

CASL Newsletter 2022

The Centre of Aviation and Space Laws (CASL) of the West Bengal National University of Juridical Sciences, Kolkata, is an academic centre created under the aegis of Prof. (Dr.) Sandeepa Bhat B. and Dr. Shouvik Kumar Guha. The Centre intends to explore, analyse and critique the legal developments in the aviation, space and allied industries through its various publications, research projects, and academic workshops, seminars and conferences.

TEAM CASL



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Director, CASL



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Research Assistant

Student Members



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Aneesha Sharma



Medha Biswas



Sanyam Jha



Tanmay Mehta



Tanmay Roy



Umang Varshney

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DiplCARb, 2015, Chartered Institute of Arbitrators

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Coordinator- Global Network against Weapons & Nuclear Power in Space, United States of America

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Co-founder & Director – Praxis Centre, United Kingdom

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Mr. Sanjay Kumar
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Prof. Subrata Ghoshroy
Research Affiliate, Massachusetts Institute of Technology, USA

ACTIVITIES UNDERTAKEN BY OUR TEAM MEMBERS

Director:

PROF (DR) SANDEEPA BHAT B.

Distinguished Memberships

- UNIDROIT Correspondent for India
- Member - American Society of International Law (ASIL), Baltimore, USA
- Member - International Academy of Space Law (IASL), Moscow, Russia
- Member of Board of Advisors - Global Network against Weapons & Nuclear Power in Space, Brunswick, United States of America
- Member - Astronautical Society of India Think Tank to Review & Draft Indian Space Bill 2022
- Member of Advisory Board - Centre for Research in Air & Space Law, Maharashtra National Law University Mumbai
- Founder & Editor-in-Chief - *Lex ad Coelum*
- Member of Editorial Board - *International Journal of Air and Space Law*, NUSRL Ranchi
- Member of Board of Advisors, *Space Policy Digest*
- Member of Advisory Board, *GNLU Journal of Air & Space Law*, Gujarat National Law University, Gujarat
- Member of Advisory Board, *Indian Review of Air & Space Law*, Maharashtra National Law University Mumbai

Research Projects/Activities Undertaken

- Collaborative Major Research Project on 'A Study of Airport Governance in India under the Contemporary International Legal Regime' (in collaboration with MNLU, Mumbai) – Ongoing
- Research Project on 'National Space Legislation for India: Search for a Balanced Approach', 2021-22

- Prepared the revised draft of Indian Space Activities (Promotion & Regulation) Bill 2022 as a Member of the ASI-ISRO Think Tank

Moot Court

- Coached the Manfred Lachs Space Law Moot Team, which won the Asia-Pacific Competition and reached the Semi-Finals of the World Finals 2022.

List of Publications

- Sandeepa Bhat B. and Shouvik Kumar Guha (eds.), *Fundamentals of National Space Laws*, New Delhi: Thomson Reuters, 2022. ISBN: 978-93-93702-83-8.
- Sandeepa Bhat B., 'National Space Law for India: A Reality Check', in Sandeepa Bhat B. and Shouvik Kumar Guha (eds.), *Fundamentals of National Space Laws*, New Delhi: Thomson Reuters, 2022, pp. 94 - 105. ISBN: 978-93-93702-83-8.
- Sandeepa Bhat B., 'A Critique on the Indian Draft Space Activities Bill 2017', *New Space* (Mary Ann Liebert), Vol. 10, Issue 1, 2022, pp. 79 - 86. ISSN: 2168-0256.
- Sandeepa Bhat B., 'Legal Issues Surrounding Human Settlements on the Moon and Other Celestial Bodies', *Proceedings of Sixty-Third Colloquium on the Law of Outer Space 2020*, (eleven International Publishing, Netherlands), 2021, pp. 91 - 106. ISBN: 9789462362383.
- Sandeepa Bhat B. & Tushar Krishna, 'Jurisdiction under Article 84 of the Chicago Convention 1944 in the Context of Middle East Conflict', *Lex ad Coelum*, Vol. II, Issue 1, 2022, available at <https://caslnujs.in/2022/01/30/jurisdiction-under-article-84-of-the-chicago-convention-1944-in-the-context-of-middle-east-conflict-2/>

Conference Presentations

- ‘Outlining the Concerns in Aviation Financing’, *International Conference on Aviation Financing, UNIDROIT and Growing Concerns*, The WB National University of Juridical Sciences, Kolkata, 12 November 2022.
- ‘Space Commercialization and Privatization: Emerging Issues’, *Three Day International Conference on Space Maneuvers: The Future Perplexities*, ICFAI Law School, Hyderabad, 14 - 16 October 2022.
- ‘Space Tourism’, *7th Edition of GNLU Air and Space Law Academy (GASLA 2022)*, Gujarat National Law University in collaboration with Institute of Air & Space Law, University of Cologne, 26 September 2021 – 30 September 2022.
- ‘Space Insurance’, *7th Edition of GNLU Air and Space Law Academy (GASLA 2022)*, Gujarat National Law University in collaboration with Institute of Air & Space Law, University of Cologne, 26 September 2021 – 30 September 2022.
- ‘Growing Unilateralism in Space Commercialization’ (Keynote Address), *14th International Seminar on Exploring New Frontiers in Space - Law, Policy and Property Rights*, Kerala Law Academy, Trivandrum, 20 August 2022.
- ‘UAVs and Legal Challenges’ (Inaugural Address), *International Conference on Unmanned Aircraft Systems*, Jointly Hosted by Centre for Aviation and Space Laws WBNUJS and Centre for Research in Air and Space Laws MNLU Mumbai, 30 April 2022
- ‘Practical Implications of Space Tourism for the Future’, *First Cambridge Workshop on Communities in Space*, Jesus College, University of Cambridge, 29 April 2022.
- ‘Aviation Law and Public Health Restrictions’, *Aviation Law Amid COVID 19: Implications, Challenges and Prospects*, Gujarat National Law University, 23 April 2022.
- ‘Space Commercialization and Legal Regulations’, *International Conference on Bridging the Spatial Divide: Problems and Prospects of Space Industrialization*, CMR University, Bangalore, 26 March 2022.
- ‘Dealing with Inventions in Space’, *One Day International Workshop on Protection of Intellectual Property Rights in Outer Space*, Maharashtra National Law University, Mumbai, 25 March 2022.
- ‘A Discourse on Key Deliberations in the CASL Conference on Space Tourism’, *IISL Happy Hour 11*, International Institute of Space Law, Paris, France, 12 March 2022.
- ‘Redefining “Use of Force”, “Armed Attack” and “Weapons of Mass Destruction” in the Context of Space Activities’, *Space Traffic Management Conference 2022*, University of Texas, Austin, United States of America, 2 & 3 March 2022.
- ‘Legal Concerns in Space Tourism’, *International Conference on Space Tourism: Legal Dimensions*, The WB National University of Juridical Sciences, Kolkata, 29 January 2022.
- ‘Liability and Property Rights Issues in Space Activities’, *National Conference on Development of Space Start-up Ecosystem in India (DeSSEI)*, Astronautical Society of India, Bengaluru, 24 June 2022.

Invited Lectures

- ‘Space Law as a Career Option’, *Colawquia, Episode VI*, St. Xavier’s University Kolkata, 24 September 2022.
- ‘Law Governing International Carriage in Outer Space’, Gujarat Maritime University, Gujarat, May - June 2022.
- ‘Analysis of the Liability Convention 1972’, School of Law, Christ University, Bangalore, 9 March 2022.

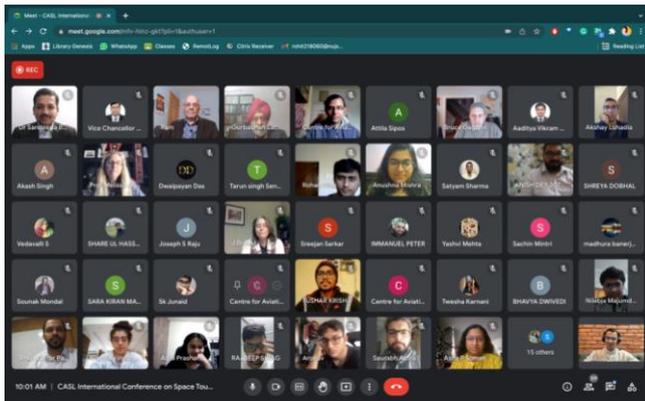
Student Member:

MR. SANYAM JHA

Member of Manfred Lachs Space Law Moot Team, which won the Asia-Pacific Competition and reached the Semi-Finals of the World Finals 2022.

PAST EVENTS

International Conference on Space Tourism: Legal Dimensions



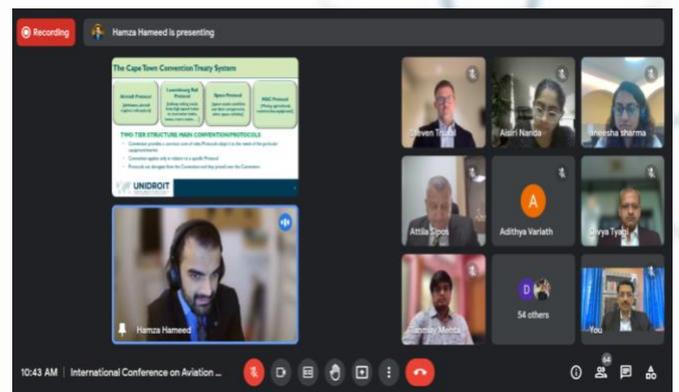
Carrying forward from the success of three international events of 2021, the CASL has organized an international conference on the theme of “Space Tourism: Legal Dimensions” on 29 January 2022. The goals of the conference were to initiate pertinent discussions in the domain of space tourism and its legal implications across the globe and to find solutions to various challenges like safety and security in space, status of space tourists during emergency, liability aspects, environmental protection etc. faced during the recent spurt of space tourism.

The conference started with a welcome address delivered by the Hon’ble Vice-Chancellor of NUJS, Kolkata, Prof. (Dr.) N.K. Chakrabarti. This was followed by the keynote address delivered by Prof. (Dr.) Ram Jakhu, Professor and Acting Director of Institute of Air and Space Law, McGill University, Montreal, Canada. His focus on the area of rule of law and capacity-building in space has been a perfect start for a discourse on space tourism. Prof. (Dr.) Sandeepa Bhat B. then proceeded to deliver the inaugural address wherein he discussed the various legal concerns in space tourism with profound depth. Subsequently, Prof. Bruce K. Gagnon, the Coordinator, Global Network Against Weapons & Nuclear Power in Space, USA ended this session by deliberating on the dangers of privatisation of space.

The three subsequent technical sessions saw deliberations from some of the internationally renowned resource persons. Prof. (Dr.) Melissa de Zwart (Australia), Dr. Jennifer Brobst (USA), Prof. (Dr.) Karl Grossman (USA), Prof. (Dr.) G.S. Sachdeva (NALSAR University of Law), Prof. (Dr.) Dave Webb (USA) and Dr. Martha Mejía-Kaiser (Germany) were some among them. The topics ranging from rights of the tourists to environmental concerns in tourism were discussed at length by different speakers.

Each presentation in this conference had been unique, and helped every participant to gain an in-depth insight into various facets of space tourism, especially from the legal point of view. Every session had a dedicated question and answer session spanning twenty minutes each, which was found to be very engaging and productive with participants raising quality questions and the expert resource persons responding to them. Overall, the conference was extremely successful in reaching and involving various stakeholders. The thoughts presented and issues addressed in the conference helped in providing a wider spectrum to deliberate on the legal dimensions of space tourism, and the resulting scholarship would certainly make a rich contribution to the existing literature and policy-framing across jurisdictions.

International Conference on Aviation Financing, UNIDROIT and Growing Concerns



A conference on theme of ‘Aviation Financing, UNIDROIT and Growing Concerns’ was organized by the CASL on 12 November 2022. The success of the conference is evident from the fact that it was attended by nearly 100 participants even when the theme of the conference was highly technical. The goal of the conference was to deliberate upon the challenges faced in aviation financing, the scope and extent of UNIDROIT and applicable domestic legal frameworks in addressing the relevant issues, as well as the future scope and implications for the government and private stakeholders involved.

The conference started with a welcome address delivered by the Hon’ble Vice-Chancellor of NUJS, Kolkata, Prof. (Dr.) N.K. Chakrabarti. After that, Prof. (Dr.) Sandeepa Bhat gave the opening remarks, where he outlined the concerns in aviation financing. His address provided a perfect background for understanding the purpose of the UNIDROIT system relating to aviation financing. This was followed by the keynote address, delivered by Mr. Hamza Hameed, Legal Consultant at UNIDROIT and Co-Chair of SGAC, Rome, Italy. Prof. (Dr.) Steven Truxal, Professor and Director - International Institute of Air and Space Law, Leiden University then delivered a special address on state aid and aircraft finance.

After the inaugural session, Dr. Attila Sipos from University of Sharjah, spoke on issues relating to jurisdiction and applicable laws in aviation financing. Mr. Adithya Variath, Assistant Professor and Co-ordinator, Centre for Research in Air & Space Law, Maharashtra National Law University, Mumbai, spoke on aircraft leasing contracts and force majeure. In the next session, Prof. (Dr.) Patrick Honnebier, Professor of International Aviation Financing and Leasing Laws, University of Mississippi and Counsel at the firm Rep Law Aviation in Amsterdam spoke at length on solving the worst-case scenario of aircraft de-registration in India. The presentation by Dr. Honnebier was followed by the presentation of Dr. Divya Tyagi, Head - V.S. Mani Centre for Aviation and Space Laws, Gujarat National Law University, who spoke on various issues relating to the development of India as an aircraft leasing hub. The last technical session of the conference started with a presentation by Prof. Laura Pierallini, Founder and Name Partner of Studio Pierallini

Aviation Law Firm, and Professor of commercial law and air law at the LUISS University of Rome. Dr. Andrea Trimarchi from University of Cologne, Germany concluded the technical session with a presentation on the topic of dispute resolution in aircraft financing. Every session had paper presentations by several academicians. The conference successfully set the stage for requisite reforms in India.

International Conference on Unmanned Aircraft Systems



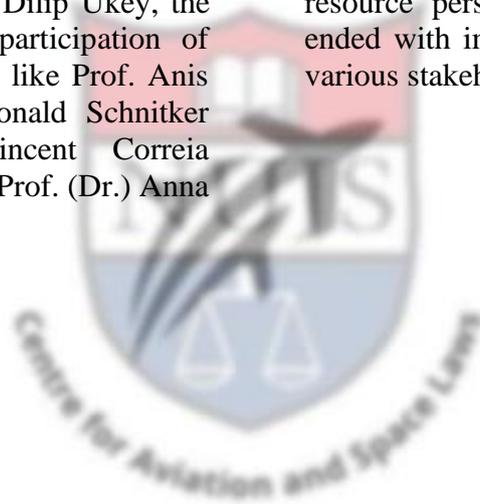
An international conference on unmanned aircraft systems was successfully organised on 30 April 2022 by the joint efforts of the Centre for Aviation and Space Laws, WBNUJS and Centre for Research in Air and Space Law, MNLU. The conference marked the participation of esteemed resource persons from different corners of the world, academicians, scholars, space law practitioners, and students. The conference was organised to initiate discussions on the advent of Unmanned Aerial Vehicles (UAVs) and their increasing civil and military applications across the globe. The sessions served as platform for a comprehensive discussion on the lacunas of contemporary drone legislation and to find solutions to various challenges like liability in cases of violation of international law, employment

of UAVs for mass surveillance, use of UAVs in military attacks etc.

Discussions were held on pertinent issues relating to the modernisation of the Chicago Convention, Eurasian aviation and transport corridors during crisis, the revolution brought in the sphere of aviation laws because of UAVs, regulating the transfer of UAVs, domestic deployment of drones in India, the humanitarian dilemma posed by the targeted killings coordinated by the use of UAVs, constraints of sharing airspace between manned and unmanned aircraft, railway inspection and monitoring using drone technology, use of armed drones, the civilian impact of signature strikes, future of drones in India etc. Apart from the participation of two Vice Chancellors, Prof. (Dr.) N.K. Chakrabarti and Prof. (Dr.) Dilip Ukey, the conference also evidenced the participation of internationally renowned scholars like Prof. Anis Bajrektarevic (Austria), Prof. Ronald Schnitker (Netherlands), Prof. (Dr.) Vincent Correia (France), Dr. Attila Sipos (UAE), Prof. (Dr.) Anna

Masuti (Italy), Mr. Eugenia Fedeli (Italy), Prof. (Dr.) Mia Wouters (Belgium) and Ms. Jessica Los Banos (Indonesia) as distinguished resource persons. Mr. Adithya A. Variath welcomed the guests and Prof. (Dr.) Sandeepa Bhat B. gave the inaugural address by outlining the legal challenges posed by UAVs.

Each presentation at this conference was unique, and each participant gained an in-depth understanding of many aspects of Unmanned Aircraft Systems and improvements in related technologies, particularly from a legal standpoint. Every session included a dedicated fifteen-minute question and answer period. It was found to be highly engaging and fruitful, with participants raising excellent questions and experienced resource persons replying to them. Conference ended with immense success and appreciation of various stakeholders.



INTERVIEW WITH THE MANFRED LACHS MOOT TEAM 2022

Our Manfred Lachs Moot Team has won the Asia-Pacific rounds and reached the Semi-Finals of World rounds 2022. The team comprised of Sanyam Jha, Apurva Singhi and Diali Sahana was coached by Prof. (Dr.) Sandeepa Bhat B. Following is the brief of an interview with the team members:

1. How was your experience with Manfred Lachs? What according to you was the best part of this journey?

Sanyam- I have personally done Manfred Lachs twice now. I think more than the prestige it is about the depth this subject has to offer and I personally have fell in love with space law during this process.

Apurva- My experience with the Manfred Lachs Moot was extremely enriching. The process took me beyond the specific aspects of space law that my issues in the moot dealt with and introduced me to the discipline in general. It encouraged me to read up and research on space law beyond the narrow field that the moot dealt with.

The best part of the moot was the constant learning that accompanied it. Whether it was drafting a memorial, doing research on Space Law and PIL, or preparing for speaking rounds, we were constantly trying to learn and improve. This practice was extremely rewarding ultimately and pushed us to excel.

Diali- My experience with Manfred Lachs has been a rollercoaster of extremes, from excitement of forming a team with friends to taking on a hitherto unconquered international moot to the overwhelming pressure of finishing up our memos during end semester exams and the elevation of making it through the regional rounds to go to Paris at the International Astronautical Congress.

The best part of the journey for me was being exposed to international teams and being able to compete with them on the same footing. Furthermore, it was surreal to meet so many of the eminent jurists that we had cited in our memorial.

2. What got you interested in space law? Do you plan on pursuing this further in the future?

Sanyam- Indeed I plan on pursuing an LL.M. in Space Law. This field has a plethora of topics to tap in and every single one of it is more interesting than the next.

Apurva- Space Law appealed to me from the very beginning for its dynamic nature. I became further interested in it over time seeing the scope for the development. I definitely plan on pursuing it further in the future.

3. How difficult would you say was going through the rounds of such a reputed moot?

Sanyam- There was always a pressure considering NUJS does not have a great history in this moot. But then traditions are meant to be broken.

Apurva- While it seemed like an extremely daunting process, once we started preparing properly and got into the flow of practices and feedback, the fear and nerves went away slowly. Although I cannot say that going through the rounds was easy, it was definitely not as difficult as it seemed at first.

4. Any advice for someone looking forward to either pursue space law or Manfred Lachs Moot?

Sanyam- Do not take up this moot for the sake of it. Do it if you are genuinely interested and you shall reap tenfold return.

Apurva- This field is extremely interesting and rewarding. The moot itself gives participant an opportunity to attend the biggest space law conclave and interact with luminaries in the field of space law.

Diali- The best part that I have realized about Space law is that you can gain an in depth understanding of the subject or at least subparts of the subject within a year. Unlike almost any other field, Space law has been around for a little more than half a

decade, and therefore, has less material to exhaust. As intensive as a year-long moot is, you can learn more about this subject while competing in this moot than almost any of the subjects that we are taught in university.

If anyone is interested in pursuing Space law they should definitely take up the Manfred Lachs moot since it will not only let you learn the subject in an application based formula, reaching the regionals and specially the world rounds will connect you to the best minds in the subject and the International Institute of Space Law itself.

For anyone taking up the Manfred Lachs moot, I would advise them to be patient throughout the overwhelmingly intensive process since I can attest that dedication to the moot is an investment that will pay off multifold in the long run.

BLOG POSTS

Private Space Companies and Insolvency: Unravelling the Legal Quagmire

This blog piece is authored by Ishita Das, Assistant Professor at NALSAR University of Law, Hyderabad. This blog piece analyses the issue of bankruptcy of private space companies, which is of great significance due to heavy investments in space businesses. The piece analyses positions of private sector units that have filed for bankruptcy. Further, it goes on to analyse the relevant international and domestic statutes including those such as UNICTRAL model, Cape Town Convention etc. Mitigation of financial risks and surmounting the existential threats are considered to be significant by the author for ensuing safe future of private space activities.

Read the blog [here](#)

discusses how the levy of taxes on the services provided by satellites, the income of astronauts or other outer space activities is an emerging issue that needs to be addressed. The blog discusses how imposing and collecting taxes may violate the non-appropriation doctrine in the introductory section. The blog also discusses the prospective suitable tax regime for outer space activities. The blog concludes by stating that outer space is not an outlet for tax evasion. However, zero gravity should not mean zero tax; therefore, this issue needs to be addressed by adopting a multilateral approach.

Read the blog [here](#)

Drone Laws in India: Reaching Its Potential or a Long Way to Go?

This blog piece is authored by Kanchan Yadav, who is a junior research fellow at The WB National University of Juridical Sciences, Kolkata. The blog discusses the various aspects of drone laws in India and how it is imperative for India to formulate drone laws in the absence to which, aviation law

Is the Outer Space an Outlet for Tax Evasion?

Twesha Karnani from Symbiosis Law School, Hyderabad has authored this blog piece. The blog

would apply to drones which would not solve the purpose. The paper also discusses the current legal framework in India with regards to drones through the Unmanned Aircraft System Rules of 2021 and the Drone Rules of 2021. Furthermore, the blog highlights the guidelines on how and under what circumstances drones may be flown. The paper concludes by acknowledging India's legal regime with respect to drone usage and also highlights the need to reform the categorisation system of the drones to avert any potential sector threats in the future.

Read the blog [here](#)

Liberalisation of the Indian Space Sector: Private Participation and Legal Challenges

This blog piece is authored by Rongeet Poddar, who is an LL.M. graduate with specialisation in International Law from West Bengal National University of Juridical Sciences, Kolkata. The blog discusses various aspects relating to the decision taken by the Government of India to promote the participation of the private sector in space activities. It outlines how even after setting up a dedicated organisation for the afore-stated purposes, India is lagging in the legislative arena. The blog also discusses international commitments of India under various treaties and devotes a short paragraph to scrutinising the Draft Space Activities Bill 2017. The blog concludes by making pertinent suggestions with respect to the Bill and also points out certain issues that must be addressed to ensure a robust framework for promoting the participation of the private sector in the space field.

Read the blog [here](#)

Outer Space Treaty and India's Space Policy: Forging a Path

This blog piece is authored by Aaditya Vikram Sharma, who is an Assistant Professor at Vivekananda Institute of Professional Studies, New Delhi. The blog discusses the urgent need of formulating space laws in India with the entry of private players in the space sector and how the main problem is not the lack of a law but the drive to make one. The blog provides a brief background about the missions and launches of ISRO. It also highlights India's role in drafting of the Treaty on Principles Governing the Activities of States in the

Exploration as well as the Outer Space Treaty even though there was lack of expertise at that time. The blog concludes by pointing out the ability of India to draft new principles in the space sector with the emergence of new technologies just like what it did sixty years ago when the space treaties were being drafted.

Read the blog [here](#)

Recent Efforts on Developing New Norms for Space Security: A Brief Overview

This blog piece is authored by Kiran Mohan Vazhapully, Senior Legal Officer at the Secretariat of Asian-African Legal Consultative Organisation. This blog discusses recent efforts to develop new norms for space security. It starts with a brief report of the meeting of the Open-ended Working Group on reducing space threats (OEWG) held on 13 May 2022. It thereafter points out differences between the countries concerning the binding nature of treaties in intergovernmental fora. The blog also discusses steps taken by European Union relating to arms control in outer space. It also discusses United Nations led initiative, the Group of Governmental Experts on Transparency and Confidence-building Measures in Outer Space Activities. The blog concludes by hoping that proactive discussions at the OEWG will contribute positively to reducing threats to civilian activities in outer space.

Read the blog [here](#).

The Rationale of Domestic Legislation for Space Activities

This blog piece is authored by G.S. Sachdeva, who is an Adjunct Professor at the National Academy of Legal Studies and Research, Hyderabad. The blog discusses the need to enact a domestic space legislation in spite of ISRO's success in establishing international landmarks for over half a century. It also discusses the system for implementation of treaties at the state level which makes it necessary for India to formulate a national space law. Furthermore, the blog also points out the most important reason for a national space legislation which is to support the Outer Space Treaty and the various aspects of state responsibility under it. The blog concludes by highlighting that national space laws by the space

faring countries would help the space industry to flourish in the future.

Read the blog [here](#)

Initial Thoughts on a Possible Regime for Space Traffic Management

This blog piece is authored by Prof. Yun Zhao, Henry Cheng Professor in International Law and Head of the Department of Law, the University of Hong Kong. This blog starts with a suggestion to set up a legal regime for space traffic management. It then discusses the definition of space traffic management and lists reasons why a space traffic management system is the need of the hour. The blog then gives a brief history of how the idea relating to the space traffic management system has progressed. After that, it highlights the role of soft laws and then advocates for the setting up of an international regulatory body to deal with various aspects, including space traffic management for civil and commercial purposes, coordination and enforcement of relevant traffic rules, space debris mitigation, space data sharing, and establishment of relevant safety standards. Towards the end, the blog discusses specific issues such as space situational awareness and registration of space objects. It concludes by advocating for a legal framework to regulate space traffic and improving the global sharing of space situational awareness so that space technologies can serve and enhance human well-being on a wider, deeper and higher level.

Read the blog [here](#).

Military Use of Commercial Remote Sensing Satellites

This blog piece is jointly authored by Agniva Das from National Law University and Judicial Academy Assam and Dr. Amol Deo Chavhan, Associate Professor of Law, National Law University and Judicial Academy Assam. The blog discusses the legality of the use of civilian or commercial satellites for military purposes. It starts by providing a brief background about the use of commercial satellites in the Russia-Ukraine war and in previous wars as well. The blog then discusses the legalities of militarisation of commercial satellites by analysing Articles I, III and IV of the Outer Space Treaty as well as

Principles I, IV and XII of The Remote Sensing Principles. The blog concludes by highlighting that the use of such satellites for military purposes should not be considered lawful since it infringes the rights and interests of the sensed countries.

Read the blog [here](#)

Devas-Antrix Deal: When will the Ghosts of Fraud be Exorcised from the Aviation Sector?

This blog piece has been jointly authored by Soumya Gupta from West Bengal National University of Juridical Sciences, Kolkata and Dr. Shouvik Kumar Guha, Assistant Professor of Law (Senior Scale), The West Bengal National University of Juridical Sciences, Kolkata. The blog starts by summarily discussing the history of the dispute between Antrix and Devas. It then discusses various awards and decisions given by multiple fora concerning the cases filed by Devas and investors of the said company. The blog also devotes a paragraph enumerating the cases filed and investigations initiated against Devas and other unknown public servants of Antrix/ISRO/DoS in India. How the Airport Authority of India has also been dragged into this dispute is also covered by the authors. The blog concludes by briefly discussing the future of this dispute.

Read the blog [here](#)

Can Space Tourism co-exist with Space being turned into a War Zone?

This blog piece is authored by Karl Grossman, Professor of Journalism at the State University of New York/College at Old Westbury & Co-founder of the Global Network Against Weapons & Nuclear Power in Space. The blog discusses the co-existence of space tourism and space being turned into a war zone. It starts by highlighting the formation of the US space force as the sixth force of the US Armed Forces and how it can incite a space war. The blog then discusses the possible repercussions of a war in space with the main one being the enormous amount of space debris that may be generated. It also discusses that in spite of the Outer Space Treaty and PAROS Treaty, other countries are emulating the creation of the US Space Force. The blog concludes by stating that space tourism and space being turned into a war zone cannot co-exist.

Read the blog [here](#)

Space Exploration and India's Geopolitical Dilemma

This blog piece is authored by Dhruv Singh Garcha and Krishna Ravishankar, who are from National Law University, Jodhpur. The blog begins with a paragraph on various treaties relating to space to answer the question, who owns space? The blog then discusses two geopolitically opposite space exploration programmes, one the Artemis Accords and second the Sino-Russian International Lunar Research Station Initiative. The blog then discusses India's position with respect to the two programmes, first generally and then specifically. The blog concludes by suggesting that India should not conceptually side with any space groupings but instead practice the doctrine of strategic autonomy and make pragmatic collaborations, ensuring privileged manoeuvrability across geopolitical blocs.

Read the blog [here](#)

Jurisdiction under Article 84 of the Chicago Convention 1944 in the Context of Middle East Conflict

This blog is authored jointly by Prof. Sandeepa Bhat B., Professor of Law and Director - CASL, and Tushar Krishna from West Bengal National University of Juridical Sciences, Kolkata. The authors start with a brief background of the 2017 Middle East conflict, which emanated out of the alleged violations of Riyadh Agreements by Qatar. The ban on Qatar by other Middle East States included the aviation restrictions, which were challenged before ICAO Council by Qatar. This blog extensively covers the ICAO Council's jurisdictional issues in light of the subsequent ICJ judgement. The authors conclude that the exercise of jurisdiction by the ICAO Council in this case is based on shaky grounds.

Read the blog [here](#)

CURRENT DEVELOPMENTS

PROTECTION AND ENFORCEMENT OF INTERESTS IN AIRCRAFT OBJECTS BILL 2022

Aisiri Nanda

The Ministry of Civil Aviation has proposed a new law, 'The Protection and Enforcement of Interests in Aircraft Objects Bill, 2022' (the Bill). The Bill will ensure that India aligns with the Convention on International Interests in Mobile Equipment and the Protocol on Matters Specific to Aircraft Equipment (the Cape Town Convention). India had acceded to the Cape Town Convention in 2008; however, it did not align with it completely by providing necessary remedies under the domestic level.

The Bill allows aircraft leasing companies to operate efficiently in India and is expected to improve the leasing culture. The primary aim

behind the proposed new law is to facilitate better the working of international leasing companies that would need to repossess and relocate aircraft in India. It would also result in better protection of creditors' rights in insolvency cases and greater confidence in getting access to lower lease rates. The Companies Act 2013, and the Insolvency and Bankruptcy Code 2016, dealing with the insolvency process, require changes to align with the Cape Town Convention.

However, this is not the first attempt by the Indian authorities to ease the regulations surrounding the repossession of aircraft. In 2015, the Ministry of Civil Aviation amended the Aircraft Rules 1937. The amendment included the incorporation of certain provisions of the Cape Town Convention to ensure that owners and lessors would find it easier to repossess planes if the lease agreement was cancelled. In the cases of the downfall and eventual demise of Kingfisher Airlines as well as Jet

Airways, the leasing companies found the road to recover the aircraft difficult.

The scope of application of the proposed legislation is wide enough include the situations wherein the debtor or seller is based in India or whose aircraft object is in India. The finalisation of contract between the creditors and the debtors under the Bill creates an international interest in favour of the creditor. Such international interests are recognised and enforced even though they are unknown under other Indian laws. The Bill also enforces the remedies available under the Cape Town Convention. The other key provisions of the Bill include the priority of registered interest, remedies in case of insolvency, rights having priority without registration, and finally, de-registration and export of aircraft. The investors in the Indian aviation industry are eagerly waiting for the adoption of the Bill.

AIR INDIA TAKEOVER BY TATA

Aneasha Sharma

The recent takeover of Air India by Talace Private Limited (Special Purpose Vehicle of Tata Sons) from the Government of India on 27 January 2022 has imposed a significant challenge on Tata Sons to make the airlines profitable again. Air India, India's oldest airline, was founded by JRD Tata in 1932 as a mail carrier. Over the years, Air India has not only expanded its operations to the domestic and international sectors but has also rescued lakhs of Indian citizens from various war-torn nations during the Gulf War, the Ukraine crisis and the pandemic. Despite its rich history, the airline has suffered immense losses by being in billions of dollars of debt. These losses result from government mismanagement and the competition it faced from private airlines after the government allowed private players to enter the aviation market in 1994. Staring at huge losses coupled with the fact that Air India has not turned any profit since 2007; the government was left with no other option but to start the disinvestment process by selling Air India, along with its low-cost carrier Air India Express and fifty percent of AISATS, a ground handling company.

Tata Sons purchased Air India for ₹18,000 crores, which included ₹15,300 crores for paying off the debt and ₹2,700 crores paid directly to the Government of India. The remaining debt of ₹46,262 crores was transferred to the government-owned SPV, Air India Asset Holding Limited. Since the takeover, Air India has been working on getting more and more aircraft back in the air in ship shape by repairing engines and doing up the interiors. It has also tried to improve the product experience by improving ground handling, meal services and fixing the in-flight entertainment system.

Air India still faces some significant challenges. These include operationalising and managing the debt-ridden airlines while also conforming to the Share Purchase Agreement wherein they are barred from giving up more than 51% stake for one year, adhering to the mandatory business continuity clause for three years, and non-transference of the eight logos associated with Air India for initial five years. Other challenges that Air India is likely to face include stiff competition from Akasa Air and a rejuvenated Jet Airways aiming to corner a share of the domestic market, staffing and raising investment to bolster its future plans. All these challenges will make it difficult for Tata sons to convert this excessive debt-ridden airline into an operational and profitable venture. Despite all the challenges, recent news of Tata planning to merge all its airlines, Air India initiating discussion with potential investors to raise around \$1 Billion, and professional management at the helm has raised optimism in the industry that the airline is on the right course.

AKASA AIR AND THE FUTURE OF AVIATION IN INDIA

Aneasha Sharma

In the last few years, the Government of India has opened its gates and is increasingly encouraging disinvestment in the aviation sector while allowing new private entities to enter the market for better operation and management of civil aviation in India. In the last two decades, the Government has realised an emerging need for privatisation of the aviation sector for better management, investment and procurement of adequate funding. Privatisation

helps in better operation of the airlines and utilisation of benefits of free market competition for the development of the aviation sector in India. Ministry of Civil Aviation has been conducive to adopt new policies and economic regulatory framework by providing increased autonomy to private owners to formulate their policies for managing the airlines and airports. DGCA has also loosened its regulations by providing tax-free import of aircraft and exemption of GST on the purchase of aviation turbine fuel while making it mandatory for them to obtain the certificate of airworthiness and adhere to the ICAO guidelines on Safety and Standards and Recommended Practices. But this shift in the management of the aviation sector towards private entities guided by profit motive rather than social welfare has its own set of challenges which includes safety requirements, managing carbon emissions, and dealing with detrimental impact on the environment. To tackle these issues, the Government needs to formulate new laws to manage this shift in management and ownership while also levying emission tax to keep aircraft emissions in check.

Akasa Air airlines, SNV Aviation Private Limited brand, is a recent entrant in Indian aviation sector that aims to provide low-cost commercial domestic air travel. Founded by Vinay Dubey, the airline received its first Boeing 737 MAX aircraft and began its commercial operations on 7 August 2022. With the entry of Akasa, the total number of aviation companies has increased to more than 20, including regional, charter, and cargo airlines. In such a highly competitive market, Akasa will face significant challenges, such as unconstrained capacity, fare wars and structural challenges. However, Akasa has been a step ahead in tackling some of the aforementioned challenges. For example, Akasa has collaborated with TechGain's AirGain, which allows access and agility to act upon changing market dynamics and optimise airfares in real-time to provide the best fares to its customers. This has permitted Akasa to offer competitive pricing on already busy routes. Akasa has another advantage; it is starting on a clean slate when other airlines are reeling under huge losses. This, coupled with the fact that passenger traffic is bound to increase in the future, means that Akasa may be able to create its market share, and it will not need to take someone else's market share or

steal someone else's traffic. Akasa Air is well capitalised and has a bright future ahead with its financial funding and expert management in the aviation sector despite the challenges imposed by the competitors, structural management and the requirement of operating a low-cost airline with the rising fuel prices.

APPLICATION OF EMERGING TECHNOLOGIES IN CIVIL AVIATION SECURITY

Tanmay Mehta

More than a hundred years ago, White had predicted revolutionary changes in how we travel, and now the revolutionised way of travelling is undergoing dramatic changes with the advent of a digital revolution. Revolutionary technologies such as blockchain, beacon technology, the Internet of things, augmented reality/virtual reality and biometric technology are being applied to enhance passenger experiences and also improve the security apparatus in the civil aviation sector. Examples of use of such technologies include remote check-ins, sensor equipment, e-gates, artificial intelligence walk-through scanner and security gates, computed tomography, advanced imaging technology and RFID baggage reconciliation systems.

While it is true that the application of new technologies has sped up and has led to enhanced security at airports, it has also raised specific concerns. These concerns may be described as two parallels; one is to ensure that the technologies are more friendly with respect to privacy and data protection. The aforesaid concern can be addressed by putting in place additional protective measures, including automation by adopting practices such as data minimisation, automated data deletion after it is no longer needed and regular security audits. The use of personal data is increasing, and there is also an enhancement in opportunities for personal data processing and automated analysis. Therefore, the second concern will need us to address the problem of making our technologies more sophisticated and smarter. If we work on both parallels simultaneously while keeping in mind the security aspect of civil aviation, we may be able to reduce total airport operating costs.

A large percentage of security staff works on security-related aspects at the airport, which costs around 20% of total airport operations, according to an estimate. Thus, employing new technologies will help us to mitigate security concerns and reduce operating costs. Adapting emerging technologies becomes more important when we know that the aviation industry is bound to grow exponentially, which may make it challenging to handle the expected growth considering the current infrastructure at airports. Many airports are already facing many problems due to infrastructural limitations, such as not fully utilising the intended capacities of the airport, resulting in traffic congestion, decreased service quality, and dissatisfaction among passengers. However, it must also be kept in mind that with emerging technologies and high-level integration and connectivity, cyber-attacks on critical infrastructure are bound to increase. To cater to this problem, we may make use of technology itself. By applying machine learning techniques, we can ensure holistic cyber-defence strategies in the upcoming Smart Airports and e-enabled aircraft to prevent attacks on critical infrastructure. Appropriate application of technology can revolutionise the civil aviation industry by enhancing passenger safety and experience.

DUAL REGISTRATION OF AIRCRAFT LEASED BY RUSSIAN CARRIERS

Medha Biswas

Russian Parliament passed the law signed by President Vladimir Putin which allows foreign aircraft leased by Russian airlines to be re-registered to the country's register. The Russian airlines will register the rights to leased foreign planes and for the planes to be given Russian airworthiness certificates. The new law states that it has been brought about in furtherance of ensuring the uninterrupted functioning of civil aviation and for keeping the foreign aircraft with Russian carriers. The new law comes after regulators in Bermuda, where most of Russia's foreign-owned commercial jets are registered, stated that they would be suspending airworthiness certificates on the aircraft over their safety concerns in light of the Russia-Ukraine War.

Issues Related to Dual Registration of Aircrafts

Problem for Foreign Lessors

This law would increase the difficulties for western lessors in the repossession of their planes. The Russian aircraft market is dominated by lessors, including Russian state-backed banks and foreign companies. Russia is a signatory to the Cape Town Convention, a treaty designed to provide comfort to lessors around jurisdiction and applicable law risk. Its eighty-three nations have set up an international register for smooth repossession of aircraft, but it relies on co-operation between the different stakeholders.

Contravention of the Chicago Convention 1944

Article 18 of the Chicago Convention 1944 states that registration of the aircraft can be changed from one state to another but it cannot be registered in more than one State. State of registration also has several rights and obligations under the Chicago Convention ranging from issuing different certificates to ensuring safety of civil aviation. The dual registration of an aircraft raises the concerns relating to safety of the aircraft, licensing of aviation personnel and the validity of the certificate of their airworthiness and radio station license in an international sphere.

The International Civil Aviation Organization (ICAO), the UN's aviation arm, expressed its concerns and officially stated that this dual registration would not be consistent with the provisions laid under the Chicago Convention. It has called on Russia to immediately cease its infractions of the Chicago Convention, which explicitly prohibits the registration of an aircraft in more than one state. Continuation of this practice, as mentioned by ICAO, would be detrimental to the interest of safety and security in civil aviation. Russian response in this regard is eagerly awaited.

MILITARY APPLICATION OF SPACE TECHNOLOGY IN RUSSIA UKRAINE WAR

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On 24 February 2022, Russia attacked its neighbouring country Ukraine. The war's impact is perilous, and Ukraine's citizens are the innocent victims of this conflict. The Russian invasion of Ukraine also initiated the space conflict. In the recent decade, Russia has made a solid base to fight a war in space. Traditional anti-satellite (ASAT) weaponry, co-orbital assault satellites, and lasers designed to blind key American spacecraft have all been increasingly integrated into Russia's military arsenal to wage a space war against a near-peer enemy successfully. Considering that the Russo-Ukraine Battle has begun, and the Russian military has struggled to achieve its strategic goals in the traditional realm, although it has the means. Russia will have a greater incentive to escalate its fight in Ukraine against the US and its NATO allies in space.

There has been a collision of perspectives about how the world order should function since President Vladimir Putin's ascent to power. The United States and its allies were satisfied with the post-Cold War unipolar international order; Russia and its Chinese allies were not. The most likely arena for the opening shots in any hypothetical conflict between Russia and the West is in space. Space plays a significant, although often ignored, role in US military activities and economic transactions. Russia is willing to take American space systems captive as part of a larger strategy to ensure victory in the Russo-Ukraine war.

Private-sector satellites have played an unexpectedly significant role in Ukraine's conflict. For example, images from Planet Labs, a commercial satellite company, revealed in early August 2022 that a recent attack on a Russian military base in Crimea did more damage than Russia claimed in public. Ukraine's President Volodymyr Zelenskyy praised the casualties as proof of the country's progress in the struggle.

Space has also proven essential to communications throughout the war. Russia conducted military operations and cyber-attacks to disrupt Ukraine's vital communication centres. Russia and Ukraine have relied on space-based positioning, navigation, and timing (PNT) to carry out precision strikes on essential targets, with Russia's cruise missiles pinpointing their targets using its GLONASS monitoring satellites. The United States' acquisition of accurate weaponry has been critical

to Ukraine's recent progress. Concerns have been raised that violence could move beyond land, sea, and air due to the increased reliance on space.

VIASAT V. FCC

Umang Varshney

The environmental impact of commercial space activities, including mega constellations, has been a matter of grave concern to several astronomers, scientists, scholars, and NASA, which in its letter to the Federal Communications Commission (FCC) was deciding on the second modification order for Space Exploration Holdings LLC (SpaceX) mega-constellations. These concerns include the risk to ground-based astronomy, the outer atmosphere and the earth's orbit. Astronomers have raised the issue of increased light pollution due to these commercial satellites. This directly creates a problem for ground-based astronomy. Although SpaceX has considerably taken up this issue by adding satellite visors, the crisis still looms.

The FCC's decision authorising the launch of SpaceX Starlink satellites to operate its mega constellation in non-geostationary orbit (NGSO) and that the further modification of its license would not interfere with the geostationary orbit (GSO) satellites was affirmed by US Court of Appeals for District of Columbia Circuit on 26 August 2022. SpaceX's mega constellation is aimed at providing high-speed Internet service for people even in remote areas. The Court also dismissed the claim under the National Environment Protection Act (NEPA) as there was no proper party to pursue the claim. The decision is well within the legal framework which is present to determine such issues. However, the present matter is much graver, and thus, requires the application of judicial review.

Mega constellation operators, taking inspiration from consumer technology model, started expecting development of new satellites in paced manner along with the frequent replacement, resulting in greater number of satellites being burned into the atmosphere daily. Alumina is produced in significant quantities due to combustion of these satellites when they re-enter.

The defunct satellites usually evaporate when they are at altitudes between ranges of 55-30 miles while re-entering just above the ozone-rich stratosphere. Thus, the alumina will sink into the stratosphere and will likely trigger ozone destruction.

Apart from the environmental impact, the FCC's decision also has significant political implications. Assignment of orbital shells to mega-constellations using method of first-come first-served by regulators such as FCC poses significant disputes in light of other countries' interests. This might create a space monopoly, as addition of any further satellites to those shells will become dangerous.

This is likely to violate Outer Space Treaty of 1967, under which the exploration of space and its use is a right of all humanity and is open to every country without any discrimination or subject of national appropriation. Although regulators are not claiming any sovereignty over these orbital shells, allowing the national companies to imbue them with satellites could add up to appropriation by "other means" under Article II of the Outer Space Treaty. Therefore, there is a need to have a comprehensive code governing the commercial aspect of space activities at an international level, taking into consideration its impact on the environment as well as rights of global community.

