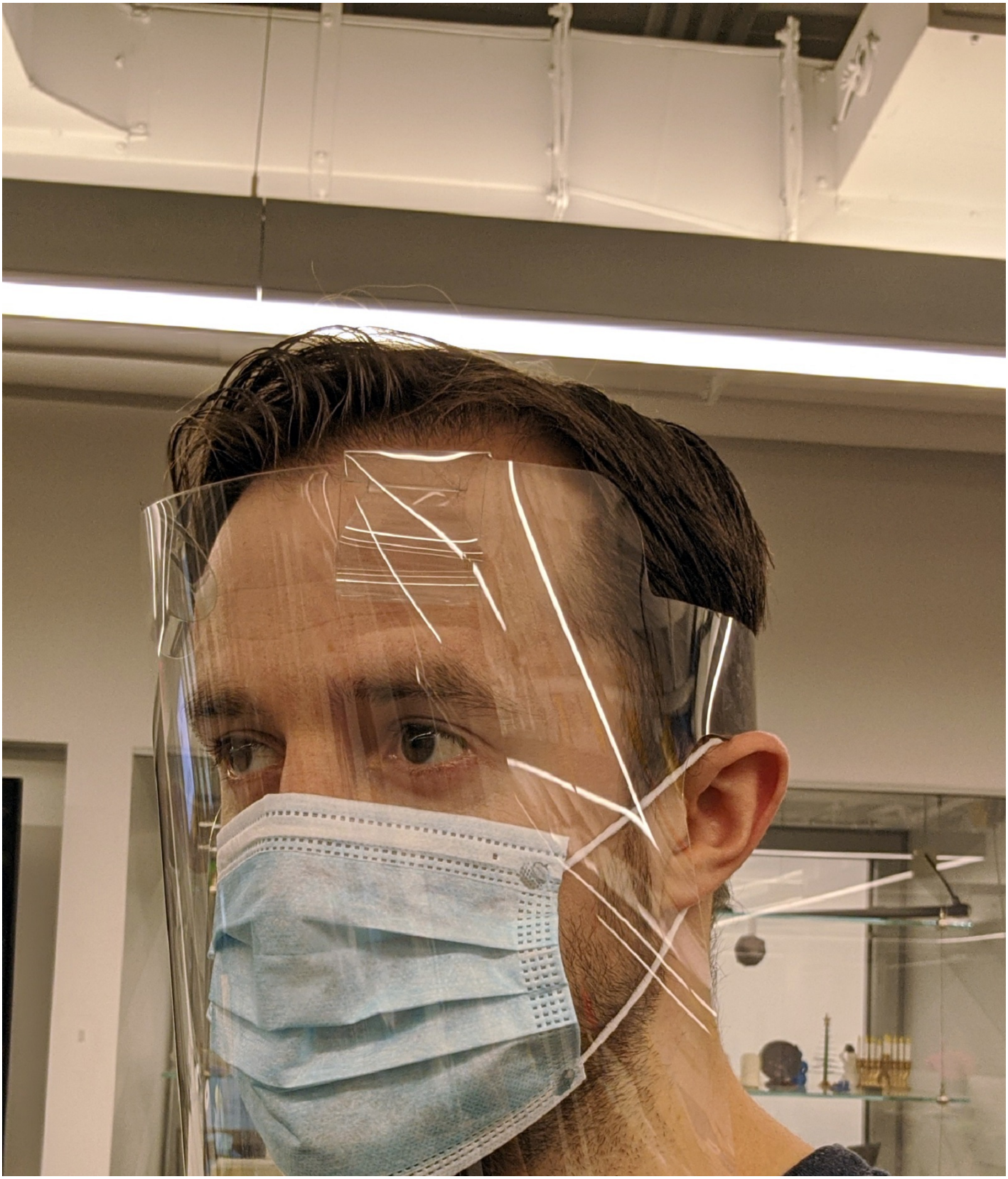
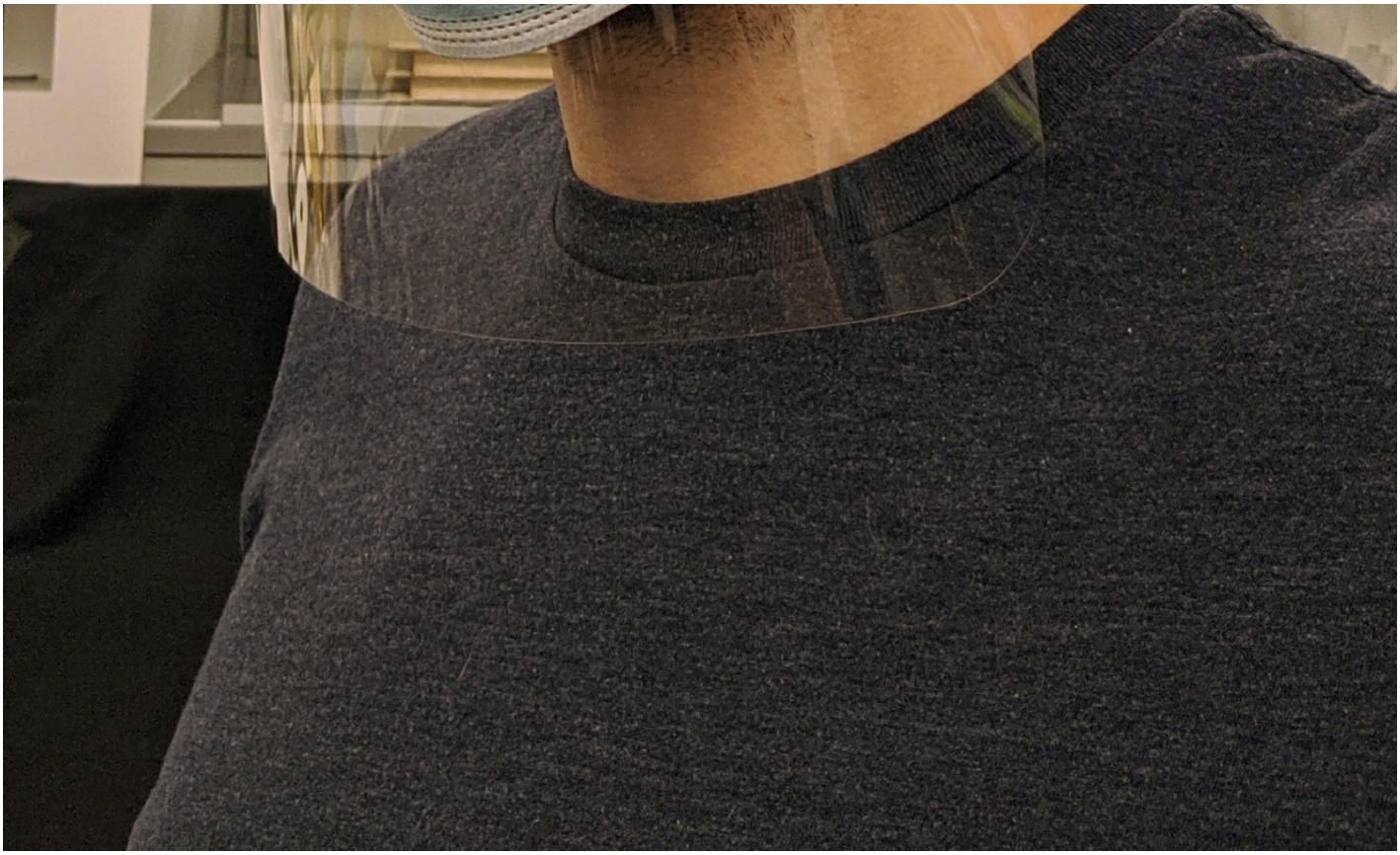
Columbia, Med Center Researchers Team To Produce 1.5M+ Face Shields

Columbia University





In just one week, Columbia Engineers designed, prototyped, scaled up, and manufactured thousands of face shields for NYC-area health care workers. By the end of the week, 1.5 million more shields were on order for New York-Presbyterian and other hospitals.

Columbia Engineering and Medical Center researchers joined forces to help meet the urgent needs of NYC hospital systems. Columbia Engineering teams collaborated by virtual meetings to create designs for face shields that can be cheaply and quickly manufactured at scale, by the tens to hundreds of thousands per day.

Thousands of shields were initially produced by 3D printing and water jet cutting at the school's Makerspace. But when NYC-area hospitals estimated needing 50,000 or more masks per day per hospital, the teams developed designs that can be die cut for less than $1 per shield, made in seconds, and are easily assembled. The one-piece face shields are made by traditional contract manufacturers that can meet the demand.

Within a week, 10,000 shields were delivered to New York-Presbyterian for testing, then scaled up for deliveries of 50,000 per day.

At the same time, other designs have been ordered for use at other regional and national hospitals, as well as in Europe, Asia, and North Africa. They are downloadable for others to use for free.

> *"As a tech transfer office, we are used to working on projects that, even if successful, the societal benefit comes years or more than a decade into the future," said Orin Herskowitz, Executive Director of Columbia Technology Ventures. "To be able to see impact in days not decades was incredibly gratifying for our whole team, as we worked with the researchers on the free click licensing contracts, negotiated with contract manufacturers, produced marketing materials, and*

> *coordinated on shipping and delivery. These aren't traditional roles for tech transfer offices, but desperate times require new ways of thinking and doing."*

"It has been remarkable to see our engineers step up to rapidly design and prototype a face shield that can be easily mass produced and meets this important PPE need. Universities and hospitals are working collaboratively behind the scenes on a number of critical issues to address this dynamic situation," said Columbia Engineering Dean Mary C. Boyce. "If, back in early March, anyone had suggested that we would be designing and mass producing a product in just a week—or even at all—we would have said a clear 'no.' But desperate times call for extraordinary measures."

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