



## Soon Wei Daniel Lim

Postdoctoral Scholar, Molecular and Cellular Physiology

 Curriculum Vitae available Online

### Bio

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#### HONORS AND AWARDS

- Schmidt Science Fellowship, Schmidt Sciences (2024)
- Young NUS Fellow, National University of Singapore (2024-2025)
- Lindau Young Scientist, Lindau Nobel Laureate Meetings (2019)
- A\*STAR Roll of Honor, Agency for Science, Technology and Research, Singapore (2017)
- D.S. Kothari Prize in Physics, California Institute of Technology (2017)
- Friends of the Caltech Libraries Senior Thesis Prize, California Institute of Technology (2017)
- Ken Hass Outstanding Student Paper Award, American Physical Society (2017)
- Haren Lee Fisher Memorial Award in Junior Physics, California Institute of Technology (2016)
- Jack E. Froehlich Memorial Award, California Institute of Technology (2016)
- National Science Scholarship, Agency for Science, Technology and Research, Singapore (2013-2023)

#### PROFESSIONAL EDUCATION

- Master of Science, Harvard University (2022)
- Doctor of Philosophy, Harvard University (2023)
- Bachelor of Science, California Institute of Technology , Physics (2017)

#### STANFORD ADVISORS

- Steven Chu, Postdoctoral Faculty Sponsor

#### PATENTS

- Maryna Leonidivna Meretska, Soon Wei Daniel Lim, Federico Capasso. "United States Patent 11,860,336 High-aspect ratio metalens", Harvard College, Jan 2, 2024

#### LINKS

- Research website: <https://danlimsw.com>

### Publications

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#### PUBLICATIONS

- **Addition to "All-Glass 100 mm Diameter Visible Metalens for Imaging the Cosmos".** *ACS nano*  
Park, J., Daniel Lim, S. W., Amirzhan, A., Kang, H., Karrfalt, K., Kim, D., Leger, J., Urbas, A., Ossiander, M., Li, Z., Capasso, F.  
2024

- **All-Glass 100 mm Diameter Visible Metalens for Imaging the Cosmos.** *ACS nano*  
Park, J. S., Lim, S. W., Amirzhan, A., Kang, H., Karrfalt, K., Kim, D., Leger, J., Urbas, A., Ossiander, M., Li, Z., Capasso, F.  
2024
- **Time Reversal Differentiation of FDTD for Photonic Inverse Design** *ACS PHOTONICS*  
Tang, R., Lim, S., Ossiander, M., Yin, X., Capasso, F.  
2023; 10 (12): 4140-4150
- **Helicity and Polarization Gradient Optical Trapping in Evanescent Fields.** *Physical review letters*  
Lu, J., Ginis, V., Lim, S. W., Capasso, F.  
2023; 131 (14): 143803
- **Topologically protected optical polarization singularities in four-dimensional space** *SCIENCE ADVANCES*  
Spaegele, C. M., Tamagnone, M., Lim, S., Ossiander, M., Meretska, M. L., Capasso, F.  
2023; 9 (24): eadh0369
- **Point singularity array with metasurfaces.** *Nature communications*  
Lim, S. W., Park, J., Kazakov, D., Spaegele, C. M., Dorrah, A. H., Meretska, M. L., Capasso, F.  
2023; 14 (1): 3237
- **Extreme ultraviolet metalens by vacuum guiding** *SCIENCE*  
Ossiander, M., Meretska, M., Hampel, H., Lim, S., Knefz, N., Jauk, T., Capasso, F., Schultze, M.  
2023; 380 (6640): 59-63
- **Polarization Multi-Image Synthesis with Birefringent Metasurfaces**  
Hazineh, D., Lim, S., Guo, Q., Capasso, F., Zickler, T., IEEE  
IEEE.2023
- **All-Optical Tunability of Metalenses Permeated with Liquid Crystals** *ACS NANO*  
Palermo, G., Lininger, A., Guglielmelli, A., Ricciardi, L., Nicoletta, G., De Luca, A., Park, J., Lim, S., Meretska, M. L., Capasso, F., Strangi, G.  
2022; 16 (10): 16539-16548
- **A High Aspect Ratio Inverse-Designed Holey Metalens** *NANO LETTERS*  
Lim, S., Meretska, M. L., Capasso, F.  
2021; 21 (20): 8642-8649
- **Engineering phase and polarization singularity sheets** *NATURE COMMUNICATIONS*  
Lim, S., Park, J., Meretska, M. L., Dorrah, A. H., Capasso, F.  
2021; 12 (1): 4190
- **On-chip optical tweezers based on freeform optics** *OPTICA*  
Yu, S., Lu, J., Ginis, V., Kheifets, S., Lim, S., Qiu, M., Gu, T., Hu, J., Capasso, F.  
2021; 8 (3): 409-414
- **HLA Correlations with Clinical Phenotypes and Risk of Metabolic Comorbidities in Singapore Chinese Psoriasis Patients** *MOLECULAR DIAGNOSIS & THERAPY*  
Shen, M., Lim, S., Tan, E. S., Oon, H. H., Ren, E.  
2019; 23 (6): 751-760
- **Non-close-packed pore arrays through one-step breath figure self-assembly and reversal** *CHEMICAL SCIENCE*  
Thong, A., Lim, D., Ahsan, A., Goh, G., Xu, J., Chin, J.  
2014; 5 (4): 1375-1382