



THE PENNINGTON SCHOOL

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PENNINGTON, N.J.---April --- Pennington School junior Haichuan “Jack” Wang was awarded First Place honors in the General Engineering section, Senior Division, at the 2020 Mercer Science and Engineering Fair. His winning entry is the design for an original detector of foreign object debris, a hazard for aircraft on runways. Wang was also selected for the Air Force Research Laboratory Award.

After the coronavirus pandemic forced cancellation of the face-to-face competition, usually held at Rider University, Wang had to submit online a poster with details of his invention; he was then interviewed by eight professors about his invention. His first-place award would have qualified him to advance to the Regeneron International Science and Engineering Fair in May, but that event has been cancelled altogether.

Wang’s project is a track-based detector that can identify and categorize foreign object debris (FOD) on airport runways from different angles automatically. It consists of a base unit, including a movable track; a LIDAR sensor, providing redundancy; and a rotating camera. It is intended to minimize possible FOD incidents, reduce operational costs, and increase operational efficiency.

Wang, who is enrolled in the School’s Applied Science Certificate Program, undertook this independent project in part because of his personal interest in aviation. According to Susan Wirsig, director of the Applied Science program, the School supported Wang’s efforts with use of the makerspace and equipment and helped connect him with industry and academic experts.

A boarding student at Pennington, Wang is from Beijing, China. He earned his pilot license last year and also started the School’s aviation club.

The Pennington School, founded in 1838, is an independent coeducational school for students in grades 6 through 12, in both day and boarding programs. The curriculum is college preparatory, with an emphasis on individual excellence, fostering the development of the whole student through academics, athletics, community service, and the creative and performing arts.

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Photo caption: Haichuan “Jack” Wang (left), who earned his pilot license last year, is pictured with an instructor from Trenton-Mercer Airport’s Infinity Flight School.