Ari Novy is a plant geneticist. Botany and plants are his “things.” The well-spoken, outgoing scientist is now executive director of the U.S. Botanic Garden (USBG).

As a graduate student at Rutgers University, where he earned his Ph.D., Novy was exposed to the ASA, CSSA, SSSA Annual Meeting and all of the benefits that meeting attendance provides. So when he needed a soil scientist for a renovation project at USBG, he thought, “Where better to find a soil scientist than at the SSSA Annual Meeting?”

This was back in 2012, when the meeting was held in Cincinnati. And it just so happened that there was a soils tour scheduled that Novy found interesting and figured would be “an awesome way to meet people knowledgeable and passionate about the subject.” Thus, he signed up for the “Soils of South-West Ohio” tour.

David Ruppert, a soil scientist and professor at Texas A&M–Kingsville (TAMUK), was also on that tour. And as luck would have it, Novy was seated behind Ruppert and a colleague on the bus taking them between tour sites.

“I was talking to the person next to me about the importance of native plants to the maintenance of the ecosystem,” Ruppert recalls. “This was music to Ari’s ears, and he struck up a conversation and invited me to consider how soil sampling might occur at the USBG in order to prepare for and characterize the coming renovation.”

The USBG was about to implement a Sustainable SITES project located at the Garden in Washington, DC. The project involved renovating Bartholdi Park, a section of the USBG that has served as a public education space for horticultural practices since 1933. The Sustainable SITES program is a credit-based system for designing sustainable landscapes, similar to the LEED program for buildings. It was jointly developed by the USBG, the Lady Bird Johnson Wildflower Center, and the American Society for Landscape Architects though it is now administered by the U.S. Green Business Council. One of the credits available for achieving a high rating under the program is innovation. Since the renovation project was to be at one of the founding instructions of this program, the USBG wanted to be an exemplar of the idea of innovation in sustainability and invited Ruppert to characterize soils at Bartholdi beyond those of traditional soil chemical analysis.

“One of the most important aspects of soil sustainability is soil health and integrity,” Novy notes. “Soil is a living matrix. We really wanted our project to do the maximum respect for soil science and ecology on landscape design and monitoring. We wanted to do novel pre- and post-project soil analyses that would let us know if our design interventions were enhancing the soil. We figured that the best place to get expert help would be where all the most excited soil scientists meet—the soil field trips at SSSA.”

After a few discussions, Ruppert was on a plane in spring 2013 to sample at Bartholdi Park. In 2014 and 2015, he was able to bring M.S. candidate, Carlos X. Martinez, to assist. This year, 2016, Ruppert was joined by Sandford Jaques III. The USBG and Ruppert have plans to continue monitoring at least two years after the renovation to determine performance.

“A white paper regarding the results of our sampling has been produced every year,” Ruppert says. “The first three years were evaluations of ‘baseline’ performance. This year, 2016, the garden is undergoing renovation as we speak.”

Previously, Ruppert has used two labs to analyze USBG soil samples: the Cornell Soil Health Laboratory and Earthfort Labs. The Cornell Lab evaluates physical, chemical, and biochemical variables, and Earthfort evaluates biological variables. This year, Ruppert is additionally making use of bacterial and fungal genomics analyses through RTL Genomics.