Democratic House victory leads to musical chairs

Democrats won control of the House of Representatives in the 2018 midterm elections, and the Republicans increased their majority in the Senate. Several major players in science policy will not be members of the new Congress, and several scientists, engineers, and physicians will be joining the House or Senate.

Leadership of all the House committees will change. Rep. Frank Pallone (D-NJ) will become chair of the Committee on Energy and Comamerce, and current chair Rep. Greg Walden (R-OR) will become ranking member. Pallone said that he will not alter the current six-subcommittee structure next year, dashing hopes that a Democratic-controlled House would reconvene the Select Committee on Energy Independence and Global Warming. In previous interviews, he noted that the subcommittee was unnecessary. The current six subcommittees are Energy, Environment, Health, Communications and Technology, Digital Commerce and Consumer Protection, and Oversight and Investigations.

Rep. Raúl Grijalva (D-AZ) is expected to become chair of the Committee on Natural Resources, with Rep. Rob Bishop (R-UT) shifting to the ranking member slot. Finally, Rep. Eddie Bernice Johnson (D-TX) will chair the Committee on Science, Space, and Technology, and Rep. Frank Lucas (R-OK) will be the ranking member, as current chair Rep. Lamar Smith (R-TX) retires.

Notably, Rep. John Culberson (R-TX), chair of the House Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies, lost his reelection bid. Culberson is a vocal advocate for planetary science and has successfully boosted funding for the planned Europa mission to Jupiter. Another National Aeronautics and Space Administration (NASA) champion, Sen. Bill Nelson (D-FL), narrowly lost his race. Sen. Richard Shelby (R-AL), like Nelson a huge proponent of NASA's space launch rocket, is expected to remain chair of the Senate appropriations committee.

Rep. Nita Lowey (D-NY) will chair the House appropriations committee. Lowey has been forceful in securing equal funding for defense and nondefense domestic programs. Kay Granger (R-TX) has been selected as the ranking member, replacing retiring Rep. Rodney Frelinghuysen (R-NJ). Granger previously chaired the appropriations subcommittee governing the Defense Department.

Current House appropriations ranking members are expected to transition into chair roles. This includes key science supporters such as Rep. José Serrano (D-NY) on the Commerce, Justice, and Science appropriations subcommittee; Rep. Rosa DeLauro (D-CT) on the Labor, Health, and Human Services appropriations subcommittee; and Rep. Marcy Kaptur (D-OH) on the Energy and Water appropriations subcommittee.

Looking ahead, the new Congress will face two major budget hurdles. First, lawmakers will need to negotiate a bipartisan budget deal that staves off the

remaining two years of sequestration on discretionary spending. Reaching another bipartisan agreement to lift the spending caps would avoid severe budget constraints. Furthermore, Congress will need to raise the federal debt limit, which could complicate spending talks.

Congress will continue to struggle with what it recognizes as an unwieldy budget process that seems resistant to reform. In fact, a 16-member bipartisan, bicameral committee charged with overhauling the federal budget process has rejected its own reform bill. Committee members were unable to agree on next steps for moving the proposed legislation through Senate floor consideration. The failure was the result of a nearly year-long effort to craft recommendations in support of a smoother budget and appropriations process. The committee had put forward several ideas, notably a switch to biennial budget resolutions. Outside observers, including the nonprofit Committee for a Responsible Federal Budget, expressed disappointment but also hope that this could still mark the start of an effort to improve the budget process.

Scientist claims first gene-editing of human embryos, igniting storm of controversy

On November 26, Jiankui He, a scientist on leave from China's Southern University of Science and Technology, announced that he had successfully edited the genes of a human embryo using CRISPR/Cas9. Furthermore, He claimed that the gene-edited embryos resulted in the birth of twins. This would, if confirmed, violate China's academic ethics and codes of conduct. In response, his university issued a statement and suspended He until a full investigation of his claims could be conducted.

The announcement sent shock waves through the research and academic communities. The chief executive officer of the American Association for the Advancement of Science, Rush Holt, released a statement expressing that "It is irresponsible to undertake human gene-editing clinical trials without sufficient pre-clinical scientific evidence and inclusive public dialogue on the risks and societal implications of gene-editing human embryos."

National Institutes of Health director Francis Collins released a statement communicating that his agency does not support the use of gene-editing technologies in human embryos, warning of the dangers of such "epic scientific misadventures" and saying that this work "represents a deeply disturbing willingness by Dr. He and his team to flout international ethical norms." In an interview, Collins highlighted the need for a "binding international consensus" on germline gene editing, while acknowledging that there is little agreement on how governments should translate scientific/ethical opinions into law. Collins also announced that he has taken "preliminary steps" to investigate the role of the Rice University scientist who supervised the Chinese researcher during his stay in the United States for graduate study. The university said it is launching its own investigation.

The Chinese researcher was invited to explain his actions on November 28 at the Second International Summit on Human Genome Editing, in Hong Kong. Participants raised forceful objections to He's work, and at the conclusion of the summit the meeting's organizing committee, which includes the US National Academy of Sciences, the US National Academy of Medicine, the Royal Society of the United Kingdom, and the Chinese Academy of Sciences, released a statement about He's "deeply disturbing claim," concluding that the risks were still "too great to permit clinical trials of germline gene editing at this time."

FDA lowers requirements for "minimal risk" investigations

In November, the Food and Drug Administration (FDA) proposed an amendment to its regulations that would implement a provision of the 21st Century Cures Act and change the informed consent requirement for some FDA-regulated clinical investigations that present "minimal risk." If adopted, the proposed rule would allow an Institutional Review Board to waive or alter some elements of the informed consent or to waive entirely the requirement to obtain informed consent, under limited conditions. In order to waive or alter informed consent under the proposal, a review board would have to find that appropriate safeguards are being implemented to protect the safety of individuals participating in that research, which is allowed by a Common Rule waiver provision.

White House announces National Science Board appointments

On November 5, the White House announced seven people that President Trump intends to appoint as members of the National Science Board, two of whom are being reappointed to the board. The National Science Board is an independent 25-person committee that advises the president, Congress, and the National Science Foundation (NSF), identifying issues that are critical to NSF's future, approving NSF's annual budget submission to the White House Office of Management and Budget, and authorizing major programs and awards. The new members will be Maureen L. Condic, Suresh V. Garimella, Steven Leath, S. Alan Stern, and Stephen Willard, and the reappointed members are Geraldine Richmond and Maria Zuber. All will be appointed to six-year terms.