Profile

Lei Xu

1987.7.8

Doctor of Philosophy

Nationality: P.R. China

Language: Chinese, English

Major: Structural & composite design

xuleialfred@gmail.com

xuleialfred

Lei Xu

Education

2009 - 2014

Doctor of Philosophy,
Mechanical Engineering,
Hanyang University
(HYU), South Korea

2005 - 2009

Bachelor of Science,
Mechanical Engineering,
Harbin Institute of Technology
(HIT), China

Skills

CAE Tools

ABAQUS

ANSYS

CAD Tools

SolidWorks, AutoCAD

Programming

Java, C#, Matlab

Fortran, VBA

Python

Research topics

Various types of composites: Laminate composites · Braided textile composites · Woven fabric composites · Short fiber composites

Various types of analyses: Micromechanics · Multi-scale analysis · FEM analysis with user subroutines · Failure and damage prediction · Fatigue life prediction · Structural design and modeling

Awards

2009 - 2014 · PhD candidate scholarship supported by China Scholarship Council (CSC)

2009 - 2013 · Excellent student scholarship supported by The Ministry of Education of Korea (BK21)

2006 · The third-level scholarship for excellent students in Harbin Institute of Technology (HIT)

Publications

2014 · Ultimate strength prediction of braided textile composites using a multi-scale approach (**Journal**)
***Lei Xu**, Cheng Zhu Jin and Sung Kyu Ha, Journal of Composite Materials, 2014*

2012 · Prediction of material properties of biaxial and triaxial braided textile composites (**Journal**)
***Lei Xu**, Seong Jong Kim, Cheng-Huat Ong and Sung Kyu Ha, Journal of Composite Materials, 2012*

2014 · Effect of shallow-angled skins on the structural performance of the large-scale wind turbine blade (**Journal**)
*Sung Kyu Ha, Khazar Hayat, and **Lei Xu**, Renewable Energy, 2014*

2012 · Prediction of three-dimensional composite laminate response using micromechanics of failure (**Journal**)
*Yuanchen Huang, **Lei Xu** and Sung Kyu Ha, Journal of Composite Materials, 2012*

2012 · Multi-scale fatigue life prediction method for composites: application to wind turbine blades (**Magazine**)
*Sung Kyu Ha, Yuanchen Huang, Khazar Hayat, **Lei Xu** and Chengzhu Jin, Innovative Composite Summit, 2012, JEC, Singapore*

2011 · A micromechanical methodology for fatigue life prediction of polymeric matrix composites (**Conference**)
*Yuanchen Huang, Kyo Kook Jin, **Lei Xu**, Ghulam Mustafa and Sung Kyu Ha, International Conferance on Composite Materials (ICCM), 2011*

2010 · Modeling and analysis of biaxial and triaxial braided composites (**Presentation**)
***Lei Xu** and Sung Kyu Ha, Composite Design Workshop (CDW), 2010, Japan*

Projects

2013 - 2014 · Durability design of composite aerospace structures using woven fabrics.
(*supported by DSO, Singapore*)

2012 - 2014 · Fatigue life prediction of short fiber-reinforced composites using a multi-scale method.
(*supported by BOSCH, Germany*)

2012 - 2013 · Failure and strength prediction of braided composites with progressive damage propagation.
(*with NTU, Singapore*)

2011 - 2012 · FEM modeling of braided composites using Python script and prediction of engineering constants.
(*supported by DSO, Singapore*)

2010 - 2012 · Fatigue life prediction of composites.
(*supported by US army, US*)

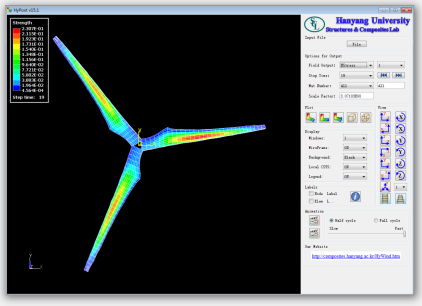
2010 - 2011 · Simulation of the deep drawing and hot forming processes for the vehicle battery can.
(*supported by Dongjing Inc., Korea*)

2009 - 2010 · Structural design and FEM analysis of LNG tank.
(*supported by KOGAS Inc., Korea*)

Software development

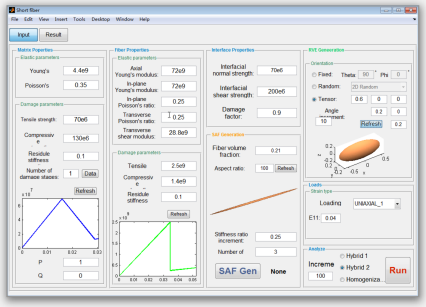
Post processer for FEM

(using Java)



Tool for short fiber composites

(using Matlab)



Tool for axsymmetric structures

(using VBA)