SESSION REPORT
"PRIVATE INTERNATIONAL LAW REGARDING SPACE ACTIVITIES"

Chairmen: Lesley Jane Smith
Francis Lyall

Rapporteur: C. Doldirina

Session 1 was held on September 30, 2008 and opened the IISL activities within the 51st Colloquium on the Law of Outer Space. The chairs of the session were Professors Francis Lyall and Lesley Jane Smith, with Ms. Catherine Doldirina as rapporteur.

Ten out of thirteen announced papers were presented during the session. One of the submitted papers could not be presented as the author Ms. Mariam Yuzbashyan ("Regarding Formation of the International Space Private Law) was unable to attend the Congress because of visa issues. Two other papers, one by Ms. Axelle Cartier ("The Need for Commercial Risk Reduction in Private Manned Activities in Outer Space: A Proposal for a Regulatory Evolution") and one by Mr. Muhamed Mustaque ("Interoperability of GNSS, Legal Issues and Implications") were withdrawn.

The first paper was presented by Ms. Diane Howard with the title "Achieving a Level Playing Field in Public Private Partnerships: Can Sovereign Immunity Upset the Balance?". It addressed the international and domestic legal responsibilities of both public and private parties in jointly administered space projects with the special emphasis on the doctrine of sovereign immunity in both the United States and the European Union. Professor Smith was the next speaker with a joint paper with Mr. Christian Bank, "Capability and Fair Return in European and International Space Cooperation: the Example of Columbus". It described the challenges of using barter agreements in the context of space cooperation projects (like the ISS) for a crew transport vehicle from an industrial point of view, such as the high frequency of deliveries, liability and risk issues, and the fair share in the utilization of a system from a commercial perspective.

The paper "Space tourism: private law implications" by Dr. Peter Haanappel was presented by Dr. Peter van Fenema. It highlighted the existing areas of law that influence the development of space tourism, alongside discussing whether new private law mechanisms need to be developed. This was followed by Dr. Hanneke van Traa-Engelman's paper "The Need for a Uniform Law System Protecting Intellectual Property Rights in Outer Space" on the ongoing significance of intellectual property in space contracts and the feasibility of the establishment of an international intellectual property framework enforced by a single body. Professor Smith's second paper entitled "Jurisdiction and Applicable Law in cases of Damage from Space – the Advent of the Most Suitable Choice in Europe - Rome II", co-authored by Ms. Catherine Doldirina, covered the European solution to the issue of the conflict of laws for non-contractual liability for space activities.

Professor Souichirou Kozuka presented his paper "Liability from the Launch of a Space Object as a Matter of Private Law" that dealt with the liability issues related to the launch of a space object in the light of domestic private law rules. The next presentation was made by Dr. Fabio Tronchetti who

addressed "The future of the UNIDROIT Draft Space Protocol: legal proposals to encourage the participation of private financiers in space activities". His paper analysed the limits of the Draft Protocol illustrated its ability to support participation of financiers in current and future space activities. This topic was further addressed in the presentation by Dr. Bernhard Schmidt-Tedd entitled "The UNIDROIT Draft Of A Space Assets Protocol – A Civil Law Instrument Under A Public Framework". This paper, co-authored by Ms. Isabelle Arnold, discussed the difficulties stemming from the interdependency of the civil law financing instruments and the international regulation of space activities, both merged within the Protocol.

Mr. Michael Mineiro presented his paper "CISG and the Final Frontier: Contracting for the Sale of Goods and the Risk of Loss in Outer Space" elaborating on issues of international sales within space contracts. The session was concluded by a presentation made on behalf of Professor Edythe Weeks "Which Laws Will Govern Private Space Travel, Commercial Space Mining and Commercial Space Settlements?". The paper addressed the issue of applicability of public space law to private space activities like spaceflight, space hotels and spaceports.
The session was held for the first time last year, and attracted considerable attention both from potential participants (the chairpersons received 18 abstracts to choose from), as well as from the International Astronautical Congress attendees. The session was visited in all by around 40 people.

SESSION REPORT

THE 40TH ANNIVERSARY OF THE RESCUE AGREEMENT: LOOKING AHEAD/ WEAPONISATION OF OUTER SPACE IN THE LIGHT OF ARTICLE 4 OF THE OUTER SPACE TREATY, PART A

Chairmen: Prof. Sergio Marchisio
Prof. Vladimir Kopal

Rapporteur: Dr. Fabio Tronchetti

In their paper on **Controlling ballistic missile defense and anti-satellite missiles: should we look elsewhere or rather amend Art. IV OST?** Mr. A. Agarwal, K. Vuppala and R. Mukherjee (India) analyzed the issue of weaponisation of outer space by pointing out that international cooperation and confidence building represent the means for securing outer space from military use and from becoming an area of conflicts for States. This process of international cooperation must lead to the development of an international legal regime regulating military applications in the space environment, in particular the use and impact of ballistic missile defense and anti-satellite missiles. First of all, the need for such a legal regime stems from the fact that the interpretations on Article IV of the Outer Space Treaty, dealing with military uses of outer space, vary and it is rather unclear whether its provisions applies to the utilization of anti ballistic missiles and ballistic missile defense. Secondly, the use of these categories of missiles has been regulated through specific arm treaties, mainly on a bilateral rather than multilateral basis. Therefore, a multilateral effort aimed at clarifying what military activities are allowed in outer space is required so as to keep the space environment peaceful.

Prof. S. Aoki (Japan) presented a paper entitled: "**Space traffic management for the prevention of weaponization of outer space".** Looking at the increasing number of military operations in space and at the difficulties of arriving at an agreed international instrument dealing with military uses of outer space, Prof. Aoki suggests an alternative strategy to deal with this issue, namely the development of space safety measures to be crystallized into a soft law instrument.

The paper starts with a detailed analysis of the work of the Conference on Disarmament on the issue of militarization of space, by showing the failure of the Conference to reach any widely accepted agreement or definition. The lesson to be learn from it is that when dealing with weaponization of outer space a definition of "space weapons" shall be avoided if consensus is seriously sought out. The paper goes on with the analysis of the ASAT weapons and of the international efforts made to regulate their use.

Afterwards, Prof. Aoki deals with the concept of Space Traffic Management (STM) by focusing on the activities of the IAA in such respect. The paper focuses on the STM model in 2020 prepared by the IAA and suggests to use it as a model to regulate the issue of weaponization of outer space. Hence, space safety measures should be developed to regulate that issue. The paper concludes by stressing that these safety measures would be successful only upon the fulfillment of 5 conditions: 1) emphasis is placed on safety rather than security; 2) definition of "space weapons" is avoided; 3) the rules are contained in a soft law instrument; 4) such soft law instrument is, at first, implemented by the

like-minded States; 5) such soft law instrument is supported by the major space-faring nations.

The paper of Prof. C. Christol (USA) entitled: "**The joinder of telecommunications and globalization**" was presented by Prof. J. Galloway (USA). In his paper Prof. Christol discusses about the characteristics and relations between telecommunication and globalization. He argues that telecommunication was the force leading to the existence of globalization. Indeed, without the advanced communication process, the gathering of data through remote sensing and the transmission via satellite the evolvement of multifaceted areas of discourse that contributed to the emergence of globalization would have not happened.
The paper shows the importance of instant communication for national security and for contributing to harmonious relations among States which, as a result, contribute to the success of globalization. Later, the paper deals with the negative impact of global terrorism on globalization and on the fact that terrorists make use of space technologies to pursue their criminal acts. The paper also analyzes the efforts of International Organizations in combating and preventing terrorism. Prof. Christol concludes by stressing that terrorists cannot be prevented form seeking access to advanced communication equipments. However, one response could be that terrorists be brought under such detailed scrutiny that they would be denied opportunities to make use of all of the hardware that is essential for their operations.

The paper: "**A new indemnification policy spacecraft that rescue astronauts in need**" was presented by K. Corner (USA). The paper focuses on the issue of rescuing spacecraft and astronauts in need and argues the need for the setting up of detailed rules dealing with such an issue.
After pointing out the differences between today's space environment and the one existing at the time the Rescue Agreement was drafted, Mr. Corner touches upon the issue of the definition of astronauts by arguing that all humans on board a spacecraft must be considered astronauts with regard to their need of being rescued while in danger. The paper goes on with the analysis of the Rescue Agreement's provisions on the rescuing of astronauts. It is argued that the Agreement provides only a skeletal framework and that a more sophisticated system is needed. In order to set up such system a useful example is provided by maritime law where the duty to help sailors in distress is well established.
Mr. Corner argues that these new rules on rescuing astronauts are very likely to be developed at national level first, although they should be acceptable to space-faring nations. These rules should establish clear procedures and standards to be followed in case of emergency. The author also stresses the importance of an insurance system to compensate companies for any loss resulting from a rescue, due to the risky nature of rescuing in space.

Mr. J. de Faraminan Gilbert and Ms. C. Munoz Rodriguez (Spain) presented the paper entitled: "**The return of space objects launched into outer space some legal questions**".
The paper analyses in detailed the provisions of the Rescue Agreements. The paper begins with the study of the drafting history of the agreement containing the discussions held within the COPUOS. Then, the analysis switches to the provisions of the Rescue Agreement by paying particular attention to those on notification of accidents, search and rescue in a contracting State's territory, landing in areas not under the jurisdiction of any State, returning of astronauts, returning of space objects, elimination of possible danger or harm and payment of expenses. The paper concludes with listing some of

the problems and danger being faced by astronauts and space object nowadays, such as space debris.

The paper: "**Anti satellite missile testing: a challenge to Article IV of the Outer Space Treaty**" was presented by Mr. K. Mohan, Mr. A. Agarwal and Mr. Bhat (India).
It analyzes the relation between anti satellite weapons and Article IV of the Outer Space Treaty and pointes out some of the loophole of the latter. After describing the different typologies of anti satellite weapons and their most recent uses by States, the paper turns to the study of the Outer Space Treaty's provisions, particularly those of Articles III, IV and IX due to their relevance for the issue of anti satellite weapons. Specific attention is paid to the provisions of Article IV which leave room for doubts regarding whether or not anti satellite missile tests are prohibited, what is the meaning of the terms "peaceful purposes" and "military activities".
The authors conclude their paper arguing that a new treaty dealing with the use of anti satellite weapons is far from being a feasible option. They suggest that States parties to the Outer Space Treaty should take as position on this matter as well as the United Nations General Assembly.

Ms. Z. O'Brien (Ireland) presented a paper entitled: "**The Rescue Agreement and private space carriers**".
Looking at the current outer space environment, where private enterpries have become a major actor, the paper addresses whether the duties set forth in the Rescue Agreement should be extended to bind commercialo entitites engaged in space carriage.
The paper considers the Rescue Agreement a great achieviement in space law because of its duties upon contracting States to protect astronauts. However, the lack of clarity of some of its provisions has meant that the duties of private parties have not been clarified and certain situations involving private party rescuerses may not come within the scope of the Agreement. The author argues that for primarily humanitarian reasons, it is preferable to impose duties to rescue on the commander of spacecraft akin to those on the mastes of vessels wiht some modifications suitable to space law. Information-sharing obligations, requiring commanders to inform their launching authority of any distress call recieved should be imposed in addition to more substantive duties to rescue the lives of those aboard. No distinction should be made between personnel and non-personnel and the burden for reimbursing for the rescue should fall either on the rescuee or the launching authorithy of the rescue. Such duty to rescue should be subject to requirements of practicability. The author concludes recommending a new multilateral convention requiring States to ensure that commander of spacecraft comply with the above duties.

The paper: "**Verification mechanism for peaceful uses of outer space**" was presented by Ms. Y. Takaya-Umehara (France).
The paper analyzes the meaning of the term "peaceful purposes" of outer space and suggests to ensure security in space by means of a verification mechanism.
The paper begins with the study of the term "peaceful purposes" as defined in the legal regime regulating activities in Antarctica, the high seas, the seabed and the ocean floor. Each of these regimes has different definition and mechanism for ensuring peace and security in the respective areas. Outer space is not an exception in such respect. The paper argues that due to the impossibility of arriving at an agreed definition of "peaceful uses", the legal regime in outer space fails to establish an effective verification mechanism. Considering the tendency of States to cooperate in verification mechanism through international organization, the author suggests that it is suitable for space

security to establish an organization responsible for verification with the aim of enhancing transparency in outer space.

E8. 51st INTERNATIONAL INSTITUTE OF SPACE LAW (IISL)

E8.4. Legal Aspects of Natural Near Earth Objects (NEOs) / Other Legal Matters, Part A

Chairmen: Richard J. Tremayne-Simith, Maureen Williams
Rapporteur: Yuri Takaya-Umehara

IAC-08-E8.4.1
International Responsibility vis-à-vis natural near-Earth objects (NEOs) and their possible implications
Professor Dr. Maureen Williams / University of BuenosAires / Conicet / Chair of the ILA Space Law Committee (HQ London)

Prof. Maureen Williams examined the legal aspects of NEOs, clarifying some similarities between the guidelines for NEOs and space debris under space law and customary international law. Her analysis indicates that effective dispute settlement mechanisms are essential and the ILA International Instrument on Space Debris appears applicable to the NEOs. She pointed out the questions on the decision-making process, technical capability to avoid space debris, and political will, which is indispensable for further consideration.

IAC-08-E8.4.2.
Natural Near Earth Objects and the International Law of Outer Space
Dr. Luis F. Castillo Argañarás / National Council of Scientific and Technical Research of Argentina (CONICET) / Universidad Argentina de la Empresa – Instituto de Ciencias Jurídicas y Sociales (UADE)

Dr. Luis F. Castillo Argañarás examined the existing law on NEOs hazard that is a global issue to be effectively addressed only through international cooperation and coordination. He emphasized the importance of international cooperation particularly between States who have space capability, concluding that a suitable legal framework on NEOs exists already but the public awareness for NEO should be enhanced.

IAC–08–E8.4.3.
Defining Subject Matter Under Space Law: Near Earth Objects Versus Space Objects
Prof. Frans G. von der Dunk / University of Nebraska, College of Law, Space and Telecommunications Law Program

Prof. Frans G. von der Dunk analyzed the legal terms "outer space objects" and "Near Earth Objects" through the draft treaty elaborated by Russia and China on de-wepaonization of space. Clarifying the definition of the terms "objects," "objects in outer space" and "space objects" being linked with man-made artifacts, but not with NEO of any sort, he concluded that, apart from space weapon which is designed specifically to attack, "objects" are not necessarily linked with weapons.

IAC-08-E8.4.4

Pella Vilya: Near Earth Objects – Planetary Defence Through the Regulation of Resource Utilisation
Dr. Gérardine Meishan Goh / Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Bonn, Germany, Institute of Air and Space Law, University of Cologne, Germany

Drawing from recent analogies and examples from international environmental law, Dr. Gérardine Meishan Goh proposed a legal framework for the regulation of NEOs' resource utilisation, including a mechanism to ensure the political will and economic investment necessary for technological advances in planetary defense.

IAC-08-E8.4.7
Japanese Space Fundamental Law
Prof. Yasuaki Hashimoto / National Institute for Defense Studies, Tokyo, Japan

Prof. Yasuaki Hashimoto introduced Japanese Space Fundamental Law passing in the Diet on 21 May 2008, adding the new perspective of national security to space activities in Japan. He explained the shift in interpreting the term "peaceful" from "non-military" to "non-aggressive" in Japan, allowing military uses of outer space to the extent lawful under the Japanese Constitution.

IAC-08-E8.4.11
The Moon Treaty in the 21st Century
Ms. Antonella Bini / United Nations Office for Outer Space Affairs (UNOOSA), Vienna, Austria

Ms. Antonella Bini analyzed the Moon Agreement from the perspectives of commercialization and privatization of space activities. She addressed questions raised in the LSC of the UN COPUOS in 2008 and emphasized the importance of feasibility and political will in the evaluation of the Moon Agreement.

IAC-08-E8.4.12
Outer Space Traffic Management
Prof. Paul B Larsen / Washington DC, United States, OUTER SPACE TRAFFIC MANAGEMENT

Prof. Paul B Larsen explained the purposes of outer space traffic management as: to avoid intentional and unintentional collisions; to make outer space traffic safe; and to assure the freedom of access and uses of outer space under space law. He emphasized the importance of having better situational awareness and of enhancing transparency in outer space by the exchange of information among operators of space vehicles under international cooperation, including the co-operability of GNSS.

IAC-08-E8.4.14
The Importance of the Rule of Law for Space Activities

Prof. Stephan Hobe

Prof. Stephan Hobe examined the rule of law under space law by focusing on "soft-law." Considering UN General Assembly resolutions providing non-binding but binding character for the privatization of space activities and mitigation of space debris, he concluded that the UN COPUOS plays an important role in observing the rule of law which might contribute to the development of modern international law.

IAC-08-E8.4.15
Space Law Students Participation in Real Engineering Related Projects and Research
Mr. Amalio Monzón, Ms. Andrés Russu, Mr. Héctor Salvador / Laboratory for Space and Microgravity Research, Spain

Considering the importance of education and research in the field of science, technology and law constituting a key factor in the development of space law, Mr. Amalio Monzón, Ms. Andrés Russu, Mr. Héctor introduced Salvador Laboratory for Space and Microgravity Research (LEEM), a Spanish non-profit space students and young professionals association.

IAC-08-E8.4.16
Decision Program on Asteroid Threat Mitigation
Dr. Russell L. Schweickart / Chairman, Committee on Near-Earth Objects, Association of Space Explorers, Sonoma, California

Dr. Russell L. Schweickart introduced the Association of Space Explorers Committee on Near-Earth Objects (NEOs) and the Panel on Asteroid Threat Mitigation, preparing a decision program to aid the international community in organizing a coordinated response to asteroid impact threats, which would be under consideration of the UN COPUOS in 2009.

SESSION REPORT
"OTHER LEGAL MATTERS, PART B"

Chairmen: Joanne Gabrynowycz
Joanne Wheeler

Rapporteur: Sylvia Ospina

A total of 11 papers were presented, ranging over a variety of subjects and regions. Also included in the presentations were some papers that were moved from other sessions, to accommodate the presenter.

The over-all quality of the papers was very high, and several were outstanding: "Space And The Complexity Of European Rules And Policies: The Common Projects Galileo And GMES – Precedence For A New European Legal Approach?", by Dr. Annette Froehlich, and "Network Of European Regions Using Space Technologies: An Update On The NEREUS Constitution", co-authored by Dr. Marianna Morelli and Dr. Campostrini. Both of them addressed issues specific to the European Union / European space sector, and presented in an understandable form the complexity of issues faced by the European Union Member States.

Dr. Froehlich describes the increasing role of the European Union (EU) in space activities, and in space policy, and points out that the legal rules of the EU and ESA are not quite compatible at this time. Another issue that is likely to be contentious in future is the question of financing and ESA's policy of fair return. It is likely to cause some difficulties, if not at present, in future.

The authors of the paper on NEREUS provide much valuable information on this ambitious network, which involves or will involve European regional institutions and enterprises of all kinds, big and small, academic and business-oriented. (The definition of "region" provided by the authors seems to be all-encompassing.) The author's intent was to make a short presentation on "a new form of cooperation" that seems to be open to any kind of institution in Europe. Their objective was well met.

(It is worth noting that Froehlich's and the Morelli-Campostrini papers were selected for publication in "Acta Astronautica.")

"Fifty years of Earth observation from Space and Space Law", by José Monserrat Filho, and "Alcântara Cyclone Space: A New Joint Venture in the Space Market", by Mr. Alvaro Fabricio Dos Santos provided valuable information on the Brazilian space program, in particular Brazil's involvement in earth observation / remote sensing activities. (Dr. Dos Santos' paper was summarized by Dr. Monserrat.) The pairing of these two presentations provided a good synopsis of some of the aspects of Brazilian space activities.

"A Support of Imagination to Become Reality: Relation of Patent Law and

Space Law", by Ms. Fruzsina Tari provided interesting and valuable information on patent law and its relation to space law, topics that are not usually spoken about together.

Space activities on the other side of the globe, in particular in China, were also addressed by Ms. Xiaodan Wu, who gave an account on the Chinese licensing regime of space activities.

A paper on the "Legal framework in support of commercialization of outer space: the case of the Isle of Man", was presented by Ms. Timiebi Aganaba, a graduate student at the International Space University in Strasbourg, France. Its content aroused a fair amount of discussion, as it seemed to be more of a "sales pitch" for the Isle of Man than an exposé of legal issues.

In brief, the quality of this session's papers was very good, as was their presentation. Unfortunately, there was little time left at the end of the session for any in-depth discussion of the many issues that were written about. Interestingly, when the session began, there were about 30 people present; at the end of the session, more than 40 were there!