



**Judy Sng**

ASSOCIATE PROFESSOR &  
EDUCATION LEAD

## Contact

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Pharmacology, Yong Loo  
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## Links

[Virtual Integrated Patient](#)

[Laboratory of Digital  
Learning and  
Development](#)

[Judy Sng's Courses](#)

[PharmaVIDEOS](#)

[Neuroepigenetics Lab](#)

## Education

**Masters in Medical  
Education, Harvard  
Medical School (ongoing)**  
September 2023 — May  
2025

**Ph.D., Kanazawa  
University, Kanazawa,  
Ishikawa, Japan**  
OCTOBER 2002 —  
SEPTEMBER 2005  
Studied neuroepigenetics  
and neuropharmacology  
in Yukio Yoneda's lab

## Profile

Medical educator with strengths in innovative pedagogies. My passion in neuroscience links brain circuitry to artificial intelligence and medical education. Co-developer and co-creator of the [Virtual Integrated Patient](#) and series of [educational tools](#) related to Pharmacology.

## Academic Experience

**Education Lead at Department of Pharmacology, Yong Loo Lin School of Medicine, National University of Singapore, Singapore**

JULY 2024 — PRESENT

Leading the education team of 2 Education Directors, 1 Senior Lecturer, 3 Lecturers, 2 Instructors.

**Education Director for Nursing Curriculum, Extramural Courses & Digital Transformation at Department of Pharmacology, Yong Loo Lin School of Medicine, National University of Singapore, Singapore**

JULY 2020 — PRESENT

Module coordinator and co-lecturer of

- LSM 3219 Neuropharmacology
- MDG 5238 Clinical Pharmacology & Pharmacotherapeutics I
- MDG 5239 Clinical Pharmacology & Pharmacotherapeutics II

Co-coordinator and co-lecturer of

- NUR 1125 Pathophysiology, Pharmacology and Nursing Practice I
- NUR 2125 Pathophysiology, Pharmacology and Nursing Practice II

Co-coordinator of

- NUR 3120 Pathophysiology, Pharmacology and Nursing Practice III

Facilitator and Case writer of

- Collaboration Learning Cases for Medical Students

Supervised a total of 71 trainees over 10 years: 1 research fellow, 3 research assistants, graduated 2 Ph.D. students, 23 Final Year Honours thesis projects, 24 short-term interns and 22 medical students.

**Associate Professor at Department of Pharmacology, Yong Loo Lin School of Medicine, National University of Singapore, Singapore**

JANUARY 2023 — PRESENT

**Senior Lecturer at Department of Pharmacology, Yong Loo Lin School of Medicine, National University of Singapore, Singapore**

AUGUST 2014 — PRESENT

**Adjunct Principal Investigator at Singapore Institute for Clinical Sciences, A\*STAR, Singapore**

AUGUST 2014 — JULY 2016

**Adjunct Assistant Professor at Department of Physiology, Yong Loo Lin School of Medicine, National University of Singapore, Singapore**

JANUARY 2010 — JULY 2014

**Principal Investigator at Singapore Institute for Clinical Sciences, A\*STAR, Singapore**

JANUARY 2009 — JULY 2014

Head of Neuroepigenetics Lab. Supervised a total of 28 trainees over 5.5 years: 3 research fellows (all obtained independent faculty positions), 6 research assistants, graduated 2 Ph.D. students, co-supervised 2 other students and 15 interns.

**BSc (Honours), National University of Singapore, Singapore**  
AUGUST 1998 — DECEMBER 2001

## Courses

**Certificate in Healthcare Leadership, Yong Loo Lin School of Medicine, National University of Singapore**  
2023

**Certificate in Medical Education, CenMed, Yong Loo Lin School of Medicine, National University of Singapore**  
2016

## Awards

**Faculty Annual Digital Educator Award (Team), Singapore**  
FEBRUARY 2022  
Team Lead; Co-inventor of the Virtual Integrated Patient.

**Primary Care Provider 2021, Singapore**  
AUGUST 2021  
2nd place poster award to our VIP team member, Dr Teo Boon See

**APMEC 2021 Free Communications Merit Award, Singapore**  
JANUARY 2021  
Merit award to our research assistant, Miss Juanita Kong part of the VIP team

**NUS High Best Mentor Award, Singapore**  
Nominated as Best Mentor in 2012 and 2016

**Research Fellow at Children's Hospital Boston, Harvard Medical School, Boston, USA**

JULY 2007 — DECEMBER 2008

Led the epigenetics division in Hensch/Fagiolini Lab

**Research Scientist at RIKEN Brain Science Institute, Wako-shi, Japan**

OCTOBER 2005 — JUNE 2007

Started epigenetics division in Hensch Lab (Critical Periods Development)

## Scholarship of Teaching and Learning

### Publications

1. Juanita S. M. Kong, Teo Boon See, Lee Yueh Jia, Pabba Anubharath, Edmund J.D. Lee and Judy C.G Sng. (2021) Virtual Integrated Patient: An AI supplementary tool for second year medical students, TAPS, 6(3), 87-90 [Link](#)
2. Juanita S. M. Kong & Judy C. G. Sng. (2020) Introducing the VIP: An AI response to clinical teaching in the time of Covid-19. NUS Medicine Newsletter Issue 35. [Link](#)
3. Maniclang, M.A.F., Hong R.Y.H., Marzin, M., Amellal, K., Rajendran K, Lee E.J.D., & Sng J.C.G. (2018). Evaluating the effectiveness of enhancing webcasts with digital tagging. Asian Journal of the Scholarship of Teaching and Learning, 8(1), 5-24 [Link](#)
4. Maniclang, M. A. F., Ang, Z. L. T., Hong, R. Y. H., Lee, E. J. D., & Sng, J. C. G. (2018). Students' perceptions of webcast lectures and online video materials: Results of a survey at a higher education institution in Singapore. Asian Journal of the Scholarship of Teaching and Learning, 8(2). 150-180 [Link](#)

### Conferences and Workshops

1. **Judy C.G Sng**, Gavin Dawe, Inthrani Raj Indran, Priya Paranthaman, Nurulhuda Mustafa, Tharindunee Jayakody (2024) Active engagement with learners in co-creating and collaborative knowledge building using digital and AI technologies, Workshop speaker, Asia Pacific Medical Education Conference 2024 (APMEC 2024), 18 January 2024, Sri Lanka
2. **Judy C.G Sng** (2023) Active engagement with learners in co-creating and collaborative knowledge building using digital and AI technologies, Invited speaker, Fudan University, 4 December 2023, Shanghai, China
3. **Judy C.G Sng** (2022) Learners' involvement in co-creating and collaborative knowledge building in developing an educational tool, Virtual Integrated Patient Poster presenter, Society for Neuroscience, November 2022, San Diego, USA
4. **Judy C.G Sng** (2022) Digital Health: AI in Healthcare, Invited speaker, Connection 2022, Temasek Holdings, 4 November 2023, Sands Convention Centre, Singapore
5. **Judy C.G Sng** (2022) Trendsetters in teaching, assessment and work readiness, Symposium and Workshop speaker, Monash Malaysia Medical Education Conference 2022 (MMMEC 2022), 25 June 2022, Johor Bahru. Malaysia
6. **Judy C.G Sng** (2022) Introducing the Virtual Integrated Patient (VIP). Invited Speaker, Medical Education Unit (MEU) Journal Club 28 April 2022. Monash University, Jeffrey Cheah School of Medicine and Health Sciences, Johor Bahru, Malaysia
7. **Judy C.G Sng**, (2022) Implications of Artificial Intelligence-Enabled Technology on Medical Education. Symposium speaker, APMEC 2022. Kuala Lumpur, Malaysia.
8. Teo Boon See, Lee Yueh Jia, Juanita S.M. Kong, Pabba Anubharath, Edmund J.D. Lee and **Judy C.G Sng**. (2021) Increasing history taking through blended learning

**Young Investigator  
Colloquium Award,  
APSN, Singapore, Taiwan**

Awarded in 2006  
(Singapore) and 2014  
(Taiwan) to give a  
colloquium at the  
biennial APSN meetings

**Travel Award, Hong  
Kong & Washington DC,  
USA**

Awarded in 2004 (Hong  
Kong) by APSN to give a  
poster presentation at  
the biennial APSN  
meeting, Hong Kong;  
Awarded in 2005 by  
International Brain  
Research Organization to  
attend and present a  
poster at the annual SfN  
meeting, Washington,  
DC, USA

**Full Japanese  
government scholarship,  
Japan  
MONBUKAGAKUSHO  
SCHOLARSHIP  
OCTOBER 2002 —  
SEPTEMBER 2005**

**Service**

**Committee Member.  
Division of Graduate  
Studies Yong Loo Lin  
School of Medicine,  
National University of  
Singapore, Singapore  
JULY 2023 —  
PRESENT**

**Head, Video Recording  
Facilities at Department  
of Pharmacology, Yong  
Loo Lin School of  
Medicine, National  
University of Singapore,  
Singapore  
JUNE 2021 —  
PRESENT**

Lead technical team to  
set up this video  
recording facility for  
department and School

with a virtual patient. Primary Care Grand Conference 2021 (2nd Place for e-poster)

9. Juanita S. M. Kong, Lee Yueh Jia, Teo Boon See, Edmund J.D. Lee and **Judy C.G Sng**. (2021) VIP- An educational response to virtual classrooms. Using AI in the Covid-19 pandemic. APMEC 2021. Singapore (Merit for short communications)
10. **Judy C.G Sng** (2020) Introducing the Virtual Integrated Patient (VIP). Invited Speaker. 24 July 2020. International Medical University, Kuala Lumpur, Malaysia
11. **Judy C.G Sng** (2020) The journey of developing the Virtual Integrated Patient (VIP). Invited Speaker, 20 June 2020. Singapore University of Technology and Design, Singapore
12. Juanita Kong, **Judy C.G. Sng**, Edmund J.D. Lee (2020) Integration of Virtual Patient Simulations to Effectively Nurture and Prepare Medical Professionals. APMEC 2020, Nurturing Values for effective practice, 8-12 January 2020, Resorts World Singapore, Singapore
13. Yueh Jia Lee, **Judy C.G. Sng**, Edmund J.D. Lee (2020) Effective Pharmacokinetic-Pharmacodynamic (PKPD) Visualizers to Guide Future Clinicians' Values in Hands-on Practices APMEC 2020, Nurturing Values for effective practice, 8-12 January 2020, Resorts World Singapore, Singapore
14. Pabba Anubharath, Yoon Ping Chui, **Judy C.G Sng** and Edmund J.D. Lee. (2019) Performance of Virtual Integrated Patient. 36th international conference on innovation, practice and research in the use of educational technologies in tertiary education, ASCILITE 2019, 2-5 December 2019, SUSS, Singapore
15. **Judy C.G. SNG**, Maxime MARZIN & Edmund J.D. LEE. Does enriching lecture videos and webcast with digital tags promote active learning? E-poster, 14th APMEC 2017, Singapore
16. Zoe L.T. ANG, Regina Y.H. HONG, Mariel A. F. MANICLANG, **Judy C.G. SNG** & Edmund J.D. LEE. Understanding students' attitudes and preferences towards various modes of e-learning and curriculum delivery. Oral session, 14th APMEC 2017, Singapore
17. Zoe L.T. ANG, Regina Y.H. HONG, Mariel A. F. MANICLANG, **Judy C.G. SNG** & Edmund J.D. LEE. Understanding students' attitudes and preferences towards various modes of e-learning and curriculum delivery. CenMed Prime sessions, 7th November 2016, YLL SoM, Singapore
18. **Judy C. G. SNG**. Enriching lecture videos and webcast with digital tags to promote active learning. CDTL TIP workshop 2016, NUS, Singapore.
19. Zoe L.T. ANG, Regina Y.H. HONG, **Judy C.G. SNG** & Edmund J.D. LEE. Enriching lecture videos and webcast with digital tags to promote active learning. E-poster A1409, 13th APMEC 2016, Singapore
20. **Judy C. G. SNG**. PharmaCASES: Clinical Applications and Scenarios through Experiential Learning System in Pharmacology for medical practitioners. E-poster A1140, 13th APMEC 2016, Singapore
21. **Judy C. G. SNG**. PharmaCASES: Clinical Applications and Scenarios through Experiential Learning System in Pharmacology for medical practitioners. CenMed Prime sessions, 2nd November 2015, YLL SoM, NUS, Singapore
22. Zoe L.T. ANG, Regina Y.H. HONG, **Judy C.G. SNG** & Edmund J.D. LEE. Enriching lecture videos and webcast with digital tags on SAM online platform to promote active learning. Conference paper, ISSOTL 2015, Melbourne, Australia
23. **Judy C. G. SNG**. PharmaCASES: Clinical Applications and Scenarios through Experiential Learning System in Pharmacology for medical practitioners. Conference paper, ISSOTL 2015, Melbourne, Australia

of Medicine to make educational videos

**Organizer of Educator Club at Yong Loo Lin School of Medicine, NUS, Singapore**

2018 — PRESENT

Lead a monthly network and sharing platform, Educator Club whereby fellow educators meet to discuss and share best teaching practice

**Steering Committee, Pharmacology Lead, Masters of Nursing at Alice Lee Centre for Nursing Studies, Singapore**

2017 — PRESENT

**Assessor, Medical Admissions at Yong Loo Lin School of Medicine, National University of Singapore**

2017 — PRESENT

**Treasurer at Asian Pacific Society for Neurochemistry**

JUNE 2024 — PRESENT

**Advisor to Local Organizing Committee at APSN 2023 Conference**

JUNE 2023

**Chairperson, Local Organizing Committee at APSN 2021 Virtual Conference**

DECEMBER 2021

Chair and organizer of a biennial conference for the Asian Pacific Society for Neurochemistry (APSN 2021). Raised funds, invited international and local speakers and students for this virtual event

## Education Grants

**Summary:** Total Quantum for education grants \$926,500

**Principal Investigator, METE Funding, Singapore**

JANUARY 2020 — DECEMBER 2021

Principal Investigator for *Virtual Integrated Patient* funded by Medical Education, Technology and Enterprise (METE, \$265,000) to continue the development of VIP for Yong Loo Lin School of Medicine

**Ministry of Education Tertiary Research Fund, Singapore**

JANUARY 2016 — DECEMBER 2019

Co-principal investigator for the *Virtual Integrated Patient* funded by the MOE TRF Programmatic fund. It is the largest quantum (\$485,000) allocated to a team to promote innovation and research on teaching and learning.

**Teaching Enhancement Grant, CDTL, Singapore**

2016 — 2018

(PI, awarded: \$23,500) *PharmaVideos*.

**Yong Loo Lin School of Medicine Strategic Budget Fund, Singapore**

2015 — 2017

(Co-PI, awarded \$100,000) *Development of resources for the effective migration of course materials to e-platforms*.

**Teaching Enhancement Grant, CDTL, Singapore**

2014 — 2015

(PI, awarded: \$8,000) *PharmaCASES: Clinical Applications and Scenarios through Experiential Learning System in Pharmacology for medical practitioners*.

**NUS-USPC Alliance Grant, Singapore**

2015 — 2016

(Co-PI, awarded €30,000) *Enriching lecture videos and webcast with digital tags on SAM online platform to promote active learning*.

## Scientific Research

**Summary:** Total Quantum for scientific research grants \$1.52m

**Co-Investigator, Ministry of Education Tier 3 Funding, Singapore**

MAY 2018 — DECEMBER 2023

Co-principal investigator for the *Defining the brain circuitry that cause dementia*, \$40 million awarded to a team of 16 co-investigators with lead investigator, Prof. George Augustine.

**Principal Investigator, National Medical Research Council New Investigator Grant, Singapore**

JANUARY 2016 — DECEMBER 2018

New Investigator Grant for *Optogenetic control of an epigenetic regulator, PRMT8, in inhibitory interneurons to reactivate visual cortical plasticity and recovery of visual acuity*, \$198k

**Co-Investigator, Engineering-Medicine Seed Grant, Singapore**

MARCH 2015 — FEB 2016

Engineering-Medicine Seed Grant, *Engineering a Wireless Photostimulator to Optogenetically Control an Epigenetic Regulator, PRMT8 in Inhibitory Interneurons to Enable Reactivation of Critical Period*, \$50k

**Conference committee member at International Society for Neurochemistry**

2017 — PRESENT

Conference committee panel. Review conference applications to ISN

requesting for funding

Service

**Committee Member at Society for Neuroscience (SfN) Singapore Chapter, Singapore**

2011 — PRESENT

**Community Work**

**Executive Member, Grassroots Resident Network at Woodleigh Hillside,**

2024 — PRESENT

**Vice-Chairman, Grassroots Resident Committee at Macpherson Precinct,**

2019 — 2024

Organize activities for residents in MacPherson precinct. Featured in Straits Times (link) and NUS Alumni Report (link)

1. Kho S-H, Yee JY, Puang SJ, Han L, Chiang LLC, Rapisarda A, Goh WWB, Lee J, and Sng J (2022) DNA methylation levels of RELN promoter region in Ultra-high Risk, First Episode and Chronic Schizophrenia cohorts of Schizophrenia. *Schizophrenia*
2. Yee JY, Chow SQ, Lim K, Goh W, Sng J, Lee TS, Lee J. (2022) Haptoglobin in ultra-high risk of psychosis - Findings from the longitudinal youth at risk study (LYRIKS). *Brain Behav Immun Health*. 12;23:100481. [Link](#)
3. Schnyder S and Sng J (2021) Dance And Jive Well Into Your Senior Life. *AIC*, November issue. [Link](#)
4. Puang, S.J., Elanggovan, B., Ching, T. & Sng J.C.G. (2020). MEF2C and HDAC5 regulate Egr1 and Arc genes to increase dendritic spine density and complexity in early enriched environment. *Neuronal Signal*, 4 (3): NS20190147. [Link](#)
5. Ho, N. F., Tng, J., Wang, M., Chen, G., Subbaraju, V., Shukor, S., Ng, D., Tan, B. L., Puang, S. J., Kho, S. H., Siew, R., Sin, G. L., Eu, P. W., Zhou, J., Sng, J., Sim, K., & Medalia, A. (2020). Plasticity of DNA methylation, functional brain connectivity and efficiency in cognitive remediation for schizophrenia. *Journal of psychiatric research*, S0022-3956(19)31081-7. [Link](#)
6. Shun Qiang Lo, Judy C. G. Sng & George J. Augustine (2017) Defining a critical period for inhibitory circuits within the somatosensory cortex. *Scientific Reports* 7, Article number: 7271. [Link](#)
7. Begum MR and Judy C.G. Sng (2017) Molecular mechanisms of experience-dependent maturation in cortical GABAergic inhibition. *J Neurochem* 42:649-661. [Link](#)
8. Wilson Wen Bin Goh, Judy Chia-Ghee Sng, Jie Yin Yee, Yuen Mei See, Tih-Shih Lee, Limsoon Wong, Jimmy Lee. (2017) Can peripheral blood-derived gene expression characterize individuals at ultra-high risk for psychosis? *Computational Psychiatry*, 1: 168-183. [Link](#)
9. Ohba K, Sinha RA, Singh BK, Iannucci LF, Zhou J, Kovalik J-P, Liao X-H, Refetoff S, Sng JCG, Leow MK-S, Yen PM (2017) Changes in Hepatic TRβ Protein Expression, Lipogenic Gene Expression, and Long-Chain Acylcarnitine Levels During Chronic Hyperthyroidism and Triiodothyronine Withdrawal in a Mouse Model. *Thyroid* 27(6):852-860. [Link](#)
10. Lee PK, Goh WW and Judy Sng (2017) Network-based characterization of the synaptic proteome reveals that removal of epigenetic regulator *Prmt8* restricts proteins associated with synaptic maturation. *J Neurochem*, 140(4):613-628. [Link](#)
11. Oikawa H, Sng JC (2016) Valproic acid as a microRNA modulator to promote neurite outgrowth. *Neural Regen Res* 11(10):1564-1565. [Link](#)
12. Dawn Koh and Judy C. G. Sng (2016) HDAC1 negatively regulates Bdnf and Pvalb required for parvalbumin interneuron maturation in an experience-dependent manner. *J Neurochem*, 139(3):369-380. [Link](#)
13. Kenji Ohba, Melvin Khee-Shing Leow, Brijesh Kumar Singh, Rohit Anthony Sinha, Ronny Lesmana, Xiao-Hui Liao, Sujoy Ghosh, Samuel Refetoff, Judy Chia Ghee Sng and Paul Michael Yen (2016) Desensitization and incomplete recovery of hepatic target genes after chronic thyroid hormone treatment and withdrawal in male adult mice. *Endocrinology*, 157(4), 1660–1672. [Link](#), Highlighted in [News and Views](#)
14. Andreas Lennartsson, Erik Arner, Michela Fagiolini, Alka Saxena, Robin Andersson, Hazuki Takahashi, Yukihiro Noro, Judy Sng, Albin Sandelin, , Takao K. Hensch and Piero Carninci (2015) Remodeling of retrotransposon elements during epigenetic induction of adult visual cortical plasticity by HDAC inhibitors. *Epigenetics and Chromatin*, 8:55. [Link](#)
15. Hirotaka Oikawa, Wilson W.B. Goh, Vania K.J. Lim, Limsoon Wong, Judy C.G. Sng (2015) Valproic acid mediates miR-124 to down-regulate a novel protein target, GNAI1. *Neurochemistry International*, 91: 62-71. [Link](#)
16. SQ Lo, Dawn X. P. Koh, Judy C. G. Sng and George Augustine (2015) All-optical mapping of barrel cortex circuits based on simultaneous voltage-sensitive dye imaging and channelrhodopsin-mediated photostimulation. *Neurophotonics*, 2(2), 021013. [Link](#)
17. Piero Ricchiuto, Judy C.G. Sng, Wilson Wen Bin Goh. (2015) Analyzing extremely small sized ratio datasets. *IJBRA*, 11(3), 268-280. [Link](#)
18. Wilson Goh, Wong Limsoon and Judy C. G. Sng. (2014) Contemporary Network Proteomics and Its Requirements. *Biology*, 3, 22-38 (Invited review). [Link](#)