What is industry in the Lowcountry doing to combat plastics pollution? I'm not familiar with industry initiatives to combat plastics pollution.

What research is industry doing to change the type of plastics being used? Where do we start? Again, I'm not familiar with this topic.

What is the chemical reason for faster degradation in salt marshes? Plastic degradation is driven primarily by sunlight, more specifically UV light. Because salt marshes are intertidal, plastic is exposed to lots of sunlight, especially at low tide. Since UV light is quickly attenuated in seawater, plastic litter in the ocean is exposed to much less. This results in their slow degradation.

So, what do we do about TWPs (tire wear particles)? Unfortunately, we don't know that much. Maybe a better question is "what don't we know about TWP?" We don't have a good handle on where they go when they leave the road surface, what levels are biota and humans exposed to, and what are their effects following exposure. I believe there will be a lot more research on these topics in the next 5 to 10 years, and we'll start to answer some of these fundamental questions.

What is more disruptive to the environment, the original litter or the broken down microplastics? The answer is complicated, and it depends on your perspective. If you are a sea turtle, bird, or large fish, the original litter item causes the most disruption as these items can be swallowed and block the digestive system. If you are a zooplankton or invertebrate, microplastics are probably a bigger threat as they can be swallowed blocking their digestive system. Scientists debate whether the original litter item or microplastics are the bigger threat to the environment. But, the bottom line is both cause serious problems.

What are the volunteer opportunities with the water testing and research that's being conducted via Sea Grant? I'm not familiar with this topic.

How does ocean depth affect the formation of microplastic particles? As mentioned above, plastic degradation is dependent upon exposure to sunlight, especially UV light. The deeper you go in the ocean, the less UV light there is.