ph.D. candidate, NUS, 2015-2017
8. Joyce Chong Ruifen, Ph.D. candidate, NUS, 2018-present
9. Rubin Yong How Sheng, Ph.D. candidate, NUS, 2019-present

Thesis Defense Committees Served.

1. Guan Shou Ping, NUS, "*Effects of andrographolide and 14-Deoxy-11,12-Didehydroandrographolide in obstructive respiratory disease mouse models.*" Ph.D. awarded 2013.
2. Radhamani Kannaiyan, NUS, "*Identification of a novel agent that can suppress proliferation, induce apoptosis and overcome chemoresistance in multiple myeloma.*" Ph.D. awarded 2013.
3. Deng Shuo, NUS, "*A novel role of gelsolin in autophagy and cancer cell survival.*" Ph.D. awarded 2014.
4. Loo Ser Yue, NUS, "*Targeting mitochondrial manganese superoxide dismutase to improve treatment of breast carcinoma.*" Ph.D. awarded 2014.
5. Nur Ezan Mohammed, NUS, "*Alterations in the glutamatergic system and their associations with clinical and neuropathological features of neurodegenerative diseases.*" Ph.D. awarded 2014.
6. Lau Wai Hoe, NUS, "*The role of trefoil factor 3 in mammary carcinoma angiogenesis.*" Ph.D. awarded 2014.
7. Li Yao, NUS, "*Development of human in vitro models for predicting organ-specific toxicity.*" Ph.D. awarded 2014.
8. Woo Chern Chiu, NUS, "*Evaluation of thymoquinone for cytotoxic activity against human breast cancer cell lines and tumor xenograft in nude mice.*" Ph.D. awarded 2014.
9. Chew Wee Siong, NUS, "*Function and Regulation of Prefrontal Cortical Calcium-Independent Phospholipase A2.*" Ph.D. awarded 2015.
10. Loke Sau Yeen, NUS, "*Cholesterol induced gene expression changes in the brain and cerebral vessels.*" Ph.D. awarded 2015.
11. Hua Fei, NUS, "*Targetting Na⁺/K⁺-ATPase to treat heart failure and osteoporosis.*" Ph.D. awarded 2015.

12. Tan Wee Shan Joey, NUS, "*Acute effects of silver nanoparticles in SH-SY5Y cells.*" M.Sc. awarded 2015.
13. Tan Hui Ru Laura, NUS, "The full brain distribution of neutral sphingomyelinase 2 and its role in the striatum." M.Sc. awarded 2016.
14. Yang Ying, NUS, "Sphingosine kinase inhibition ameliorates chronic hypoperfusion-induced white matter lesions." Ph.D. awarded 2016.
15. Liu Weiling, NUS, "*Role of cytokines and glial cells in pain models: nociceptive (osteoarthritis) and neuropathic (paclitaxel-induced) pain.*" M.Sc. awarded 2017.
16. Xianyuan Zhang, NUS, "*The Role of Octopaminergic and Tyraminerbic Circuits in Innate Valence.*" Ph.D. awarded 2018.
17. Wu Qingqing, NUS, "*Cytosine arabinose chemotherapy treatment is associated with abnormalities in adult neurogenesis and synaptic development: Neurological sequelae treatable by voluntary running.*" Ph.D. awarded 2019.
18. Ng Si Yun, NUS, "*Peptidergic-mediated modulation of salience processing by septal substance P neurotransmission.*" Ph.D. awarded 2019.
19. Sanzhar Karatayev, NUS, "*Investigation into the toxicity of dopamine thioesters and the anti-inflammatory activities of putative MAO-B inhibitor metabolites.*" MSc. Awarded 2019.
20. Yohannes Abere Ambaw, NUS, "*Tear lipid mediators in healthy people and those with ocular surface disease.*" Ph.D. awarded 2019.
21. Collin Tran, University of New South Wales, Sydney, Australia, "*Investigating the role of dual sphingosine 1-phosphate receptor signalling in neuroprotection.*" Ph.D. awarded 2020.
22. Huang Tzu-Rung, Grace, NUS, "*Non-canonical trafficking of the amyloid precursor protein in the neuronal somatodendritic compartment.*" Ph.D. awarded 2020.
23. Jeongah Oh, NUS, "*Sphingolipid inventory and variability in human platelets.*" Ph.D. awarded 2020.
24. Liu Yiran, NUS, "The Role of ABCA8 in the Brain." Ph.D. awarded 2021.
25. Cao Lei, NUS, "Therapeutic Potential of Anti-NA⁺/K⁺-ATPase Antibodies for Parkinson's Disease." Ph.D. awarded 2021.
26. Mei Dan, NUS, "Cellular Mechanisms of Angiotensin II Type-2 Receptor Activation in Protecting Against Chronic Obstructive Pulmonary Disease." Ph.D. awarded 2021.
27. Low Ying Bei Clara, Nanyang Technological University, Singapore, "Multimodal approaches to study the isoform-specific role of Fyn tyrosine kinase in association with tau pathology in Alzheimer's disease and related tauopathies." Ph.D. awarded 2021.

Qualifying Exam Committees Served.

1. Cai Wanpei, Ph.D. candidate, NUS, 2014
2. Shalini Suku Maran, Ph.D. candidate, NUS, 2015
3. Dong Junrui, Ph.D. candidate, NUS, 2015
4. Wu Qingqing, Ph.D. candidate, NUS, 2015
5. Yohannes Abere Ambaw, Ph.D. candidate, NUS, 2015
6. Chai Yuek Ling, Ph.D. candidate, NUS, 2017
7. Sanzhar Karatayev, Ph.D. candidate, NUS, 2017
8. Zhu Mengyuan, Ph.D. candidate, NUS, 2019
9. Salai Kaung Htet Tun, Ph.D. candidate, NUS, 2020
10. Lily Henry, Ph.D. candidate, NUS, 2020
11. Matthew Heng Chew Kiat, Ph.D. candidate, NUS, 2020
12. Lee Wei Thye, Ph.D. candidate, NUS, 2020
13. Bideriya Ganzorig, Ph.D. candidate, National Central University, Taiwan, 2021

Teaching Awards.

1. Yong Loo Lin School of Medicine Graduate Mentor of The Year (GRAMAY) Award, National University of Singapore, 2020

Service

NUS committees

1. Yong Loo Lin School of Medicine Graduate Program Committee, 2017 – 2020
2. Department of Pharmacology, graduate student coordinator, 2015 – 2020
3. Institutional Animal Care and Use Committee, Alternate member, 2014 – 2019
4. Department of Pharmacology, Research committee, Seminar coordinator, 2014 – 2020
5. Department of Pharmacology, Education committee, Deputy member, 2014 – 2015
6. Department of Pharmacology, Space committee, Deputy member, 2014 – current

Conferences organized

1. Organizational committee, *International conference on pharmacology: Advances in translational sciences & drug discovery*, Singapore, July 4-5, 2019
2. Sole organizer, *Bioactive Lipid Signaling Systems: Sphingosine 1-phosphate and related GPCR ligands*, Singapore, April 4, 2019
3. Conference session chair, *7th International Singapore Lipid Symposium*, Singapore, March 7-9, 2018
4. Organizational Committee for the *International Conference on Scientific Frontiers in Natural Product Based Drugs*, Singapore, 2017
5. Organizational Committee for the *Pharmacology of Gaseous Mediators*, Singapore, 2016
6. Organizational Committee for the *IUPHAR World Conference on the Pharmacology of Natural and Traditional Medicine 2015*, Singapore, Treasurer, 2015
7. Organizational Committee for the *International Conference on Pharmacology and Drug Development*, Program chair, Singapore, 2013

Editorial boards

1. *Frontiers in Molecular Neuroscience*. Review Editor.
2. *Frontiers in Pain Research*. Review Editor.
3. *Neurochemistry International*. Review Editor.

Ad hoc scientific reviewer

Advanced Drug Delivery Reviews, BBA - Molecular and Cell Biology of Lipids, Bentham Science Publishers (eBook), BioMed Research International, British Journal of Pharmacology, Cancer Letters, Cancers, Cellular Signaling, Current Pharmaceutical Biotechnology, European Journal of Pharmacology, Evidence-Based Complementary and Alternative Medicine, Experimental Brain Research, Experimental Neurology, FEBS Letters, Frontiers in Medicine, Frontiers in Molecular Neuroscience, International Journal of Molecular Sciences, Invertebrate Reproduction and Development, IUBMB Life, Journal of Cellular and Molecular Medicine, Journal of Medicinal Chemistry, Journal of Neuroinflammation, Journal of Pathology, Journal of Pharmacological Sciences, Lipids in Health and Disease, Nature Scientific Reports, Medicinal Research Reviews, Molecular Brain, Neurochemistry International, Neuromolecular Medicine, Neuropharmacology, Neuroscience, Oncogene, Oncotarget, Pharmacological Research, PLoS One, Prostaglandins and Other Lipid Mediators, Pulmonary Pharmacology & Therapeutics, SLAS Technology

Professional societies

Pharmacological Society (Singapore): Treasurer, 2019 – present

Pharmacological Society (Singapore): Member, 2016 – present

Society for Neuroscience: Member, 2002 – present

Society for Neuroscience (Singapore): Member, 2018 – present