

RAM S. JAKHU

CURRICULUM VITAE

(as of 22 September 2022)

1. PERSONAL INFORMATION

Full Name: Ram Sarup Jakhu

Current Position: Full Professor (tenured), Faculty of Law, McGill University

Address: 3690 Peel Street, Montreal, Que., Canada

Email: ram.jakhu@mcgill.ca

Citizenship: Canadian

2. ACADEMIC AWARDS AND EDUCATIONAL QUALIFICATIONS

2022: Received the “Excellence in Supervision and Mentorship Award” from Graduate Law Student Association the Faculty of Law of McGill University.

2016: Received the “*Leonardo da Vinci Life-Long Achievement Award*” from the International Association for the Advancement of Space Safety, the Netherlands.

2011: Received the “*Social Sciences Book Award*” for my edited book entitled National Regulation of Space Activities (Springer, 2010) from the International Academy of Astronautics, Paris, France.

2007: Received the “*Distinguished Service Award*” for significant contribution to the development of space law from the International Institute of Space Law – international professional association of space law experts, the Netherlands.

1983: Doctor of Civil Law (D.C.L.); Outer Space Law and Law of Telecommunications; McGill University, Montreal, Quebec, Canada (*Dean's Honours List*)

1978: Master of Laws (LL.M.); Air and Space Law; Government Regulation of Air Transport in Canada and U.S.A., McGill University

1972: LL.M.; Public and Private International Law, Constitutional Law, Jurisprudence, Hindu and Muslim Law, and Legal History; Panjab University, Chandigarh, India (*Merit Scholarship*)

1971: Member of Punjab and Haryana Bar; Chandigarh, India

1970: Bachelor of Laws (LL.B.); Laws of India; Panjab University; Chandigarh, India

1967: Bachelor of Arts (B.A.); Economics, Political Science and English; Panjab University

3. EMPLOYMENT AND PROFESSIONAL EXPERIENCE

(Full-Time; Part-Time; Consulting)

1 November 2021 – Present: Full Professor, Faculty of Law, McGill University, Montreal, Canada. I teach and conduct research in, general principles of international space law, law of space applications, and national regulation of space activities (including space commercialization). (Full-time position).

30 June 2020 – 31 July 2022: Acting Director, Institute of, and Centre for Research in, Air and Space Law, McGill University, Montreal, Canada (Full-time position).

1 June 2016 - 31 July 2017: Director, Institute of, and Centre for Research in, Air and Space Law, McGill University, Montreal, Canada (directed the world's leading graduate level program in air and space law) (Full-time position).

1 June 2008 – 30 October 2021: Associate Professor, Faculty of Law, McGill University, Montreal, Canada. Taught and conducted research in, general principles of international space law, law of space applications, and national regulation of space activities (including space commercialization). (Tenured; Full-time position).

Aug. 2006-May 2016: Associate Director, Centre for Research in Air and Space Law, Faculty of Law, McGill University, Montreal, Canada.

Sept. 2003-May 2008: Associate Professor, Faculty of Law, McGill University, Montreal, Canada. I taught courses on Public International Law, Law of Space Applications, General Principles of Space Law, and Government Regulation of Space Activities. (Full-time tenure track position).

1999 to 2004: Director, Centre for the Study of Regulated Industries. I directed the activities of the Centre, specifically its collaborative research project (with funding of \$1.2 million from the Canadian International Development Agency) with the Indian Institute of Management for setting up the Centre for Telecom Policy Studies in Ahmadabad, India, and organized several conferences in India and Canada. (Part-time position).

Sept. 1998-Aug. 2003: Associate Professor, Faculty of Law, McGill University, Montreal, Canada. (Part-time position).

1995-98: Senior Faculty Member and Director of Master of Space Studies Program, Head of the School of Management and Social Sciences for one year, International Space University, Strasbourg,

France, taught various subjects relating to space law and policy, supervised graduate students, spearheaded the development of a unique, international, intercultural and interdisciplinary graduate-level program for space studies. (Full-time position).

1992-1995: Member, Canadian Human Rights Tribunal, Ottawa, Canada, where I served either as a member or chairperson in several cases. (Part-time consulting position)

Since 1990: President, Cyber & Space Telecom, Inc., Brossard, Quebec, Canada (a consulting firm specializing in space and telecommunication regulatory matters). www.spacetel.com (Private consulting).

1988-1998: Vice-President for Satellite Communications, Space Commerce Corporation, Houston, Texas, USA, the first Western private company to initiate marketing of Soviet space products and services. (Part-time consulting position).

1988-1991: Consultant & Member of Conference Preparatory Committee, Canadian Department of Communications, helped in preparing Canadian Position for the ITU Plenipotentiary Conference, December-May 1989; acted as Policy and Legal Advisor to Canadian Delegation to the International Conferences; and carried out research on Canada-US agreements/arrangements on radiocommunications. (Part-time consulting position)

1987-1988: Associate Faculty Member, Graduate Program in Communications, McGill University, Montreal, Canada (visiting guest faculty member position).

1985-86: Researcher and Consultant, International Relations Branch, Canadian Department of Communications, Ottawa, Canada. (half-time position).

1984-91: University Lecturer, Faculty of Law, McGill University, Montreal, Canada. (Full-time position).

1983-84: Faculty Sessional Lecturer, Institute of Air & Space Law; Faculty of Law, McGill University, Montreal, Canada. (Full-time position).

1978-94: Senior Researcher (including Post-Doc fellow for 5 years), Centre for Research in Air and Space Law, Faculty of Law, McGill University, Montreal, Canada. (Full-time position).

4. PUBLICATIONS

My publications are in different formats and cover a variety of topics; almost all of them are published internationally.

4.A Books (co-authored)

- 1) Ram S. Jakhu, Joseph Pelton and Yaw Nyampong, *Space Mining and its Regulation*, Springer, 2016, pp. 180.
- 2) Ram S. Jakhu and Joseph Pelton, *Small Satellites and their Regulations*, Springer, 2013, pp.100.
- 3) Nicolas M. Matte and Ram S. Jakhu, *Law of International Telecommunications in Canada*, Max-Planck Institute, Hamburg, Germany, 1987, pp. 131.

4.B Books (edited or co-edited)

- 4) Ram S. Jakhu and Steven Freeland, (eds.), *M Ram S. Jakhu & Steven Freeland, eds, McGill Manual on International Law Applicable to Military Uses of Outer Space: Volume I - Rules* Montreal: Centre for Research in Air and Space Law, 2022 (I was also the Project Director and Principal Investigator of this international study by about 50 experts)
- 5) Ram S. Jakhu and Joseph Pelton, (eds.) *Global Space Governance: An International Study*, Springer, 2017, pp. 789. (I was Principal Investigator and drafted several chapters of this interdisciplinary study by about 60 experts)
- 6) Ram S. Jakhu and Paul Dempsey, (eds.) *Routledge Handbook of Space Law*, Taylor and Francis, 2016, pp. 368.
- 7) Paul Dempsey and Ram S. Jakhu, (eds.) *Routledge Handbook of Public Air Law*, Taylor and Francis, 2016, pp. 350.
- 8) Ram Jakhu, Yaw Nyampong and Kuan Wei-Chen (eds.), *Global Space Governance*, CRASL, 2015, pp. 778.
- 9) Ram S. Jakhu, Sanat Kaul, and Kuan-Wei Chen, (eds.) *Emerging Trends in Aviation and Space Applications: Legal, Safety and Policy Issues*, CRASL, McGill, Montreal, 2014, pp. 448.
- 10) Bhupendra Jasani and Ram Jakhu, (eds.) *Commercialisation of Space – Opportunities and challenges*”, National Institute of Advanced Studies, Bangalore, 2014, pp. 315.
- 11) Ram S. Jakhu and Kuan-Wei Chen, (eds.) *Regulation of Emerging Modes of Aerospace Transportation*, CRASL, McGill, Montreal, 2014, pp. 358.
- 12) Ram S. Jakhu, Tommaso Sgobba and Paul Dempsey, (eds.), *The Need for an Integrated Regulatory Regime for Aviation and Space: An ICAO for Space*, Springer, 2011, pp. 212.

- 13) Ram S. Jakhu (ed.), “*National Regulation of Space Activities*,” Springer, 2010, pp. 499. *This book received the Social Sciences Book Award from the International Academy of Astronautics.*
- 14) Joseph Pelton and Ram Jakhu (eds.), *Space Safety Regulations and Standards*, Elsevier Publishing House, the United Kingdom, 2010, pp. 600.

4.C Peer-reviewed journal articles

- Articles in progress

- 15) Ram S. Jakhu, Philip de Man, and Nishith Mishra, “Case for Seeking ICJ’s Advisory Opinions on Legality of Destruction by a State of its Own Space Objects and Appropriation of Space Resources”.

Articles published

- 16) Ram S. Jakhu, Kuan-Wei Chen and Bayar Goswami, “Threats to Peaceful Uses of Outer Space: Politics and Law”, *Astropolitics*, 2020, Vol. 18, NO. 01, pp. 22–50.
- 17) Ram S. Jakhu and Aram Daniel Kerkonian, “Second Independent Review of Canada’s Remote Sensing Space Systems Act,” *Journal of Space Law*, Vol 42 (2018/2019), pp 1-37.
- 18) Ram S. Jakhu, Steven Freeland, Kuan-Wei Chen, “The Sources of International Space Law: Revisited,” *67 Zeitschrift Für Luft-und Weltraumrecht (German Journal of Air and Space Law)*, Jg. 4/2018, pp. 606-667.
- 19) Ram S. Jakhu, Bhupendra Jasani, Jonathan McDowell, “Critical issues related to registration of space objects and transparency of space activities,” *Acta Astronautica*, 143 (2018), pp. 1–15.
- 20) Ram S. Jakhu and Kuan-Wei Chen, “The Missing Link in the Global Aviation Safety and Security Network: *The Case of Taiwan*. In: Masys A., Lin L. (eds) *Asia-Pacific Security Challenges. Advanced Sciences and Technologies for Security Applications*. Springer, Cham, (2018), pp 243-261
- 21) Ram S. Jakhu and Kuan-Wei Chen, “A Holistic Education Curriculum for Capacity-Building in Space Law”, VOL XLII, *Annals of Air and Space Law*, 2017 (appeared in 2018), pp. 273 - 292.
- 22) Ram S. Jakhu, Cassandra Steer, Kuan-Wei Chen, “Conflicts in Space and the Rule of Law,” *66 Zeitschrift Für Luft-und Weltraumrecht (German Journal of Air and Space Law)*, Jg. 4/2017, pp. 664 -700.

- 23) Ram S. Jakhu, Yaw Nyampong and Tommaso Sgobba, “Regulatory Framework Organizational and for Space Debris Removal and On Orbit Servicing of Satellites”, 23, *Journal of Space Safety Engineering*, 2017, pp. 129-137.
- 24) Ram Jakhu, « Une Gouvernance Globale Renforcée De L’espace Extra-Atmosphérique Pour Un Ordre Stable Et Des Bénéfices Accrus » *Annuaire Français De Relations Internationales*, Volume XVIII, 2017, pp. 937-949.
- 25) Ram Jakhu and Yaw Nyampong, “Some Legal Aspects of Space Natural Resources,” *Space Law of the European Journal of Law Reform*. Issue 18(1), July 2016, pp. 86-104.
- 26) Ram S. Jakhu and Kuan-Wei Chen, “How Much Is a Picture Worth: Selected Legal Issues of Sourcing Military Intelligence from Commercial Satellites,” *40 Annals Air & Space Law (2015)*, pp. 155-180.
- 27) Ram Jakhu, Catherine Doldirina and Yaw Otu Mankata Nyampong, “Findings of an Independent Review of Canada's Remote Sensing Space Systems Act of 2005”, XXXVII, *Annals of Air and Space Law*, 2012, pp. 399-423.
- 28) Ram Jakhu and Karan Singh, “Space Security and Competition for Radio Frequencies and Geostationary Slots”, 58 *Zeitschrift Für Luft-und Weltraumrecht*, (German Journal of Air and Space Law), 2009, pp. 74-93.
- 29) Ram Jakhu, “The case for enhanced India-Canada space cooperation”, 25 *Space Policy*, January 2009, pp. 9-19.
- 30) Ram S. Jakhu, “Iridium-Cosmos collision and its implications for space operations” in Kai-Uwe Schrogl, *et al* (eds.) *Yearbook on Space Policy: 2008/2009*, Springer, WienNewYork, pp. 254-275.
- 31) Ram Jakhu and Maria Buzdugan, “Development of the Natural Resources of the Moon and Other Celestial Bodies: Economic and Legal Aspects,” 6 *Astropolitics*, 2008, pp. 201-250.
- 32) Ram Jakhu, “Legal Issues of Satellite Telecommunications, the Geostationary Orbit, and Space Debris”, 5 *Astropolitics*, 2007, pp. 173-208.
- 33) Ram Jakhu, “Legal Issues Relating to the Global Public Interest in Outer Space”, 32 *Journal of Space Law*, 2006, pp. 31-110.
- 34) Ram Jakhu, “Implementing Global Public Interest in Information Society”, 18.1 *Revue québécoise de droit international*, Vol. 18.1, 2005, pp. 171 -184.

- 35) Ram Jakhu, "Twenty Years of the Moon Agreement: Space Law Challenges for Returning to the Moon", 54 *Zeitschrift Für Luft-und Weltraumrecht (German Journal of Air and Space Law)*, 2005, pp. 243-260.
- 36) Ram Jakhu, "Challenges in Regulating Satellite Telecommunications in the Early 21st Century", XXVIII *Annals of Air and Space Law*, 2003, pp. 281-309.
- 37) Ram Jakhu, "International Law Governing the Acquisition and Dissemination of Satellite Imagery", 29 *Journal of Space Law*, 2003, pp. 65-91.
- 38) Ram S. Jakhu, "Safeguarding the Concept of Public Service and the Global Public Interest in Telecommunications", 5(1) *Singapore Journal of International and Comparative Law*, 2001, pp. 71-102.
- 39) Ram Jakhu & Joseph Wilson, "The New United States Export Control Regime: Its Impact on the Communications Satellite Industry", XXV *Annals of Air and Space Law*, 2000, pp. 157-181.
- 40) Ram S. Jakhu, "Space Debris in the Geostationary Orbit: A Major Challenge for Space Law," XVII *Annals of Air and Space Law*, 1992, pp. 313-323.
- 41) Ram S. Jakhu, J.L. Magdelénat and H. Rousselle, "The ITU Regulatory Framework for Satellite Communications: An Analysis of Space WARC1985," *International Journal*, Vol. 42, No. 2, (Spring, 1987), pp. 276-288.
- 42) Donald M. Fleming, E.D. DuCharme, Ram Jakhu and W. Longman, "State Sovereignty and the Effective Management of Shared Global Resources: Evolutionary Developments in the Regulation of International Telecommunication", X, *Annals of Air and Space Law*, 1985, pp.327-352.
- 43) Ram Jakhu, "The Evolution of the ITU's Regulatory Regime Governing Space Radiocommunication Services and the Geostationary Orbit", VIII *Annals of Air and Space Law*, 1983, pp.381-406.
- 44) Ram Jakhu, "Outer Space Activities and Law: A Third World Perspective", *Padjadjaran*, (Jakarta), November 1982, pp.63-85.
- 45) Irving E. Kaplan and Ram Jakhu, "Global Climate Space Reflector Systems: Some Legal Issues", VII *Annals of Air and Space Law*, 1982, pp. 353-363.
- 46) Ram Jakhu, "The Legal Status of the Geostationary Orbit", VII *Annals of Air and Space Law*, 1982, pp. 333-352.
- 47) Ram S. Jakhu, "Direct Broadcasting via Satellite and a New World Information Order", 8 (2) *Syracuse Journal of International Law and Commerce*, 1981, pp. 375-390.

- 48) Ram S. Jakhu and Riccardo Trecroce, “International Satellite Monitoring for Disarmament and Development”, V *Annals of Air and Space Law*, 1980, pp. 509-527.

4.D Chapters in edited collections or other volumes

a. Chapters in progress

- Ram S. Jakhu, Upasana Dasgupta and Ujwala Raghavan Iyengar “Exploration and Use of Outer Space for the Benefit and in the Interests of all Countries” accepted to be published in *Legal Essays in Honor of Prof. José Monserrat Filho*, 2022.
- Ram S. Jakhu, “End of International Space Law?”, to be published in *Festschrift in honor of Professor Siegfried Wiessner*, 2022.

b. Chapters published

- 49) Ram S. Jakhu and Kuan-Wei Chen, “The Need for Expanding Current Global Space Governance” in Giovanni Ardito, *et al* (eds.), *Liber Amicorum Sergio Marchisio*, Volume Ii (Editoriale Scientifica Napoli, 2022), pp. 1091-1119.
- 50) Ram S. Jakhu, Joseph N. Pelton, and Nishith Mishra, “Satellite Constellations and Orbital Pollution,” in Marietta Benkö and Kai-Uwe Schrogl (Eds.), *Outer Space – Future for Humankind Issues of Law and Policy*, (The Hague: Eleven Publication: 2021). pp. 267-304.
- 51) Ram S. Jakhu, Joseph Pelton, and Kiran M Vazhapully, “Global Sustainability Treaty” in Joseph Pelton, *Space Systems and Sustainability*, 2021, Springer, pp.223-238.
- 52) Ram S. Jakhu, Joseph Pelton, and Nishith Mishra, “‘Rules of the Road’ for Launch and Operation of Small Satellites and Related Issues,” in J. Pelton (ed.), *Handbook of Small Satellites*, Springer Nature Switzerland AG, 2019, pp. 1-29.
- 53) Ram Jakhu et al, *Orbital Debris Removal: Policy, Legal, Political and Economic Considerations*, (a collaborated work of IAA Study Group 5.10, edited by Hobe, Smith, Williamson), IAA, Paris, 2018, pp. 120.
- 54) Ram S. Jakhu, “Evolution of the Outer Space Treaty,” and “The Future of the Outer Space Treaty” in Ajey Lele (ed.), *Fifty Years of the Outer Space Treaty: Tracing the Journey*, (Pentagon Press, 2017), pp. 13-19 and 185-194.
- 55) Ram Jakhu, John Logsdon and Joseph Pelton, “Space Policy, Law and Security” (updated and Revised) in Joseph Pelton and Angie Bukley (eds.), *The Farthest Shore: A 21st Century Guide to Space*, 2nd Edition, International Space University, 2017, pp. 254-276.

- 56) Ram S. Jakhu, “Canada’s International Space Cooperation,” in Ciro Arévalo-Yepes and Sylvia Ospina (eds.), *Global Perspectives on Regional Cooperation in Space: Policies, Governance & Legal Tools*, IAA SG 5.11, 2016, pp. 19-39.
- 57) Ram S. Jakhu, Diane Howard, Andrea Harrington, “Legal Aspects of Solar Power Satellites,” in Patricia Margaret Sterns, and Leslie I. Tennen, (eds.) *Private Law, Public Law, Metalaw and Public Policy in Space: A Liber Amicorum in Honor of Ernst Fasan*, Springer, 2016, pp.17-51.
- 58) Ram Jakhu, “Regulatory Aspects Associated with Response to Man Made Cosmic Hazards” in Joseph Pelton and Firooz Allahdadi (eds.), *Handbook of Cosmic Hazards and Planetary Defense*, Springer International Publishing, Switzerland, 2015, pp. 1069-1084.
- 59) Ram Jakhu, “Legal Aspects of Suborbital Personal Flight,” in Walter Peeters and Angie Bukley, (eds.), *Private Human Access to Space* (International Academy of Astronautics, Volume 1: Suborbital Flight), 2014, pp. 61- 69.
- 60) Ram S. Jakhu and Michelle Ancona-Reynolds, “Cooper, John Cobb, Jr.,” in Stephane Hobe (ed.), *Pioneers of Space Law*, International Institute of Space Law, Brill, 2013, pp. 35-47.
- 61) Ram Jakhu, “Regulatory Process for Communications Satellite Frequency Allocations,” in Joseph Pelton, Scott Madry and Sergio Camacho-Lara (eds.), *Handbook of Satellite Applications: Springer Reference*, Springer-Verlag Berlin Heidelberg, 2013, pp. 271-292.
- 62) Stephan Hobe, Ram Jakhu, Steven Freeland, Fabio Tronchetti and Peter Stubbe, “Commentary on [some articles of] the 1979 Moon Agreement” in Stephan Hobe et al (eds.), *Cologne Commentary on Space Law*, Volume II, 2013, pp. 333-426.
- 63) Ram Jakhu, “Transparency and Confidence-Building Measures for Space Security”, in Ajey Lele (ed.), *Decoding the International Code of Conduct for Outer Space Activities*, Pentagon Security International, 2012, pp. 35- 46.
- 64) Ram Jakhu and Yaw Otu M. Nyampong, “International Regulation of Emerging Modes of Space Transportation”, in Joseph N. Pelton and Ram S. Jakhu (eds.), *Space Safety Regulations and Standards*, Elsevier Publishing House, the United Kingdom, 2010, pp. 215-238.
- 65) Ram Jakhu, “Regulation of Space Activities in Canada” (updated. Revised and expanded) in Ram S. Jakhu (ed.), *National Regulation of Space Activities*, Springer Publishing House, the Netherlands, 2010, pp. 81-108.
- 66) Ranjana Kaul and Ram Jakhu, “Regulation of Space Activities in India” in Ram S. Jakhu (ed.), *National Regulation of Space Activities*, Springer Publishing House, the Netherlands, 2010, pp. 153-198.

- 67) Ram Jakhu, John Logsdon and Joseph Pelton, “Space Policy, Law and Security” in Joseph Pelton and Angie Buckley (eds.), *The Farthest Shore: A 21st Century Guide to Space*, International Space University, 2009, pp. 202-222.
- 68) Steven Freeland and Ram Jakhu, “Commentary on Article II of the Outer Space Treaty” in Stephan Hobe et al (eds.), *Cologne Commentary on Space Law*, Volume I, 2010, pp. 44-63.
- 69) Ram Jakhu, “The 1967 Outer Space Treaty at its 40th Anniversary,” in Anatoly Kapustin and Gennady Zhukov (eds.), *The Contemporary Problems of International Space Law*, Peoples’ Friendships University of Russia, Moscow, 2008, pp. 225-244. (also translated into Russian language, pp. 200-224).
- 70) Ram Jakhu, “International Regulation of Satellite Telecommunications”, in K. Tatsuzawa (ed.), *Legal Aspects of Space Commercialization*, 1992, pp. 78 - 101.
- 71) Nicholas M. Matte and Ram Jakhu, “Legal Issues of the Interception of American Television Signals in Canada”, in E.J. Mestmacker (ed.), *The Law and Economics of Transborder Telecommunications*, (Max-Planck Institute Hamburg, West Germany), 1987, pp. 89-114.
- 72) Ram S. Jakhu, “Developing Countries and the Fundamental Principles of International Space Law”, in Girardot, R.G., *et al*, eds.), *New Directions in International Law*, (Frankfurt), 1982, pp. 351-373.
- 73) Ram Jakhu, “Space and Satellite Technologies for Disarmament and Development”, in David Krieger, (ed.), *Disarmament and Development, the Challenge of the International Control and Management of Dual Purpose Technologies*, (Rotterdam), 1981, pp. 29-49.

4.E Papers published in conference proceedings

Papers published

- 74) Ram S. Jakhu, Upasana Dasgupta and Steven Freeland, “Back to the Future: Space Law in a Networked World,” in *Proceedings of the International Institute of Space Law*, 2020.
- 75) Kuan-Wei Chen, Ram S Jakhu, and Steven Freeland, “The Subjects of International Space Law” in *Proceedings of the International Institute of Space Law*, 2019, at Washington, DC, USA.
- 76) Ram S. Jakhu and Steven Freeland, “A Vital Artery or a Stent Needing Replacement? A Global Space Governance System Without The Outer Space Treaty?”, in *Proceedings of the International Institute of Space Law*, 2018, pp. 505-519.

- 77) Steven Freeland and Ram Jakhu, “Promoting Peace From Above? Utilising Space For The Prevention And Prosecution Of Human Rights Violations” in Aram Kerkonian (ed.), *Global Space Governance And The UN 2030 Agenda*, VOL VI, McGill-CRASL, 2018, pp. 21-31.
- 78) Steven Freeland and Ram S. Jakhu, “Keeping Up With the Neighbours? Reviewing National Space Laws To Account For New Technology (The Australian And Canadian Experience)”, in *Proceedings of the International Institute of Space Law*, 2018, pp. 433 - 451.
- 79) Ram S. Jakhu and Joseph N. Pelton, “Space Safety and Global Space Governance,” published in the proceedings of the 9th IAASS Space Safety Conference, 18-20 October, 2017, Toulouse, France.
- 80) Ram Jakhu and Steven Freeland, “The Relationship between the Outer Space Treaty and Customary International Law,” in *Proceedings of the International Institute of Space Law*, 2016, pp. 183-199.
- 81) Ram S. Jakhu, “Sixty Years of Development of International Space Law,” in Stephan Hobe (ed.) *Air Law, Space Law, Cyber Law - the Institute of Air and Space Law at Age 90*, Carl Heymanns Verlag, 2016, pp. 75-108.
- 82) Ram S. Jakhu and Joseph N. Pelton on “Regulation of Safety of Space Mining and Its Implications for Space Safety” in *Proceedings of the 8th IAASS Conference, held at Melbourne*, Florida, on 18-20 May 2016, pp. 93-98.
- 83) Steven Freeland and Ram Jakhu, “The Applicability of the United Nations Space Treaties During Armed Conflict” in *Proceedings of the International Institute of Space Law*, 2015, pp. 157-173.
- 84) Steven Freeland and Ram Jakhu, “What’s human rights got to do with outer space? : everything!” in *Proceedings of the International Institute of Space Law 2014*, pp. 365-380.
- 85) Ram Jakhu and Steven Freeland, “The Sources of International Space Law,” in *Proceedings of the International Institute of Space Law*, IISL, Beijing, 2014, pp. 461-478.
- 86) Ram Jakhu, “Adequacy of the Law Governing Space Commercialisation”, in Bhupendra Jasani & Ram Jakhu (eds.), *Commercialisation of Space – Opportunities and Challenges*, NIAS, Bangalore, 2014, pp. 131-145.
- 87) Bhupendra Jasani and Ram Jakhu, “An Overview of Commercialisation of Space,” in Bhupendra Jasani & Ram Jakhu (eds.), *Commercialisation of Space – Opportunities and Challenges*, NIAS, Bangalore, 2014, pp. 3-14.

- 88) Ram Jakhu and Isavella Maria Vasilogeorgi, “The Fundamental Principles of Space Law and the Relevance of International Law,” in Stephan Hobe and Steven Freeland (Eds.), “*In Heaven as on Earth? The Interaction of Public International Law on the Legal Regulation of Outer Space*,” Institute of Air and Space Law, Cologne University, Cologne, Germany, 2013, pp. 21-30.
- 89) Ram S. Jakhu, “Regulation of Small and Micro Satellites”, in *Safety is Not an Option, Proceedings of the 6th IAASS Conference*, edited by L. Ouwehand, Montreal, Canada, 21–23 May 2013 (ESA SP-715, September 2013)
- 90) Ram Jakhu and Steven Freeland, “The Relationship between the United Nations Space Treaties and the Vienna Convention on the Law of Treaties”, *Proceedings of the International Institute of Space Law*, 2012, pp. 375-391.
- 91) Ram Jakhu, Tommaso Sgobba and M. Trujillo, “An International Civil Aviation and Space Organization” in the *Proceedings of the 4th Conference of the International Association for Advancement of Space Safety*, held from 19 to 21 May 2010, in Huntsville, Alabama, USA.
- 92) Ram Jakhu, Stephan Hobe & Steven Freeland, “Appropriateness of the Moon Agreement for Lunar Exploration and Use,” in *Proceedings of the International Institute of Space Law*, 2010, pp. 562-568.
- 93) Ram S. Jakhu and Diane Howard, “Safety and Liability Aspects of Solar Power Satellites,” in *Making Safety Matter*, *Proceedings of the Fourth IAASS Conference*, Huntsville, Alabama, USA, 19–21 May 2010 (ESA SP-680, September 2010), pp.19. Also published in 53 *Proceedings of the International Institute of Space Law*, 2010, pp. 360-370.
- 94) Ram S. Jakhu and Yaw Otu M. Nyampong, “International Regulatory Standards for Spaceports”, in *Proceedings of 3rd Conference of International Association for the Advancement of Space Safety*, held in Rome, Italy, 21-23 October 2008, in *Rome, ITALY* (ESA SP-662, January 2009).
- 95) Ram Jakhu and Yaw Nyampong, “Are the current international space treaties sufficient to regulate space safety, and establish responsibility and liability?” in *Proceedings of the 2nd IAASS Conference: Space Safety in a Global World* (ESA, SP 645, 2007; pp. 15.
- 96) Ram Jakhu, “Reforming the Regulatory Regimes governing Telecommunications in Asia” in *Proceedings of the Conference on Asian Cooperation in Space Activities: A Common Approach to Legal Matters*, held on 1-4 August 2006, in Bangkok, Thailand, published in 2007, pp. 29-43
- 97) Ram Jakhu, Maria Buzdugan and Lucy Stojak, “‘Peaceful’ and Military Uses of Outer Space: Law and Policy,” “Policy and Legislative Options Regarding Possible Deployment of Further Military Capabilities in Outer Space,” and *Report on the Proceedings of the*

International and Interdisciplinary Workshop on Militarization of Space, September 23-24, 2004, McGill University, Montreal, Canada, XXX *Annals of Air and Space Law*, 2005, pp. 555 *et seq.*

- 98) Ram Jakhu, "United Nations Principles on Outer Space", in *Proceedings of the United Nations/Nigeria Workshop on Space Law on "Meeting international responsibilities and addressing domestic needs"* held on 21-24 November 2005, in Abuja, Nigeria, pp. 28-61.
- 99) Ram Jakhu, "Regulation of Space Activities in Canada", in XXXXVIII *Colloquium on the Law of Outer Space*, held in Fukuoka, Japan, on 17-21 October 2005, pp. 267-281.
- 100) Ram Jakhu, "Commentary Paper on 'Space-Based Telecommunications Including Tele-Education & Tele-Medicine: Implications to the Area of Space Law'", in *Proceedings of the ISRO-IISL Space Law Conference 2005 : Bringing Space Benefits to the Asian Region*, held on 26-29 June 2005 in Bangalore, India, pp. 4.33 *et seq.*
- 101) Ram Jakhu, "Policy and Legal Aspects of the Space Launching Sites in Korea", in *Proceedings of the International Symposium on Space Launch Infrastructure*, May 6-7, 2005, Goheung County, Jeonnam, Korea, pp. 268 *et seq.*
- 102) Ram Jakhu and Raja Bhattacharya, "Legal Aspects of Space Tourism" in XXXXV *Colloquium on the Law of Outer Space*, 2002, pp. 112-131.
- 103) Ram Jakhu, Guy Lachapelle and Manikutty, "Larger Access and New Services to the Rural Areas in Canada and India", in *Proceedings of the Conference on Switching to High Growth: Issues in Policy and Regulation in the Indian Telecom Sector*, 2002, pp.28.
- 104) Ram Jakhu, "An Analysis of the Indian Communication Convergence Bill (2001)", in *Proceedings of the Conference on Convergence: Issues and Opportunities in the Indian Telecom Sector*, 2001.
- 105) Ram Jakhu, "International Regulatory Aspects of Radio Spectrum Management (Implications for Developing Countries like India)", in *Proceedings of the 2nd Annual Workshop Held at the Indian Institute of Management*, 2000, pp. 82 *et seq.*
- 106) Ram Jakhu and Virginia R. Serrano, "International Regulation of Radio Frequencies for Space Services", *Proceedings of the Workshop on Telecommunications, Project 2001 on Legal Framework for the Commercial Use of Outer Space*, Berlin, 2000, pp. 41 *et seq.*
- 107) Ram Jakhu, "Emerging Legal Issues of Satellite Telecommunications and Broadcasting", XXXXIII *Colloquium on the Law of Outer Space*, 2000, pp. 428-439.
- 108) Ram Jakhu, "Application and Implementation of the 1967 Outer Space Treaty", XXXX *Colloquium on the Law of Outer Space*, 1997, pp. 442-448.

- 109) Ram Jakhu, “New Strategies for Telecommunications Development”, *Proceedings of the 1st ISU Symposium on Space of Service to Humanity*, (Strasbourg, 1996), pp. 209 *et seq.*
- 110) Ram Jakhu, “International Space Co-operation”, in *Proceedings of the Korean Conference on Air and Space Law*, 1995.
- 111) Ram Jakhu, “Legal Aspects of Unilateral Declarations and Measures for Disarmament in Space”, in N. M. Matte (ed.), in *Proceedings of the Symposium on Outer Space in the 1990's: The Role of Arms Control; Security, Technical and Legal Implications*, 1992, pp. 185 *et seq.*
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- 115) Ram Jakhu, “Future of Satellite Telecommunications: A Third World Perspective”, in *Proceedings of the 4th Symposium on Outer Space*, United States Space Foundation, Colorado Springs, 1988. A revised version of this article has also been published in *Via Satellite*, July, 1988, p.18 *et seq.*; and in *Space Communications*, July 1988.
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4.F Other short refereed and non-refereed articles, comments, reviews & news reports

- 118) Kuan-Wei Chen, Bayar Goswami, Ram Jakhu, and Steven Freeland, Outer space is not the “Wild West”: There are clear rules for peace and war”, *The Conversation*, 18 August 2022.
- 119) Kuan-Wei Chen, Bayar Goswami, Ram Jakhu, “Russia’s invasion of Ukraine threatens space cooperation, business and security”, *The Conversation*, 3 March 2022.
- 120) Kuan-Wei Chen, Bayar Goswami, Ram Jakhu, “Russia’s attack on its own satellite is reckless and endangers us all,” *The Conversation*, 18 November 2021, [Russia’s attack on its own satellite is reckless and endangers us all \(theconversation.com\)](https://theconversation.com/russia-s-attack-on-its-own-satellite-is-reckless-and-endangers-us-all)
- 121) Kuan-Wei Chen, Ram Jakhu, and Steven Freeland, “Space exploration should aim for peace, collaboration and co-operation, not war and competition”, *The Conversation*, 11 October 2021, [Space exploration should aim for peace, collaboration and co-operation, not war and competition \(theconversation.com\)](https://theconversation.com/space-exploration-should-aim-for-peace-collaboration-and-co-operation-not-war-and-competition)
- 122) Kuan-Wei Chen, Steven Freeland, and Ram Jakhu, “OPINION: Renewed hopes for humanity in space,” *The Hill Times*, 30 November 2020, <https://www.hilltimes.com/2020/11/30/renewed-hopes-for-humanity-in-space/273155>
- 123) Ram. S. Jakhu, “Rule of law vital for humanity’s sustainability and survival”, *ROOM: The Journal of Asgardia*, Issue #4 (22), 2019/2020, pp. 14-19.
- 124) Ram S. Jakhu, “First Ever Space Crime? A Wakeup Call For Extra-Terrestrial Law,” *Lawyer Monthly*, 9 September 2019, <https://www.lawyer-monthly.com/2019/09/first-ever-space-crime-a-wakeup-call-for-extra-terrestrial-law/>
- 125) Ram Jakhu, Kuan-Wei Chen, Bayar Goswami, op-ed on “Canada’s leadership in dispelling the rhetoric of space war” *The Hill Times*, <https://www.hilltimes.com/2019/11/25/canadas-leadership-in-dispelling-the-rhetoric-of-space-war/225349>
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- 127) Ram S. Jakhu and Kuan-Wei Chen, “Asgardia: An Emerging Space Nation,” *Diplomat Magazine*, 16 May 2018, <https://diplomatmagazine.com/asgardia-an-emerging-space-nation/>

- 128) Joseph Pelton and Ram Jakhu, “Concerns that Flow from the Possible Establishing of a ‘Space Force’ by the U.S.”, Editorial, *The Journal of Space Safety Engineering*, 5 (2018), pp. 132-134. **(peer-reviewed)**
- 129) Ram S. Jakhu and Tanveer Ahmad, “he Outer Space Treaty and states’ obligation to remove space debris: A US perspective,” *The Space Review*, 13 November 2017, pp. 6.
- 130) Ram S. Jakhu and Tanveer Ahmad, “World needs strong space governance system” in *Room, the Space Journal*, #1 (11) Spring 2017, pp. 28-31.
- 131) Joseph N. Pelton, Ram S. Jakhu and Scott Madry Joseph, “Defending Against Cosmic Hazards?” in *Room, the Space Journal*, #4 (6) Winter 2015/16, pp. 11 *et seq.*
- 132) Ram S. Jakhu, “The Need for Space Regulatory Frameworks and Mechanisms at Global Level”, United Nations Office for Outer Space Affairs, November 2015, <https://www.unoosa.org/documents/pdf/hlf/Prep.HLF/08.pdf> pp. 6.
- 133) Scott Madry, Ram Jakhu and Joseph Pelton, “The Global Space Governance Study – A new regulatory framework for New Space?” *ROOM- The Space Journal*, October 2015.
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- 134) Joseph Pelton and Ram Jakhu, “Global Space Governance Can Fuel New Business,” *Space News*, 23 June 2014, p. 19.
- 135) Joseph N. Pelton and Ram Jakhu, “International Safety Regulations and Standards for Space Travel and Commerce” in *Journal of British Interplanetary Society*, August 2009, Vol. 62, pp. 294-302. **(peer-reviewed)**
- 136) Ram Jakhu, “Space Debris: Rising Hazard”, in *Geospatial Today*, July 2009, pp. 42-44; AND “Space Debris: Mitigation Guidelines” in *Geospatial Today*, August 2009, pp. 44-45. **(peer-reviewed)**
- 137) Ram Jakhu, Tommaso Sgobba, Arndt-Philipp Menzel, and Joseph N. Pelton, “Manifesto for a Safe and Sustainable Outer Space” in *Journal of British Interplanetary Society*, August 2009, Vol. 62, pp. 241-245. **(peer-reviewed)**
- 138) Ram Jakhu, “Capacity building in Space Law and Space Policy”, *Advances in Space Research*, Vol. 44, June 2009, pp. 1051–1054. **(peer-reviewed)**
- 139) Ram Jakhu, “The Effect of Globalization on Space Law” in Stephane Hobe (ed.), *Globalization – the State and International Law*, Franz Steiner Verlag, 2009, pp. 71-77. **(peer-reviewed)**

- 140) Ram Jakhu, “The Indian Perception” in *China’s Posture in Space: Implications for Europe*, European Space Policy Institute, Report 3, June 2007, pp. 59-64 **(peer-reviewed)**
- 141) Ram Jakhu, “Comments on K R S Murthi’s Discussion Paper on ‘Asia’s Role in Remote Sensing and Legal Aspects of Access to High-Resolution Satellite Imagery’”, in *Proceeding of the Conference on Asian Cooperation in Space Activities: A Common Approach to Legal Matters*, Bangkok, Thailand, 2007, 4 pages (un-paginated)
- 142) Ram Jakhu, “International Policy and Law - Making Process for Remote Sensing by Satellite,” *XXII Annals of Air and Space Law*, 1997, pp. 451-454. **(peer-reviewed)**
- 143) Ram Jakhu, “[ITU] Plenipotentiary Decisions on Key Legal Issues”, *Transnational Data and Communications Report*, August-September 1989, pp.15-18. **(peer-reviewed)**
- 144) Ram S. Jakhu, “Developments in the international law of telecommunications” (comments), 83 *Proceedings of American Society of International Law*, 1989, pp. 390-392. **(peer-reviewed)**
- 145) Ram Jakhu, “Planning: Protection and Preservation [of Radio Frequencies and Geostationary Orbital Positions] for the Third World”, *Leaders*, Vol. 11, no. 2, April-May-June, 1988, pp.184-186. **(peer-reviewed)**
- 146) Ram Jakhu, *The 1988 Space WARC Bulletin*, published by International Institute of Communications, London, 1987 (a section on the IFRB & the 1988 Space WARC).
- 147) Ram Jakhu, “Legal Aspects of the 1985 Space WARC”, *Intermedia*, May 1985, pp. 14-18. **(peer-reviewed)**

5. **Editor or editorial board membership**

- 1) Since 2016: Member, Editorial Board, *Room, the Space Journal*, Vienna, Austria;
- 2) Since 2012: Member, Editorial Board, *Indian Yearbook on International Law*, India;
- 3) Since 2011: Member, Editorial Board, *Astropolitics*, International Journal of Space Politics and Policy, the USA;
- 4) Since 2010: Member, Editorial Board, *Zeitschrift Für Luft-und Weltraumrecht* (the German Journal of Air & Space Law), Germany;
- 5) Since 2008: Managing Editor, *Space Regulatory Series*, Springer, the Netherlands, procured and managed the publication of eleven books in the series;

- 6) Since 2007: Member, Editorial Board, *Studies in Space Law*, the Netherlands;
- 7) Since 1990: Member, Editorial Board, *Annals of Air & Space Law*, Institute of Air and Space Law, McGill University, Canada.
- 8) 2009-2011: Member, International Advisory Board, *Research Project on Legal Aspects of NEO Threat Response and Related Institutional Issues*, University of Nebraska-Lincoln, College of Law, USA.
- 9) 1997-2003: Member, *Editorial Board of the Utrecht Studies in Air and Space Law*, the Netherlands, reviewed eight books for publication in the Series.

6. Membership in Professional Bodies

- 1) Since 2019: Member, Panel on Social Sciences and Humanities Related to Space Science, Committee on Space Research (COSPAR).
- 2) Since 2016: Advisor to Asgardia: The First Space Nation.
- 3) Since 2013, Collaborator on behalf of the McGill Institute of Air and Space Law , as affiliate with the U.S. Federal Aviation Administration (FAA) Center of Excellence for Commercial Space Transportation (COE CST) and Florida Institute of Technology (Florida Tech).
- 4) Since 2009: Member, Commercial Spaceflight Safety Committee of the International Astronautical Federation, France.
- 5) Since 2005: Member, Board of Directors, International Foundation for Aviation and Development (IFFAAD), Canada and India.
- 6) Since 2002: Member, The International Association for the Advancement of Space Safety (IAASS), the Netherlands (member of the Board of Directors; 2006 – 2016).
- 7) Since 2000: Member, The International Institute of Space Law (IISL), the Netherlands. (severed as member of the Board of Directors, 2003-2013).
- 8) Since 1999: Associate Faculty Member, International Space University, Strasbourg, France.
- 9) 2003-2020: Member, Governance Group of the Space Security Index, Waterloo, Canada.