

NEWSLETTER 2024

CENTRE FOR AVIATION AND SPACE LAWS

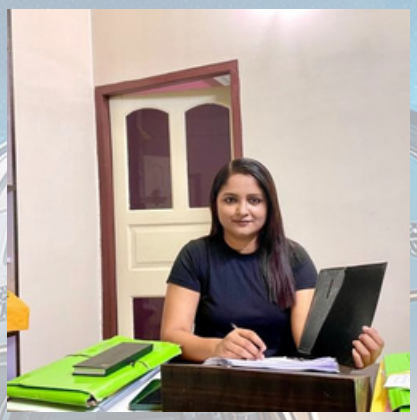
ABOUT CASL

The Centre for 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



Prof. (Dr.) Sandeepa Bhat B.
Director, CASL



Ms. Barsha Sinha
Research Assistant

Student Members



Aastha Chaudhry



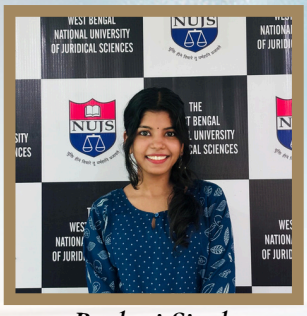
Arima Kaushal



Parineeta Singh



Lakshit



Rashmi Singh



Ravi Sharma



Sona S.

External Members

Mr. Abhijeet Singh
Associate, RBI Innovation Hub

Mr. Arthad Kurlekar
Associate, Curtis, Mallet-Prevost, Colt & Mosle LLP, Geneva
DiplCArb, 2015, Chartered Institute of Arbitrators

Mr. Bruce K. Gagnon
Coordinator- Global Network against Weapons & Nuclear Power in Space, United States of America

Prof. Dave Webb
Co-founder & Director – Praxis Centre, United Kingdom

Ms. Geetanjali R. Kamat
Ex-Associate at Touchstone Partners
Founder-Editor at IRCCL

Mr. Kiran Mohan V.
Legal Officer, Asian-African Legal Consultative Organization (AALCO)
Erin J.C. Arsenault Graduate Fellow, Institute of Air and Space Law, McGill University

Mr. Pankaj Mehta
Dharmashastra National Law University, Jabalpur (M.P.)

Mr. Sanjay Kumar
Legal Manager, DHL Express India Private Limited, Mumbai

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

ACTIVITIES UNDERTAKEN BY OUR TEAM MEMBERS

Director:

PROF (DR) SANDEEPA BHAT B.

- Received the Sachdeva Award for Space Law 2024 in recognition of outstanding contribution to space law [2 consecutive times]

Distinguished Memberships

- First UNIDROIT Correspondent for India
- 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 of Advisory Board - Centre for Research in Air & Space Law, Maharashtra National Law University Mumbai
- Founder & Editor-in-Chief - Lex ad Coelum
- Member of Board of Editors, The Aviation & Space Journal, University of Bologna, Italy
- 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

- Completed the Collaborative Major Research Project on 'A Study of Airport Governance in India under the Contemporary International Legal Regime' (in collaboration with MNLU, Mumbai)

List of Publications

- Sandeepa Bhat B., Dilip Ukey and Adithya Variath (eds.), International Space Law in the New Space Era: Principles and Challenges, Oxford: Oxford University Press, 2024, ISBN: 9780198909385, DOI: https://doi.org/10.1093/9780198909415.001.0001 [Scopus Listed].
- Sandeepa Bhat B. (ed.), Space Tourism: Legal and Policy Aspects, London: Routledge, 2024. ISBN: 978-1-032-48862-2, DOI: https://doi.org/10.4324/9781032617961 [Scopus Listed].
- Sandeepa Bhat B., 'State Responsibility and International Liability' in Sandeepa Bhat B., Dilip Ukey and Adithya Variath (eds.), International Space Law in the New Space Era: Principles and Challenges, Oxford: Oxford University Press, 2024, pp. 105 - 121. ISBN: 9780198909385, https://doi.org/10.1093/9780198909415.003.0006 [Scopus Listed].
- Sandeepa Bhat B., 'An Introduction to International Space Law' in Sandeepa Bhat B., Dilip Ukey and Adithya Variath (eds.), International Space Law in the New Space Era: Principles and Challenges, Oxford:

Oxford University Press, 2024, pp. 1 - 18. ISBN: 9780198909385, https://doi.org/10.1093/97801 98909415.003.0001 [Scopus Listed].

- Sandeepa Bhat B., 'Space Tourism: Outlining the Legal Issues', in Sandeepa Bhat B. (ed.), Space Tourism: Legal and Policy Aspects, London: Routledge, 2024, pp 1 - 15. ISBN: 978-1-032-48862-2, DOI: https://doi.org/10.4324/9781032617961-1 [Scopus Listed].
- Sandeepa Bhat B., 'Turbulence in Indian Aviation Financing Sector: Time to Understand and Implement the Cape Town Regime in the True Spirit', Uniform Law Review, Vol. 29, Issue 1, 2024, pp. 1 - 16. ISSN: 1124-3694, DOI: https://doi.org/10.1093/ulr/unae019 [Scopus Listed Journal]
- Sandeepa Bhat B. and Adithya Variath, 'Promoting investment in space matters, but having a law matters more', Observer Research Foundation Essay Series – Expert Speak, 3 May 2024, available at <https://www.orfonline.org/expert-speak/promoting-investment-in-space-matters-but-having-a-law-matters-more>.

Conference Presentations

International:

- 'Establishing a Case for the New Interpretation of 'Weapons of Mass Destruction' under the Outer Space Treaty', Space Education and Strategic Applications Conference, American Public University, Charles Town, United States of America, 19 & & 20 September 2024.
- 'Dealing with New Threats to Space Security', 3rd International Conference on Air & Space Law 2024, Gujarat National Law University, Gandhinagar, 14 September 2024.
- 'Space Tourism', 9th Edition of GNLU Air and Space Law Academy (GASLA 2024), Gujarat National Law University in collaboration with Institute of Air & Space Law, University of Cologne, 9 – 13 September 2024.
- 'Space Insurance', 9th Edition of GNLU Air and Space Law Academy (GASLA 2024), Gujarat National Law University in collaboration with Institute of Air & Space Law, University of Cologne, 9 – 13 September 2024.
- 'Indian Space Policy 2023: A path not to be followed?', Two-day Conference on New Horizons in Air and Space Law: Treaties, Technologies, and Tomorrow's Challenges (joint conference of Mc-Gill University, Canada and NUS, Singapore), National University of Singapore, Singapore, 1 & 2 August 2024.
- 'Space Security from the Indian Perspective', 32nd Annual Meeting of the Global Network Against Weapons & Nuclear Power in Space, United States of America, 20 July 2024.
- 'Chicago Convention and Airport Governance', International Conference on 'Aerodrome Requirements: Legal and Developmental Perspectives', The WB National University of Juridical Sciences, Kolkata, 30 March 2024.
- 'BIMSTEC and Aerospace Cooperation', International Colloquium on Legal Reforms in BIMSTEC Member States: Looking Ahead by Drawing Lessons from the Past and the Present, The WB National University of Juridical Sciences, 9 & 10 March 2024.
- 'Grappling with Issues in Aviation Financing' (Chief Guest Address), 3rd Crisis Control International Competition 2024, G.R. Kare College of Law, Goa, 24 & 25 January 2024.

National:

- 'Space Financing', Second Course on Space Law for Officers of Armed Forces 2024, Gujarat National Law University, Gandhinagar, 10 December 2024.
- 'Space Tourism', Second Course on Space Law for Officers of Armed Forces 2024, Gujarat National Law University, Gandhinagar, 9 December 2024.
- 'Space Security', Second Course on Space Law for Officers of Armed Forces 2024, Gujarat National Law University, Gandhinagar, 9 December 2024.
- 'Space Financing', First Course on Space Law for Officers of Armed Forces 2024, Gujarat National Law University, Gandhinagar, 1 October 2024.
- 'Space Security', First Course on Space Law for Officers of Armed Forces 2024, Gujarat National Law University, Gandhinagar, 30 September 2024.
- 'Responsibility and Liability in Space Law', Training Programme on 'Space Law' for Officers of the Indian Air Force, Gujarat National Law University, Gandhinagar, 3 July 2024.
- 'Principles of Space Law', Training Programme on 'Space Law' for Officers of the Indian Air Force, Gujarat National Law University, Gandhinagar, 3 July 2024.

Invited Lectures

- 'Aviation Insurance', HAL Management Academy, Bangalore, 20 December 2024.
- 'Liability under the Montreal Convention', HAL Management Academy, Bangalore, 13 December 2024.
- 'Warsaw Convention and Related Instruments', HAL Management Academy, Bangalore, 6 December 2024.
- 'International Conventions Relating to Civil Aviation', HAL Management Academy, Bangalore, 3 December 2024.
- 'Applicability of International Space Law: Indian Perspective', National Space Day, Rajiv Gandhi National University of Law, Punjab, 23 August 2024.
- 'Space Law: Developments, Concepts and Issues', Symbiosis Law School, Pune, 14 February 2024.
- 'Aviation Law and Practice', Symbiosis Law School, Pune, 13 February 2024.
- 'Unmanned Aircraft System and Drone Regulation', HAL Management Academy, Bangalore, 6 January 2024.

Student Member:

MS. ARIMA KAUSHAL

Member of the NUJS team for Foreign Direct Investment International Arbitration Moot 2024, which won the South Asia Regional rounds and was adjudged as the Octa-Finalists of the World Rounds. The moot proposition was substantially related to outer space laws.

PAST EVENTS

A SESSION ON "COMPLEXITIES OF LAW AND TECHNOLOGY INTERFACE IN CIVIL AVIATION" - BY DR. ATTILA SIPOS



The Centre for Aviation and Space Law (CASL), in association with the Centre for Law & Technology, organised a Session on "Complexities of Law and Technology Interface in Civil Aviation". This event was held on 28 March 2024 with overwhelming participation of students and research scholars. Dr. Attila Sipos, Faculty Member, Master's Program on Air and Space Law at the University of Sharjah (UOS), U.A.E. was the resource person for the Session. The session provided profound insights into the intricate relationship between law and technology in the aviation industry. The session was moderated by Prof. Dr. Anirban Mazumder and Dr. Paramita Dasgupta.

Dr. Sipos highlighted the aviation industry's heavy reliance on technology, emphasizing the critical need for interoperability and alignment of solutions from various technology providers. From navigation systems to aircraft design, technological advancements are pivotal in enhancing safety, efficiency, and operational effectiveness within the aviation sector was highlighted. Dr. Sipos addressed various upcoming legal issues facing the aviation industry, including the classification of suborbital flights and the acceptance of blockchain technology for secure data access. The session underscored the importance of proactive legal frameworks to address challenges such as security concerns surrounding the adoption of blockchain in aviation.

The session also addressed the legal implications of emerging technologies such as drones, unmanned aerial systems, autonomous aircraft, and artificial intelligence. While these technologies offer numerous benefits, they also pose safety, privacy, and regulatory compliance challenges. Dr. Sipos stressed the importance of balancing innovation with regulatory oversight to mitigate risks effectively.

The deliberations concluded with an interactive question and answer session, where students engaged with Dr. Sipos on various topics, including the third-world perspective in civil aviation, uniformity of civil aviation laws, and jurisdictional issues surrounding complex technologies like suborbital flights. The session provided valuable insights into the challenges and opportunities at the intersection of law and technology in civil aviation.

INTERNATIONAL CONFERENCE ON AERODROME REQUIREMENTS: LEGAL AND DEVELOPMENTAL PERSPECTIVES



On 30 March 2024, the Centre of Aviation and Space Laws (CASL) hosted the International Conference on 'Aerodrome Requirements: Legal and Developmental Perspectives' at NUJS Campus. This International Conference was convened to address the crucial aspects of aerodrome development, focusing on legal frameworks and developmental strategies. The conference brought together experts, policymakers, practitioners, eminent academicians and stakeholders from around the world who are related to the aviation industry or the study of aviation law to discuss challenges, share insights, and propose solutions to enhance aerodrome infrastructure and operations globally.

The conference began with a welcome address by Prof. (Dr.) N.K. Chakrabarti, Vice Chancellor of NUJS. While highlighting the significance of this Conference, he appreciated the dedication and continuous engagement of CASL in promoting aviation and space laws at both national and international levels. The event also marked the launch of a Scopus-listed book titled 'Space Tourism: Legal and Policy Aspects', edited by the Director of CASL Prof. (Dr.) Sandeepa Bhat B. In his inaugural address, Prof. Sandeepa Bhat discussed the Chicago Convention and its relevance to airport governance. He underscored the importance of airport infrastructure in achieving the objectives of the Convention and highlighted key provisions related to airports. He elaborated on Article 37 of the Convention and its relevant annexes, as well as the impact of the ICAO Council's 1948 Resolution on the obligations stemming from these annexes.

The keynote address by Prof. (Dr.) Alan Khee-Jin Tan from the National University of Singapore focused on the potential of an ASEAN-India open skies air transport agreement, particularly from the perspective of airport hubs. He noted that such an agreement could significantly enhance air connectivity and economic integration between ASEAN countries and India. He highlighted the challenges related to regulation, infrastructure, and socio-economic factors as well.

The first technical session began with a presentation by Prof. (Dr.) Ida Bagus Rahmadi Supancana from Atma Jaya University, Jakarta, on aerodromes and environmental standards. He discussed the environmental impact of aviation and proposed strategies for mitigating it, such as, using efficient fuels and solar energy. Dr. Attila Sipos from the University of Sharjah followed with a presentation on safety standards in aerodromes under the Chicago Convention, emphasizing the effectiveness of the Universal Safety Oversight Audit Programme. Other notable speakers in this session included Mr. Ridha Aditya Nugraha from Universitas Prasetiya Mulya, Jakarta, who presented case studies of Indonesian airports, and Dr. Anuradha

Roy Chowdhury of NUJS, who critically evaluated the public-private partnership model in the governance of Indian airports.

The second technical session addressed issues related to Indian airports. Topics included the discussion by Mr. Harsha N., Assistant Professor of Law, NLSIU Bangalore about the Mangalore air accident of 2010; Dr. P. Jogi Naidu, Assistant Professor of Law, DSNLU Vaizag & Mr. Adithya A. Variath from MNLU Mumbai, who discussed the challenges faced by Vaizag and Mumbai airports respectively; and Ms. Barsha Sinha, Research Assistant, CASL, who highlighted the legal concerns surrounding seasonal international airports like Bhopal.

The conference concluded with two parallel paper presentation sessions, featuring selected research on various aspects of aerodrome governance. The event provided participants with insights into the complexities of airport management, enhancing their understanding of legal and operational challenges in the field. Over 60 participants benefited from the engaging discussions and networking opportunities throughout the day.

OUR JOURNAL

The two issues of Volume 4 of our journal, Lex ad Coelum, are published on time during 2024. Just like previous editions, these issues contain quality articles written by internationally renowned scholars of aviation and space laws. The rigorous system of our peer review has ensured the publication of only high standard papers. A short summary of them can be seen below:

Evaluating the Responsibility of ICAO to Tackle Climate Change

Dr. Deva Prasad M., Associate Professor at IIM Kozhikode, Kerala, authored this article. The author begins with an argument that the current global governance frameworks, such as the UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol, fail to specifically address aviation emissions, resulting in a regulatory gap. The International Civil Aviation Organisation (ICAO), established under the Chicago Convention of 1944, is the primary body responsible for international aviation law but has been inadequate in implementing comprehensive climate change strategies. While ICAO introduced the Carbon Offsetting Scheme for International Aviation (CORSIA) in 2016, it faces criticism for its reliance on carbon offsetting rather than actual emission reductions and lacks robust legal backing. Additionally, Annex 16 of the Chicago Convention primarily focuses on noise and local air pollution, neglecting broader climate impacts from long-haul flights and aerodromes. To effectively mitigate aviation's environmental footprint, the author argues that ICAO must adopt more proactive and comprehensive regulatory actions, drawing inspiration from successful frameworks like the Montreal Protocol. This includes applying climate principles such as the precautionary principle and Common but Differentiated Responsibilities (CBDR), enhancing international cooperation, and redefining sector-specific responsibilities. The European Union's regional initiatives are highlighted as a positive step, demonstrating how sectoral approaches can align with international agreements. Ultimately, achieving sustainable aviation requires ICAO to strengthen its regulatory mechanisms, address both carbon and non-CO_2 emissions, and foster global collaboration to ensure the long-term economic and environmental sustainability of the aviation sector.

Read the full article here

Time for an Indian National Space Security Policy?

This paper is authored by Adithya Variath who is an Assistant Professor of Law and Coordinator, Centre for Research in Air and Space Laws at Maharashtra National Law University Mumbai. The author starts with the point of Russia vetoing a UN Security Council resolution aimed

at preventing an arms race in outer space, reflecting the growing geopolitical tensions in space activities. The resolution, initiated by the U.S. and Japan, responded to concerns about Russia's development of nuclear anti-satellite weapons (ASATs). The Outer Space Treaty (OST) prohibits the militarization of space, but its interpretation regarding "peaceful purposes" remains contentious. Despite ongoing UN efforts, including calls for legally binding measures, space militarization persists, with major powers like Russia, the U.S., and China actively advancing space defense capabilities. The U.S. and NATO have recognized space as a critical operational domain, while countries like India are also expanding their space military capabilities, evidenced by India's successful ASAT test in 2019 and its increasing focus on space security. India's space policy, though still developing, lacks a comprehensive national space security framework, which experts argue is necessary given rising regional tensions, particularly with China. The author believes that a robust space defense strategy could help India mitigate security risks, enhance military capabilities, and foster international space cooperation.

Read the full article here.

Role of the IATA in Airport Governance and Sustainability Practices in India: A Case Study of the Guwahati Airport

Kanchan Yadav, an Academic Fellow at the National University of Juridical Sciences, Kolkata, wrote this article. She highlights that climate change is no longer a distant threat but a visible crisis, with global temperatures rising sharply. Despite the Paris Agreement's goal to limit warming to 2°C above pre-industrial levels, emissions continue to rise, posing a major challenge. The civil aviation industry is a significant contributor to carbon emissions, and organizations like the International Air Transport Association (IATA) are pushing for net-zero emissions by 2050 through sustainable innovations in airlines and airports. However, the real challenge lies in implementing these sustainability goals. The case of Guwahati's Lokpriya Gopinath Bordoloi Airport highlights the gap between claims of sustainability and actual efforts. While some basic eco-friendly measures are in place, the lack of comprehensive carbon footprint assessment and genuine planning undermines long-term sustainability. According to the author, real progress will require measurable actions rather than mere publicity.

Read the full article here.

Challenges of Space Security Governance

Dr. Rajeswari Pillai Rajagopalan, the Director of the Centre for Security, Strategy and Technology (CSST) at the Observer Research Foundation, New Delhi, authored this paper. She believes that the outer space has become a highly contested domain, with increasing geopolitical tensions and competition among major space powers. Space security has gained prominence, as more countries shift their space programs from peaceful applications to military and defense-oriented agendas. The 2007 Chinese anti-satellite (ASAT) test broke a long-standing norm,

prompting other nations, including India, to develop similar capabilities, escalating the militarization of space. Alongside ASATs, cyber and electronic warfare tactics pose new threats. Global governance has struggled to keep pace, with fragmented efforts to establish new space rules, hindered by great power rivalries and differing approaches to space security. Existing treaties like the Outer Space Treaty (OST) are outdated, focusing on nuclear weapons while failing to address contemporary non-nuclear threats. According to the author, as more state and non-state actors enter the space arena, developing consensus on new governance frameworks remains challenging, with smaller technical agreements offering a potential way forward.

Read the full article here.

Airport Development in Indonesia: Quo Vadis?

Ridha Aditya Nugraha, an Assistant Professor at Air and Space Law Studies, Universitas Prasetiya Mulya, Jakarta, Indonesia, authored this article. The heavy reliance of Indonesia on air transport in ensuring inter island connectivity especially in the areas of execution of government functions, facilitation of trade and even provision of health care services is the beginning point of discussion in this paper. With a population size of about 274 million, air transport is of prime importance with transportation in 111 million passengers and 937,315 tons of cargo in the year 2023. The sector is under the management of InJourney, which manages 35 airports through the state's owned companies Angkasa Pura I and II. However, challenges still remain despite the existence of legal provisions on the formation of public private partnerships (PPP) and the recent revision of the minimum requirements of 5 airplane fleets for airlines planning to open and operate in Indonesia to encourage foreign direct investment (FDI). Ticket pricing has been regulated, and combined with the factors of economy, this has resulted in low profitability for both the airline industry and the airport operators as a whole. New airport projects, like as Komodo Airport and Dhoho Airport, illustrate the use of PPP models in the improvement of facilities and infrastructure. With the further development of national airspace management legislation in Indonesia, great stress is placed on the facilitation of Public Private Partnerships, providing proper investor guarantees and development of comprehensive strategic airport location planning which are important in terms of connecting the country better and enhancing its economic development. Hence, the author argues for a holistic approach to deal with all problems faced in the development and management of airports in Indonesia.

Read the full article here.

Beyond Capacity-Building: "Downstreaming" Space Technologies Through New Space Collaborations

This article is authored by Jessica Los Banos, a Foreign Lecturer at the Faculty of Law, Universitas Pelita Harapan, Indonesia. Given the fact that not all nations possess the capability for independent space activities, the author underscores the need for international

cooperation for equitable access to space technologies. Developing countries, rather than competing with established space-faring nations, should capitalize on collaborative opportunities provided by open-access space technologies to foster socio-economic development. Capacity-building, defined as the enhancement of skills and resources necessary for adaptation and growth, is critical for achieving sustainable development goals (SDGs). The 1967 Outer Space Treaty mandates cooperation and assistance to less-developed nations, framing capacity-building as a legal obligation for space-capable states. Initiatives such as UNOOSA's Access to Space Initiative and various UN General Assembly resolutions advocate for democratizing space access, thereby facilitating capacity-building and institutional strengthening. However, developing countries face challenges in strategically deploying these technologies to realize long-term benefits. Need for a paradigm shift toward a collaborative capacity-building model that transcends mere development assistance, emphasizing sustainable implementation and integration of space technologies across various sectors to drive innovation and address specific developmental needs forms the central theme of this paper.

Read the full article here.

The India-United States BASA is Broken: Can it be Fixed?

Prof. P. Paul Fitzgerald, a distinguished expert of aviation law at McGill University, Canada, contributed this article. He critically examines the disparities in air services between the United States-India and United States-Japan routes, highlighting the predominance of Middle Eastern carriers, particularly Qatar Airways, in the US-India aviation market. Despite India's larger population and significant potential for tourism to the US, it offers markedly fewer non-stop flights compared to Japan. The analysis underscores the implications of Bilateral Air Service Agreements (BASA) and the concept of privity of contract, which dictate that designated airlines should dominate their respective routes. The author argues that Qatar Airways leverages aggressive 6th Freedom operations to undermine the viability of direct flights between the US and India. To address this imbalance, he suggests two strategic remedies: India's withdrawal from the International Air Services Transit Agreement, enhancing its negotiating leverage, and renegotiation or cancellation of the BASA with Qatar. By adopting these measures, India could potentially recalibrate the competitive landscape, fostering greater direct air service while ensuring that American and Indian airlines capture a substantial share of transnational traffic. This strategic manoeuvring, according to him, aligns with broader geopolitical interests, reinforcing bilateral ties between India and the United States.

Read the full article here.

GIFT City: An Overview of Prevailing and Prospective Aircraft Leasing Structures in India

Karan Nimish Vakil, an Associate at Tyabji Dayabhai, Advocates & Solicitors, authored this article. At the recent Paris Air Show, Indian

airlines Air India and IndiGo attracted significant attention with record aircraft orders, underscoring India's position as the fastest-growing commercial aviation market globally. The potential for India to evolve into a major aviation hub, hinges on government initiatives to cultivate a conducive business environment. Notably, aircraft leasing predominates in the industry, with over 80% of fleets at airlines like IndiGo and SpiceJet comprising leased aircraft. Ireland currently dominates the aircraft leasing sector, benefiting from favourable tax treaties and policies that attract lessors. In a strategic move to challenge this status quo, the Indian government has designated 'aircraft lease' as a financial product under the International Financial Services Centre Act 2019, offering significant tax incentives to lessors operating within the GIFT City Special Economic Zone. However, foreign lessors remain hesitant due to concerns over the nascent SEZ framework, limited financing options, and recent insolvency issues faced by Go First, which exacerbate apprehensions regarding asset repossession. For India to realize its aviation aspirations, the author argues that it is critical for the government to mitigate these concerns and facilitate a robust environment for foreign investment in the sector.

Read the full article here.

Equity and the CHM Principle in the Moon Agreement: A TWAIL Perspective

Aaditya Vikram Sharma, the author of this paper is a Senior Assistant Professor at Vivekananda Institute of Professional Studies, New Delhi. This article critically examines the Moon Agreement through the lens of Third World Approaches to International Law (TWAIL), highlighting the often overlooked contributions of developing countries in advocating for the "Common Heritage of Mankind" (CHM) principle. While the Moon Agreement aims to prevent the monopolisation of celestial resources by technologically advanced nations, existing literature frequently marginalises the active role played by the Third World nations in its formulation. By revisiting the negotiation history from 1971 to 1979, the study demonstrates how countries like India, Egypt, and Chile employed sophisticated legal strategies to embed equity and distributive justice into international space law. The author argues that these nations were instrumental in challenging the dominance of powerful states and promoting a more inclusive legal framework for outer space activities. Employing a TWAIL perspective allows for a critical reassessment of the Moon Agreement, emphasising the need to acknowledge and integrate the role of the Global South in the development of international legal norms. The findings suggest that recognizing the contributions of developing countries is essential for understanding the evolution of international space law and for addressing historical inequalities perpetuated by traditional legal narratives.

Read the full article here

Privatisation and the Legal Future of Space Mining: 67th COPUOS Session in the Age of Astroforge

Nirbindu Banerjee, a Research Fellow and a Ph.D. candidate at the WB National University of Juridical Sciences, Kolkata. As the concept of commercial mining in space transitions into reality from theoretical discussions, existing international legal framework is argued to be inadequate by the author. The Outer Space Treaty, being the grund norm, provides several essential principles for space governance, which need to be adhered to for ensuring orderly developments in space. Despite the strong reflection of common rights regime in international space treaties, the failure to prohibit certain activities in explicit terms has resulted in varied interpretations of the provisions of space treaties. The permissibility of space mining by public or private entities and claim of property rights over mined resources is one such domain of controversy. The last decade developments in domestic laws and international arrangements, like Artemis Accords, have exemplified the concerns relating to space mining. The recent exchanges from the 67th session of the Committee on Peaceful Uses of Outer Space, focusing on the increasing necessity of a cohesive international framework, attain significance in this regard. The perplexities of the United States domestic laws and the Artemis Accords need to be addressed before they slowly gather ideological traction in other countries to the determent of our common interest. This article is an effort to accentuate the necessity of expunging the uncertainties surrounding current developments relating to space mining.

Read the full article here.

Exploring the Possibility of an Intergenerational Right to Return to Earth

Dr. Anna Marie Brennan, a Senior Lecturer at the University of Waikato, New Zealand, wrote this paper. The author starts with a question that if human civilisation realises its grand ambitions to establish extraterrestrial human settlements on Mars in the not-so-distant future, how will human rights apply and be enforced? Rather than States, it is thought that space companies such as SpaceX, Blue Origin and the Sierra Nevada Corporation will be the first to establish extraterrestrial settlements. Rapid technological developments over the last decade mean that these ambitions are no longer science fiction. This article considers the scope of the right to freedom of movement in outer space, especially the right to return to Earth. Due to the perilous nature of the journey from Earth to Mars and the harsh environment in which the first settlements will be established, this article considers whether there are any legitimate and, indeed, permissible circumstances where the right to return to Earth will be restricted. The final part of this article explores the possibility that future descendants of the first wave of settlers to Mars having an intergenerational right to return to Earth despite having been born on the Red Planet.

Read the full article here

Common Rights Regime in Outer Space Law: Making Space for Jus Cogens Norms

Dr. Atul Alexander, an Assistant Professor at the WB National University of Juridical Sciences, Kolkata, contributed this paper. The objective of the common rights regime is to benefit humanity, although the phrase is not codified in any treaty pertaining to outer space law. It can be derived from the principles codified under these treaties. The common rights regime assume significance in contemporary times because of the increased capabilities of States and private actors to exploit space resources. Parallelly, jus cogens norm provides amoral dimension to international law and can influence the space law regime. This paper evaluates the interaction between the common rights regime and jus cogens norms. Accordingly, the author has split this write-up into three portions; the first part discusses the advent of a common rights regime in outer space law, the second segment evaluates whether some elements of this regime have achieved the status of jus cogens, and the final portion segues into the findings and conclusion.

Read the full article here.

Accessible Airports: The Indian Conundrum

Kanchan Yadav, an Assistant Professor at the WB National University of Juridical Sciences, Kolkata, wrote this paper. She highlights that among the rights guaranteed under the Universal Declaration of Human Rights (UDHR) and the Constitution of India, the right to freedom of movement is a primary tenet of fundamental freedoms. However, for 1 out of 8 people who might suffer from an apparent or latent disability, this right is significantly curtailed due to the lack of adequate facilities in airports and the civil aviation sector in general. International civil aviation bodies such as the International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA) have already published detailed guidelines on the matter regarding how to make airports and air travel truly accessible, keeping in mind the broad range of physical and intellectual disabilities that the passengers may have. However, the true problem lies in their implementation. As was evidenced in this study, even for the major airports in India, implementation of truly disability-friendly policies is abysmally lacking. While steps are being made in the right direction, the author argues that strict and urgent actions are required at both state and central governmental levels to ensure implementation across the nation.

Read the full article here.

CURRENT DEVELOPMENTS

NEW AVIATION LAW IN INDIA

Arima Kaushal

The Bharatiya Vayuyan Adhiniyam 2024 (BVA), hailed as a major reform in India's aviation laws, came into force on 1 January 2025. It was enacted during the Winter session of the Parliament in 2024. This legislation seeks to modernize the aviation law and improve ease of doing business. The law was introduced upon the recommendations of the International Civil Aviation Organization (ICAO).

The BVA repeals the 90 years old Aircraft Act, which had been amended 21 times earlier, latest being in 2020. Although it retains several provisions from the old Act, the new legislation organizes them into more structured chapters. The existing bodies like the Directorate General of Civil Aviation (DGCA), Bureau of Civil Aviation Security (BCAS), and Aircraft Accident Investigation Bureau (AAIB) continue to operate under the BVA. However, now their roles are clearly outlined in chapters 2, 3, and 4 of the BVA. The Act also enhances the powers of the Director Generals of the DGCA and BCAS under sections 4 and 6 to improve their ability to regulate the sector.

A significant feature of the BVA is its focus on compliance with the Convention on International Civil Aviation 1944 (Chicago Convention). For instance, Section 11 authorizes the Government to frame rules in order to align with international standards. Additionally, individuals that are involved in aircraft operations and maintenance are now required to procure a Radio Telephone Operator (Restricted) Certificate and license. This brings the law at par with the standard in the International Telecommunication Convention.

The BVA does not only solve the shortcomings of the old Act but also expands the scope as a whole. Unlike the old Act that exclusively referred to the topic of 'control', the BVA states 'regulation and control'. Not to mention, the preamble is indicative of a deeper and wider change in the legislation. It has been expanded from the 'manufacture, possession, use, operation, sale, import, and export of aircraft' to also include 'design', and 'maintenance'. The mention of the terms 'design' and 'maintenance' ensures that the whole range of production and service of aviation operation is now included in the ambit of the Act. The preamble also states 'matters connected therewith or incidental thereto', making sure the Act becomes flexible to address any new concerns of the aviation industry.

The BVA also introduces a second appellate officer in the appeals process. Under the old Act, those who were not satisfied with the decision of the first appellate officer had to approach the Central Government. The second appellate officer in the new law is an additional appellate layer which aims to ensure speedier justice.

In addition to these changes, BVA also strengthens enforcement by bringing stricter

penalties, with higher fines and longer prison terms to discourage violations. Disputes over land compensation near airports can be resolved through arbitration. The BVA is aspired to be a key step towards modernizing India's aviation laws, and thereby, placing it as a leading global aviation hub. The success of this new law is dependent on the pro-active role to be played by all administrative bodies mentioned above.

CHINESE FLYING OVER DANJO ISLANDS

Aastha Chaudhry

Incursions into the territorial airspace without the permission of the controlling country constitute violations of territorial sovereignty and integrity of a State. The recent (26 August 2024) violation of Japan's territorial airspace over the Danjo Islands of Nagasaki Prefecture in western Japan by Chinese Y-9 military reconnaissance plane is seen as an aggressive assertion of territorial claims by China over the neighbouring areas- which are under the sovereignty of other nations, both historically and under international law.

The Convention Relating to the Regulation of Aerial Navigation 1919 (the Paris Convention) established the principle of airspace sovereignty. As per Article 1, "every Power has complete and exclusive sovereignty over the air space above its territory". It is the fundamental right of a sovereign State to regulate the use of its air space and enforce its own aviation law. Hence, the entry of foreign aircraft needs permission by the concerned State. The Convention on International Civil Aviation 1944 (Chicago Convention) reiterates these sovereign rights of States and demands respect for State sovereignty in air space.

The Chinese act was not an isolated incident. In the recent past, it has been involved in the airspace violations of Taiwan, India and various other countries in the south-east Asian region, intensifying regional tensions and raising concerns particularly concerning sovereignty and military conduct. Such violations of airspace seriously impact diplomatic relations between States, which in turn, affect the maintenance of international peace and security as well as international trade. Airspace violations pose security threats, which are contrary to obligations under the Charter of United Nations.

China's massive expansion in the East and South China Seas has become a matter of grave concern for neighbouring States. Its increased interest in acquiring land territories as well as fishing zones has become a bone of contention. Confrontations between Japanese coastal guard vessels and Chinese fishing boats are also seen quite frequently. With both States having nuclear capabilities, their strained relationship is not good for Asia. By referring to the Danjo Islands incident, the Philippines' defence minister tagged China as the biggest disruptor of international peace in the region.

Though it is unclear whether the flying was intentional or accidental, China should have avoided such a situation or at least it should have made best efforts to be transparent and cooperative to pacify the situation. Failure to respect the State sovereignty over airspace will undermine the carefully negotiated text of the Chicago Convention.

SAFETY CONCERNS IN INDIAN AVIATION

Rashmi Singh

Two incidents of 2024 in the two biggest Indian airports brought forward serious safety concerns in Indian aviation sector. Air proximity incident of 8 June 2024 at the Chhatrapati Shivaji Maharaj International Airport (the Mumbai Airport), and the collapse of the terminal roof at the Indira Gandhi International Airport (the Delhi Airport) have a chilling effect on Indian aviation. In the Mumbai Airport, an AirIndia and an IndiGo flight lost the minimum separation on the same runway when former was departing and the latter was landing. Reportedly, the Air India flight was given clearance to depart for Thiruvananthapuram, and the IndiGo flight was also given clearance to land at almost the same time. What was of great concern in this incidence was the distance of separation between the two flights, which was as low as 509 metres.

It is pertinent to note that as per the guidelines of the Directorate General of Civil Aviation (DGCA) regarding air traffic control procedures, the Air Traffic Control (ATC) can issue landing clearance to an aircraft only when there is a reasonable assurance that the landing aircraft would not cross the threshold until the preceding aircraft departing from the runway has crossed the end of the same runway. However, this safety standard guideline has been grossly violated by the Mumbai ATC resulting in de-rostering the concerned ATC staff. Though this is not the first instance of 'near miss' situations in Indian aviation, the Mumbai air proximity was alarmingly close, and the narrowest escape witnessed in the Indian aviation.

The second incident involved the death of a person and injury to many due to the collapse of Terminal 1's roof at the Delhi Airport. The Delhi Airport is the most sophisticated and biggest Indian Airport with maximum number of footfall every year. Hence, this incident is of grave concern. Given the fact that the Terminal 1 had recent renovation, additional concerns were raised regarding the quality of the work and airport administration.

The safety requirements are one of the most significant aspects to be covered under the Convention on International Civil Aviation 1944 (Chicago Convention). International Civil Aviation Organisation (ICAO) has developed Standards and Recommended Practices (SARPs) on aerodromes as well as aviation safety. Annexes 14 and 19 have detailed SARPs relating to these aspects. Unfortunately, the recurring incidents of air proximity and other safety hazards in India raise serious concerns about the enforcement of the safety standards in India. When the two biggest and busiest Indian airports are facing such problems, what shall be the situation in other airports has become a matter of debate.

While compliance with SARPs is significant, need for catering to aviation safety is also required to prevent distrust of passengers in Indian aviation sector. India's growth in the aviation sector is dependent on gaining and retaining consumer confidence. Stricter accountability, enhanced use of technology, and immediate corrective measures are essential to prevent further erosion of passenger confidence in aviation safety across India.

BLUE SCREEN OF DEATH HITS AVIATION

Sona S.

On 19 July 2024, the 'Blue Screen of Death' rendered the aviation services on an impasse. The privately managed airports were severely affected by the global outage of Microsoft services. These airports heavily rely on the services rendered by the Microsoft Azure, and the Microsoft system failure resulted in blank screens being shown where information relating to passengers should have been reflected. It resulted in some airlines manually checking-in passengers and others resorting to flight cancellation to prevent any hazard. The Delta Airlines, a major United States' airline, reported to cancel 5000 flights between 19 and 25 July 2024, resulting in a loss of about $500 million. The aviation analytics forum Cirium said that out of 110,000 scheduled commercial flights on 19 July, 5000 were cancelled globally. Cirium analytical data also showed that 56 out of 3652 flights scheduled from Indian destinations were cancelled within three hours of the glitch. The aviation industry explicitly showed the effect of disruption, while the impact was extended to other industries as well.

According to the Federal Aviation Administration, nearly all major American carriers have been forced to temporarily ground all their flights due to the outage. Carriers and airports including Air India, KLM, Hong Kong International Airport, Berlin Brandenburg Airport and London Stansted also reported serious disruptions. The manual check-ins, wherever employed, reported long queues and inconvenience to passengers. The root of the problem was traced back to technical issue in software provided by CrowdStrike, a global security firm which introduced an update for Microsoft applications that turned out to be faulty, leading to the biggest tech failure in history.

The scenario in aviation industry was further emancipated by shutdown of ticket-booking, check- in and other similar services. Though, the outage happened on 19 July, the cascading effects of the outage were felt in the subsequent days due to the delay in reaching of flights for the subsequent trips.

A small update in the cloud storage of CrowdStrike led to a stand-still in aviation industry which accentuates the vulnerability shown by modern digital system. The fragility and vulnerability associated with the global digital infrastructure poses a threat to economic environment all over the world. Hence, the need for building more resilient systems to with the capacity to withstand unforeseen challenges is the need of the hour.

AUSTRALIAN SUSTAINABILITY OF SPACE ACTIVITIES POLICY 2024

Jyoti Thakur

Australia is currently making strides toward ensuring the long-term viability of its space sector by developing a policy for sustainable space activities. Paragraph 5 of the United Nations Guidelines for the Long-term Sustainability of Outer Space Activities (LTS Guidelines) imposes responsibility upon States to ensure safety, security, and sustainability of space

operations through national regulatory frameworks that ensure responsible behaviour from governmental and non-governmental actors involved in space activities. This is said to serve as the foundational principle for the Australian Policy. Australia's Policy purports to extend Paragraph 5's sustainability focus by actively promoting international norms through fora like the Quad Space Working Group and the Artemis Accords.

This initiative, primarily, stems from the rapid burgeoning of space innovations and the increasing number of satellites launches. A recently released discussion paper on the Policy highlights economic, environmental and social issues of space-related endeavors within the country as the key objectives that need addressing. Hence, the sustainability in this dynamic sector, becomes a need of the hour so as to ensure the responsible maximization and management of present and future benefits.

Australia believes that its commitment to align with the global practices, as has been adopted by United States, European Union, Japan etc, is achieved through this Policy. The Policy, according to Australia, also aims at fulfilling Australia's obligations under the key United Nations space treaties, emphasizing on responsible space operations, reducing space debris, ensuring safe satellite disposal, and enhancing Space Situational Awareness (SSA). Central to this effort is the theme of space debris mitigation which prioritizes responsible satellite design and end-of-life disposal practices. It is a means designed to prevent detrimental contamination of space and the Earth's environment in accordance to the commitments under the Outer Space Treaty.

Additionally, it aims to minimize the risks of satellite collisions and space debris which is an extension of reinforcing Australia's accountability under the Liability Convention for damage caused by its space objects. The discussion paper also addresses importance of enhanced tracking system adherence to the Registration Convention, which requires states to register their space objects with the United Nations.

However, the Australian Policy initiative is not free from concerns. It may not ensure sufficient enforceability and global coordination especially in terms of space debris. Absence of a domestic law addressing Space Traffic Management (STM) and orbital congestion would hinder the effective enforcement of this Policy. The voluntarily nature of sustainability practices under the Policy is also a matter of significant concern in the wake of increasing private actors in the space exploration. Nonetheless, some companies, such as HEO and Neumann Space, are working for meeting the objective of space sustainability. They are working on propulsion ecosystem project that captures metallic space debris and recycle it into propellant to refuel satellites. However, the challenge still persists at the forefront since these select-few initiatives are not adequate to achieve space sustainability.

In addition, linking the Australian Policy to the Artemis Accords is a matter of concern. The Artemis Accords is a plurilateral instrument to mine celestial resources, which is against the spirit of multilateralism reflected under the United Nations space treaties. Hence, the space sustainability policy linked to the promotion of the Artemis Accords cannot cater to the interests of all countries.

ENVOYS OF [HU]MANKIND STUCK IN SPACE!

Lakshit

In 2014, NASA awarded their Commercial Crew Transportation Capabilities (CCtCap) contract to Boeing and SpaceX through a public-private partnership. Under this contract, NASA certifies that the provider's spacecraft system meets NASA's requirements prior to flying missions with astronauts. In June 2024, NASA, as part of Boeing's Starliner spacecraft's first crewed flight test, sent Sunita Williams and Butch Wilmore to the International Space Station (ISS). This launch was to test the spacecraft's environmental control system, displays, control systems and thrusters, where it was originally scheduled to stay for a week. However, astronauts' stay was extended due to a helium leak and failure of 5 out of 28 thrusters. Since then, both are stuck in the ISS.

Article V of the Outer Space Treaty 1967 provides a special status of the astronauts. Since their activities are considered to be beneficial to all States, they are to be treated as "envoys of mankind in outer space". This elevated status of being the representatives of [hu]mankind is also associated with an obligation on all States to render all possible assistance to astronauts case of accident, distress, or emergency landing. Such assistance is also required in the outer space. This obligation of the Outer Space Treaty is also further elaborated by the Rescue Agreement 1968 with specific provisions on assistance.

Currently, there are only three countries with human space flight capabilities, namely the United States, Russia, and China. However, International collaborations in space are influenced by broader political and diplomatic relationships. The 2011 Wolf Amendment effectively bans the United States from working with China in Space. The ISS is one of the most progressive international collaborations between the United States, Russia, Canada, Japan and the participating countries of the European Space Agency (ESA). This ideally leaves only Russia to help the United States in easing and bringing back stranded astronauts to earth.

However, recent geopolitical tensions, notably the Russia- Ukraine conflict, in which the United States is actively supporting Ukraine against Russian aggression, have negated any possibility of Russian assistance. Despite the Outer Space Treaty stipulating international cooperation in space as a fundamental principle of space law, the ongoing conflict has overshadowed the space collaborations between Russia and the United States. There have been no reported talks for extending help to the United States from Russia, neither has the United States asked for help from Russia; raising questions about the effectiveness of space treaties in the context of heightened political conflict on Earth.

The breakdown in collaboration between the United States and Russia is significant because space exploration, by its very nature, often requires international collaboration due to its still-developing, technologically complex, resource-intensive and risky nature. In these types of cases where astronauts are in distress or stranded in space, the ability of nations to assist each other becomes crucial for the safety of all involved. As space exploration continues to evolve and more nations develop human spaceflight capabilities, the importance of maintaining international cooperation, regardless of terrestrial conflicts, becomes even more critical.

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A Note of Gratitude to the Vice Chancellor



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Contributors and Members of the Centre

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