



MARVIN B. DOW

STITCHED COMPOSITES DEVELOPMENT CENTER

Marvin B. Dow

Distinguished Research Associate with NASA Langley,
spearheaded the development of Stitched Composites

In 1997, The Boeing Company named its new Stitched Composite Development Center after NASA Langley researcher Marvin B. Dow, in honor of his contributions in the field of stitched composites research, where he spent the last 25 years of his 40-year NACA/NASA career directing the advancement of composite materials for commercial aircraft applications. His research with pre-impregnated composite materials began in the 1970s and led to the flight testing of graphite/epoxy rudders on the McDonnell Douglas DC-10 commercial transport aircraft.

During the next 10 years as a key technical leader in the NASA Aircraft Energy Efficiency (ACEE) Program, he was instrumental in developing composites technology for application to structures on the DC-10, B-737 and C-130 airplanes. In the late 1980s, Dow conducted pioneering research on innovative through thickness reinforcement concepts that would lead to improved damage tolerance and reduced fabrication costs when compared to state-of-the-art composite approaches. This research focused on dry textile products reinforced by weaving, braiding, knitting, and stitching that would later be infused with resin. In 1989, Dow became the technical manager of the NASA Advanced Composite Technology (ACT) Wing Program where he worked with Boeing (then McDonnell Douglas) to develop an advanced stitching machine (ASM) and the stitched resin film infusion process. His overarching vision for the large-scale automated stitching of carbon fiber materials was finally realized with the success of the ASM, only made possible by Dow's long-term dedication and commitment.

The Center's mission now is to combine the rich legacy established by Dr. August Raset of Mississippi State University, with Marvin's original vision to conduct stitched composites research that will revolutionize the way future aircraft are designed, built, and flown.