Table of Contents

Preface T. Masson-Zwaan	xiii
About the IISL	xxiii
Board of Directors 2014-2015	xxv
New Members Elected in 2014	xxvii
Standing Committee on the Status of International Agreements Relating to Activities in Outer Space	xxix
Photos of IISL Activities in 2014	xlv
57 th IISL COLLOQUIUM ON THE LAW OF OUTER SPACE TORONTO, CANADA	
SESSIONS	
1. Nandasiri Jasentuliyana Keynote Lecture on Space Law & 6th Young Scholars Session	
Orbit/Spectrum International Regulatory Framework: Challenges in the 21st century Y. Henri Nandasiri Jasentuliyana Keynote Lecture On Space Law	3
Legal Issues Relating to Unauthorised Space Debris Remediation J. Chatterjee Winner of the 2014 Isabella H.Ph. Diederiks-Verschoor Award for Best Paper by a Young Author	13
Use Versus Appropriation of Outer Space: The Case for Long-Term Occupancy Rights B. Cohen	35
The New HPCA's Optional Rules for Arbitration and Their Relevance to Disputes Arising from Erroneous Navigational Signals A. Loukakis	53

To Orbit and Beyond: Present Risks and Liability Issues from the Launching of Small Satellites N. Antoni & F. Bergamasco	75
Exploring the Boundaries of Free Exploration and Use of Outer Space - Article IX and the Principle of Due Regard, Some Contemporary Considerations N. Palkovitz	93
2. Up Up and Away: Future Legal Regimes for Long-Term Presence in Space	
Space Traffic Management Options J. Rendleman	109
In-Space Maneuvering, Servicing, and Resource Use: The Commercial Need for Legal Assurances H. Hertzfeld	137
Chasing Ghost Spaceships: Law of Salvage as Applied to Space Debris O. de O. Bittencourt Neto	153
Encouraging Innovation and Technological Advancement for Greater In-Depth Exploration of Outer Space through Patents S. Wood	163
Private International Law (Conflict of Law Rules) for Human Presence of Long Term in Space S. Kozuka & F. Masuda	193
Mars Treatymaking Workshop Results from ISU SSP14 I. Stotesbury	207
Space Exploitation – Digging in a Legal Vacuum? A. Rinner	221
Legal Uncertainties Related to Additive Manufacturing in Space M. Mineiro & B. Lal	233
The Legal Implications of Space Weather Awareness and the Need for International Dissemination of Space Weather Forecasts G.A. Long	243

GNSS Soft Law Standards Are Developing in the United Nations <i>P.B. Larsen</i>	273
Providing for Sustainable Exploration and Use of Outer Space Environments J.D. Rummel & P. Ehrenfreund	285
3. The ISS IGA: Lessons Learned and Looking to the Future	
A European Perspective on Lessons Learned from the Intergovernmental Agreement (IGA) on International Space Station (ISS) Cooperation M. Ferrazzani & A. Farand	293
Analysis of the Legal Instruments Operating the ISS as the Most Complex Space Program Ever Undertaken: From Historical Perspective S. Aoki	309
Criminal Jurisdiction in International Space Law: Future Challenges in View of the ISS IGA M. Chatzipanagiotis & R. Moro-Aguilar	323
An Emerging Marketplace: Low Earth Orbit and the International Space Station S. Scimemi	337
Governance with Transparency and Confidence in the Sky as well as on Earth J.J. Monserrat-Filho	345
What's Human Rights Got to Do with Outer Space? Everything! S. Freeland & R. Jakhu	365
4. Legal Issues Associated with Private Human Flight, Including Space and Ground Facilities, Traffic Management and Spaceports	
Standards, Standards Everywhere! Assessing Current Initiatives for Human Spaceflight Standards and Their Potential Effect on Future Regulations M. Sundahl	383
From Space Tourists to Unruly Passengers? The US Struggle with 'On-Orbit Jurisdiction' F. von der Dunk	391

The Intersection of Insurance Markets and Liability Regimes Regarding Third-Parties and Space Flight Participants in Commercial Space Activities M. Schaefer	407
Legal Bases for Securing Human Presence in Space O.S. Stelmakh	423
New Perspectives on International Administrative Cooperation in Regard of the Development of Private Human Spaceflight <i>JM. de Poulpiquet</i>	433
Jurisdiction and Control over Installations and Facilities Serving Space Tourism Activities G. Kyriakopoulos	445
Suborbital Flights: Applicable Law G. Catalano Sgrosso	467
Regulatory Regime for Tomorrow's Suborbital Space Flights: Point-to-Point International Flights Y. Takeuchi	487
Outer Space and White Space: Promoting the Efficient Use of These Resources S. Ospina	501
5. Recent Developments in Space Law	
Computer Network Attacks in Outer Space: The Case of Harmful Interference to Satellite-Based Communications Y. Takaya-Umehara	519
Eliminating Contradictions between Domestic Legislation in the Field of Satellite Telecommunications and International Obligations within the Framework of the World Trade Organization E. Morozova	533
Possible Legal Implications of Disruptive Technologies: Selected Examples D. Howard	537
The Challenges in Drafting National Law for Space Activities – A Brazilian Experience A.C. van Oijhuizen Galhego Rosa, J. Macedo Scavuzzi dos Santos & T. Viana	549

The Law and Regulation of Dual Use Technology in the Evolving South African Outer Space Legal Regime <i>P. Sekhula</i>	569
Recent Discussion in the Committee on National Space Policy of Japan Y. Hashimoto	583
COLLOQUIUM REPORT	
Report of the 57 th Colloquium on the Law Of Outer Space Toronto, Canada, 2014 E. Boullé, A. Loukakis, A. Rinner, T. Aganaba-Jeanty Compiled and edited by R. Moro-Aguilar & P.J. Blount	589
29th IAA/IISL SCIENTIFIC-LEGAL ROUNDTABLE	
Controlling the Eyes in the Sky: Preventing Abuse of Space Data	
Report of the Roundtable M. Haese & N. Rohner-Willsch	607
Technical Capabilities of Remote Sensing Satellites: The Potential for Human Scale Development or Abuse S. Mostert & L. de Witt	611
Earth Observation – Between Public Interest and Privacy K. Oštir	623
Privacy, Earth Observations and Legal Ways to Reconcile the Two C. Doldirina	633
Security and Potential (Anti-)Terrorism Aspects of High Resolution Earth Observation Data F. Tronchetti	649
JOINT IISL/IAF SESSION	
Legal Framework for Cooperative Space Endeavours	
Mechanisms for the Development of International Agreements Regarding Space Activities A. Froehlich	667

Applying Ostrom's Nobel Winning Study to International Cooperation in Space Activities E. Tepper	675
New Policy of Russia in the Area of Utilization of Space Activity Results O. Volynskaya	687
"Soft law" as an Impediment to the Regulation of Space Activities with Military Implications: A View from the U.S. Congress J.M. Beard	699
Reproducibility: A New Phenomenon in Space Barter Agreements E. Boullé	719
A New Experience on the International Transfer of Space Technology A. Fabricio dos Santos	735
Space Activities in the Jurisprudence of International Dispute Settlement Institutions M. Hofmann	745
Capacity-Building of the National Space Legislation in Post-Soviet Countries: The Recent Contribution of Kazakhstan B. Schmidt-Tedd & O.S. Stelmakh	755
UNITED NATIONS 2014 IISL-ECSL SPACE LAW SYMPOSIUM HELD ON THE OCCASION OF THE 53rd SESSION OF THE LEGAL SUBCOMMITTEE OF UNCOPUOS VIENNA, AUSTRIA	
Regulatory Needs for Very Small Satellites (24 March 2014)	
Program of the Symposium	773
Report of the Symposium E. Boullé	777

787

9th EILENE M. GALLOWAY SYMPOSIUM ON CRITICAL ISSUES IN SPACE LAW, WASHINGTON D.C., UNITED STATES

Non-Traditional Commercial Space Activities, Legal & Policy Challenges, Opportunities, and Ways Forward (December 2014)

Program of the Symposium

, I	
Report of the Symposium P.J. Blount	791
23 rd MANFRED LACHS SPACE LAW MOOT COURT COMPETITION	
The 2014 Manfred Lachs Space Law Moot Court Competition (Introduction, Case and Winning Memorials) M. Mejía-Kaiser	799
Author Index	855