



Tey Hong Liang

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Research Interests:

- Neuro-dermatology (Itch & Sweat Disorders)
- Skin Imaging
- Dermatologic Formulations & Delivery (Esp. Dissolving Microneedles)

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Biography

A/Prof Tey Hong Liang's clinical and research interest is in neurodermatology, which comprises itch and sweat disorders. Leveraging on his technical capabilities in skin imaging, dermatological formulation, and delivery (esp. therapeutics-embedded dissolving microneedles), his works include 10 active patent filings, >200 international publications, and >10 products.

Using optical clearing and 3D imaging, his team is the first to delineate the 3D neuroanatomy of the cutaneous Itch nervous system and resolved the research enigma of itch nerve fibres density in pruritic diseases. Clinically, he has instituted 4 novel patent-filed treatments and initiated 3 new clinical services. One of these is a first-in-the-world therapy utilising drug-embedded dissolving microneedles to treat diseases in humans.

In education, his most notable contribution is having authored *The Black Book of Clinical Examination*. He is also an Associate Editor of *Itch*, the official journal of the International Forum for the Study of Itch.

Selected Publications

- Tan CWX, Yeo DCL, Cao T, Tan VWD, Srivastava R, Yow AP, Tan WP, Wong DWK, Tey HL. **Drug-free microneedles in the treatment of keloids: a single-blinded intra-individual controlled clinical trial.** *British Journal of Dermatology*. 2018; 179(6):1418-1419.
- Tan CW, Tan WD, Srivastava R, Yow AP, Wong DWK, Tey HL. **Dissolving Triamcinolone-Embedded Microneedles for the Treatment of Keloids: A Single-Blinded Intra-Individual Controlled Clinical Trial.** *Dermatology and Therapy*. 2019; 9(3):601-11.
 - Interviewed by [MedicalResearch.com](https://medicalresearch.com/author-interviews/microneedles-enhance-treatment-of-keloids/50653/). <https://medicalresearch.com/author-interviews/microneedles-enhance-treatment-of-keloids/50653/>.
- Tan Y, Ng WJ, Lee SZX, Lee B, Natkemper LA, Yosipovitch G, Ng LG, Tey HL. **Three-dimensional optical clearing and imaging of pruritic atopic dermatitis and psoriasis skin reveals downregulation of epidermal innervation.** *Journal of Investigative Dermatology*. 2019; 139(5):1201-4.
 - Commentary article by journal in 2019:139; 999-1001.

- Chan MMH, Lim GH, Zhao X, Tey HL. **Isolated hypohidrosis – pathogenesis and treatment.** *European Journal of Dermatology.* 2020; 30(6):680-7.
- Tan Y, Zhang YN, Yu X, Lee BTK, Ng LG, Tey HL. **Three-dimensional neuroanatomy of the intra-epidermal nervous system.** *British Journal of Dermatology.* 2020; 183(1):174-176.
- Koh YP, Chan MM, Zhao X, Tan LS, Tey HL. **Pain alleviation during cryotherapy of plantar viral warts using a non-invasive vibratory device: a randomised intra-individually controlled trial.** *BMJ Innovations.* 2021; 7(2):448-451.
- Liang K, Leong C, Loh JM, Chan N, Lim L, Lam YI, Dawson TL, Tey HL. **A 3D-printed trans-epidermal microprojection array for human skin microbiome sampling.** *Proceedings of the National Academy of Sciences (PNAS).* 2022 [In press].

Notable Research Awards & Grants From Past 5 Years

Name of Awards & Grants	Year Obtained
Singapore Health and Biomedical Congress Singapore Clinician Investigator Award (Gold)	2017
IJDVL International Award for Best Letter to Editor	2017 & 2018
National Healthcare Group Outstanding Citizenship Award	2018
National Medical Research Council Clinician Scientist Award (CSA) Investigator Category	2018 & 2021
National Healthcare Group Innovator of the Year Award	2020

Translating Research Into Healthcare

- Barney, Kung Fu Panda help kids get warts off. *Reuters Health.* Published 22 June 2012. <https://www.reuters.com/article/us-barney-panda-warts-idUSBRE85K1NT20120621>
- The made-for-Asia itch-relieving cream that's spreading around world, and the Singapore doctor behind it. *South China Morning Post.* Published 4 Dec 2016. <https://www.scmp.com/lifestyle/health-beauty/article/2051189/made-asia-itch-relieving-cream-thats-spreading-around-world>
- National Skin Centre invented new treatments to help patients sweat. *Lian He Zao Bao.* Published 13 October 2017. <https://www.zaobao.com.sg/news/singapore/story20171013-802513>
- Sweat pays off as skin doctor wins top healthcare award. *The Straits Times.* Published 12 May 2018. <https://www.straitstimes.com/singapore/sweat-pays-off-as-skin-doctor-wins-top-healthcare-award>
- Skin Specialist goes the extra mile to ease his patients' woes. *The Straits Times.* Published 25 June 2018. <https://www.straitstimes.com/singapore/health/skin-specialist-goes-the-extra-mile-to-ease-his-patients-woes>
- National Skin Centre unveils patch treatment for keloid scars. *Channel News Asia.* Published 5 October 2018. <https://www.channelnewsasia.com/news/singapore/national-skin-centre-painless-treatment-patch-keloid-scars-10794630>
- Singaporean researchers invent the world's first microneedles treatment. *Lian He Zao Bao.* Published 6 October 2018. <https://www.zaobao.com.sg/znews/singapore/story20181006-896776>