

# Novel innovation could allow bullets to disintegrate after designated distance, help prevent collateral damage

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during firing in conjunction with air drag and an internal heating element. The heat conducts through the entire [bullet](#) part, melts the low temperature binder material, and encounters drag forces, which causes disintegration.

This technology combines the stopping power of standard bullets, the shrapnel-eliminating benefits of frangible bullets, and a limitation of range to decrease potential bystander injury or death.

The Purdue Research Foundation's Office of Technology Commercialization has patented the technology, and it is available for license.

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Provided by Purdue University

Stray-bullet shootings are an often-overlooked consequence of gunfire that can cause severe injury or death to bystanders, or collateral damage victims in the military. A novel technology being developed at Purdue University could help prevent these incidents.

A research group led by Ernesto Marinero, a professor of materials engineering and electrical and computer engineering has developed novel materials and fabrication that could allow a bullet to become non-lethal and disintegrate after a designated distance. The [technology](#) was built out of a need for a safer bullet that will significantly reduce [collateral damage](#) and [injury](#) in law enforcement, military and civilian sectors.

Conventional bullets retain a significant portion of their energy after traveling hundreds or even thousands of meters. The Purdue-developed innovation enables the bullet to disintegrate over a predetermined period due to the heat generated

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