



## **Institute on Science for Global Policy (ISGP)**

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*\*\*\*A not-for-profit, 501(c)(3) organization that facilitates candid debates and caucus discussions on challenging issues facing national and international stakeholders in governmental, private sector, public advocacy, and scientific communities. The ISGP focuses on identifying evidence-based options and real-world opportunities, but does not express independent opinions nor lobby on any issue.*

## **About the Institute on Science for Global Policy (ISGP)**

The ISGP has for more than a decade provided unusual, if not unique, opportunities for stakeholders and subject-matter experts holding diverse, often contradictory, views with opportunities to critically debate their respective opinions and priorities. Using a debate/caucus format pioneered by the ISGP, ISGP conferences focus on identifying areas of consensus and real-world, actionable next steps meriting collective support from participants. These invitation-only events are routinely conducted in not-for-attribution (Chatham House Rule) environments that foster candid, productive discussions concerning a wide variety of topics involving the societal impact of scientific and technological advances that emerge worldwide.

As a 501(c)(3), not-for-profit organization, the ISGP has established a widely respected reputation for not expressing, advocating, or promoting any specific policy position, but rather for organizing conferences and events that facilitate the communication of credible scientific information and technological options to those who make, and/or significantly influence, national and international policies in government, the private sector, and public advocacy communities.

The ISGP has organized and convened more than 20 conferences and events addressing topics ranging from food safety and sustainable agriculture, national security and defense priorities, emerging and persistent infectious diseases, public health practices (e.g., antimicrobial resistance), science communication and public acceptance of expertise, and climate impact on national, private sector, and individual security *writ large*. These topics have been examined by the ISGP with respect to evidence-based understanding and their impact across communities and on individuals (see complete list below).

ISGP programs have been financially supported by domestic, national, and international governmental, private sector, and educational organizations and by philanthropic foundations and individuals. The ISGP foster evidence-based debates and caucuses based on egalitarian perspectives derived from diverse opinions and priorities. The ISGP functions independently of any specific priority held by its funders consistent with its commitment to express no independent opinions nor lobby on any issue.

The debate/caucus format pioneered by the ISGP has evolved as a widely endorsed methodology for effectively addressing issues of significant societal, economic, and national security importance. Over more than a decade, the ISGP has received more than \$5 million in contracts, grants, gifts, and in-kind donations.

### **Debate/Caucus Format**

ISGP conferences are structured around 90-minute, moderated debates of concise position papers prepared and defended by internationally recognized subject-matter experts and key stakeholders. Seated around a hollow rectangle, independently selected stakeholders and subject-matter experts are tasked with questioning, critiquing, and debating each author concerning the current realities, opportunities, challenges, and priorities presented in their papers. These critical debates, led by 40-80 experienced and well-informed stakeholders and subject-matter experts, seek to elicit critical questions and comments that address the major issues required for real-world decisions. Following the debates, moderated, small-group, caucuses (each with 12 participants) are convened to identify areas of consensus and real-world, actionable next steps. A plenary session reviewing the results from the small-group caucuses is held on the final conference morning. Caucus outcomes, position papers, and not-for-attribution summaries of all debates prepared by ISGP staff are published by the ISGP for public distribution.

All position paper authors and debaters are selected by the ISGP following numerous (typically 100), extensive interviews that shape the conference agenda and inform the outcomes.

## Previous ISGP Conferences

All books from ISGP conferences are freely available to the public and can be downloaded from the ISGP site:

[www.scienceforglobalpolicy.org](http://www.scienceforglobalpolicy.org).

Hardcopies of these books are available by contacting [jboice@scienceforglobalpolicy.org](mailto:jboice@scienceforglobalpolicy.org).

## ISGP conferences and books on Emerging and Persistent Infectious Diseases (EPID):

- *EPID: Focus on Antimicrobial Resistance*, convened March 19–22, 2013, in Houston, Texas, U.S., in partnership with the Baylor College of Medicine.
- *21<sup>st</sup> Century Borders/Synthetic Biology: Focus on Responsibility and Governance*, convened December 4–7, 2012, in Tucson, Arizona, U.S., in partnership with the University of Arizona.
- *EPID: Focus on Societal and Economic Context*, convened July 8–11, 2012, in Fairfax, Virginia, U.S., in partnership with George Mason University.
- *EPID: Focus on Mitigation*, convened October 23–26, 2011, in Edinburgh, Scotland, U.K., in partnership with the University of Edinburgh.
- *EPID: Focus on Prevention*, convened June 5–8, 2011, in San Diego, California, U.S.
- *EPID: Focus on Surveillance*, convened October 17–20, 2010, in Warrenton, Virginia, U.S.
- *EPID: Global Perspectives*, convened December 6–9, 2009, in Tucson, Arizona, U.S., in partnership with the University of Arizona.

## ISGP conferences and books on Food Safety, Security, and Defense (FSSD):

- *FSSD: Equitable, Sustainable, and Healthy Food Environments*, convened May 1–4, 2016 in Vancouver, British Columbia, Canada, in partnership with Simon Fraser University.
- *FSSD: Food Security and Diet-linked Public Health Challenges*, convened September 20–23, 2015 in Fargo, North Dakota, in partnership with North Dakota State University.
- *FSSD: Focus on Food and the Environment*, convened October 5–8, 2014, in Ithaca, New York, in partnership with Cornell University.
- *FSSD: Focus on Food and Water*, convened October 14–18, 2013, in Lincoln, Nebraska, U.S., in partnership with the University of Nebraska–Lincoln.
- *FSSD: Focus on Innovations and Technologies*, convened April 14–17, 2013, in Verona, Italy.
- *FSSD: Global Perspectives*, convened October 24, 2012, in Arlington, Virginia, U.S., in partnership with George Mason University.

## ISGP conferences and books on Food Innovations (FI):

- *FI: Innovative Foods and Ingredients*, convened June 23–26 in Minneapolis, Minnesota, United States, with sponsorship from the U.S. Food and Drug Administration.

## ISGP Academic Partnership (IAP) conferences and books:

- *Socioeconomic Contexts of Sustainable Agriculture*, convened October 14–15, 2016, in Danbury, Connecticut, in partnership with Western Connecticut State University.
- *Water and Fire: Impacts of Climate Change*, convened April 10–11, 2016, in Sacramento, California, in partnership with California State University.
- *Communicating Science for Policy*, convened August 10–11, 2015, in Durham, North Carolina, in partnership with Sigma Xi, The Scientific Research Society.
- *FSSD: Food Security: Production and Sustainability*, convened April 24–25, 2015, in St. Petersburg, Florida, in partnership with Sigma Xi, The Scientific Research Society, and Eckerd College.

- *FSSD: Safeguarding the American Food Supply*, convened April 10–11, 2015, in Collegeville, Pennsylvania, in partnership with Sigma Xi, The Scientific Research Society, and Ursinus College.
- *EPID: Focus on Pandemic Preparedness*, convened April 11–12, 2014, in Collegeville, Pennsylvania, U.S., in partnership with Ursinus College.

**ISGP conferences and books on Science and Governance (SG):**

- *Climate Impact on National Security (CINS–1, CINS–2A, CINS–2B)*, convened November 28–December 1, 2016, April 3–4, 2017, and May 17–19, 2017 in partnership with the U.S. Army War College in Carlisle, Pennsylvania.
- *The Genomic Revolution*, convened September 6, 2014, in cooperation with the Parliamentary Office on Science and Technology of the British Parliament within the House of Lords. London, United Kingdom.

**ISGP conferences and books on Global Challenges (GC):**

- *ISGP Climate Change Program (ICCP): The Shore’s Future: Living with Storms & Sea Level Rise*, convened November 20–21, 2015, in Toms River, New Jersey, in cooperation with the Toms River Working Group, Barnegat Bay Partnership, Barnegat Bay Foundation, and the Jay and Linda Grunin Foundation.
- *ICCP: Sea Level Rise: What’s Our Next Move?*, convened October 2–3, 2015, in St. Petersburg, Florida, in cooperation with the St. Petersburg Working Group.
- *ISGP Climate Change Arctic Program (ICCAP): Sustainability Challenges: Coping with Less Water and Energy*, convened June 5, 2015, in Whittier, California, in cooperation with the Whittier Working Group.
- *ICCAP: Living with Less Water*, convened February 20–21, 2015, in Tucson Arizona, in cooperation with the Tucson Working Group.

## **ISGP Board of Directors Biographies**

### **Dr. George Atkinson, Chairman**

Dr. Atkinson founded the Institute on Science for Global Policy (ISGP) and is an Emeritus Professor of Chemistry, Biochemistry, and Optical Science at the University of Arizona. He is former head of the Department of Chemistry at the University of Arizona, the founder of a laser sensor company serving the semiconductor industry, and Science and Technology Adviser (STAS) to U.S. Secretaries of State Colin Powell and Condoleezza Rice. He launched the ISGP in 2008 as a new type of international forum in which credible experts provide governmental and societal leaders with understanding of the science and technology that can be reasonably anticipated to help shape the increasingly global societies of the 21st century. Dr. Atkinson has received National Science Foundation and National Institutes of Health graduate fellowships, a National Academy of Sciences Post Doctoral Fellowship, a Senior Fulbright Award, the SERC Award (U.K.), the Senior Alexander von Humboldt Award (Germany), a Lady Davis Professorship (Israel), the first American Institute of Physics' Scientist Diplomat Award, a Titular Director of the International Union of Pure and Applied Chemistry, the Distinguished Service Award (Indiana University), an Honorary Doctorate (Eckerd College), the Distinguished Achievement Award (University of California, Irvine), and was selected by students as the Outstanding Teacher at the University of Arizona. He received his B.S. (high honors, Phi Beta Kappa) from Eckerd College and his Ph.D. in physical chemistry from Indiana University. He was recently the President of Sigma Xi, The Scientific Research Society. His educational scientific research and diplomatic achievements have been recognized with distinguished appointments and awards in 16 countries.

### **Dr. Ben Tuchi, Secretary/Treasurer**

Dr. Tuchi is chairman of the board of directors of the Arizona Research Park Authority. He received his B.S. and M.S. degrees in Business Administration from the Pennsylvania State University and his Ph.D. in Finance from St Louis University. His full time teaching career began in 1961 at St. Francis College and continued until 1976 at West Virginia University. From 1976 through 1996 he served in cabinet levels at West Virginia University, The University of Arizona, The University of North Carolina at Chapel Hill, and finally as Senior Vice Chancellor for Business and Finance of the University of Pittsburgh. During those assignments he was simultaneously a tenured professor of finance. He retired from the last executive post in 1996 and returned to a full-time teaching position as Professor of Finance at the University of Pittsburgh, until his retirement in 1999. For the two years prior to his retirement he was the Director of Graduate Programs in Business in Central Europe, at Comenius University, making his home in Bratislava, The Slovak Republic.

### **Dr. Janet Bingham, Member**

Dr. Bingham is former President and current Member of the George Mason University (GMU) Foundation and Vice President of Advancement and Alumni Relations. GMU is the largest university in Virginia. Previously, she was President and CEO of the Huntsman Cancer Foundation (HCF) in Salt Lake City, Utah. The foundation is a charitable organization that provides financial support to the Huntsman Cancer Institute, the only cancer specialty research center and hospital in the Intermountain West. Dr. Bingham also managed Huntsman Cancer Biotechnology Inc. In addition, she served as Executive Vice President and Chief Operating Officer with the Huntsman Foundation, the private charitable foundation established by Jon M. Huntsman Sr. to support education, cancer interests, programs for abused women and children, and programs for the homeless. Before joining the Huntsman philanthropic organizations, Dr. Bingham was the Vice President for External Relations and Advancement at the University of Arizona. Prior to her seven years in that capacity, she served as

Assistant Vice President for Health Sciences at the University of Arizona Health Sciences Center. Dr. Bingham was recognized as one of the Ten Most Powerful Women in Arizona.

**Dr. Mike Buch, Member**

Dr. Buch holds B.A., M.S., and Ph.D. degrees in Analytical Chemistry and Biotechnology. He has nearly 3 decades of experience in the consumer healthcare industry in various roles of increasing responsibility with some of the world's leading companies. He has broad-based knowledge of consumer healthcare and currently serves as Chief Science Officer and Board Member at Young Living Essential Oils, a rapidly growing multibillion-dollar international wellness company and the largest provider of essential oils in the world. He is directly responsible for leading Research, Development, Product Management, and Quality Assurance across Young Living. Dr. Buch has expertise in leading global strategic development programs, open innovation programs, licensing programs, consumer healthcare R&D, advanced technologies labs, advanced optical analysis labs, and biosensor design and research. His work has directly led to the development of consumer healthcare products with annual sales exceeding \$3 billion and his products have been marketed in more than 100 countries. His success has resulted in more than a dozen patents in the healthcare field, several books, and numerous articles published in peer-reviewed journals. He is also a member of several prestigious associations, including the American Chemical Society, The New York Academy of Science, and the American Association for the Advancement of Science.

**Mr. Fred Downey, Member**

Mr. Downey is a former U.S. Army strategist and longtime defense and international affairs expert on Capitol Hill and was vice president of national security at Aerospace Industries Association (AIA). Downey joined AIA from the office of Connecticut Senator Joe Lieberman where he served as Senior Counselor and Legislative Aide for Defense and Foreign Affairs. He had been the senator's key staff person on these issues for 12 years. As Lieberman's representative to the Senate Armed Services Committee, Downey staffed the senator in his role as chairman of the Airland Subcommittee, overseeing Army and Air Force policy and budget issues and the annual defense authorization bill. Before joining Lieberman, Downey worked on defense analytical services for TASC. That came after a 24-year career in the U.S. Army, including Pentagon postings as Assistant to the Director of Net Assessments at OSD and Strategy Team Chief for the Strategic Plans and Policy Directorate on the Department of the Army Staff.

**Dr. Linda Duffy**

Dr. Duffy recently retired as a US Federal Government Senior Scientist Administrator in the Department of Health Human Services, National Institutes of Health, at the National Center for Complementary and Integrative Health, where she currently serves as a post-retirement Special Volunteer to the Director. Among her many service achievements at the NIH, she launched and chaired the Trans-NIH Probiotics/Prebiotics and Microbiome Inter-agency Work Group and served for many years as an Inter-agency Subject Matter Expert in Ad hoc advisory capacities as committee member and Chair. Dr. Duffy received a DHHS Innovation Award in 2016 and was appointed to serve in the dual role of Senior Scientific Advisor in the DHHS Office of the Secretary, within the Office of the National Coordinator, Division of Science Technology. Prior to her distinguished federal government career, she was a former Peace Corps Volunteer in Cote d'Ivoire, West Africa and subsequently served in a dual capacity as Scientific Director of the Women and Children's Health Research Foundation and as a Distinguished Professor Emeritus with former joint appointments in the Departments of Pediatrics, Epidemiology, and Microbial Pathogenesis at the University of Buffalo.

She received her Master's degree from Dartmouth College and completed her doctoral and postdoctoral studies under NIH National Cancer Institute Research Fellowships at the University of Buffalo

**Dr. Tom Fingar, Member**

Dr. Fingar is the inaugural Oksenberg-Rohlen Distinguished Fellow in the Freeman Spogli Institute for International Studies at Stanford University. Previously, he served as the first Deputy Director of National Intelligence for Analysis and, concurrently, as Director of the National Intelligence Council. He previously served as Assistant Secretary of the Department of State's Bureau of Intelligence and Research, Principal Deputy Assistant Secretary, Acting Assistant Secretary of State for Intelligence and Research, Deputy Assistant Secretary for Analysis, Director of the Office of Analysis for East Asia and the Pacific, and Chief of the China Division. Between 1975 and 1986, he held a number of positions at Stanford University, including Senior Research Associate in the Center for International Security and Arms Control and Co-Director, US-China Education Clearinghouse, Committee on Scholarly Communication with the People's Republic of China. He participates in regular, and increasingly frequent, meetings with and hearings before members of Congress. He graduated from Cornell University, and received his master's degree and Ph.D. in political science from Stanford University.

**Mr. Jim Kolbe, Member**

For 22 years, Mr. Kolbe served in the United States House of Representatives, elected in Arizona for 11 consecutive terms, from 1985 to 2007. Mr. Kolbe is currently serving as a Senior Transatlantic Fellow at the German Marshall Fund of the United States, and as a Senior Adviser to McLarty Associates, a strategic consulting firm. He advises on trade matters as well as issues of effectiveness of U.S. assistance to foreign countries, on U.S.-European Union relationships, and on migration and its relationship to development. He is also Co-Chair of the Transatlantic Taskforce on Development with Gunilla Carlsson, the Swedish Minister for International Development Cooperation. He also is an adjunct Professor in the College of Business at the University of Arizona. While in Congress, he served for 20 years on the Appropriations Committee of the House of Representatives, was chairman of the Treasury, Post Office and Related Agencies subcommittee for four years, and for his final six years in Congress, he chaired the Foreign Operations, Export Financing and Related Agencies subcommittee. He graduated from Northwestern University with a B.A. degree in Political Science and then from Stanford University with an M.B.A. and a concentration in economics.

**Dr. David Moran, Member**

Dr. Moran is President of Technology International Partnerships, LLC, and Past-Publisher of Sigma Xi, The Scientific Research Society, "American Scientist" and the "Chronicle of the New Researcher." He has served as President of the National Technology Transfer Center; Director of Industrial Advanced Development & Industrial Outreach, Advanced Technology, Office of Naval Research; Program Element Administrator for Nuclear Propulsion, R&D, Naval Material Command; Director, David Taylor Institute; Assistant Technical Director, Director of Research, and Technology Director, Naval Ship R&D Center. His professional experience in research and teaching at universities includes the U.S. Naval Academy, Full Professor, Navy Chair; West Virginia University; George Washington University; Research Naval Architect, US Navy. He earned a Ph.D. in Hydrodynamics & Mathematics, IHR; Sc.M., M.I.T., Ocean Engineering, Hydrodynamics; Sc.B., M.I.T.; Harvard University; University Iowa; and Graduate, Federal Executive Institute. He served at Harvard University's JFK School as Senior Official for National Security. He is a member of the Boards of: Tucker Community Foundation; Community Trust Foundation; Preston Community Fund; and Past-Treasurer, Board of Directors,

Maryland Garrett College. His publications include 102 Scientific Papers, 12 Patents in Hydrodynamics and Aerodynamics, and two published Books.

**Mr. Joseph Nimmich, Member**

Mr. Nimmich is a Partner at Potomac Ridge Consulting. He formerly was Senior Executive Advisor at Booz Allen Hamilton's Civil and Commercial Group. Prior to Booz Allen Hamilton, he served as the Deputy Administrator of the Federal Emergency Management Agency (FEMA) from September of 2014 until January 2017. During his tenure, his primary focus was on strengthening and institutionalizing FEMA's business architecture over the long term to achieve the Agency's mission. He joined FEMA in 2013, as the Associate Administrator for the Office of Response and Recovery. He was responsible for directing the Response, Recovery, and Logistics Directorates, as well as the Office of Federal Disaster Coordination. Prior to joining FEMA, he was the Director of Maritime Surveillance and Security at Raytheon Corp., where he directed maritime surveillance and security operations, as well as their emergency response capabilities. He served in the U.S. Coast Guard for more than 33 years, retiring as a Rear Admiral. His Coast Guard assignments included the First Coast Guard District based in Boston, Massachusetts, where he was responsible for all Coast Guard operations across eight states in the northeast and 2,000 miles of coastline from the U.S.-Canadian border to northern New Jersey. He earned his M.B.A. from the Stern School of Business at New York University.

**Dr. Charles Parmenter, Member**

Dr. Parmenter is a Distinguished Professor Emeritus of Chemistry at Indiana University. He also served as Professor and Assistant and Associate Professor at Indiana University in a career there that spanned nearly half a century (1964-2010). He earned his bachelor's degree from the University of Pennsylvania and served as a Lieutenant in the U.S. Air Force from 1955-57. He worked at DuPont after serving in the military and received his Ph.D. from the University of Rochester and was a Postdoctoral Fellow at Harvard University. He has been elected a Member of the National Academy of Sciences and the American Academy of Arts and Sciences, and a Fellow of the American Physical Society and the American Association for the Advancement of Science. He was a Guggenheim Fellow, a Fulbright Senior Scholar, and received the Senior Alexander von Humboldt Award in 1984. He has received the Earle K. Plyler Prize, was a Spiers Medalist and Lecturer at the Faraday Society, and served as Chair of the Division of Physical Chemistry of the American Chemical Society, Co-Chair of the First Gordon Conference on Molecular Energy Transfer, Co-organizer of the Telluride Workshop on Large Amplitude Motion and Molecular Dynamics, and Councilor of Division of Chemical Physics, American Physical Society.

**Mr. Thomas Pickering, Member**

Mr. Pickering is Vice Chairman of Hills & Co, international consultants, and Strategic Adviser to NGP Energy Capital Management. He co-chaired a State-Department- sponsored panel investigating the September 2012 attack on the U.S. diplomatic mission in Benghazi. He served as U.S. ambassador to the United Nations in New York, the Russian Federation, India, Israel, El Salvador, Nigeria, and the Hashemite Kingdom of Jordan. Mr. Pickering also served on assignments in Zanzibar and Dar es Salaam, Tanzania. He was U.S. Under Secretary of State for Political Affairs, president of the Eurasia Foundation, Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs, and Boeing Senior Vice President for International Relations. He also co-chaired an international task force on Afghanistan, organized by the Century Foundation. He received the Distinguished Presidential Award in 1983 and again in 1986 and was awarded the Department of State's highest award, the Distinguished Service Award in 1996. He holds the personal rank of Career



Ambassador, the highest in the U.S. Foreign Service. He graduated from Bowdoin College and received a master's degree from the Fletcher School of Law and Diplomacy at Tufts University.

**Dr. Eugene Sander, Member**

Dr. Sander served as the 20th president of the University of Arizona (UA), stepping down in 2012. He formerly was vice provost and dean of the UA's College of Agriculture and Life Sciences, overseeing 11 academic departments and two schools, with research stations and offices throughout Arizona. He also served as UA Executive Vice President and Provost, Vice President for University Outreach and Director of the Agricultural Experiment Station and Acting Director of Cooperative Extension Service. Prior to his move to Arizona, Dr. Sander served as the Deputy Chancellor for biotechnology development, Director of the Institute of Biosciences and Technology, and head of the Department of Biochemistry and Biophysics for the Texas A&M University system. He was Chairman of the Department of Biochemistry at West Virginia University Medical Center and Associate Chairman of the Department of Biochemistry and Molecular Biology at the College of Medicine, University of Florida. As an officer in the United States Air Force, he was the assistant chief of the biospecialties section at the Aerospace Medical Research Laboratory. He graduated with a bachelor's degree from the University of Minnesota, received his master's degree and Ph.D. from Cornell University and completed postdoctoral study at Brandeis University. As a biochemist, Dr. Sander worked in the field of mechanisms by which enzymes catalyze reactions.

**Mr. Richard Armitage, Special Adviser**

Mr. Armitage is the President at Armitage International, where he assists companies in developing strategic business opportunities. He served as Deputy Secretary of State from March 2001 to February 2005. Mr. Armitage, with the personal rank of Ambassador, directed U.S. assistance to the new independent states (NIS) of the former Soviet Union. He filled key diplomatic positions as Presidential Special Negotiator for the Philippines Military Bases Agreement and Special Mediator for Water in the Middle East. President Bush sent him as a Special Emissary to Jordan's King Hussein during the 1991 Gulf War. Mr. Armitage also was Deputy Assistant Secretary of Defense for East Asia and Pacific Affairs in the Office of the Secretary of Defense. He graduated from the U.S. Naval Academy. He has received numerous U.S. military decorations as well as decorations from the governments of Thailand, Republic of Korea, Bahrain, and Pakistan. Most recently, he was appointed an Honorary Companion of The New Zealand Order of Merit. He serves on the Board of Directors of ConocoPhillips, ManTech International Corporation, and Transcu Ltd., is a member of The American Academy of Diplomacy as well as a member of the Board of Trustees of the Center for Strategic and International Studies.