

Patents and Pending Patents:

Women Inventors Working for DHS, both Federal Employees and Contractors

Compiled March 5, 2021

In honor of International Women's Day on March 8, 2021, we wanted to highlight the women inventors working for DHS, both federal employees and contractors. To date, DHS has a total of eight women inventors who hold six patents. In addition, more than 20 inventions by DHS women are currently awaiting approval by the U.S. Patent & Trademark Office (USPTO).

For DHS, the ability to obtain patents for employee inventions provides an important vehicle for recognizing and rewarding the accomplishments of our employee inventors, fostering innovation, and promoting the commercialization of technologies that have been developed using federal resources. It also allows the Department to create defensive publications to help reduce the likelihood for others to obtain patents that dominate inventions first conceived of in DHS, and to show Congress and the public that DHS has a strong presence at the forefront of technologies critical to our missions.

The DHS Science and Technology Directorate (S&T) has had a significant role in promoting the work of all these inventive women. S&T manages the intellectual property program for all of DHS through a delegation from the Secretary, with the support of the intellectual property group of the Office of the General Counsel (OGC IP). Accordingly, S&T and OGC IP are responsible for every patent application filed in the USPTO.

Linda Weigel

DHS Science and Technology

In United States patent 10,214,732, Linda Weigel co-invented a way to identify lytic enzymes that uses a novel peptidoglycan hydrolase to specifically attacks the peptidoglycan cell wall of bacteria and help in the rapid identification of *Bacillus anthracis*.

Cecilia Barela

Transportation Security Administration

In United States patent 10,539,707, Cecilia Barela co-invented a multiple-scanner x-ray system including synchronized X-ray markers. The invention incorporates upper and lower X-ray scanners with X-ray reactive markers positionally synchronized relative to each other.

Cecilia Barela

Transportation Security Administration

In United States patent 10,884,157, Cecilia Barela co-invented a multiple-scanner x-ray system including synchronized X-ray markers. The invention incorporates upper and lower X-ray scanners with X-ray reactive markers positionally synchronized relative to each other.

Gladys Klemic and Cecilia Breheny

DHS Science and Technology

In United States patent 7,781,747, Gladys Klemic and Cecilia Breheny co-invented a very thin dosimeter filter for a wearable radiation dosimeter that uses an optically stimulated luminescent material to help monitor radiation exposure.

Katie Spira

United States Coast Guard

In United States patent 8,770,083, Katie Spira co-invented a quick release adapter that enables maintenance staff to quickly install illumination flares on the underbelly of an aircraft for use in night operations.

Jessica Rozzi-Ochs, Erin Nolan, and Sarah Troch

United States Coast Guard

In United States patent 8,914,962, Jessica Rozzi-Ochs, Erin Nolan, and Sarah Troch co-invented an improved connector ("split key") for a navigation buoy that helps protect Coast Guard maintenance crews from injury when they separate the buoy from its mooring chain.

Michelle Yablonski

DHS Science and Technology

In United States patent application 15/627,941 Michelle Yablonski (formerly Pelletier) co-invented a way of mending cement damaged by an external stress. The invention incorporates microcapsules containing an aqueous mending agent into the cement matrix that, when released by an external stress, mends one or more properties of the cement.

Tammy Beckham

DHS Science and Technology

In United States patent application 15/933,910 Tammy Beckham co-invented a system for helping decision-makers handle outbreaks of infectious animal diseases.

Mary Shalane Regan

United States Coast Guard

In United States patent application 17,183,064 Mary Shalane Regan co-invented a way of mounting a piece of hardware to an object. The invention provides a magnetic connection having a prescribed magnetic breakaway strength between the hardware and the object to allow them to separate at a breakaway strength to avoid entanglement with snag hazard objects.

Lorraine Costillo

DHS Science and Technology

In United States patent application 17/081,638 Lorraine Costillo co-invented a data access for system of systems operational analytics, and what can be a large enterprise spanning, situation responsive access to the enterprise's multiple systems, platforms, and resources. The system of system analytics provides tools

for current evaluation and assessment, for predictive to-be analyses for future planning, and tools for real-time answers to questions about as-is environments.

Savannah Lyle

United States Coast Guard

In United States patent application 17/096,479 Savannah Lyle co-invented a hydrostatic ventilator that provides mechanical ventilation by moving breathable air into and out of lungs via positive pressure. The ventilation system employs components that can be fabricated with minimal electronics or no microcontroller, so as to create a low-cost ventilator which can be easily reproduced at remote locations with limited supplies and equipment.

Kelli Biegger and Chang Ellison

Transportation Security Administration

In United States patent application 17/180,509 Kelli Biegger and Chang Ellison co-invented a way of verifying security checkpoint identity using a mobile identification credential. The invention incorporates a mobile identification credential for selectively releasing user information for obtaining authentication and approval to proceed past a security checkpoint.

Cynthia Cooke

DHS Science and Technology

In United States patent application 62/983,206 Cynthia Cooke co-invented a way to help quantify how the reflectivity of a traveler's skin in a photograph affects the suitability of the picture for use in biometric matching.

Chang Ellison and Kelli Biegger

Transportation Security Administration

In United States patent application 63/050,445 Chang Ellison and Kelli Biegger co-invented a convenient and secure way for merchants, consumers, and other parties to engage in transactions by leveraging a mobile identification credential. The invention enables a consumer to verify his or her identity and optionally other biographic data in person at the merchant's point of sale or electronically from a remote location. The risk of fraud or mistake in the transaction is reduced by the trust that accompanies use of the mobile identification credential.