



## European Conference on On-Orbit Satellite Servicing and Active Debris Removal: Exploring Commercial, Legal, and Policy Implications

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Polak Room, Residence Palace International Press Center

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### Biographies

In alphabetical order

**Didier Alary** graduated from Ecole Centrale de Paris in 1981 with an engineering degree. Mr. Alary's first job was working for Schlumberger designing and manufacturing tools for use in extremely harsh environments for oil engineers; in 1989, Mr. Alary joined Astrium Satellites (formerly Matra Espace) where he has occupied several fascinating positions since. Those positions include project leader of the Ariane 5 launch ground segment, head of advanced payload data handling and electrical studies department (where he designed the first payload data handling system with a solid state recorder and variable compression), and head of military and earth observation proposal and studies department. Mr. Alary has held the position of head of Innovation & Advanced Concepts, leading a team of senior architects to handle and mature new concepts, since 2008.

**David Barnhart** joined DARPA in December 2010 and specializes in developing innovative approaches and architectures for small satellites, satellite robotics and inspiration-based engineering technology. Prior to DARPA, Mr. Barnhart was the Director and Co-Founder of the Space Engineering Research Center at the University of Southern California (USC), jointly developed by the Information Sciences Institute (ISI) and Department of Astronautical Engineering. He was responsible for developing synthesis tools to cut design time down to days from months and incorporate integration as a design tool, and hybrid robotics concepts for satellites with the ability to be demonstrated in multi-dimensional low cost ground testbeds. Prior to USC, Mr. Barnhart helped initiate two-commercial space companies, serving as

vice president and chief financial officer for MSS in Los Angeles, California; he was also the youngest of a three-person international executive management board for a German startup in Bremen, Vanguard Space, where he also served as chief engineer. Mr. Barnhart holds a Bachelor of Science degree in Aerospace Engineering from Boston University and a Masters of Engineering from Virginia Polytechnic Institute.

**Antoine Bavandi** is a space risks underwriter at Argo International Lloyds Syndicate. He began his career in 2004, working as a project engineer with Lockheed Martin in the USA then with the Ariane 5 division of CNES, the French space agency. Following that, Mr. Bavandi worked at ESTEC from 2006 to 2010, the European Space Agency Technical Center, where he served as a Simulation and Performance engineer. During that time, he led various R&T studies and space projects in cooperation with European industries, providing risk modelling expertise to the re-entry operations of the ATV (Automated Transfer Vehicle) cargo spacecraft. Mr. Bavandi moved to the space insurance community as a space underwriter at Allianz Global Corporate & Specialty in 2010; he joined Argo in 2012. Mr. Bavandi has an engineering degree (Msc) from Ecole Centrale de Lyon in France and a Master of Science in Aeronautics from Imperial College of London.

**Richard H. Buenneke** is senior advisor for national security space policy in the Bureau of Arms Control, Verification and Compliance at the United States Department of State in Washington, D.C. In his current position, Mr. Buenneke advises senior State Department officials on the planning and implementation of diplomatic and public diplomacy activities relating to U.S. national security space policy. He currently serves as the co-chair of an international expert group on space debris, space operations and tools for collaborative space situational awareness, which was established in 2011 as part of a United Nations Committee on the Peaceful Uses of Outer Space working group on the long-term sustainability of outer space activities. Before joining the State Department in March 2007, Mr. Buenneke was a senior policy analyst at The Aerospace Corporation, where he served as lead analyst for the U.S. Department of Defense's efforts relating to mission assurance and resiliency of commercial space capabilities. Mr. Buenneke has also led research tasks in support of U.S. government assessments of policies and architectures for national security and commercial space systems as an analyst with Booz Allen Hamilton and the RAND Corporation. He holds a Bachelor's degrees in economics and systems engineering from the Wharton and Engineering schools of the University of Pennsylvania. Mr. Buenneke also holds Masters' degrees in policy analysis from George Washington University's Elliott School of International Affairs and the Pardee RAND Graduate School.

**Benoit Chamot** is an engineer with the Swiss Space Center, where he specializes in active debris removal. He earned his Bachelor's degree in microsystems engineering from Ecole polytechnique federale de Lausanne (EPFL) in 2010 and he received a Master's degree from the same institution in 2012. Mr. Chamot received his Master's in robotics and autonomous systems, with a minor in space

technologies. In 2012, MIT published Mr. Chamot's Master's thesis entitled, "Mission and System Architecture Design for Active Debris Removal of Rocket Bodies in LEO."

**Tiffany Chow** is a Project Manager for Secure World Foundation, where she oversees and supports projects dealing with international security and legislative issue areas. She has been active in the international relations and international security fields for the past four years and brings to SWF a diverse range of experience. Prior to joining Secure World Foundation, Ms. Chow worked for the Center for American Politics and Public Policy at UCLA where she assisted the Director and Administrative Director with research projects and program logistics. Before that, she interned with the Monterey Institute for International Studies' Center for Nonproliferation Studies (CNS) in Washington, DC where she provided research support on a wide array of topics including export control issues in the United Arab Emirates, United Nations Security Council Resolution 1540, and the potential for microreactors to be used for the proliferation of chemical weapons. Ms. Chow held this internship while participating in the prestigious UCLA Quarter in Washington program, where she also completed a large-scale independent research paper entitled "Reevaluating the Nonproliferation Regime: An Application of John Ruggie's Regime Theory." Ms. Chow received her Master of Arts degree in International Relations from Johns Hopkins University's School of Advanced International Studies (SAIS) in Washington, DC. At SAIS, she specialized in General International Relations and International Economics and was involved in SAIS Leads, the school's leadership development program. She received her Bachelor of Arts degree from the University of California, Los Angeles (UCLA), where she double-majored in European Studies and Political Science, with an emphasis in International Relations.

**Richard Crowther** is Chief Engineer at the UK Space Agency. He was Head of the Space Technology Division at the Rutherford Appleton Laboratory until 2008 with primary research interests in man-made orbital debris, planetary protection, and near Earth objects (asteroids and comets that pass close to the Earth). He is currently Head of the UK delegations to the Inter-Agency Debris Committee and the United Nations Committee on Peaceful Uses of Outer Space (UN COPUOS), in the past acting as Chair of the UN Working Group on Near Earth Objects within COPUOS. Professor Crowther also leads the UK delegation to the European Space Agency's International Relations Committee, and Space Situational Awareness Programme Board. He is one of the fifteen members of the Group of Governmental Experts appointed by the United Nations in 2012 to examine transparency and confidence building measures in outer space. He is a Chartered Engineer, a Fellow of the Royal Aeronautical Society, and was recently elected to the International Institute of Space Law and the International Academy of Astronautics.

**Laura Gatti** graduated with a degree in physics and communication sciences at the University of Torino. Currently, Ms. Gatti works with Thales Alenia Space, acting as ESA Key Account Manager in the Institutional Customers and Business Development Directorate, for the Italian office. Her career began at Thales Alenia space in the research and technology department, after which she moved to the

advanced studies department where she dealt mainly with experiments in microgravity conditions, 3-D optical diagnostics and facilities for the ISS.

**Joerg Kreisel** specializes in technology commercialization - with a strong focus on space - and has been involved in numerous, primarily international, activities in both space and early-stage equity finance since 1987. After pursuing a first career in space business (research & technology management), he became a venture capitalist in the early 1990s. Today, his firm JKIC is a recognized label in the global space community, advising space-related government authorities, industry, SMEs and selected investors worldwide using its proprietary global network of leading expertise, and acting as intermediary. JKIC supports space ventures, facilitates business partnerships, equity finance, global links and strategy development. Mr. Kreisel serves as board member of several high-tech startups and is venture partner of the MEUR 100+ Open Sky Technologies Fund OSTF (initiated by ESA). He has been involved with new business creation in the space arena around the globe and is featured in "the faces of space." He also acts as lecturer at international post-graduate master degree programs (SpaceTech and ISU). Mr. Kreisel holds a diploma degree in aerospace engineering from RWTH Aachen University (Germany) and is an ISU alumnus.

**Agnieszka Lukaszczyk** is the Brussels Office Director for Secure World Foundation and has seven years of professional experience in the international space policy arena at an executive level. Currently, Ms. Lukaszczyk is spearheading and actively facilitating international dialogue regarding space policy and space security matters in Brussels, Belgium. Her work involves working with European institutions, NGOs, academia, space agencies and more. In addition, Ms. Lukaszczyk works closely with the United Nations (UN) space activities covering the UN Committee on the Peaceful Uses of Outer Space (COPUOS) and the UN General Assembly. From 2006 until 2009, Ms. Lukaszczyk served as the Executive Officer for the Space Generation Advisory Council (SGAC) in support of the UN Programme on Space Applications. In 2009 she was elected the SGAC Chairperson for two years; currently, she is serving on the advisory board of SGAC. In addition, from September 2006 to June 2008, Ms. Lukaszczyk was a researcher at the European Space Policy Institute. Ms. Lukaszczyk is also the Vice President of Europe for World Space Week and sits on the board of the Women in Aerospace Europe. Ms. Lukaszczyk holds a Bachelor's of Science in Political Science from the University of Tennessee, and a Masters from the American University School of International Service in International Politics. She also studied at the Universite Catholique de Louvain in Brussels, Belgium; the Jagiellonian University in Krakow, Poland; and the World Trade Institute in Berne, Switzerland.

**Tanja Masson-Zwaan** is Assistant Professor and Deputy Director of the International Institute of Air and Space Law at Leiden University. She has specialized in the field of air and space law since she was 25 years old. Dr. Masson-Zwaan currently teaches air and space law in the advanced Master's program (LLM) in air and space law of Leiden University, and carries out various research activities. She is the

President of the International Institute of Space Law (IISL) and has published papers on a variety of topics over the years. She lectures all over the world and advises the Dutch government (and other national and international bodies) on matters relating to space law. In August 2012, the Dutch government appointed Dr. Masson-Zwaan as an Arbitrator with the Permanent Court of Arbitration in The Hague in the framework of the Optional Rules for Arbitration of Disputes Relating to Outer Space Activities. After obtaining her Master's degree in international law, she was Co-Director of the International Institute of Air and Space Law (IIASL) at Leiden University from 1985-1990. After almost 15 years abroad, Dr. Masson-Zwaan returned to IIASL in 2008. During her expatriation, she set up and taught courses in air and space law at the National University of Singapore, worked as a consultant in France for industrial and institutional clients, and served many years as Executive Secretary of the IISL. She founded Adastra Consulting after having moved back to The Netherlands in 2004 and worked as an independent consultant on various projects in the fields of air and space law.

**Martha Mejía-Kaiser** was born in Mexico City and has lived in Germany for the past 23 years. She studied at the National Autonomous University & McGill University and is an International Space University graduate; she also holds a Doctoral degree in Political and Social Sciences. Dr. Mejía-Kaiser has also worked in the Mexican Foreign Affairs Ministry and the Geophysics Institute at the National Univ. of Mexico. Currently, Dr. Mejía-Kaiser is a Co-Chair of the Manfred Lachs Space Law Moot Court Committee of the International Institute of Space Law (IISL) and is a featured lecturer at the International Institute of Air and Space Law at the Leiden University. She has published several articles and contributions to books on satellite remote sensing, space debris and the Geostationary Orbit.

**Yaw Otu Mankata Nyampong** holds both a Doctor of Civil Law (DCL) degree and a Master of Laws (LL.M) degree in Air and Space Law from the Institute of Air and Space Law, McGill University, Montreal, Canada. He also holds Qualifying Certificate in Professional Law from the Ghana School of Law (2000), and a Bachelor of Laws (LL.B) degree from the Faculty of Law, University of Ghana, Legon (1998). Dr. Nyampong practiced law with the Ghanaian law and environmental consulting firm G. A. Sarpong and Co. for three years, first as a pupil and later as an associate attorney; while there, he worked as external counsel for the Ghana Civil Aviation Authority. Between April 2007 and July 2012, Dr. Nyampong served as editor of the *Annals of Air and Space Law*, a peer-reviewed scholarly journal published annually by the Institute and Center for Research of Air and Space Law. Dr. Nyampong has worked as an international legal consultant for the Food and Agriculture Organization of the United Nations (FAO), the International Civil Aviation Organization, and the World Bank Group. Currently, Dr. Nyampong has been engaged as a Boulton Fellow (visiting scholar) at McGill's faculty of law where he teaches and conducts research in the field of food law. Immediately prior to assuming this position, Dr. Nyampong worked as a post-doctoral research fellow at the Institute and Centre for Research of Air and Space Law where his research focused on the environmental aspects of outer space exploration and use. As part of his postdoctoral responsibilities, Dr. Nyampong taught a graduate-level course on government regulation of space

activities and also acted as rapporteur to the Third International Interdisciplinary Space Debris Congress jointly organized by the Institute of Air and Space Law. In that capacity, Dr. Nyampong prepared the report of the Congress which was presented (and was well received) at the 49<sup>th</sup> Session of the Scientific and Technical Subcommittee of the United Nations Committee on Peaceful Uses of Outer Space (COPUOS), held in February 2012.

**Michael K. Simpson** is the Executive Director of Secure World Foundation, after joining SWF as the Senior Program Officer in September 2011 following seven and a half years as President of the International Space University (ISU). Dr. Simpson holds a post as Professor of Space Policy and International Law at ISU. He is a corresponding member of the International Academy of Astronautics. After 23 years of service, Dr. Simpson retired from the Naval Reserve in 1993 with the rank of Commander. Dr. Simpson received his Bachelor's Degree magna cum laude from Fordham University in 1970 where he was elected to Phi Beta Kappa. He has also been elected to academic honor societies in the fields of political science and business management. He completed his Ph.D. at Tufts University, The Fletcher School of Law and Diplomacy, holds a Master of Business Administration from Syracuse University, and has two Master of Arts degrees from The Fletcher School. He has also completed two prestigious one year courses in Europe: the French advanced defense institute (Institut des Hautes Études de Défense Nationale) and the General Course of the London School of Economics. He is the author of numerous scholarly papers, presentations, articles and book contributions and his practical experience includes service as a Political Military Action Officer, observer representative to the UN Committee on the Peaceful Uses of Outer Space, and member of the Association of Space Explorers International Panel on Asteroid Threat Mitigation. He currently serves on the Commercial Spaceflight Safety Committee of the IAF.

**Lesley Jane Smith** trained and qualified as a legal practitioner (Solicitor) in Scotland, working in private practice and government, with subsequent experience in France and at EC level, before relocating to Germany. She is a partner in the law firm Weber-Steinhaus & Smith, Cotton Exchange Bremen and a member of the Hanseatic Bar of Bremen, Germany. Ms. Smith was appointed as Professor of international and European Economic Law at the Leuphana University Lüneburg in 1996 and is a guest professor within various university programs across Europe, including the International Space University (ISU). Ms. Smith has since been appointed a visiting professor of space law at the University of Strathclyde, Glasgow, a university with a long-standing aerospace tradition and involved in space science and engineering. Ms. Smith has first-hand legal experience as an expert member within the law reform projects working out of certain post-Soviet transformation countries during the nineties and was Rector to the Riga Graduate School of Law, University of Latvia for two years, a specialist school of European law established by Sweden to facilitate the country's transition after regaining its independence.

Her major research interests in space law are in the fields of liability for commercial space activities, including issues of debris in industry and agency contracts and procurement, as well as regulatory aspects of Galileo GNSS and IP issues relating to outer space activities. She became a member of the International Institute of Space Law (IISL) in 2003, recently being appointed as a Board member. She became a member of the International Academy of Astronautics (IAA) in 2009 and is a long-standing member of the European Center of Space Law (ECSL). In 2012, Ms. Smith became a board member (legal) of the European section of Women in Aerospace (WIA-E).

**Christophe Venet** is a Research Associate to the Space Policy Program at Ifri. Previously, he was a researcher at the European Space Policy Institute (ESPI). He authored several articles and edited two books on various issues of space policy, including commercial activities, military issues or industrial aspects. At Ifri, Mr. Venet authors a series of publications on the European space policy called the "Europe & Space Series." He is a peer-reviewer for the journals *Acta Astronautica*, *Space Policy* and *Astropolitics*. Mr. Venet graduated from the Institut d'Etudes Politiques de Strasbourg (France) and holds a Master's degree in peace studies and international politics from Tübingen University (Germany). He also spent an academic exchange year at the Moscow State Institute of International Relations (MGIMO). He is a PhD candidate at the Institut d'Etudes Politiques de Paris. His dissertation deals with EU policy in the field of space and security, focusing on Europe's international actorness and on interests and norms underlying the policy processes within the European Space Policy.