Abstract:

Pratt & Whitney is committed to building an unrivaled customer experience by understanding expectations, making commitments we can fulfill, and allocating resources such that we deliver what we promise, which is as always, dependable engines. While the maintenance of a robust aftermarket organization, supported by Dallas Repair Operations (DARO) here in Arlington TX, can save customers up to 10x versus replacement of hot section parts, development of robust processes is still the tip of the spear in delivering on customer expectations. The demand for higher efficiency requires ever higher turbine inlet temperatures. While the current state of the art allows for turbine operation above the melting temperature of most super alloys, environmental factors cause dependability to vary wildly from customer to customer. This presentation will discuss the degradation of ceramic Thermal Barrier Coatings (TBC)s by sand, and potential materials solutions needed for homogenizing and enhancing engine dependability across the customer base.