

Vehicle crash research helps to uncover truth in Schirmer murder case

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When former Pennsylvania pastor Arthur Schirmer was convicted in January of murder in the 2008 death of his second wife, a Penn State vehicle crash expert's analysis had helped sort out the facts of the story.

Schirmer, a former pastor from Reeders, in northeast Pennsylvania, had claimed that he was driving his wife to the [emergency room](#) for treatment of jaw pain when he swerved to avoid a deer and hit a guide rail. Prosecutors had argued that Schirmer struck Betty Schirmer on the head, loaded her into their PT Cruiser and staged a low-speed accident.

More than a year after the case was closed, police received a tip that the accident warranted a closer look. Authorities contacted Zoltan Rado, director of the Vehicle Systems and Safety Program at the Thomas D. Larson Pennsylvania Transportation Institute at Penn State. While all they had to offer were photographs of the crash, this was just the starting point Rado needed for the [forensic research](#) task ahead.

"I've seen hundreds of crashes at 50 to 55 miles per hour," said Rado. The details of this crash, he said, just did not add up. Using a sophisticated simulation developed by research colleague Omar Tarek, Rado conducted simulations at 50, 40, 30 miles per hour, and slower. "The findings indicated that the speed of Schirmer's vehicle was in the neighborhood of 15 miles per hour, and definitely no more than 25."

Thus, Rado concluded that the vehicle had been traveling significantly more slowly before the accident than Schirmer had alleged. This new

evidence helped disprove that Betty Schirmer suffered her injuries as a result of the impact.

As an educator, Rado was also able to bring the crash parameters, without revealing the identity of the case, to the students of his engineering course in [materials science](#).

"I had 75 students from civil, mechanical, architectural and [electrical engineering](#) each run simulations using the same [material properties](#) and dynamics. Their task was to make a level one, base level calculation of the energy dissipation." And, said Rado, their findings were all close to the results of the high-fidelity simulation.

Rado later arranged for the students to witness an actual crash test event at the Larson Institute's test track. "These live crash events help educate our students, while also providing a life-long reminder of the importance of driving safely," said Rado.

Rado currently involves several students in the design and conduct of a series of vehicle and barrier [crash](#) tests within a multi-million dollar research project.

Provided by Pennsylvania State University

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