David Wagner
Technical Leader Lightweight Vehicle Design
Ford

In advance of the 5th Global Automotive Lightweight Materials Detroit (August 23-24-25), we spoke to David Wagner, Technical Leader Lightweight Vehicle Design at Ford, who is currently leading a research and advanced engineering group investigating and implementing lightweight structural systems for future vehicles.

David, could you talk a bit about your background and your current role at Ford?

I'm currently a Technical Leader in Materials & Manufacturing Research & Advanced Engineering at Ford Motor Company, where I help shepherd cutting edge technologies developed by Ford researchers to the company's products. I also conduct my own research in the areas of lightweight vehicle structures. I've been at Ford for twenty-five years in research and advanced engineering, working on lightweight vehicle design, durability, noise, vibration and harshness (NVH), safety, materials and CAE modeling. Recently my team and I helped develop the lightweight frame and aluminum cab and cargo box for the 2015 F-150. I’ve researched future uses of magnesium and carbon fiber for lightweight vehicle structures.

I hold a Ph.D. from Stanford University in Mechanical Engineering 1990, and Civil Engineering degrees (M.S.C.E ‘82 and B.S.C.E. ’80) from the University of Notre Dame. I have over 20 patents and over 50 publications.

What lightweight materials/technologies do you see taking center stage and bringing the most value to the industry in the next 3-5 years?

For body and chassis structures, I see continued increases in the use of high strength steel and aluminum. I see aluminum use increasing faster than its historical average. I also see all the forms of aluminum, sheet, extrusions and castings growing in both body and chassis applications. The exciting work on carbon fiber will begin to yield results in mainstream, high volume products in approximately five years.

David, it's your second year supporting GALM US. What presentations/discussions are you looking forward to this year? What would you like to take away from your participation?

I am excited to participate in the discussion of lightweight opportunities across all the vehicle systems.

The talks on composite processing and design, plus the session on joining and multi material applications will be very useful in my research. I expect that I will take away new insights into composite materials to further accelerate our lightweight vehicle development. This will be a great conference.

And finally, what is your favorite car?

My favorite car is the Ford GT that recently won the 24 hours of Le Mans. It is beautiful and exciting. The favorite car I have ever owned is the 2015 F-150. It is a great truck with best in class towing, cargo capacity and fuel economy. It is on track to remain the best-selling pickup in America for the 40th consecutive year and the best-selling vehicle in the US for the 35th year in a row.

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