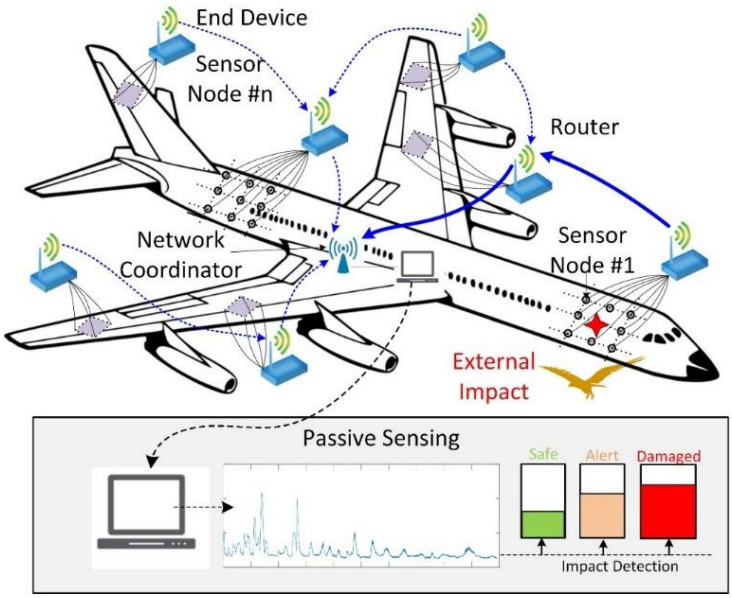
INTRODUCTION TO NONDESTRUCTIVE EVALUATION AND STRUCTURAL HEALTH MONITORING

Zahra Sharif Khodaei

- Introduction to the overall concepts of Nondestructive Evaluation and Structural Health Monitoring: motivation, implementation, differences, challenges (1 hr.)
- Overview of structural health monitoring for aeronautical structures, Damage tolerant design of composite parts (1h)
- Passive Sensing: Impact detection and characterization in composites (2 hr.)
- Active sensing: Damage detection and localization in composites (2 hr.)
- Numerical modelling for passive and active sensing in composite structures (1 hr.)
- Integration of SHM systems into new/existing aircrafts: axioms, challenges, examples, demonstration (1 hr.)



Short Bio:

Dr Zahra Sharif Khodaei is an associate in Structural Integrity in Department of Aeronautics, Imperial College London. She is the co-founder of the Structural Integrity and Health Monitoring (SI&HM) group in the department. Her main expertise is in the field of Structural Health Monitoring (SHM), both numerical and experimental research in passive (impact detection & classification) and active sensing (damage detection & characterization) of smart structures. She has developed different SHM systems using piezoelectric, fibre optic and novel printed sensors. She has developed SHM technologies and methodologies for diagnosis & prognosis of composite structures under environmental and operational conditions, within several collaborative projects involving UK industries and academia, EU projects (SHERLOC CleanSky II) and more recently ESA for space application. She is a member of the steering committee of CleanSky II. She has numerous publications and book chapters, see google scholar for the complete list. She is a Fellow of Royal Aeronautical society and Women's Engineering Society.