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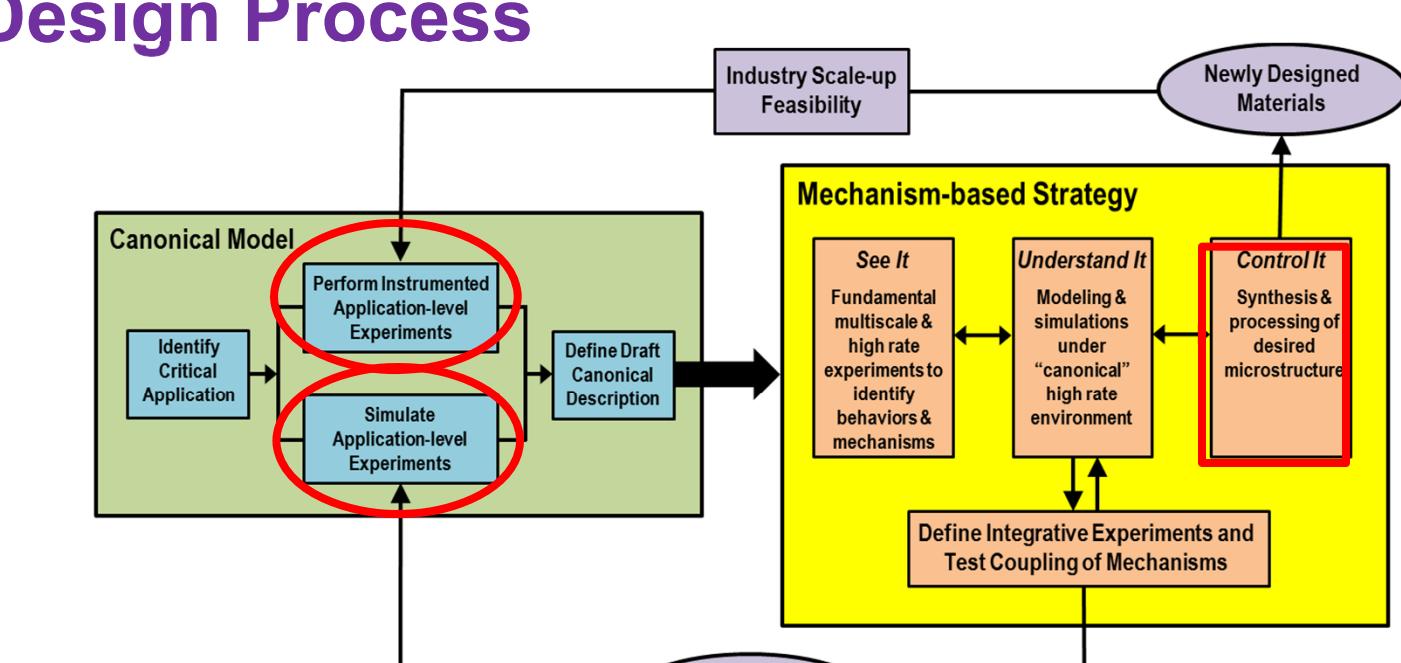
ARL

Enterprise for Multi-scale
Research of Materials

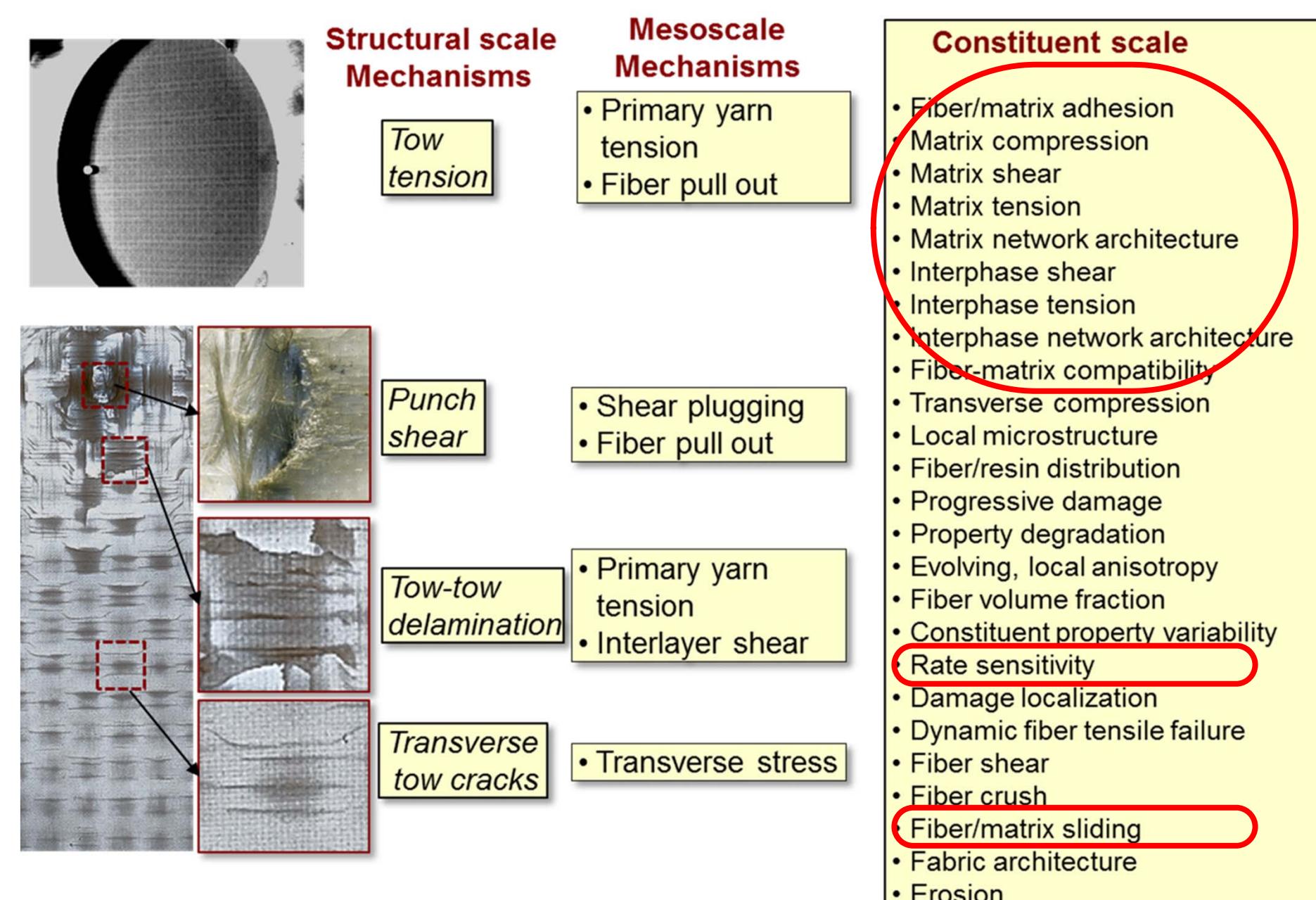
Sandeep Tamrakar (UDel), Subramani Sockalingam (USC), Raja Ganesh (UDel), Sanjib Chowdhury (UDel), B.Z. Haque (UDel), John W. Gillespie Jr. (UDel), Weinong Chen (Purdue), Giuseppe Palmese(Drexel)

How We Fit

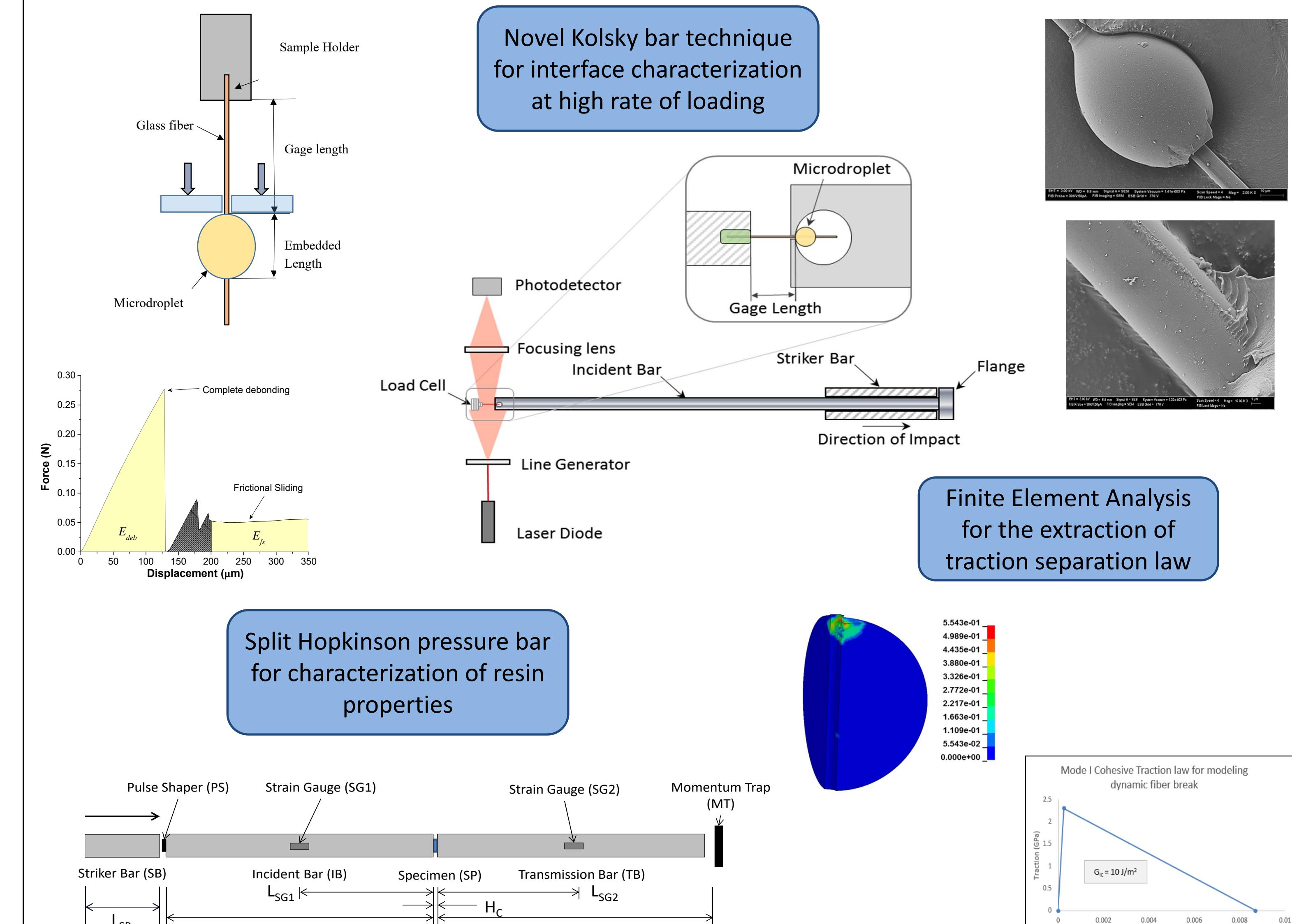
Materials-by-Design Process



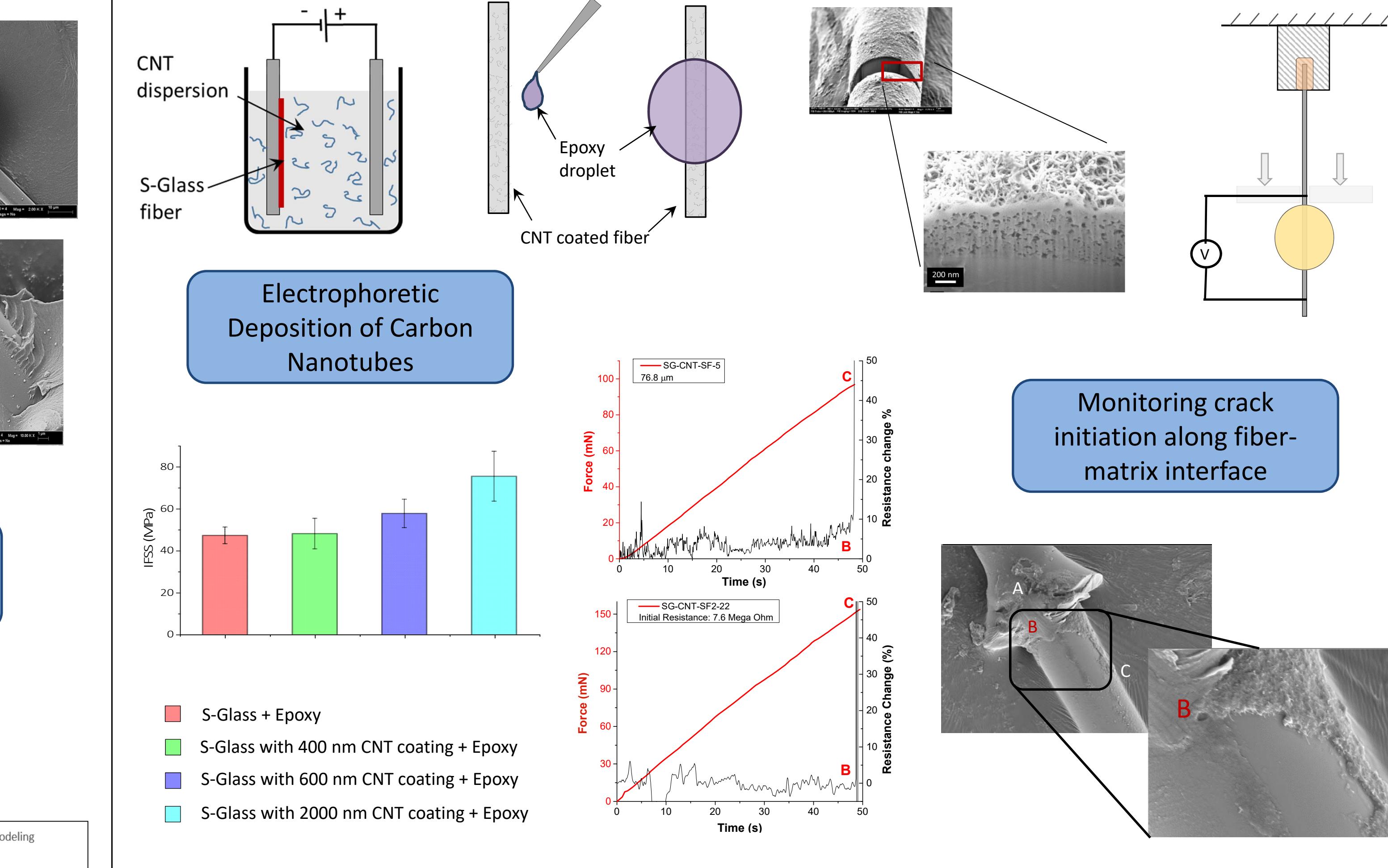
Mechanism-based Approach



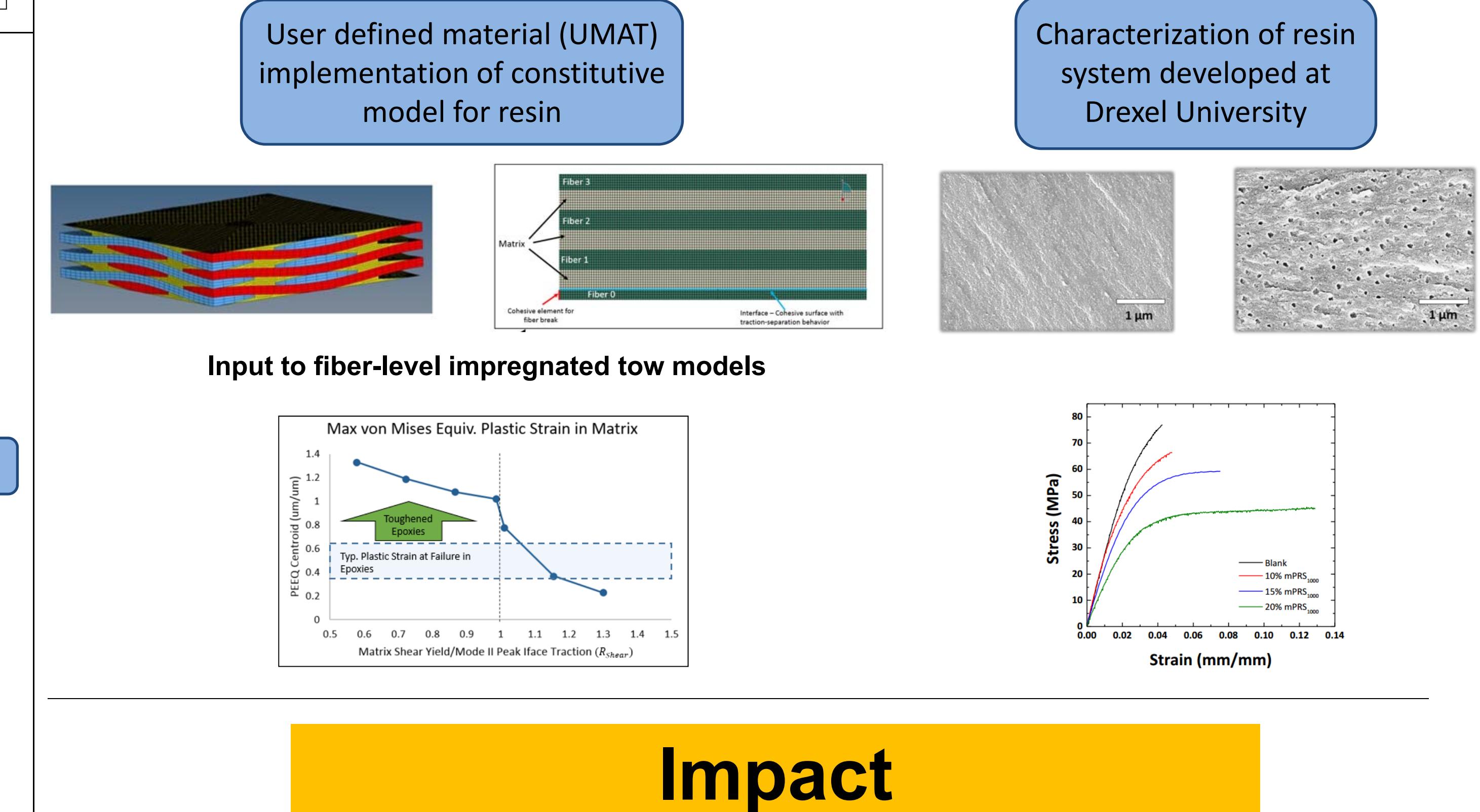
Technical Approach



Key Accomplishments



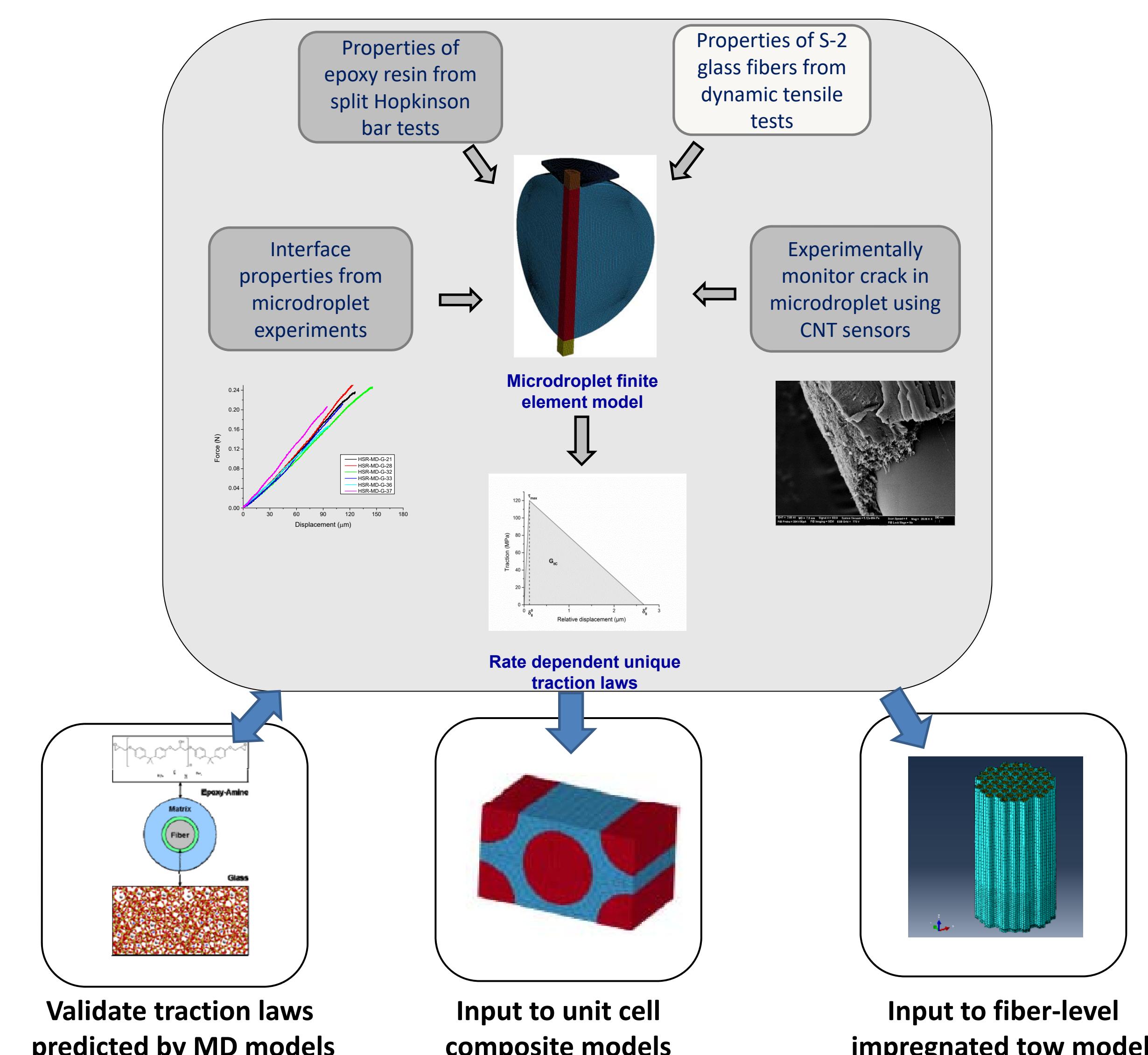
Future Directions in 2018



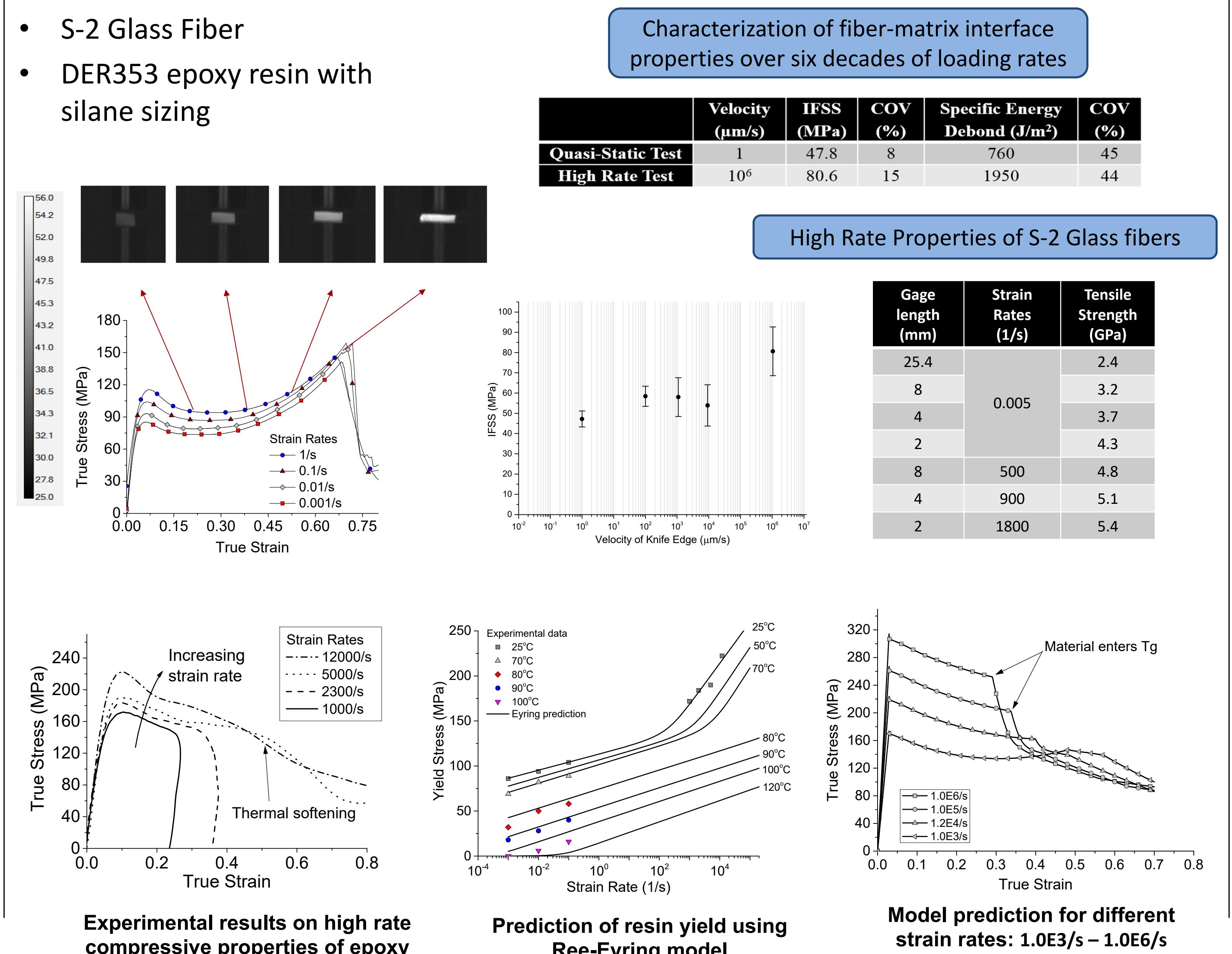
Impact

- 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

Key Goals



Major Results



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MATERIALS IN EXTREME
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