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Bio

BIO
Professor Christensen's research is concerned with the mechanics of materials. The behavior of polymers and polymeric fiber composites are areas of specialization. Of particular interest is the field of micro-mechanics that focuses on materials' functionality at intermediate-length scales between atomic and the usual macro scale. Applicable techniques involve the methods of homogenization for all types of composite materials. The intended outcomes of his research are useful means of characterizing the yielding, damage accumulation, and failure behavior of modern materials. A related website has been developed to provide critical evaluations for the mathematical failure criteria used with the various classes of engineering materials. Most of these materials types are employed in aerospace structures and products.

Academic Appointments

• Emeritus Faculty, Acad Council, Aeronautics and Astronautics

Honors and Awards

• Nadai Medal, American Society of Mechanical Engineers (2006)

Boards, Advisory Committees, Professional Organizations

• member, National Academy of Engineering (2013 - present)

Professional Education

• DEng, Yale (1961)

Links


Publications

Publications

• An evaluation of the failure modes transition and the Christensen ductile/brittle failure theory using molecular dynamics PROCEEDINGS OF THE ROYAL SOCIETY A-MATHEMATICAL PHYSICAL AND ENGINEERING SCIENCES
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• A comparative evaluation of three isotropic, two property failure theories Symposium on Current Trends in Mechanics
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