This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker

# Report of the 56th Colloquium on the Law of Outer Space Beijing, China, 2013

*Guoyu Wang, Rik Hansen, Andreas Loukakis, Anita Rinner and Olga Stelmakh*

## Session 1: Nandasiri Jasentuliyana Keynote Lecture on Space Law & 5th Young Scholars Session

**Chairs: Asst. Prof. Tanja Masson-Zwaan and Prof. Haifeng Zhao**
*Rapporteur: Dr. Guoyu Wang*

In this first session of the 2013 IISL Colloquium on the Law of Outer Space, a total of nine papers were presented.

*Dr. Tare Brisibe*, Chairman of the UNCOPUOS Legal Subcommittee, presented the 5th **Nandasiri Jasentuliyana Keynote Lecture**, titled "A Normative System for Outer Space Activities in the Next Half Century". He addressed the normative nature of space law and how it fits into the broader international law regime. He pointed out that international law including the Charter of the United Nations are applicable to activities in outer space. States are expected to carry out activities in the exploration and use of outer space in the interest of maintaining international peace and security and promoting international co-operation and understanding. He stated that it is widely acknowledged that significant changes have occurred in the structure and content of the space endeavor, reflected in the emergence of new technologies and the increasing number of actors at all levels. Moreover, there is the growing realisation that long-term threats to sustainable development will also come from natural or artificial changes to the outer space environment. He examined various sources of obligation, in the form of principles and rules, as they concern or relate to outer space activities. He discussed the interrelationship between various sources of obligation, their respective subjects and content, as well as mechanisms by which these norms (i.e., rules and principles) and related obligations are implemented. This was followed by an excellent selection of papers by young scholars.

*Mr. Brendan Cohen* (Stanford University, USA) presented the paper he co-authored with *Ms. Elena Carpanelli* (Italy) on the actual scope of damages caused by space objects, which are covered by the regime set by the Liability

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



Convention. This paper was the winner of the **Diederiks-Verschoor Award for best paper by a young author**. Discussions on whether indirect or moral damage, environmental damage and nuclear damage should be covered by the current space law regime took place. By applying interpretative treaty methods, Mr. Cohen finally called for an additional protocol to solve the ambiguity in the Liability Convention.

*Mr. Philip de Man* (Catholic University of Louvain, Belgium) focused on the legality of property rights over natural resources in outer space in his paper titled "The freedom to use outer space, or: the absence of claims over areas in space and the obligation to actually use its resources".

*Mr. Ewoud Hacke* (Belgium) discussed the public procurement rules between the European Space Agency (ESA) and the European Union (EU). He raised the very important question as to what extent the EU and the ESA procurement regulations, and the industrial policy behind it, can be reconciled when applying the proposed models of cooperation. He concluded that a coherent European space procurement law and policy should be aimed for in the coming years.

*Ms. Rong Du* (University of Hong Kong, China) addressed a challenging issue faced by the drafting process of the UNIDROIT Space Protocol in her paper "Defining the Frontier of Space Commercialization - Analysis on the Normative Implication of UNIDROIT Space Protocol for Corpus Juris Spatialis", which is to produce a workable document that can both accommodate the particularity of space assets and sustain the commercial value of the Cape Town Convention. Dr. Du concluded that a fair and transparent procedure could be expected from States in building up complimentary mechanism for the convenience of implementing the Space Protocol.

*Ms. Zhuoyan Lu* (University of Lapland) provided an indepth analysis of the nature of the launch in her paper on "Legal Issues on the Launch by North Korea: Privilege of UN Security Council Resolutions or Outer Space Treaties". She categorized it to an appropriate position. She further addressed the applicable legal regime and the role of UNOOSA in this case.

*Ms. Neta Palkovitz* (Isis, The Netherlands) considered chanllenges in the development for private space entrepreneurship, aimed at raising awareness to the those legal challenges and offered potential solutions. Her paper was titled "Space Entrepreneurship and Space Law – Future Challenges and Potential Solutions". While the international space treaty regime remains traditional and does not focus on private space entrepreneurship, new-emerging national space laws can help to bridge the gap between traditional space law and the new reality of space entrepreneurship. She suggested financial tools like insurance may solve some state-liability aspects in this context.

*Mr. Martin Reynders* and *Ms. Lisa Küpers* (Germany) jointly addressed the obligations regarding the rescue of astronauts, established by the OST and the

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



ARRA. In their paper, "One Step Back? Duties relating to the rescue of astronauts in orbit under the ARRA", they suggested that it should be the far aim to amend the ARRA or to adopt a new Treaty concerning rescue in space. In the end of their article, they gave out suggested provisions that shall be included.

*Dr. Jinyuan Su* (Xi'an Jiaotong University School of Law, China) addressed "The Delimitation between Air space and Outer Space and the Emergence of Aerospace Objects". He shed light on how to regulate aerospace objects when they cross the near space above foreign States.

## Session 2: Settlement of Space-related Disputes

**Chairs: Prof. Dr. Sergio Marchisio & Prof. Dr. Mahulena Hofmann**
*Rapporteur: Mr. Rik Hansen*

In this second session of the 2013 IISL Colloquium on the Law of Outer Space, a total of seven papers were presented. Co-chair Prof. Dr. Sergio Marchisio started off the session by expressing his hope that this topical gathering of papers around the issue of dispute settlement would help improve a dispute settlement record that so far has been rather poor.

*Prof. Henry Hertzfeld* (George Washington University, USA) kicked off the session with a first of 5 presentations that dealt, either directly or indirectly, with the optional rules for arbitration in space-related disputes that were adopted by the Permanent Court of Arbitration (PCA) in 2011. In the paper titled "Binding Arbitration as an Effective Means of Dispute Settlement for Accidents in Outer Space", he explained that a situation was of concern in terms of potential dispute settlement as soon as four conditions are met: (1) an accident or incident occurs in outer space, (2) causing an international dispute, (3) in a situation where there is no contractual link between the parties, and (4) the resolution of the dispute is dependent on the finding of fault. As the current space legal framework offers no adequate solution in such an event, prof. Hertzfeld drew inspiration from seminal work by prof. Karl-Heinz Böckstiegel, who published extensively on the topic in the 1980s and 90s. Although Böckstiegel at that time saw no great future for arbitration as most private space disputes of the time were contractual in nature, Hertzfeld argued that the different set of issues cropping up today, such as space debris and the proliferation of private space activities, increases the potential for arbitration. Such a system, Hertzfeld added, would hold the advantage of not requiring the amendment of the existing space treaties, and would be less expensive and time-consuming than proceedings before an international tribunal. In addition, Hertzfeld cited a number of examples of functioning systems of international arbitration, such as the WTO dispute settlement mechanism, the ITU Convention and its optional protocol, etc. Concluding his presentation, Prof. Hertzfeld recommended that efforts should be devoted to reaching international agreement on the appropriate arbitral process for space disputes, sooner rather than later, and that as

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



flanking measures, initiatives in national space law should be undertaken, and the development and promotion of soft law-type instruments should continue.

Immediately after this first presentation, a dynamic discussion ensued, with notable contributions by Prof. Steven Freeland and Prof. Stephan Hobe. Topics of discussion included the practical feasibility of getting states to agree to a binding system of dispute resolution, the appropriate criterion to determine whether a private space activity is truly undertaken on a private basis, and whether the commercial potential of the sector was sufficient to warrant the creation of a dedicated dispute settlement system.

*Prof. Haifeng Zhao* (Harbin Institute of Technology, China) set out to shed some light on the background and the drafting process of the PCA optional rules for arbitration of disputes relating to outer space activities. His paper was titled "The Significance of the Permanent Court of Arbitration's Optional Rules for Arbitration of Disputes Relating to Outer Space Activities". Commending Prof. Hobe and Judge Fausto Pocar of the International Court of Justice for their excellent work in drafting these rules, Prof. Zhao started by explaining the history, evolution and functioning of the Permanent Court of Arbitration. He too stressed the shortcomings of the existing dispute settlement mechanism as installed by the Liability Convention, especially when confronted with the increasing amount of potential disputes relating to outer space activities. Zhao then explained the practical arrangements during the drafting process of the Rules, which was undertaken by the International Bureau of the PCA and an advisory group of air and space law experts. After a process that included several discussions, investigations of other arbitration rules, an internet questionnaire and a series of discussion papers, it was judge Pocar who drafted the initial rules, which were then further refined. Echoing some of the sentiments already heard in Prof. Hertzfeld's presentation, Prof. Zhao too saw many possible advantages to arbitration as a dispute settlement mechanism for outer space. In particular, he stressed the broad scope of parties that could make use of such a procedure, the advantages such a procedure would have in dealing with sensitive and confidential information, and the fact that the rules, instead of being new and untested, are based on a wealth of experience with the UNCITRAL arbitration rules. From a Chinese perspective too, Prof. Zhao saw increasing willingness to engage in international dispute settlement mechanisms such as these Rules. In conclusion, he expressed the hope that these rules will provide a functioning dispute settlement system without necessitating modification of the treaty framework.

*Ms. Elina Morozova* (Intersputnik, Russia) proposed a different system of arbitration, embedded in the ITU. She explained that within the ITU, most of the disputes relate to radio frequence interference, a matter dealt with by the ITU-R sector - more specifically its Radio Regulations Board (RRB). The RRB is a collegiate body composed of twelve experts, but its procedure in resolving interference disputes has several drawbacks, including its administrative character, the non-final and non-binding nature of its decisions and its lack of man-

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



date to consider recovery claims. Ms. Morozova explained that an arbitral procedure would be ideally suited to address these shortcomings, but that existing jurisdictional bodies that could potentially adjudicate these disputes were not specialized enough. Therefore, she proposed an arbitral tribunal under the ITU RRB, marrying the organisation's flawless reputation and technological knowhow to the desirable features of adjudication through arbitration.

This presentation proved fascinating to the audience and once again sparked the debate, with questions being raised by co-chairs Prof. Hofmann and Prof. Marchisio. They were especially interested in the relation of this arbitral organ to the RRB, and whether such a body would receive any regulatory competence. On the question what exactly constitutes an interference dispute, Ms. Morozova explained that it suffices for one party to claim interference.

*Ms. Juliana Scavuzzi*'s (McGill University, Canada) presentation, bridging the gap between the PCA optional rules for arbitration, stressed the potential of the PCA optional rules for ITU-related disputes. Having summarised the rationale behind the development of the PCA rules and the projected advantages of arbitration for the adjudication of space-related disputes, albeit briefly, as Prof. Hertzfeld and Prof. Zhao had dealt largely with the same topic, Ms. Scavuzzi explained the rules' relevance for ITU disputes relating to radio frequency spectrum and orbital positions. In full agreement with Ms. Morozova, Ms. Scavuzzi stated that harmful interference is the most common cause of dispute under the ITU system, and that the ITU's own dispute resolution mechanism seems ill equipped to deal with them. The PCA optional rules could prove helpful, as their scope is much broader than either the ITU or liability convention mechanisms, provide better guarantees for maintaining confidentiality of sensitive information, yet still be adequately transparent. The implementation of such a system could happen directly under the ITU, or indirectly, by incorporating an arbitration clause in service agreements, leases or contracts.

*Dr. FabioTronchetti* (Harbin Institute of Technology, China), in a fourth presentation dealing with the PCA optional rules, elected to underline their potential in an engaging and innovative way, by guiding the audience through a fictitious dispute between two private parties and contrasting the options of the victim with and without these rules. This fictitious dispute involved a collision in space, between a functioning satellite and a piece of space debris. Prior to the PCA optional rules, the victim company would have had three options: demanding that its state initiate a claim under the liability convention, claiming in a national court, or commencing international commercial arbitration. To these options, the PCA rules add an important option by providing a framework for arbitration that gives the victim company an independent right of action, that provides that the parties themselves can determine which law is applicable, and that parties can select a(n independent) forum, where a final and binding decision could be rendered. The adoption of these rules, according to Dr. Tronchetti, brings space law into the 21st century, and knowledge of them should be spread across the space law community.

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



In a lively debate after Dr. Tronchetti's presentation, Prof. Monserrat Filho wanted to know which idea of fairness Tronchetti thought appropriate in disputes between private parties. Tronchetti responded that fairness in arbitration should be apparent by the rules governing the process, and should be evaluated on a case by case basis.

*Dr. Ulrike Bohlmann* from the European Space Agency provided an overview of ESA's experience in dealing with disputes. She explained that the Agency, in its almost forty-year history, has built up a strong track record, not only of resolving disputes, but often even preventing them. Fundamentally, ESA as an international organisation enjoys immunity from national jurisdiction and execution. Nevertheless, disputes need to be solved from time to time, ranging from disputes with and between ESA member states, disputes with industry, and disputes with other international organisations to disputes between the Agency and members of its staff. For each of these types of dispute, Dr. Bohlmann said, ESA has developed a tailored approach in dispute prevention and dispute resolution, often starting with a mandatory attempt to settle the dispute amicably, followed by an adjudication mechanism. Particular mention was reserved for cross-waivers of liability, a dispute prevention technique stemming from old NASA practice, which is intended at limiting claims between space agencies cooperating internationally. Another noteworthy recent addition is the establishment of a procurement review board to deal with disputes arising out of pre-contractual relations between ESA and industry. Finally, in the context of employment relations, Dr. Bohlmann explained that the immunity of international organisations has withstood the test of the European Convention on Human Rights, as the European Court on Human Rights deemed the judicial body established within ESA a sufficient guarantee of the employee's right to a court. In sum, the system of immunities is essential to the good functioning of the Agency, but does entail the duty to provide for adequate alternative systems of dispute settlement. In ESA's case, Dr. Bohlmann thought that the best testament to the performance of these systems is the lack of disputes that have led to controversy.

After this presentation, a brief discussion ensued on the issue of cross waivers of liability. Professor Marchisio and Dr. Bohlmann finished by agreeing that the system has been very successful and arguably necessary, but that it has to be used with caution as it may provide for bad incentives.

*Mr. George Anthony Long* (USA) presented "A Basis For Directly Applying Principles Of The Liability Convention To Private Parties", an inventive legal argument on the application of the principles of the Liability Convention to disputes between non-state actors. According to Mr. Long, Art. 35 of the PCA optional rules is key in this regard, as it allows the arbitrators to apply principles of international law as substantive law in disputes where no explicit choice of law has been made. Specifically, this discretionary authority would give arbitrators a mandate to apply the principles of the Liability Convention to space disputes between private parties that come to be adjudicated according to the

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



PCA optional rules, without needing to modify the Liability Convention to do this. Mr. Long added that international law has evolved in this way throughout its history, applying established legal principles to circumstances not previously encountered, and that arbitration specifically has extended international legal principles to private disputes by developing the concept of internationalised contracts.

A final discussion of this fascinating session of the IISL Colloquium touched topics such as the criterion of damage under the liability convention, and even the possibility of extending Mr. Long's reasoning to cyber warfare in space. This concluded a very interesting IISL Colloquium session on dispute settlement, a topic whose timeliness was underlined by a healthy attendance level throughout the session.

### Session 3: International Regulations of Space Communications: Current Issues

**Chairs: Professor Francis Lyall and Mr. Dennis Burnett**
*Rapporteur: Mr. Andreas Loukakis*

This third session addressed a number of topical space law and policy related issues. Inter alia, it focused on the challenges related to the present international system of frequency allocations and the reservation of orbital slots for space communications. In addition, it analyzed the role of the ITU for different challenges with respect to space based services. Last but not least, this session also addressed the current challenges of liability for loss and damage caused from the use of satellite based services.

A total of 6 papers were presented during this session, covering a wide range of topics and analyzing the subjects of the session under different perspectives. Prof. Lyall and Mr. Burnett opened the session by giving a brief introduction on the topics.

The first paper entitled "Efficient and Equitable Use of Orbit by Satellite Systems: Paper Satellite Issue Revisited" was presented by *Prof. Setsuko Aoki* (Keio University, Japan). Professor Setsuko Aoki in her presentation introduced new types of paper satellite issues and addressed the question of how the efficient and equitable use of geostationary orbit could be ensured under the current international space law frameworks. During her presentation, Professor Aoki discussed three case studies involving paper satellite issues, namely the Tongasat case, the Zoher 1 case and the Zoher 2 case. By using mainly these case studies, Prof. Aoki attempted to demonstrate how paper satellites issues can affect the equitable and efficient use of geostationary orbit. Following that, she came up with some concluding remarks by suggesting a few ways on how to mitigate paper satellite problems which might arise in the near future.

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



The next paper was "The ITU Regulations and WRC-15 Challenges Related To Space Based Services", co-authored by *Mr. Yvon Henri* and *Mr. Attila Matas* (ITU). Presented by Mr. Matas, the paper introduced briefly the ITU and its regulatory framework and subsequently focused on the WRC-15 challenges in relation to different and various areas of space based services.

The third paper of this session entitled "The ITU's Evolving Regulatory Role on Space Debris "Rules of the Road" Implications for Space Communications Regulation" was presented by *Prof. Larry Martinez* (California State University, USA). Notably, this paper addressed interesting space law related issues from a different point of view, namely that of economics and political science. In particular, Professor Martinez in his presentation analyzed the potential role of ITU for space debris management by applying the principal agent theory as well as the theory of transaction costs. Interestingly, Prof. Martinez, by using the aforementioned theories, came to the conclusion that it might be more efficient from an economic point of view to delegate certain powers to the ITU with respect to space debris management for the near future.

Following this presentation, the focus of the session centered upon the issues of risk management as well as of liability for loss and damage caused by the use of satellite based services.

*Prof. Lesley Jane Smith* (Leuphana University of Luneburg, Germany) presented a paper entitled "The Current Challenges Of Liability For Loss Of Satellite Based Services". After introducing briefly the concept of risk within the field of satellite based services, Prof. Smith discussed different liability rules – coming from both International and national perspective – for loss scenarios which might arise in the course of the provision of satellite based services. Interestingly, Prof. Smith stressed in her presentation, that none of the existing International Space Law provisions address liability law challenges for loss caused from the use of satellite based services. She, thus, focused on national law provisions and more specifically on contractual law provisions and how these provisions can be relevant for liability scenarios for different categories of damage caused by the use of satellite based services. For instance, navigation services, telecommunication services as well as earth observation services were some categories of services for which Prof. Smith tried to contemplate certain liability ramifications.

The fifth paper of the session entitled "Product Liability Ramifications For Erroneous GNSS Signals: An Alternative Approach Is Possible?" was presented by *Mr. Andreas Loukakis* (Doctoral Candidate, University of Luxembourg). In his presentation, Andreas Loukakis essentially addressed the question of whether current product liability law provisions might be relevant for loss scenarios resulting from the use of erroneous navigational signals. Andreas Loukakis, after having analyzed different product liability law provisions as well as some case law dealing with liability from defectively marketed information, both in the EU and the US, concluded that it is still uncertain the scenario of whether

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



there might be a possibility to apply product liability law for cases of loss stemming from the use of erroneous navigational signals.

The last paper of the session was presented by *Prof. Mahulena Hofmann* (Law Faculty, University of Luxembourg). Prof. Hofmann in her paper entitled "ITU Instruments Under The Perspective of Public International Law" addressed the topical issue of the relationship between different ITU regulatory/legislative instruments and other International Law instruments stemming principally from different areas of Public International law such as General Public International Law, Space Law as well as Human Rights Law. By using mainly the principles of *lex posterio*r and *lex specialis* Prof. Hofmann reached the conclusion that the ITU legal regime might be seen as a specific legal regime which contains certain similarities with the legal regime of WTO.

The session was well attended and most of the participants were active during the discussion by raising topical questions in relation to the subject matters of the presentations.

**Session 4: Legal Aspects of Debris Remediation**

**Chairs: Prof. Joanne Gabrynowicz and Dr. Bin Li**
*Rapporteur: Ms. Anita Rinner*

During this session, eleven authors, co-authors and representatives presented contemporary issues concerning space debris mitigation and active space debris removal. Various legal methods, concepts and new policies to tackle space debris were presented. Most presentations referred to the Inter-Agency Space Debris Coordination Committee Space Debris Mitigation Guidelines and to the space debris mitigation guidelines established by the United Nations Committee on the Peaceful Use of Outer Space. All authors unanimously agreed that space debris has become an international problem and even emerging space faring nations should act in conformity with the ongoing space debris mitigation guidelines.
Concerning the preservation of the Outer Space Environment, a few authors elaborated on the Precautionary Principle. The authors recalled the fact that space debris mitigation faces an absence of legal binding instruments. Nevertheless the space community is moving towards a steadily increasing number of space debris. Essentially the authors raised the question of whether international environmental law is applicable to outer space and if in particular the precautionary principle applies to the mitigation of space debris.

*Dr. Bittencourt Neto* (University of Sao Paulo, Brazil; represented by N. Palkovitz) submitted a paper with the title: "Preserving the Outer Space Environment: the 'precautionary Principle' Approach to Space Debris". He emphasized that there are some indications that the precautionary principle has become customary law and would be applicable even to space debris mitigation. He suggested

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



that existing binding norms (hard law) should be used to tackle space debris. Especially, existing international environmental law might apply to space debris mitigation. Other authors stated that no legal definition of space debris exists. However, it was claimed that all space objects including small spacecraft should be considered space debris after mission completion.

As regards the issue of shared responsibility *Dr. Stelmakh* provided a good comparison in her presentation *Space Debris – Emerging Challenge, Common Concern and Shared Responsibility: Legal Considerations and Directions Towards Secure and Sustainable Space Environment*. She stated that "Space environment could be compared with a basket in a basked ball match. Many actors with different interest are throwing the ball (hereinafter debris) into the basket".

*Ms. Olga Stelmakh* (Parliament of Ukraine) emphasized that only a few binding guidelines which are laid down in the space treaties face the protection of the outer space environment. In contrast to hard law, she recalled a set of non-binding guidelines enacted by diverse entities (governmental, non-governmental). Moreover, attention was drawn to the different concepts in terms of space situational awareness, space traffic management and active debris removal established in the IADC and the UNCOPUOS guidelines. A clear comparison between those different concepts was provided. However, questions pertaining a certain level of responsibility and how to impose on states the obligation to remove their space debris are still remaining. It was suggested to adopt legally binding norms. To tackle space debris mitigation on a broad scale, responsibility of all states is required. It has been acknowledged that solving the problem is part of commitment due to regard the future generations. Thus, national authorization of space activities is required and may be part of the solution. Other authors called for more restrictive state authorization, tight regulation of space activities and effective mechanism for the protection of victims (third party liability).

*Ms. Olga Volynskaya* (ROSCOSMOS, Russia) presented the paper she co-authored with Prof. Gennady Zhukov (People's Friendship University, Russia). The paper was titled "Long-term sustainability of space activities versus imminent danger from space: is space law ready to meet the challenge?" and the authors argue that the issue of long term sustainability is not directly addressed by international space law. Ms. Volynskaya stated that the concept of long-term sustainability is addressed by the UNCOPUOS Legal subcommittee (subgroup). However, she also stressed that guidelines on long-term sustainability are highly needed. Additionally she indicated the concept of long-term sustainability suffers from a lack of coordination. Currently long term sustainability seems to be limited to national practice. Above all, long term sustainability concepts are non-binding. Hence, *Volnyskaya* recommended on the one hand that the issue of long-term sustainability should be solved at national level in particular through national space legislation and on the other hand that the international aspect of long-term sustainability should be solved at the inter-

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



national or supra-national concept. Some authors claimed that the Liability Convention cannot address space debris properly. Therefore, a new convention is needed which addresses the issue of space debris.

*Dr. Hamid Kazemi*, *Dr. A. Golroo* and *Dr. H. Mahmoudi* (Iran) stated in their paper on "Liability for space debris in the framework of private international law", presented by Dr. Golroo, that environmental issues are not properly addressed in the LIAB. Hence, the authors recommended that the international community needs to provide a new regime applicable to damage caused by space debris.

Further interesting topics faced the issue of active space debris removal. A few authors asked the major question of who is actually allowed to actively remove space debris. *Dr. Guoyu Wang* (China) stressed in his presentation "The due criteria and principles for the active space debris removal" that if an active removal is taken by the state of registry (Art VIII OST) the act will be in conformity with international law. Moreover he claimed that once the jurisdiction is confirmed it should not be changed under the registration convention. In contrast to this view, in practice it might do (transfer of ownership). However, this may lead to a vacuum of registration, namely firstly if the launching state is not a state party of the registration convention and secondly if the state of registry has the prior right to actively remove space debris. Dr. Wang recalled that only Art VIII OST enshrines the state of registry which has jurisdiction. However, the launching state according to Art VII Liability Convention should also have some rights of removal in case of damage.

Another interesting paper was written by *Dr. Gopala Krishnan* and *Dr. M.Y.S. Prasad* (both from ISRO, India), called *Space Debris Remediation - Common but Differentiated Responsibility*. Dr. Prasad emphasized that space debris mitigation guidelines are fine balanced between technical, legal and political guidelines. He focused on the effectiveness of the guidelines (eg. soft law) and alternative measures (eg active removal of debris) As a legal consequence, the common but differentiated responsibility principle (large aspects are taken from the Kyoto Protocol) might apply even to space debris. Finally Dr. Prasad proposed to create new Institutional mechanism under the UN to effectively tackle space debris mitigation. Some authors claimed that private law aspects need also to be considered and international environmental law should be a basis to tackle the space debris.

*Dr. Souichirou Kozuka* (Gakushuin University, Japan), *Mr. H. Kishindo* and *Ms. Motoko Uchitomi* (both from JAXA, Japan) elaborated on the law of the sea in their paper titled "The international regime for space debris remediation in light of commercialized space activities". They argued that in contrast to the law of the sea, states, if they abandon a space object, do not retain jurisdiction of space debris.
A very interesting presentation was given by *Ms Melissa* Force (MK Force Consultants, USA), who started her presentation titled "When the nature and dura-

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



tion of space becomes appropriation: A proposition- "use" as a legal predicate for a state´s objection to active debris removal" *w*ith a nice introduction: "You drive a car along the street. You have an accident and although your car carries valuable and secret things, if you block the road you will be removed by the police, since you are a danger for others". Force claimed that ownership has limitations. The occupation of an orbital slot or position should be declared as national appropriation at a point where the object is no longer being used. Hence, she proposed that if a space object is not serving a purpose anymore and if it is blocking others to use outer space, then it may be removed. Moreover, Ms. Force stressed that Art IX highlights the careful use of outer space.

According to the applicability of the Outer Space Treaty to space debris *Ms Madiha Riaz* (SUPARCO, Pakistan) stated in her presentation "Remediation of Space Debris through mechanism of the Right to Salvage" that space debris has been treated in the OST in Art IX (avoidance of harmful contamination). She asked whether the right of salvage can be also be applicable to space debris. She came to the conclusion that the possibility to draft a treaty on space debris remediation needs to be stressed more. The treaty should include definition of space debris and monetary compensation for the retrieving party if it is not the owner.

Another very interesting presentation was given by *Dr. Xiaodan* Wu (China Central University of Finance and Economy) titled, "China and Space Environment Protection: An Evaluation from an International Legal Perspective". *Dr. Wu* emphasized that China has been active in the IADC and UNCOPUOS in the process of the guidelines. *Dr. Wu* highlighted the Chinese national mechanism for debris mitigation. Since 2010 China has Provisional Regulations for Space Debris Mitigation. Moreover, the Commission of Science, Technology, and Industry of National Defense (COSTIND) and the State Administration of Science, Technology and Industry for National Defense (AOSTIND-MIIT) tackles the issue of space debris and coordinates the requirements of the UN and IADC guidelines. Due to its commitment and work on national space debris mitigation guidelines China is making efforts in developing space debris mitigation guidelines at national level. Although China might not accept an international binding regime on space debris mitigation as a pragmatic way to protect its national interests based on technological and financial capacities. *Dr. Wu* stated that it would not be fair to say that China takes advantage of its status being an emerging space faring country. *Dr. Wu* came to the conclusion that in recent years, awareness of the space debris problem has grown considerably and efforts to mitigate debris have been regarded as more important because China emphasizes its interests in space and wants to be a responsible member of international community. Nevertheless, *Dr. Wu* stated that there is still room for improvement and she stressed that China should be more active, transparent and responsible concerning space debris mitigation.

Finally *Dr. Y. Hashimoto* concluded the session with the presentation "Japanese Contribution to the Space Situational Awareness (SSA)", a paper co-authored

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



with N. Sakamoto, H. Watanabe and Y. Kodachi (Japan). This presentation was rather technical but with an interesting focus. He mentioned that there is a lack of global Observation Network. However, in the meantime JAXA has also established its own space situational awareness system.

In conclusion, the session stimulated the discussion on new legal ways to tackle the issue of space debris mitigation. Many authors called for environmental law to be applied to space debris. A few authors stressed more effective national legally binding regimes and demanded non-binding guidelines even on a domestic level. Although at the moment there is no serious way towards universal binding norms, states, both emerging and developing ones, are increasingly aware of the need for space debris mitigation.

### Session 5: Recent Developments in Space Law

**Chairs: Dr. Ulrike Bohlmann and Prof. Setsuko Aoki**
*Rapporteur: Ms. Olga Stelmakh*

A total of 10 papers were presented at the fifth IISL Colloquium session on Recent Developments in Space Law. The presentations addressed a range of legal aspects of the most recent developments in space activities that have taken place over the last few years.

The first paper entitled "Federal versus State: Private Commercial Spaceflight Operator Immunity Regulation in the United States" was presented by *Prof. Dr. Frans von der Dunk* (University of Nebraska, USA). He pointed out that the "informed consent" requirement, initially enshrined in the 2004 Commercial Space Launch Amendments Act and further elaborated by a Chapter in the Code of Federal Regulations, is not sufficient to attract private commercial spaceflight operators. The latter urged certain individual US states to add by way of statutes the immunity from passenger liability thus creating divergences in regulation. In his presentation Prof. von der Dunk more specifically focused on the comparison of the key provisions of the pertinent federal and state statutes drawing particular attention on the lack of contractual liability provisions.

*Ms. Jilian Wang* (China Great Wall Industry Corporation) then introduced her paper on "An Overview of Protocol on Space Assets from China's Perspective". In addition to an overview of the Protocol itself, Ms. Wang emphasized the need of further consideration by China of the scope of those implications that the adherence to the Space Protocol could have for its space sector, respective national interests and existing legal regime.

*Prof. Jose Monserrat Filho* (Brazilian Space Agency) was the next speaker presenting the paper entitled "Why a Philosophy of International Space Law?" where he focused on justification of the need to introduce the embracing philosophical approach to the international space law. He was of the view that a

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



philosophical approach is essential to achieve a deeper knowledge of the roots, historical meaning, sense, nature, functions and value of the international space law. According to Prof. Monserrat the philosophy of the international space law can be defined as a special domain for reflection opening discussion on the highest conceptual and normative issues of the international space law. This sort of discussion should give a try for determining the sense and the weight of the fundamental values of the international space law as well as the relevant actions indispensable for its progressive development.

*Ms. Diane Howard* (McGill University, Canada) delivered the next presentation entitled "Distilling General Principles of International Space Law". She argued that there is a justified need to distil out the national regulatory frameworks in place for space activities the essence of general principles of international law applicable to space. For these purposes, she in particular referred to the pertinent working paper and schematic overview prepared by the Working Group on National Legislation Relevant to the Peaceful Exploration and Use of Outer Space of the Legal Subcommittee of UN COPUOS. More specifically, she focused on the differences and similarities chosen by States to comply with diverse treaty obligations. Ms. Howard also considered the possibility as to how these principles could serve as a source of law to settle international disputes.

*Prof. Ram Jakhu* (McGill University, Canada) and *Prof. Steven Freeland* (University of Western Sydney, Australia) introduced the next paper entitled "The Sources of International Space Law". In their presentation they particularly referred to the provisions of Article 38 of the Statute of the International Court of Justice that focuses on the sources of general international law. They argued that to comprehensively understand international space law one should primarily understand the fundamentals of general international law and its sources. They were of the view that though international space law is embedded into general international law, still the regulation of outer space and outer space activities is not limited only by the traditional sources of international law. For these purposes a particular attention was given to the development of customary international space law, state practice, and the role of judicial decisions and the teachings of the most highly qualified publicists as well as more broadly of so-called "soft law".

*Mr. Philippe Clerc* (French Space Agency) delivered the paper "Evolution of CNES Status from 1961 to now". He provided a historic overview of the constitution of the French Space Agency (CNES), its governance and mission. He specified the purpose of its founding, emphasising that though the establishment of CNES dates back to 1961, the purpose of its operation has remained the same. Mr. Clerc explained how the French Space Operation Act (FSOA) dated June 2008 influenced the scope of competences of CNES with focus on the regulatory domain. He also recalled the shared competences between the European Union and the EU Member-States or their national space agencies in space policy and programmes foreseen by the new article 189 of the TFEU. Par-

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



ticular emphasis has been made on the relations between CNES and the French government and other concerned stakeholders.

The next joint paper co-authored by *Dr. Yuichiro Nagai, Dr. Hideaki Shiroyama* (University of Tokyo) and *Ms. Motoko Uchitomi* (JAXA) was entitled "Space Governance in Japan". The presentation was primarily focused on introducing the outcomes of the research on space policy and governance in Japan conducted by the Study Group on Space Governance at the University of Tokyo. It was noted that the adoption of the Basic Space Law in 2008 caused the need to transform the governance of space activities in Japan according to the new objectives enshrined in the legal document. During this new phase there were many new structures established specifically to formulate and implement the comprehensive space strategy and space policy. Those changes also reasoned the amendment to the JAXA Law. It has been concluded that despite this quick pace of changes that was observed in Japan over the last few years both from the legal and policy perspective as well as in the context of the space governance structure, the process of decision-making and policy coordination process remain complex and unclear.

The next paper entitled "Perspectives for a National GI Policy (Including Assessment of Existing National Remote Sensing, Map and Data Sharing Policies)" was co-authored by *Dr. Mukund Rao, Mr. K.R. Sridhara Murthi* and *Dr. V.S. Ramamurthy* (National Institute of Advanced Studies, India). They introduced the role, status and scope of the National GIS within India. The presentation was based on the policy-research project performed by the institution the speakers represent (i.e. the National Institute of Advanced Studies). Under this project they investigated the best practices and developments of the diverse EO, GIS and Image policies of the most advanced in this regard countries. In the presentation they provided an overview of the context for integrated national GI Policy in India and identified the steps of its further implementation.

The next paper entitled "Recent Developments in Space-Related Law and Policy within the Post-Soviet Area" was co-authored by *Prof. Nataliya Malysheva* (International Space Law Center, Ukraine) and *Ms. Olga Stelmakh* (Parliament of Ukraine). The paper has been primarily focused on the recent legal trends within the area of space activities in post-soviet countries, specifying new directions and practices when shaping pertinent legal framework. It was noted that the regulation of space activities within the post-soviet area nowadays gets new impulse. They noted that a shift from the elaboration of the basic space acts to the regulation of very specific areas such as remote sensing, navigation and telecommunication can be observed. They also introduced the structural changes in the governance of space activities of certain CIS countries, and identified the role and posture of those space-faring countries within the region.

The last paper during this session was entitled "The Shape of "Peaceful Purposes": What North Korean Space Activities Can Tell Us about the Heart of Space Security Law" and was presented by *Mr. PJ Blount* (University of Mis-

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker



sissippi School of Law, USA). The role of space security in the current stage of development of space activities was specified. While being focused on the "peaceful purposes", as one of the core principles of space law and the basic customary norm for legal regime of space security, this theoretical premise within the presentation was supported by a very practical touch – the North Korean case. Particular attention was given to North Korea's space launch activities in conjunction with the resulting international responses (including U.N. Security Council Resolution 2087) in order to visualize the frames of the concept of "peaceful purposes". The idea behind this was to use an approach that considers the international incidents as epistemic units of international law making. Mr. Blount concluded that the notion of "peaceful purposes" remains contested and depends on states' perceptions.

Fascinating questions were presented from the audience, opening a lively debate in relation to the topics covered in this session. Concluding remarks were made by Dr. Ulrike Bohlmann.