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David Arthurs

Dr. David Arthurs is the President of Hickling Arthurs Low Corporation (HAL). David specializes in economic analysis, policy development, and strategic planning for public sector science and technology organizations. For the past 15 years, he has been informing the evolution of all aspects of the Canadian geomatics industry, including surveying, geodesy, earth observation, cartography, hydrography, positioning, and geographic information systems. HAL is currently finalizing a major study for Natural Resources Canada on the economic value of geospatial information in the Canadian economy.

David has a BASc in Engineering from the University of Waterloo, an MBA from the University of Ottawa, and a PhD from the School of Business at Queen's University.

HAL is headquartered in Ottawa, Canada. Clients are decision makers, policy advisors and public sector administrators at the local, regional and national levels who seek specialized information, strategies and assessments that are factual, practical and that can catalyze change. HAL's practice areas include innovation policy, public administration and strategy, socio-economic impact analysis, and regional economic development.

Richard L. Bernknopf

Richard L. Bernknopf is a Research Professor in the Department of Economics at the University of New Mexico (UNM). Before joining the faculty at UNM, Dr. Bernknopf was an economist with the United States Geological Survey (USGS) for more than thirty-eight years. Dr. Bernknopf's research focuses on the demonstration of the relevance (value to society) of natural science information including earth observation and the translation of that information into a form compatible with decision-making processes. During his tenure at USGS, he was a consulting professor and co-director of the Center for Earth Science Information Research at Stanford University, and co-director of the Spatial Integration Laboratory for Urban Systems at the University of Pennsylvania. Currently he is associated with the Science Impact Laboratory for Policy and Economics at the University of New Mexico and the Wharton Geospatial Initiative at the University of Pennsylvania.

Craig D. Broadbent

Craig D. Broadbent is an Assistant Professor of Economics at Illinois Wesleyan University in Bloomington, IL. He received his PhD. in environmental and resource economics with an emphasis in public finance and experimental economics in 2009.

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His dissertation work emphasized the importance of coupling physical and engineering models with an economic market model that could facilitate the voluntary transfer of water rights on a temporary basis. He has published papers on these temporary transfer markets in *Agricultural Water Management*, the *Journal of Contemporary Water Research and Education* and the *Natural Resources Journal*. Currently, he is part of a joint effort with the U.S. Geologic Survey investigating water quality markets for nitrate mitigation in the central portion of the United States. Geospatial data is a large component of this effort as it forms the basis of nitrate monitoring, tracking the location and quantity of nitrogen in waterways through the Mississippi River Region.

In addition to investigating the potential of water markets Dr. Broadbent specializes in the valuation of ecosystem services. He has been part of two studies that gather public perceptions for Riparian systems in the Southwestern United States. This effort has led to an investigation into the precision of non-market valuation techniques with multiple published papers in the *Journal of Environmental Planning and Management*, *Economics Bulletin* and *Western Economics Forum*. Currently he is coupling multiple physical and social science models together to conduct valuation studies for two river systems in southern Arizona. This research investigates the tradeoffs of water use for human consumption versus Riparian Ecosystem preservation. Geospatial data is utilized to create maps that depict vegetation species throughout these river systems, which are used to demonstrate possible future conditions.

Andy Coote

Andrew Coote is director, ConsultingWhere, UK. He is an Information Technology consultant specialising in location-based applications with a strong interest in strategy development and socio-economic value assessment.

Andrew has over 30 years experience in developing and using information systems, specialising in management of location-enabled applications. He has held senior management positions in both Government at Ordnance Survey and the private sector at ESRI (UK). His undergraduate degree was in Land Surveying and Geography, he also holds an M.Sc in Computer Science from University College London and a diploma in Company Direction.

He formed ConsultingWhere in 2008. The organisation specialises in providing business strategy advice and business case development support to organisations worldwide. His recent consultancy assignments include facilitating data specification work for the European Union INSPIRE programme, strategic business direction reviews for software companies in the US, Russia and Egypt and advising the New Zealand Geospatial Office. He has led recent studies on the economic benefits of geospatial information for both local government and Ordnance Survey. In the latter case this was part of their evaluation of the impact of the OpenData initiative.

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Max Craglia

Since 2005 Max Craglia has been working at the Digital Earth and Reference Data Unit, European Commission- Joint Research Centre. The Unit is responsible for the technical coordination of the INSPIRE Directive, creating an infrastructure for Spatial Information in Europe to support environmental policy. Max is responsible for research on the socio-economic impact assessment of INSPIRE. He coordinates research projects related to the interoperability of multi-disciplinary e-infrastructures that contribute to the Global Earth Observation System of Systems. Recent activities have taken Digital Earth as a framework for evolving current e-infrastructures and integrate official data with real time data coming from citizens and sensors. This approach is being applied to develop novel indicators of Quality of Life in urban areas to include both quantitative data from sensors and qualitative information from the public. For a selection of recent publications see http://inspire-forum.jrc.ec.europa.eu/pg/pages/view/29954/publications-articles-in-refereed-journals

Lawrence Friedl

Lawrence Friedl serves as the Director of the Applied Sciences Program within NASA's Earth Science Division. The Program supports efforts to discover and demonstrate innovative and practical applications of Earth science by public and private organizations. He has been with the NASA Applied Sciences Program since 2002.

Among his responsibilities, Lawrence is a Co-Chair of the interagency U.S. Group on Earth Observations (USGEO) and represents the United States on the international Group on Earth Observations (GEO). He is the NASA Principal for the interagency Civil Applications Committee. He also serves on the Award Committee for the National Space Club's Award for Innovative Uses of Earth Observation Satellite Data, the Program Organizing Committee for the American Meteorological Society 2014 meeting, and the International Committee for Remote Sensing of Environment.
Prior to joining NASA, Lawrence worked at the US Environmental Protection Agency, focusing on applications of geospatial data and technology. He also served as a Space Shuttle Flight Controller in NASA's Mission Control Center for 15 missions, including several Earth science missions.

Lawrence received a Masters degree in Public Policy from Harvard University's Kennedy School
of Government, specializing in Science and Technology Policy. He received a Bachelor's degree in Mechanical & Aerospace Engineering from Princeton University. He also received a certificate in Space Policy and Law from the International Space University.

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Jason Gallo

Jason Gallo leads the IDA Science and Technology Policy Institute's Earth observation work with the Office of Science and Technology Policy (OSTP) and the National Science and Technology Council (NSTC) U.S. Group on Earth Observation Subcommittee and Program. Before joining STPI, Dr. Gallo was a lecturer in the Communications Studies Department at Northwestern University and a dissertation fellow at the Center for Nanotechnology in Society at the University of Wisconsin-Madison. His academic research focused on the role of the National Science Foundation in the development of U.S. information infrastructure. He holds an MA in Communication, Culture, and Technology from Georgetown University and a PhD in Media, Technology, and Society from Northwestern University.

JAMES E. "Jim" GERINGER

CHECKERED PAST: Native of Wyoming, reared on the family farm near Wheatland. 10 year member of 4-H. BS Mechanical Engineering, Kansas State University. Several years on the USAF unmanned space programs integrating space boosters and satellites for both the Air Force and NASA, including the Global Positioning Satellite System, early warning systems and the Mars Viking Lander.
Served in the Wyoming Legislature from 1983 to 1994, including six years each in the House and the Senate.   Full time occupations included contract administrator for the construction of a large coal-fired electric power plant, then full-time   production   agriculture.
Elected Wyoming's 30th governor in 1994, completed second term in January 2003.

CURRENT: In 2003 joined Environmental Systems Research Institute (ESRI), the world leader of geographic information systems software, as a senior executive. Serves on the Board of Directors of Dakota Gasification, producer of synthetic natural gas and ten other co-products.
Governor Geringer and his wife Sherri, have five children, eleven grandchildren, one great-grandchild. They base their consulting business, The Geringer Group, at their home near Cheyenne, Wyoming.

ACTIVITIES: Board Chair, Western Governors University; National Advisory Board, Univ of Wyo College of Engr and Appl Sciences; Chair, Association of Governing Boards for Universities and Colleges; Global Positioning Satellite System Advisory Board; Chair, Policy Consensus Initiative, fostering collaboration between and among elected leaders; Chair, Complete College America; Vice-Chair, DigiLEARN, promoting technology for K-12student-centered learning.

PAST ACTIVITIES: Chair, National Governors Association Technology Task Force; Chair, Education Commission of the States; Chair, Western Governors'

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Association; Chair of the Interstate Oil and Gas Compact Commission; National Commission on Mathematics & Science Teaching; National Commission on Service-Learning; National Commission on Teaching & America's Future; Mapping Sciences Committee and the Climate Choices Committee under the National Research Council, National Academy of Science.

Pierre Glynn

Pierre Glynn currently serves as Branch Chief for the Eastern Branch of the USGS National Research Program in Reston. The scientists in his Branch conduct research in many fields and on many issues. These include numerical modeling of water flow and solute transport, environmental isotope forensics and characterization, groundwater dating, water and sediment contamination problems, nutrient cycling, ecological habitats, geomorphic processes, and the application of molecular and other techniques to the study of microbial processes. Beyond his Branch responsibilities, Pierre Glynn have undertaken a wide diversity of assignments for the USGS. Recently, these have included the advancement of integrated environmental and ecological modeling across a range of organizations and disciplinary interests. Research efforts have focused on geochemical modeling and characterization of groundwater contamination, nuclear waste disposal, and groundwater dating studies. Earlier in his career, Dr Glynn also developed a thermodynamic framework to explain and predict how substitutional impurities affect the solubility and aqueous interactions of mineral phases, and how impurities are released and taken up by minerals. His academic background includes a B.A. (with a major in Geological Sciences) from Columbia College and Lamont Doherty Earth Observatory, an M.Sc. from University of Quebec in Montreal in isotopic environmental geochemistry and the cycling of atmospheric $14CO2$, and a Ph.D. from the University of Waterloo, where his studies focused on groundwater studies and the thermodynamics of water-rock interactions.

Christopher Goranson

Christopher Goranson is a Presidential Innovation Fellow working to support the Department of the Interior's efforts to make data and services covering our Nation's public lands and waters more accessible. Chris has worked in the fields of design, public health, academia, government services and planning, most recently as the Director of the Parsons Institute for Information Mapping at The New School. While there his team provided innovative design support for electronic health records at DoD and VA, and supported DARPA's XDATA program. Other recent efforts include climate visualization initiatives with Parsons The New School for Design, Aalborg University and USC / NASA JPL. Previously Chris was the Director of the GIS Center at the NYC Department of Health, and in 2008 completed an NSF-funded fellowship to compare different

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disease cluster detection methods at Japan's National Institute of Public Health. Originally from Colorado, Chris is looking forward to bringing together a love of the outdoors and technology through this project.

Myron Gutmann

Dr. Gutmann specializes in historical demography and population-environment relationships, with a focus on Europe and the Americas during the past four centuries. His current research focuses on the relationship between population and environment in the Great Plains of the U.S., and on the history of the U.S. Hispanic population.

Dr. Gutmann is Professor, Department of History, University of Colorado, Boulder. and off-Campus Research Affiliate, Population Studies Center, University of Michigan. He obtained his Ph.D. from Princeton University.

Henry Hertzfeld

Dr. Henry R. Hertzfeld is a Research Professor of Space Policy and International Affairs at the Space Policy Institute, Center for International Science and Technology Policy, Elliott School of International Affairs, George Washington University. He is also an Adjunct Professor of Law at GW. He is an expert in the economic, legal, and policy issues of space and advanced technological development. Dr. Hertzfeld has served as a Senior Economist and Policy Analyst at both NASA and the National Science Foundation, and is a consultant to both U.S. and international agencies and organizations. He is author of many articles on the economic and legal issues concerning space and technology. Dr. Hertzfeld is a member of the Bar in Pennsylvania and the District of Columbia. He can be contacted at: hrh@gwu.edu or hhertzfeld@law.gwu.edu

John Houghton

John Houghton is Professorial Fellow at Victoria University's Victorian Institute of Strategic Economic Studies (VISES). He has published and spoken widely on information technology, industry and science and technology policy issues, and he has been a regular consultant to national and international agencies, including the Organisation for Economic Cooperation and Development.

John's research is at the interface of theory and practice with a strong focus on the policy application of economic and social theory. Consequently,

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his contribution tends to be in bringing knowledge and research methods to bear on policy issues in an effort to raise the level of policy debate and improve policy outcomes. In 1998, John was awarded a National Australia Day Council, Australia Day Medal for his contribution to industry policy development.

A major focus of John's recent research has been on knowledge access and the economic and social impacts of access to information. This work explores the economic implications of alternative publication and distribution models and the impacts of those models on the economy and society. Major foci include open access models for scientific and scholarly publishing, the curation and open sharing of research data, and the costs and benefits of making public sector information and government data more openly and freely available (See http://www.vises.org.au/projects/innovation.htm).

Jerry Johnston

Jerry Johnston is Geospatial Information Officer at the US Department of the Interior (DOI). In this role, Dr. Johnston leads DOI's efforts to coordinate and implement geospatial technology across the Department to meet a wide range of mission goals. This includes providing a vision for geospatial interoperability throughout the enterprise, with particular focus on building and operating the National Geospatial Platform. Previously, Dr. Johnston was with the Environmental Protection Agency, most recently serving as the Agency's Geospatial Information Officer. Prior to his work at EPA, he worked at Image Matters LLC of Leesburg, VA and Pangaea Information Technologies of Chicago, IL, both providers of geospatial information management products and services. Dr. Johnston holds a B.S. in Environmental Science from Michigan State University as well as M.S. and Ph.D. degrees in Environmental Science from Indiana University, Bloomington, and recently completed his term as a charter member of the National Geospatial Advisory Committee (NGAC).

Claire Jolly

Claire Jolly is Policy Analyst in the OECD International Futures Programme (IFP). C. Jolly is the resident expert on aerospace activities at OECD, which she joined in 2003. She manages research activities on policy, regulatory, economic and financial aspects of the space sector in the OECD Directorate for Science, Technology and Industry. She holds a Masters Degree in Space Studies from the international Space University (1998-1999), and a PhD in International relations from the University of Durham (2006-2009). The theme of her studies focused on the transfer of space technologies.

Suzette Kimball

Suzette Kimball, Acting Director (February 2013), USGS. Dr. Suzette Kimball is internationally known for work in coastal processes and has served as Deputy

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Director since 2010. Dr. Kimball was named Associate Director for Geology in 2008, coming to that position from being the Director of the Eastern Region since 2004.

Dr. Kimball joined the USGS as Eastern Regional Executive for Biology. In that position, she built many partnerships, helped shape programs, and led the establishment of the USGS Florida Integrated Science Center. She came to the USGS from the National Park Service in Atlanta, where she was Associate Regional Director.

She was assistant professor of environmental sciences at the University of Virginia, co-director of the Center for Coastal Management and Policy and marine scientist at the Virginia Institute of Marine Science, and managed coastal morphology and barrier island studies in the U.S. Army Corps of Engineers.

She serves on executive boards and many State and national committees, including the DOI Climate and Energy Task Force, the U.S. National Committee on GeoScience, the National Academy of Science Roundtable on Environmental Health, The DOI Senior Ocean Policy Team, and the International Steering Committee for "OneGeology." She was on the board of directors of the Coastal Society and has served as secretary of the American Geophysical Union's Ocean Sciences Section.

She has authored numerous publications on barrier island dynamics, coastal ecosystem science, coastal zone management and policy, and natural resource exploration, evaluation and management. She has twice received the Presidential Rank Award and twice received the Secretary of the Interior's Gold Level Award for Executive Leadership, and the Secretary of the Interior's Meritorious Service Award.

Dr. Kimball has a doctorate in environmental sciences with a specialty in coastal processes from the University of Virginia, a master's in geology and geophysics from Ball State University, and a bachelor's in English and geology from the College of William & Mary.

John King

John Leslie King is W.W. Bishop Professor of Information, former Dean of the School of Information and former Vice Provost at the University of Michigan. He came to Michigan in 2000 after twenty years on the faculty of the University of California at Irvine. He has published widely from his research on the relationship between changes in information technology and changes in organizations, institutions, and markets. He has been Marvin Bower Fellow at the Harvard Business School, distinguished visiting professor at the National University of Singapore and at Nanyang Technological University in Singapore, and Fulbright Distinguished Chair in American Studies at the University of Frankfurt. From 1992-1998 he was Editor-in-Chief of the INFORMS journal Information Systems Research, and has served as associate editor of many other journals. He has been a member of the Board of the Computing Research Association (CRA), the Council of the Computing Community Consortium, and NSF advisory committees for Computer and Information Science and Engineering (CISE), Social, Behavioral and Economic Sciences (SBE), and

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Cyberinfrastructure (ACCI). He also has served on a number of National Research Council studies. He holds a PhD in administration from the University of California, Irvine, and an honorary doctorate in economics from Copenhagen Business School. He is a Fellow of the Association for Information Systems and a Fellow of the American Association for the Advancement of Science.

Jamie Kruse

Dr. Jamie Kruse is recognized for her research in economics and decision-making under uncertainty especially as it relates to natural hazards. She completed her doctoral work at University of Arizona under dissertation advisor, Vernon Smith (2002 Nobel Laureate). Dr. Kruse has published over fifty refereed journal articles in addition to proceedings, abstracts and reports. Her work has appeared in Econometrica, RAND Journal of Economics, Southern Economic Journal, Journal of Economic Behavior and Organization, Economic Inquiry, Natural Hazards Review, Journal of Wind Engineering and Industrial Aerodynamics, Environmetrics, Weather and Forecasting, Risk Analysis, Journal of Risk and Insurance and others. She has held faculty positions at the University of Colorado, Texas Tech University, East Carolina University and a visiting position at Eidgenossische Technische Hochschule (ETH) in Zurich, Switzerland. Her funded research has been supported by the National Science Foundation, Department of Energy, National Institute of Standards and Technology, Federal Emergency Management Agency, Federal Deposit Insurance Corporation, Niagara Mohawk, State of Texas and the State of North Carolina. She has been PI or Co-I of research projects totalling over $20 million. She is serving as a mentor to 2014-2016 cohort of the NSF Enabling the Next Generation of Hazards Researchers, having mentored the 2008-2010 cohort as well.

During 2010 she held the position of Chief Economist at NOAA. Dr. Kruse's responsibilities within NOAA included member on the NOAA Research Council and chair of the Research Council Social Science Committee. She was co-chair of the ad hoc committee for Scientific Integrity. At the interagency level, she served as a member of the OSTP Subcommittee on Social, Behavioural and Economic Sciences, OSTP Subcommittee on Ocean Science and Technology and was co-chair of the Ocean Social Science Interagency Working Group. On April 20 an explosion of the drilling rig known as the Deepwater Horizon triggered a response from NOAA that involved all line offices. Dr. Kruse was lead in the social science thematic area for the NOAA Deepwater Horizon Science Team and served on the National Incident Command Economic Solutions Team.

At East Carolina University, Dr. Kruse was inducted as one of the 2011 Women of Distinction. Since then she has been recognized by ECU's Division of Research and Graduate Studies with the Lifetime Achievement Award for Research and Creative Work and honoured with the HCAS Distinguished Professorship.

Molly Macauley

Dr. Macauley is Vice President for Research and Senior Fellow with Resources for the Future (RFF), Washington DC. RFF was established at the request of President

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Truman as a think tank focusing on the economics of natural resources. Her research emphasizes new technology and its application to natural and environmental resources, including the value of satellite-derived earth science information and its use in understanding ecological systems and human relationships with these systems, and the value placed by the public on the nation's space activities. Dr. Macauley frequently testifies before Congress and serves on national level committees and panels including the Committee on Earth Science and Applications from Space of the National Research Council's Space Studies Board, the Board of Advisors for the Thomas Jefferson Public Policy Program at the College of William and Mary, the Science Advisory Board of the National Oceanic and Space Administration, the Earth Science Applications Advisory Group of the National Aeronautics and Space Administration (NASA), and the Scholarship Committee of the Women in Aerospace Foundation. She also served as a lead author for NASA on a synthesis and assessment report for the US Climate Change Science Program on use of Earth observations. She was selected as a "Rising Star" by the National Space Society, has been elected to membership in the International Academy of Astronautics, served as a Distinguished Visitor at the invitation of the Government of Quebec, and has received awards for her work from NASA and the Federal Aviation Administration. Molly has published extensively with more than 80 journal articles, books, and chapters of books. She has also been a Visiting Professor in the Department of Economics at Johns Hopkins University. Her PhD and MA degrees in economics are from Johns Hopkins University and her undergraduate degree in economics is from The College of William and Mary.

Mikel Maron

Mikel Maron is a Presidential Innovation Fellow working on Crowdsourcing initiatives at the Department of State. Mikel Maron is a programmer and geographer dedicated to community and humanitarian use of open source and open data. He has organized mapping projects in India, Palestine, Egypt, Swaziland and elsewhere with Ground Truth Initiative, and especially our flagship effort, Map Kibera, the first open source map of the slums of Nairobi. He's a long time contributor to OpenStreetMap (OSM); and Founder and Board Member of Humanitarian OpenStreetMap Team, having helped facilitate the OSM response to the 2010 Haiti earthquake. Mikel has served as technical lead for Moabi, a collaborative data project to monitor natural resources in DRC. He co-founded the geoweb company Mapufacture (now part of ESRI), helped build the first wiki at the UN (WaterWiki at the UNDP), and generally worked on collaborative platforms and geoweb standards, with everyone from multinationals to anarchist hacker collectives.

Al McGartland

Al McGartland is the Director of the National Center for Environmental Economics and lead economist at the U.S. Environmental Protection Agency. Al is responsible for insuring that EPA's regulatory analyses are of high quality and in compliance with relevant EPA guidance. Al also develops interdisciplinary risk and benefit assessment methods to be used in EPA's regulatory analyses, including the

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application of economic methods to value natural resource and environmental damages. Most recently, Al has been focusing on the benefits of improving water quality in the Chesapeake Bay, valuing reductions in noncancer morbidity, and quantifying the benefits of reducing greenhouse gases. As the director of NCEE, Al advises senior policy-making officials on the economics of environmental policies and helps translate research into applied policy contexts. The National Center for Environmental Economics issues EPA's Guidelines for Preparing Economic Analyses and conducts numerous studies to assess the benefits and costs of environmental programs. The Center also conducts key research on environmental economic issues. Al also supports numerous interagency initiatives, including projects on agriculture and environmental risks, and on the environmental and economic benefits of policy reform in China.

Prior to EPA, Al worked at the Office of Information and Regulatory Affairs in the Office of Management and Budget. While there, Al reviewed environmental regulations and supporting analyses. Also, Al served as the economic advisor to the Chairman at the Commodity Futures Trading Commission. Al was also a vice president at Abt Associates, Inc., a public policy and economics consulting firm. Al received his Ph.D. in Economics from the University of Maryland. He has published in several journals, including the *American Economic Review*, the *Canadian Journal of Economics*, the *Journal of Environmental Management*, the *Northwestern Law Review*, the medical journal, *Lancet*, and the *Journal of Environmental Economics and Management*. Al also has contributed to numerous books and reports on environmental economic issues.

Robin McLaren

Robin McLaren is currently director of Know Edge Ltd a UK based, independent management consulting company formed in 1986 specialising in the application of geospatial information and is a prominent consultant in land administration. He has been at the forefront of the Geospatial Information System GIS revolution and is recognised as an expert in Spatial Data Infrastructures and Land Policy. He works extensively with United Nations agencies, World Bank and EU on land policy / land reform / National Spatial Data Infrastructures (NSDI) programmes and is on a mission to ensure that Land Professionals are delivering appropriate land administration services to the citizen. He was the lead consultant in formulating the UK Location Strategy and associated business case for the UK government and was a founding member of the UK Location Council. Robin is an Honorary Fellow at the School of GeoSciences, University of Edinburgh and his research interests are focused on how crowdsourcing can be used to support land administration and he has co-authored the FIG / World Bank publication on 'Fit-For-Purpose Land Administration'.

Robert O'Connor

Robert O'Conmor has been Program Director at the National Science Foundation

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since 2011. His program responsibilities include: decision, risk and management sciences, interdisciplinary research in hazards and disasters, materials use – science, engineering and society, and resilient interdependent infrastructure processes and systems. Prior to NSF, Robert O'Connor was Professor of Political Science at Pennsylvania State University for 30 years.
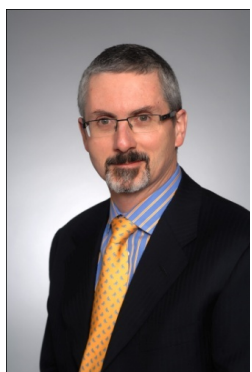He holds a Ph.D. in political science from the University of North Carolina at Chapel Hill.

Jay Pearlman

Jay Pearlman was Chief Engineer of NCOC&EM at Boeing and a Boeing Technical Fellow where he was responsible for advanced development of information systems. His interests are in oceans research and information science. He has a Ph.D. from the University of Washington and a B.S. from the California Institute of Technology. Jay is a Fellow of the IEEE and was IEEE Co-Chair of the GEO Architecture and Data Committee. Dr Pearlman is currently co-owner of J&F Enterprise, a small technical services company operating in the global dimension. Through J&FE, he is active in advancing the analyses of socioeconomic benefits from Earth and environmental information. Dr. Pearlman has more than 75 publications and 25 international patents.

Walter S. Scott

As Executive Vice President and Chief Technical Officer of DigitalGlobe, Dr. Scott is responsible the development of space and ground systems, research & product development and technical oversight for engineering at DigitalGlobe.

Dr. Scott founded DigitalGlobe in 1992 as WorldView Imaging Corporation, which was the first company to receive a high resolution commercial remote sensing license from the U.S. Government (in 1993), under the 1992 Land Remote Sensing Policy Act. WorldView became EarthWatch Incorporated in 1995. Dr. Scott managed the development of all of the company's commercial remote sensing satellites. He secured the first-ever export license for launch of U.S.-manufactured imaging spacecraft on Russian launch vehicles (Start-1 and Cosmos). The company became DigitalGlobe in 2001, and with the launch of the QuickBird-2 satellite that year, offered the world's highest resolution commercial satellite imagery. Today, DigitalGlobe operates a 5-satellite imaging constellation with the best revisit and greatest capacity in the industry.
From 1986 through 1992, Dr. Scott was with Lawrence Livermore National Laboratory (LLNL) in Livermore, California. He began as Project Leader for Computer Aided Design Tools for the Laser Pantography Program, developing tools to aid in the design of wafer scale integrated circuits manufactured. In 1987, he joined a small team developing a concept for a highly distributed constellation of space-based interceptors

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for the Strategic Defense Initiative, known as "Brilliant Pebbles." In late 1987, Dr. Scott became Program Leader for this effort, responsible for creating a series of hardware prototypes and conducting flight experiments. During 1989, Dr. Scott led the program successfully through over 20 reviews of technical feasibility, system performance, military operability, and estimated cost, resulting in the adoption of Brilliant Pebbles for SDIO's space segment in 1990. In late 1991, Dr. Scott was Assistant Associate Director of the Physics Department and was responsible for development of new space-related programs and identification of promising technologies.

Dr. Scott holds a Bachelor of Arts in Applied Mathematics, magna cum laude, from Harvard College and a Doctorate and Master of Science in Computer Science from the University of California, Berkeley. He was a visiting student for a year at Edinburgh University in Scotland.

Dr. Scott was named Entrepreneur of the Year by Ernst & Young in 2004 for the Rocky Mountain Region in the Emerging Technology category.

He is a member of the National Research Council's Committee on Earth Science and Applications from Space (CESAS) and a member of the board of directors of the Open Geospatial Consortium (OGC).

Carl Shapiro

Carl Shapiro has been an economist with the U.S. Geological Survey (USGS) for over 25 years. Currently, Dr. Shapiro is co-director of the USGS Science and Decisions Center (SDC). SDC

is an interdisciplinary organization advancing the use of science in natural resource decision making. The Center focuses on research and applications in three science areas: decision science (adaptive management and structured decision making), ecosystem services, and resilience/sustainability. The Center works with partners in DOI and other government agencies, universities, and nongovernmental organizations to develop methods, capacity, and institutional structures to integrate science more effectively with resource management.

Between 1987 and 2005, Dr. Shapiro was the principal economist in the Office of the Director, USGS. In that role, he led and participated in economic and interdisciplinary studies on public policy issues, resources, and natural hazards.

Nick Sinai

As U.S. Deputy Chief Technology Officer, Nick leads President Obama's Open Data Initiatives to liberate data to fuel innovation and economic growth. A prominent advocate and frequent speaker for Open Data, he has said "government data is a valuable asset and should be available wherever possible." Nick has also advanced the idea that Americans deserve access to their own health care (Blue Button), energy, tax, and other personal data in machine-readable formats and has championed the White House's Green Button Initiative, a public-private effort to provide electricity customers online access to their own energy usage data.

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He also leads the Open Government Initiative, charged with "creating an unprecedented level of openness in Government." Nick co-authored the second United States Open Government National Action Plan.

Nick also helped start and grow the Presidential Innovation Fellows program, which brings tech-savvy entrepreneurs into the federal government for 6-12 month "tours of duty", with a particular focus on data innovation projects.

Lea Shanley

Lea Shanley is a Presidential Innovation Fellow working on Crowdsourcing initiatives at NASA. Trained as a geospatial data scientist and policy expert, her research has focused on improving government services and empowering communities through open and participatory innovation, new technologies and social media. Previously, she directed the Commons Lab of the Science and Technology Innovation Program at the Wilson Center. She is one of the chief organizers and co-founders of the Federal Community of Practice on Crowdsourcing and Citizen Science, a groundbreaking effort to enable federal agencies to engage the public in collective problem solving. In 2009, Lea was an AAAS Congressional Science Fellow in the U.S. Senate, crafting legislation on satellite Earth observations, oceans, and hazards. Lea also helped launch the new Citizen Science Association and Wisconsin Geographic Information Coordination Council.

Alan Smart

Alan Smart is a Principal at ACIL Allen Consulting in Sydney Australia. Alan advises private and public sector clients on the economics of energy, infrastructure and geospatial markets. He heads the company's geospatial practice. Alan has been involved in the economics of geospatial and positioning systems for over 15 years, undertaking the first national review of the value of spatial information in Australia in 2008. Since that time he has completed further assessments of geospatial information systems and services in Australia, New Zealand and the United Kingdom. He is currently involved in similar work in Canada.

Alan's professional interests are in the use and application of geospatial and positioning systems in government and industry and in the development of evaluation methodologies and business cases.

Alan is qualified in engineering and economics and is a Certified Professional Engineer in Australia. He is a Director of the Spatial Industries Business Association and a Member of the Board of the Tasmanian Economic Regulator.

Philip B. Stark

Philip B. Stark is Professor and Chair of the Department of Statistics, Director of the Statistical Computing Facility, Senior Data Science Fellow of the Berkeley Institute for Data Science, member of the Theoretical Astrophysics Center, faculty in the Designated Emphasis in Computational Science and Engineering, and affiliated faculty of the Simons Institute for the Theory of Computing and the Berkeley Food Institute at UC Berkeley.

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His research centers on inference problems and uncertainty quantification with applications including causal inference, climate, cosmology, earthquake forecasts, elections, endangered species, food webs, geomagnetism, geriatric hearing loss, information retrieval, Internet content filters, legislation and litigation, risk assessment, seismic structure of Sun and Earth, spectrum estimation, and urban foraging to improve nutrition in "food deserts."

He was a Presidential Young Investigator and he won the UC Berkeley Chancellor's Award for Research in the Public Interest and the John Gideon Award for Election Integrity for developing methods for auditing elections now in law in California and Colorado. Methods he developed or co-developed are part of the data pipelines of the Øersted geomagnetic satellite and the Global Oscillations Network Group. He has consulted for major corporations and for the U.S. Department of Justice, the Federal Trade Commission, the U.S. Department of Agriculture, the U.S. Census Bureau, the U.S. Department of Housing and Urban Development, the U.S. Department of Veterans Affairs, the California Attorney General, the California Highway Patrol, and the Illinois State Attorney. He has testified to the U.S. House off representatives Subcommittee on the Census; the State of California Senate Committee on Elections, Reapportionment and Constitutional Amendments; the State of California Assembly Committee on Elections and Redistricting; and the State of California Senate Committee on Natural Resources. His CV is available at www.stat.berkeley.edu/~stark/bio.htm

Timothy Stryker

Timothy Stryker is Director of the U.S. Group on Earth Observations (USGEO) Program, which supports the cabinet-level National Science and Technology Council (NSTC) under the White House Office of Science and Technology Policy. Working with the USGEO Subcommittee of the NSTC's Committee on Environment, Natural Resources, and Sustainability, the Program supports coordination of civil Earth observation activities, including systems assessments and data management initiatives, among multiple Federal agencies and their international partners.

Mr. Stryker's previous positions include Chief of Policy, Plans, and Analysis for the Land Remote Sensing Program of the U.S. Geological Survey; Executive Officer of the international Committee on Earth Observation Satellites; and, Deputy Director of the Office of Policy at the National Reconnaissance Office. He has also served in assignments at the National Oceanic and Atmospheric Administration, the U.S. Department of Commerce, the Office of Management and Budget, the Federal Communications Commission, and the U.S. Information Agency.

A former Presidential Management Fellow, Mr. Stryker earned his Master's Degree in Foreign Service from Georgetown University and his Bachelor's Degree in History from the University of Michigan.

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Larry Sugarbaker

Larry Sugarbaker is the National Geospatial Program Senior Advisor for the U.S. Geological Survey. Larry works on National Map policy formulation and new initiatives. He has led major studies to understand customer requirements for The National Map and for a national enhanced elevation program. Prior to joining the USGS in 2007, Larry was the Vice President and Chief Information Officer for NatureServe, an international non-profit conservation organization. Mr. Sugarbaker worked for the State of Washington, Department of Natural Resources for 22 years, where he managed the geographic information system and supported remote sensing, and forest inventory functions. He has gained worldwide recognition as a leader and expert in geographic information systems. Larry is a past chair of the National Research Council, Mapping Science Committee. Larry graduated from the University of Michigan, School of Natural Resources, with a B.S. in Forestry in 1977. He completed an M.S. degree in Remote Sensing and Wildlife Management from the University of Michigan in 1979.

Camille Calimlim Touton

Camille Calimlim Touton serves as Counselor to the Assistant Secretary for Water and Science at the United States Department of the Interior. Camille's work currently focuses on various policy issues that relate to the Bureau of Reclamation and the United States Geological Survey. This includes spearheading the Open Water Data Initiative, which is part of the Administration's larger Climate Data Initiative and Open Data efforts.

Prior to joining the Department of the Interior, Camille worked as Senior Policy Advisor and staffed the House Natural Resources Committee, Subcommittee on Water and Power. The Natural Resources Committee is the authorizing Committee for the Department of the Interior. Camille worked for Senate Majority Leader Harry Reid as a Legislative Correspondent on public lands, water, and other Nevada-related matters prior joining to the Natural Resources Committee.

Camille holds a B.S. in Engineering (Civil) and a B.A. in Communication Studies from the University of Nevada, Las Vegas.

Bridgette Wessels

Dr Bridgette Wessels is Director of the Centre of Interdisciplinary Research in Socio-digital Worlds (IRiS) and Senior Lecturer in Sociology at Sheffield University, UK. Her research focuses on the innovation and use of digital services including the development of public sector e-services and the development of e-government and telehealth services. Her projects include: European Commission's Advanced TransEuropean Telematics for Community Help (ATTACH) project; EPSRC funded project Advanced Multi Agency Service Environments (AMASE) addressed the development of new e-services and in particular focused on the design and take-up of

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advanced ICT in multi-agency health and social care services. She undertook a 'Process Evaluation of National E-government', funded by the Office of Deputy Prime Minister (UK) that addressed the implementation of innovative e-government services. She has undertaken research that looked at the development and sustainability of portal e-services involving e@syconnects, (South Yorkshire), London Connects, and Digital City Ronneby (Sweden)(KTOF–HEIF 2 project). She has been involved in policy making innovative e-services through sitting on the South Yorkshire Digital policy group between 2004 and 2012. She has experience in the implementation of innovative e-services through her time on the e@syconnects (http://www.easyconnects.org.uk/) management board (2002-2013).

She also has experience in the emerging field of open data and currently leads WP1 in the FP7 project - Policy RECommendations for Open Access to Research Data in Europe (RECODE). She is on the University Strategy Group on data management and open access. She has been expert for EU, the UK Office of Science and Technology, Department of Trade and Industry, Royal Society, and European Parliament. Current projects focus on: mainstreaming and implementing telehealth (ESRC & TSB); a participatory design and co-production project on improving search and data management in research methodology (AHRC). She is evaluating the ESRC's National Digital Social Research Methods Programme that covers a range of innovative projects that sought to understand how to use data including open data in research, which includes research in services and community settings. Her books have addressed many aspects of the innovation and development of e-services, for example: *Inside the Digital Revolution: policing and changing communication with the public* (Ashgate, 2007*); The Cultural Dynamics of the Innovation of New Media; the Case of Telematics,* (VDM Verlag, 2010); *Information and joining up services* (Policy Press, 2002); *Understanding the Internet: a socio-cultural perspective* (Palgrave, 2010), and *Exploring Social Change* (2014).

Sally Wyatt

Sally Wyatt originally studied economics at McGill University, Canada (BA, 1976) and Sussex University, England (MA, 1979). She received her PhD in science and technology studies from Maastricht University in 1998. Wyatt has more than 30 years of experience in teaching and research about technology policy and about the relationship between technological and social change, focusing particularly on issues of social exclusion and inequality. She has worked at the Universities of Sussex (1980-86), Brighton (1988-90), East London (1990-99) and Amsterdam (1999-2006) as well as at the British Economic and Social Research Council (ESRC) (1986-88). Since 2006, she has been working for the Royal Netherlands Academy of Arts & Sciences (KNAW), and since 2011 she is Program Leader of the KNAW's eHumanities Group.

Wyatt has played a central role in the international Science and Technology Studies (STS) community in different capacities. She was the international coordinator for ESST (European Master's Programme on Society, Science and Technology) between 1996-99 and its President between 2008-11. She was President of EASST (European Association for the Study of Science and Technology) between 2001-4. Since 2011, Wyatt is director of the Netherlands Graduate Research School for Science, Technology and Modern Culture (WTMC).

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Wyatt has received major research grants from the UK Economic and Social Research Council and the Canadian Social Science and Humanities Research Council. She has acted as an adviser to the European Commission's Science in Society programme as well as to several national European research councils interested in establishing and/or evaluating social science research about new information and communication technologies. Her most recent book is an edited collection called 'Virtual Knowledge. Experimenting in the Humanities and the Social Science', co-edited with Paul Wouters, Anne Beaulieu and Andrea Scharnhorst, and published by MIT Press in 2013.