

**Joanne Irene Gabrynowicz, J.D., Professor, and Director
National Center for Remote Sensing, Air, and Space Law
University of Mississippi School of Law
(662) 915-6877; jgabryno@olemiss.edu**

C.V. Summary

Prof. Gabrynowicz is a Research Professor of space law and Director of the National Center for Remote Sensing, Air, and Space Law, Univ. of Mississippi Law Center, USA. She is the Editor-in-Chief, JOURNAL OF SPACE LAW.

Prof. Gabrynowicz is a Director of the International Institute of Space Law (IISL) and is an official observer for the International Astronautical Federation to the UNCOPUOS Legal Subcommittee and has made a number of presentations to that group on space law issues. She was a member of the IISL delegation to the Unidroit Committee of Governmental Experts for the Preparation of a Draft Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Space Assets and has presented to UN Institute for Disarmament Research. The UN Office of Outer Space Affairs (UNOOSA) invited Prof. Gabrynowicz to lecture on space law at all of its space law capacity building workshops for government officials and policymakers and she is the lead author for UNOOSA's remote sensing law curriculum. In 1999, the IISL invited Prof. Gabrynowicz to write and present the remote sensing law position paper at UNISPACE III. In 2001 she was awarded the Women in Aerospace Outstanding International Award.

She briefed former U.S. Secretary of the Interior Gayle Norton as part of the Secretary's preparation for the Earth Observation Summit. Prof. Gabrynowicz briefed Frank A. Rose, Deputy Assistant Secretary for Space and Defense Policy, U.S. Department of State on legal aspects of orbital debris. She is the organizer and chair of the U.S. Federal Advisory Committee for the National Satellite Land Remote Sensing Data Archive. She also was a member of the U.S. Department of Commerce Advisory Committee on Commercial Remote Sensing. Prof. Gabrynowicz was invited to address the Opening Plenary Session of the International Society for Photogrammetry and Remote Sensing International (ISPRS) *Conference on Remote Sensing Arabia: for the Betterment of People* in Riyadh, Kingdom of Saudi Arabia in May 2005.

Prof. Gabrynowicz was a founding faculty member of the Space Studies Department at the University of North Dakota, where she also served as its Director of Graduate Studies. From 1992-94, Prof. Gabrynowicz was a member of The Congress of the United States Office of Technology Assessment Earth Observations Advisory Panel. From 1994-96, she was a member of the National Research Council Committee that produced Bits of Power: Issues in Global Access to Scientific Data. In 1994-95, Prof. Gabrynowicz was awarded a NASA/American Society of Engineering Education Summer Faculty Fellowship from Goddard Space Flight Center where she also served as the 1997 Dean of the NASA Space Academy. Prof. Gabrynowicz has been invited by the U.S. Dept. of Commerce/NOAA, the U.S. National Research Council, the NASA Public Health Applications Program on Confidentiality and Geospatial Data, the Univ. of Cologne Institute of Air and Space Law to participate in a number of studies. Prof. Gabrynowicz was the managing attorney of a NYC law firm. She is a member of the American Bar Association Forum on Aviation and Space Law.

Professional Experience

2001 - Present

National Center for Remote Sensing, Air, and Space Law, Univ. of Mississippi Law Center

Research Professor and Director

Editor-in-Chief, JOURNAL OF SPACE LAW

The Center conducts research toward understanding issues of law with regard to all aspects of space law, aviation law, remote sensing law and related geospatial technologies, including data policies, intellectual property, privacy, liability, public international law, admissibility of commercially and publicly generated demonstrative and scientific evidence, environmental issues, licensing and any other relevant legal topic. The Center publishes the JOURNAL OF SPACE LAW and conducts professional development and educational outreach activities including international conferences and seminars at the University and via the Internet. The Center hosted *The First and Second International Conferences on the State of Remote Sensing Law; Divergences & Convergences: A Symposium Addressing Space Law and Intellectual Property Regimes; Space Law in Era of Globalization*, and other world-class events.

Courses

U.S. National Space Law
International Space Law
Remote Sensing Law
Journal of Space Law
Independent Study

1987 - 2001 Space Studies Department, University of North Dakota

2000 - 2001 Acting Chair

1993 - 2001 Director of Graduate Studies

1996 - 2000 Professor

1987 - 1996 Associate Professor

1997 Tenure awarded

Taught upper-level graduate courses and seminars. Responsible for department and graduate school coordination, evaluation of all student applications, periodic file review for academic standards and deadlines, initial academic counseling for all incoming students, student registration actions, administrative procedures, petitions, and grievance processes.

Courses

U.S. Space Policy and International Implications
Space Treaties and Legislation
Remote Sensing Law and Policy
The Philosophy of Human Space Activities
Capstone

All courses were redeveloped for, and taught by, distance learning technologies including videotape, electronic mail and the Internet. Distance learning course materials included course plans, electronic presentations, on-line debate sessions, discussions, recitation schedules, study guides, and text materials. Courses were taught as traditional campus classes, on two U.S. Air Force bases, and via distance learning technologies. Students included civilians, government, and industry aerospace professionals, and officers of the Air Combat, Air Mobility, and Space Commands.

1985 - 1987 Managing Attorney Helfenstein & Matza, P.C., N.Y.C.

Fifteen-attorney litigation firm. Responsible for hiring, training, supervising personnel; organizing computer and word processing systems; designing and implementing office systems for legal applications; researching and selecting service and product suppliers; purchasing; client billing and controlling cash flow. Legal responsibilities included review and assignment of all files; file and client management, research, court appearances, and client interaction.

1982 - 1985 Independent Consultant

Individual clients; local representative for out-of-state communications company; project development and management.

1980- 1982 Associate Attorney Lester, Schwab, Katz and Dwyer, N.Y.C.

Thirty-attorney litigation firm with corporate clients. Responsibilities included trials, motions, depositions, pre-trial conferences, settlement negotiations, and arbitrations.

Publications

- 2011** J. of Space L., Editor -in-Chief, Volume 37, No. 1 and No. 2 (in press.).
- 2010** J. of Space L., Editor -in-Chief, Volume 36, Nos. 1 and 2.
- 2009** J. of Space L., Editor -in-Chief, Volume 35, Nos. 1 and 2.
- 2008** J. of Space L., Editor -in-Chief, Volume 34, Nos. 1 and 2.
- 2007** J. of Space L., Editor -in-Chief, Volume 33, Nos. 1 and 2.
- 2006** J. of Space L., Editor -in-Chief, Volume 32, Nos. 1 and 2.
- 2005** J. of Space L., Editor -in-Chief, Volume 31, Nos. 1 and 2.
- 2004** J. of Space L., Editor -in-Chief, Volume 30, Nos. 1 and 2.
- 2003** J. of Space L., Editor -in-Chief, Volume 29, Nos. 1 and 2.

Books Edited

2001 - 2002

Proceedings, The First International Conference on the State of Remote Sensing Law (The Nat'l Remote Sensing and Space Law Center U. of Miss. Law Center). ISBN 0 - 9720432 - 3 - 3; 265 pages.

The United Nations Principles Relating to Remote Sensing of the Earth from Space: A Legislative History -- Interviews of Members of the United States Delegation, (The Nat'l Remote Sensing and Space Law Center U. of Miss. Law Center). ISBN 0 - 9720432 - 1 - 7; 183 pages.

Gabrynowicz, *et al*, The Remote Sensing Industry: A CEO Forum, (The Nat'l Remote Sensing and Space Law Center U. of Miss. Law Center). ISBN 0 - 9720432 - 2 - 5; 166 pages.

Gabrynowicz, *et al*, *Landsat 7: Past, Present and Future*, (The Nat'l Remote Sensing and Space Law Center U. of Miss. Law Center). ISBN 0 - 9720432 - 0 - 9; 396 pages.

Gabrynowicz, *et al*, Remote Sensing and Space Law Bibliography (The Nat'l Remote Sensing and Space Law Center U. of Miss. Law Center). ISBN 0 - 9720432 - 5 - X; 81 pages.

1996 Symposium, What is the Value of Space Exploration? - A Prairie Perspective, (U. of North Dakota)

Book Chapters

2012 The U.N. Principles Relating to Remote Sensing of the Earth from Outer Space and Soft Law, in Soft Law in Outer Space: The Function of Non-Binding Norms in International Space Law, ed. Irmgard Marboe, Böhlau Verlag, Vienna

Study

2011 *Limiting Future Collision Risk to Spacecraft: An Assessment of NASA's Meteoroid and Orbital Debris Programs*, National Research Council, invited legal expert.

Articles

2011 *The Issue is: What is a Spaceport?*, Air and Space Lawyer, Vol 24, No. 1, with Maria Zulick Nucci

Manfred Lachs and His Writings on the Law of Outer Space, Manfred Lachs — Wybitny Prawnik Swiata, with Sara M. Langston, University of Warsaw School of Law.

A Chronological Survey of the Development of Art. IX of the Outer Space Treaty, Special Topics in Aerospace Law Series, No. 3, with Sara M. Langston, National Center for Remote Sensing, Air and Space Law, ISBN -978-0-9720432-8-1

- 2010** *One-Half Century and Counting: The Evolution of U.S. National Space Law and Three Long-term Emerging Issues*, Harvard Law & Policy Review, 4 Harv. L. & Pol'y Rev. 901 (2010)
- Science and Diplomacy*, John C. Whitehead School of Diplomacy and International Relations at Seton Hall University Journal of Diplomacy and International Relations, Summer 2010, in press, with Frans von der Dunk, Robert Harding, Henry Herzfeld.
- 2007** *Legal Certification of Digital Data: The Earth Resources Observation And Science Data Center Project* , 33 J. Space L. 193, with Ronald J. Rychlak and Rick Crowsey,
- 2006** *The Outer Space Treaty and Enhancing Space Security*, Conference Report, Building the Architecture for Sustainable Space Security, UN Institute for Disarmament Research, UNIDIR/2006/17
- 2005** *International and U.S Remote Sensing Law and Policy: An Overview ISPRS Journal, Remote Sensing Arabia: for the Betterment of People*
- The Perils of Landsat from Grassroots to Globalization: A Comprehensive Review of U.S. Remote Sensing Law with a Few Thoughts for the Future*, CHI. J. INT'L L.
- Space Law: Its Cold War Origins and Challenges in the Era of Globalization*, 37 Suffolk U. L. Rev. 1043
- An Introduction to Space Law for Decision Makers*, 30 J. Space L. 227, with Jacqueline Etil Serrao
- 2002** *Something New Under the Sun: The National Remote Sensing and Space Law Center*, The Air and Space Law. (ABA F. on Air and Space Law, Chicago, IL.), Fall, at 8.
- 2001** *The Work of the U.S. National Satellite Land Remote Sensing Data Archive Committee: 1998 - 2000*, 17 Space Policy 49
- 1999** *Defining Data Availability For Commercial Remote Sensing Systems Under United States Federal Law*, 23 Annals of Air and Space Law 93
- 1997** *Earth Observations: the View from the Ground*, 13 Space Policy 229
- 1996** *Commercial High-Altitude Unpiloted Aerial Remote Sensing: Some Legal Considerations*, 62 Photogrammetric Engineering & Remote Sensing 275.
- 1995** R.Vetter, M.Ali, M. Daily, J. & Gabrynowicz, et al, *Accessing Earth System Science Data and Applications Through High-Bandwidth Networks*, 13 IEEE J. on Selected Areas in Communications, 793

Dual Use Data: Remote Sensing's Post Cold War Challenge, 12 Space Watch 10.

The Global Land 1-KM AVHRR Project: An Emerging Model for Earth Observations Institutions, 16 Photogrammetric Engineering & Remote Sensing, 153.

1994 *The Changing Nature of Civil Space in the Clinton Era*, Space Times Vol. 33, No. 2, Mar/Apr., 20-21.

1993 *The Progress and Promise of the Land Remote Sensing Policy Act of 1992*, 9 Space Policy, 319.

1992 *Space and the New Secretary-General*, Earth Space Review, Vol. 1, Issue 4, October, 5.

Earth Observations: Bringing Space Policy from the Industrial Age to the Space Age 8 Space Policy, 167.

1986 Jones, E., Quigg, P., & Gabrynowicz, J., *The Space Settlement Papers* 39 J. of the British Interplanetary Society 291

Book Chapters

2012 The U.N. Principles Relating to Remote Sensing of the Earth from Outer Space and Soft Law, in *Soft Law in Outer Space – The Function of Non-binding Norms in International Space Law*, Irmgard Marboe, editor, University of Vienna. (in press)

Commentaries

2001 *Remote Sensing Law and Policy*, Space News, Oct. 22.. At 19.

Law, Practicality and Landsat Data Continuity, Feb. 19. At 13.

1999 *Space Power and Law Power*, Space News, July 21, at 15.

1998 *Redefining the Moon Treaty*, Space News, Mar. 30 - Apr. 5, at 15.

1995 *The Inconsistent Legal Landscape*, Space News, January 9-15, at 15.

A Turning Point, Space News, July 31-August 6, at 15.

1994 *Remote Sensing Policy Deja Vu*, Space News, September 12-18, at 15.

1993 *U.S. Sees the Light on Landsat*, Space News, February 1-7, at 15.

1991 *Wrong Move at the Wrong Time*, Space News, May 27-June 2, at 19.

1990 *DoD's Legal Space Presence*, Space News, May 7-13, at 16.

The Landsat Act is a Failure, Space News, July 16-22, at 15.

Proceedings

2004 *Comments on Space Law and Remote Sensing Activities*, Proceedings of the Workshop on Space Law "Disseminating And Developing International And National Space Law: The Latin America And Caribbean Perspective" ST/SPACE/28

1999 *Expanding Global Remote Sensing Services: Three Fundamental Considerations*, Space Law in the 21st Century, at 97, U.N. Off. of Outer Space Aff., & Int'l Inst. of Space L., U.N. Doc. ST/SPACE/2.

1995 *Remote Sensing the Emerging Era*, Space, Vision and Reality: Face to Face Proc. Rep. U.S. Space Found.

1992 Gabrynowicz, et al, *The Case for International Cooperation on Hypersonic Technology Development* with Fourth Int'l Aerospace Planes Conference, Am. Inst. of Aeronautics and Astronautics.

1991 *Space Law and Feminist Jurisprudence*, Proc. of the 34th Colloquium on The Law of Outer Space, Am. Inst. of Aeronautics and Astronautics

1990 Gabrynowicz, et al, *Mission to Planet Earth: A Call to Repeal the Landsat Act*, Earth Observations and Global Change Decision Making, Krieger Publishing

1988 *The Crisis of the Commons: A Turning Point*, Proc. of the 31st Colloquium on The Law of Outer Space, Am. Inst. of Aeronautics and Astronautics

The "Province" and "Heritage" of Mankind Reconsidered: A New Beginning in Lunar Bases & Space Activities of the 21st Century

1987 "Space Development and the American Experiment: A Context and Model for International Progress" Space Manufacturing 6, Nonterrestrial Resources, Biosciences, and Space Engineering, Am. Inst. of Aeronautics and Astronautics

Abstracts

2000 Gabrynowicz, et al, *SPACE.EDU: Space Studies Virtual Campus*, Transactions, Am. Geophysical Union. Vol. 81, No. 48, at F294

- 1998** *The Science of Federalism: Past and Present, Toward an Earth Science Enterprise Federation*, Results from a Workshop, Nat'l Acad. Press
- Teaching Remote Sensing Law via Distance Learning Technologies*, IGARSS Proc.
- 1995** *Earth Observation Networks: Laws, Policies, Institutions*, Abstract Book Am. Ass'n for the Advancement of Science Annual Meeting,
- Remote Sensing Law: Obstacle or Opportunity for Geographic Information Systems?*, Nat'l Center for Geographic Info. and Analysis and the Center for the Ariz. St, U. College of Law, U. of Maine, Dept. of Spatial Info. Science and Engineering
- 1992** *Space Property Rights Reviewed and Reexamined*, World Space Congress Int'l Aerospace Fed'n & COSPAR
- 1985** *The American Experiment: A Systems Approach to Human Government*, Space Manufacturing 5, Nonterrestrial Resources, Biosciences, and Space Engineering, Am. Inst. of Aeronautics and Astronautics

Peer Reviewing

- 2004** Licensing Geographic Data and Services, Nat'l Research Council Committee on Licensing Geographic Data and Services, The National Academies Press, Washington, D.C.
- 2000** *European Perspectives on Trends in Public Sector Earth Observation Data Policies*, Space Policy, Vol. 16, No. 1., 45 - 59.
- 1999** *The Threat From—And To—Commercial Space Services*, IEEE/Spectrum
- 1998** *A Hare Turned Tortoise: British Space Policy 1957-90* Quest-J. of Spaceflight
- 1993** *Space Policy Alternatives*, Space Policy, Vol. 9, No. 4., 347-349.
- 1991** Book review, *Viewing the Earth--The Social Construction of the Landsat Satellite System*, IEEE/SPECTRUM, Vol. 29, No. 5, May, 8-12.
- 1990** Book review, *Breakout Into Space: Mission for a Generation*, IEEE/SPECTRUM, Vol. 27, No.9, 12-13.
- 1989** *International Space Policy: Legal, Economic, and Strategic Options for the Twentieth Century & Beyond*, 17 J. of Space Law 185

Presentations

2012 “*UAVs, Privacy, and the Law*” 2012 Unmanned Aerial Systems Symposium, Mississippi State University, Starkville, May 16.

2011 “The U.N. Principles Relating to Remote Sensing of the Earth from Outer Space”, “Soft Law” in Outer Space - The Function of Non-Binding Norms in International Space Law, University of Vienna, Apr. 2.

“Legal Implications for Delimitation of Airspace and Outer Space”, IISL and ECSL Space Law Symposium: A New Look on the Delimitation of Airspace and Outer Space, UNCOPUOS Legal Subcommittee, Vienna, Austria, March 28, 2011

“Legal Implications of the 2010 U.S. National Space Policy”, American Bar Association Forum on Air & Space Law, Panel Moderator, Washington, DC, Feb. 10

2010 “Benefits of Becoming a Party to the UN Treaties on Outer Space”, United Nations/Thailand/European Space Agency (ESA) Workshop on Space Law "Activities of States in Outer Space in Light of New Developments: Meeting International Responsibilities and Establishing National Legal and Policy Frameworks", Bangkok, Thailand, 16-19 November

“A Brief Survey of Remote Sensing Law Around the World”, United Nations/Thailand/European Space Agency (ESA) Workshop on Space Law "Activities of States in Outer Space in Light of New Developments: Meeting International Responsibilities and Establishing National Legal and Policy Frameworks", Bangkok, Thailand, 16-19 November

“The U.S. Space Law Regime”, United Nations/Thailand/European Space Agency (ESA) Workshop on Space Law "Activities of States in Outer Space in Light of New Developments: Meeting International Responsibilities and Establishing National Legal and Policy Frameworks", Bangkok, Thailand, 16-19 November

“Experience in Teaching Space Law in other States and Regions”, United Nations/Thailand/European Space Agency (ESA) Workshop on Space Law "Activities of States in Outer Space in Light of New Developments: Meeting International Responsibilities and Establishing National Legal and Policy Frameworks", Bangkok, Thailand, 16-19 November

“Overview of Legal Issues with Debris Removal”, Beijing Orbital Debris Mitigation Workshop, Beihang Univ., Beijing, China Oct. 19.

“A Brief Survey of Remote sensing Law Around the World”, European Space Agency, Oil & Gas/EO Service Industry Workshop, Frascati, Italy, 14-15 Sept.

“The International Space Station Agreement”, Space Law Seminar, Beihang Univ., Beijing, China June 25.

“*The United States of America National Space Law Regime: Public, Private, and Commercial*”, University of Warsaw School of Law, March 16, Warsaw, Poland.

“U.S. Space Law”, U.S.A.F. Air War College, Aug. Maxwell AFB, Montgomery, AL., Aug. 24, 2010

“*Satellite Navigation and Emerging Space Law*,” American Bar Association Forum on Air & Space Law, Panelist, Jan. 27, Washington, DC

2009 “*Orbital Debris and the Law: A Beginner's Guide*”, Washington Space Business Round Table, December 8, Washington, DC

“*The United States of America National Space Law Regime*”, ”, U.N./Islamic Republic of Iran Workshop on Space Law - Role of International Space Law in the Development and Strengthening of International and Regional Cooperation in the Peaceful Exploration and Use of Outer Space, jointly organized with and hosted by the Iranian Space Agency and supported by the Asia-Pacific Space Cooperation Organization, 9 November, Tehran, Islamic Republic of Iran

“*A Brief Survey of Remote Sensing Law Around the World*”, U.N./Islamic Republic of Iran Workshop on Space Law - Role of International Space Law in the Development and Strengthening of International and Regional Cooperation in the Peaceful Exploration and Use of Outer Space, jointly organized with and hosted by the Iranian Space Agency and supported by the Asia-Pacific Space Cooperation Organization, 10 November, Tehran, Islamic Republic of Iran

“*Space Law: Its Cold War Origins and Challenges in the Era of Globalization*” Cardozo School of Law, Yeshiva University Nov. 2, NYC

“*Where Does Aviation Law End and Space Law Begin?*”, NASA Kennedy Space Flight Center Chief Counsel Strategic Meeting, Oct 28, St. Pete, FL.

“*Satellite Collisions, Space Debris and the Liability Convention*”, International Law Weekend , 88TH Annual Meeting of the American Branch of the International Law Association, Oct. 24, NYC.

- “Legal and Policy Issues Surrounding Orbital Debris, Space Situational Awareness, and Traffic Management”*, American Bar Association Forum on Air & Space Law, 25 September, Chicago.
- “Origins and Characteristics of the Space Law Treaty Regime”*, Air War College, Aug. 29, Maxwell AFB, AL
- “Another Giant Leap: Air and Space Law”*, One Giant Leap Program Boston Museum of Science, 13 May, Boston, MA.
- “Introduction to Law of the International Space Station and Earth Observations”*, Massachusetts Institute of Technology, March 15, Cambridge, MA.
- “Engineering the U.S. Constitution: An Interdisciplinary Look at How the Framers Used Science and Systems Theory to Inform the Law and Govern a Nation”*, Massachusetts Institute of Technology, March 17, Cambridge, MA.
- “US National Law and Regulation Pertinent to Exploiting NEOs: an Overview of Potential Precedents and Principles”*, Conference on Near-Earth Objects: Risks, Responses and Opportunities – Legal Aspects, April 24, Lincoln, NE.
- “Some Legal Implications of a National Legislature Granting On-Orbit Licensing Authority to a National Agency”*, 12th Annual FAA Commercial Space Transportation Conference, Feb. 5, Washington, DC
- 2008** *“Researching, Identifying and Establishing Standard Procedures to Certify Digital Data for Use in Court Procedures under the U.S. Federal Rules of Evidence”*, University College of London, December 5, London, UK.
- “Archiving: Ensuring the Value of Statistics from Space for the Long Term”*, Statistics from Space Convening Bill and Melinda Gates Foundation Seattle, Washington, November 5.
- “The New National Space Laws of France and Japan and Cosmos 954”*, NASA Kennedy Space Flight Center Chief Counsel Strategic Meeting, Oct 28, St. Pete, FL.
- “Space Law In The Globalization Era”*, The Judge Advocate General’s Legal Center and School, University of Virginia School of Law, June 18.
- “Celestial Speed Traps”: Space Law In The 21st Century”*, NASA Jet Propulsion Laboratory California Institute of Technology 24 June
- 2007** *“Origins, Characteristics, and Some Open Questions of the Space Law Treaty Regime”*, Nov. 19, NASA Kennedy Space Center Senior Leadership Briefing

- "The Land Remote Sensing Laws and Policies of National Governments: A Global Survey"*, 58th International Astronautical Congress, Sept. 28, Bangalore, India.
- "U.S. Remote Sensing Law"* International Forum on Air and Space Law, of June 25 - 26, 2006, Beijing, China.
- "The Land Remote Sensing Laws and Policies of National Governments: A Global Survey"*, University of Nebraska School of Law, March 1, Lincoln, NE.
- 2006** *"Status and Development of U.S. National Space Law and Its Application of International Space Law Elements"*, United Nations/Ukraine Workshop on Space Law "Status, Application and Progressive Development of International and National Space Law" Kyiv, Ukraine, 6-9 November 2006
- "The Disasters Charter: An Introductory Overview"* Keio University, August 21, Tokyo, Japan
- "The Public Sector, the Private Sector and Data Products"*, Indian Space Research Organization, Aug. 9, Bangalore, India.
- "Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters (Disasters Charter): Introduction, Initial Issues and Experiences"* Legal Aspects of Disaster Management and the Contribution of the Law of Outer Space 45th Session of the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space, April 3, Vienna, Austria.
- 2005** *"International and U.S Remote Sensing Law and Policy: An Overview"* ISPRS International Conference on Advanced Remote Sensing for Earth Observation; Systems, Techniques, and Applications: Remote Sensing Arabia: for the Betterment of People Riyadh, Kingdom of Saudi Arabia, May 2005
- "U.S. Space Law" and "Remote Sensing Law Around the World"*, United Nations/Nigeria Workshop on Space Law "Meeting international responsibilities and addressing domestic needs" Abuja, Nigeria, 21-24 November 2005
- 2004** *"Comments on Remote Sensing Law Discussion Paper"*, United Nations/ Brazil Workshop on Space Law "Disseminating and Developing International and National Space Law: the Latin America and Caribbean Perspective", Rio de Janeiro, Brazil, 22-25 November 2004

- International Cooperation/Competition: the Legal Aspects Stepping Stones to the Future of Space Workshop Space Nat'l Acad. of Sciences*
- 2003** *"Principles Adopted by the U.N. General Assembly" and "Origins and Characteristics of the Space Law Treaty Regime"*, United Nations/ Republic of Korea Workshop on Space Law "United Nations Treaties on Outer Space: Actions at the National Level", Daejeon, Republic of Korea, 3-6 November 2003
- The 1992 Land Remote Sensing Policy Act: its Evolution and Changes 11 Years Later*, U.S. Commercial Remote Sensing Conference
- Space Law: Its Cold War Origins and Century Challenges in the Era of Globalization*, Donahue Lecture Series Suffolk U. L. Rev. (November 13)
- Geospatial Data and the Founding and Exploration of the United States*, USGS/Eros Data Center 30th Anniversary
- Legal Issues Using Satellite, Aerial and UAV Platforms*, Miss. St U., Nat'l Consortium on Remote Sensing for Transportation - Environment
- The National Satellite Land Remote Sensing Data Archive in the Department of the Interior - Recommendations of The Satellite Land Remote Sensing Data Archive Advisory Committee*, Presented to U.S. Dept. Of the Interior Secretary of the Interior Gale Norton
- Data, Information, Confidentiality and the Legal Landscape*, NASA Public Health Applications Program Nat'l Acad. of Sciences
- Licensing and the Landsat Story: Law and Policy 1972 - 2003*, Nat'l Research Council Committee on Licensing Geographic Data and Services
- A Beginner's Guide to U.S. Satellite System Data Law and Policy*, USGS Nat'l Wetlands Research Center
- The UN Registration Convention and the Practice of States: The United States of America*, Int'l Inst. of Space Law and European Center of Space Law Symposium at the UN Legal Subcommittee on the Peaceful Uses of Outer Space
- A Brief Survey of Remote Sensing Law Around the World*, Dept. of Commerce/NOAA Advisory Committee on Commercial Remote Sensing
- 2002** United Nations/International Institute of Air and Space Law Workshop on Capacity Building in Space Law, The Hague, Netherlands, 18-21 November 2002

- Legal Implications of National Security Operations in Space: Space Warfare and Law Enforcement*, Outer Space Law and Policy & Nat'l Concerns in the 21st Century: A Cantigny Conference, the ABA Standing Committee on Law and Nat'l Security
- From Satellite to Sea: Remote Sensing Applications in Maritime Law*, AALS Annual Meeting Sec. on Maritime Law
- 2001** *The U.S. Domestic Space Law Regime (or as much as is reasonable to attempt to address in a single presentation)*, Am. Astronautical Society Int'l Programs Committee Workshop on Int'l Legal Regimes Governing Space Activities
- The Legal Foundation of a Landsat Data Continuity Mission*, NASA-USGS Landsat Data Continuity Mission Workshop
- Remote Sensing Imaging for Environmental Law Applications, A View from Space: Digital Earth Applications in Environmental Law and Resource Management* The Washington C. of Law at the Am. U.
- 2000** *A Beginner's Guide to Space Law*, Center for the Study of Law, Science and Tech., Ariz. St. U. C. of Law
- Remote Sensing: Data Availability for Commercial Use*, Space Law Forum 2000: Legal Developments & Challenges Facing the Space Industry, Int'l Space Business Council Nat'l Press Club
- The National Land Remote Sensing Data Archive Advisory Committee, 1998 - 2000*, Dr. Charles Groat, Director, USGS, Mr. Richard E. Witmer, Chief Nat'l Mapping Division, USGS, USGS Headquarters
- The National Land Remote Sensing Data Archive Advisory Committee, 1998 - 2000*, Am. Soc'y of Photogrammetric Engineering and Remote Sensing,
- 1999** *Remote Sensing Policies, Pecora 14 - Land Satellite Information III Conference*
- Environmental Planning: Global Ecosystem Analysis, Pecora 14 - Land Satellite Information III Conference*
- The State of Remote Sensing Law and Policy at the Turn of the 21st Century*, Landsat 7 Science Team, Goddard Space Flight Center
- Expanding Global Remote Sensing Services: Three Fundamental Considerations*, USGS/EROS Data Center

Expanding Global Remote Sensing Services: Three Fundamental Considerations, Int'l Inst. of Space Law, at the United Nations UNISPACE III Conference

The Outer Space Treaty and USAF Space Command's "Space Control" Concept, Political Studies Students' Conference, U. of Manitoba

1998 *The Science of Federalism: Past and Present*, The National Research Council

Of Faith, Framers and Farmers: A Space Odyssey, U. Of North Dakota Faculty Lecture Series

The Science of Federalism: Past and Present, The NASA Global Change Data and Information System Working Group

Teaching Remote Sensing Law and Policy via Distance Learning Technologies, Int'l Geoscience and Remote Sensing Symposium

1997 *The Basic Characteristics of Space Law*, FPSpace Int'l Workshop, sponsored by Friends and Partners in Space and Youth Space Center Bauman Moscow Technical University and Moscow Aviation Institute, Moscow, Russia

Environmental Law Provisions in U.S. Federal Remote Sensing Law, N.Y.U. Env'tl. L.J. Colloquium

Pending Remote Sensing Legislation in the 105th Congress, Landsat Science Advisory Group Goddard Space Flight Center

1996 *The Legal and Policy Foundations of The National Land Remote Sensing Data Archive*, USGS/EROS Data Center

"The Science of Federalism: Past and Present" *Pecora 13 - Human Interactions with the Environment*, USGS EROS Data Center, Sioux Falls, SD.

Summer Seminar Series on Remote Sensing Law and Policy, USGS EROS Data Center, Sioux Falls, SD.

Remote Sensing & Federalism: Facts and Futures

Post Cold War Remote Sensing Law

Remote Sensing Law and Privacy

Basic Characteristics of the Space Law Regime: Foundation for International Cooperation

Remote Sensing and Privacy, National Research Council Committee on Precision Agriculture

- 1995** *Imaging the Earth: International Legal and Policy Issues*, 33rd Am. Astronautical Soc'y Goddard Space Symposium
- Earth Observation Networks: Laws, Policies, Institutions, Am. Ass'n for the Advancement of Science Annual Meeting
- 1994** *Remote Sensing Law: Obstacle or Opportunity for GIS?*, Specialist Meeting on Law, Information Policy, and Spatial Databases, National Center for Geographic Info. & Analysis and the Center for the Ariz. St. U. C. of Law
- Earth Observations: Genesis of 21st Century Institutions, *What is the Value of Space Exploration? Symposium*, NASA and the U of MD at the National Geographic Soc'y
- A Brief History of U.S. Remote Sensing Law*, World Data Center Directors Annual Meeting, Goddard Space Flight Center.
- 1993** *The Land Remote Sensing Policy Act of 1992, Pecora 12- A Symposium on Land Information from Space-Based Systems*, USGS EROS Data Center
- 1992** Gabrynowicz, J. et al., *The Case for International Cooperation on Hypersonic Technology Development*, Fourth Int'l Aerospace Planes Conference
- Leadership in the 21st Century, U. Of ND Leadership Conference with James MacGregor Burns
- Space Law: Some of its Nonadversarial Cold War Roots and Post Cold War Possibilities, AALS Section on Aviation and Space Law
- 1991** Space Law and Feminist Jurisprudence, Int'l Inst. of Space Law, 34th Colloquium on the Law of Outer Space
- Remote Sensing and the Emerging Ethic of Care*, National Legal Center for the Public Interest, Federal Bar Association, The Third Annual Symposium on the Law and Outer Space, Georgetown U.
- 1990** *The Concept of the 'Rule of Law*, Panelist for Commission on Law and Government, U.S.-U.S.S.R. Forum sponsored by Pepperdine U. At West Point Military Acad.
- 1989** *Precedents Set by the International Space Station Agreement*, Session Chair, Space Station Panel, World Futures Society
- 1988** *First International Conference on Hypersonic Flight in the 21st Century*, Session Chair, U. of North Dakota

*Legal Implications of Hypersonic Flight
Public Policy and Environmental Implications*

- 1987** *Space Development and the American Experiment: A Context and Model for International Progress*, Space Studies Inst. Princeton U.
- 1986** *The Space Settlement Papers*, the National Commission on Space
- 1985** *The American Experiment: A Systems Approach to Human Government*, Space Studies Inst. Princeton U.

Organizer: Conferences, Symposia, Panels, Speakers and Webcasts

- 2011** *The 6th Eilene M. Galloway Symposium on Critical Issues in Space Law: A Comparative Look at National Space Laws and Their International Implications*, Dec. 1, Cosmos Club, Washington D.C.

The Future of Commercial Space Law and Regulation, Washington, D.C.
June 7, Jones Day

- 2010** *The 5th Eilene M. Galloway Symposium on Critical Issues in Space Law: Art. IX of the Outer Space Treaty and Peaceful Purposes: Issues and Implementation*. Dec. 2, Cosmos Club, Washington D.C.

- 2009** *The 4th Eilene M. Galloway Symposium on Critical Issues in Space Law: International Cooperation for Peaceful Purposes*, Dec. 10, Cosmos Club, Washington D.C.

- 2008** *The 3rd Eilene M. Galloway Symposium on Critical Issues in Space Law: Article VI of the Outer Space Treaty, Issues and Implementation*, Cosmos Club, Dec. 11, Washington D.C.

The 2nd International Conference on the State of Remote Sensing Law,
Jan., University of Mississippi School of Law

- 2007** *The 2nd Eilene M. Galloway Symposium on Critical Issues in Space Law: International Civil Space Cooperation: Obstacles and Opportunities*, Cosmos Club, Dec. 6, Washington D.C.

Space Law in the Era of Globalization - A Roundtable Discussion, Jan.
University of Mississippi School of Law

- 2006** *The 1st Eilene M. Galloway Symposium on Critical Issues in Space Law*, Cosmos Club, Dec. 11, Washington D.C.

Divergences and Convergences: A Symposium Addressing Space Law and Intellectual Property Regime, Sep. 19, University of Mississippi School of Law

2003 *The Law, Geospatial Information and Homeland Security*
Ms. Laura Jennings, Team Leader for Homeland Security and
Intelligence Oversight in the Office of General Counsel at the National
Imagery and Mapping Agency

Mr. Carl Wilbur, Associate General Counsel Imagery and
Intelligence Policy Law, National Imagery and Mapping Agency

Mr. Thomas M. Womack, Response and Recovery
Director, Mississippi Emergency Management Agency and Homeland
Security

The Legal Applications of Geospatial Data and Information: A Conference

2002 *The 1st International Conference on the State of Remote Sensing Law*

Student Remote Sensing and Space Law Research 2001 - 2002,
Presented to Mr. Paul Pastorek, NASA General Counsel

*A Legal Assistant's Guide to Legal Applications of Geospatial Information -
A Workshop: Learn how to use satellite and aerial images, databases,
maps and more in your cases.*

*The Real World of Space Technology and Politics: from Two Who Have
Been There*

Ms. Margaret G. Finarelli, International Space U. and Dr. Ray
Williamson, Space Policy Inst. Geo. Wash. U.

*"Commercialization" and "Privatization" as Defined in the NASA 2000
Authorization Act,*

Mr. James A.M. Muncy, Professional Staff Member and
Chairman's Designee on the House Science Committee Space and
Aeronautics Subcommittee, and Ms. June Edwards, Associate General
Counsel, Commercial and International Law, NASA Office of General
Counsel

*The Role of the Federal Aviation Administration in Commercial Space
Transportation: A Public Lecture*

Dr. Jacqueline E. Serrao

Life After McGill: Opportunities in the Field of Air and Space Law

Dr. Jacqueline E. Serrao

2001 *The Remote Sensing Industry: A CEO Forum*

*The National Satellite Land Remote Sensing Data Archive: What it is,
What it Does, What it Can Do For You*

Mr. John Faundeen, Chief of the Data Management USGS EROS Data Center, and Archivist for National Satellite Land Remote sensing Data Archive.

1995 *What is the Value of Space Exploration?- A Prairie Symposium*

A NASA-funded, North Dakota wide, two-evening, 6-town, interactive symposium conducted via satellite.

"Remote Sensing: the Emerging Era" Organizer and Panel Chair, U.S. Space Found. Conference Forum on Remote Sensing

1992 *UND Leadership Conference with James MacGregor Burns.*

A university-wide conference that involved the departments of history, womens studies, nursing, and political science, among others and a state-wide IVN seminar. Dr. Burns is a political scientist who was awarded the Pulitzer Prize and the National Book Award for his book, Leadership.

Organizer, *Women, Leadership, and Space*

Pine-to-Prairie Girl Scout Council. Attending scouts earned aerospace badges.

1991 Organizer, *Worlds of Women Conference at UND*

Pine to Prairie Girl Scout Council.

Girls spend two days hearing from, and visiting with, UND faculty women in law, science, political, medical, and engineering careers. The conference concluded with girls choosing a hands-on project in the career field of her choice and making a presentation based on it.

Invited Expert

2010 – Present

Member, Advisory Board for the Permanent Court of Arbitration in The Hague, Netherlands, for Draft Arbitration Rules on Disputes Relating to Outer Space Activities

Member, National Research Council Committee to Review NASA's Orbital Debris Program

Member, NASA Advisory Committee's Subcommittee on Planetary Protection

Member, Department of the Interior's National Geospatial Advisory Committee

2004-Present Member, International Editorial Board, *Space Policy*

- 2003** International Institute for the Unification of Private Law (UNIDROIT), *Draft Protocol on Matters Specific to Space Assets*, member of International Institute of Space Law delegation.
- U.N. Office of Outer Space Affairs and the Republic of Korea, Workshop on Space Law: United Nations treaties on outer space: actions at the national level, invited expert.
- Department of Commerce/NOAA, *Commercial Satellite Remote Sensing Symposium*, invited expert and session chair, A Non-U.S. Perspective
- The Eisenhower Institute, *Study on the Future of Space*, invited expert.
- 2002** International Institute of Space Law, invited expert to serve as Moot Court Judge, semi-finals.
- 2001** International Institute of Space Law, invited expert to serve as Moot Court Judge, semi-finals.
- American Astronautical Society, invited expert and workshop chair, *Obstacles to Commercial Space Activities*
- International Colloquium Cosponsored by the University of Cologne Institute of Air and Space Law and the German Aerospace Center.
Invited expert, "Legal Framework for the Commercial Use of Outer Space - Working Group on Remote Sensing"
- The American Institute of Aeronautics and Astronautics' International Activities Committee, the U.N. Office for Outer Space Affairs. The Confederation of European Aerospace Studies and the International Academy of Astronautics
Invited expert, "*International Space Cooperation: Addressing Challenges of the New Millennium*," Working Group: Contribution of Space Systems to the Implementation and Verification of International Agreements
- 2000** **National Research Council, Office of International Affairs and Space Studies Board**
Invited expert, *Diplomacy in a Transparent World: The Use of Civil Remote Sensing in the Development and Implementation of Foreign Policy*, Invited expert in proposed study mandated by U.S. Department of State, Bureau of Oceans and International Environmental and Scientific Affairs (Study eventually not funded.)
- Department of Interior, USGS Eros Data Center**, Consultant, government-private sector data rights *Landsat 7* contract analysis

- 1996** **Science Applications International Corporation (SAIC)**, Consultant, - Prepared remote sensing issue fact sheet for Government/Policy Action Committee.
- 1995** **Technology Strategies Alliances**, Consultant, Prepared *Description of Legal Considerations* to identify legal issues raised by remote sensing High Altitude Endurance Unmanned Aerial Vehicle (HAE UAV) for commercial purposes.
- TRW**, Consultant, - Prepared white paper titled, "The Lewis and Clark Expedition and the Small Spacecraft Technology Initiative: An Analog for Innovation.
- NASA**, NASA's EOSDIS Users Conference, invited expert, invited to participate in Legal Users Section to identify possible uses of EOSDIS data in legal applications.
- 1994** **Congressional Research Service**, invited expert, Science Policy Research Division, Prepared white paper analyzing national remote sensing policy.
- 1992** **CNN Future Watch**, interview, "Space Law"
- The Chronicle of Higher Education*, interview, "A Political Novice Fights to Put Space Research in the Platform"
- 1991** **U.S. General Accounting Office**, National Security and International Affairs Division, invited expert, provided solicited recommendations for GAO's 2-year plan, "NASA Issue Area Planning: Focus For FYs 93-95"
- 1990** National Public Radio, interview, "Lawyers on the Frontier,"
- 1988** PBS, technical advisor., "Space Worker"
- PBS, historical advisor, "The New American Revolution"

Honors /Awards

- 2011** Recipient, Distinguished Service Award, International Institute of Space Law
- 2008** Lecturer, 10th Alan R. Sommerfeld in Information Operations and Space Operations sponsored by the International and Operational Law Department of the Judge Advocate General's School, U.S. Army

- 2004** Invited Speaker. Donahue Lecture Series of the Suffolk University Law Review
- 2003** Recipient, The Midwest Archives Conference's Presidents' Award
- 2001** Recipient, Outstanding International Award, Women in Aerospace
- 2000** Invited Speaker, University of North Dakota Commencement
- 1998** Invited Speaker, University of North Dakota Inaugural Faculty Lecture Series
- 1997** Invited Dean, NASA Goddard Space Flight Center Summer Space Academy
- 1996** Recipient, UND Foundation McDermott Award for Departmental Excellence in Teaching
- Faculty Fellow, EROS Data Center, Sioux Falls, SD
- 1995** Faculty Fellow, NASA/American Society for Engineering Education Goddard Space Flight Center, Greenbelt, MD
- 1994** Faculty Fellow, NASA/American Society for Engineering Education, Goddard Space Flight Center, Greenbelt, MD
- 1993** Recognized as one of the top ten women space lawyers, "Women's Views of Space Law and Policy: No Gender-Based Agenda," 9 Space Policy, Vol. 9, No. 4, Nov., 329- 341.
- 1992** *Who's Who of Emerging Leaders in America*
Who's Who in the Midwest
- 1990** Participant, U.S. Department of Defense Joint Civilian Orientation Committee
Nominated by Gen. Caruana, GFAFB Commander
Invited by Secretary of Defense Dick Cheney
- Who's Who in the East*
- Appointed Co-Chair, Commission on Law and Government, U.S.
- U.S.S.R. Forum, West Point, sponsored by Pepperdine University.
- 1989** Member, M.I.T. Dewey Library Macro-Engineering Collection Advisory Committee
- 1991 - 94** Member, International Academy of Astronautics Subcommittee on

Return to the Moon of the Committee on International Space Plans
and Policies

Public Service

National

2010 – Present **National Geospatial Advisory Committee**
Appointed by Sec. of the Interior Ken Salazar

**National Research Council Committee for the
Assessment of NASA's Orbital Debris Programs**
Appointed by the National Research Council's Aeronautics
and Space Engineering Board

**NASA Advisory Committee Planetary Protection
Subcommittee**

2001 - 2005 **The Advisory Committee on Commercial Remote
Sensing**, Department of Commerce/National Oceanographic
and Atmospheric Administration, **Committee member**

1996 – 2004 **The National Land Remote Sensing Data Archive
Advisory Committee**, USGS EROS Data Center,
Organizer and Chair

A Federal Advisory Committee that reports to the Secretary of the Interior. Organized to establish the long-term goals and direction for the *National Land Remote Sensing Data Archive*. The Archive was founded by Congress in 1992 and mandated by the Clinton Administration in the 1996 National Space Policy. Members were remote sensing leaders from industry, government and academia, including the executive director of the Association of Research Libraries, the former counsel of the Smithsonian Institution, and CEOs of two of the emerging commercial remote sensing companies. Resulted in a formal recommendations, policy and white papers for the Department of Interior.

"The National Land Remote Sensing Data Archive Advisory Committee, 1998 - 2000", Presentation to Dr. Charles Groat, Director, USGS, Mr. Richard E. Witmer, Chief National Mapping Division, USGS, USGS Headquarters, Reston, VA., April, 2000. Prof. Gabrynowicz briefed Secretary of the Interior Norton regarding the archive in preparation for her speech at the G-8 *Earth Observation Summit*, July 2003.

2001 **National Research Council, Office of International Affairs and
Space Studies Board**

Diplomacy in a Transparent World: The Use of Civil Remote Sensing in the Development and Implementation of Foreign Policy, Invited expert in proposed study mandated by U.S. Department of State, Bureau of Oceans and International Environmental and Scientific Affairs. (Eventually not funded.)

- 1998** Judge, Moot Court, United States Members of the International Institute of Space Law (USMIISL)
- 1997** Judge, Moot Court, United States Members of the International Institute of Space Law (USMIISL)
- 1996** Judge, Moot Court, United States Members of the International Institute of Space Law (USMIISL)
- 1994-96** **National Research Council, Commission on Physical Sciences, Mathematics, and Applications**
 Member, Committee on Issues in the Transborder Flow of Scientific Data, Produced book: Bits of Power: Issues in the Transborder Flow of Scientific Data, Nat'l Academy Press
- 1992 - 94** **Congress of the United States Office of Technology Assessment**
 Member, Advisory Panel on Earth Observations
 Produced four books:
- The Future of Remote Sensing from Space: Civilian Satellite Systems and Applications, U.S. Congress, Office of Technology Assessment
- Remotely Sensed Data: Technology, Management, and Markets U.S. Congress, Office of Technology Assessment, OTA-ISS-604
- Civilian Satellite Remote Sensing: A Strategic Approach U.S. Congress, Office of Technology Assessment, OTA-ISS-607
- Global Change Research and NASA's Earth Observing System U.S. Congress, Office of Technology Assessment, OTA-BP-ISC-122
- 1985** **The National Commission on Space**
 Established by President Ronald Reagan by Executive Order. Invited to testify regarding the status of national and international space law.

Professional Associations

- Member, American Bar Association, Air and Space Forum
- Member, New York State Bar Association
- Director, International Institute of Space Law (IISL)
- Member, United States Members of the International Institute of Space Law (USMIISL)
- Member, Women in Aerospace

- Phi Alpha Theta, National Historians' Honor Society

Educational Background

- Juris Doctor, 1980, Cardozo School of Law, NY, NY
- Bachelor of Art, History and Literature, awarded with honors, 1977
City University of New York, Hunter College, N.Y., N.Y.

References

Available upon request