



**백승훈** 교수

기계공학부

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**연구분야**

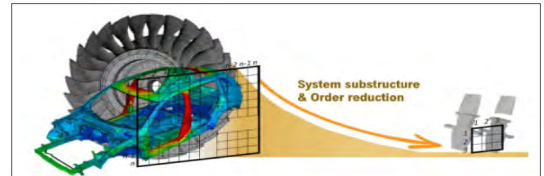
Reduced order models of multi-physics system  
Structural dynamics and structural health monitoring  
Dynamics of frictionally constrained system

**수상**

Engineering Achievement Award, Ford Motor Company, 2018  
Technical Innovation Award, Ford Motor Company, 2018 & 2019

**대표연구**

- **Powertrain-in-the-loop simulation**
  - Software-hardware integration
  - Realtime testing for parametric study with high reliability
  - Active and passive structural control
- **Reduced Order Modeling**
  - Development of innovative reduced order modeling techniques of multi-physics systems
  - Structural identification
  - Influence of rotor geometry on NVH behavior



**주요 연구실적**

- Contact model identification for friction ring dampers in blisks with reduced order modeling, International Journal of Non-linear Mechanics, 120, April 2020
- Damping mistuning effects on the amplification factor and statistical investigation of vane packet, Mechanical Systems and Signal Processing, 120, April 2019
- Reduced Order Modeling of Bladed Disks with Friction Ring Dampers, Journal of Vibration and Acoustics, 139(6), Aug 2017
- Reduced Order Modeling of Bladed Disks with Small Geometric Mistuning, Journal of Vibration and Acoustics, 139(4), Aug 2017
- Reduced Order Models for Blisks with Small and Large Mistuning and Friction Dampers, Journal of Engineering for Gas Turbine and Power, Sep 8, 2016

**주요 연구과제**

- 마찰을 이용한 진동 저감 장치개발 및 해석방법, 한국연구재단, 2021.06~2024.02, 1억 2.9천만원(contact friction, vibration, multi-physics)
- 1D 기반의 Vibration Simulation 모듈 개발, LG, 2021.05~2022.02, 6.7천만원(1D-3D연성해석, Digital Twin, Vibration module)
- 에어컨 실외기 시스템 전체의 진동 예측을 위한 기법 연구, LG, 2021.05~2022.04, 5.5천만원(ROM, Structural dynamics, Vibration analysis)

**학회 활동**

- ASME Technical Committee on Vibration and Sound (2021.07~2024.06)

**산학 협력 활동**

- KORENS CARE 책임교수
- LG CARE 소음진동 산학연구회 회원
- LG 키친어플라이언스 자문교수