The Environmental Health and Safety (EHS) department at Arizona State University (ASU) launched the Compliance Officer (CO) Program in 2006 with the following mission: “To enhance safety across ASU campuses by partnering with departmental personnel on environmental health and safety activities in their individual units.” Leon Igras, executive director of EHS, envisioned having a CO in each department to meet a campus need. In 2006, ASU had a population of 75,500, including students, faculty, and staff. With this large size and an EHS staff of 25.5 employees, it was crucial to recruit ASU personnel to become volunteer COs. Having COs meant using existing resources (minimizing costs), gave authority to personnel already doing safety-related activities in their departments, and allowed EHS to have a presence across all five ASU campuses.

To gain support for the CO program, EHS worked with stakeholders across campus to develop the ASU Environmental Health and Safety Management Policy (EHSMP). This policy calls for the university to be a model of quality in environmental health and safety. COs helped to meet this model of quality by becoming the principal liaison between their departments, colleges, and schools with EHS. The CO program helps ensure the ASU community is compliant with local, state, and federal regulations as well as university policies.

Currently, ASU has a population of 112,900, including students, faculty, and staff. With the 49.5% increase in population since 2006, the role of COs is even more important to maintaining a healthy and safe learning and working environment. COs perform the following essential functions: distributing safety related announcements to their units; reporting questionable activities and unresolved compliance issues to the delegating authority and the EHS executive director; reporting safety hazards or concerns to EHS and their department or unit; serving as the major source of coordination for safety support activities and the EHS Policy and Operations Committees. Senior COs have additional duties and work closely with EHS to study and facilitate EHS compliance activities. EHS prepares COs with an in-person orientation, online training, and two networking events per year. Tabletop exercises with real ASU scenarios are discussed with COs during the orientation. The online training covers more in depth information about each of the EHS units and includes fact sheets on multiple safety topics. The networking events allow COs to interact with other COs and senior leadership at ASU, obtain professional development opportunities, and receive updates on safety campaigns.

The ASU CO Program addresses several challenges at ASU. These include: 1) The need for a safety officer in each of the 170+ departments and units at ASU. Public research universities receive limited funds, which may prevent each
department from having a dedicated safety officer. 2) The need to address safety concerns before fatalities or incidents occur. The findings of the UCLA tragedy, in which Sheri Sangji lost her life showed significant safety violations that could have prevented this fatality ([http://articles.latimes.com/2009/mar/01/local/me-uclaburn1](http://articles.latimes.com/2009/mar/01/local/me-uclaburn1)). Following this incident, universities across the country strived to increase their safety awareness. At ASU, COs help all employees within their units to enroll in required trainings and develop specific department safety measures. COs are also instrumental in assuring each work area is in compliance by attending EHS inspections and reporting safety or health hazards to EHS. These responsibilities help EHS address potential hazards quickly to prevent any personnel injury or property damage. 3) The need to ensure that all departments or units at ASU are in compliance with local, state, and federal regulations. University research is regulated by different entities including the National Institutes of Health (NIH), Centers for Disease Control and Prevention (CDC), Occupational Health and Safety Administration (OSHA), among others. Non-compliance issues can lead to large fines, suspension of university research, and interruption or suspension of research funds. COs assist with recordkeeping, training, inventory records, and other requirements to ensure compliance and prevent fines.

The success of the CO program has been measured both quantitatively and qualitatively for the last 12 years. Quantitatively, we can show that the number of individuals participating in EHS trainings has consistently increased from 2006 to 2017. Training and recordable injury data are inversely related (i.e. as the training numbers increase, the reportable injury rate decreases). During training, individuals become aware of potential hazards, work practices, personal protective equipment (PPE), engineering controls and other methods of preventing injuries and illnesses. Since the implementation of the CO program, safety training has increased by 789 percent.

COs are crucial in preventing accidents and incidents by monitoring required trainings, distributing safety messages, promoting safe work practices, and communicating the specific needs of their departments to EHS. COs also assist in incident reporting and implementing corrective measures after incidents or near misses to prevent future accidents. Over the last 12 years, the rate of incidents per 1,000 employees at ASU has decreased. This is impressive given that the CO program has
also increased injury reporting awareness. Each OSHA-reportable injury represents a measurable cost. The National Safety Council places the average cost of non-fatal injuries at $7,000 each. The reduction since 2007 has saved ASU an estimated $5.1 million in direct and indirect costs.

COs are critical in helping EHS promote a culture of safety across ASU. COs receive and distribute on average three safety messages per month. Examples of safety messages include heat exhaustion prevention, incident and accident reporting, health screening events, slip, trip and fall prevention and others.

**Safety Campaigns and Safety Programs**

COs have been instrumental in the development and implementation of safety campaigns and programs:

**Icebox Detox Challenge:** This campaign promoted having an accurate inventory of biological materials to prevent exposures to biological hazards, ensuring the safety of ASU personnel and the community. This innovative approach allowed researchers to assess their freezers, refrigerators, and liquid nitrogen tanks, and remove unwanted or unknown samples while having the opportunity to win a $5,000 research incentive award and other prizes. COs helped promote the campaign and assisted labs to clean out freezers and update biological inventories.

**Handwashing Campaign:** ASU’s EHS department and Fulton Schools of Engineering (FSE) Office of Health and Safety, developed a safety campaign to promote handwashing, prevent cross-contamination, and create a healthier work environment. The ASU Pandemic Committee funded the design and printing of professionally produced posters titled, “The Gloves are Off; It’s Time to Wash Your Hands.” Two COs from FSE were instrumental in scheduling photographs with Sparky, ASU’s mascot, assisted with poster content and distribution of posters.
**Pyrophoric Liquid Training:** Following the UCLA tragedy mentioned previously, EHS reached out to all the laboratory COs to help determine which principal investigators were working with pyrophoric materials. EHS developed individual training for laboratories working with these materials in collaboration with COs.

**Liquid Nitrogen Training:** A CO for ASU Gas Services developed a liquid nitrogen fill station instructional video to assist liquid nitrogen users across campus. This video explores the hazards of working with cryogenic materials, and provides a step-by-step process on how to properly fill liquid nitrogen containers. ([http://player.vimeo.com/video/74672901](http://player.vimeo.com/video/74672901)).

**Lab Coat Laundering Program:** Laboratory staff expressed to COs the difficulties to adhere to ASU guidelines regarding laundering practices for lab coats in laboratories. Commercial services were expensive and not easy to find for a single lab. Led by a CO, a committee was formed with EHS and other members of academic and business services. This committee established a university-wide lab coat laundering service at a reasonable cost, with ASU mail services offering a weekly pickup and delivery service. Since program inception in September 2016, more than 2000 lab coats have been laundered, at no cost for the users. This program is in continuous operation and users report high satisfaction.

**Development of Bloodborne Pathogen (BBP) Training Courses:** EHS collaborated with COs in the Sun Devil Fitness Athletic Complex and ASU athletics to develop bloodborne pathogen training courses specific to their departments. Employees in these departments are consistently exposed to bodily fluids, due to athlete injuries or injuries as people exercise. Developing customized trainings which showcased specific risks applicable to them and how to prevent exposures was very beneficial. Both of these departments have over 90% compliance rate for this training.

**Community Engagement and Green Events**

COs have also been part of EHS community engagement and green lab events, including:

**Holiday Donation Drive:** Every year during the holiday season, EHS collaborates with COs to organize a drive to collect critical items for a charity organization. In the last three years, the EHS and CO team have organized a health and hygiene products drive for ASU students living off campus, a toy drive for Banner Health hospital and Science Engineering Technology Math supplies for elementary Title IX schools. These kind donations have helped each of these organizations accomplish their goals and are greatly appreciated by each charity.

**ASU Night of the Open Door:** In this annual event, ASU opens its doors to the community to come to campus and interact with students, faculty and staff. Attendees can participate in many activities throughout campus. EHS partners with COs each
year to lead hands-on activities related to EHS units. Examples include: synthetic biology activities or hands-on fire extinguisher training using an electronic fire extinguishing system. In addition, our team hosts Title IX schools to come to the event, and helps them navigate through campus during the event. https://cfo.asu.edu/article/20180226-ehs-mesa-public-schools-partner-tempe-campus-asu-open-door-2018

**Green Events**: COs assist EHS to host multiple “green events” throughout the year. Green events encourage event planners and attendees to make “green” choices to increase sustainability. Green choices include: using electronic invitations and agendas, use public transportation to attend the event, use compostable or recyclable materials (cups, plates etc.) for the event and serve locally grown food. COs help promote the event, and encourage others to enact and support the “green practices” showcased during the event.

**Summary**

The CO program started with 56 COs in 2006 and has grown to 165 COs representing over 97 departments in 2018. One of the leading impacts the CO program at ASU has shown, is the ability to increase safety on campus at a minimal cost. Similar programs can be implemented at other institutions to promote a culture of safety at a national level. The CO program has contributed greatly to strengthening the Safety Culture at ASU by treating safety as a high priority and investment. This program is a perfect example of progressive adaptation, in which EHS predicted the growth that ASU would have in the future and adapted to be prepared for this growth. As ASU continues to grow, our program will grow as well to ensure a safe learning and working environment across ASU.