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115th Congress, 2d Session - - - - - House Report 115-1080

REPORT ON ACTIVITIES
OF THE
COMMITTEE ON SCIENCE, SPACE, AND
TECHNOLOGY
HOUSE OF REPRESENTATIVES
FOR THE
ONE HUNDRED FIFTEENTH CONGRESS



DECEMBER 19, 2018.—Committed to the Committee of the Whole House
on the State of the Union and ordered to be printed

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WASHINGTON : 2018

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LETTER OF TRANSMITTAL

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,
Washington, DC, December 19, 2018.

Hon. PAUL RYAN,
Speaker, House of Representatives,
Washington, DC.

DEAR MR. SPEAKER: In accordance with rule XI(1)(d)(1) of the Rules of the House of Representatives, I respectfully submit the Committee on Science, Space, and Technology's activities report for the 115th Congress.

Sincerely,

LAMAR SMITH,
Chairman.

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Committee on Science, Space, and Technology
115th Congress**

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115TH CONGRESS }
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REPORT OF ACTIVITIES OF THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

DECEMBER 19, 2018.—Committed to the Committee of the Whole House on the State
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Mr. SMITH, from the Committee on Science, Space, and Technology,
submitted the following

R E P O R T

I. LEGISLATIVE ACTIVITIES

BILLS ENACTED INTO LAW

H.R. 255, Promoting Women in Entrepreneurship Act. Introduced by Rep. Elizabeth Esty on January 4, 2017; passed by the House on January 10, 2017 (under suspension by voice vote); passed by the Senate on February 14, 2017 (unanimous consent); and became Public Law 115-6 on February 28, 2017.

H.R. 321, Inspiring the Next Space Pioneers, Innovators, Researchers, and Explorers (INSPIRE) Women Act. Introduced by Rep. Barbara Comstock on January 5, 2017; passed by the House on January 10, 2017 (under suspension by voice vote); passed by the Senate on February 14, 2017 (voice vote); and became Public Law 115-7 on February 28, 2017.

S. 442, National Aeronautics and Space Administration Transition Authorization Act of 2017. Introduced by Sen. Ted Cruz on February 17, 2017; passed by the Senate on February 17, 2017 (unanimous consent); passed by the House on March 7, 2017 (under suspension by voice vote); and became Public Law 115-10 on March 21, 2017.

H.R. 353, Weather Research and Forecasting Innovation Act of 2017. Introduced by Rep. Frank Lucas on January 6, 2017; passed by the House on January 9, 2017 (under suspension by voice vote); passed by the Senate on March 29, 2017 (unanimous consent); passed the House after resolving differences on April 4, 2017

(under suspension by voice vote); and became Public Law 115–25 on April 18, 2017.

H.R. 4661, United States Fire Administration, AFG, and SAFER Program Reauthorization Act of 2017. Introduced by Rep. Barbara Comstock on December 15, 2017; passed by the House on December 18, 2017 (under suspension by voice vote); passed by the Senate on December 21, 2017 (unanimous consent); and became Public Law 115–98 on January 3, 2018.

H.R. 589, Department of Energy Research and Innovation Act. Introduced by Rep. Lamar Smith on January 20, 2017; passed by the House on January 24, 2017 (under suspension by voice vote); report filed in the Senate on May 9, 2018 (S. Rept. 115–242); passed by the Senate on July 23, 2018 (voice vote); passed the House after resolving differences on September 13, 2018 (under suspension by voice vote); and became Public Law 115–246 on September 28, 2018.

BILLS PASSED THE HOUSE

H.R. 1159, United States and Israel Space Cooperation Act. Introduced by Rep. Derek Kilmer on February 16, 2017; and passed by the House on December 20, 2017 (under suspension by a vote of 411–0).

H.R. 1430, HONEST Act. Introduced by Rep. Lamar Smith on March 8, 2017; report filed by the Committee on March 24, 2017 (H. Rept. 115–59); and passed by the House on March 29, 2017 (by a vote of 228–194).

H.R. 1431, EPA Science Advisory Board Reform Act of 2017. Introduced by Rep. Frank Lucas on March 8, 2017; report filed by the Committee on March 27, 2017 (H. Rept. 115–63); and passed by the House on March 30, 2017 (by a vote of 229–193).

H.R. 2105, NIST Small Business Cybersecurity Act. Introduced by Rep. Daniel Webster on April 20, 2017; and passed by the House on October 11, 2017 (under suspension by voice vote).

H.R. 2763, Small Business Innovation Research and Small Business Technology Transfer Improvements Act of 2017. Introduced by Rep. Stephen Knight on May 30, 2017; report filed by the Committee on September 14, 2017 (H. Rept. 115–313); and passed by the House on October 11, 2017 (under suspension by voice vote).

H.R. 2809, American Space Commerce Free Enterprise Act. Introduced by Rep. Lamar Smith on June 7, 2017; report filed by the Committee on April 24, 2018 (H. Rept. 115–649); and passed by the House on April 24, 2018 (under suspension by voice vote).

H.R. 3397, Building Blocks of STEM Act. Introduced by Rep. Jacky Rosen on July 25, 2017; report filed by the Committee on February 13, 2018 (H. Rept. 115–558); and passed by the House on February 13, 2018 (under suspension by voice vote).

H.R. 4254, Women in Aerospace Education Act. Introduced by Rep. Stephen Knight on November 9, 2017; report filed by the Committee on December 18, 2017 (H. Rept. 115–472); passed by the House on December 19, 2017 (under suspension by a vote of 409–17); and passed by the Senate on September 27, 2018 (unanimous consent).

H.R. 4323, Supporting Veterans in STEM Careers Act. Introduced by Rep. Neal Dunn on November 9, 2017; report filed by the Committee on December 18, 2017 (H. Rept. 115–473); and passed

by the House on December 19, 2017 (under suspension by a vote of 420–1).

H.R. 4375, STEM Research and Education Effectiveness and Transparency Act. Introduced by Rep. Barbara Comstock on November 13, 2017; report filed by the Committee on December 18, 2017 (H. Rept. 115–471); and passed by the House on December 18, 2017 (under suspension by a vote of 376–9).

H.R. 4376, Department of Energy Research Infrastructure Act of 2018. Introduced by Rep. Stephen Knight on November 13, 2017; report filed by the Committee on February 13, 2018 (H. Rept. 115–556); and passed by the House on February 13, 2018 (under suspension by voice vote).

H.R. 4377, Accelerating American Leadership in Science Act of 2018. Introduced by Rep. Randy Hultgren on November 13, 2017; report filed by the Committee on February 13, 2018 (H. Rept. 115–555); and passed by the House on February 13, 2018 (under suspension by voice vote).

H.R. 4378, Nuclear Energy Research Infrastructure Act of 2018. Introduced by Rep. Randy Weber on November 13, 2017; report filed by the Committee on February 13, 2018 (H. Rept. 115–557); and passed by the House on February 13, 2018 (under suspension by voice vote).

H.R. 4675, Low-Dose Radiation Research Act of 2018. Introduced by Rep. Roger Marshall on December 18, 2017; report filed by the Committee on February 13, 2018 (H. Rept. 115–554); and passed by the House on February 13, 2018 (under suspension by voice vote).

H.R. 5086, Innovators to Entrepreneurs Act of 2018. Introduced by Rep. Daniel Lipinski on February 26, 2018; and passed by the House on April 24, 2018 (under suspension by a vote of 379–16).

H.R. 5345, ALSTAR Act. Introduced by Rep. Mo Brooks on March 20, 2018; and passed by the House on June 27, 2018 (under suspension by voice vote).

H.R. 5346, Commercial Space Support Vehicle Act. Introduced by Rep. Bill Posey on March 20, 2018; report filed by the Committee on June 27, 2018 (H. Rept. 115–789); and passed by the House on June 27, 2018 (under suspension by voice vote).

H.R. 5509, Innovations in Mentoring, Training, and Apprenticeships Act. Introduced by Rep. Kevin McCarthy on April 13, 2018; report filed by the Committee on September 25, 2018 (H. Rept. 115–975); and passed by the House on September 25, 2018 (under suspension by voice vote).

H.R. 5905, Department of Energy Science and Innovation Act of 2018. Introduced by Rep. Randy Weber on May 22, 2018; report filed by the Committee on June 27, 2018 (H. Rept. 115–787); and passed by the House on June 27, 2018 (under suspension by voice vote).

H.R. 5906, ARPA–E Act of 2018. Introduced by Rep. Frank Lucas on May 22, 2018; and passed by the House on June 27, 2018 (under suspension by voice vote).

H.R. 5907, NIMBLE Act. Introduced by Rep. Randy Hultgren on May 22, 2018; report filed by the Committee on June 27, 2018 (H. Rept. 115–788); and passed by the House on June 27, 2018 (under suspension by voice vote).

H.R. 6227, National Quantum Initiative Act. Introduced by Rep. Lamar Smith on June 26, 2018; report filed by the Committee on September 13, 2018 (H. Rept. 115–950); and passed by the House on September 13, 2018 (under suspension by voice vote).

H.R. 6229, National Institute of Standards and Technology Reauthorization Act of 2018. Introduced by Rep. Barbara Comstock on June 26, 2018; report filed by the Committee on September 25, 2018 (H. Rept. 115–977); and passed by the House on September 25, 2018 (under suspension by voice vote).

H.R. 6398, Department of Energy Veterans' Health Initiative Act. Introduced by Rep. Ralph Norman on July 17, 2018; report filed by the Committee on September 25, 2018 (H. Rept. 115–974); and passed by the House on September 25, 2018 (under suspension by voice vote).

S. 2497, United States-Israel Security Assistance Authorization Act of 2018. Introduced by Sen. Marco Rubio on March 5, 2018; passed by the Senate on August 1, 2018 (voice vote); and passed by the House on September 12, 2018 (under suspension by voice vote).

BILLS ORDERED REPORTED BY THE COMMITTEE

H.R. 1224, NIST Cybersecurity Framework Assessment, Auditing Act of 2017. Introduced by Rep. Ralph Lee Abraham on February 27, 2017; and report filed by the Committee on October 31, 2017 (H. Rept. 115–376).

H.R. 5503, National Aeronautics and Space Administration Authorization Act of 2018. Introduced by Rep. Brian Babin on April 13, 2018; and reported by the Committee on April 17, 2018 (by a vote of 26–7).

H.R. 6226, American Space SAFE Management Act. Introduced by Rep. Lamar Smith on June 26, 2018; and reported by the Committee on June 27, 2018 (by voice vote).

H.R. 6468, Improving Science in Chemical Assessments Act. Introduced by Rep. Andy Biggs on July 23, 2018; and reported by the Committee on July 24, 2018 (by a vote of 17–13).

S. 141, Space Weather Research and Forecasting Act. Introduced by Sen. Gary Peters on January 12, 2017; report filed in the Senate on March 30, 2017 (S. Rept. 115–21); passed by the Senate on May 2, 2017 (unanimous consent); and reported by the Committee on July 24, 2018 (by voice vote).

BUSINESS MEETINGS

February 7, 2017

Full Committee markup: Committee Rules for the 115th Congress, approved by voice vote; Oversight Plan for the 115th Congress, approved by voice vote.

March 1, 2017

Full Committee markup: H.R. 1224, the NIST Cybersecurity Framework, Assessment, and Auditing Act of 2017, ordered reported, as amended, by recorded vote 19–14.

March 9, 2017

Full Committee markup: H.R. 1430, the Honest and Open New EPA Science Treatment Act of 2017 (HONEST Act), ordered reported by recorded vote 17–12; H.R. 1431, the EPA Science Advisory Board Reform Act of 2017, ordered reported by recorded vote 19–14.

May 2, 2017

Full Committee markup: H.R. 2105, the NIST Small Business Cybersecurity Act of 2017, ordered reported, as amended, by voice vote.

June 8, 2017

Full Committee markup: H.R. 2809, the American Space Commerce Free Enterprise Act of 2017, ordered reported, as amended, by voice vote.

June 22, 2017

Full Committee markup: H.R. 2763, the Small Business Innovation Research and Small Business Technology Transfer Improvements Act of 2017, ordered reported, as amended, by voice vote.

September 28, 2017

Full Committee markup: H.R. 1159, the United States and Israel Space Cooperation Act, ordered reported by voice vote.

November 15, 2017

Full Committee markup: H.R. 4376, the Department of Energy Research Infrastructure Act of 2017, ordered reported by voice vote; H.R. 4377, the Accelerating American Leadership in Science Act of 2017, ordered reported by voice vote; H.R. 4378, the Nuclear Energy Research Infrastructure Act of 2017, ordered reported by voice vote; H.R. 4375, the STEM Research and Education Effectiveness and Transparency Act, ordered reported by voice vote; H.R. 4323, the Supporting Veterans in STEM Careers Act, ordered reported by voice vote; H.R. 4254, the Women in Aerospace Education Act, ordered reported, as amended, by voice vote; H.R. 3397, the Building Blocks of STEM Act, ordered reported, as amended, by voice vote.

January 10, 2018

Full Committee markup: H.R. 4675, the Low Dose Radiation Research Act of 2017, ordered reported, as amended, by voice vote.

March 22, 2018

Full Committee markup: H.R. 5345, the American Leadership in Space Technology and Advanced Rocketry Act, ordered reported by voice vote; H.R. 5346, the Commercial Space Support Vehicle Act, ordered reported by voice vote; H.R. 5086, the Innovators to Entrepreneurs Act of 2018, ordered reported by voice vote.

April 17, 2018

Full Committee markup: H.R. 5509, the Innovations in Mentoring, Training, and Apprenticeships Act, ordered reported, as amended, by voice vote; H.R. 5503, the National Aeronautics and

Space Administration Authorization Act of 2018, ordered reported, as amended, by recorded vote 26–7.

May 23, 2018

Full Committee markup: H.R. 5905, the Department of Energy Science and Innovation Act of 2018, ordered reported, as amended, by voice vote; H.R. 5907, the National Innovation Modernization by Laboratory Empowerment (NIMBLE) Act, ordered reported by voice vote; H.R. 5906, the ARPA–E Act of 2018, ordered reported, as amended, by voice vote.

June 27, 2018

Full Committee markup: H.R. 6227, the National Quantum Initiative Act, ordered reported, as amended, by voice vote; H.R. 6229, the National Institute of Standards and Technology Reauthorization Act of 2018, ordered reported, as amended, by voice vote; H.R. 6226, the American Space SAFE Management Act, ordered reported, as amended, by voice vote.

July 18, 2018

Full Committee markup: H.R. 6398, the Department of Energy Veterans’ Health Initiative Act, ordered reported, as amended, by voice vote.

July 24, 2018

Full Committee markup: S. 141, the Space Weather Research and Forecasting Act, ordered reported, as amended, by voice vote; H.R. 6468, the Improving Science in Chemical Assessments Act, ordered reported by recorded vote 17–13.

II. OVERSIGHT ACTIVITIES

HEARINGS

February 7, 2017

Full Committee hearing: Making EPA Great Again.

Witnesses: The Honorable Jeffrey R. Holmstead, Partner, Bracewell LLP; Dr. Kimberly White, Senior Director, Chemical Products and Technology, American Chemistry Council; The Honorable Rush Holt, CEO, American Association for the Advancement of Science; and Dr. Richard Belzer, Independent Consultant.

February 14, 2017

Research and Technology Subcommittee hearing: Strengthening U.S. Cybersecurity Capabilities.

Witnesses: Dr. Charles H. Romine, Director, Information Technology Lab, National Institute of Standards and Technology; Mr. Iain Mulholland, Industry Member, Center for Strategic and International Studies, Cyber Policy Task Force, and Chief Technology Officer, Security, VMware, Inc.; Dr. Diana Burley, Executive Director and Chair, Institute for Information Infrastructure Protection (I3P), and Professor, Human and Organizational Learning, The George Washington University; and Mr. Gregory Wilshusen, Director, Information Security Issues, U.S. Government Accountability Office.

February 15, 2017

Energy Subcommittee and Oversight Subcommittee joint hearing: Risky Business: The DOE Loan Guarantee Program.

Witnesses: Ms. Diane Katz, Senior Research Fellow in Regulatory Policy, Thomas A. Roe Institute for Economic Policy Studies, The Heritage Foundation; Mr. Chris Edwards, Director, Tax Policy Studies, Cato Institute; Mr. Dan Reicher, Executive Director, Steyer-Taylor Center for Energy Policy and Finance, Stanford University; and Dr. Ryan Yonk, Assistant Research Professor, Department of Economics and Finance, Utah State University, and Research Director, Institute of Political Economy, Utah State University.

February 16, 2017

Full Committee hearing: NASA: Past, Present, and Future.

Witnesses: The Honorable Harrison Schmitt, Apollo 17 Astronaut, and Former United States Senator; Lt. Gen. Thomas P. Stafford, Gemini VI, Gemini IX, Apollo 10, Apollo-Soyuz Test Project Astronaut, and Chairman, NASA International Space Station Advisory Committee; Dr. Ellen Stofan, Former Chief Scientist, National Aeronautics and Space Administration (NASA); and Mr. Tom Young, Past Director, Goddard Spaceflight Center, Past President and COO, Martin Marietta, and Past Chairman SAIC.

February 28, 2017

Environment Subcommittee and Oversight Subcommittee joint hearing: At What Cost? Examining the Social Cost of Carbon.

Witnesses: Dr. Ted Gayer, Vice President and Director of Economic Studies, Brookings Institute; Dr. Kevin Dayaratna, Senior Statistician and Research Programmer, Center for Data Analysis, The Heritage Foundation; Dr. Michael Greenstone, Milton Friedman Professor in Economics, the College, and the Harris School, Director of the Interdisciplinary Energy Policy Institute, University of Chicago, and Director of Energy & Environment Lab, University of Chicago Urban Labs; and Dr. Patrick Michaels, Director, Center for the Study of Science, Cato Institute.

March 8, 2017

Space Subcommittee hearing: Regulating Space: Innovation, Liberty, and International Obligations.

Witnesses: Ms. Laura Montgomery, Attorney and Sole Proprietor, Ground Based Space Matters, LLC; Dr. Eli Dourado, Senior Research Fellow and Director, Technology Policy Program, Mercatus Center, George Mason University; Mr. Douglas L. Loverro, Former Deputy Assistant Secretary of Defense for Space Policy, U.S. Department of Defense; Mr. Dennis J. Burnett, Adjunct Professor of Law, University of Nebraska-Lincoln, College of Law; and Dr. Henry B. Hogue, Specialist in American National Government, Congressional Research Service.

March 9, 2017

Research and Technology Subcommittee hearing: National Science Foundation Part I: Overview and Oversight.

Witnesses: Dr. France Córdova, Director, National Science Foundation; and Ms. Allison Lerner, Inspector General, National Science Foundation.

March 21, 2017

Research and Technology Subcommittee hearing: National Science Foundation Part II: Future Opportunities and Challenges for Science.

Witnesses: Dr. Joan Ferrini-Mundy, Acting Chief Operating Officer, National Science Foundation; Dr. Maria Zuber, Chair, National Science Board; Dr. Jeffrey Spies, Co-Founder and Chief Technology Officer, Center for Open Science and Assistant Professor, University of Virginia; and Dr. Keith Yamamoto, Vice Chancellor for Science Policy and Strategy, University of California, San Francisco.

March 22, 2017

Space Subcommittee hearing: The ISS After 2024: Options and Impacts.

Witnesses: Mr. William Gerstenmaier, Associate Administrator for Human Exploration and Operations, National Aeronautics and Space Administration (NASA); Dr. Mary Lynne Dittmar, Executive Director, Coalition for Deep Space Exploration; Mr. Eric Stallmer, President, Commercial Spaceflight Federation; and Dr. Robert Ferl, Distinguished Professor and Director of the Interdisciplinary Center for Biotechnology Research, University of Florida.

March 29, 2017

Full Committee hearing: Climate Science: Assumptions, Policy Implications, and the Scientific Method.

Witnesses: Dr. Judith Curry, President, Climate Forecast Applications Network, and Professor Emeritus, Georgia Institute of Technology; Dr. John Christy, Professor and Director, Earth System Science Center, NSSTC, University of Alabama at Huntsville, and State Climatologist, Alabama; Dr. Michael Mann, Distinguished Professor of Atmospheric Science, Pennsylvania State University, and Director, Earth System Science Center, Pennsylvania State University; and Dr. Roger Pielke, Jr., Professor, Environmental Studies Department, University of Colorado.

April 26, 2017

Full Committee hearing: Advances in the Search for Life.

Witnesses: Dr. Thomas Zurbuchen, Associate Administrator, Science Mission Directorate, National Aeronautics and Space Administration; Dr. Adam Burgasser, Professor of Physics, University of California, San Diego and UCSD Center for Astrophysics and Space Science, Fulbright Scholar; Dr. James Kasting, Chair, Planning Committee, Workshop on the Search for Life Across Space and Time, National Academies of Science, Engineering, and Medicine, and Evan Pugh Professor of Geosciences, Pennsylvania State University; and Dr. Seth Shostak, Senior Astronomer, SETI Institute.

May 3, 2017

Energy Subcommittee hearing: Oil and Gas Technology Innovation.

Witnesses: Mr. Edward Johnston, Senior Vice President for Research and Development, Gas Technology Institute; Dr. David Brower, Founder and President, Astro Technology; Mr. Walker Dimmig, Principal, 8 Rivers Capital, LLC; and Dr. Ramanan Krishnamoorti, Interim Vice President and Interim Vice Chancellor for Research and Technology Transfer, University of Houston & University of Houston System, and Chief Energy Officer, University of Houston.

May 4, 2017

Research and Technology Subcommittee and Contracting and Workforce Subcommittee joint hearing: Improving the Small Business Innovation Research and Small Business Technology Transfer Programs.

Witnesses: Mr. Joe Shepard, Associate Administrator, Office of Investment and Innovation, United States Small Business Administration; Mr. John Neumann, Director, Natural Resources and Environment, U.S. Government Accountability Office; Mr. John Clanton, Chief Executive Officer, Lynntech, Inc.; Dr. John S. Langford, Chairman and CEO, Aurora Flight Sciences Corporation; Mr. Ron Shroder, CEO and President, Frontier Technologies, Inc.; Ms. Angela M. Albán, President and CEO, SIMETRI, Inc.; and Dr. Clinton T. Rubin, SUNY Distinguished Professor and Chair, Department of Biomedical Engineering, Director, Center for Biotechnology.

May 23, 2017

Environment Subcommittee hearing: Expanding the Role of States in EPA Rulemaking.

Witnesses: Mr. Misael Cabrera, PE, Director, Arizona Department of Environmental Quality; Ms. Becky Keogh, Director, Arkansas Department of Environmental Quality; and Dr. Deborah L. Swackhamer, Ph.D., Professor Emerita, Hubert H. Humphrey School of Public Affairs and Professor Emerita, Environmental Health Sciences, University of Minnesota.

May 24, 2017

Research and Technology Subcommittee and Oversight Subcommittee joint hearing: Examining the Overhead Cost of Research.

Witnesses: Mr. Dale Bell, Division Director, Institution and Award Support, National Science Foundation; Mr. John Neumann, Director, Natural Resources and Environment, U.S. Government Accountability Office; Mr. James Luther, Associate Vice President of Finance & Compliance Officer, Duke University, and Chairman of the Board, Council on Governmental Relations; and Dr. Richard Vedder, Distinguished Professor of Economics Emeritus, Department of Economics, Ohio University, and Director, Center for College Affordability and Productivity.

June 8, 2017

Space Subcommittee hearing: An Overview of the National Aeronautics and Space Administration Budget for Fiscal Year 2018.

Witness: Mr. Robert M. Lightfoot, Jr., Acting Administrator, National Aeronautics and Space Administration (NASA).

June 15, 2017

Oversight Subcommittee and Research and Technology Subcommittee joint hearing: Bolstering the Government's Cybersecurity: Lessons Learned from WannaCry.

Witnesses: Mr. Salim Neino, Chief Executive Officer, Kryptos Logic; Dr. Charles H. Romine, Director, Information Technology Laboratory, National Institute of Standards and Technology; Mr. Gregory J. Touhill, CISSP, CISM, Brigadier General, USAF (ret), and Adjunct Professor, Cybersecurity & Risk Management, Carnegie Mellon University, Heinz College; and Dr. Hugh Thompson, Chief Technology Officer, Symantec.

June 21, 2017

Environment Subcommittee hearing: Leading the Way: Examining Advances in Environmental Technologies.

Witnesses: Mr. Sebastien De Halleux, Chief Operating Officer, Sairdron, Inc.; Dr. Neil Jacobs, Chief Atmospheric Scientist, Panasonic Avionics; and Dr. Burke Hales, Professor in Ocean Ecology and Biogeochemistry, College of Earth, Ocean and Atmospheric Sciences, Oregon State University.

June 28, 2017

Energy Subcommittee and Research and Technology Subcommittee joint hearing: Materials Science: Building the Future.

Witnesses: Dr. Matthew Tirrell, Deputy Laboratory Director for Science and Chief Research Officer, Argonne National Laboratory; Dr. Laurie Locascio, Acting Associate Director for Laboratory Programs and Director, Material Measurement Laboratory, National Institute of Standards and Technology; Dr. Adam Schwartz, Director, Ames Laboratory; and Dr. Fred Higgs, John and Ann Doerr Professor of Mechanical Engineering, Rice University.

June 29, 2017

Space Subcommittee hearing: In-Space Propulsion: Strategic Choices and Options.

Witnesses: Mr. William Gerstenmaier, Associate Administrator, Human Exploration and Operations Directorate, National Aeronautics and Space Administration (NASA); Mr. Stephen Jurczyk, Associate Administrator, Space Technology Mission Directorate, National Aeronautics and Space Administration (NASA); Dr. Mitchell Walker, Chair, Electric Propulsion Technical Committee, American Institute of Aeronautics and Astronautics; Dr. Franklin Chang-Diaz, Founder and CEO, Ad Astra Rocket Company; Mr. Joe Cassady, Executive Director for Space, Washington Operations, Aerojet Rocketdyne; and Dr. Anthony Pancotti, Director of Propulsion Research, MSNW LLC.

July 12, 2017

Research and Technology Subcommittee hearing: U.S. Fire Administration and Fire Grant Programs Reauthorization: Examining Effectiveness and Priorities.

Witnesses: Dr. Denis Onieal, Acting Administrator, United States Fire Administration; Chief John Sinclair, President and Chair of the Board, International Association of Fire Chiefs, and Fire Chief, Kittitas Valley Fire and Rescue; Captain John Niemiec,

President, Fairfax County Professional Fire Fighters and Paramedics-International Association of Fire Fighters Local 2068; Mr. Steve Hirsch, First Vice Chair, National Volunteer Fire Council, and Training Officer, Sheridan County Fire District #1, Thomas County Fire District #4 and Grinnell Fire Department; Dr. Gavin Horn, Research Program Director, Illinois Fire Service Institute; and Chief H. “Butch” Browning, Jr., President, National Association of State Fire Marshalls, Louisiana State Fire Marshall.

July 18, 2017

Space Subcommittee hearing: Planetary Flagship Missions: Mars Rover 2020 and Europa Clipper.

Witnesses: Dr. Jim Green, Director, Planetary Science Division, Science Mission Directorate, National Aeronautics and Space Administration (NASA); Dr. Kenneth Farley, Mars Rover 2020 Project Scientist, and Professor of Geochemistry, California Institute of Technology; Dr. Robert Pappalardo, Europa Clipper Project Scientist, Jet Propulsion Laboratory, California Institute of Technology; Dr. Linda T. Elkins-Tanton, Director and Foundation Professor, School of Earth and Space Exploration, Arizona State University, and Principal Investigator, NASA Psyche Mission; and Dr. William B. McKinnon, Co-Chair, National Academy of Sciences, Committee on Astrobiology and Planetary Science, and Professor of Earth and Planetary Sciences, Washington University in St. Louis.

July 19, 2017

Full Committee hearing: Energy Innovation: Letting Technology Lead.

Witnesses: Dr. Jacob DeWitte, President and CEO, Oklo; Dr. Gaurav N. Sant, Associate Professor and Henry Samueli Fellow, Department of Civil and Environmental Engineering, Henry Samueli School of Engineering and Applied Science, University of California, Los Angeles (UCLA); Dr. Venky Narayanamurti, Benjamin Peirce Research Professor of Technology and Public Policy, John A. Paulson School of Engineering and Applied Sciences, Harvard University; and Mr. Kiran Kumaraswamy, Market Development Director, AES Energy Storage.

July 25, 2017

Environment Subcommittee and Energy Subcommittee joint hearing: Examining Advancements in Biofuels: Balancing Federal Research and Market Innovation.

Witnesses: Dr. Paul Gilna, Director, BioEnergy Science Center and Deputy-Division Director of Biosciences, Oak Ridge National Laboratory; Dr. John DeCicco, Research Professor, University of Michigan Energy Institute, and Director, University of Michigan Energy Survey; Ms. Emily Skor, Chief Executive Officer, Growth Energy; and Mr. Nick Loris, Herbert and Joyce Morgan Research Fellow in Energy and Environmental Policy, Institute for Economic Freedom and Opportunity, The Heritage Foundation.

July 26, 2017

Research and Technology Subcommittee hearing: STEM and Computer Science Education: Preparing the 21st Century Workforce.

Witnesses: Mr. James Brown, Executive Director, STEM Education Coalition; Mr. Pat Yongpradit, Chief Academic Officer, Code.org; Dr. A. Paul Alivisatos, Executive Vice Chancellor & Provost, Vice Chancellor for Research, and Professor of Chemistry and Materials Science & Engineering, University of California, Berkeley; and Ms. Dee Mooney, Executive Director, Micron Technology Foundation.

September 6, 2017

Environment Subcommittee and Oversight Subcommittee joint hearing: Examining the Scientific and Operational Integrity of EPA's IRIS Program.

Witnesses: Dr. Kenneth Mundt, Principal, Ramboll Environ; Dr. James Bus, Senior Managing Scientist, Exponent; and Dr. Thomas Burke, Johns Hopkins University.

September 7, 2017

Space Subcommittee hearing: Private Sector Lunar Exploration.

Witnesses: Mr. Jason Crusan, Director, Advanced Exploration Systems, National Aeronautics and Space Administration (NASA); Mr. Bob Richards, Founder and CEO, Moon Express, Inc.; Mr. John Thornton, Chief Executive Officer, Astrobotic Technology, Inc.; Mr. Bretton Alexander, Director of Business Development and Strategy, Blue Origin; and Dr. George Sowers, Professor, Space Resources, Colorado School of Mines.

September 28, 2017

Research and Technology Subcommittee and Space Subcommittee joint hearing: The Great American Eclipse: To Totality and Beyond.

Witnesses: Dr. James Ulvestad, Assistant Director (acting), Directorate for Mathematical & Physical Sciences, National Science Foundation; Dr. Thomas Zurbuchen, Associate Administrator, Science Mission Directorate, National Aeronautics and Space Administration (NASA); Dr. Heidi Hammel, Executive Vice President, Association of Universities for Research in Astronomy; Dr. Matthew Penn, Astronomer, National Solar Observatory; and Ms. Michelle Nichols-Yehling, Director of Public Observing, Adler Planetarium.

October 3, 2017

Full Committee hearing: Resiliency: The Electric Grid's Only Hope.

Witnesses: Dr. William Sanders, Department Head, Department of Electrical and Computer Engineering, University of Illinois; Mr. Carl Imhoff, Manager, Electricity Market Sector, Pacific Northwest National Laboratory; Dr. Gavin Dillingham, Program Director, Clean Energy Policy, Houston Advanced Research Center; and Mr. Walt Baum, Executive Director, Texas Public Power Association.

October 4, 2017

Space Subcommittee hearing: Power Exploration: An Update on Radioisotope Production and Lessons Learned from Cassini.

Witnesses: Mr. David Schurr, Deputy Director, Planetary Science Division, National Aeronautics and Space Administration (NASA);

Ms. Tracey Bishop, Deputy Assistant Secretary for Nuclear Infrastructure Programs, Office of Nuclear Energy, U.S. Department of Energy; Dr. Ralph L. McNutt, Jr., Chief Scientist for Space Science in the Space Exploration Sector, The Johns Hopkins University Applied Physics Laboratory; and Ms. Shelby Oakley, Director, Acquisition and Sourcing Management, Government Accountability Office.

October 11, 2017

Oversight Subcommittee and Research and Technology Subcommittee joint hearing: NIST's Physical Security Vulnerabilities: A GAO Undercover Review.

Witnesses: Ms. Lisa Casias, Deputy Assistant Secretary for Administration, U.S. Department of Commerce; Dr. Kent Rochford, Acting Director, National Institute of Standards and Technology; and Mr. Seto Bagdoyan, Director, Audit Services, Forensic Audits & Investigative Service, U.S. Government Accountability Office.

October 24, 2017

Research and Technology Subcommittee and Energy Subcommittee joint hearing: American Leadership in Quantum Technology.

Witnesses: Dr. Carl J. Williams, Acting Director, Physical Measurement Laboratory, National Institute of Standards and Technology; Dr. Jim Kurose, Assistant Director, Computer and Information Science and Engineering Directorate, National Science Foundation; Dr. John Stephen Binkley, Acting Director of Science, U.S. Department of Energy; Dr. Scott Crowder, Vice President and Chief Technology Officer for Quantum Computing, IBM Systems Group; Dr. Christopher Monroe, Distinguished University Professor & Bice Zorn Professor, Department of Physics, University of Maryland, and Founder and Chief Scientist, IonQ, Inc.; and Dr. Supratik Guha, Director, Nanoscience and Technology Division, Argonne National Laboratory, and Professor, Institute for Molecular Engineering, University of Chicago.

October 25, 2017

Oversight Subcommittee hearing: Bolstering the Government's Cybersecurity: Assessing the Risk of Kaspersky Lab Products to the Federal Government.

Witnesses: Ms. Donna Dodson, Associate Director and Chief Cybersecurity Advisor, Information Technology Laboratory, and Chief Cybersecurity Advisor, National Institute of Standards and Technology; Mr. David Shive, Chief Information Officer, U.S. General Services Administration; Mr. James Norton, President, Play-Action Strategies LLC, and Adjunct Professor, Johns Hopkins University; and Mr. Sean Kanuck, Director, Future Conflict and Cyber Security, International Institute for Strategic Studies.

November 1, 2017

Energy Subcommittee hearing: The Future of Low Dose Radiation Research.

Witnesses: Mr. John Neumann, Director, Science and Technology Issues, Government Accountability Office; Dr. Gayle Woloschak, Professor, Radiation Oncology and Radiology, Northwestern Uni-

versity; and Dr. James Brink, Professor, Radiology, Harvard Medical School, and Radiologist-in-Chief, Massachusetts General Hospital.

November 2, 2017

Research and Technology Subcommittee hearing: Putting Food on the Table—A Review of the Importance of Agriculture Research.

Witnesses: Dr. Daniel Gerstein, Senior Policy Researcher, RAND Corporation; Dr. Stephen Higgs, Associate Vice President for Research and Director, Biosecurity Research Institute, Kansas State University; Dr. Stephen P. Moose, Denton and Elizabeth Alexander Professor, Maize Breeding and Genetics, Department of Crop Sciences, University of Illinois at Urbana-Champaign; and Dr. Elizabeth Wagstrom, Chief Veterinarian, National Pork Producers Council.

November 8, 2017

Environment Subcommittee and Energy Subcommittee joint hearing: Geoengineering: Innovation, Research, and Technology.

Witnesses: Dr. Phil Rasch, Chief Scientist for Climate Science, Laboratory Fellow, Pacific Northwest National Laboratory; Dr. Joseph Majkut, Director of Climate Policy, Niskanen Center; Dr. Douglas MacMartin, Senior Research Associate, Cornell University; and Ms. Kelly Wanser, Principal Director, Marine Cloud Brightening Project, Joint Institute for the Study of the Atmosphere and Ocean, University of Washington.

November 9, 2017

Space Subcommittee hearing: An Update on NASA Exploration Systems Development.

Witnesses: Mr. William Gerstenmaier, Associate Administrator, Human Exploration and Operations Directorate, National Aeronautics and Space Administration (NASA); and Dr. Sandra Magnus, Executive Director, American Institute of Aeronautics and Astronautics.

November 14, 2017

Oversight Subcommittee hearing: Bolstering the Government's Cybersecurity: A Survey of Compliance with the DHS Directive.

Witnesses: Ms. Jeanette Manfra, Assistant Secretary, Cybersecurity and Communications, National Protection and Programs Directorate, U.S. Department of Homeland Security; Ms. Renee Wynn, Chief Information Officer, National Aeronautics and Space Administration (NASA); Ms. Essye Miller, Deputy Chief Information Officer for Cybersecurity, U.S. Department of Defense; and Dr. Mark Jacobson, Associate Teaching Professor, Edmund Walsh School of Foreign Service, Georgetown University.

November 29, 2017

Environment Subcommittee hearing: The Future of WOTUS: Examining the Role of States.

Witnesses: Mr. Wesley Mehl, Deputy Commissioner, Arizona State Land Department; Mr. James K. Chilton, Jr., Rancher, Chilton Ranch; Mr. Ken Kopocis, Adjunct Associate Professor,

American University Washington College of Law; and Mr. Reed Hopper, Senior Attorney, Pacific Legal Foundation.

December 6, 2017

Research and Technology Subcommittee hearing: From Lab to Market: A Review of NSF Innovation Corps.

Witnesses: Dr. Dawn Tilbury, Assistant Director, Directorate for Engineering, National Science Foundation; Mr. Steve Blank, Adjunct Professor, Management Science and Engineering, Stanford University; Dr. Dean Chang, Associate Vice President, Innovation and Entrepreneurship, University of Maryland, and Lead Principal Investigator, DC I-Corps Regional Node; and Dr. Sue Carter, Professor, Department of Physics, and Director, Center for Innovation and Entrepreneurial Development, University of California, Santa Cruz.

December 6, 2017

Space Subcommittee hearing: NASA's Next Four Large Telescopes.

Witnesses: Dr. Thomas Zurbuchen, Associate Administrator, Science Mission Directorate, National Aeronautics and Space Administration (NASA); Ms. Cristina Chaplain, Director, Acquisition and Sourcing Management, Government Accountability Office; Mr. A. Thomas Young, Former Director, Goddard Space Flight Center, National Aeronautics and Space Administration (NASA), and Former President and Chief Operating Officer, Martin Marietta Corporation; Dr. Matt Mountain, President, Association of Universities for Research in Astronomy; and Dr. Chris McKee, Professor Emeritus of Astronomy, Physics, University of California, Berkeley, on behalf of the National Academies of Science, Engineering and Medicine.

December 13, 2017

Research and Technology Subcommittee hearing: Head Health Challenge: Preventing Head Trauma from Football Field to Shop Floor to Battlefield.

Witnesses: Dr. Michael Fasolka, Acting Director, Material Measurement Lab, National Institute of Standards and Technology; Mr. Scott A. Kebschull, Vice President and Technical Director, Dynamic Research, Inc.; Dr. Alex O. Dehgan, Chief Executive Officer and Founder, Conservation X Labs; and Mr. Shawn Springs, Chief Executive Officer, Windpact.

December 13, 2017

Energy Subcommittee hearing: Advancing Solar Energy Technology: Research Trumps Deployment.

Witnesses: Mr. Daniel Simmons, Principal Deputy Assistant Secretary, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy; Dr. Martin Keller, Director, National Renewable Energy Laboratory; Dr. Steve Eglash, Executive Director, Strategic Research Initiatives, Computer Science, Stanford University; and Mr. Kenny Stein, Director of Policy, Institute for Energy Research.

January 17, 2018

Space Subcommittee hearing: An Update on NASA Commercial Crew Systems Development.

Witnesses: Mr. William Gerstenmaier, Associate Administrator, Human Exploration and Operations Directorate, National Aeronautics and Space Administration (NASA); Mr. John Mulholland, Vice President and Program Manager, Commercial Programs, Boeing Space Exploration; Dr. Hans Koenigsmann, Vice President, Build and Flight Reliability, SpaceX; Ms. Cristina Chaplain, Director, Acquisition and Sourcing Management, U.S. Government Accountability Office; and Dr. Patricia Sanders, Chair, NASA Aerospace Safety Advisory Panel.

January 30, 2018

Full Committee hearing: Department of Energy: Management and Priorities.

Witnesses: The Honorable Paul Dabbar, Under Secretary for Science, U.S. Department of Energy; and The Honorable Mark Menezes, Under Secretary of Energy, U.S. Department of Energy.

February 6, 2018

Full Committee hearing: In Defense of Scientific Integrity: Examining the IARC Monograph Programme and Glyphosate Review.

Witnesses: Dr. Anna Lowit, Senior Science Adviser, Office of Pesticide Programs, U.S. Environmental Protection Agency; Dr. Timothy Pastoor, CEO, Pastoor Science Communications; Dr. Jennifer Sass, Senior Scientist, Natural Resources Defense Council; and Dr. Robert Tarone, (retired) Mathematical Statistician, U.S. National Cancer Institute and Biostatistics Director, International Epidemiology Institute.

February 14, 2018

Oversight Subcommittee and Research and Technology Subcommittee joint hearing: Beyond Bitcoin: Emerging Applications for Blockchain Technology.

Witnesses: Mr. Chris A. Jaikaran, Analyst in Cybersecurity Policy, Government and Finance Division, Congressional Research Service; Dr. Charles H. Romine, Director, Information Technology Laboratory, National Institute of Standards and Technology; Mr. Gennaro "Jerry" Cuomo, IBM Fellow and Vice President of Blockchain Technologies, IBM Cloud; Mr. Frank Yiannas, Vice President of Food Safety, Walmart, Inc.; and Mr. Aaron Wright, Associate Clinical Professor and Co-Director of the Blockchain Project, Benjamin N. Cardozo School of Law.

February 15, 2018

Research and Technology Subcommittee hearing: Mentoring, Training, and Apprenticeships for STEM Education and Careers.

Witnesses: Dr. Victor R. McCrary, Vice President, Division of Research and Economic Development, Morgan State University, and Member and Chair, Task Force on the Skilled Technical Workforce, National Science Board; Dr. John Sands, Department Chair, Computer Integrated Technologies, Moraine Valley Community College, and Director and Principal Investigator, Center for Systems Security and Information Assurance; Mr. Montez King, Executive Direc-

tor, National Institute of Metalworking Skills; and Dr. John Bardo, President, Wichita State University.

February 27, 2018

Research and Technology Subcommittee hearing: A Review of Sexual Harassment and Misconduct in Science.

Witnesses: Ms. Rhonda Davis, Head, Office of Diversity and Inclusion, National Science Foundation; Dr. Kathryn Clancy, Associate Professor, Department of Anthropology, University of Illinois; Ms. Christine McEntee, Executive Director, American Geophysical Union; and Ms. Kristina Larsen, Attorney, Law Office of Kristina K. Larsen.

March 6, 2018

Energy Subcommittee hearing: The Future of U.S. Fusion Energy Research.

Witnesses: Dr. Bernard Bigot, Director-General, ITER Organization; Dr. James W. Van Dam, Acting Associate Director, Fusion Energy Sciences, Office of Science, U.S. Department of Energy; Dr. Mickey Wade, Director of Advanced Fusion Systems, Magnetic Fusion Energy Division, General Atomics; and Dr. Mark Herrmann, Director, National Ignition Facility, Lawrence Livermore National Laboratory.

March 7, 2018

Space Subcommittee hearing: An Overview of the NASA Budget for Fiscal Year 2019.

Witness: Mr. Robert M. Lightfoot, Jr., Acting Administrator, National Aeronautics and Space Administration (NASA).

March 14, 2018

Full Committee hearing: National Laboratories: World-Leading Innovation in Science.

Witnesses: Dr. Mark Peters, Director, Idaho National Laboratory; Dr. Susan Seestrom, Advanced Science & Technology Associate Labs Director and Chief Research Officer, Sandia National Laboratory; Dr. Mary E. Maxon, Associate Laboratory Director for Biosciences, Lawrence Berkeley National Laboratory; Dr. Chi-Chang Kao, Director, Stanford Linear Accelerator Center, National Accelerator Laboratory; and Dr. Paul Kearns, Director, Argonne National Laboratory.

March 15, 2018

Full Committee hearing: An Overview of the National Science Foundation Budget Proposal for Fiscal Year 2019.

Witnesses: Dr. France Córdova, Director, National Science Foundation; and Dr. Maria T. Zuber, Chair, National Science Board.

April 11, 2018

Oversight Subcommittee and Research and Technology Subcommittee joint hearing: Scholars or Spies: Foreign Plots Targeting America's Research and Development.

Witnesses: The Honorable Michael Wessel, Commissioner, U.S.-China Economic and Security Review Commission; The Honorable Michelle Van Cleave, Former National Counterintelligence Execu-

tive, Office of National Counterintelligence Executive; Mr. Daniel Golden, Author, ‘Spy Schools’; and Mr. Crane Hassold, Director of Threat Intelligence, PhishLabs.

April 18, 2018

Research and Technology Subcommittee hearing: Composite Materials—Strengthening Infrastructure Development.

Witnesses: Dr. Joannie Chin, Deputy Director, Engineering Laboratory, National Institute of Standards and Technology; Dr. Hota GangaRao, Wadsworth Distinguished Professor, Statler College of Engineering, West Virginia University; Dr. David Lange, Professor, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign; and Mr. Shae Weyant, President and CEO, Creative Pultrusions, Inc.

April 26, 2018

Environment Subcommittee and Space Subcommittee joint hearing: Surveying the Space Weather Landscape.

Witnesses: Dr. Neil Jacobs, Assistant Secretary of Commerce for Environmental Observation and Prediction, National Oceanic and Atmospheric Administration; Dr. Jim Spann, Chief Scientist, Heliophysics Division, Science Mission Directorate, National Aeronautics and Space Administration (NASA); Dr. Sarah Gibson, Senior Scientist, High Altitude Observatory, National Center for Atmospheric Research, and Co-Chair, Committee on Solar and Space Physics, National Academy of Science; and Dr. W. Kent Tobiska, President and Chief Scientist, Space Environment Technologies.

May 8, 2018

Oversight Subcommittee and Research and Technology Subcommittee joint hearing: Leveraging Blockchain Technology to Improve Supply Chain Management and Combat Counterfeit Goods.

Witnesses: Dr. Douglas Maughan, Cyber Security Division Director, Science and Technology Directorate, U.S. Department of Homeland Security; Mr. Robert “Bob” Chiaviello, IPR Counsel, Nuby Law; Mr. Michael White, Head of Global Trade Digitization, Maersk; and Mr. Chris Rubio, Vice President Global Customs Brokerage Staff, UPS.

May 9, 2018

Full Committee hearing: An Overview of the Budget Proposal for the Department of Energy for Fiscal Year 2019.

Witness: The Honorable Rick Perry, Secretary, U.S. Department of Energy.

May 16, 2018

Full Committee hearing: Using Technology to Address Climate Change.

Witnesses: Mr. Oren Cass, Senior Fellow, Manhattan Institute; Mr. Ted Nordhaus, Executive Director, The Breakthrough Institute; Dr. Phil Duffy, President and Executive Director, Woods Hole Research Center; and Dr. Judith Curry, President, Climate Forecast Applications Network, and Professor Emerita, Georgia Institute of Technology.

May 17, 2018

Full Committee hearing: America's Human Presence in Low-Earth Orbit.

Witnesses: Mr. William Gerstenmaier, Associate Administrator, Human Exploration and Operations Directorate, National Aeronautics and Space Administration (NASA); Dr. Bhavya Lal, Research Staff, Science and Technology Policy Institute, Institute for Defense Analysis; and Dr. Elizabeth R. Cantwell, CEO, Arizona State University Research Enterprise, and Professor of Practice, School for Engineering of Matter, Transport & Energy, Arizona State University.

May 22, 2018

Research and Technology Subcommittee and Energy Subcommittee joint hearing: Empowering U.S. Veterans Through Technology.

Witnesses: Dr. Dimitri Kusnezov, Chief Scientist, National Nuclear Security Administration, U.S. Department of Energy; Mr. Christopher Meek, Founder and Chairman, SoldierStrong; Ms. Martha MacCallum, Advisory Board Member, SoldierStrong; Mr. John Wordin, President and Founder, Project Hero; and Dr. Matthew J. Major, Research Health Scientist and Assistant Professor of Physical Medicine and Rehabilitation, Northwestern University.

May 31, 2018

Field hearing: Earthquake Mitigation: Reauthorizing the National Earthquake Hazards Reduction Program.

Witnesses: Dr. Steven McCabe, Director, National Earthquake Hazards Reduction Program, and Group Leader, Earthquake Engineering Group, National Institute of Standards and Technology; Dr. Stephen Hickman, Director, USGS Earthquake Science Center, U.S. Geological Survey; Dr. Frank Vernon, Research Geophysicist, Institute of Geophysics and Planetary Physics, Scripps Institution of Oceanography, University of California, San Diego; Mr. Chris D. Poland, Consulting Engineer and National Institute of Standards and Technology Community Resilience Fellow; and Mr. Ryan Arba, Branch Chief, Earthquake and Tsunami Program, California Governor's Office of Emergency Services.

June 7, 2018

Energy Subcommittee hearing: The Electric Grid of the Future.

Witnesses: The Honorable Bruce J. Walker, Assistant Secretary, Office of Electricity Delivery and Energy Reliability, U.S. Department of Energy, and Acting Assistant Secretary, Office of Cybersecurity, Energy Security, and Emergency Response, U.S. Department of Energy; Dr. John Sarrao, Principal Associate Director, Science, Technology, and Engineering Directorate, Los Alamos National Laboratory; Mr. Robert Gramlich, President, Grid Strategies, LLC; and Dr. Joseph A. Heppert, Vice President for Research, Texas Tech University.

June 14, 2018

Space Subcommittee hearing: NASA Cost and Schedule Overruns: Acquisition and Program Management Challenges.

Witnesses: Ms. Cristina T. Chaplain, Director, Contracting and National Security Acquisitions, U.S. Government Accountability Office; Mr. Stephen Jurczyk, Associate Administrator, National Aeronautics and Space Administration (NASA); Mr. Paul K. Martin, Inspector General, National Aeronautics and Space Administration (NASA); and Mr. Daniel L. Dumbacher, Executive Director, American Institute of Aeronautics and Astronautics.

June 21, 2018

Environment Subcommittee hearing: State Perspectives on Regulating Background Ozone.

Witnesses: Ms. Diane Rath, Executive Director, Alamo Area Council of Governments; Mr. Timothy Franquist, Air Quality Division Director, Arizona Department of Environmental Quality; Dr. Elena Craft, Senior Health Scientist, Environmental Defense Fund; and Mr. Gregory Stella, Senior Scientist, Alpine Geophysics.

June 22, 2018

Space Subcommittee and Strategic Forces Subcommittee joint hearing: Space Situational Awareness: Whole of Government Perspectives on Roles and Responsibilities.

Witnesses: The Honorable Wilbur Ross, Secretary, U.S. Department of Commerce; The Honorable Jim Bridenstine, Administrator, National Aeronautics and Space Administration (NASA); and General John Hyten, Commander, U.S. Strategic Command.

June 26, 2018

Research and Technology Subcommittee and Energy Subcommittee joint hearing: Artificial Intelligence—With Great Power Comes Great Responsibility.

Witnesses: Dr. Jaime Carbonell, Director, Language Technologies Institute, and Allen Newell Professor, School of Computer Science, Carnegie Mellon University; Dr. Tim Persons, Chief Scientist, U.S. Government Accountability Office; Mr. Greg Brockman, Co-Founder and Chief Technology Officer, OpenAI; and Dr. Fei-Fei Li, Chairperson of the Board and Co-Founder, AI4ALL.

June 27, 2018

Oversight Subcommittee hearing: Bolstering Data Privacy and Mobile Security: An Assessment of IMSI Catcher Threats.

Witnesses: Dr. Charles H. Romine, Director, Information Technology Laboratory, National Institute of Standards and Technology; Dr. T. Charles Clancy, Director, Hume Center for National Security and Technology, Virginia Tech; and Dr. Jonathan Mayer, Assistant Professor of Computer Science and Public Affairs, Princeton University.

July 12, 2018

Energy Subcommittee and Research and Technology Subcommittee joint hearing: Big Data Challenges and Advanced Computing Solutions.

Witnesses: Dr. Bobby Kasthuri, Researcher, Argonne National Laboratory, and Assistant Professor, University of Chicago; Dr. Katherine Yelick, Associate Laboratory Director for Computing Sciences, Lawrence Berkeley National Laboratory, and Professor,

University of California, Berkeley; Dr. Matthew Nielsen, Principal Scientist, Industrial Outcomes Optimization, GE Global Research; and Dr. Anthony Rollett, U.S. Steel Professor of Materials Science and Engineering, Carnegie Mellon University.

July 17, 2018

Energy Subcommittee and Environment Subcommittee joint hearing: The Future of Fossil: Energy Technologies Leading the Way.

Witnesses: Dr. Roger Aines, Senior Scientist, Atmospheric, Earth and Energy Division, Lawrence Livermore National Laboratory; Dr. Klaus Brun, Program Director, Machinery Program, Fluids & Machinery Engineering Department, Southwest Research Institute; Ms. Shannon Angielski, Executive Director, Carbon Utilization Research Council; and Mr. Jason Begger, Executive Director, Wyoming Infrastructure Authority.

July 24, 2018

Full Committee hearing: Urban Air Mobility—Are Flying Cars Ready for Take-Off?

Witnesses: Dr. Jaiwon Shin, Associate Administrator, Aeronautics Research Mission Directorate, National Aeronautics and Space Administration (NASA); Dr. John-Paul Clarke, College of Engineering Dean's Professor, Georgia Institute of Technology, and Co-Chair, 2014 National Research Council Committee on Autonomy Research for Civil Aviation; Dr. Eric Allison, Head of Aviation Programs, Uber; Mr. Michael Thacker, Executive Vice President, Technology and Innovation, Bell; and Ms. Anna Mracek Dietrich, Co-Founder and Regulatory Affairs, Terrafugia Inc.

July 25–26, 2018

Full Committee hearing: James Webb Space Telescope: Program Breach and its Implications.

Witnesses: The Honorable Jim Bridenstine, Administrator, National Aeronautics and Space Administration (NASA); Mr. Tom Young, Chairman, JWST Independent Review Board; and Mr. Wesley Bush, Chief Executive Officer, Northrop Grumman Corp.

September 13, 2018

Oversight Subcommittee and Environment Subcommittee joint hearing: Examining the Underlying Science and Impacts of Glider Truck Regulations.

Witnesses: Ms. Linda Tsang, Legislative Attorney, Congressional Research Service; Mr. Collin Long, Director of Government Affairs, Owner-Operator Independent Drivers Association; Dr. Paul J. Miller, Deputy Director & Chief Scientist, Northeast States for Coordinated Air Use Management; and Dr. Richard B. Belzer, Independent Consultant in Regulation, Risk, Economics & Information Quality.

September 26, 2018

Space Subcommittee hearing: 60 Years of NASA Leadership in Human Space Exploration: Past, Present, and Future.

Witnesses: Mr. William Gerstenmaier, Associate Administrator, Human Exploration and Operations Mission Directorate, National

Aeronautics and Space Administration (NASA); Mr. Mark Geyer, Director, Johnson Space Center, National Aeronautics and Space Administration (NASA); Ms. Jody Singer, Director, Marshall Space Flight Center, National Aeronautics and Space Administration (NASA); and Mr. Robert Cabana, Director, John F. Kennedy Space Center, National Aeronautics and Space Administration (NASA).

September 27, 2018

Energy Subcommittee hearing: Advancing Nuclear Energy: Powering the Future.

Witnesses: Mr. Edward McGinnis, Principal Deputy Assistant Secretary for Nuclear Energy, U.S. Department of Energy; Mr. Harlan Bowers, President, X-energy; Dr. John Parsons, Co-Chair, MIT Study on the Future of Nuclear Energy in a Carbon-Constrained World; and Dr. John Wagner, Associate Laboratory Director, Nuclear Science & Technology, Idaho National Laboratory.

SUMMARY OF OVERSIGHT PLAN

House Rule X sets the Committee's legislative jurisdiction while also assigning broad oversight responsibilities. Rule X also assigns the Committee special oversight responsibility for "reviewing and studying, on a continuing basis, all laws, programs, and Government activities dealing with or involving non-military research and development." The Committee appreciates the special function entrusted to it and will continue to tackle troubled programs and search for waste, fraud, abuse, and mismanagement in non-military research and development programs regardless of where they may be found.

Much of the oversight work of the Committee is carried out by and through the Oversight Subcommittee. However, oversight is conducted by every Subcommittee and the full Committee. All components of the Committee take their oversight charge seriously and work cooperatively to meet the Committee's oversight responsibilities.

The Committee also routinely works with the U.S. Government Accountability Office (GAO) and the Inspectors General (IG) of the agencies under its jurisdiction to maintain detailed awareness of the work of those offices. The Committee currently has numerous outstanding requests with the GAO. These include bipartisan requests as well as those signed by multiple Committee Chairmen with shared interests.

The Committee continues to be concerned about allegations of intimidation of science specialists in federal agencies, suppression or revisions of scientific finding, and mischaracterization of scientific findings because of political or other pressures. The Committee's oversight will include examination of allegations, and will also involve the development and implementation of scientific integrity principles within the executive branch.

Oversight is commonly driven by emerging events. While the Committee continues to address new issues and topics as they transpire, the following is a summary of the Committee's Oversight Plan approved in February 2017.

Energy

Department of Energy (DOE) Office of Science

The Committee conducted oversight of Office of Science programs and reviewed prioritization across, and management within, its major research areas. Special attention was given to the cost, operation, and maintenance of DOE's existing and planned major facilities.

Energy Efficiency and Renewable Energy (EERE) R&D

The Committee undertook efforts to improve focus, prioritization, and transparency of EERE programs, and provided close oversight to ensure that programs were managed efficiently, duplication was limited, and funding was allocated appropriately and effectively.

Nuclear Energy R&D

The Committee provided oversight of the nation's nuclear R&D activities, and examined efforts by DOE, the Nuclear Regulatory Commission and industry stakeholders to research, develop, construct, and license advanced reactor technology. The Committee examined how the Office of Nuclear Energy prioritized groundbreaking research and ensure the Department of Energy maintained focus on R&D programs that cannot be undertaken by the private sector.

Fossil Energy R&D

The Committee has undertaken efforts to improve focus, prioritization, and transparency of the Office of Fossil Energy (FE) programs, and provide close oversight to ensure that programs are managed efficiently. The Committee also examined the Office of Fossil Laboratory, the National Energy Technology Laboratory, which requires additional oversight due to the unique government owned, government operated management structure at the lab.

Office of Electricity Delivery and Energy Reliability (OE)

The Committee reviewed efforts to improve focus, prioritization, and transparency of OE programs, and provided close oversight to ensure that programs were managed efficiently, duplication was limited, and funding was allocated appropriately and effectively. The Committee also focused on oversight of the Department's collaborative work with industry in the areas of cybersecurity, smart grid technology, and energy storage.

Advanced Research Projects Agency—Energy (ARPA-E)

The Committee engaged in oversight of ARPA-E program funding and management, examining the appropriate role for and focus of ARPA-E in the context of DOE's numerous clean energy-focused programs and activities.

DOE Loan Guarantees

Program management problems associated with past DOE loan guarantees in recent years called for greater attention by the Committee. The Committee focused its oversight on program management challenges and ensuring the Department conducted thorough

reviews and rigorous financial analysis of the existing loan guarantee portfolio.

DOE Contract Management

DOE programs have come under frequent scrutiny for contract management practices. GAO designated DOE's contract management as high-risk in 1990 and continues to identify areas of potential waste, fraud, and abuse. The Committee examined DOE contract management practices, including potential areas of waste, fraud, and abuse in the Department's contract management.

Environment

Science and R&D at the Environmental Protection Agency (EPA)

The Committee conducted oversight of EPA's management of science and its use of science in the decision-making process, including lab management, regulatory science, transparency, and risk assessment. The Committee examined how to better integrate science into the Administration's regulatory decision-making process, including how EPA uses and manages scientific data to reach its regulatory conclusions.

National Oceanic and Atmospheric Administration (NOAA)

The Committee reviewed and conducted oversight of the funding prioritization and program management challenges related to NOAA's mission to understand and predict challenges in weather, particularly as they relate to severe weather events that threaten life and property. The Committee also reviewed and conducted oversight of NOAA's satellite programs, and continued its oversight of NOAA's commercial satellite priorities to ensure that the Agency took necessary steps to protect public safety in the face of government program failures.

National Aeronautics and Space Administration (NASA)

The Committee reviewed and conducted oversight of NASA's efforts to prioritize, plan, and implement Earth science missions within cost and schedule. Particular attention was paid to programs that exceeded cost estimates to ensure that they did not adversely impact the development and launch of other NASA priorities. The Committee also examined the impact of large increases in funding for the Earth Science Directorate relative to funding requested for other science disciplines.

United States Geological Survey (USGS)

The Committee reviewed and conducted oversight of the satellite activities of the USGS, with an emphasis on its LANDSAT program, to ensure continuity of services and implementation of best technologies and commercial partnering.

Climate Research Activities

The Committee reviewed and conducted oversight of the broad array of programs addressing climate change issues across the Federal government to ensure that existing programs are necessary, appropriately focused, effectively coordinated, and properly orga-

nized to prevent duplication of efforts and the waste of taxpayer resources.

Research and Technology

National Science Foundation (NSF)

The Committee reviewed activities of NSF conducted pursuant to appropriations for Research and Related Activities, including funding through NSF's seven directorates that support science and engineering research and STEM education and research. The Committee also reviewed non-research activities of NSF conducted through NSF's Office of the Director and the Office of Integrative Activities, as well as financial management, award processing and monitoring, legal affairs, outreach and other functions. Additionally, the Committee reviewed NSF compliance with and the effects of provisions of the STEM Education Act of 2015, as well as NSF implementation of the American Innovation and Competitiveness Act.

National Institute of Standards and Technology (NIST)

The Committee reviewed NIST programs and activities as well as other programs under the Department of Commerce, and paid special attention to the evaluation of their alignment with and impact on industry and assurance that the programs do not encroach on areas better served by the private sector. The Committee also reviewed cybersecurity coordination among NIST, NSF, and the Department of Homeland Security, NIST responsibilities and federal agencies' compliance with cybersecurity regimes authorized by the Federal Information Security Management Act (FISMA), and how federal agencies balance security mandates with the ability to allow technological development through innovation. Additionally, the Committee reviewed NIST's performance of its critical role in helping to develop standards and conformance testing processes that protect privacy, minimize private sector waste, and advance U.S. economic competitiveness and technological leadership.

Department of Transportation

The Committee reviewed research, development, and demonstration activities of the Department of Transportation, including safety, cybersecurity, and autonomous vehicle systems development programs authorized by the 2015 Fixing America's Surface Transportation Act (FAST Act). The Committee also reviewed advances in autonomous vehicle technologies, as well as Department of Transportation administration and results research, development, technology and education programs authorized under the FAST Act, including Highway Research and Development; University Transportation Centers; Intelligent Highways Systems; and Advanced Transportation and Congestion Management Technologies.

Department of Homeland Security (DHS)

The Committee reviewed activities of the DHS Science and Technology Directorate, focusing on its effectiveness, organization, direction, and priorities. The Committee also examined the effectiveness and organization, direction and priorities of the research and

technology programs associated with the Domestic Nuclear Detection Office.

U.S. Fire Administration (USFA)

The Committee reviewed administration of grant programs that support local career and volunteer firefighting and first-responder capabilities and examined improvements to the functionality of the USFA.

Economic Competitiveness

The Committee reviewed the technology transfer incentives of the Bayh-Dole Act, the Stevenson-Wydler Act, and the Small Business Innovative Research and Technology Transfer (SBIR/STTR) programs to improve America's competitiveness and innovative capacity. The Committee also examined the effectiveness and efficiency of SBIR/STTR in increasing the pace of commercializing technology developed from federally-supported basic research.

Natural Hazards

The Committee reviewed interagency research programs to mitigate the damage caused by natural disasters such as earthquakes, windstorms, and fires by developing early warning systems and improved building and infrastructure design.

Space

National Aeronautics and Space Administration (NASA)

The Committee reviewed, monitored, and conducted oversight of public and private initiatives related to aeronautical and space activities; reviewed activities of NASA; monitored and conducted oversight of the activities of the National Space Council; reviewed funding, management, and spending related to the James Webb Space Telescope program; assessed and reviewed NASA's Human Space Flight program, with an emphasis on NASA's plans and priorities relative to its resources and requirements; evaluated, monitored, and reviewed the ability of commercial providers to affordably, safely, and reliably deliver cargo and crew to the International Space Station; and reviewed, monitored, and conducted oversight of all activities housed within NASA's Science Mission Directorate, Aeronautics Mission Directorate, Space Technology Mission Directorate, and Human Exploration and Operations Mission Directorate.

Department of Transportation

The Committee reviewed and conducted oversight of the activities of the FAA Office of Commercial Space Transportation (AST); reviewed and monitored the emergence of commercial human sub-orbital space flight ventures; examined and reviewed the progress of the emerging personal space flight industry; reviewed and assessed efforts related to control of outer space, including international obligations, space situational awareness, space traffic management, and regulations pertaining to space activities; and conducted oversight of the FAA's R&D activities to ensure that the lead to improvements in the U.S. aerospace sector, with a par-

ticular focus on FAA’s management of its Next Generation Air Transportation System (NextGen) program.

Department of Commerce

The Committee examined and reviewed the regulation of commercial remote sensing activities; conducted oversight of the transition of earth science research to operations; assessed and conducted oversight of space spectrum allocations, including impacts on weather forecasting, and position and navigation and timing services; and reviewed the impact and management of U.S. export control policy on the space industry.

SUMMARY OF ACTIONS TAKEN AND RECOMMENDATIONS
MADE WITH RESPECT TO THE OVERSIGHT PLAN

Energy

Department of Energy (DOE) Office of Science Programs and Facilities

The Committee conducted extensive oversight of Office of Science programs, focusing on maximizing the impact of major national laboratory facilities and capabilities funded by these programs. Hearings specifically addressing the Office of Science include “The Future of Low Dose Radiation Research” (11/01/2017); “Department of Energy: Management and Priorities” (01/30/2018); “National Laboratories: World-Leading Innovation in Science” (03/14/2018); “An Overview of the Budget Proposal for the Department of Energy for Fiscal Year 2019” (05/09/2018); “Artificial Intelligence—With Great Power Comes Great Responsibility” (06/27/2018); and “Big Data Challenges and Advanced Computing Solutions” (07/12/2018).

The Committee advanced legislation to address key Committee goals identified through this oversight, including legislation authorizing the DOE to provide critical upgrades to basic science user facilities at a number of its national laboratories with H.R. 4376, the “Department of Energy Research Infrastructure Act” and H.R. 4377, the “Accelerating American Leadership in Science Act”; legislation providing for a coordinated Federal program to accelerate quantum research and development and authorizing the DOE to carry out quantum activities in the Office of Science with H.R. 6227, the “National Quantum Initiative Act”; and legislation authorizing research on low dose radiation, H.R. 4675, the “Low Dose Radiation Research Act,” which built on conclusions from the Committee’s investigation on DOE management intimidating and retaliating against scientists in the 114th Congress.

The Committee also enacted legislation providing policy direction to the DOE on key areas of basic science research, nuclear energy R&D, research coordination and priorities, and important reforms to streamline national lab management in H.R. 589, the “Department of Energy Research and Innovation Act”; and advanced legislation authorizing funding and providing critical policy guidelines for Office of Science basic research programs, research infrastructure upgrades and construction of major user facilities at the DOE national labs for fiscal years 2018 and 2019 in H.R. 5905, the “Department of Energy Science and Innovation Act.”

International Agreements

The Committee continued to conduct bipartisan oversight of the ITER project, an international collaboration to construct a first-of-a-kind nuclear fusion reactor authorized by Congress. This collaboration includes the European Union, Russian Federation, China, Republic of Korea, Japan, and India. The Committee addressed the role of ITER in advancing U.S. fusion energy research in a hearing entitled “The Future of U.S. Fusion Energy Research” (03/05/2018). The Committee also examined additional international projects, including the Long Baseline Neutrino Facility (LBNF), an internationally coordinated project, designed to build the world’s highest intensity neutrino beam and a suite of cryogenic near detectors at Fermi National Accelerator Laboratory. To ensure this facility is constructed on time and on budget, the Committee advanced bipartisan legislation authorizing funding for the continued construction of LBNF with H.R. 4377, the “Accelerating American Leadership in Science Act.”

DOE Applied Science

The Committee conducted extensive oversight of research, development, demonstration, and commercial application of energy technology conducted by multiple DOE applied science offices, including the Office of Energy Efficiency and Renewable Energy (EERE), Office of Nuclear Energy (NE), Office of Fossil Energy (FE), and Office of Electricity Delivery and Energy Reliability (OE). Specifically, the Committee focused on efforts to improve prioritization of early stage R&D and transparency of programs, while ensuring management was efficient, duplication was limited, and funding was allocated effectively. Hearings addressing one or more of these offices include “Oil and Gas Technology Innovation” (05/03/2017); “Energy Innovation: Letting Technology Lead” (07/19/2017); “Examining Advancements in Biofuels: Balancing Federal Research and Market Innovation” (07/25/2017); “Resiliency: The Electric Grid’s Only Hope” (10/03/2017); “Advancing Solar Energy Technology: Research Trumps Development” (12/13/2017); “Department of Energy: Management and Priorities” (01/30/2018); “An Overview of the Budget Proposal for the Department of Energy for Fiscal Year 2019” (05/09/2018); “The Electric Grid of the Future” (06/07/2018); “The Future of Fossil: Energy Technologies Leading the Way” (07/17/2018); and “Advancing Nuclear Energy: Powering the Future” (09/27/2018).

The Committee sent a letter to DOE Secretary Perry on 09/12/2017 requesting documents and information regarding the Department’s funding, during the previous Administration, of a former DOE Office of Fossil Energy employee’s law degree, and worked with the Department to identify ways to prevent similar actions in the future. The Committee also sent a letter to U.S. Trade Representative Robert Lighthizer on 07/19/2018 expressing concerns over the threat of China to U.S. private and public research, development, and technology, and urging Ambassador Lighthizer to maintain an ongoing investigation into China’s policies and practices.

Legislation developed to address the focus, prioritization, and transparency of applied science programs identified through Committee oversight efforts includes H.R. 4378, the “Nuclear Energy

Research Infrastructure Act,” S. 97, the “Nuclear Energy Innovation Capabilities Act,” and H.R. 6398, the “Department of Energy Veterans’ Health Initiative Act.” This legislation included specific direction to upgrade facilities, establish programs, and enable research and demonstration activities that the private sector is unable to conduct.

DOE National Laboratories

The Committee conducted oversight of DOE laboratory management and the effectiveness of federal research collaborations, conducting several hearings examining the labs in the 115th Congress. These hearings include “Materials Science: Building the Future” (06/28/2017); “Geoengineering: Innovation, Research, and Technology” (11/8/2017); “Department of Energy: Management and Priorities” (01/30/2018); “National Laboratories: World-Leading Innovation in Science” (03/14/2018); and “Big Data Challenges and Advanced Computing Solutions” (07/12/2018).

To address concerns with the management and functionality of the national labs, the Committee developed, introduced, and enacted H.R. 589, the “Department of Energy Research and Innovation Act.” This legislation provided important reforms to streamline national lab management and improve coordination of research efforts across the national lab complex.

To provide flexibility to the national labs, the Committee also introduced H.R. 5907, the “National Innovation Modernization by Laboratory Empowerment Act (NIMBLE).” This legislation provides national lab directors with the authority to approve and facilitate partnerships with the private sector for agreements under \$1,000,000.

Advanced Research Projects Agency—Energy (ARPA-E)

The Committee conducted oversight of ARPA-E programs through ongoing reviews of the DOE budget request and hearings with senior DOE officials including, “Department of Energy: Management and Priorities” (01/30/2018); and “An Overview of the Budget Proposal for the Department of Energy for Fiscal Year 2019” (05/09/2018).

In order to address the funding and management of ARPA-E programs, the Committee developed H.R. 5906, the “ARPA-E Act of 2018,” which requires DOE to reform and refocus ARPA-E toward developing transformative science and technology solutions more aligned with the Department’s science, energy, and national security mission.

DOE Loan Program

The Committee conducted oversight of the DOE Loan Program through a hearing titled “Risky Business: The DOE Loan Guarantee Program,” (02/15/2017). Oversight efforts continued throughout the Congress in staff level briefings and meetings with leadership in the DOE Loan Programs Office.

Environment

National Oceanic and Atmospheric Administration (NOAA)

H.R. 353, the Weather Research and Forecasting Innovation Act (“Weather Act”)—which improves understanding of severe weather events and increases weather research, technological capabilities, and forecasting accuracy, as well as focusing NOAA’s efforts on the protection of life and property and the enhancement of the national economy—was signed into law. The Committee has hosted quarterly briefings by NOAA to monitor the progress of the Weather Act implementation.

The Committee has also hosted regular briefings from NOAA’s National Environmental Satellite, Data, and Information Service (NESDIS) to discuss the status of NOAA satellite procurements and operations programs, to receive information on instrument anomalies, and oversee the commercial weather data pilot program enacted under the Weather Act.

National Aeronautics and Space Administration (NASA) Earth Science

The Committee has continued to monitor the earth science portfolio at NASA, scrutinizing the potential for duplicative activities related to climate change research.

Science and R&D at the Environmental Protection Agency (EPA)

The Committee has held multiple oversight hearings on EPA’s regulatory actions, including Ozone NAAQS and glider trucks. These hearings examined improper science used to justify these regulations. The Committee also examined the role that politics rather than science plays to influence agency policy.

The House passed H.R. 1430, the Honest and Open New EPA Science Treatment Act of 2017 (HONEST Act) and H.R. 1431 the EPA Science Advisory Board Reform Act of 2017, which together would bring greater transparency and accountability to the scientific basis used to justify all federal regulations.

The Committee also continued oversight of the EPA’s 2014 proposed determination to pre-emptively limit the scope of the development of the Pebble Mine in Bristol Bay, Alaska. The Committee sent multiple letters to the EPA, urging the agency to follow the proper Clean Water Act Section 404(c) permitting process.

Risk Assessment

The Committee conducted multiple oversight activities regarding the Integrated Risk Information System at EPA, which conducts hazard identification and dose response assessments on chemicals found in the environment. The Committee held a hearing with stakeholders, sent letters to the agency, and hosted two briefings with EPA to discuss issues with the program. The Committee passed H.R. 6468, the Improving Science in Chemical Assessments Act, which would transform and improve the way EPA conducts chemical assessments.

The Committee has also conducted extensive oversight of the International Agency for Research on Cancer’s (IARC) Monograph Programme, headquartered in Lyon, France. IARC is largely funded by the US and influences US policy. The Committee has sent

multiple letters to IARC and held a hearing to investigate transparency at the agency and examine the scientific integrity of IARC's cancer assessments.

Climate Research Activities

The Committee has continued to monitor federal spending on climate change activities. The Committee also held hearings examining the science underlying climate change policy and the math used to calculate the social cost of carbon.

HHS Anti-Lobbying Act

The Committee conducted oversight of an employee of the National Institution of Environmental Health Science (NIEHS) within the Department of Human Services (HHS). The Committee sent a letter requesting the HHS Inspector General examine potential violations of the Anti-Lobbying Act.

NOAA Satellite Programs

The Committee conducted oversight of NOAA's satellite programs. These satellites have been plagued with cost overruns, delays, and mismanagement that endanger American lives and property with degraded weather data. The Committee will also continue oversight of NOAA's commercial satellite priorities to ensure that the Agency is taking all necessary steps to protect public safety in the face of government program failures.

Research and Technology

National Science Foundation (NSF)

The Committee held two oversight hearings on the National Science Foundation (NSF) in 2017, and a budget hearing in 2018. The Committee continued to review the abstracts of thousands of research grants. This was the first systematic review of NSF grant-making by Congress. The result of this huge undertaking was identifying and cataloging several thousand questionable NSF awards, and strengthening in law the broader impacts criteria to ensure grants are in the national interest and making the publicly available summaries of grants more clear and transparent.

National Institute of Standards and Technology (NIST)

The Subcommittees on Research & Technology and Oversight held a joint hearing on physical security at the NIST campuses in Maryland and Colorado. The hearing covered the results of a Committee requested Government Accountability Office (GAO) undercover investigation into NIST campus security. The Committee also held hearings on NIST's work on quantum computing, composite materials, and its use of prize challenges. The Committee and the House passed H.R. 6229, the NIST Reauthorization Act of 2018.

The Committee also continued to elicit information from NIST and others about the sufficiency and completeness of NIST cybersecurity standards for federal agencies, the evolving threats of foreign cyber-attacks on federal agencies, and NIST responsiveness to federal agency requests for information and advice. The Committee passed H.R. 1224, the NIST Cybersecurity Framework, Assessment, and Auditing Act.

Department of Transportation

The Committee monitored implementation of the 2015 Fixing America's Surface Transportation Act (FAST Act) and the continued development of autonomous vehicle technologies and vehicle-to-infrastructure technologies. The Committee held a hearing on new urban air mobility technologies ('flying cars') and the regulatory and technology challenges presented by the new technology.

Department of Homeland Security (DHS)

The Committee conducted several meetings with DHS senior officials about the Science and Technology Directorate's direction and performance, including the Department's proposed reorganization of the Directorate. The Committee participated in discussions with the House Committee on Homeland Security during development and consideration of H.R. 2825, the DHS Authorization Act and related legislation.

US Fire Administration (USFA)

The Committee held a hearing on the reauthorization of the USFA and related Assistance to Firefighters grants (AFG) and the Staffing for Adequate Fire & Emergency Response (SAFER) fire grant programs and held a series of meetings and briefings to conduct oversight of the programs. The Committee moved H.R. 4661, the U.S. Fire Administration, AFG, and SAFER Program Reauthorization Act of 2017 through the House, which was signed into law in January 2018. The law includes new oversight measures of the grant programs to prevent waste, fraud, and abuse, and reauthorizes the programs for six years.

Natural Hazards

The Committee held a field hearing and conducted a series of meetings on the National Earthquake Hazards Reduction Program (NEHRP), particularly on the need to update the expired authorization to remove antiquated technology and research references, streamline requirements, and improve coordination and oversight. The Committee negotiated with the Senate on a final agreement for S. 1768, the National Earthquake Hazards Reduction Program Reauthorization Act of 2018. The bill will reauthorize the programs for five years.

Economic Competitiveness and Technology Transfer

The Committee held several hearings on research and technology topics that are critical to the economic competitiveness of the United States including quantum technology, agriculture research, and composite materials development. The Committee also held a hearing on the NSF Innovation Corp (I-Corps) program and its goal of preparing scientists and engineers to extend their research from lab to market. The Committee and the House passed H.R. 6227, the National Quantum Initiative Act and H.R. 5086, the Innovators to Entrepreneurs Act of 2018.

The Committee also continued oversight of the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs, which were reauthorized in the 114th Congress. The Committee was briefed on two GAO reports on the program, which made recommendations for continuing to combat

waste, fraud and abuse. The Committee and the House passed H.R. 2763, the SBIR and STTR Improvements Act, to address recommendations for improving the performance of the two programs.

Implementation of the American Innovation and Competitiveness Act (AICA)

The Committee conducted oversight of the implementation of the American Innovation and Competitiveness Act, which was signed into law during the 114th Congress. The Committee's oversight included briefings on implementation of provisions that strengthened basic research; sought to streamline unnecessary administrative and regulatory burdens on federally-supported research; improve coordination of science, technology, engineering and math (STEM) education; and efforts to leverage the private sector.

The Committee acted to build upon the work of the AICA to further address the effectiveness of STEM Education. The Committee held a hearing on STEM and Computer Science Education as well as the STEM skilled technical workforce. The Committee and House passed four STEM education bills: H.R. 4375, the STEM Research and Education Effectiveness and Transparency Act; H.R. 3397, the Building Blocks of STEM Act; H.R. 4323, Supporting Veterans in STEM Careers Act; and H.R. 4254, Women in Aerospace Education Act. In addition, H.R. 255, the Promoting Women in Entrepreneurship Act, was signed into law in January.

Space

NASA Human Space Flight Program

The Committee held three oversight hearings relative to NASA's human space flight program during the 115th Congress to continue to review NASA's commercial crew program efforts, including the role of public-private partnerships. In 2017, the Committee examined the development and progress of the Space Launch System (SLS), the Orion Crew Vehicle, and associated ground systems.

In 2018, the Committee reviewed the development of NASA's two commercial crew programs being built by Boeing and SpaceX, and reviewed NASA's National Space Exploration Campaign, as well as the specific human spaceflight responsibilities that NASA's individual centers have.

Federal Aviation Administration (FAA) Commercial Space Transportation

The FAA Office of Commercial Space Transportation (AST) licenses commercial launch vehicles. An area of increasing interest is the emergence of a number of developing commercial human suborbital space flight ventures. In addition to its oversight of the FAA's AST, the Committee examined the progress of the emerging private space flight industry, as well as the challenges it faces.

NASA Space Science

The Committee continued to monitor NASA's efforts to prioritize, plan, launch, and operate space science missions within cost and schedule. Particular attention was paid to programs that are exceeding cost estimates, such as the James Webb Space Telescope (JWST) and the Wide Field Infrared Survey Telescope (WFIRST).

The Committee held a hearing in 2017 to examine the development of the Transiting Exoplanet Survey Satellite (TESS), JWST, WFIRST, and the planning for a next generation space telescope.

In 2018, the Committee held a two-day hearing to conduct thorough oversight of NASA's management of the JWST program and the contractor's execution of the JWST program.

Commercial Orbital Transportation Services (COTS)

The Committee evaluated the ability, cost, safety, and reliability of commercial providers to meet NASA requirements to deliver cargo and crew to the International Space Station (ISS). In addition to holding hearings, the committee has been in constant contact with NASA, contractors, and other entities, such as GAO.

ISS Utilization and Operation

The plans for operation and utilization of the ISS continue to draw the Committee's attention as NASA attempts to fully utilize the unique research opportunities that the facility offers, while exclusively relying on logistical services from commercial and foreign providers. To this end, the Committee held two hearings to oversee the future and transition of the ISS. In 2017, the Committee examined the range of options for the ISS after 2024, and the impacts of those options. In 2018, the Committee specifically focused on the impacts of the Administration's intention to provide Federal support to the ISS through 2025, as well as other essential questions about human spaceflight.

Aeronautics Research

The Committee examined NASA's contributions to the development and integration of unmanned aviation systems (UAS), as well as its ability to undertake important long-term R&D on aircraft safety, emissions, noise, and energy consumption. The classification, requirements, planned assets, and unmet infrastructure needs of NASA's aeronautics research and development infrastructure were examined. The Committee is also continuing to follow NASA's transition research to the FAA for single pilot operations and remote pilot operations.

FAA Research and Development (R&D) Activities

The Committee continued to oversee R&D activities at the FAA, particularly the performance of the Joint Planning and Development Office (JPDO), and management of its Next Generation Air Transportation System (NextGen) program. Additionally, the classification, requirements, planned assets, and unmet infrastructure needs of the FAA's aeronautics research and development infrastructure were examined. Furthermore, the FAA is discussing and developing research and development needs and objectives for autonomous flight, computer piloting, and remote piloting as emerging technologies and industry drivers become available. The first publicly available report on this topic will be released in March/April 2019.

NASA Contract and Financial Management

A perennial topic of GAO's high-risk series, NASA financial management has continued to receive attention from the Committee. As

a result, the Committee held two hearings in 2018 to assess NASA cost and schedule overruns; the first focused on NASA's overall acquisition and program management practices, and the second specifically examined the implications of the breach and contractor challenges within the JWST program. After the hearings and meetings with both NASA and the JWST prime contractor Northrop Grumman, the Committee included a provision in the NASA Authorization Act of 2018 to instruct NASA to establish and maintain a watch list of contractors with a history of poor performance on aerospace contracts or research, development, testing, and evaluation space program contracts. The Committee will continue to monitor the progress of the JWST program, as well as NASA's general program, contract, financial, and acquisition practices.

Near-Earth Objects (NEOs)

Congress has provided continued guidance to NASA regarding Near Earth Objects. The Committee monitored NASA's compliance with that direction, specifically as it related to the June 2018 White House National Science and Technology Council National Near-Earth Object Preparedness Strategy and Action Plan. The Committee continues to oversee NASA's efforts to locate, track, and mitigate NEOs.

Space Traffic Management (STM)

The Committee made inaugural efforts to provide regulatory certainty for commercial and government space operators in low-Earth orbit. In 2018, the Committee held a joint hearing with the House Armed Services Committee (HASC) to discuss whole of government perspectives on space situational awareness (SSA) roles and responsibilities. In response to testimony from Secretary Wilbur Ross of the DOC, General John Hyten of the U.S. Strategic Command, and Administrator Jim Bridenstine of NASA, the Committee marked up H.R. 6226, the American Space Situational Awareness and Framework for Entity Management Act (American Space SAFE Management Act) to implement a regulatory framework for the oversight of STM and SSA activities. The bill establishes an STM framework built upon guidelines, practices, and standards, as well as a civil space traffic coordination pilot program to put the STM framework into experimental practice. The joint hearing, coupled with the progress on H.R. 6226, allowed the Committee to implement oversight measures for the DOC and NASA in regards to SSA and STM coordination. The Committee will continue to monitor the development and implementation of SSA and STM standards.

SUMMARY OF ADDITIONAL OVERSIGHT ACTIVITIES

Oversight of the Russian Threat to Cybersecurity

During the 115th Congress, the Committee focused much of its oversight efforts on the cybersecurity threats posed by Russia and other foreign nations. On July 27, 2018, the Committee sent letters to 22 agencies on July 27th, requesting information on the use of Kaspersky Lab Software. Kaspersky Lab is a Russian based anti-malware cybersecurity company headquartered in Moscow, Russia. CEO and founder, Eugene Kaspersky, was former KGB cyber war-

fare prior to starting the company in 1991. Kaspersky Lab is inherently tied to the Kremlin based on location, background, and political nature of the Russian government.

The Committee held two hearings on the threat and the government's response. The first hearing on October 25, 2017, focused on assessing the risk posed by Kaspersky and the second on November 14, 2017, focused on the implementation of the Department of Homeland Security (DHS) Binding Operational Directive (BOD) 17-01 by federal government departments and agencies. The BOD required federal government departments and agencies identify Kaspersky Lab software on their systems, take action to remove the software, and report to DHS.

Cybersecurity Threats and Solutions

In response to the WannaCry attack and a spike in similar ransomware attacks, the Oversight and Research and Technology Subcommittees held a hearing on June 15, 2017. The hearing is examined the WannaCry ransomware attack that compromised computer systems globally and allowed Members of the Subcommittees to hear recommendations for steps the government can take to ensure its systems are protected against similar and possibly more sophisticated attacks. The hearing also examined the benefits of public-private partnerships for cybersecurity, as well as the President's Executive Order on cybersecurity, which made NIST's Cybersecurity Framework mandatory for Executive Branch departments and agencies.

This initiative evolved into a search for solutions to cybersecurity threats. The Committee sought expert testimony on blockchain technology in two separate hearings. On February 14, 2018, the Oversight and Research and Technology Subcommittees conducted a hearing to explore the science of blockchain technology and its potential and emerging applications beyond cryptocurrency and financial technology. The hearing focused on applications for blockchain technology across a broad range of industries, including cybersecurity, identity authentication and verification, supply chain risk management, and digital rights management. The hearing also looked at standards, guidelines, uses for government, and best practices that may prove necessary for the effective utilization of blockchain technology with respect to these emerging applications. Then, on May 8, 2018, the two Subcommittees held a subsequent hearing to highlight potential and proven applications of blockchain and distributed ledger technology in shipping, logistics, and customs, with an emphasis on supply chain management. The hearing focused on how this technology can be leveraged to provide greater supply chain visibility and combat the distribution of counterfeit products.

Russian Attempts to Influence the Climate Change Dialogue in America

During the 115th Congress, the Committee investigated Russian efforts to influence American energy markets and political discourse on climate change. On July 7, 2017, the Committee wrote to Treasury Secretary Mnuchin to request that Treasury conduct an investigation into allegations that Russia was attempting to interfere in U.S. energy markets by covertly funneling money to en-

vironmental groups opposed to fossil fuels. To date, there is no indication that the Treasury Department has or plans to commence an investigation. On September 26, 2017, the Committee requested documents and information from Twitter, Facebook/Instagram, and Google regarding social media accounts, posts, and the purchase of energy-related advertisements on their platforms by Russian entities. After analyzing information provided, on March 1, 2018, the Committee published a staff report that detailed Russia's extensive efforts to influence U.S. energy markets through divisive and inflammatory posts on social media.

Foreign Nations' Attempts to Exfiltrate U.S. R&D

During the 115th Congress, the Committee extensively examined efforts by foreign nations—primarily China, Russia, Iran, and North Korea—to steal or exfiltrate American technology and R&D through both cyber and physical means. A large focus of the Committee's efforts have been targeted at the protection of federally funded technology and R&D at American academic institutions, which have proven to be particularly vulnerable. The Committee has held multiple briefings with the intelligence community, the grant-making agencies, and Members of the Committee.

On April 11, 2018, the Oversight and Research and Technology Subcommittees held a hearing on the topic. For years, the FBI has warned the academic community about foreign exfiltration of science and technology R&D, including that funded by the National Science Foundation, NASA, and other federal grant-making agencies, for many years, and has urged measures be taken to protect against this threat.¹ Expert witnesses testified about the extent of the threat and what can be done to prevent or mitigate the foreign exfiltration of science and technology R&D from U.S. academic institutions, without stifling collaborative research activities within the academic sector.

Alleged Sexual Misconduct by Federal Grantees

On October 26, 2017, the Committee asked Boston University (BU), NSF, and NASA to produce documents and information related to allegations made public in the press that Dr. David Marchant, a prominent geologist and federal grant recipient at BU, sexually harassed and assaulted female researchers during field expeditions in Antarctica. Since the late 1990s, Dr. Marchant has been associated with over \$5.4 million in grant awards from NSF and NASA, on projects ranging from Antarctic and Mars research, to K-12 STEM Education. Two separate Title IX complaints alleged Dr. Marchant created a hostile environment through repeated actions and harassment directed towards the victims while on long-duration isolated expeditions at a remote NSF Antarctic field site.

¹ See e.g., *Higher Education and National Security: The Targeting of Sensitive, Proprietary and Classified Information on Campuses of Higher Education*, FBI (Apr. 2011), <https://www.fbi.gov/file-repository/higher-education-national-security.pdf/view>; *Counterintelligence Strategic Partnership Note: Preventing Loss of Academic Research*, FBI (June 2015), <https://research.umbc.edu/files/2015/07/SPIN-15-006-Preventing-Loss-of-Academic-Research.pdf>; *Counterintelligence Strategic Partnership Note: Chinese Talent Programs*, FBI (Sept. 2015), <https://compliance.fiu.edu/documents/SPIN%20-%20Chinese%20Talent%20Program.pdf>; Press Release, FBI, *FBI Director Appoints National Security Higher Education Advisory Board* (Sept. 15, 2005), <https://archives.fbi.gov/archives/news/pressrel/press-releases/fbi-appoints-national-security-higher-education-advisory-board>.

Since initiating the investigation, the Committee became aware of an increasing number of reports highlighting other prominent members of the academic scientific community that have been found guilty or accused of various forms of sexual misconduct. On January 18, 2018, Chairman Smith and Ranking Member Johnson requested that the U.S. Government Accountability Office (GAO) conduct a full study of sexual misconduct regarding federal grant-making agencies' compliance with relevant laws and policies, how agencies share information, and identification of recommendations for better enforcement. The Committee looks forward to the results of GAO's review.

In response to the Committee's actions, on February 8, 2018, NSF proposed a set of new policies to address sexual harassment. Finalized in late 2018, the NSF policy sent a clear message to the leadership of NSF awardee organizations that "NSF does not tolerate sexual harassment, or any kind of harassment, within the agency, at awardee organizations, field sites, or anywhere NSF-funded science and education are conducted."

On February 28, 2018, the Science Committee's Subcommittee on Research and Technology held a hearing entitled, A Review of Sexual Harassment and Misconduct in Science. The hearing served as a forum to further inform the Committee and the public on increasing claims of sexual misconduct within the scientific community and provided expert testimony on the issue. The Committee sought to learn how science agencies and research institutions handle complaints under current policy and law, assess the impact of harassment on women's participation in science, and discuss recommendations for improving the complaint and resolution process as well as the culture in science.

HEARINGS HELD PURSUANT TO CLAUSES 2(n), (o) OR (p) OF RULE XI

Clause 2(n)

February 7, 2017

Full Committee hearing: Making EPA Great Again.

Witnesses: The Honorable Jeffrey R. Holmstead, Partner, Bracewell LLP; Dr. Kimberly White, Senior Director, Chemical Products and Technology, American Chemistry Council; The Honorable Rush Holt, CEO, American Association for the Advancement of Science; and Dr. Richard Belzer, Independent Consultant.

February 15, 2017

Energy Subcommittee and Oversight Subcommittee joint hearing: Risky Business: The DOE Loan Guarantee Program.

Witnesses: Ms. Diane Katz, Senior Research Fellow in Regulatory Policy, Thomas A. Roe Institute for Economic Policy Studies, The Heritage Foundation; Mr. Chris Edwards, Director, Tax Policy Studies, Cato Institute; Mr. Dan Reicher, Executive Director, Steyer-Taylor Center for Energy Policy and Finance, Stanford University; and Dr. Ryan Yonk, Assistant Research Professor, Department of Economics and Finance, Utah State University, and Research Director, Institute of Political Economy, Utah State University.

February 16, 2017

Full Committee hearing: NASA: Past, Present, and Future.

Witnesses: The Honorable Harrison Schmitt, Apollo 17 Astronaut, and Former United States Senator; Lt. Gen. Thomas P. Stafford, Gemini VI, Gemini IX, Apollo 10, Apollo-Soyuz Test Project Astronaut, and Chairman, NASA International Space Station Advisory Committee; Dr. Ellen Stofan, Former Chief Scientist, National Aeronautics and Space Administration (NASA); and Mr. Tom Young, Past Director, Goddard Spaceflight Center, Past President and COO, Martin Marietta, and Past Chairman SAIC.

February 28, 2017

Environment Subcommittee and Oversight Subcommittee joint hearing: At What Cost? Examining the Social Cost of Carbon.

Witnesses: Dr. Ted Gayer, Vice President and Director of Economic Studies, Brookings Institute; Dr. Kevin Dayaratna, Senior Statistician and Research Programmer, Center for Data Analysis, The Heritage Foundation; Dr. Michael Greenstone, Milton Friedman Professor in Economics, the College, and the Harris School, Director of the Interdisciplinary Energy Policy Institute, University of Chicago, and Director of Energy & Environment Lab, University of Chicago Urban Labs; and Dr. Patrick Michaels, Director, Center for the Study of Science, Cato Institute.

March 9, 2017

Research and Technology Subcommittee hearing: National Science Foundation Part I: Overview and Oversight.

Witnesses: Dr. France Córdova, Director, National Science Foundation; and Ms. Allison Lerner, Inspector General, National Science Foundation.

March 21, 2017

Research and Technology Subcommittee hearing: National Science Foundation Part II: Future Opportunities and Challenges for Science.

Witnesses: Dr. Joan Ferrini-Mundy, Acting Chief Operating Officer, National Science Foundation; Dr. Maria Zuber, Chair, National Science Board; Dr. Jeffrey Spies, Co-Founder and Chief Technology Officer, Center for Open Science and Assistant Professor, University of Virginia; and Dr. Keith Yamamoto, Vice Chancellor for Science Policy and Strategy, University of California, San Francisco.

May 4, 2017

Research and Technology Subcommittee and Contracting and Workforce Subcommittee joint hearing: Improving the Small Business Innovation Research and Small Business Technology Transfer Programs.

Witnesses: Mr. Joe Shepard, Associate Administrator, Office of Investment and Innovation, United States Small Business Administration; Mr. John Neumann, Director, Natural Resources and Environment, U.S. Government Accountability Office; Mr. John Clanton, Chief Executive Officer, Lynntech, Inc.; Dr. John S. Langford, Chairman and CEO, Aurora Flight Sciences Corporation; Mr. Ron Shroder, CEO and President, Frontier Technologies, Inc.;

Ms. Angela M. Albán, President and CEO, SIMETRI, Inc.; and Dr. Clinton T. Rubin, SUNY Distinguished Professor and Chair, Department of Biomedical Engineering, Director, Center for Biotechnology.

May 24, 2017

Research and Technology Subcommittee and Oversight Subcommittee joint hearing: Examining the Overhead Cost of Research.

Witnesses: Mr. Dale Bell, Division Director, Institution and Award Support, National Science Foundation; Mr. John Neumann, Director, Natural Resources and Environment, U.S. Government Accountability Office; Mr. James Luther, Associate Vice President of Finance & Compliance Officer, Duke University, and Chairman of the Board, Council on Governmental Relations; and Dr. Richard Vedder, Distinguished Professor of Economics Emeritus, Department of Economics, Ohio University, and Director, Center for College Affordability and Productivity.

October 11, 2017

Oversight Subcommittee and Research and Technology Subcommittee joint hearing: NIST's Physical Security Vulnerabilities: A GAO Undercover Review.

Witnesses: Ms. Lisa Casias, Deputy Assistant Secretary for Administration, U.S. Department of Commerce; Dr. Kent Rochford, Acting Director, National Institute of Standards and Technology; and Mr. Seto Bagdoyan, Director, Audit Services, Forensic Audits & Investigative Service, U.S. Government Accountability Office.

January 30, 2018

Full Committee hearing: Department of Energy: Management and Priorities.

Witnesses: The Honorable Paul Dabbar, Under Secretary for Science, U.S. Department of Energy; and The Honorable Mark Menezes, Under Secretary of Energy, U.S. Department of Energy.

February 6, 2018

Full Committee hearing: In Defense of Scientific Integrity: Examining the IARC Monograph Programme and Glyphosate Review.

Witnesses: Dr. Anna Lowit, Senior Science Adviser, Office of Pesticide Programs, U.S. Environmental Protection Agency; Dr. Timothy Pastoor, CEO, Pastoor Science Communications; Dr. Jennifer Sass, Senior Scientist, Natural Resources Defense Council; and Dr. Robert Tarone, (retired) Mathematical Statistician, U.S. National Cancer Institute and Biostatistics Director, International Epidemiology Institute.

February 27, 2018

Research and Technology Subcommittee hearing: A Review of Sexual Harassment and Misconduct in Science.

Witnesses: Ms. Rhonda Davis, Head, Office of Diversity and Inclusion, National Science Foundation; Dr. Kathryn Clancy, Associate Professor, Department of Anthropology, University of Illinois; Ms. Christine McEntee, Executive Director, American Geophysical

Union; and Ms. Kristina Larsen, Attorney, Law Office of Kristina K. Larsen.

September 13, 2018

Oversight Subcommittee and Environment Subcommittee joint hearing: Examining the Underlying Science and Impacts of Glider Truck Regulations.

Witnesses: Ms. Linda Tsang, Legislative Attorney, Congressional Research Service; Mr. Collin Long, Director of Government Affairs, Owner-Operator Independent Drivers Association; Dr. Paul J. Miller, Deputy Director & Chief Scientist, Northeast States for Coordinated Air Use Management; and Dr. Richard B. Belzer, Independent Consultant in Regulation, Risk, Economics & Information Quality.

Clause 2(o)

June 8, 2017

Space Subcommittee hearing: An Overview of the National Aeronautics and Space Administration Budget for Fiscal Year 2018.

Witness: Mr. Robert M. Lightfoot, Jr., Acting Administrator, National Aeronautics and Space Administration (NASA).

January 30, 2018

Full Committee hearing: Department of Energy: Management and Priorities.

Witnesses: The Honorable Paul Dabbar, Under Secretary for Science, U.S. Department of Energy; and The Honorable Mark Menezes, Under Secretary of Energy, U.S. Department of Energy.

March 7, 2018

Space Subcommittee hearing: An Overview of the NASA Budget for Fiscal Year 2019.

Witness: Mr. Robert M. Lightfoot, Jr., Acting Administrator, National Aeronautics and Space Administration (NASA).

March 15, 2018

Full Committee hearing: An Overview of the National Science Foundation Budget Proposal for Fiscal Year 2019.

Witnesses: Dr. France Córdova, Director, National Science Foundation; and Dr. Maria T. Zuber, Chair, National Science Board.

May 9, 2018

Full Committee hearing: An Overview of the Budget Proposal for the Department of Energy for Fiscal Year 2019.

Witness: The Honorable Rick Perry, Secretary, U.S. Department of Energy.

Clause 2(p)

May 3, 2017

Energy Subcommittee hearing: Oil and Gas Technology Innovation.

Witnesses: Mr. Edward Johnston, Senior Vice President for Research and Development, Gas Technology Institute; Dr. David Brower, Founder and President, Astro Technology; Mr. Walker

Dimmig, Principal, 8 Rivers Capital, LLC; and Dr. Ramanan Krishnamoorti, Interim Vice President and Interim Vice Chancellor for Research and Technology Transfer, University of Houston & University of Houston System, and Chief Energy Officer, University of Houston.

June 15, 2017

Oversight Subcommittee and Research and Technology Subcommittee joint hearing: Bolstering the Government's Cybersecurity: Lessons Learned from WannaCry.

Witnesses: Mr. Salim Neino, Chief Executive Officer, Kryptos Logic; Dr. Charles H. Romine, Director, Information Technology Laboratory, National Institute of Standards and Technology; Mr. Gregory J. Touhill, CISSP, CISM, Brigadier General, USAF (ret), and Adjunct Professor, Cybersecurity & Risk Management, Carnegie Mellon University, Heinz College; and Dr. Hugh Thompson, Chief Technology Officer, Symantec.

September 6, 2017

Environment Subcommittee and Oversight Subcommittee joint hearing: Examining the Scientific and Operational Integrity of EPA's IRIS Program.

Witnesses: Dr. Kenneth Mundt, Principal, Ramboll Environ; Dr. James Bus, Senior Managing Scientist, Exponent; and Dr. Thomas Burke, Johns Hopkins University.

October 3, 2017

Full Committee hearing: Resiliency: The Electric Grid's Only Hope.

Witnesses: Dr. William Sanders, Department Head, Department of Electrical and Computer Engineering, University of Illinois; Mr. Carl Imhoff, Manager, Electricity Market Sector, Pacific Northwest National Laboratory; Dr. Gavin Dillingham, Program Director, Clean Energy Policy, Houston Advanced Research Center; and Mr. Walt Baum, Executive Director, Texas Public Power Association.

October 11, 2017

Oversight Subcommittee and Research and Technology Subcommittee joint hearing: NIST's Physical Security Vulnerabilities: A GAO Undercover Review.

Witnesses: Ms. Lisa Casias, Deputy Assistant Secretary for Administration, U.S. Department of Commerce; Dr. Kent Rochford, Acting Director, National Institute of Standards and Technology; and Mr. Seto Bagdoyan, Director, Audit Services, Forensic Audits & Investigative Service, U.S. Government Accountability Office.

October 25, 2017

Oversight Subcommittee hearing: Bolstering the Government's Cybersecurity: Assessing the Risk of Kaspersky Lab Products to the Federal Government.

Witnesses: Ms. Donna Dodson, Associate Director and Chief Cybersecurity Advisor, Information Technology Laboratory, and Chief Cybersecurity Advisor, National Institute of Standards and Technology; Mr. David Shive, Chief Information Officer, U.S. General Services Administration; Mr. James Norton, President, Play-Action

Strategies LLC, and Adjunct Professor, Johns Hopkins University; and Mr. Sean Kanuck, Director, Future Conflict and Cyber Security, International Institute for Strategic Studies.

November 8, 2017

Environment Subcommittee and Energy Subcommittee joint hearing: Geoengineering: Innovation, Research, and Technology.

Witnesses: Dr. Phil Rasch, Chief Scientist for Climate Science, Laboratory Fellow, Pacific Northwest National Laboratory; Dr. Joseph Majkut, Director of Climate Policy, Niskanen Center; Dr. Douglas MacMartin, Senior Research Associate, Cornell University; and Ms. Kelly Wanser, Principal Director, Marine Cloud Brightening Project, Joint Institute for the Study of the Atmosphere and Ocean, University of Washington.

November 9, 2017

Space Subcommittee hearing: An Update on NASA Exploration Systems Development.

Witnesses: Mr. William Gerstenmaier, Associate Administrator, Human Exploration and Operations Directorate, National Aeronautics and Space Administration (NASA); and Dr. Sandra Magnus, Executive Director, American Institute of Aeronautics and Astronautics.

November 14, 2017

Oversight Subcommittee hearing: Bolstering the Government's Cybersecurity: A Survey of Compliance with the DHS Directive.

Witnesses: Ms. Jeanette Manfra, Assistant Secretary, Cybersecurity and Communications, National Protection and Programs Directorate, U.S. Department of Homeland Security; Ms. Renee Wynn, Chief Information Officer, National Aeronautics and Space Administration (NASA); Ms. Essye Miller, Deputy Chief Information Officer for Cybersecurity, U.S. Department of Defense; and Dr. Mark Jacobson, Associate Teaching Professor, Edmund Walsh School of Foreign Service, Georgetown University.

December 6, 2017

Space Subcommittee hearing: NASA's Next Four Large Telescopes.

Witnesses: Dr. Thomas Zurbuchen, Associate Administrator, Science Mission Directorate, National Aeronautics and Space Administration (NASA); Ms. Cristina Chaplain, Director, Acquisition and Sourcing Management, Government Accountability Office; Mr. A. Thomas Young, Former Director, Goddard Space Flight Center, National Aeronautics and Space Administration (NASA), and Former President and Chief Operating Officer, Martin Marietta Corporation; Dr. Matt Mountain, President, Association of Universities for Research in Astronomy; and Dr. Chris McKee, Professor Emeritus of Astronomy, Physics, University of California, Berkeley, on behalf of the National Academies of Science, Engineering and Medicine.

December 13, 2017

Energy Subcommittee hearing: Advancing Solar Energy Technology: Research Trumps Deployment.

Witnesses: Mr. Daniel Simmons, Principal Deputy Assistant Secretary, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy; Dr. Martin Keller, Director, National Renewable Energy Laboratory; Dr. Steve Eglash, Executive Director, Strategic Research Initiatives, Computer Science, Stanford University; and Mr. Kenny Stein, Director of Policy, Institute for Energy Research.

January 17, 2018

Space Subcommittee hearing: An Update on NASA Commercial Crew Systems Development.

Witnesses: Mr. William Gerstenmaier, Associate Administrator, Human Exploration and Operations Directorate, National Aeronautics and Space Administration (NASA); Mr. John Mulholland, Vice President and Program Manager, Commercial Programs, Boeing Space Exploration; Dr. Hans Koenigsmann, Vice President, Build and Flight Reliability, SpaceX; Ms. Cristina Chaplain, Director, Acquisition and Sourcing Management, U.S. Government Accountability Office; and Dr. Patricia Sanders, Chair, NASA Aerospace Safety Advisory Panel.

March 6, 2018

Energy Subcommittee hearing: The Future of U.S. Fusion Energy Research.

Witnesses: Dr. Bernard Bigot, Director-General, ITER Organization; Dr. James W. Van Dam, Acting Associate Director, Fusion Energy Sciences, Office of Science, U.S. Department of Energy; Dr. Mickey Wade, Director of Advanced Fusion Systems, Magnetic Fusion Energy Division, General Atomics; and Dr. Mark Herrmann, Director, National Ignition Facility, Lawrence Livermore National Laboratory.

March 14, 2018

Full Committee hearing: National Laboratories: World-Leading Innovation in Science.

Witnesses: Dr. Mark Peters, Director, Idaho National Laboratory; Dr. Susan Seestrom, Advanced Science & Technology Associate Labs Director and Chief Research Officer, Sandia National Laboratory; Dr. Mary E. Maxon, Associate Laboratory Director for Biosciences, Lawrence Berkeley National Laboratory; Dr. Chi-Chang Kao, Director, Stanford Linear Accelerator Center, National Accelerator Laboratory; and Dr. Paul Kearns, Director, Argonne National Laboratory.

April 18, 2018

Research and Technology Subcommittee hearing: Composite Materials—Strengthening Infrastructure Development.

Witnesses: Dr. Joannie Chin, Deputy Director, Engineering Laboratory, National Institute of Standards and Technology; Dr. Hota GangaRao, Wadsworth Distinguished Professor, Statler College of Engineering, West Virginia University; Dr. David Lange, Professor, Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign; and Mr. Shae Weyant, President and CEO, Creative Pultrusions, Inc.

April 26, 2018

Environment Subcommittee and Space Subcommittee joint hearing: Surveying the Space Weather Landscape.

Witnesses: Dr. Neil Jacobs, Assistant Secretary of Commerce for Environmental Observation and Prediction, National Oceanic and Atmospheric Administration; Dr. Jim Spann, Chief Scientist, Heliophysics Division, Science Mission Directorate, National Aeronautics and Space Administration (NASA); Dr. Sarah Gibson, Senior Scientist, High Altitude Observatory, National Center for Atmospheric Research, and Co-Chair, Committee on Solar and Space Physics, National Academy of Science; and Dr. W. Kent Tobiska, President and Chief Scientist, Space Environment Technologies.

May 8, 2018

Oversight Subcommittee and Research and Technology Subcommittee joint hearing: Leveraging Blockchain Technology to Improve Supply Chain Management and Combat Counterfeit Goods.

Witnesses: Dr. Douglas Maughan, Cyber Security Division Director, Science and Technology Directorate, U.S. Department of Homeland Security; Mr. Robert 'Bob' Chiaviello, IPR Counsel, Nuby Law; Mr. Michael White, Head of Global Trade Digitization, Maersk; and Mr. Chris Rubio, Vice President Global Customs Brokerage Staff, UPS.

May 16, 2018

Full Committee hearing: Using Technology to Address Climate Change.

Witnesses: Mr. Oren Cass, Senior Fellow, Manhattan Institute; Mr. Ted Nordhaus, Executive Director, The Breakthrough Institute; Dr. Phil Duffy, President and Executive Director, Woods Hole Research Center; and Dr. Judith Curry, President, Climate Forecast Applications Network, and Professor Emerita, Georgia Institute of Technology.

June 7, 2018

Energy Subcommittee hearing: The Electric Grid of the Future.

Witnesses: The Honorable Bruce J. Walker, Assistant Secretary, Office of Electricity Delivery and Energy Reliability, U.S. Department of Energy, and Acting Assistant Secretary, Office of Cybersecurity, Energy Security, and Emergency Response, U.S. Department of Energy; Dr. John Sarrao, Principal Associate Director, Science, Technology, and Engineering Directorate, Los Alamos National Laboratory; Mr. Robert Gramlich, President, Grid Strategies, LLC; and Dr. Joseph A. Heppert, Vice President for Research, Texas Tech University.

June 14, 2018

Space Subcommittee hearing: NASA Cost and Schedule Overruns: Acquisition and Program Management Challenges.

Witnesses: Ms. Cristina T. Chaplain, Director, Contracting and National Security Acquisitions, U.S. Government Accountability Office; Mr. Stephen Jurczyk, Associate Administrator, National Aeronautics and Space Administration (NASA); Mr. Paul K. Martin, Inspector General, National Aeronautics and Space Administration

(NASA); and Mr. Daniel L. Dumbacher, Executive Director, American Institute of Aeronautics and Astronautics.

June 21, 2017

Environment Subcommittee hearing: Leading the Way: Examining Advances in Environmental Technologies.

Witnesses: Mr. Sebastien De Halleux, Chief Operating Officer, Saildrone, Inc.; Dr. Neil Jacobs, Chief Atmospheric Scientist, Panasonic Avionics; and Dr. Burke Hales, Professor in Ocean Ecology and Biogeochemistry, College of Earth, Ocean and Atmospheric Sciences, Oregon State University.

July 19, 2017

Full Committee hearing: Energy Innovation: Letting Technology Lead.

Witnesses: Dr. Jacob DeWitte, President and CEO, Oklo; Dr. Gaurav N. Sant, Associate Professor and Henry Samueli Fellow, Department of Civil and Environmental Engineering, Henry Samueli School of Engineering and Applied Science, University of California, Los Angeles (UCLA); Dr. Venky Narayanamurti, Benjamin Peirce Research Professor of Technology and Public Policy, John A. Paulson School of Engineering and Applied Sciences, Harvard University; and Mr. Kiran Kumaraswamy, Market Development Director, AES Energy Storage.

July 25, 2017

Environment Subcommittee and Energy Subcommittee joint hearing: Examining Advancements in Biofuels: Balancing Federal Research and Market Innovation.

Witnesses: Dr. Paul Gilna, Director, BioEnergy Science Center and Deputy-Division Director of Biosciences, Oak Ridge National Laboratory; Dr. John DeCicco, Research Professor, University of Michigan Energy Institute, and Director, University of Michigan Energy Survey; Ms. Emily Skor, Chief Executive Officer, Growth Energy; and Mr. Nick Loris, Herbert and Joyce Morgan Research Fellow in Energy and Environmental Policy, Institute for Economic Freedom and Opportunity, The Heritage Foundation.

September 6, 2017

Environment Subcommittee and Oversight Subcommittee joint hearing: Examining the Scientific and Operational Integrity of EPA's IRIS Program.

Witnesses: Dr. Kenneth Mundt, Principal, Ramboll Environ; Dr. James Bus, Senior Managing Scientist, Exponent; and Dr. Thomas Burke, Johns Hopkins University.

July 25–26, 2018

Full Committee hearing: James Webb Space Telescope: Program Breach and its Implications.

Witnesses: The Honorable Jim Bridenstine, Administrator, National Aeronautics and Space Administration (NASA); Mr. Tom Young, Chairman, JWST Independent Review Board; and Mr. Wesley Bush, Chief Executive Officer, Northrop Grumman Corp.

September 26, 2018

Space Subcommittee hearing: 60 Years of NASA Leadership in Human Space Exploration: Past, Present, and Future.

Witnesses: Mr. William Gerstenmaier, Associate Administrator, Human Exploration and Operations Mission Directorate, National Aeronautics and Space Administration (NASA); Mr. Mark Geyer, Director, Johnson Space Center, National Aeronautics and Space Administration (NASA); Ms. Jody Singer, Director, Marshall Space Flight Center, National Aeronautics and Space Administration (NASA); and Mr. Robert Cabana, Director, John F. Kennedy Space Center, National Aeronautics and Space Administration (NASA).

September 27, 2018

Energy Subcommittee hearing: Advancing Nuclear Energy: Powering the Future.

Witnesses: Mr. Edward McGinnis, Principal Deputy Assistant Secretary for Nuclear Energy, U.S. Department of Energy; Mr. Harlan Bowers, President, X-energy; Dr. John Parsons, Co-Chair, MIT Study on the Future of Nuclear Energy in a Carbon-Constrained World; and Dr. John Wagner, Associate Laboratory Director, Nuclear Science & Technology, Idaho National Laboratory.

