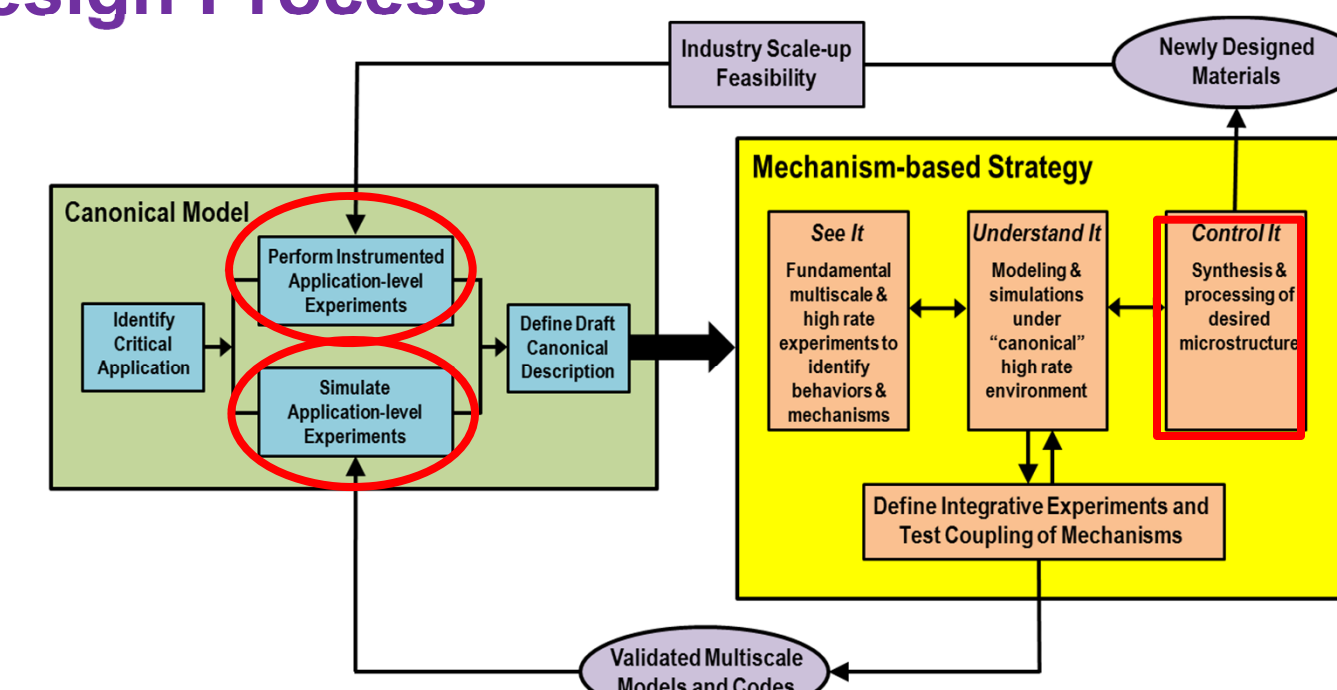


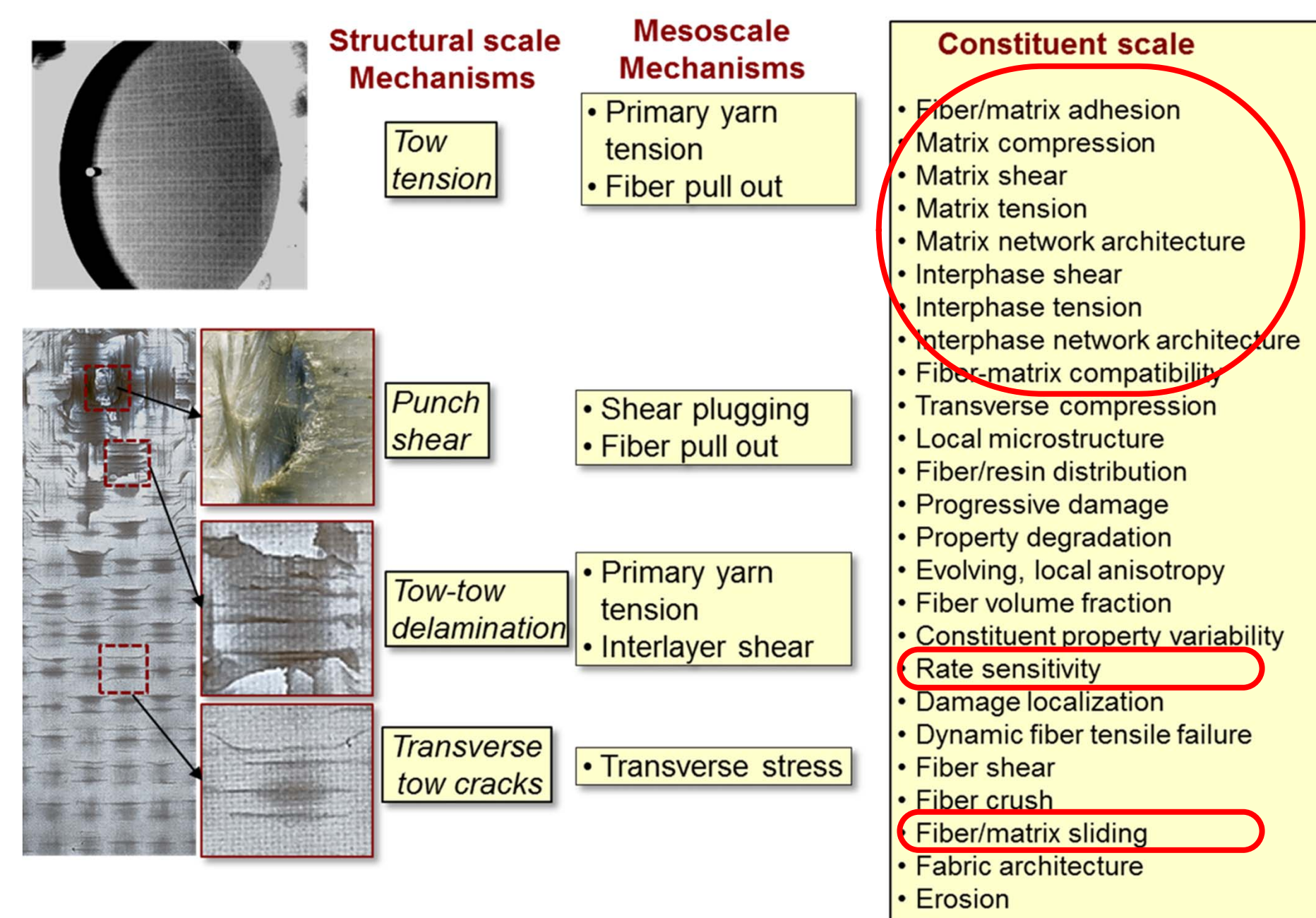
Sandeep Tamrakar (UDel), Subramani Sockalingam (USC), Raja Ganesh (UDel), Sanjib Chowdhury (UDel), B.Z. Haque (UDel), John W. Gillespie Jr. (UDel), Weinong Chen (Purdue), Giuseppe Palmese (Drexel)

How We Fit

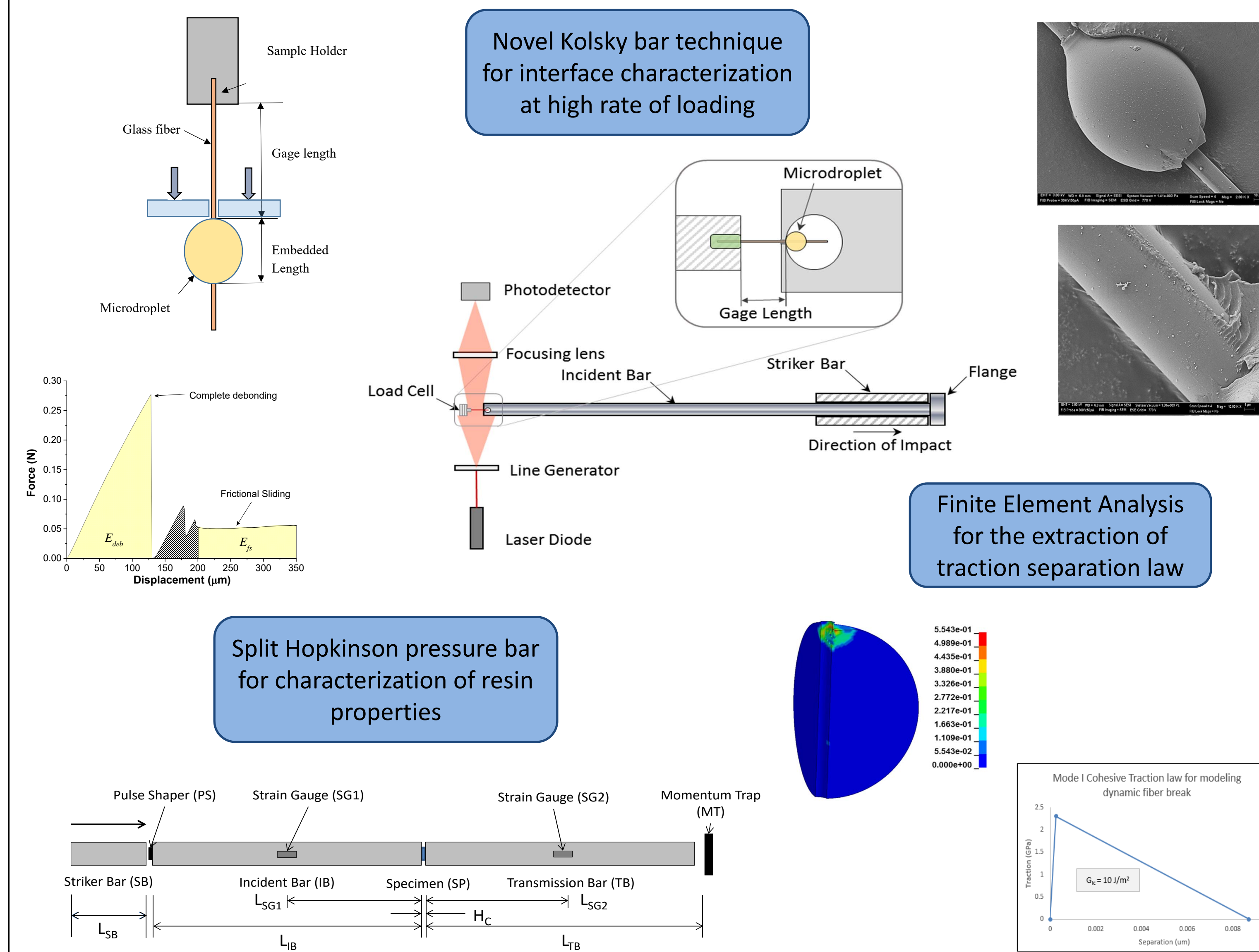
Materials-by-Design Process



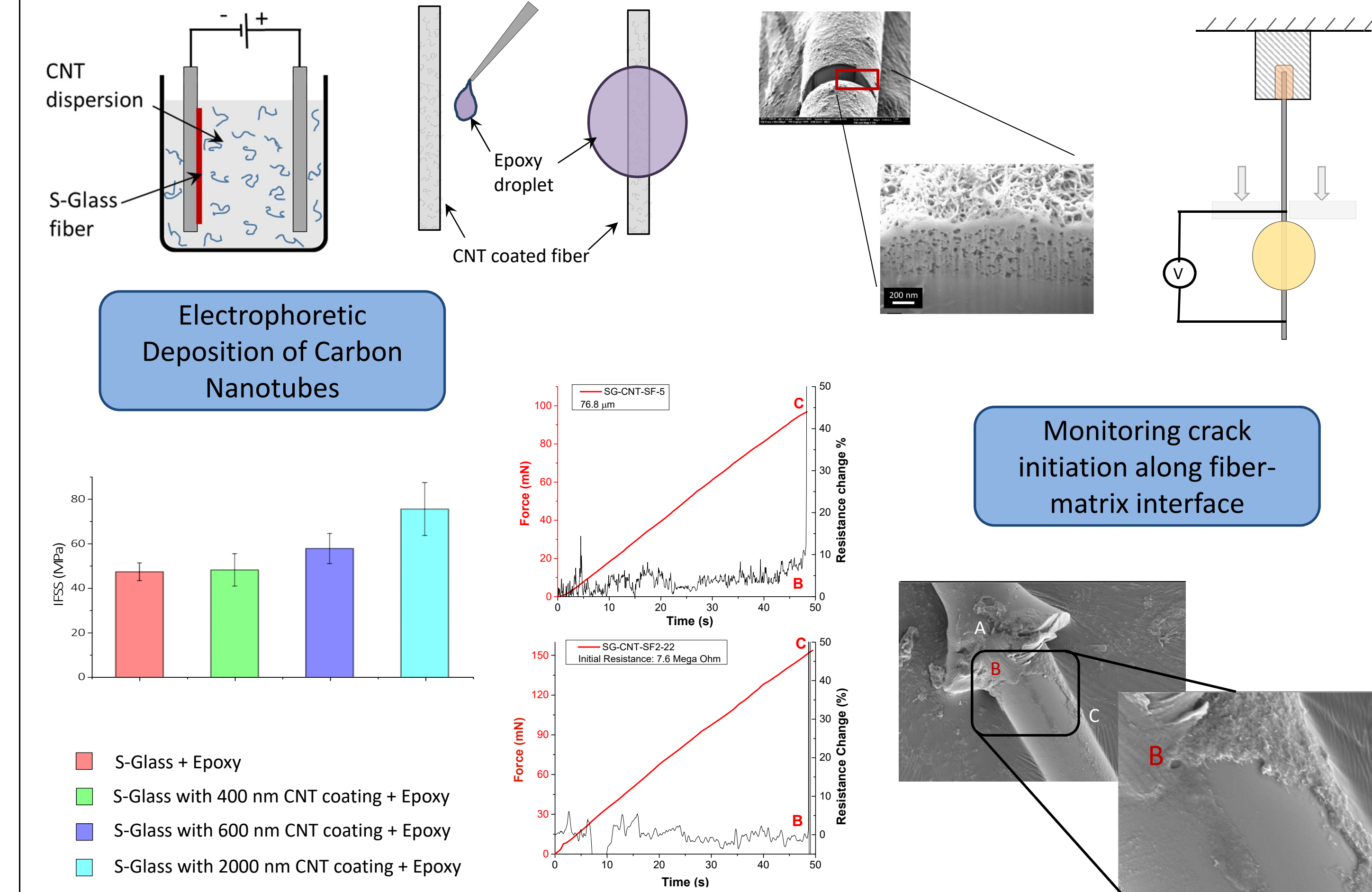
Mechanism-based Approach



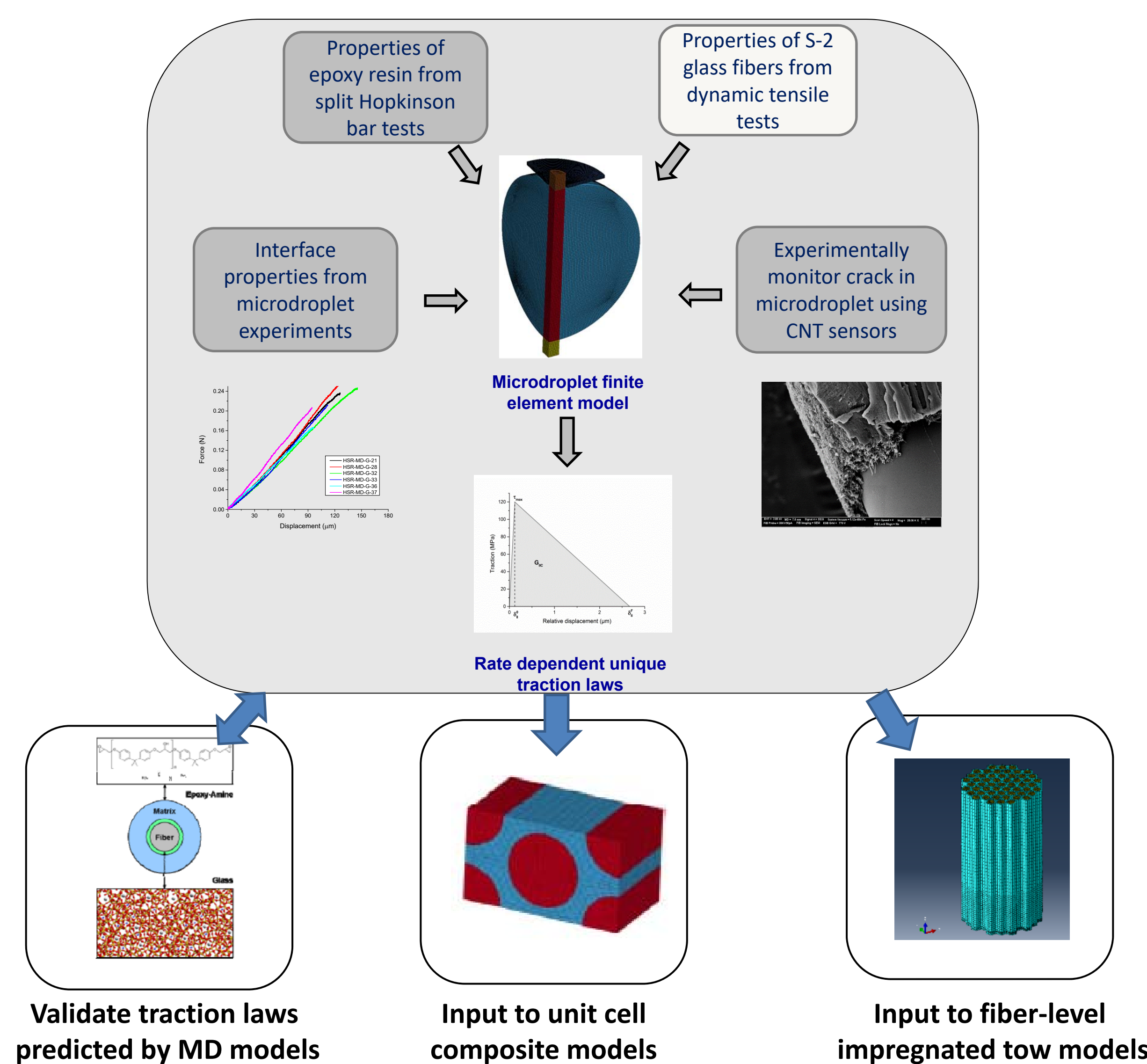
Technical Approach



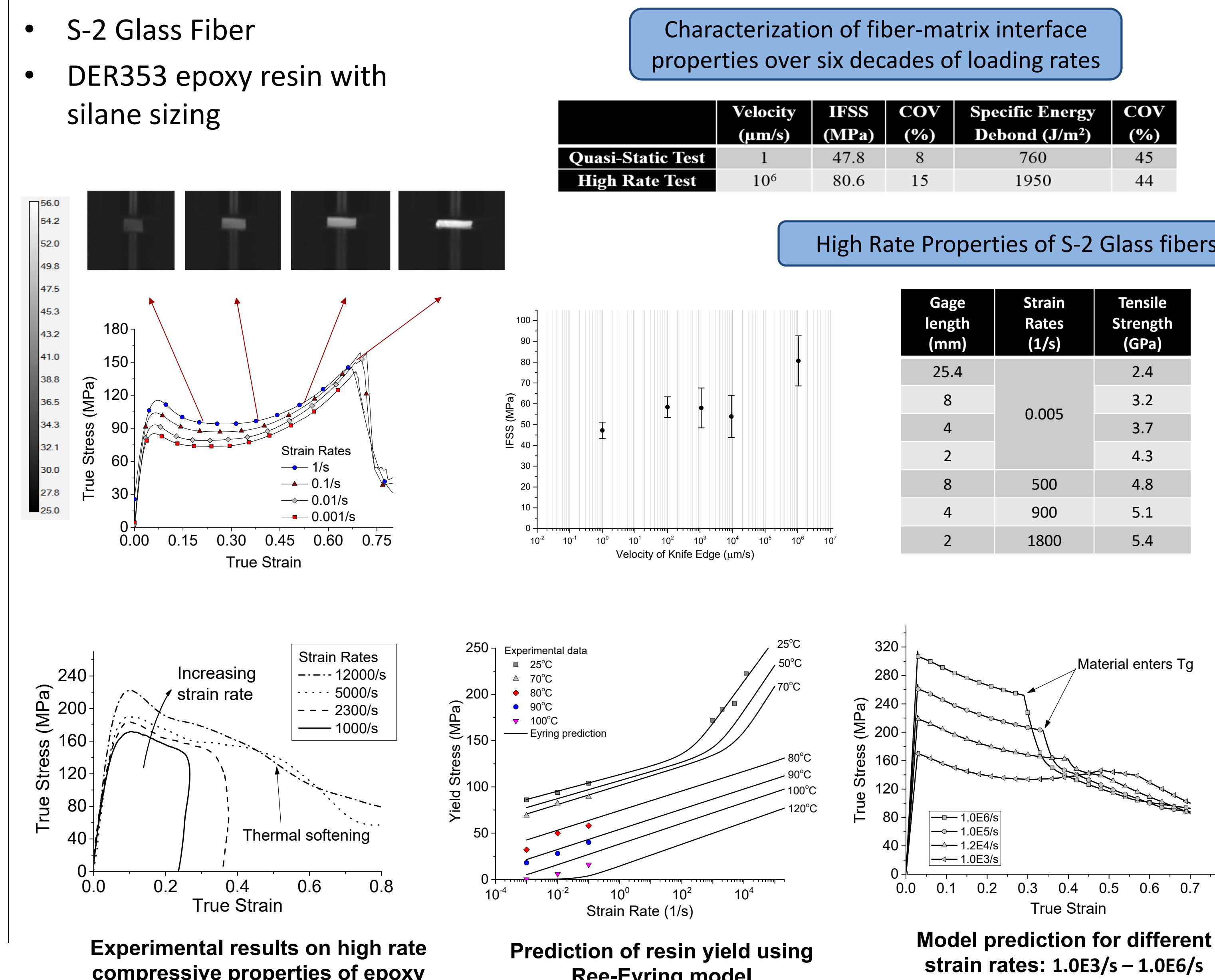
Key Accomplishments



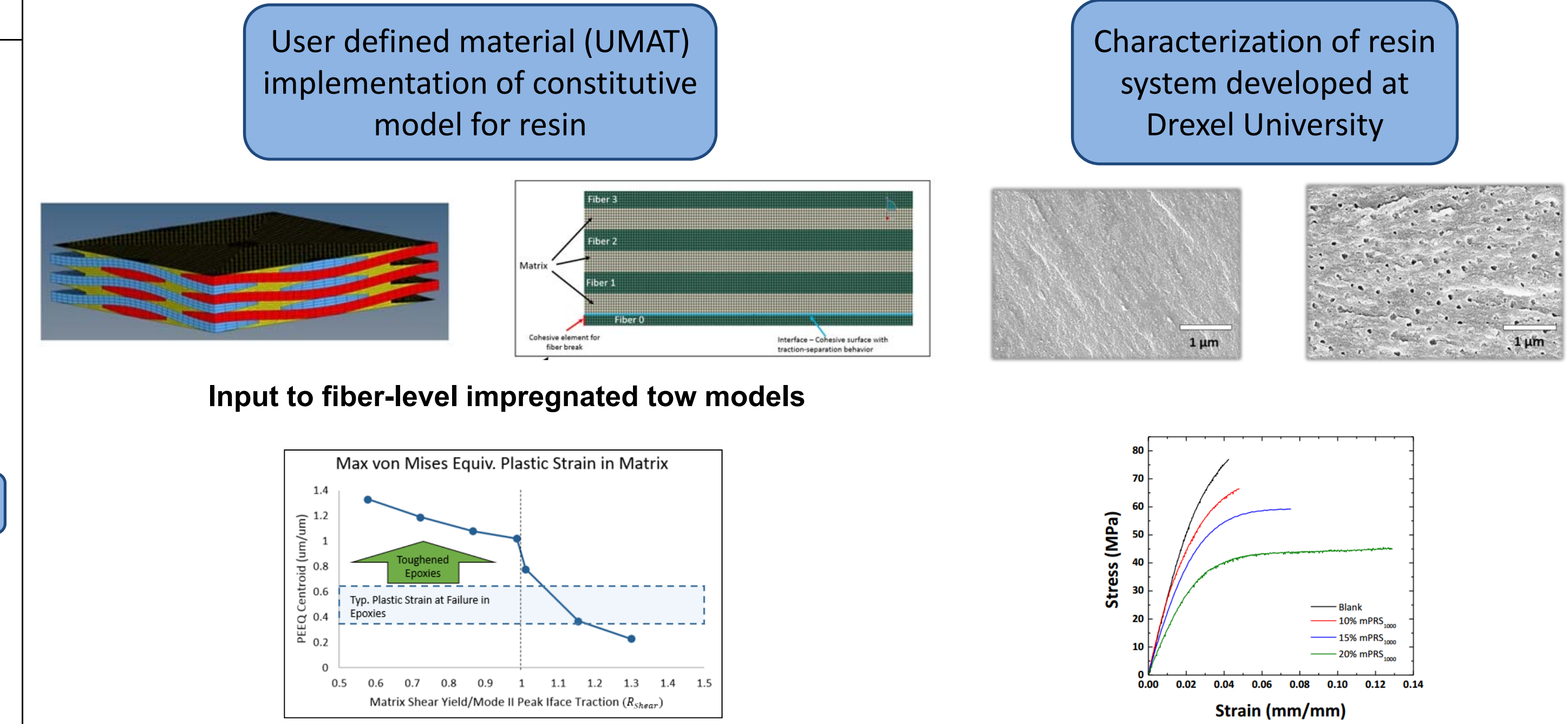
Key Goals



Major Results



Future Directions in 2018



Impact

- Improved understanding of energy absorbing mechanisms will have broad applications in composites
- Critical element of materials-by-design framework for composite materials under high rate loading
- Will lead to improved protection materials while decreasing the cost and time for development of new lightweight energy absorbing composite materials