Bio inspired Plate-based Fog collectors
UTA (14-39)

Technology Need:
Each year, millions of people die from diseases associated with inadequate water supply, unhygienic drinking water and reckless use of potable water. Fog or dew collection is an ancient practice found in many cultures that is used to collect water from suitable conditions. In today’s world, many fog collectors have been developed by mimicking the fog-collection mechanism of desert beetle, dune grasses, cacti, etc. The complex design of the existing fog collectors makes it difficult to scale up and thus collection efficiency is compromised.

Solution/Offering:
UTA researchers have designed a plate-based collector to harvest water from fog and dew based on the feeding mechanism of a shorebird. The fog collector is found to be more efficient than desert animals and plants due to active transport of condensed water to the desired location. As with the conventional structures, the novel design provides a larger condensation surface area for improved collection efficiency. As the invention does not involve any hierarchical wire structures, the fabrication effort is reduced. Thus, it is easy to scale up the device to collect more water by using large plates.

Meet the Inventor
Dr. Luo is a professor in Mechanical and Aerospace engineering. He specializes in design, modeling and fabrication of nano systems and bio microsystems, and solid mechanics. He received a National Science Foundation grant to develop a process called micro punching lithography to create lightweight, low-cost, and flexible polymer-based devices.