NASA SBIR/STTR Technologies

Carbon Microfiber Airframe Structures Based on an Insect Cuticle Model

PI: Dr. Margaret Roylance, Foster-Miller, Waltham, MA

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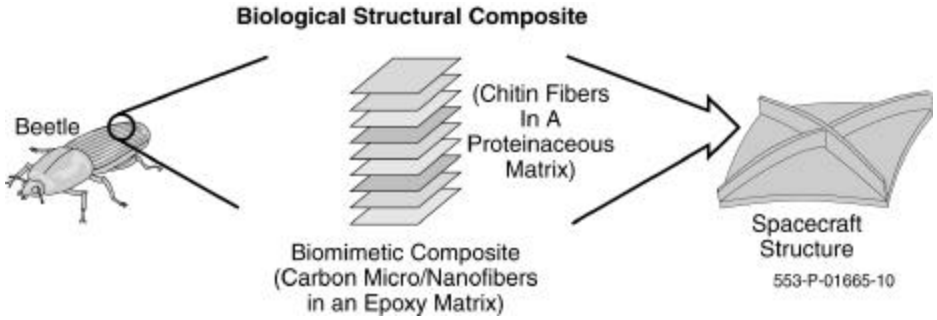
Description and Objectives

This work is aimed at modeling, manufacturing and testing a novel composite structure simulating the unique cuticle structure of the . This fiber architecture will have significant inherent advantages when applied to aircraft structures



Approach

A biomimetic microlaminar produced from dispersed and oriented

on the insect cuticle fiber architecture

Subcontractors/Partners

Schedule and Deliverables

- 6 month effort including final report
- Materials properties testing

NASA & Commercial Applications

- lightweight motor cases & propellant tanks
- stable, lightweight optical mounts
- rail and subway car components
- panels for high fuel efficiency automobiles