

New approach to extend shelf life for N95 mask

June 24 2020, by Chris Adam



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A Purdue University team has come up with an approach to extend the shelf life for an N95 mask, which is one of the pieces of personal protective equipment being used by health care workers during the COVID-19 pandemic.

The Purdue innovators developed a technique that focuses on the elastic band that attaches to the front of the mask.

"The shelf life for an N95 mask is primarily affected by the elastic band holding the mask together, since the elastic disintegrates after a certain period of time," said Hersh Rai, a [graduate student](#) at Purdue in computer and information technology. "We designed a way to create the [masks](#) using the same filter material on the front, but with different materials for the band and with novel attachment locations and methods."

The Purdue team's approach, which the innovators worked to patent through the Purdue Research Foundation Office of Technology Commercialization, is designed to extend the [shelf life](#) and the individual fit of the mask.

"We took our expertise in design and applied it to help fix a problem affecting the frontline workers during this pandemic," said Nicholas Toan-Nang Vu, a graduate student at Purdue in [mechanical engineering](#).

The team created several design options that work with elastic or different materials that can be attached to the front of the mask in different ways to allow the band materials to be swapped out so the mask can last longer. The designs provide more attachment points for the band materials, which allow for a more secure fit without contaminating the front material.

Provided by Purdue University

Citation: New approach to extend shelf life for N95 mask (2020, June 24) retrieved 19 April 2024 from <https://medicalxpress.com/news/2020-06-approach-shelf-life-n95-mask.html>

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