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One PHYSIOLOGY

A Mind for Science, A Heart for People

Issue: April - June 2019

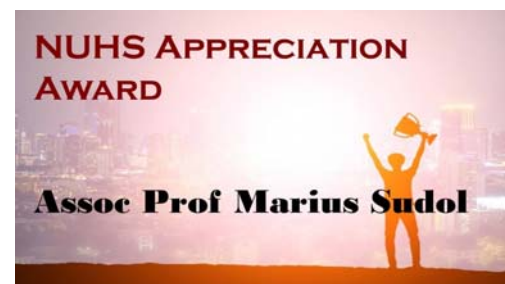


NUS Medicine Special Recognition Award for Academic Year 2017/2018



Heartiest congratulations to Professor Hooi Shing Chuan for being awarded the NUS Medicine Special Recognition Award for Academic Year 2017/2018 in recognition of his achievement as an exemplary role model to our NUS Medical undergraduates!

NUHS Appreciation Award 2019



Congratulations to Associate Professor Marius Sudol for achieving the NUHS Appreciation Award!

Researcher of the Year Award



Congratulations to Professor Shen Han-Ming on receiving Yong Loo Lin School of Medicine Researcher of the Year Award - AY2017/2018.

Young Researcher of the Year Award



Congratulations to Associate Professor Thai Tran on receiving Yong Loo Lin School of Medicine Young Researcher of the Year Award - AY2017/2018.

YLLSoM Graduate Mentor of the Year Award 2019



Congratulations to Professor Shen Han Ming and Associate Professor Reshma Taneja on being awarded Yong Loo Lin School of Medicine Graduate Mentor of The Year (GRAMAY) Award 2019!

Siew-Liew Wadsworth Awards 2019



Congratulations to the winners of 2019 SLW Intra-Departmental Research Grants and Concept Awards

Department of Physiology Laboratory Safety Award 2018-2019

Long Service Award



Congratulations to Associate Professor Reshma Taneja's lab and Associate Professor Thai Tran's lab for achieving the Department of Physiology Laboratory Safety Award 2018-2019.



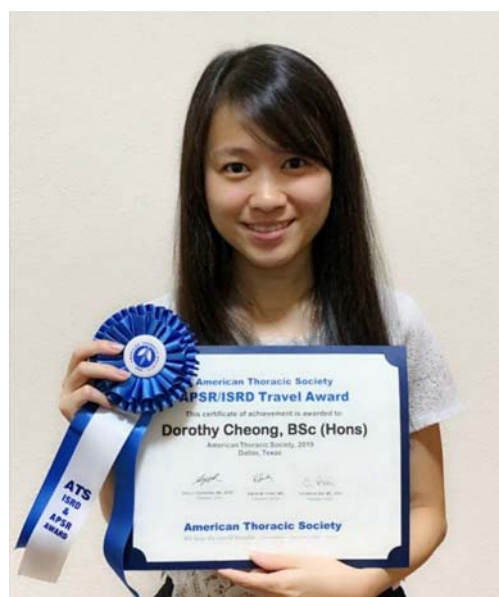
Congratulations to Associate Professor Koh Dow Rhon for being awarded 25-year Long Service Awards by both NUH and University Medicine Cluster on 27 June 2019.

14th NUS-Nagasaki Joint Symposium 2019 Best Poster Presentation



Congratulations to Saravanan Gunaseelan (Dr John Chua's lab) for winning the Best Poster Presentation in the 14th NUS-Nagasaki Joint Symposium 2019.

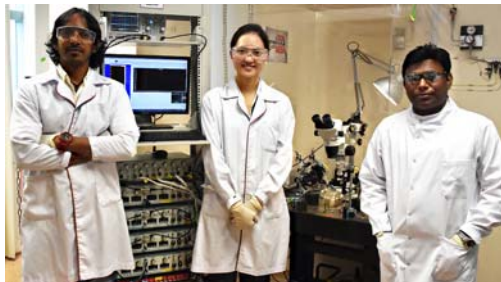
The Asian Pacific Society of Respirology (APSR) and International Society for Respiratory Diseases (ISRD) Travel Award.



Congratulations to Dorothy Cheong (Associate Professor Thai Tran's lab) for winning the Travel Award in the the Asian Pacific Society of Respirology (APSR) and International Society for Respiratory Diseases (ISRD) 2019.

Media Coverages

A/Prof Saji Kumar was on the news!



Associate Professor Saji Kumar Sreedharan was featured on several local and international media for his study published in the prestigious international journal Proceedings of the National Academy of Sciences of the United States of America (PNAS) on 1 March 2019.

News Coverage:

[NUS Medicine](#)

[Lianhe Zaobao, 12 April 2019, p4](#)

[BioSpectrum, 11 April 2019](#)

[Science Daily, 26 March 2019](#)

[Medical Xpress, 27 March 2019](#)

[NUS News](#)

A/Prof Jason Lee was on the news!

PREMIUM
Drinking water not best way to cool body, study finds



The findings could help athletes - and even people in occupational settings, like soldiers, firefighters and policemen - fight the heat. ST FILE PHOTO

Associate Research Professor Jason Lee was featured on Straits Times on 19 March 2019 in article "Drinking water not best way to cool body, study finds".

[Read the news on Straits Times](#)

Asst Prof John Chua was on the news!



A collaboration with 15 expert labs worldwide including Assistant Professor

Professor Shazib Pervaiz was on the news!

Radical View | June 2019

Shazib Pervaiz, MBBS, Ph.D.
National University of Singapore

By Ines Batinic-Haberle, Ph.D., Duke University

DOT: When you look backwards as well as ahead, do you feel fulfilled with what you are presently doing, or you would like to explore other topics within free radical biology and medicine or perhaps out of this field? Do you have any large goals that you have not yet had time to accomplish?

My perspective on life has been rather simple and modest - if you don't expect too much you don't set yourself up for disappointments. I have



Professor Shazib Pervaiz was interviewed by Society for Redox

John Chua has led to the development of a new online portal, SYNGO, which aims to represent the current scientific knowledge about synapses.

[Read the news on NUS Medicine](#)

Biology and Medicine DOT Newsletter in June issue.

[Read the news on DOTS Newsletter](#)

Promotion

Thai Tran - From Assistant Professor to Associate Professor with tenure



Congratulations to Associate Professor Thai Tran on her successful P&T application.



Whatever you are, be a good one.
- By Abraham Lincoln

News & Events

Research Get-together

Safety Day



On 12 April 2019, we celebrated A/Prof. Sajikumar Sreedharan's promotion. We also celebrated long service awards with 20 staff, click [here](#) to know more.

[Click here for more photos](#)



We had a successful department Safety Day on 23 May 2019, which included 2 talks by Dr. Lois Anne Zitzow (Director, Comparative Medicine) and Associate Professor Sim Tiow Suan (Chair, NUSMED Safety Chair), entertaining safety video screening and engaging games.

[Click here for more photos](#)

Science Pitch Day



The annual Science Pitch Day was held on 29 May this year. Congratulations to all the winners!

[List of winners](#)

[Click here for more photos](#)

2019 Sunburst Brain Camp



8th TF Intl-NUS STEP Brain Camp 2019 (9 - 15 June) was co-organized by our department with Temasek Foundation International. More than 120 youths from 15 countries across Asia and Singapore, had joined us at NUS to learn more about the workings of the brain.

Find out the video [in our Facebook page](#)

[Click here for more photos](#)

Marius Sudol Retirement Research Symposium

Research Get-together cum Hari Raya Celebration



We bid farewell to Associate Professor Marius Sudol in his dedicated Retirement Research Symposium on 24 June 2019.

[Click here for more photos](#)



We came together and celebrated Associate Professor Thai Tran's promotion and Hari Raya Puasa on 26 June 2019.

[Click here for more photos](#)

Recent Publications

[Cleavable cellulosic sponge for functional hepatic cell culture and retrieval.](#)

Sun M, Wong JY, Nugraha B, Ananthanarayanan A, Liu Z, Lee F, Gupta K, Fong ELS, Huang X, Yu H.

Biomaterials. 2019 May;201:16-32. doi: 10.1016/j.biomaterials.2019.01.046. Epub 2019 Feb 6.

[Abstract](#)

[NRF2/ARE pathway negatively regulates BACE1 expression and ameliorates cognitive deficits in mouse Alzheimer's models.](#)

Bahn G, Park JS, Yun UJ, Lee YJ, Choi Y, Park JS, Baek SH, Choi BY, Cho YS, Kim HK, Han J, Sul JH, Baik SH, Lim J, Wakabayashi N, Bae SH, Han JW, Arumugam TV, Mattson MP, Jo DG.

Proc Natl Acad Sci U S A. 2019 Jun 18;116(25):12516-12523. doi: 10.1073/pnas.1819541116. Epub 2019 Jun 4.

[Abstract](#)[IL-37 increases in patients after ischemic stroke and protects from inflammatory brain injury, motor impairment and lung infection in mice.](#)

Zhang SR, Nold MF, Tang SC, Bui CB, Nold CA, Arumugam TV, Drummond GR, Sobey CG, Kim HA.

Sci Rep. 2019 May 6;9(1):6922. doi: 10.1038/s41598-019-43364-7.

[Abstract](#)[Cerebral transcriptome analysis reveals age-dependent progression of neuroinflammation in P301S mutant tau transgenic male mice.](#)

Kim J, Selvaraji S, Kang SW, Lee WT, Chen CL, Choi H, Koo EH, Jo DG, Leong Lim K, Lim YA, Arumugam TV.

Brain Behav Immun. 2019 Apr 11. pii: S0889-1591(18)30842-0. doi: 10.1016/j.bbi.2019.04.011. [Epub ahead of print]

[Abstract](#)[SynGO: An Evidence-Based, Expert-Curated Knowledge Base for the Synapse.](#)

Koopmans F, van Nierop P, Andres-Alonso M, Byrnes A, Cijssouw T, Coba MP, Cornelisse LN, Farrell RJ, Goldschmidt HL, Howrigan DP, Hussain NK, Imig C, de Jong APH, Jung H, Kohansalnodehi M, Kramarz B, Lipstein N, Lovering RC, MacGillavry H, Mariano V, Mi H, Ninov M, Osumi-Sutherland D, Pielot R, Smalla KH, Tang H, Tashman K, Toonen RFG, Verpelli C, Reig-Viader R, Watanabe K, van Weering J, Achsel T, Ashrafi G8, Asi N, Brown TC, De Camilli P, Feuermann M, Foulger RE, Gaudet P, Joglekar A, Kanellopoulos A, Malenka R, Nicoll RA, Pulido C, de Juan-Sanz J, Sheng M, Südhof TC, Tilgner HU, Bagni C, Bayés À, Biederer T, Brose N, Chua JJE, Dieterich DC, Gundelfinger ED, Hoogenraad C, Hugarir RL, Jahn R, Kaeser PS, Kim E, Kreutz MR, McPherson PS, Neale BM, O'Connor V, Posthuma D, Ryan TA, Sala C, Feng G, Hyman SE, Thomas PD, Smit AB, Verhage M.

Neuron. 2019 May 22. pii: S0896-6273(19)30427-1. doi: 10.1016/j.neuron.2019.05.002. [Epub ahead of print]

[Abstract](#)[The p75 neurotrophin receptor is an essential mediator of impairments in hippocampal-dependent associative plasticity and memory induced by sleep deprivation.](#)

Wong LW, Tann JY, Ibanez CF, Sajikumar S.

J Neurosci. 2019 May 13. pii: 2876-18. doi: 10.1523/JNEUROSCI.2876-18.2019. [Epub ahead of print]

[Abstract](#)[Long-term population spike-timing-dependent plasticity promotes synaptic tagging but not cross-tagging in rat hippocampal area CA1.](#)

Pang KKL, Sharma M, Krishna-K K, Behnisch T, Sajikumar S.
Proc Natl Acad Sci U S A. 2019 Mar 19;116(12):5737-5746. doi:
10.1073/pnas.1817643116. Epub 2019 Feb 28.

[Abstract](#)

Increased Akt-Driven Glycolysis Is the Basis for the Higher Potency of CD137L-DCs.

Zeng Q, Mallilankaraman K, Schwarz H.

Front Immunol. 2019 Apr 24;10:868. doi: 10.3389/fimmu.2019.00868. eCollection 2019.

[Abstract](#)

Epstein-Barr virus-encoded LMP1 induces ectopic CD137 expression on Hodgkin and Reed-Sternberg cells via the PI3K-AKT-mTOR pathway.

Priya Aravinth S, Rajendran S, Li Y, Wu M, Yi Wong AH, Schwarz H

Leuk Lymphoma. 2019 May 6:1-8. doi: 10.1080/10428194.2019.1607330. [Epub ahead of print]

[Abstract](#)

Induction of CD137 expression by viral genes reduces T cell costimulation.

Wu M, Wong HY, Lin JL, Moliner A, Schwarz H.

J Cell Physiol. 2019 Apr 25. doi: 10.1002/jcp.28710. [Epub ahead of print]

[Abstract](#)

Efficacy of Heat Mitigation Strategies on Core Temperature and Endurance Exercise: A Meta-Analysis.

Alhadad SB, Tan PMS, Lee JKW.

Front Physiol. 2019 Feb 13;10:71. doi: 10.3389/fphys.2019.00071. eCollection 2019.

[Abstract](#)

Altered brain structure with preserved cortical motor activity after exertional hypohydration: a MRI study.

Tan XR*, Low ICC*, Stephenson MC, Kok T, Nolte HW, Soong TW, Lee JKW.

J Appl Physiol (1985). 2019 Jul 1;127(1):157-167. doi:

10.1152/jappphysiol.00081.2019. Epub 2019 May 2.

[Abstract](#)

Long-term population spike-timing-dependent plasticity promotes synaptic tagging but not cross-tagging in rat hippocampal area CA1.

Pang KKL, Sharma M, Krishna-K K, Behnisch T, Sajikumar S.

Proc Natl Acad Sci U S A. 2019 Mar 19;116(12):5737-5746. doi:

10.1073/pnas.1817643116.

[Abstract](#)

Epigenetics and memory: Emerging role of histone lysine methyltransferase G9a/GLP complex as bidirectional regulator of synaptic plasticity.

Pang KKL, Sharma M, Sajikumar S.

Neurobiol Learn Mem. 2019 Mar;159:1-5. doi: 10.1016/j.nlm.2019.01.013.

[Abstract](#)

Abnormal TDP-43 function impairs activity-dependent BDNF secretion, synaptic plasticity, and cognitive behavior through altered Sortilin splicing.

Tann JY, Wong LW, Sajikumar S, Ibáñez CF.

EMBO Journal. 2019 Mar 1;38(5). pii: e100989. doi: 10.15252/embj.2018100989.

[Abstract](#)

A feedforward relationship between active Rac1 and phosphorylated Bcl-2 is critical for sustaining Bcl-2 phosphorylation and promoting cancer progression.

Chong SJF, Lai JXH, Qu J, Hirpara J, Kang J, Swaminathan K, Loh T, Kumar A, Vali S, Abbasi T, Pervaiz S.

Cancer Lett. 2019 Aug 10;457:151-167. doi: 10.1016/j.canlet.2019.05.009. Epub 2019 May 17.

[Abstract](#)

Metabolic reprogramming of oncogene-addicted cancer cells to OXPHOS as a mechanism of drug resistance.

Hirpara J, Eu JQ, Tan JKM, Wong AL, Clement MV, Kong LR, Ohi N, Tsunoda T, Qu J, Goh BC, Pervaiz S.

Redox Biol. 2018 Dec 17:101076. doi: 10.1016/j.redox.2018.101076. [Epub ahead of print]

[Abstract](#)

Gene expression analysis of heat-shock proteins and redox regulators reveals combinatorial prognostic markers in carcinomas of the gastrointestinal tract.

Pohl SÖ, Pervaiz S, Dharmarajan A, Agostino M.

Redox Biol. 2018 Nov 29. pii: S2213-2317(18)30928-5. doi: 10.1016/j.redox.2018.11.018. [Epub ahead of print]

[Abstract](#)

MnSOD is implicated in accelerated wound healing upon Negative Pressure Wound Therapy (NPWT): A case in point for MnSOD mimetics as adjuvants for wound management.

Bellot GL, Dong X, Lahiri A, Sebastin SJ, Batinic-Haberle I, Pervaiz S, Puhaindran ME. Redox Biol. 2019 Jan;20:307-320. doi: 10.1016/j.redox.2018.10.014. Epub 2018 Oct 23.

[Abstract](#)

[Redox Dichotomy in Cell Fate Decision: Evasive Mechanism or Achilles Heel?](#)

Pervaiz S.

Antioxid Redox Signal. 2018 Nov 1;29(13):1191-1195. doi: 10.1089/ars.2018.7586.

Epub 2018 Jul 10.

[Abstract](#)

[Cross Talk Between Cellular Redox State and the Antiapoptotic Protein Bcl-2.](#)

Pohl SÖ, Agostino M, Dharmarajan A, Pervaiz S.

Antioxid Redox Signal. 2018 Nov 1;29(13):1215-1236. doi: 10.1089/ars.2017.7414.

Epub 2018 Feb 15.

[Abstract](#)

Upcoming Events

1. [Symposium on Building Towards Sustainable Physical Activity Behavior – Status, Programs and Approaches, 2 August 2019](#)
2. [11th Physiology Symposium: Models of Physiology and Diseases 2019, 24-26 September 2019](#)
3. [IAMSE in Asia 2020 Meeting, 28 February 2020](#)

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