



***Breaking the Sound Barrier:
Achieving Quiet Supersonic Flight Over Land***

Mr. Peter Coen

October 4, 2022
7:30 p.m.

Lecture: <https://go.nasa.gov>

Co-sponsored by:
NASA Langley Research Center
Virginia Air & Space Center
City of Hampton, Economic Development
Virginia AeroSpace Business Association

www.nasa.gov • www.vasc.org • www.hampton.gov • www.vasba.aero • <http://colloqsigma.larc.nasa.gov>

Seventy-five years ago this month, Charles “Chuck” Yeager and the Bell X-1 aircraft “broke” the fictitious sound barrier by flying faster than the speed of sound. The rapid development of supersonic aircraft uncovered a real barrier to commercial supersonic flight: the unacceptably annoying sonic booms which led to restrictions on supersonic flight over land and relegated the Concorde to technological success, but only flying supersonic over water. After decades of research leadership, NASA has developed technology that reduces the sonic boom to a soft “thump”. Now NASA’s Quesst Mission is poised to demonstrate this technology with the X-59: a purpose built supersonic experimental aircraft. Quesst will use the X-59 to collect data defining community response to this thump sound. This data will help replace current prohibitions on supersonic flight over land with a new international certification standard based on acceptable sound levels. The presentation will describe the history, technology, and research plans behind the Quesst Mission.

Peter Coen is Mission Integration Manager for NASA’s Quesst Mission. He is responsible for ensuring that the X-59 aircraft development, in-flight acoustic validation and community test elements of the Mission stay on track toward delivering on NASA’s Critical Commitment to provide quiet supersonic overflight response data to the FAA and the International Civil Aviation Organization.

Peter has worked at NASA for over 39 years. During his career he has studied and led technology integration in practical designs for a variety of aircraft and has made contributions to all of NASA’s supersonics related programs in the past 30 years.

Peter is a licensed private pilot who has amassed nearly 30 seconds of supersonic flight time.

To receive monthly e-mail reminders about upcoming Sigma Lectures, send a blank e-mail to: sigma-series-subscribe@lists.nasa.gov