

Tommy Chi Ho Lau

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Education

Dr. rer. nat. Ludwig Maximilian University of Munich	2021–2024
Thesis: <i>Modelling planet formation — from dust to gas giant</i>	
Supervisor: Professor Til Birnstiel	
MPhil University of Hong Kong	2018–2021
Thesis: <i>Formation of our solar system's giant planets via pebble accretion</i>	
Supervisor: Dr Man Hoi Lee	
BSc University of Hong Kong	2013–2018
Majors: Physics and Geology	
Research project: <i>Mutual inclinations in multi-planet systems with external perturbers</i>	
Supervisor: Dr Man Hoi Lee	

Experience

Postdoctoral Scholar University of Chicago	2025/01–present
Teaching Assistant Ludwig Maximilian University of Munich	2022/10–2023/01
Master's level course 'The formation and evolution of planets in protoplanetary disks'	
Teaching Assistant University of Hong Kong	2018/09–12, 2019/09–12
Bachelor's level course 'Meteorology'	
Summer Intern Hong Kong Science Museum	2017/07–08
Assisted with public science workshops on biodiversity and conservation	

Invited Talks

Imperial College London	UK 2025/07
Chalmers University of Technology	Sweden 2024/07
University of Bern	Switzerland 2024/06
University of Chicago	USA 2024/03
Center for Astrophysics	USA 2024/02
Max Planck Institute for Solar System Research	Germany 2023/12

Conferences

Origins Federation Conference	USA 2025/09
Gordon Research Conference — Origins of Solar Systems	USA 2025/06
Europlanet Science Congress 2024	Germany 2024/09
New Heights in Planet Formation	Germany 2024/07
Exoplanets 5	Netherlands 2024/06
Complex Planetary Systems II	Belgium 2023/07
Gordon Research Conference — Origins of Solar Systems	USA 2023/06
Protostars and Planets VII	Japan 2023/04
ExoPlanet Diversity, Formation, and Evolution	Germany 2022/09
MIAPbP: Planet formation from dust coagulation to final orbit assembly	Germany 2022/06
Planetary Dynamics Conference 2019	Germany 2019/06

Skills

Programming languages: Python, Fortran 77/95, C++, CUDA C++, mixed-language programming
Scientific computing: N-body gravity codes (SWIFT, SyMBA(p), GENGA), Protoplanetary disk evolution code (DustPy)
Parallel computing: OpenMP, MPI
Visualization: Matplotlib, Jupyter, gnuplot, LaTeX
Others: Git, Linux (Ubuntu), PBS, Slurm, Desktop computer assembly

Languages

Cantonese	Native
English	Fluent
Mandarin	Fluent

Publications

Refereed

1. **Tommy Chi Ho Lau**, Til Birnstiel, Sebastian M. Stammer, and Joanna Drazkowska. Formation of Multiple Dynamical Classes in the Kuiper Belt via Disk Dissipation. *ApJ*, 994(1):74, 2025
2. Haichen Zhao, **Tommy Chi Ho Lau**, Tilman Birnstiel, Sebastian M. Stammer, and Joanna Drazkowska. Planesimal formation in a pressure bump induced by infall. *A&A*, 694:A205, 2025
3. **Tommy Chi Ho Lau**, Til Birnstiel, Joanna Drazkowska, and Sebastian Markus Stammer. Sequential giant planet formation initiated by disc substructure. *A&A*, 688:A22, 2024
4. **Tommy Chi Ho Lau**, Man Hoi Lee, and Ramon Brasser. Can the giant planets of the Solar System form via pebble accretion in a smooth protoplanetary disc? *A&A*, 683, 2024
5. Anuja Raorane, Ramon Brasser, Soko Matsumura, **Tommy Chi Ho Lau**, Man Hoi Lee, and Audrey Bouvier. Giant planet formation in the Solar System. *Icarus*, 421:116231, 2024
6. **Tommy Chi Ho Lau**, Joanna Drazkowska, Sebastian M. Stammer, Tilman Birnstiel, and Cornelis P. Dullemond. Rapid formation of massive planetary cores in a pressure bump. *A&A*, 668:A170, 2022

Non-refereed

1. **Tommy Chi Ho Lau**. *Modelling planet formation*. PhD thesis, Ludwig-Maximilians-Universität München, 2024
2. **Tommy Chi Ho Lau** and Man Hoi Lee. Parallelization of the symplectic massive body algorithm (SyMBA) n-body code. *RNAAS*, 7(4):74, 2023