

25 IAA / IISL Scientific-Legal Roundtables at International Astronautical Congresses



25 IAA / IISL Scientific-Legal Roundtables

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1 Foreword by the Scientific-Legal Liaison Committee Bureau

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Co-Chair Dr. Wendell W. Mendell, NASA Johnson Space Center (JSC),
Secretary Dr. Nicola Rohner-Willsch, German Aerospace Center (DLR)*

One of the long-standing institutions in the framework of the International Astronautical Congresses is the "Scientific-Legal Roundtable". Each year, one such roundtable is organized in order to bring together the views from the scientific-technical and engineering perspective on the one hand as well as the legal and regulatory perspective on the other hand. While both communities meet at the same congress, this is one of the few institutionalized places, where there is actually a formal exchange. The Roundtables are a notable exception in the programme of the Congress since they are only containing invited papers. Today they are part (usually session 5) of the IAA Symposium on Space Policy, Regulations and Economics.



*From left: Kai-Uwe Schrogl,
Nicola Rohner-Willsch,
Wendell W. Mendell*

25 inspiring Scientific-Legal Roundtables at IAC

The Scientific-Legal Roundtables are organized by the IAA/IISL Scientific-Legal Liaison Committee. It is one of the oldest standing committees and has even continued its existence following the structural reform of IAA almost a decade ago. At its origin were personalities like Manfred Lachs (later the President of the International Court of Justice) and Vladimir Kopal. They realized the high importance of a regular formalized getting together of the two communities in order to discuss topical issues of great relevance for space activities. The topics have ranged from the space environment to private human spaceflight and small satellite missions. Often, the topics of ongoing or recently completed inter-disciplinary IAA studies are dealt with in these Roundtables.

IAA and IISL have always been strong supporters of the Roundtables and the Liaison Committee, which is organizing them. Numerous IAA members have been participating as chairpersons or speakers. Also the IISL has delivered speakers and liaisons. During the past years, the significance of the Roundtables was further highlighted by the rule that the Secretary General of IAA and the President of IISL give opening remarks at these events. In 2010 the 25th Scientific-Legal Roundtable took place – a small jubilee and an encouragement for the further intensification of inter-disciplinary exchange.



25th Scientific-Legal Roundtable 2010. Standing from left: Kai-Uwe Schrogl, Chair IAA/IISL Scientific-Legal Liaison Committee, Tanja Masson-Zwaan, President IISL, Jean Michel Contant, Secretary General IAA; sitting from left: Ram S. Jakhu, panel, Eberhard Gill, panel, Sir Martin Sweeting, panel, Attila Matas, panel, the session chairs Lesley Jane Smith and Rainer Sandau, Nicola Rohner-Willsch, Secretary IAA/IISL Scientific-Legal Liaison Committee.

2 Message from the Secretary General of IAA

Dr. Jean-Michel Contant, Secretary General IAA

25 IAA/IISL Scientific-Legal Roundtables is indeed a reason for celebration. The International Academy of Astronautics (IAA) is proud that numerous of its initiatives have already led to long-standing traditions. The Roundtable is certainly one of those and in addition to that a very prominent one. It is a welcome coincidence that at the same time of the anniversary of the Scientific-Legal Roundtable, we are celebrating the 50th anniversary of IAA as well as International Institute of Space Law (IISL).



*Jean-Michel Contant,
Secretary General IAA*

The Roundtables first of all have become an integral part of the International Astronautical Congress (IAC) and I am always pleased to open these sessions together with the President of IISL. In this anniversary brochure we can see, what a wealth of topics has already been tackled and what large number of experts from all parts of the globe have been participating in its proceedings. The Roundtable also provides a format with invited papers and a moderated panel debate, which makes it particularly attractive for the audience. Thirdly, the Roundtables are a clear documentation of the need to look at issues in a trans-disciplinary way. IAA is applying this for example in its Cosmic Studies (which often are topics of the Roundtables) and it is a welcome opportunity to cooperate with IISL in a visible way. This is also, why the Roundtables are listed both in the IAA and IISL Symposia in the IAC structure.

The Roundtables are organized by the IAA/IISL Scientific-Legal Liaison Committee. Vladimir Kopal traces its development in his contribution to this brochure. Many distinguished persons have been involved in its work and I would like to thank them all at this occasion for their dedication. In doing so, I wish the Scientific-Legal Roundtables many more exciting sessions in the coming years.

3 Message from the President of IISL

Tanja Masson-Zwaan, President, International Institute of Space Law

The year 2010 is special in more than one respect. It not only marks the 50th anniversary of the International Academy of Astronautics (IAA) and of the International Institute of Space Law (IISL), but also the 25th anniversary of the IAA/IISL Scientific/Legal Roundtable.



*Tanja Masson-Zwaan,
President, International
Institute of Space Law*

Both institutions have built up a remarkable reputation throughout the first half-century of their existence, and have benefited from the vision and leadership of many great experts in the fields of science and law. It was indeed visionary that these leaders foresaw the need to facilitate and encourage closer cooperation between lawyers and scientists to jointly address the many challenges posed by man's exploration and use of outer space. After all, both a sound scientific basis and an orderly regulatory environment are essential conditions for successful space activity.

The decision to set up a Scientific-Legal Liaison Committee in the early 1960's and the creation of the biennial or annual Scientific-Legal Roundtables set the scene for a series of successful sessions, which are reflected in this publication. It provides an overview of the past sessions, and also addresses the Scientific-Legal Liaison Committee that has initiated and organized the events.

The cooperation between scientists and lawyers, and between the IAA and the IISL, is of course not limited to the successful Roundtables held during the International Astronautical Congresses. Both institutions have organized successful joint conferences combining science and law, providing participants the opportunity to learn from each other. As recent examples, I would like to mention the 2005 IAA/IISL conference organized in cooperation with the Astronautical Society of India in Bangalore, India, and the 2008 symposium on Private Human Access to Space, held in Arcachon, France. Similarly, to celebrate 100 years of combined existence, 'Space Law & Policy 2010' was held in Washington, DC in May 2010, starting a new series of annual joint symposia.

I would like to congratulate and thank my colleagues from the IAA and the IISL for producing this useful and timely publication at this important junction in our history. Times change, priorities change, and the focus of space activities is constantly changing, but the need for coordination and cooperation between scientists and lawyers is no smaller than 25 or 50 years ago – perhaps it is even more important today than ever before.

It is hoped that the Roundtables and the Liaison Committee will continue their useful work for a long time to come; they are essential tools for successful and cooperative space endeavours!

4 The IAA/IISL Scientific-Legal Liaison Committee – a look at its foundation and development

Prof. Vladimír Kopal, West Bohemian University Pilsen

The establishment of the Scientific-Legal Liaison Committee (SLLC) was initiated by the late John Cobb Cooper, Professor of the Princeton University and founder of the Institute of Air Law, Mc Gill University, which later on became the present Institute of Air and Space Law.

He wanted to create a body, which should explore the space issues of joint interests of scientists, engineers and lawyers. In this endeavour, he was supported by Andrew G. Haley, who was a leading personality, during the 1950s and 1960s in the IAF and also in the newly emerging IAA and IISL. Both of them wanted the new body to consider firstly the issue of delimitation of airspace and outer space.



Vladimír Kopal, West Bohemian University Pilsen, Czech Rep.

This was done at two succeeding sessions, but Cooper and Haley died during the second half of the 1960s. The chair of the committee was then entrusted to Professor Edward A. Brun (France) and myself, one representing the scientific part of the body, the other its legal part. When Professor Brun passed away, Pierre Contensou of France succeeded him and later on Jean-Jacques Dordain (the present Director-General of ESA), André Lebeau (France) and Edward R. Finch (USA) became co-chairs of the committee. Judge Manfred Lachs, when he was elected as IISL President, also chaired the SLLC for a certain time. I served as one of the co-chairmen for four decades, last time together with Wendell Mendell (USA).

During the first decade of this century a reconstruction of the committee was effected under the scope of a reconstruction of the IAA. A charter for this body was adapted at Fukuoka, Japan, on 15 October 2005 and approved by the IAA and IISL, and the nearly established committee became a permanent committee of the IAA in accordance with Section VIII para 8.1. of its Bylaws.

In addition to its original task, it should develop those contacts and cooperation between the IAA and IISL as their joint body, initiating and advising on elaboration of studies and position papers and by organising appropriate sessions. And you were appointed as Chairman of the committee.

Since its beginnings up to date, the Scientific-Legal Roundtables have been the main formats of activities of the committee. During the 50 years of its existence, it discussed a large number of significant topics, such as are reported in the overview article beyond.

As a rule, since 1977 the proceedings of the Roundtables have been published in special addenda to the Proceedings of the IISL Colloquia of space law.

5 25 IAA/IISL Scientific-Legal Roundtables – a chronology

Dr. Nicola Rohner-Willsch, German Aerospace Center (DLR)

N o.	Year	Topic	Place
1	1977	<p>Scientific and Legal Aspects of International Cooperation in Remote Sensing</p> <p>Speakers:</p> <ul style="list-style-type: none"> • M.C.M. Bignier, Spacelab Program, European Space Agency, Paris, France; • M. Hirai, National Space Development Agency of Japan, Tokyo, Japan; • J.H. Disher, Office of Space Flight, NASA Hqs., Washington, D.C., USA.; • L. Perek, Outer Space Affairs Division, United Nations, New York, USA.; • V.D. Bordunov, Institute of State and Law, Academy of Sciences, Moscow, USSR; • E. Galloway, Vice-President, International Institute of Space Law, Wash. D.C., USA; • M.A. Ferrer, Institute of Air and Space Law, Univ. of Cordoba, Cordoba, Argentina. <p>In absence of Dr. Bordunov his paper was presented by Professor G.P. Zhukov, USSR. Moreover, two contributions were submitted to the Chair of the Roundtable in writing, the authors of which were not in a position to come and present them. They were:</p> <p>G. Lafferranderie, European Space Agency, Paris, France, and F.B. Andhyarujina, Attorney, Bombay High Court, Bombay, India.</p>	28. International Astronautical Congress (IAC), Prague, Czech Republic
2	1978	<p>Scientific and Legal Aspects of International Cooperation in Remote Sensing</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Dr. E. M. Ifft, Chief Office of International Program Policy, NASA, USA, presented a paper prepared by him and • Dr. Stephen E. Doyle, Deputy Dir. International Affairs, NASA, Washington, D.C. • Dr. Yu. M. Kolossov, Senior Research Fellow, Institute of State and Law, Academy of Sciences, USSR; • M. G. Bourely, Legal Adviser, European Space Agency and M. G. Dieterle, Meteosat Programme Office, European Space Agency; • Dr. M. L. Laiden, France; • Dr. A. Padang, Chief of Section, United Nations Space Affairs Division; • Dr. L. Perek, Head of Space Affairs Division, United Nations. <p>The Second Roundtable continued in the general exchange of views started at the first Roundtable discussion in Prague. This Roundtable on the same topic concentrated on the more specific questions:</p> <p>a) What situation will emerge in the years to come when several remote sensing systems will operate;</p> <p>b) in what a situation will a user of remote sensing data be under such circumstances;</p> <p>c) in particular, questions of compatibility and complementarity of such different systems in order to increase the effectiveness of information received, were considered in greater detail.</p>	29. IAC, Dubrovnik, Yugoslavia

3	1979	Scientific and Legal Aspects of Large Systems in Space: Problems and Prospects	30. IAC, Munich, Germany
		Speakers: <ul style="list-style-type: none"> • Lebeau, European Space Agency, Paris, France; • H. Nauges, Centre National d'Etudes Spatiales, Paris, France; • A. Dupas, Centre National de Recherches Spatiales, Paris, France; • J. P. Layton, Consultant, Princeton Junction, N.J., USA; • C. Q. Christol, University of Southern California, Los Angeles, USA; • L. Perek, Outer Space Affairs Division, United Nations, New York, USA. 	
4	1980	<i>No report</i>	31. IAC, Tokyo, Japan
5	1981	<i>No report</i>	32. IAC, Rome, Italy
6	1982	Energy from Outer Space: Problems of Technological Feasibility and International Cooperation	33. IAC, Paris, France
		Speakers: <ul style="list-style-type: none"> • Dr. Peter E. Glaser, President, SUNSET Energy Council, USA; • Dr. Rudolf C. Meiner, European Space Agency-European Space Research and Technology Centre, The Netherlands; • Professor Stephen Gorove, University of Mississippi Law Center, USA; • Professor Aldo A. Cocca, University of Cordoba, Argentina; • Professor Isabella H. Ph. Diederiks-Vershoor, President of the International Institute of Space Law, University of Utrecht, The Netherlands; • Dr. Andre Lebeau, Etablissement public de la Villette, France. <p>It is hoped that this publication will be instrumental in encouraging a further exchange of views on this complex, but highly interesting and significant topic, with a full participation of specialists representing all disciplines involved.</p>	
7	1983	<i>No report</i>	34. IAC, Budapest, Hungary
8	1984	Present and Expected Uses of Outer Space and Problems of Protecting the Space Environment Chaired by Ing. Gen. Pierre Contensou, France, and Dr. Vladimir Kopal, Chief UN Outer Space Affairs Div.	35. IAC, Lausanne, Switzerland
		Speakers: <ul style="list-style-type: none"> • Dr. Lubos Perek, Astronomical Institute of the Czechoslovak Academy of Sciences, Prague, Czechoslovakia; • Dr. E.A. Roth, European Space Operations Centre (ESOC), Darmstadt, Germany; • Dr. Youri V. Zonov, Space Data Research Center, USSR Ministry of Fisheries, Moscow, USSR; • Professor Carl Q. Christol, University of Southern California, Los Angeles, USA; • Dr. Gyula Göl, University of Budapest, Budapest, Hungary; • Dr. Nandasiri Jasentuliyana, Outer Space Affairs Division, United Nations; • Patricia M. Sterns and Leslie I. Tennen, Attorneys and Counselors-at-Law Phoenix and Tucson, Arizona, USA. 	
9	1985	Legal and Technical Implications of Space Stations Chaired by Professor Manfred Lachs, Judge of the United Nations International Court of Justice, and Chairman of the Scientific-Legal Liaison Committee.	36. IAC, Stockholm, Sweden
		In addition to general aspects of this topic, the subjects for discussion included scientific, technical and legal problems pertaining to communication between space objects, the danger of collisions and debris, the problem of re-entry and other particular questions relating to the topic. Four papers were presented.	

		<p>Speakers:</p> <ul style="list-style-type: none"> • Dr. Malcolm G. Wolfe, Aerospace Corporation, Los Angeles, California, USA presented: "Orbital Debris Current Issues as they Impact on an Expanding Manned Presence in space" • Eilene Galloway, Honorary Director of the IISL and Chairperson of IAA Section 4, Washington, D.C., USA, presented: "The Space Station: US Proposal and Implementation" • A.I. Rudev, Member of the Soviet Association of International Law, Moscow, USSR, presented: "Manned Orbital Stations: Technico-legal aspects." His report was presented on his behalf by Dr. Vladlen S. Vereshchetin, USSR, Vice-President of the IISL. • Professor Dr. Josef Dvofk, Chief of the Research Division of the Central Institute of the Railway Health Services, Prague, Czechoslovakia, submitted the paper "Medico-Legal Implications of Space Stations", presented by Dr. Gloria Heath, Co-Chairperson of the IAA Committee on Space Safety and Rescue Studies 	
-	1986	<i>No roundtable</i>	37. IAC, Innsbruck, Austria
		<p>After the roundtable 1985, the Chairman of the roundtable, Judge M. Lachs, noted in his final remarks, that the discussion could bring but an initial input to the solution of the problems. Therefore the Scientific-Legal Liaison Committee at its meeting held after the roundtable, decided to keep "space stations" on its agenda and discuss it two years later. In the light of further experience with operations of existing orbital stations and taking into account further progress in the design and planning of future stations, a list of specific questions of the topic, directed to scientists and lawyers, might provide a basis for shaping the discussions at the roundtable 1987.</p>	
10	1987	<i>No report</i>	38. IAC, Brighton, UK
11	1988	<i>No report</i>	39. IAC, Bangalore, India
12	1989	<p>The Impact of Significant Scientific and Technological Changes on the Law of Outer Space Chaired by V. Kopal and S. E. Doyle</p>	40. IAC, Malaga, Spain
		<p>Speakers:</p> <ul style="list-style-type: none"> • Lubos Perek presented "Impact of the Development of Space Technology on the Law of Outer Space"; • P. M. Sterns and L. I. Tennen presented "Commercial Applications and the Geostationary Ring: Controlling Orbital Sprawl." • HE Quizhi, submitted, presented by S. E. Doyle, who made his own remarks on the up-to-date development of the legal regulation of space activities. Moreover, comments of F. Lyall and A. Miele were made, followed by a general discussion. 	
13	1990	<p>Scientific/Legal Aspects of Management of Space Debris Chaired by Justice Manfred Lachs, coordinated by Dr. Vladimir Kopal, session rapporteur Dr. Stephen E. Doyle.</p>	41. IAC, Dresden, Germany
		<p>Speakers:</p> <ul style="list-style-type: none"> • L. Perek (Czechoslovakia) presented "Technical Aspects of the Control of Space Debris"; • J. Loftus (USA) presented a paper jointly authored with Andrew E. Potter on "United States Studies in Orbital Debris Prevention and Mitigation;" and in the absence of a planned paper on the legal aspects of managing space debris, which was withdrawn late in the summer of 1990, • Dr. Doyle presented a paper on "Regulating Space Debris: What Can Be Done About it." In addition, commentary on these papers was offered by Professor D. Rex of the Technical University in Braunschweig, Germany, and Dr. Nandasiri Jasentuliyana, Director of the Outer Space Affairs Division of the United Nations 	

		<p>Secretariat in New York.</p> <p>Since the discussion on this topic was far from being exhausted, the Scientific Legal Liaison Committee decided to convene another roundtable on "Scientific and Legal Aspects of Space Debris" at a later stage (see 1993), believing that a new meeting could benefit from a number of specialized studies and meetings planned for the period between the two roundtables.</p>	
-	1991	<p><i>No roundtable.</i> Discussion on "Advance the possibility for appropriate action on the issue of space debris in the future".</p>	42. IAC, Montreal, Canada
14	1992	<p>Exploration and Uses of the Moon and Other Celestial Bodies</p> <p>Chaired by F. X. Kane, Co-chairman of the Committee (USA), coordinated by Dr. Vladimir Kopal (Czech Republic), session rapporteur Dr. M. Orrico Alarcon (Mexico).</p>	43. IAC, Washington DC, United States
		<p>Speakers:</p> <ul style="list-style-type: none"> • Dr. Carl B. Pilcher (USA) presented "Space Exploration: Scientific and Technological Aspects"; • Dr. Marcello Coradini (ESA) presented "Exploration and Uses of Celestial Bodies of the Solar System". • Professor Nicholas M. Matte (Canada) presented "Legal Implications of the Exploration and Uses of the Moon and Other Celestial Bodies"; • Dr. Vladimir Kopal (Czech Republic) presented "Some Legal Aspects of the Return to the Moon and Expected Flights to Other Celestial Bodies"; • Patricia M. Sterns and Leslie I. Tennen (USA) presented "Utilization of Extraterrestrial Resources: Law, Science, and Policy". 	
15	1993	<p>Scientific and Legal Aspects of Space Debris</p> <p>Chaired by Dr. Isabella H. Ph. Diederiks Verschoor, The Netherlands, coordinated by Dr. Vladimir Kopal, Czech Republic, session rapporteur Dr. Miguel Orrico Alarcon, Mexico.</p>	44. IAC, Graz, Austria
		<p>Speakers:</p> <ul style="list-style-type: none"> • W. Flury, ESA / ESOC, Darmstadt, Germany: "Space Debris-A Status Report. Summary of the First European Conference on Space Debris." • D. McKnight, Kaman Science Corporation, Alexandria, Virginia, USA: "Summary of the IAA Position Paper on Orbital Debris. Recent Events and Observations." • C. Q. Christol, Pacific Palisades, California, USA: "Scientific and Legal Aspects of Space Debris." • P. M. Martin, Toulouse, France: "Liability Issues on Space Debris. The Opinion of a Teacher in International Law." • V. Kopal, Charles University, Prague, Czech Republic: "Summary of Replies to the Questionnaire Which Included Issues Concerning Space Debris." • R. Obermann, Space Subcommittee, U.S. House of Representatives, Washington, DC, USA, and Ray A. Williamson, Office of Technology Assessment, U.S. Congress, Washington, DC, USA: "Controlling Orbital Debris: The Role of the U.S. Congress." <p>The Liaison Committee decided, in accordance with its policy to hold the Scientific-Legal Roundtables on a <i>biennial</i> basis, to organize the next roundtable in 1995, during the 46th IAF Congress in Oslo, Norway. The 16th Roundtable in 1995 should be devoted, according to a definition suggested by Dr. S. Doyle, USA, to "the continually increasing demand for radiofrequency allocations for expanding space services and the scientific, technical, legal, and policy implications of the international practices and machinery for managing the use of the radiofrequency spectrum."</p>	

-	1994	<i>No roundtable (only biennial, see report 1993)</i>	45. IAC, Jerusalem, Israel
-	1995	<i>No report. Evt. radiofrequency allocations</i>	46. IAC, Oslo, Norway
16	1996	Space Telecommunications Chaired by V. Kopal and J. Pelton	47. IAC, Beijing, China
		Senior executives from ITU and INTELSAT presented their views on the breathtaking prospects in this field and how international organizations try to adapt. For example, the plans by INTELSAT to create a commercial entity - like INMARSAT already did - were explained in detail. In the case of the ITU, the new structure which entered into force in 1994 as well as the efforts to streamline the Radio Regulations were discussed.	
-	1997	<i>No report</i>	48. IAC, Torino, Italy
17	1998	SETI and Society Chaired by John Billingham (USA) and Vladimir Kopal (Czech Republic); Rapporteur Donald Tarter (USA)	49. IAC, Melbourne, Australia
		Speakers: <ul style="list-style-type: none"> • Roger Malina (USA): Search strategies; SETI activities and society • Guillermo Lemarchand (Argentina): SETI technology; detection scenarios • Seth Shostak (USA): Interactions with the public and the media • Stephen Doyle (USA): Cultural and institutional aspects • Michael Michaud (Switzerland): Policy issues on communication with ETI • Francis Lyall (UK): SETI and International Space Law 	
18	1999	Protection of the Space Environment Coordinated by Mark Williamson (UK), chaired by Dietrich Rex (Germany) and Vladimir Kopal (Czech Republic), Rapporteur: Kai-Uwe Schrogl.	50. IAC, Amsterdam, Netherlands
		Speakers: <ul style="list-style-type: none"> • Mark Williamson (UK): Planetary Spacecraft Debris - The case for Protecting the Space Environment • Ivan Almar (Hungary): Protecting the Planetary Environment - The Point of View of an Astronomer • Nicholas L. Johnson (USA): Man-Made Debris in and from Lunar Orbit • Francis Lyall (UK): Protecting the Space Environment and Law • Patricia M. Sterns (USA): The Scientific-Legal Implications of Planetary Protection and Exobiology • Martyn. J. Fogg (UK): The Ethical Dimension of Space Settlement 	
-	2000	<i>No Roundtable</i>	51. IAC, Rio d.J., Brazil
19	2001	Scientific and Legal Implications of establishing Solar Power Systems on the Geostationary Orbit Coordinator: Bryan Erb (Canada) Chairpersons: Bryan Erb (Canada) and Marcia Smith (USA), Rapporteur: Kai-Uwe Schrogl (Germany)	52. IAC, Toulouse, France
		Speakers: <ul style="list-style-type: none"> • John C. Mankins (USA): The International Spectrum Management Process and Selected Technical Background for Space Solar Power, presented by Richard M. Dickinson • Richard M. Dickinson (USA): Wireless Power Transmission Technology: Basics, Frequency Choices and Issues • A.C. Charania (USA) and Yuri Takaya (Japan): Legal Constituencies and Economic Efficiencies of Space Solar Power: A joint Japanese and American Perspective • Patrick A. Salin (Canada): Legal Implications of the Co-Habitation of Space Solar Power Systems and Satellite Communication Systems 	

	2002	<i>No information</i>	53. IAC, Houston, USA
	2003	<i>No information</i>	54. IAC, Bremen, GER
	2004	<i>No information</i>	55. IAC, Vancouver, CAN
20	2005	<p>Space Traffic Management Chairpersons: Kai-Uwe Schrogl (Germany) and Petr Lala (Czech Republic) Rapporteur: Corinne Contant-Jorgenson (United States)</p> <p>Speakers:</p> <ul style="list-style-type: none"> • William Ailor (USA): Technical basics and prospects for the use of outer space • Lubos Perek (Czech Republic): Space traffic management - what is possible? • Peter van Fenema (Netherlands): Air and space traffic management compared • Contant/Lala/Schrogl: Status of the IAA study on space traffic management 	56. IAC, Fukuoka, Japan
21	2006	<p>Nuclear Power Systems in Space – The new Reality</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Dr. Frans G. von der Dunk, Intern. Institute of Air and Space Law, The Netherlands: Legal Aspects of the Use of Nuclear Power and the Debate in UNCOPUOS • Dr. Kai-Uwe Schrogl, European Space Policy Institute (ESPI), Austria: Nuclear Power Sources as a Problematic Topic in the Public Debate • Prof. Gerhard Haerendel, Max-Planck Institute for Extraterrestrial Physics, Germany: European Plans for the Use of Nuclear Power Sources • Dr. David E. Bartine, National Aeronautics and Space Administration (NASA)/Kennedy Space Center, United States: Utilization of Nuclear Power Sources in the U.S. Vision for Space Exploration 	57. IAC, Valencia, Spain
22	2007	<p>Google Earth et al. – Pros and Cons of an easier Access to Satellite Images Chaired by: Frans von der Dunk (The Netherlands) and Petr Lála (Czech Republic) Rapporteur: Nicola Rohner (Germany)</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Thomas Snitch, USA: Expanding and easing the access to global satellite imagery: Making the process faster, better and cheaper • Gunter Schreier, Germany: Market issues on data products and GMES data purchase • Jacques Blamont, France: Maintaining privacy – a question for space policy • Frans von der Dunk, The Netherlands: The European legal approach to privacy 	58. IAC, Hyderabad, India
23	2008	<p>Paper Satellites Chaired by: Luboš Perek (Czech Republic), and Kai-Uwe Schrogl (Austria) Rapporteur: Nicola Rohner-Willsch (Germany)</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Petr Lála: Registration of Geostationary Satellites by the United Nations • Heiner Klinkrad: Status of the Geosynchronous Orbit • Yvon Henri: Long-Term Efficiency of the Space Regulatory Framework: “Paper Satellites” issue • Luboš Perek: Paper Satellites and Space Networks • Victor S. Veshchunov: Statement on behalf of Intersputnik 	59. IAC, Glasgow, United Kingdom
24	2009	<p>Assessing Commercial Human Spaceflight Chaired by: Christophe Bonnal, CNES, France, and William Pomerantz, X-Prize Foundation, Rapporteur: Nicola Rohner-Willsch, DLR, Germany</p>	60. IAC, Daejeon, Republic of Korea

		Speakers: <ul style="list-style-type: none"> • Christophe Bonnal France, CNES: Overview of Private Human Access for Space • Hugue Laporte-Weywada France, EADS Astrium: Space Tourism Perspective: The Point of View of a Large Prime • Chuck Lauer Rocketplane XP, USA: Current and Future Activities • Claire Jollie France, OECD: Space Tourism in Terms of Economic Crisis • Frans von der Dunk, Nebraska University, USA: Space Tourism and Other Private Spaceflight: Key Legal Aspects 	
25	2010	The New Age of Small Satellite Missions Chairs: Rainer Sandau, DLR, Germany and Jane Smith, Leuphana University Lüneburg, Germany Rapporteur: Nicola Rohner-Willsch, DLR, Germany.	61. IAC, Prague, Czech Republic
		Speakers: <ul style="list-style-type: none"> • Sir Martin Sweeting: Small Satellite Missions for Earth Observation - Status & Trends • Eberhard Gill: Distributed Space Systems of Small Satellites - Opportunities and Challenges • Attila Matas: ITU radio regulatory requirements for small satellite design and operation • Ram S. Jakhu: Liability and related legal aspects of small satellites 	

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Scientific-Legal Roundtable 2009. Standing from left: Tanja Masson-Zwaan, President IISL; Kai-Uwe Schrogl, ESPI, Chair IAA/IISL Scientific-Legal Liaison Committee; Jean Michel Contant, Secretary General IAA; sitting from left: Hugue Laporte-Weywada, EADS Astrium, panel; Nicola Rohner-Willsch, DLR, Secretary IAA/IISL Scientific-Legal Liaison Committee; Christophe Bonnal, CNES, session chair; William Pomerantz, X-Prize Foundation, co-chair, Frans von der Dunk, Nebraska University, panel; Claire Jolly, OECD, panel.

6 The future of the Roundtables - more than ever in need of transdisciplinary exchange

Prof. Dr. Kai-Uwe Schrogl, European Space Policy Institute (ESPI)

25 years of Scientific-Legal Roundtables are showing that trans- and interdisciplinarity are not a very recent invention. They are neither a short-living fashion but they have a tradition and they are steadily growing as important and leading concepts. The International Astronautical Congresses (IACs) have brought together experts from the whole spectrum of sciences and as we have seen, the Scientific-Legal Roundtables have for a quarter of a century served as a platform for them to meet, exchange and find common solutions. When we look at other bodies, we can see that for example the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS) separates its work in two subcommittees, the Scientific-Technical Subcommittee and the Legal Subcommittee. With our efforts in the IAA/IISL Scientific-Legal Liaison Committee and our Scientific-Legal Roundtables we live up to the demand, which is often voiced in UNCOPUOS to look at topical issues in a comprehensive way.



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The Scientific-Legal Roundtables will therefore remain a highlight of IACs since they respond to the experts but also to decision-makers' interests and requests for comprehensive and holistic, trans- and interdisciplinary approaches. The topics, which we can take up in the coming years are abundant and we already have a considerable backlog. So we can select the most interesting and most relevant ones for our Roundtables. In this context we are also closely considering the activities undertaken in the field of preparing Cosmic Studies in the framework of IAA. The studies are by definition trans- and interdisciplinary and whenever such studies are in a mature state of preparation or have been finalized, they provide excellent topics for the Roundtables.

With the rising demand for Scientific-Legal views and solutions on the one hand and a wealth of interesting topics on the other hand, the future of the Scientific-Legal Roundtables seems to be secured for at least another quarter of a century. Together with the high-level support of IAA and IISL, demonstrated through the participation of the IAA Secretary General and the IISL President, the future looks bright and demanding.

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