

NSF/OECD WORKSHOP

**“SOCIAL & ECONOMIC FACTORS SHAPING
THE FUTURE OF THE INTERNET”**

WASHINGTON, 31 JANUARY 2007

SPEAKERS’ PROFILES





RICHARD C. BEARD, Senior Deputy U.S. Coordinator, International Communications and Information Policy, U.S. Department of State

Richard C. Beard is currently Senior Deputy United States Coordinator for International Communications and Information Policy in the Department of State. Mr. Beard came to the Department of State in 1988 from the National Telecommunications and Information Administration (NTIA), Department of Commerce, where he served as Associate Administrator for International Affairs. Mr. Beard has extensive experience in international telecommunication policy matters involving multilateral and bilateral forums. In his current position, he manages the State Department's activities across a broad range of international

telecommunications and information policy issues, including those arising in the International Telecommunication Union (ITU), the Organization for Economic Cooperation and Development (OECD) and Asia-Pacific Economic Cooperation (APEC).

Mr. Beard was founder and long-standing Chairman of the Working Group on Telecommunications within the APEC process, which involves 21 Pacific basin economies. Mr. Beard is a former chairman of the OECD's Committee for Information, Computer and Communications Policy (ICCP). He serves as the United States' representative to the ITU's Council, which is the governing body of the ITU between Plenipotentiaries. Mr. Beard served the Chairman of the 2002 session of the ITU Council, the first time the U.S. has been elected to that position.

Mr. Beard served as Chairman of the U.S. delegation to the World Radiocommunications Conference in 1993, and he has served as Vice-Chairman of the U.S. delegation to the 1994, 1998, and 2002 ITU Plenipotentiary Conferences. He has also served as Vice-Chairman of U.S. delegations to the International Telecommunications Satellite Organization (INTELSAT) Assembly of Parties. Mr. Beard has led numerous bilateral negotiations with countries in Asia and Europe leading to more liberalized uses of international private leased circuits.

Mr. Beard has received awards from the Departments of State and Commerce for distinguished service. He entered government service from the private sector where he held positions with the Corporate and Strategic Planning Groups of AT&T. He holds a Ph.D. from the University of Colorado.



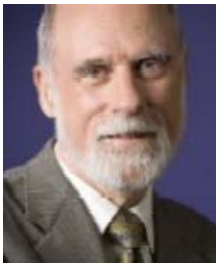
MARJORY S. BLUMENTHAL, Associate Provost, Academic, Georgetown University

Marjory Blumenthal joined Georgetown University in August 2003 as Associate Provost, Academic. Her responsibilities range from campus-wide academic planning to oversight of selected academic units and diversity. Her portfolio has an international dimension, with oversight of a variety of international initiatives and related programs. Another theme is the enhancement of academic excellence, in part through oversight of the Carroll Fellows Initiative, Fellowship Secretariat, Georgetown Undergraduate Research Opportunities Program (GUROP), and Honor Council; the Center for New Designs in Learning and Scholarship (CNDLS) and the Undergraduate Learning Initiative; the Kennedy Institute of Ethics; and new faculty

orientation. She helped plan the reconceptualization of the School of Continuing Studies, and she has led efforts on the Main Campus to strengthen the sciences, securing commitments for new and improved facilities and growth in science research and instructional programs. She also teaches a course on the Internet in a changing world and conducts research on related topics.

Between July 1987 and August 2003, Marjory was the Executive Director of the National Academy of Sciences' Computer Science and Telecommunications Board (CSTB). She designed, directed, and oversaw collaborative study projects, workshops, and symposia on technical and policy issues in computing and telecommunications. These activities, involving groups of experts from academia and industry, influenced public policy as well as the scholarship or strategies of participants.

Marjory is the principal author and/or substantive editor of numerous books and articles. She is a member of the Advisory Board of the Pew Internet & American Life Project, the External Advisory Board of the Center for Embedded Networked Sensing at the University of California at Los Angeles, and the Boards of Directors of the Center for Internet Security. Marjory did her undergraduate work (Phi Beta Kappa) at Brown University and her graduate work (as an NSF Graduate Fellow) at Harvard University.



VINTON G. CERF, Vice President and Chief Internet Evangelist, Google

Vinton G. Cerf is vice president and chief Internet evangelist for Google. In this role, he is responsible for identifying new enabling technologies to support the development of advanced, Internet-based products and services from Google. He will also be an active public face for Google in the Internet world.

Cerf is the former senior vice president of Technology Strategy for MCI. In this role, Cerf was responsible for helping to guide corporate strategy development from the technical perspective. Previously, Cerf served as MCI's senior vice president of Architecture and Technology, leading a team of architects and engineers to design

advanced networking frameworks including Internet-based solutions for delivering a combination of data, information, voice and video services for business and consumer use.

Widely known as one of the "Fathers of the Internet," Cerf is the co-designer of the TCP/IP protocols and the architecture of the Internet. In December 1997, President Clinton presented the U.S. National Medal of Technology to Cerf and his colleague, Robert E. Kahn, for founding and developing the Internet. Kahn and Cerf were named the recipients of the ACM Alan M. Turing award in 2004 for their work on the Internet protocols. The Turing award is sometimes called the "Nobel Prize of Computer Science." In November 2005, President George Bush awarded Cerf and Kahn the Presidential Medal of Freedom for their work. The medal is the highest civilian award given by the United States to its citizens.

Prior to rejoining MCI in 1994, Cerf was vice president of the Corporation for National Research Initiatives (CNRI). As vice president of MCI Digital Information Services from 1982-1986, he led the engineering of MCI Mail, the first commercial email service to be connected to the Internet.

During his tenure from 1976-1982 with the U.S. Department of Defense's Advanced Research Projects Agency (DARPA), Cerf played a key role leading the development of Internet and Internet-related packet data and security technologies.

Vint Cerf serves as chairman of the board of the Internet Corporation for Assigned Names and Numbers (ICANN). Cerf served as founding president of the Internet Society from 1992-1995 and in 1999 served a term as chairman of the Board. In addition, Cerf is honorary chairman of the IPv6 Forum, dedicated to raising awareness and speeding introduction of the new Internet protocol. Cerf served as a member of the U.S. Presidential Information Technology Advisory Committee (PITAC) from 1997 to 2001 and serves on several national, state and industry committees focused on cyber-security. Cerf sits on the Board of Directors for the Endowment for Excellence in Education, Avanex Corporation and the ClearSight Systems Corporation. He also serves as 1st Vice President and Treasurer of the National Science & Technology Medals Foundation. Cerf is a Fellow of the IEEE, ACM, and American Association for the Advancement of Science, the American Academy of Arts and Sciences, the International Engineering Consortium, the Computer History Museum, the Annenberg Center for Communications at USC and the National Academy of Engineering.



INUK CHUNG, Senior Research Fellow, Korea Information Society Development Institute and Chair APEC Telecommunications and Information Working Group

Dr. Inuk Chung is current Chair of APEC Telecommunications and Information (TEL) Working Group and Senior Research Fellow and Executive Director of Asia-Pacific Information Infrastructure (APII) Cooperation Center in Korea Information Society Development Institute (KISDI), the leading think-tank and government sponsored research institute in IT sectors in Korea.

During his tenure in KISDI, he has been involved in many IT policymaking agendas for a variety of government agencies in Korea and been a policy advisor on many international telecommunications issues in multilateral arenas and bilateral ones, including the USA, Canada, the EU, OECD, APEC, ASEM, WTO, and ITU among others.

In 2002, he was a visiting research fellow at the Program on Information Resource Policy (PIRP) in Harvard University. Before becoming Executive Director of APII Cooperation Center, he was Vice President of KISDI and Executive Director of Development Gateway Foundation-Korea Training Center (DGF-KTC).

Dr. Chung's recent research interests include the analysis of competition and cooperation strategies in global and regional telecommunications markets, convergence in telecoms and broadcasting, and regulatory reforms in the telecom sector.

Dr. Chung received his B.A. in economics from Seoul National University, Korea and his M.A. and Ph.D. degrees, also in economics, from Vanderbilt University, USA.



KC CLAFFY, Principal Investigator for the Distributed Cooperative Association for Internet Data Analysis (CAIDA)

kc claffy is founder and director of the Cooperative Association for Internet Data Analysis (CAIDA), based at the University of California's San Diego Supercomputer Center, and Associate Adjunct Professor in the Computer Science and Engineering Department at UCSD. kc's research interests include measurement, analysis, and visualization of Internet workload, routing, topology and performance data. CAIDA seeks, through the collection and curation of strategic Internet data sets and freely available tools and analysis methodologies, to improve the scientific integrity of network research and to promote more informed engineering, business, and policy decisions regarding the Internet infrastructure. kc received her Ph.D. in Computer Science from UCSD in 1994.



DAVID CLARK, Senior Research Scientist, M.I.T.

Since the mid 70s, Dr. Clark has been leading the development of the Internet; from 1981-1989 he acted as Chief Protocol Architect in this development, and chaired the Internet Activities Board. Recent activities include extensions to the Internet to support real-time traffic, explicit allocation of service, pricing and related economic issues, and policy issues surrounding local loop employment. New activities focus on the architecture of the Internet in the post-PC era. He is chairman of the Computer Science and Telecommunications Board of the National Research Council.



DEBORAH CRAWFORD, Deputy Assistant Director for Computer & Information Science & Engineering (CISE), US National Science Foundation (NSF)

Deborah Crawford is the NSF Deputy Assistant Director for Computer and Information Science and Engineering (CISE). She joined the National Science Foundation (NSF) in October 1993. Since then, she has managed a number of NSF programs and activities, including those in the Electrical and Communications Systems Division, in the Office of Small Business Innovation Research, and in the Office of the Director. She played a leadership role in the implementation of the Math and Science Partnership program in 2001 and in 2005-2006 she played a leadership role in establishing the agency's new Office of Cyberinfrastructure.

Dr. Crawford has served as NSF's liaison to the National Science and Technology Council and to the Office of Science and Technology Policy. She has also been active in a number of interagency activities and managed research projects for the Defense Advanced Research Projects Agency. Deborah has twice received NSF's Director's Award for Distinguished Service, and in 2006 she received a Presidential Rank Award.

Deborah joined the National Science Foundation from the Jet Propulsion Laboratory where she managed research projects in wavelength division multiplexed optical communication systems and in other high bandwidth photonic systems. While at the University of California Santa Barbara, her research interests included electronic and photonic nanostructures, vertical cavity surface emitting lasers, and high-speed photonic components for high bandwidth communications applications. She spent several years at AT&T Bell Laboratories in Holmdel, NJ, where her research contributions were in the area of monolithic optoelectronic integrated circuits.

Deborah received her Ph.D. in Information Systems Engineering from the University of Bradford, and her B.Sc. (Hons) in Electronic and Electrical Engineering from the University of Glasgow.



LESLIE DAIGLE, Chair, Internet Architecture Board (IAB)

Leslie Daigle has served as the elected Chair of the Internet Architecture Board (IAB) for the past 5 years, steering the IAB and the related Internet Engineering Task Force in a period of important industry change. Her technical contributions to Internet innovation and open standards over the last dozen years have focused on facilitating application and network integration. Leslie earned an MSc in Computing & Information Science from the University of Guelph. She is currently a Consulting Engineer at Cisco, and has previously held the positions of Director, Directory Research at VeriSign and Vice President, Research at industry pioneer Bunyip Information Systems, among others.



PETER A. FREEMAN, Assistant Director for Computer & Information Science & Engineering (CISE), US National Science Foundation

PETER A. FREEMAN has been Assistant Director of the National Science Foundation, heading the Computer and Information Science and Engineering (CISE) Directorate, from 2002-2007. As an Assistant Director he is part of the senior management team that helps formulate national science policy and that operates the NSF. As AD/CISE, he oversees a staff of approximately 100 and a funding budget of over \$500M/year. He was Founding Dean of the College of Computing at Georgia Tech in 1990 where he is now an Emeritus Professor. Effective February 1, 2007, he will be a Director of the Washington Advisory Group. Dr. Freeman received his Ph.D. in computer

science from Carnegie-Mellon University in 1970



SIMSON L. GARFINKEL, Associate Professor, Naval Postgraduate School

Simson L. Garfinkel is an Associate Professor at the Naval Postgraduate School in Monterey, California, and a fellow at the Center for Research on Computation and Society at Harvard University.

Dr. Garfinkel has research interests in computer forensics, the emerging field of usability and security, and in personal information management. He is also interested in information policy and terrorism, and has published in these areas since the late 1980s.

In addition to his work as an academic, Garfinkel is a contributing editor at Technology Review Magazine, where he writes a weekly blog on emerging technology, and an editor-at-large at CSO Magazine, where he writes the award-winning monthly column "Machine Shop." In the past Garfinkel was a weekly contributor to *The Boston Globe*, *The San Jose Mercury News* and *The Christian Science Monitor*. He was a founding contributor of *Wired Magazine*. Overall, Garfinkel's popular articles have appeared in more than 70 publications around the world.

Garfinkel is a consulting scientist at Basis Technology Corp., which develops software for extracting meaningful intelligence from unstructured text, and a founder of Sandstorm Enterprises, a computer security firm that develops advanced computer forensic tools used by businesses and governments to audit their systems.

Garfinkel is the author or co-author of fourteen books on computing. He is perhaps best known for his book *Database Nation: The Death of Privacy in the 21st Century*. Garfinkel's most successful book, *Practical UNIX and Internet Security* (co-authored with Gene Spafford), has sold more than 250,000 copies in more than a dozen languages since the first edition was published in 1991.

Garfinkel received three Bachelor of Science degrees from MIT in 1987, a Master's of Science in Journalism from Columbia University in 1988, and a Ph.D. in Computer Science from MIT in 2005. Garfinkel lives in Belmont with his wife and three children.



MICHAEL GEIST, Canada Research Chair of Internet and E-commerce Law at the University of Ottawa

Dr. Michael Geist is the Canada Research Chair of Internet and E-commerce Law at the University of Ottawa. He has obtained a Bachelor of Laws (LL.B.) degree from Osgoode Hall Law School in Toronto, Master of Laws (LL.M.) degrees from Cambridge University in the UK and Columbia Law School in New York, and a Doctorate in Law (J.S.D.) from Columbia Law School.

Dr. Geist has written numerous academic articles and government reports on the Internet and law and is a columnist on technology law issues that regularly appears in media outlets on five continents including North America (the Toronto Star and Ottawa Citizen), South America (Santiago Times), Europe (BBC), Asia (South China Morning Post), and Africa (Kenya's Daily Nation). He is the creator and consulting editor of BNA's Internet Law News, a daily Internet law news service, editor of the monthly newsletters, Internet and E-commerce Law in Canada and the Canadian Privacy Law Review (Butterworths), the founder of the Ontario Research Network for E-commerce, on the advisory boards of several leading Internet law publications including Electronic Commerce & Law Report (BNA), the Journal of Internet Law (Aspen) and Internet Law and Business (Computer Law Reporter). He is the author of the textbook Internet Law in Canada (Captus Press) which is now in its third edition, and the editor of In the Public Interest: The Future of Canadian Copyright Law, published in 2005 by Irwin Law.

Dr. Geist's work has been recognized with several important awards and grants including the 2002 Canadian Association of Law Teachers Scholarly Paper Award and a major research grants from the Social Sciences and Humanities Research Council of Canada for work on Internet jurisdiction and copyright law. In 2003, Dr. Geist became the first law professor to receive the Ontario Premier Research Excellence Award, obtained a significant grant from Amazon.com to establish Canada first technology law public interest litigation clinic at the University of Ottawa, was named one of Canada Top 40 Under 40, and received the Public Leadership Award from Canarie for his contribution to the Internet in Canada.

Dr. Geist serves on the director and advisory boards of several Internet and IT law organizations including the Canadian Internet Registration Authority, the dot-ca administrative agency, and the Public Interest Registry, which manages the dot-org domain. He was a member of Canada's National Task Force on Spam and is the former chair of a global Internet jurisdiction project for the American Bar Association and International Chamber of Commerce. He is regularly quoted in the national and international media on Internet law issues and has appeared before government committees on e-commerce policy.



RISHAB AIYER GHOSH, Senior Researcher, UNU-MERIT

Rishab Aiyer Ghosh is Founding International and Managing Editor of First Monday, the most widely read peer-reviewed on-line journal of the Internet, and Senior Researcher at the Maastricht Economic Research Institute on Innovation and Technology (MERIT) at the University of Maastricht and United Nations University, the Netherlands. In 1997, he co-authored tools to measure contributions by free software developers by analysing source code, pioneering now widely used research techniques. In 2000 he coordinated the European Union -funded FLOSS project, the most comprehensive early study of free/libre/open source users and developers; the follow-on FLOSSPOLs project on government policy support; and the on-going

FLOSSWorld project conducting comparative studies worldwide. He is involved in government policy initiatives on free software and open standards, and conducts research funded by the European Union and the US National Science Foundation. He was a co-author and initial signatory to the Geneva Declaration on the Future of WIPO and involved in the early drafting of the Access To Knowledge (A2K) Treaty. In 2005, he published "CODE: Collaborative Ownership and the Digital Economy" with MIT Press. Rishab was elected a board member of the Open Source Initiative, which maintains the Open Source Definition.



SHANE GREENSTEIN, Elinor and Wendell Hobbs Professor, Management and Strategy Department, Kellogg School of Management

Shane Greenstein is the Elinor and Wendell Hobbs Professor of Management and Strategy at the Kellogg School of Management, Northwestern University. He is a leading researcher in the business economics of computing, communications and Internet infrastructure. His research and writing focus on a variety of topics in this area, including the adoption of client-server systems, the growth of commercial Internet access networks, the industrial economics of platforms, and changes in communications policy. Over a sixteen year career he has written and edited five books, and published over sixty refereed journal articles and book chapters. He has

written over seventy other articles for policy and business audiences. He is regularly quoted in national and local media. He has been a regular columnist and essayist for *IEEE Micro* since 1995.

Greenstein was the Program Chair for the *Telecommunication Policy Research Conference* in 2000 and co-chair with Victor Stango for the conference on *Standards and Public Policy*, held at the Chicago Federal Reserve Board in 2005. He is a participant in many national research organizations, including *National Bureau of Economic Research* and *Conference on Research, Income and Wealth*.

Greenstein sits on numerous editorial boards, including *Journal of Regulatory Economics*, *Economics Bulletin*, and *Information and Economics Policy*, and holds or has held several oversight responsibilities, including advisory committee for the U.S. Census, and National Institute for Science and Technology. He also reviews for a wide assortment of major journals in economics and information science, and for a wide assortment of organizations, including the *National Science Foundation*, and *National Academy of Science*. At Northwestern University he is affiliated with the *Center for the Study of Industrial Organization* and the *Institute for Policy Research*. He was chair of the Management and Strategy Department from 2002 to 2005.



AMBASSADOR DAVID A. GROSS, U.S. Coordinator for International Communications & Information Policy, U.S. Department of State

Ambassador David A. Gross has served since August 2001 as the U.S. Coordinator for International Communications and Information Policy in the Bureau of Economic and Business Affairs. He was nominated by President George W. Bush and confirmed by the Senate.

Ambassador Gross began his career in communications more than twenty years ago. After graduating from the University of Pennsylvania in 1976 (BA in Economics) and receiving his law degree from Columbia University in 1979, Ambassador Gross joined the law firm of Sutherland, Asbill & Brennan. While at the law firm, he became a partner specializing in communications and telecommunication issues. He remained at Sutherland, Asbill & Brennan until 1994, when he was named Washington Counsel for AirTouch Communications. AirTouch was the world's largest wireless telecommunications company, with extensive interests in the United States, Europe, Asia, and elsewhere.

In 1999, Air Touch was acquired by Vodafone. In 2000, Ambassador Gross joined the Bush-Cheney presidential campaign as National Executive Director of Lawyers for Bush-Cheney.

Since joining the Department of State, Ambassador Gross has addressed the United Nations (UN) General Assembly and has led U.S. delegations to many major international telecommunications conferences, including the International Telecommunications Union (ITU) 2002 Plenipotentiary in Marrakech, Morocco, the ITU's 2002 World Telecommunication Development Conference in Istanbul, the ITU's 2004 World Telecommunication Standardization Assembly in Brazil, and two APEC Tel Ministerials, in Shanghai, China and Lima, Peru. He also has led the U.S. Government's participation in the multilateral preparatory work for both phases of the UN's "Heads of State" World Summit on the Information Society, and had the honor of leading the U.S. delegations to both the formal Summit in Geneva in 2003 and in Tunis 2005. These Summits were the largest U.N Summits ever held, with almost 20,000 delegates and a very large number of heads of state and government.

Ambassador Gross has been, a member of the UN Information and Communications Technologies Task Force. He also has led interagency telecommunications delegations to many countries, conducted bilateral discussions at senior levels with representatives from more than 70 countries, and provided commercial and policy advocacy on behalf of U.S. companies in markets around the world. Ambassador

Gross has had the honor to lecture at many colleges and universities around the world, including in the United States, Qatar, the UAE, Yemen, Thailand, India, Bangladesh and France.

For many years, Ambassador Gross has been active with various bar associations, including the Federal Communications Bar Association (in which he has twice been elected to be an officer, and has often served as co-chair of various committees) and the International Bar Association (in which he has been vice-chair of the Communications Committee). He currently resides in Bethesda, Maryland with his wife and son.



GEOFF HUSTON, Senior Internet Research Scientist, Asia Pacific Network Information Centre (APNIC)

GEOFF HUSTON holds a B.Sc. and a M.Sc. from the Australian National University. He has been closely involved with the development of the Internet for the past decade, particularly within Australia, where he was responsible for the initial build of the Internet within the Australian academic and research sector. Huston is currently the Chief Scientist in the Internet area for Telstra. He is also the Executive Director of the Internet Architecture Board, and is a member of the APNIC Executive Committee. He was an inaugural Trustee of the Internet Society, and served as Secretary of the Board of Trustees from 1993 until 2001, with a term of service as chair of the Board of Trustees in 1999 û 2000. He is author of a number of Internet-related books.



SUZANNE IACONO, Senior Science Advisor for Computer & Information Science & Engineering (CISE), US National Science Foundation (NSF)

Dr. Suzi Iacono is currently a Senior Science Advisor in the Directorate for Computer and Information Science and Engineering (CISE) at the National Science Foundation (NSF) and Division Director (Acting) for the Division of Computer and Network Systems (CNS). In 2004, she was the Division Director (Acting) for the Division of Information and Intelligent Systems, also in CISE. From 2003 to 2005, she headed up the Information Technology Research (ITR) Program, an NSF-wide Priority Area. Previously, she was Program Director for Digital Society and Technologies in CISE. She also has interagency duties and serves as co-chair of the Chairs Committee for the Subcommittee on Networking IT R&D (NITRD) under the National Science and Technology Council (NSTC). She is also the co-chair of the Social, Economic and Workforce (SEW) Implications of Information Technology and Information Technology Workforce Development Coordinating Group, which gives policy, program and budget guidance on SEW activities to the NITRD Subcommittee. Prior to coming to NSF, she held a faculty position at Boston University, was a Visiting Scholar at the Sloan School, Massachusetts Institute of Technology, and was a Research Associate at the Public Policy Research Office at the University of California, Irvine. Over the years, she has written journal articles, book chapters and conference papers on Social Informatics, an area of interdisciplinary research and education that integrates aspects of computer and social sciences. Suzi received her PhD from the University of Arizona in Information Systems and her MA and BA from the University of California, Irvine in Social Ecology.



BRIAN KAHIN, Research Investigator and Adjunct Professor, University of Michigan

Brian Kahin is Senior Fellow at the Computer & Communications Industry Association in Washington, DC. He is also Research Investigator and Adjunct Professor at the University of Michigan School of Information and a special advisor to the Provost's Office. From 2003-2005, he taught at the University of Michigan as a Visiting Professor with joint appointments in the School of Information, the Gerald R. Ford School of Public Policy, and the Department of Communication Studies.

Kahin's research focuses on the political economy of knowledge, information technology, and intellectual property -- with a particular focus on patent reform and open standards. Current projects include Patents and Diversity in Innovation and Designing Cyberinfrastructure: Emerging Frameworks and Strategies for Enabling and Controlling Knowledge. He recently co-organized Advancing Knowledge and the Knowledge Economy in collaboration with OECD, the European Commission, and the National Science Foundation.



JOHN M. R. KNEUER, Assistant Secretary of Commerce for Communications and Information

John M. R. Kneuer was nominated by President George W. Bush on May 1, 2006, and confirmed by the U.S. Senate on Dec. 9, 2006, to be Assistant Secretary of Commerce for Communications and Information and Administrator of the National Telecommunications and Information Administration.

As Assistant Secretary of Commerce for Communications and Information, Mr. Kneuer oversees and directs NTIA. NTIA seeks to promote market-based policies which lower prices to consumers and encourage innovation, while harnessing the resources of the federal government to support spectrum-based technologies which enhance efficiency and productivity. In addition to representing the Executive Branch in domestic and international telecommunications and information policy activities, NTIA also manages the federal use of spectrum; performs cutting edge telecommunications research and engineering, including resolving technical telecommunications issues for the federal government and private sector; and administers infrastructure and public telecommunications facilities grants.

Mr. Kneuer joined NTIA in October 2003. Prior to joining NTIA, Mr. Kneuer served as a Senior Associate at the law firm of Piper Rudnick in Washington, D.C., providing regulatory and legislative representation to corporate clients in the telecommunications, defense, and transportation industries.

From 1997-1998, Mr. Kneuer served as the Executive Director for Government Relations at the Industrial Telecommunications Association, and prior to that served as an Attorney-Advisor in the Commercial Wireless Division of the Federal Communications Commission's Wireless Bureau. Mr. Kneuer received B.A. and J.D. degrees from the Catholic University of America. He is a member of the District of Columbia Bar.



MARKUS KUMMER, Executive Coordinator, United Nations Internet Governance Forum

Markus Kummer is the Executive Coordinator of the Secretariat supporting the Internet Governance Forum (IGF). He was appointed to this post by the United Nations Secretary-General in March 2006. Previously he headed the Secretariat of the Working Group on Internet Governance (WGIG), which was established by the Secretary-General on a mandate by the first phase of the World Summit on the Information Society. From 2002 until 2004 he held the position as eEnvoy of the Swiss Foreign Ministry in Berne. His main tasks included foreign policy co-ordination with

regard to information and communication technologies in general and the WSIS in particular. Mr. Kummer was a member of the Swiss delegation during the first phase of the WSIS where he chaired several negotiating groups, including the group on Internet governance. He is a career diplomat who served in several functions in the Swiss Foreign Ministry in Berne, Lisbon, Vienna, Oslo, Geneva and Ankara.



LAWRENCE H. LANDWEBER, Professor Emeritus of Computer Science at the University of Wisconsin - Madison

Lawrence H. Landweber is Professor Emeritus of Computer Science at the University of Wisconsin - Madison where until July 2000 he held the John P Morgridge Chair. He joined the Wisconsin Computer Science Department in 1967, serving as Chairman during 1977-79 and 1987-90. During 2002-2006 he was Senior Advisor to the Assistant Director for Computer and Information Science and Engineering of the US National Science Foundation. Dr. Landweber is a member of the Board of Internet2 and Chair of its Network Research Council. He has been Chairman of the Board, President and

Vice President for Education of the Internet Society and a member of the Computer Research Association Board. He is a Fellow of the ACM and in 2005 received the IEEE Award on International Communication. He received a B.S. in mathematics from Brooklyn College and a Ph.D. in computer science from Purdue University.

Dr. Landweber's first networking project, TheoryNet, involved an email system for theoretical computer scientists. In 1979, he helped conceive and later led the CSNET (Computer Science Network) project.

The goal of CSNET was a network for all US computer research groups. Funded by NSF, CSNET provided an early large-scale community network based on Internet technology. Later, he worked with NSF on the development of the NSFNET. From 1987 to 1992, he led the Wisconsin component of the NSF-DARPA Gigabit Testbed Project. He currently participates in the NSF-funded 100x100 project, whose goal is to redesign the Internet to accommodate 100 million homes connected at 100 Mbps.

Dr. Landweber has been a leader in the development of the international academic/research Internet. In the 1980s he helped establish the first network gateways between the US and many countries in Europe, Asia and Latin America and also advised these countries on the development of their national networks. In the 1990s he helped initiate the Internet Society's Workshops for Developing Countries. These workshops were a key factor in the spread of the Internet to developing countries. Later he collaborated on the plan for what became the USAID Leland Initiative, the program that has played a major role in bringing the Internet to Africa. While President of the Internet Society, he initiated the ISOC proposal to revise the governance of the Domain Name System and assisted in the formation of ICANN.



ELLIOT E. MAXWELL, Fellow of the Communications Program at Johns Hopkins University; Distinguished Research Fellow of the eBusiness Research Center of Pennsylvania State University

Elliot E. Maxwell advises public and private sector clients on strategic issues involving the intersection of business, technology, and public policy in the Internet and E-commerce domains. He is a Fellow of the Communications Program at Johns Hopkins University, and Distinguished Research Fellow at the eBusiness Research Center of the Pennsylvania State University. He also advises EPCglobal, the entity implementing the Electronic Product Code version of radio frequency identification (RFID).

From 1998 until 2001, Maxwell served as Special Advisor for the Digital Economy to U.S. Secretary of Commerce William Daley and U. S. Secretary of Commerce Norm Mineta. In this position he was the principal advisor to the Secretary on the Internet and E-commerce. He coordinated the Commerce Department's efforts to establish a legal framework for electronic commerce, ensure privacy, protect intellectual property, increase Internet security, encourage broadband deployment, expand Internet participation, and analyze the impact of electronic commerce on all aspects of the economy. He was deeply involved in the development of E-government activities and was a founding member of the Federal Interagency Working Group on Electronic Commerce.

After leaving the government he was Senior Fellow for the Digital Economy and Director of the Internet Policy Project for the Aspen Institute's Communications and Society Program. The Communications and Society Program focuses on the impact of communications and information technologies on democratic institutions, the economy, individual behavior, and community life.

Previously, Maxwell worked for a number of years as a consultant and as Assistant Vice President for Corporate Strategy of Pacific Telesis Group where he combined business, technology, and public policy planning. He served at the Federal Communications Commission as Special Assistant to the Chairman, Deputy Chief of the Office of Plans and Policy, and Deputy Chief of the Office of Science and Technology. Maxwell also worked for the U.S. Senate as Senior Counsel to the U.S. Senate Select Committee on Intelligence Activities.

Maxwell graduated from Brown University and Yale University Law School. He has written and spoken widely on issues involving the Internet, electronic commerce, telecommunications, and technology policy. His most recent work, "Open Standards, Open Source, and Open Innovation: Harnessing the Benefits of Openness," was issued by the Committee for Economic Development. He also worked with CED to release the report, "Promoting Innovation and Economic Growth: The Special Problem of Digital Intellectual Property."

In 2005, Maxwell presented "Some Reflections on the Future: Dipping a Toe in the Datastream" to the Organisation for Economic Co-operation and Development in Paris. That same year, the Economic Policy Institute published his report, "A New Future for Telecommunications Policy: Learning from Past Mistakes." His study of Internet Governance "Rethinking Boundaries in Cyberspace," written with Erez Kalir, was published by the Aspen Institute in 2002.



LEE MCKNIGHT, Associate Professor, School of Information Studies, Syracuse University

Dr. Lee W. McKnight is Director of the Wireless Grids Lab (www.wirelessgrids.net) at Syracuse University (www.syr.edu), where he is Associate Professor, School of Information Studies (<http://itsweb.syr.edu>), and Co-Founder and Partner in the Internet Governance Project (www.internetgovernance.org).

Dr. McKnight is also Chairman, President, and Founder of the Wireless Grids Corporation (www.wgrids.com). The firm is commercializing technology spun off from McKnight's very successful 'Virtual Markets and Wireless Grids' NSF project (2002-2006). Wireless Grids Corporation is the leading provider of solutions for the home grid and office grid markets.

Dr. McKnight previously taught at the Fletcher School of Law and Diplomacy, Tufts University, where he was Director of the Murrow Center for International Information and Communication; and earlier, with MIT's Technology and Policy Program, Sloan School of Management, and Department of Electrical Engineering and Computer Science. Dr. McKnight continues to lecture annually for MIT's summer professional course 'Promoting Innovation: The Dynamics of Technology and Organizations'. (http://web.mit.edu/mitpep/pi/courses/promoting_innovation.html)

Dr. McKnight is the author of more than 50 journal articles and book chapters, and is co-author or co-editor of 4 MIT Press books (Internet Economics, The Gordian Knot: Political Gridlock on the Information Highway, and Creative Destructions: Business Survival Strategies in the Global Information Economy, which has been translated and published in Japanese and Chinese with the support of the Hitachi Research Institute.

Lee McKnight is widely recognized as a visionary on future technology, economic, social and political trends, and has been frequently quoted or featured in media such as The Wall Street Journal, The New York Times, the International Herald Tribune Red Herring, Business Week, NPR, CNBC, TechTV and WCNY-TV. He has been invited to speak or keynote in many nations including: Barbados, Belgium, Brazil, Canada, China, Finland, France, Germany, Grenada, Hungary, Ireland, Italy, Jamaica, Japan, Netherlands, Spain, St. Lucia, Sweden, Switzerland, and the United Kingdom.

Dr. McKnight received his PhD from MIT, MA from Johns Hopkins, BA from Tufts University (Magna Cum Laude).



MICHELLE O'NEILL, Deputy Under Secretary for International Trade, International Trade Administration, U.S. Department of Commerce

Michelle O'Neill was named Deputy Under Secretary for International Trade in November 2005. In this capacity, she oversees the daily operations of the International Trade Administration (ITA), which has an annual budget of \$400 million and 2300 employees. O'Neill returns to ITA with an impressive professional record and a long history of government service, including 17 years of prior ITA service.

Before rejoining the ITA leadership team, O'Neill served as Deputy Under Secretary of Commerce for Technology. Beginning in July 2004, O'Neill served as the chief operating officer of the Technology Administration, which includes the National

Institute of Standards and Technology.

Over the course of her ITA career, O'Neill has served in every major operating unit of the organization. Between June 2000 and July 2004, O'Neill was the Deputy Assistant Secretary for Information Technology Industries in ITA. In addition to serving as the lead advocate for U.S. information and medical technology companies, O'Neill played an instrumental role in U.S. e-commerce policy, including establishing the U.S. government's first Office of Electronic Commerce.

In addition to her headquarters assignments, O'Neill served overseas as a Senior Commercial Officer with ITA's U.S. and Foreign Commercial Service. From August 1995 to February 1998, O'Neill was the Commercial Attache to the U.S. Mission to the Organization for Economic Cooperation and Development (OECD) in Paris. O'Neill returned to Washington in February 1998, serving as the chief of staff to the Under Secretary for International Trade until March 2000.

Prior to serving overseas, O'Neill worked in the office of Deputy Under Secretary for International Trade Timothy J. Hauser, serving as his executive assistant, between January 1992 and January 1995. From January to August 1995, O'Neill served as a Brookings Legislative Fellow with the House Ways and Means

Trade Subcommittee; from September 1990 to March 1991, O'Neill was detailed to the White House Office of Policy Development.

From 1987 to 1990, she worked in ITA's Office of Antidumping and Countervailing Duty Investigations. O'Neill began her government career as a Presidential Management Intern in 1987.

O'Neill has been awarded a series of honors for her accomplishments. Most recently, she received the Department's Silver Medal for her work on the APEC Privacy Framework; she also received a Silver Medal in 2004, for resolving a major China market access barrier, and in 2001, for developing the U.S. government portal, www.Export.gov. In 2004, International Economy Journal's "Who's Who in China Economic Policy" listed O'Neill. O'Neill won a Departmental Bronze Medal in 2003, for improving Chinese market access for U.S. IT firms. In 2001, O'Neill received the William A. Jump Award for exemplary service in public administration.

O'Neill received her B.A. degree from Sweet Briar College in 1985, and her M.A. from the LBJ School of Public Affairs in 1987. O'Neill resides in Washington, D.C., with her husband, Marshall Mills, and their son.



BRUCE SCHNEIER, Chief Executive Officer, Counterpane

Bruce Schneier is an internationally renowned security technologist and author. Described by *The Economist* as a "security guru," Schneier is best known as a refreshingly candid and lucid security critic and commentator. When people want to know how security really works, they turn to Schneier.

His first bestseller, *Applied Cryptography*, explained how the arcane science of secret codes actually works, and was described by *Wired* as "the book the National Security Agency wanted never to be published." His book on computer and network security, *Secrets and Lies*, was called by *Fortune* "[a] jewel box of little surprises you can actually use." His current book, *Beyond Fear*, tackles the problems of security from

the small to the large: personal safety, crime, corporate security, national security.

Schneier also publishes a free monthly newsletter, *Crypto-Gram*, with over 130,000 readers. In its seven years of regular publication, *Crypto-Gram* has become one of the most widely read forums for free-wheeling discussions, pointed critiques, and serious debate about security. As head curmudgeon at the table, Schneier explains, debunks, and draws lessons from security stories that make the news. Regularly quoted in the media, Schneier has written op ed pieces for several major newspapers, and has testified on security before the United States Congress on many occasions.

Bruce Schneier is the founder and CTO of Counterpane Internet Security, Inc., the world's leading protector of networked information -- the inventor of outsourced security monitoring and the foremost authority on effective mitigation of emerging IT threats.



JOAO SCHWARZ DA SILVA, Director of the Network and Communication Technologies Directorate, DG Information Society and Media, European Commission

Joao Schwarz da Silva joined the European Commission in 1991 where he has been Head of Unit for Mobile and Satellite Communications for many years as well as Head of Unit for Networked Audio-Visual Systems, Home Platforms. Currently he is the Director for Network and Communication Technologies in the Directorate General "Information Society and Media".

He was instrumental in the development of Universal Mobile Telecommunications Systems, UMTS, is a recipient of the UMTS Forum Chairman's award, granted for the best individual contribution towards UMTS and was involved in the development of reconfigurable radio and 4th Generation system concepts. At the ITU, which he joined in 1982, he served as Head of division responsible for the development of the HF Broadcasting Planning System. Between 1971 and 1982 he worked for the Ministry of Communications, Canada. Joao Schwarz da Silva received a PhD on the Performance Analysis of Mobile Packet Radio Systems from Carleton University, Ottawa.



RICHARD SIMPSON, Director General Electronic Commerce, Industry Canada

Mr. Richard Simpson has worked in the field of communications and information technology for more than 25 years, occupying senior executive positions at the national and international levels. He is currently the Director General, Electronic Commerce with Industry Canada, and is responsible for the development and implementation of Canada's electronic commerce strategy at the domestic and international levels. His current responsibilities include Canada's policies towards privacy protection, electronic authentication and online identity management, and measures to combat spam, spyware and related threats to the Internet and online commerce. He has also played a leading role in Internet policy work at the international level, having chaired the OECD's Working Group on the Information Economy, as well as the UN ICT Task Force's Working Party on ICT Indicators and MDG Mapping. He played a prominent role in the work of the G8 DOT Force, which reported to G8 Leaders at their Summit in Kananaskis in June 2002. In 2002, he served as a member of the Commonwealth's Expert Group on Information Technology, and is now a member of the Steering Committee of Commonwealth Connects, the Commonwealth's flagship programme on ICTs for development. Mr. Simpson is currently the Vice Chair of the OECD Committee on Information, Computers, and Communications Policy (ICCP).



BILL ST. ARNAUD, Senior Director Advanced Networks, CANARIE

Bill St. Arnaud is Senior Director Advanced Networks for CANARIE Inc., Canada's Advanced Internet Development Organization. At CANARIE Bill St. Arnaud has been responsible for the coordination and implementation of Canada's next generation optical Internet initiative called CA*net 4.

Previously Bill St. Arnaud was the President and founder of a network and software engineering firm called TSA ProForma Inc. TSA was a LAN/WAN software company that developed wide area network client/server systems for use primarily in the financial and information business fields in the Far East and the United States.

Bill St. Arnaud is a frequent guest speaker at numerous conferences on the Internet and optical networking. He is a graduate of Carleton University School of Engineering.



PAUL TWOMEY, President/CEO, ICANN

Dr. Paul Twomey has been President and CEO of ICANN since 2003. He was previously involved with ICANN as Chair of ICANN's Government Advisory Committee.

ICANN is responsible for the global coordination of the Internet's system of unique identifiers. These include domain names (like .org, .com and country codes like .UK), as well as the addresses used in a variety of Internet protocols. Computers use these identifiers to reach each other over the Internet.

Before joining ICANN, he founded Argo P@cific, an high level international advisory and investment firm assisting clients to build global Internet and technology businesses and strategic alliances.

Previously, Dr. Twomey was founding CEO of the Australian National Office for the Information Economy and the Australian federal government's Special Adviser for the Information Economy and Technology.

Dr. Twomey's diverse career includes Executive General Manager of the Australian Trade Commission, consultant with global management consultancy McKinsey & Company and a Research Officer with an international refugee organisation.

Widely published in academic journals, Dr. Twomey has contributed to books on industry policy, foreign and defense policy, and development issues. He holds a Bachelor of Arts (First Class Honors) from the University of Queensland, a Master of Arts (Political Science and International Relations) from Pennsylvania State University and a PhD from the University of Cambridge.



DENNIS WELLER, Chief Economist, Verizon

Dennis Weller is Chief Economist of Verizon. Mr. Weller did his graduate study in economics at Stanford University, and performed economic research at the Hoover Institution under grants from the U.S. Department of Justice. Mr. Weller began his career in telecommunications at AT&T, where he developed the pricing strategy and new service offers with which AT&T responded to competition in long distance. As Chief Economist of GTE, Mr. Weller proposed new approaches to universal service, and negotiated an industry agreement which cut access charges in the United States in half. At Verizon, Mr. Weller is now focused on policies for next generation networks.



KEVIN WERBACH, Professor, Wharton School of Business, University of Pennsylvania

Kevin Werbach is a leading expert on the business, policy, and social implications of emerging Internet and communications technologies.

Werbach is an Assistant Professor of Legal Studies at The Wharton School, University of Pennsylvania. He is also the founder of the Supernova Group, a technology analysis and consulting firm. He advises companies and writes about emerging trends in communications and information technology. He organizes Supernova, a leading executive technology conference.

Werbach is the former editor of Release 1.0, a renowned industry publication that provides leading-edge analysis of key technology trends for senior executives. Working with technology industry guru Esther Dyson, he also co-organized the annual PC Forum conference. Previously, he served as Counsel for New Technology Policy at the Federal Communications Commission. Called “one of the few policy wonks who really got it” by Wired, he helped develop the United States Government’s e-commerce policy, shaped the FCC’s approach to Internet issues, and authored Digital Tornado, the first comprehensive analysis of the implications of the Internet on telecommunications.

A sought-after speaker and commentator, Werbach appears frequently in print and broadcast media including CNN, CNBC, NPR, ABC News, *USA Today*, *The New York Times*, *The Wall Street Journal* and *The Washington Post*. His writing has appeared in *Harvard Business Review*, *Fortune*, *Wired*, *The Industry Standard*, *The Philadelphia Inquirer*, *Harvard Law Review*, *Slate*, and *Business 2.0*, among other publications. Werbach is a fellow of the Global Institute for Communications in Japan, and serves as an advisor to **Nokia Innovent**, **Socialtext**, Public Knowledge, and the Genesys Angelbridge Fund.

Werbach is a *magna cum laude* graduate of Harvard Law School, where he served as Publishing Editor of the law review, and a *summa cum laude* graduate of the University of California at Berkeley. He lives in the Philadelphia area with his family.



BILL WOODCOCK, Research Director, Packet Clearing House

Bill Woodcock (born San Francisco, California, United States, 1971-08-16) is research director of Packet Clearing House, a non-profit research institute dedicated to understanding and supporting Internet traffic exchange technology, policy, and economics. Bill entered the field of Internet routing research in 1989, while serving as the network architect and operations director for an international multiprotocol service-provision backbone network. In 1993 and 1994, Bill was one of the founders of Packet Clearing House, and has served in his current post as Research Director since 1997. In that time, Bill has directly participated in the establishment of more than

three dozen public Internet exchange points in Europe, Africa, Asia, and the Americas. He continues to serve on the boards of, and provide ongoing technical and policy advice to many of these institutions. Bill was the principal lobbyist on the white-hat side of the successful passage California’s model anti-spam legislation in 1998, and has successfully concluded telecommunications regulatory reform efforts in several African countries.

Bill’s published work includes many PCH white-papers, the McGraw-Hill book *Networking the Macintosh*, the report of the ANF AppleTalk Tunneling Architectures Working Group, which he chaired in 1993 and 1994, many articles in *Network World*, *MacWorld*, *MacWEEK*, *Connections*, and other networking journals and periodicals. In addition, he was principal author of the Multicast DNS, IP Anycast, and

Operator Requirements of Infrastructure Management Methods IETF drafts. In the early nineties, he pioneered IGP and EGP-based topological load balancing techniques using IP Anycast technology. This research, proposed with Mark Kusters at the 1996 Montreal IEPG provided the basis upon which root DNS servers have been deployed since the late 1990s. In addition to protocol development work, Bill has developed networking products for Cisco, Agilent, and Farallon. Bill has director roles in four companies in the areas of satellite communications, content distribution, and domain name service technology. Bill has also served on the board of trustees of ARIN since 2002, the board of directors of the Internet Capacity Development Consortium since 2004, the .ORG Public Interest Registry Advisory Board since 2005, and the board of the ISP/Consortium in 1998 and 1999. He is a current or former PCH representative to AfriNIC, APIA, APNIC, ARIN, CAIDA, IEPG, ISOC, the ISP/C, LACNIC, NATOA, and RIPE, and he speaks regularly at AfNOG, APIA, APNIC, APRICOT, ARIN, ISOC/INET, NordNOG, RIPE, IEPG, IETF, ISMA, SANOG and NANOG meetings. He serves on the program committees of NANOG, SANOG, PAM, and APRICOT.



ANDREW WYCKOFF, Head of Information, Computer and Communications Policy Division, OECD

Andrew W. Wyckoff is head of the Information, Computer and Communications Policy division at the OECD which supports the organisation's work on information society policy issues including telecommunications policy and convergence, information security and privacy and the impact of digitization on economic structure and performance. Projects of current interest include efforts to combat spam, malicious software and identity management / theft, the impact of high capacity Internet (broadband) on voice, video and data including the digitisation of content like music and film and video, Internet governance issues like traffic exchange, and policies and mechanisms for enforcing privacy and consumer policies across borders. In this position, he also has oversight responsibility for the work on consumer policy. He previously served as head of the Economic Analysis and Statistics division within the Directorate of Science, Technology and Industry (STI), where he oversaw work on the design, development and analysis of indicators of science and technology, the information economy, industrial performance and globalization. Prior to joining the OECD, he was program manager of the Information, Telecommunications and Commerce program of the US Congressional Office of Technology Assessment (OTA), an economist at the US National Science Foundation (NSF) and a programmer at the Brookings Institution. He has an undergraduate degree from the University of Vermont and a degree in Public Policy from Harvard University.



MAKOTO YOKOZAWA, Senior Consultant Information Technology Research, Nomura Research Institute / Visiting Professor, Graduate School of Informatics, Kyoto University

Dr. Yokozawa was educated at the University of Tokyo in Japan, where he obtained a degree of B.A. in 1983 and M.A. in 1985 respectively. And he received his Ph.D. in 1988 in Engineering from the University of Tokyo. His thesis entitled "A Study on the Vector Monte Carlo Method for Neutron Transport Analysis" was a computer simulation study, and awarded the "Encourage Award" from the Atomic Energy Society of Japan. He joined NRI (Nomura Research Institute, Ltd.) in 1988, and he is currently working as a Senior Consultant of IT Research Division, concurrently serving as a Senior Researcher of Center for Knowledge Exchange & Creation. He has 18 year research experience at NRI, which includes social systems research, business creating research, multimedia technology systems research, and a start-up project of NRI's Silicon Valley Research Office, NRI-Pacific. He is the lead author of the world's first book about the Ubiquitous Network Society published in 2000. For the past 2 years, Dr. Yokozawa has been continuously advising governmental committees and round tables including those for the u-Japan strategy of Ministry of Internal Affairs and Communications (MIC), Information Economy initiatives of the Ministry of Economy, Trade and Industry (METI), and the e-Japan evaluation research committee of the Cabinet Secretariat (CAS). As a business representative, he is actively leading discussions in ICT-related committees of Japan's main business association, Keidanren.

He joined an ITU workshop in April, 2005, as an expert of Ubiquitous Network Society, and now is the vice chair at OECD's BIAC/ICCP (Business and Industry Advisory Committee / Information, Computer and Communication Policies).

At the Graduate School of Informatics of Kyoto University, he has a laboratory entitled Marketing and Organizational Informatics, where 5 students and a faculty are working in the area of business informatics including ICT policies.



JONATHAN ZITTRAIN, Chair in Internet Governance and Regulation at Oxford University.

Jonathan Zittrain holds the Chair in Internet Governance and Regulation at Oxford University and is a principal of the Oxford Internet Institute. He is also the Jack N. & Lillian R. Berkman Visiting Professor for Entrepreneurial Legal Studies at Harvard Law School, where he co-founded its Berkman Center for Internet & Society.

His research interests include battles for control of digital property and content, cryptography, electronic privacy, the roles of intermediaries within Internet architecture, and the useful and unobtrusive deployment of technology in education.

He has recently co-authored a study of Internet filtering by national governments, and is writing a book about the future of the now-intertwined Internet and PC.