

# YUNPING LIU

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University of Bologna (CIRSFID, Alma Mater Studiorum) | Vrije Universiteit Brussel (VUB)

Profiles: University of Bologna | LAST-JD 39th cycle

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## Education

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### PhD Candidate, Law, Science and Technology

2023.11–Present

*Joint PhD Programme, Alma Mater Studiorum - University of Bologna and Vrije Universiteit Brussel (VUB)*

- Doctoral research project: “Legal and Policy Analysis on Commercialisation of Non-Personal Data from China’s Outer Space Program”, applying the Calabresi–Melamed entitlement-analysis framework with comparative reference to US and EU space data regimes.
- PhD programme scheduled to complete October 2026.
- China Scholarship Council-funded joint PhD; research mobility at VUB, Brussels, May–October 2025.

### LLM, International Law / International Space Law

2020.09–2023.06

*Xiangtan University, Hunan Province, China*

- Master’s Thesis: “Legal Protection of Data in International Scientific Research Cooperation Projects on China’s Space Station” (2023, in Chinese); co-supervised by Prof. Cai Gaoqiang (Xiangtan University) and Prof. Zhu Weidong (Chinese Academy of Social Sciences).

### LLB, International Law

2016.09–2020.06

*Xiangtan University, Hunan Province, China*

## Research and Policy Focus

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- *Multilateral space security and arms-control governance*: COPUOS and PAROS-related processes, including the Long-Term Sustainability framework; bilingual case-study analysis of state positions on direct-ascent anti-satellite (ASAT) testing, comparing China’s PPWT-based stance with US, Russian and Indian arms-control rhetoric (2022).
- *Space data governance and international cooperation*: legal protection of non-personal data generated by China’s space programme; data-sharing in international scientific cooperation projects on the Chinese Space Station and the ISS; space-based climate observation data sharing and equitable access.
- *Comparative space regulation across China, the EU and the United States*: large-scale LEO satellite constellation governance; space resources and lunar exploration data-sharing; trade controls of aerospace products; classified-data protection regimes.
- *Emerging issues in space governance*: space traffic management and collision-avoidance compensation rules; AI-enabled space operations and cross-exemption liability; commercial space competition and civil–military integration.

## Selected Publications, Manuscripts and Conference Papers

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### International Astronautical Congress and Space Law Conferences

- Liu Y., “Collision-Avoidance Compensation Rules (CACR) for Space Traffic Management: A Safety-First, Risk-Weighted Cost-Sharing Framework,” 77th International Astronautical Congress, Symposium E7, Session 3, Antalya, Türkiye, 5–9 October 2026 (forthcoming). Paper ID: IAC-26,E7,3,5,x107164.
- Liu Y., “Governance of Large-Scale LEO Satellite Constellations: Challenges, Comparative Approaches, and Policy Recommendations,” 76th International Astronautical Congress, Symposium E9, Session 3, Sydney, Australia, 2 October 2025. Paper ID: IAC-25,E9,3,2,x101934.
- Liu Y., “Legal Framework for Emergency Response in Space Traffic Management under the Empowerment of Artificial Intelligence,” Global Space Exploration Conference, New Delhi, India, 7–9 May 2025. Accepted.
- Liu Y., “Legal Protection of Data in International Cooperation of China’s Space Station: Experiences and Comparisons from the ISS,” 75th International Astronautical Congress, IISL Colloquium on the Law of Outer Space, Symposium E7, Interactive Presentation, Milan, Italy, 14–18 October 2024. Paper ID: IAC-24,E7,IP,11,x84106. DOI: 10.52202/078384-0072. Proceedings pages 728–763.
- Liu Y., “Legal Protection of Data in International Scientific Research Projects on the Chinese Space Station,” China Space Conference 2024, Youth Scholar Forum, Wuhan, China, 23–26 April 2024. Outstanding Paper Award.
- Liu Y., “Legal Protection of Data in International Scientific Research Projects on the Chinese Space Station,” Annual Academic Conference of the Chinese Society of International Law, Hangzhou, China, 27–28 April 2024.

### Publications, Proceedings, Reports and Manuscripts

- Liu Y., “Governance of Large-Scale LEO Satellite Constellations: Challenges, Comparative Analysis, and Policy Recommendations,” submitted to *Journal of Space Safety Engineering*, JSSE-D-26-00048, under review, 2026.
- Liu Y., You A., “Beyond Non-Appropriation: Constructing an Ownership Regime for Returned Space Mineral Resources under International Space Law,” *International and Comparative Law Quarterly* (Cambridge), Manuscript ID ICLQ-2026-0155, under review, 2026.
- Liu Y., Chen X., Li X., “Alignment without Enforcement Convergence: Japan, South Korea, and Export Controls in East Asian Technology Security,” *Journal of East Asian Studies*, under review, 2026.

- Li H., Liu Y., “A Legislative Review and System Optimization for the Promotion of the Intelligent Manufacturing Industry,” Proceedings of the 1st Forum on Legal Theory and Practice in Intelligent Manufacturing, Shanghai University Law School, 2024.
- Liu Y., “On the Legal System of the Ownership of Recovered Space Mineral Resources,” *Cognitio: Law, Public Policy and Citizenship*, 2024.
- Liu Y., “Legal Protection and Enlightenment of Data in International Space Station Cooperation Projects,” China Space Conference 2023, accepted for conference proceedings.
- Liu Y., Ou L., Zeng Z., Li Y., “European Space Science Data Sharing and China’s Response,” *Yearbook of Space Law Studies*, 2023.
- Cai G., Liu Y., “Legal System of the Ownership of the Recovered Space Mineral Resources,” *Journal of Beijing University of Aeronautics and Astronautics*, 2022. DOI: 10.13766/j.bhsk.1008-2204.2021.0626.
- Ou L., Liu Y., “Coordination Mechanism of Domestic and International Governance of LEO Satellite Constellations,” *Journal of Beijing University of Aeronautics and Astronautics*, 2022. DOI: 10.13766/j.bhsk.1008-2204.2021.0937.
- Liu Y., “Construction of a Legal System for Lunar Exploration Data Sharing,” *Yearbook of Space Law Studies*, 2021.
- Cai G., Liu Y. et al., “The Governance Mechanism of Outer Space Resources Development: Comparison and Reference among New Frontiers,” *Yearbook of Space Law Studies*, 2021.
- Nord, Sanderson, Veronelli, Zhu W., Liu Y., “Recent Trends in Investment Arbitration in Africa,” *Commercial Arbitration and Mediation*, 2021(06): 95–104.
- Liu Y., “Legal Protection of Data in China’s Space Station Cooperation Projects,” China Manned Space International Forum and the 6th Manned Space Academic Conference Proceedings, 2021.
- Liu Y., Cai G., “The Control System of Space Products Trade in the United States and Its Inspiration,” 7th China (International) Commercial Space Summit, 2021: 31–47. DOI: 10.26914/c.cnkihy.2021.046887.
- Liu Y., “New Discussion on the Legal System of U.S. Space Product Trade Control,” Young Scholars Forum on “International Rule of Law in Outer Space and China’s Contribution,” East China University of Political Science and Law, 27 November 2021; delivered an oral presentation; paper included in the conference proceedings.
- Liu Y., Amongin S., “Research on the Legal System of Ownership of the Recovered Space Mineral Resources,” 7th China (International) Commercial Space Summit, 2021: 55–78. DOI: 10.26914/c.cnkihy.2021.046889.
- Cai G., Liu Y., “Study on Ownership of Mineral Resources Mined from Outer Space,” *Yearbook of Space Law Studies*, 2020.
- Cai G., Liu Y., “Legal System of Ownership of the Recovered Space Mineral Resources,” Proceedings of the 2020 China Space Conference International Symposium on Rule of Law in Outer Space. First Prize for Outstanding Paper.
- Cai G. et al. incl. Liu Y., “Research on the Legal Issues of International Cooperation on China’s Space Station,” *Yearbook of Space Law Studies*, 2020.
- Cai G., Liu Y., “On European Space Technology Incubation Control Legal System and Its Enlightenment,” *Chinese Journal of European Law*, 2020.
- Cai G. et al. incl. Liu Y., “Research on China’s Laws and Policies on the Exploitation and Utilisation of Outer Space Resources,” *Yearbook of Space Law Studies*, 2019.

## Independent Research Report

- Liu Y., 2026. Prepared a research report and manuscript in preparation on global space climate observation data sharing mechanisms and China’s response, covering international data-sharing arrangements, climate governance, legal classification and equitable access to space-based observation data.

## Research Projects

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### National-Level Projects (National Social Science Fund of China)

- Research on Risk Assessment Obligations of Important Data Processors, No. 24CFX025, 2024; research contributor to project outputs.
- Research on Legislative Trends of International Standards for Global Navigation Satellite Systems and China’s Discourse Power, No. 22BFX149, 2022; drafted the research review, including a literature review on international standards for global satellite navigation systems and their development, and participated in project application work.
- Research on the Legal Mechanism of International Cooperation on China’s Space Station, No. 22CFX046 (PI: Zhang Luping, China University of Political Science and Law), 2022; mainly undertook literature collection and project-content drafting, including analysis of the International Space Station data-protection framework and summary of six cooperation-project data rules: marking, dedicated data, data exchange, notification, export and data-processing conduct rules.
- Research on African Indigenisation Legislation, No. 19VJX062 (PI: Zhu Weidong, Chinese Academy of Social Sciences), 2019; mainly undertook literature translation and drafted four research reports, including policy briefs on Chinese investment risks and risk-prevention recommendations in The Gambia and Cameroon, and a 50-page translation of Zambian indigenisation legislation with structured annotation cards for comparative analysis.
- Research on Space Trade Control and Legal Regulation Based on Space Competition, No. 16BGJ024, 2016; completed two academic papers as research outputs.

### Institutional-Level Projects (China Institute of Space Law)

- The Governance Mechanism of Outer Space Resources Development, 2020–2021 (PI: Cai Gaoqiang, Xiangtan University); responsible for literature collection and organisation.

- Research on the Legal Issues of International Cooperation on China's Space Station, 2019–2020 (PI: Cai Gaoqiang, Xiangtan University); team member (eighth-listed of eight student members), with contribution to research on cooperation-project data protection and the legal design of China's space station cooperation regime.
- Research on China's Laws and Policies on the Exploitation and Utilisation of Outer Space Resources, 2018–2019 (PI: Cai Gaoqiang, Xiangtan University); team member (eighth-listed of eight student members), with contribution to comparative research on outer space resource development governance and legal policy options.

### **Provincial-Level Projects (Hunan Province)**

- Research on Criminal-Law Protection of Trade Secrets in Key Core Technologies in the Era of Digital Intelligence, Hunan Provincial Department of Education Scientific Research Project (PI: Chen Xiangling, Hunan University of Science and Technology), 2026–2028; participant.
- Research on Legal Rules for Risk Prevention in the Outbound Transfer of Intellectual Property in the New-Generation Autonomous Secure Computing Systems Industry, Hunan Provincial Social Science Fund Youth Project (PI: Chen Xiangling, Hunan University of Science and Technology), 2024–2027; participant.

### **University-Level Projects**

- **[PI]** Empirical Research on Commercial Space Industry Development and Legal Protection in Hunan Province under Civil-Military Integration, Xiangtan University 2021 Graduate Summer Research Project (jointly organised by School of Law, School of Intellectual Property, and School of Credit Risk Management), July–December 2021; principal investigator, team of six.
- Research on Criminal Legal Risks and Countermeasures in Deepening China-Africa Economic and Trade Cooperation, Xiangtan University school-level research project, October 2020–October 2023; participant.
- Legal Protection of Personal Location Data of BeiDou Satellite Navigation System, Xiangtan University Law-Doctoral Research Innovation Project No. XDFXBSCX2107 (PI: Cai Yao, Xiangtan University), 2021–2023; participant.
- Research on the Infringement Determination of Moral Rights in Copyright Law, Xiangtan University Graduate Research Innovation Project No. XDCX2022Y023 (PI: Li Yangfan, Xiangtan University), 2021–2023; participant.
- Identifying and Preventing IP Risks in 6G Industry under the Overall National Security View, Xiangtan University Graduate Research Innovation Project No. XDCX2022Y025 (PI: Chen Xiangling, Xiangtan University), 2021–2022; participant.

### **Event, Presentation and Coordination Experience**

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- Invited by the Outer Space Institute to a two-day non-government expert workshop in Singapore on safety and sustainability issues arising from current and planned mega-constellations, 28–29 July 2026 (forthcoming).
- Participated in the European Space Forum 2025, Brussels, 2–3 July 2025.
- Participated in the workshop “Governing the Twin Transition: AI, Sustainability and Justice in the Digital Age,” Vrije Universiteit Brussel, 9 June 2025.
- Participated in Una Europa FAIR Data Hackathon and Conference, Leiden, 21–25 April 2025.
- Class President, 2020-cohort Master's class in International Law, Xiangtan University School of Law, School of Intellectual Property and School of Credit Risk Management, October 2020–June 2023 (three-year appointment).
- Sub-panel coordinator, 3rd Beijing Institute of Technology International Space Law Symposium, Beijing, 4 December 2021; supported on-site logistics (venue booking, participant coordination), managed the offline participants group and produced conference summary notes for the organising committee.

### **Honours and Awards**

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- China Scholarship Council Scholarship / Chinese Government-Sponsored PhD Student, 2023–2026.
- Hunan Province Outstanding Master's Thesis, 2025; thesis: “Legal Protection of Data in International Scientific Research Cooperation Projects on China's Space Station.”
- Xiangtan University Outstanding Master's Thesis, 2025; thesis: “Legal Protection of Data in International Scientific Research Cooperation Projects on China's Space Station.”
- Outstanding Paper Award, Youth Scholar Forum, China Space Conference 2024.
- Xiangtan University 28th Postgraduate President Award, Excellent Award, 2023.
- Academic Scholarship for three consecutive years at Xiangtan University: Special-class (2020–2021), First-class (2021–2022), First-class (2022–2023).
- National Scholarship for Graduate Students, Xiangtan University, 2022.
- Third Prize (Group), 18th CASC Cup International Space Law Moot Court Competition of China Institute of Space Law, 11–12 December 2021 (Xiangtan University Team 1; contributed to memorial drafting).
- Best Speaker, Youth Sub-Forum, 2021 China Space Conference International Forum on the Rule of Law in Outer Space “Global Governance of Outer Space in the New Era: Challenges, Changes and Development,” April 2021.
- First Prize for Outstanding Paper, 2021 China Space Conference International Forum on the Rule of Law in Outer Space “Global Governance of Outer Space in the New Era: Challenges, Changes and Development” (paper: “Construction of a Legal System for Lunar Exploration Data Sharing”), April 2021.
- First Prize for Outstanding Paper, 2020 China Space Conference International Symposium “Maintaining the Rule of Law in Outer Space in an Era of Rapid Innovation” (paper: “Legal System of the Ownership of the Recovered Space Mineral Resources,” co-authored with Cai G.), September 2020.

## Training, Skills and Languages

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### Training and coursework:

- Summer School LEX 2025 - Basic and Advanced Module (48H), University of Bologna / OASIS LegalXML, 1–6 September 2025.
- Winter School on Legal Design - LEDSA4XAI Jean Monnet Module (32H), University of Bologna, 2024; PhD Online Course “Ethics and AI” - SIPEIA (16H).
- Doctoral coursework (LAST-JD, University of Bologna): Legal Theory, Legal Reasoning and General Research Methodology; Philosophy of Law; Data Science for Legal Analytics; Health Ethics, AI and Law; Legaltech; Big Tech and Regulation of Digital Markets; LLMs for AI Rights; Explainable AI; Digital Ethics and Philosophy.
- Selected seminars (University of Bologna, 2025): “Global Data Law” (5 March 2025); “Legislation of Artificial Intelligence in China” (24 January 2025).

### Skills:

- *Research and policy analysis*: legal and policy research; comparative regulatory analysis; literature review; source synthesis; policy tracking; legal translation; research-report drafting; academic articles and conference papers; policy-oriented summaries; revision support for research outputs.
- *Programme and coordination support*: conference-paper preparation; project application support; coordination of contributors; event logistics and participant communication; summary-note drafting for academic and policy events.
- *Document retrieval across Chinese and international databases*: CNKI, Wanfang, VIP and Chaoxing for Chinese legal and policy literature; Web of Science, Scopus, HeinOnline, SSRN and Westlaw for English-language scholarship; OpenAlex, Crossref and Semantic Scholar lookups (via Zotero) for citation verification and metadata checking; ongoing tracking of Secure World Foundation (SWF) publications on US, Russian and Chinese space policy.
- *Typesetting and writing toolchain*: LaTeX (XeLaTeX, BibTeX, TikZ diagrams, journal-specific class files for IAC and law journals); Markdown with Pandoc-based conversion across Markdown, LaTeX and DOCX; Zotero with RIS / BibTeX workflows for cross-project library reuse; introductory familiarity with Akoma Ntoso and LegalRuleML through Bologna LEX 2025 Summer School training.
- *Office and collaboration*: Microsoft Word, Excel and PowerPoint (extensive use for academic writing, comparative data tables and conference slides); Zoom for remote seminars and international academic conferences; Canva for academic posters and event slide decks; Adobe InDesign for short-form layout and typesetting; Trello and other Kanban-style boards for multi-task tracking across parallel research projects.

**Languages:** Chinese, native (Putonghua Level 2-A, National Putonghua Proficiency Test, 2017). English, academic working proficiency — doctoral coursework conducted in English at LAST-JD, University of Bologna; sole-author publication in English-language proceedings (IAC 2024 IISL Colloquium, DOI 10.52202/078384-0072); oral and interactive presentations in English at IAC 2024 Milan, GLEX 2025 New Delhi and IAC 2025 Sydney.

**Professional qualification:** China Legal Profession Qualification Certificate, Class A (Certificate No. A20206540021874, issued by Ministry of Justice, 2021).