

Curriculum Vitae



Associate Professor He Yihong

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Education Qualifications

2010	PhD Aerospace Engineering, Georgia Institute of Technology, USA
2006	MSc Aerospace Engineering, Georgia Institute of Technology, USA
2002	PhD Civil Engineering, State University of New York at Buffalo, USA
1992	BEng Civil Engineering, Huaqiao University, China

Academic and Professional Experience

2022 – Present	Associate Professor, Singapore University of Social Sciences
2017 – 2021	Senior Lecturer, Singapore University of Social Sciences
2015 – 2017	Startup Founder, Aerostructure Research
2011 – 2014	Postdoctoral Research Associate, Department of Mechanical & Aerospace Engineering, University of Texas at Arlington
2010 – 2011	Postdoctoral Research Fellow, School of Aerospace Engineering, Georgia Institute of Technology
2003 – 2010	Graduate Research Assistant, School of Aerospace Engineering, Georgia Institute of Technology
1992 – 1998	Structural Engineer, China Post & Telecom (Quanzhou Company)

Memberships and Professional Activities

- Member of American Institute of Aeronautics and Astronautics (AIAA)
- Member of American Helicopter Society (AHS)

Consultancy and Executive Experience

2012 – 2014	Affordable material qualification for composite rotorcraft structures, US Army Vertical Lift Research Center of Excellence (VLRCOE)
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2011 – 2013	Integration of design and manufacturing processes to improve performance of Composites, US Office of Naval Research (ONR)
2009 – 2010	Effective elastic properties of hexagonal composite core for rotorcraft blades, Bell Helicopter Textron Company
2007 – 2008	Nonlinear finite element analysis of composite wrinkled coupons, Boeing Company
2006 – 2011	Effects of defects on structural reliability of rotorcraft composite dynamic components, US Army Vertical Lift Research Center of Excellence (VLRCOE)
2005 – 2006	Finite element models for bolted repair of aircraft structures, Delta Air Lines
2003 – 2006	Damage tolerance design methods for composite rotorcraft structures, US Army Rotorcraft Center of Excellence (ROCE)
1992 – 2002	Analysis and design procedures of FRP bridge deck systems, Transportation Infrastructure Research Consortium and New York State Department of Transportation (NYSDOT)

Research Interests

- Mechanics of materials and structures
- Aeroelasticity and Aeroservoelasticity
- Computational aerodynamics
- Multidisciplinary optimization design of aerospace vehicles
- Reliability based aircraft maintenance optimization

Selected Publications

- He Y. A constitutive modelling framework for nonlinear behaviour of fiber-reinforced polymer composites. Under review at International Journal of Solids and Structures.
- He Y. A study on nonlinear constitutive modeling of polymer composites under combined transverse compression and shear loadings. Under review at Composites Part A.
- He Y, Makeev A. Nonlinear shear behavior and interlaminar shear strength of unidirectional polymer matrix composites: A numerical study. International Journal of Solids and Structures 2014; 51(6): 1263-1273.
- Makeev A, He Y, Schreier H. Short-beam shear methods for assessment of stress-strain curves for fiber-reinforced polymer-matrix composite materials. Strain 2013; 49(5): 440-450.
- He Y, Makeev A, Shonkwiler B. Characterization of nonlinear shear properties for composite materials using digital image correlation and finite element analysis. Composites Science and Technology 2012; 73(1): 64-71.
- Makeev A, He Y, Carpentier P, Shonkwiler B. A method for measurement of multiple constitutive properties for composite materials. Composites Part A 2012; 43(12): 2199-2210.
- Makeev A, Ignatius C, He Y, Shonkwiler B. A test method for assessment of shear properties of thick

composites. *Journal of Composite Materials* 2009; 43(25): 3091-3105.

Aref AJ, Alampalli S, He Y. Performance of a fiber reinforced polymer web core skew bridge superstructure, Part I: field testing and finite element simulations. *Composite Structures* 2005; 69(4): 491-499.

Aref AJ, Alampalli S, He Y. Performance of a fiber reinforced polymer web core skew bridge superstructure, Part II: failure modes and parametric study. *Composite Structures* 2005; 69(4): 500-509.

He Y, Aref AJ. An optimization design procedure for fiber reinforced polymer web-core sandwich bridge deck systems. *Composite Structures* 2003; 60(2): 183-195.

He Y, Aref, AJ. A semi-analytical procedure for simplified design of bidirectional FRP web-core sandwich bridge decks. *International Journal of Computational Engineering Science* 2002; 3(2): 129-154.

Aref AJ, Alampalli S, He Y. Ritz-based static analysis method for fiber reinforced plastic rib core skew bridge superstructure. *Journal of Engineering Mechanics* 2001; 127(5): 450-458.

Updated on 13 April 2022