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**UMaine doctoral student wins scholarship to study ‘under-the-hood’ plastics**

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By [Nick McCrea](http://bangordailynews.com/author/nmccrea/), BDN Staff

Posted Sept. 17, 2012, at 2:21 p.m.



Alper Kiziltas

ORONO, Maine — A Turkish student pursuing a doctoral degree at the University of Maine has received a scholarship to study new methods of using natural materials to make automotive plastics.

Alper Kiziltas plans to explore the use of natural fillers, such as wood flour, hemp and flax, as replacements for materials such as glass and carbon fibers in thermoplastics.

Kiziltas said the commonly held belief is that natural materials could be used only in thermoplastics with a low melting point, but his early research has shown otherwise.

If Kiziltas is able to prove that thermoplastics with natural fillers can stand up to the stresses of higher heats without degrading, they could replace some materials used in “under-the-hood applications,” he said.

He said natural fillers are appealing materials because they are low-cost, low-density, strong, renewable, recyclable, biodegradable and insulate sound and heat well.

Kiziltas is conducting his research at UMaine’s Advanced Structures and Composites Center.

Kiziltas presented his plans to study the potential use of natural fillers to the Society of Plastics Engineers at September’s annual Automotive Composites Conference and Exhibition. In August, he received a $2,000 scholarship from the Society of Plastics Engineers’ Automotive and Composites Division to help him to continue that work.

Kiziltas has an undergraduate degree in forest products engineering from Karadeniz Technical University in Trabzon, Turkey, and received a scholarship from the Turkish government to attend graduate school in Turkey.

In 2006, Turkey’s Ministry of National Education awarded Kiziltas a full scholarship to pursue graduate studies in wood science and technology in the United States. He chose the University of Maine and earned a master’s degree in August 2009.

Kitzlaz now is enrolled in the forest resources doctorate program and conducts his research at the Advanced Structures and Composites Center.

Kiziltas will report back to the Society of Plastics Engineers and present the results of his research in September 2013.