

# Rimpei Chiba

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## EMPLOYMENT

2025 - 2028 **JSPS Postdoctoral Fellow**, University of Tokyo  
2022 - 2025 **CITA Postdoctoral Fellow**, University of Toronto

## EDUCATION

2018 - 2022 *D.Phil. in Theoretical Physics*, University of Oxford  
2016 - 2018 *M.Sc. in Physics*, Tokyo Institute of Technology & TU Wien  
2012 - 2016 *B.Sc. in Aerospace Engineering*, Tokyo Institute of Technology

## PUBLICATION (refereed)

### Leading authors

- [8] **Chiba R.**, Ding J., Hamilton C., Kunz M. W., Tremaine S., “Galactic echoes”, *Mon. Not. R. Astron. Soc.*, 543, 190-201 (2025)
- [7] **Chiba R.**, Frankel N., Hamilton C., “Origin of the two-armed vertical phase-spiral in the inner Galactic disk”, *Mon. Not. R. Astron. Soc.*, 543, 2159-2179 (2025)
- [6] **Chiba R.**, Kataria S. K., “Origin of reduced dynamical friction by dark matter halos with net prograde rotation”, *Mon. Not. R. Astron. Soc.*, 528, 4115-4124 (2024)
- [5] **Chiba R.**, “Dynamical friction and feedback on galactic bars in the general fast-slow regime”, *Mon. Not. R. Astron. Soc.*, 525, 3576-3596 (2023)
- [4] **Chiba R.**, Schönrich R., “Oscillating dynamical friction on galactic bars by trapped dark matter”, *Mon. Not. R. Astron. Soc.*, 513, 768-787 (2022)
- [3] **Chiba R.**, Schönrich R., “Tree-ring structure of Galactic bar resonance”, *Mon. Not. R. Astron. Soc.*, 505, 2412-2426 (2021)
- [2] **Chiba R.**, Jennifer F., Schönrich R., “Resonance sweeping by a decelerating Galactic bar”, *Mon. Not. R. Astron. Soc.*, 500, 4710-4729 (2021)
- [1] **Chiba R.**, Ishikawa Y., Hasegawa J., Horioka K., “Time evolution of laser-ablation plumes and induced shock waves in low-pressure gas”, *American Institute of Physics, Physics of Plasmas*, 24, 063520 (2017)

### Co-authors

- [5] Geron T., Smethurst R. J., Dickinson H., Fortson L. F., Garland I. L., Kruk S., Lintott C., Makechemu J. S., Mantha K. B., Masters K. L., O’Ryan D., Roberts H., Simmons B. D., Walmsley M., Calabrò A., **Chiba R.**, Costantin L., Drout M. R., Frangkoudi F., Guo Y., Holwerda B. W., Jogee S., Koekemoer A. M., Lucas R. A., Pacucci F., “Galaxy Zoo CEERS: Bar fractions up to  $z \sim 4.0$ ”, *ApJ*, 987:74, (2025)

- [4] Li C., Yuan Z., Monari G., Martin N. F., Siebert A., Famaey B., **Chiba R.**, Kordopatis G., Ibata R. A., Hill V., “Exploring the impact of a decelerating bar on transforming bulge orbits into disc-like orbits”, *A&A*, Vol 690, A26 (2024)
- [3] Yuan Z., Li C., Martin N. F., Monari G., Famaey B., Siebert A., **Chiba R.**, Arden-Arentsen A., Sestito F., Thomas G. F., Hill V., Ibata R. A., Kordopatis G., Starkenburg E., Viswanathan A., “Could very low-metallicity stars with rotation-dominated orbits have been driven by the bar?”, *A&A*, Vol 691, L1 (2024)
- [2] Szabo P., **Chiba R.**, Biber H., Stadlmayr R., Berger B., Mayer D., Mutzke A., Doppler M., Sauer M., Appenroth J., Fleig J., Foelske-Schmitz A., Hutter H., Mezger K., Lammer H., Galli A., Wurz P., Aumayr F., “Solar wind sputtering of wollastonite as a lunar analogue material – Comparisons between experiments and simulations”, *Icarus*, Vol 314, 98-105 (2018)
- [1] Stadlmayr R., Szabo P., Berger B., Cupaka C., **Chiba R.**, Blöcha D., Mayer D., Stechauner B., Sauer M., Foelske-Schmitz A., Oberkofler M., Schwarz-Selinger T., Mutzke A., Aumayr F., “Fluence dependent changes of surface morphology and sputtering yield of iron: Comparison of experiments with SDTrimSP-2D”, *Nuclear Inst. and Methods in Physics Research B*, Vol 430, 42-46 (2018)

## SCHOLARSHIPS AND AWARDS

- 2025 - 2028 **JSPS Postdoctoral Fellowship**
- 2022 - 2025 **CITA Postdoctoral Fellowship**
- 2018 - 2022 **Takenaka Scholarship** for overseas studies
- 2018 **Best Master Thesis Award** (Tokyo Institute of Technology)
- 2017 **Young Poster Award** (International Astronomical Union, Symposium 335)
- 2016 - 2017 **Tobitate Scholarship** (Japan Young Ambassador Program)

## SCIENTIFIC PRESENTATION

- 11/2025 Invited Talk, Milky Way workshop (Kagoshima, Japan)
- 10/2025 Talk, Tohoku University, Astronomy Colloquium (Sendai, Japan)
- 09/2025 Contributed Talk, Japan Astronomical Society Annual meeting (Shimonoseki, Japan)
- 08/2025 Invited Review Talk, Workshop “Winding, Unwinding and Rewinding the Gaia Phase Spiral” (Leiden, Netherlands)
- 02/2025 Talk, Como Lake centre for AstroPhysics, Colloquium (Como, Italy)
- 01/2025 Invited Talk, Conference IASTrophysical Waves (Princeton, US)
- 09/2024 Talk, Nanjing University, Astrophysics seminar (Nanjing, China)
- 09/2024 Invited Talk, Conference “Waves in the Milky Way Disk” (Shanghai, China)
- 06/2024 Invited Blackboard Talk, KITP Program “Interconnections between the Physics of Plasmas and Self-gravitating Systems” (Santa Barbara, US)
- 01/2024 Talk, Shanghai Jiao Tong University, Astronomy seminar (Shanghai, China)
- 09/2023 Talk, Institute for Advanced Study, Astrophysics seminar (Princeton, US)
- 07/2023 Poster, Galactic bars: driving and decoding galaxy evolution (Granada, Spain)
- 06/2023 Contributed Talk, Canadian Astronomical Society, Annual meeting (Penticton, Canada)
- 12/2022 Talk, CITA seminar (Toronto, Canada)
- 11/2022 Talk, University of Leicester, Astrophysics seminar (Leicester, UK)
- 01/2022 Talk, University College London, MSSL seminar (London, UK)
- 07/2021 Contributed Talk, National Astronomy Meeting (Bath, UK)
- 02/2021 Talk, University of Oxford, Galaxy Journal Club seminar (Oxford, UK)
- 07/2020 Talk, European Astronomical Society, Annual meeting (Leiden, Sweden)
- 12/2019 Talk, University of Surrey, Milky Way Local Group seminar, (Surrey, UK)
- 09/2017 Contributed Talk, The Physical Society of Japan, Annual meeting (Iwate, Japan)
- 07/2017 Poster, International Astronomical Union, Symposium 335 (Exeter, UK)

04/2017 Poster, European Geoscience Union, General Assembly (Vienna, Austria)  
01/2016 Contributed Talk, National Institute of Fusion Science, Conference (Gifu, Japan)

## ACADEMIC SERVICES

2022 - 2025 CITA blackboard seminar, organizer  
Review: Monthly Notices of the Royal Astronomical Society, Astronomy & Astrophysics,  
Astrophysical Journal

## SKILLS

Computing: C/C++, python, MPI, OpenMP  
Language: Japanese (native), English (fluent)

## REFERENCES

- **Ralph Schönrich**  
Mullard Space Science Laboratory, University College London  
r.schoenrich@ucl.ac.uk
- **John Magorrian**  
Rudolf Peierls Centre for Theoretical Physics, University of Oxford  
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- **James Binney**  
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- **Michiko Fujii**  
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