is currently a 4th year PhD student of Geotechnical Engineering at the University of Kansas. Here she primarily focuses on surface seismic wave research, but for a variety of applications including seismic hazard, subsidence monitoring, and man-made tunnel imaging.

During Sarah's Master's degree at the University of Connecticut, her work included using the multichannel analysis of surface waves (MASW), the horizontal-to-vertical spectral ratio (HVSR), and downhole seismic methods at 30 field sites across Hartford County, Connecticut in order to map Vs30 (average shear wave velocity to a depth of 30 meters). This project was part of a larger investigation started by the New England State Geologists to update the seismic hazard maps in the New England. State geologists first created liquefaction potential maps and seismic hazard classifications using surficial materials maps – Sarah's job was to collect Vs30 values (using National Earthquake Hazards Reduction Program classifications) to see if they categorized in the same or different surficial-based hazard classes. Shortly after, Sarah was asked to take on the initial investigation in Connecticut to test different near-surface seismic methods and see which were the most feasible for collecting velocity profiles across the area. She jumped at the opportunity to do this project because of her long-time interests in earthquakes and her desire to help communities be better prepared for potentially destructive earthquakes.

Sarah's PhD research focus has shifted slightly from her Master's degree, and now concentrates more on subsidence and better understanding the mechanics and stages of void migration. To investigate this, she has been conducting time-lapse passive surface wave seismic work in southcentral Kansas to monitor the potential breakdown of the Hutchinson Salt; this area is greatly susceptible to sinkhole development, so they are monitoring a small area with various wells to determine which areas are the most at risk. If that wasn't enough, the other half of her dissertation concerns tunnel detection as part of a larger Department of Defense collaborative grant to develop better tools to image clandestine (or man-made) tunnels. For this Sarah is investigating multi-component surface wave imaging techniques to see if she can capture how/if the soil behavior and stress field changes after a tunnel is constructed.

Through her time as a student, Pathways Intern at the United States Geological Survey (USGS), and Research Assistant at the Kansas Geological Survey, Sarah has proven to be a dedicated and highly capable researcher. To echo this sentiment, in 2016 Sarah received the William B. Hambleton Student Award for Excellence in Research from the Kansas Geological Survey! Outside of research, Sarah is very active in the near surface geophysics and greater geoscience

communities. Previously, Sarah has served as Student Representative for AGU's Near Surface Geophysics Focus Group and was Osage Student Chapter President within the Association for Women Geoscientists (AWG). Currently, Sarah is highly involved with the Near Surface Section of the Society of Exploration Geophysicists (SEG) where she is the Communications Lead and member of the Anaheim Subcommittee for the 2018 SEG Meeting. Sarah has also continued her work with AWG as the South Central Regional Delegate.

Sarah has been to the AGU Fall Meeting a handful of times (2013, 2014, and 2015) and has found that the meeting is an incredible opportunity to not only see people you used to go to school with, or old colleagues, but to meet many new people while talking about the research you love. She also finds that AGU is a great place to find and introduce ways to better our science and propel the world forward.

After finishing her PhD (anticipated May 2019), she plans to continue her current work at the Kansas Geological Survey. As her career progresses, Sarah hopes to continue to work on research projects at an institution associated with a university. While not wanting to be a professor at this time, she plans to work and advise students in a non-classroom setting in hopes of passing on the geophysical skill she has developed throughout her career.

The 7th grader with a deep fascination of plate tectonics and a particular fondness of digging hand samples has grown quite a bit, with this past December marking the marriage to her longtime boyfriend. The two of them met while he was a Summer Intern and she was a Pathways Intern at the USGS in 2013. Congratulations Sarah!

For more information about near-surface applications of surface seismic methods, please contact Sarah Morton.

Interested in being highlighted, or know a student who should be? Please email Matthew Sirianni for more information about the Student Spotlight. We are also seeking research highlights that showcase use of near-surface geophysics in other AGU sections and focus groups. If you are interested in writing a short, one-page highlight, please contact Chi Zhang.