Aimee Corn

Aimee Corn, PE, the youngest member to serve on SEI's national board of governors, is a dam engineer in Gannett Fleming's Denver office. Highly involved in ASCE, she has won the Edmund Friedman Young Engineer award, co-chaired the Mentoring Committee, enabled student conference scholarships with the Student Initiatives Committee, and has served as the secretary, vice president, and president of Colorado's chapter of ASCE SEI. Outside of ASCE/SEI, Corn chairs Gannett Fleming's Employee Resource Group (ERG), Connected Women, serves as the chair of the United States Society on Dams' (USSD) Young Professionals Committee, and recently chaired the Conference Planning Committee for the 2024 USSD Annual Conference in Seattle, Washington. If you'd like to be a dam engineer. Please reach out to Corn, and she'll teach you a thing or two!

STRUCTURE: What led you into dam engineering?

Corn: Like many in the industry, I fell into it. I had a family friend who introduced me to Guy Lund, PE, F.SEI, a leader in the evaluation of concrete dams, as I was starting my master's degree. Guy began mentoring me, and while completing an internship under his guidance, I switched to a thesis-based master's degree focusing on modeling potential failure modes of post-tensioned anchors in concrete gravity dams. Most civil engineering students are not provided an opportunity to learn about dams, even though they are a vital part of modern society's infrastructure. Since joining the industry, I have made it a point to get out there and talk more about dams.

STRUCTURE: How does structural engineering for dams differ from structural engineering for buildings or bridges?

Corn: The most significant difference is that in dam engineering there are no codes, only guidelines produced by the federal government. This is a strength and a weakness in the industry. It's a strength as the dam engineer needs to understand the parameters and justify every decision that they make when analyzing a dam, as there is no code to fall back on. From an innovation perspective, reliance on the federal government can slow things down. Some projects are still using guidelines that date to the 1990s and early 2000s. More recently, the Federal Energy Regulatory Commission (FERC) made updates to their Part 12D program following the 2017 Oroville Spillway Incident, particularly related to the frequency and depth of inspections.

STRUCTURE: How did you get involved in SEI?

Corn: I was a student scholarship recipient, which allowed me to participate in and present my senior design project at the 2013 Structures Congress. After my first Structures Congress, I began attending our local SEI meetings, eventually getting into local leadership roles. In 2017, when the Structures Congress was held in Denver, I participated on the Local Planning Committee.

STRUCTURE: You served on the SEI Board from 2018 to 2022. What was the experience like and what did the board accomplish?

Corn: Serving on the board gave me the opportunity to see how much SEI was doing. Awesome things. And I worked with and learned from amazing people. SE2050 and the commitment to net zero erupted. The SEI structure was completely reorganized from a five-division organization into a Technical Community and a Professional Community. We also rewrote the by-laws of the Board to create a permanent young professional seat and began CROSS-US to increase the safety of structures.

STRUCTURE: You have been involved in several professional society committees that focus on people. What led you to these committees and can you speak about the role they serve?

Corn: The lack of committees within ASCE and SEI related to dam engineering has caused me to lean more towards the committees centered on people. That said, I have been a huge supporter and cheerleader for fellow engineers. I enjoy mentoring and connecting people. Involvement in professional societies has helped me build my network early on in my career. SEI introduced me to many leaders in the industry. I was able to reach out to one of them, Ron Klemencic, to fill the role of plenary speaker at the USSD Annual Conference. As one of the few dam engineers actively involved in SEI, I get to show students and young engineers that there are structural career paths beyond bridges and vertical construction and advocate for dams.

STRUCTURE: What have been highlights of your work so far as a dam engineer?

Corn: I've really enjoyed working on a project in Montana—Basin Creek Dam—as this is the first project I have worked on from start to finish, beginning with the initial site inspection documenting severe freeze-thaw damage, to the analysis and design of alternatives, and finally through the construction of repairs. The dam was originally a granite masonry gravity dam constructed in the 1890s which was raised using mass concrete in the 1910s. A photograph of me sounding the face of the dam even ended up on the front page of the Montana Standard newspaper.

STRUCTURE: You have been involved in planning for Structures Congress and the USSD Annual Conference. How have you approached your role?

Corn: I want people to leave a conference feeling excited and energized about the work they do and I try to channel that into the program. I was impressed when I attended my first USSD conference by how much fun everyone had. As engineers we don't need to be serious all of the time. We do need to be serious about life safety, but presentations don't need to go so far into the weeds that they lose the attention of the audience. David Odeh has said that Structures Congress feels like homecoming. It's an opportunity to connect and grow our skills socially and technically. For USSD, I wanted people to leave the conference advocating for dams. There are some people who want all dams taken out, so it's important for us as engineers to speak to the important role that dams serve to keep society moving by providing drinking water, flood protection, power, and recreation.

STRUCTURE: What advice do you offer to young engineers?

Corn: Young people don't need to know what they want to be when they grow up. As an undergraduate I honestly did not enjoy my reinforced concrete and H&H classes, and now I work on concrete dams. In your career, you are allowed to change your mind. Also, embrace your failures. I thought that the PE would be a breeze, even though in the dam industry I had not used the codes and standards the test is based on since grad school. I had to retake the PE twice. Failure doesn't define you, and we should all talk more about our own failures, it's how we learn and grow. (Speaking of failures, damfailures.org is one site that provides case studies and lessons learned from dam incidents. Check it out.)

STRUCTURE: Have you felt supported in your work for professional organizations?

Corn: Involvement in professional society work comes from the top down at Gannet Fleming, so I have always been encouraged and supported in my participation. Professional organizations help us to keep a pulse on the industry, have our work recognized, and network with a variety of stakeholders. That said, it's important to strike a balance between your professional society involvement and your day-to-day work! ▪