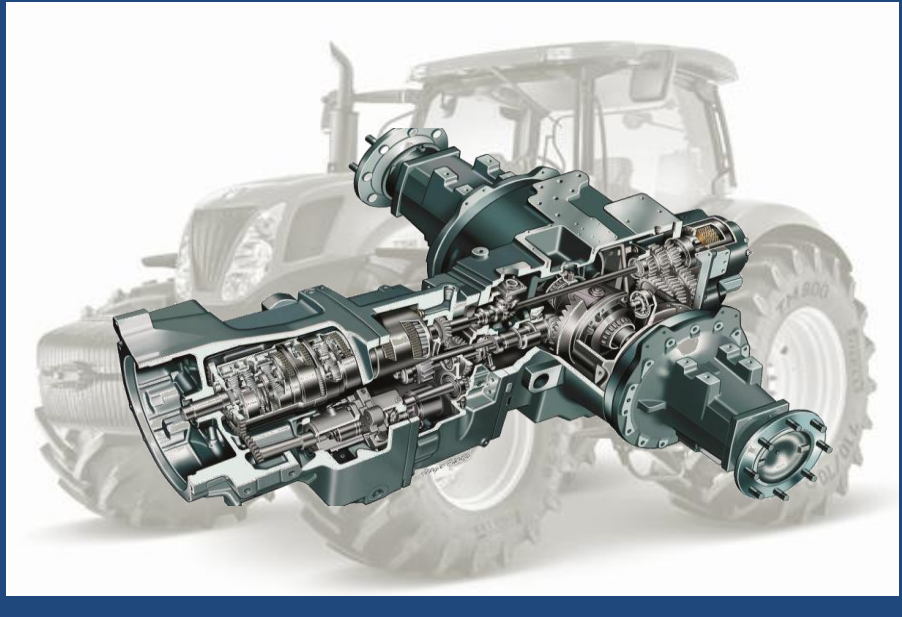
OFF-ROAD MOBILITY SYSTEM LABORATORY

학과 및 연구실 소개



Jooseon Oh
(jooseon.oh@jnu.ac.kr)
Major in Convergence Biosystems Engineering
College of Agriculture and Life Sciences
Chonnam National University

PROFESSOR JOOSEON OH

Education

- 2014.09.01 –2022.08.31

  서울대학교 농업생명과학대학 바이오시스템공학전공 졸업 (공학박사)

  학위논문명 : 트랙터의 반능동 캐빈 서스펜션 시스템 제어 알고리즘 개발

- 2008.03.01 – 2010.02.28

  서울대학교 농업생명과학대학 바이오시스템공학전공 졸업 (공학석사)

  학위논문명 : 타이어 공기압이 침하를 이용한 정격 원추 지수 결정에 미치는 영향

- 2004.03.01 – 2008.02.28

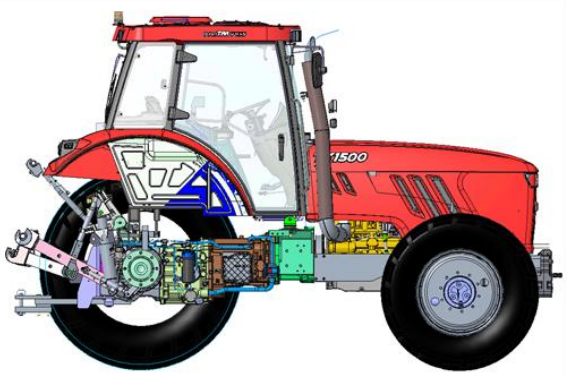
  서울대학교 농업생명과학대학 바이오시스템공학전공 졸업 (공학사)

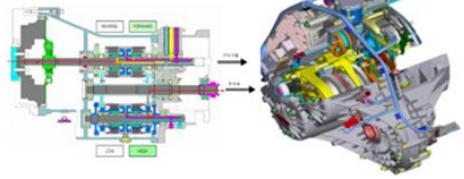
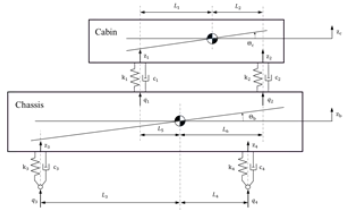
Experience

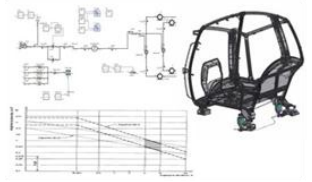
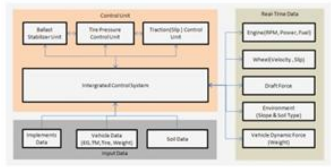
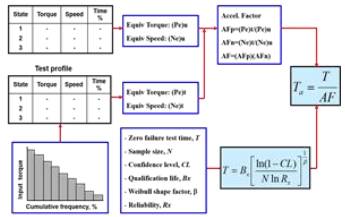
- 2023.03.01 – present : 전남대학교 융합바이오시스템기계공학과 조교수
- 2021.03.01 - 2023.02.28 : 경북대학교 스마트농업혁신센터 선임연구원
- 2017.03.01 – 2018.08.31 : 한국기계연구원 위촉연구원
- 2010.05.01 – 2015.02.28 : TYM 중앙기술연구소 연구원

SUMMARY

Design and Analysis of Mechanisms for Off-Road Mobility

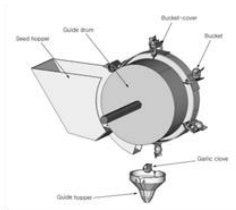
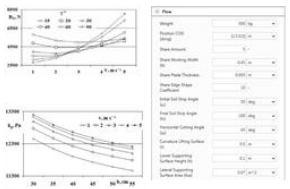
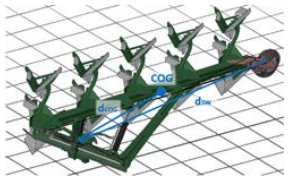


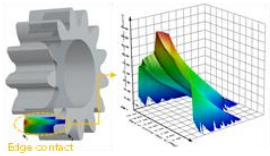



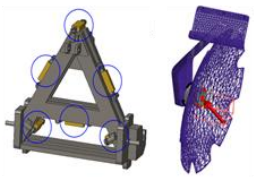




노외 차량의 소음/진동 개선, 내구성 향상, 성능 향상, 제어 알고리즘 개발

Development of Upland crop machines

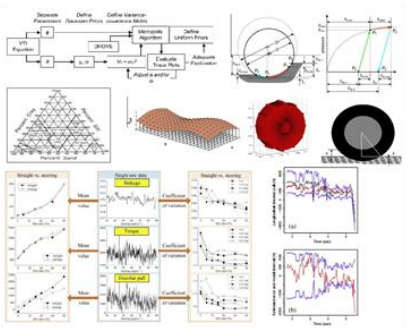
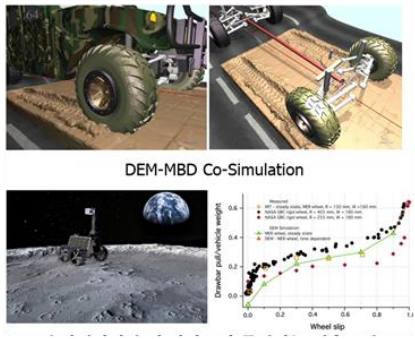








밭작물의 특성 분석을 통한 밭농업 기계 개발

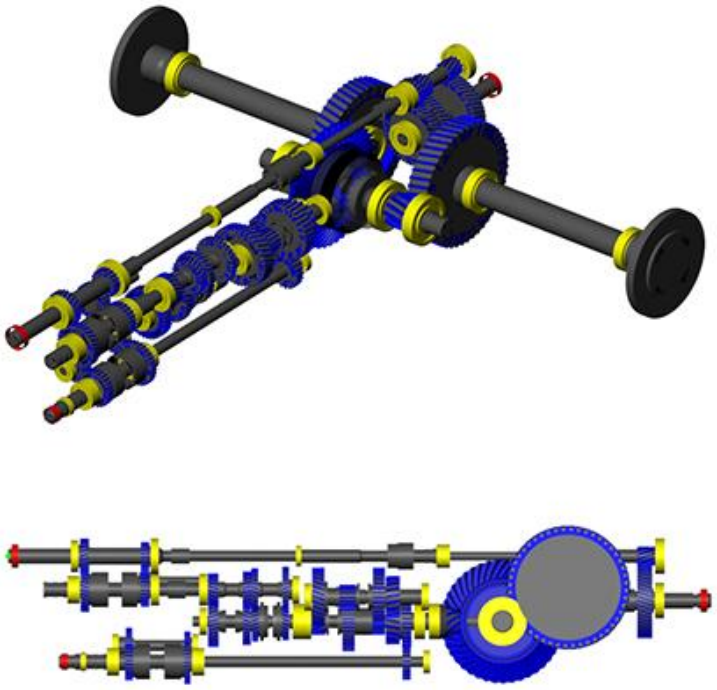
Soil-Machine Interactions

연약 지반 주행부 설계 및 해석

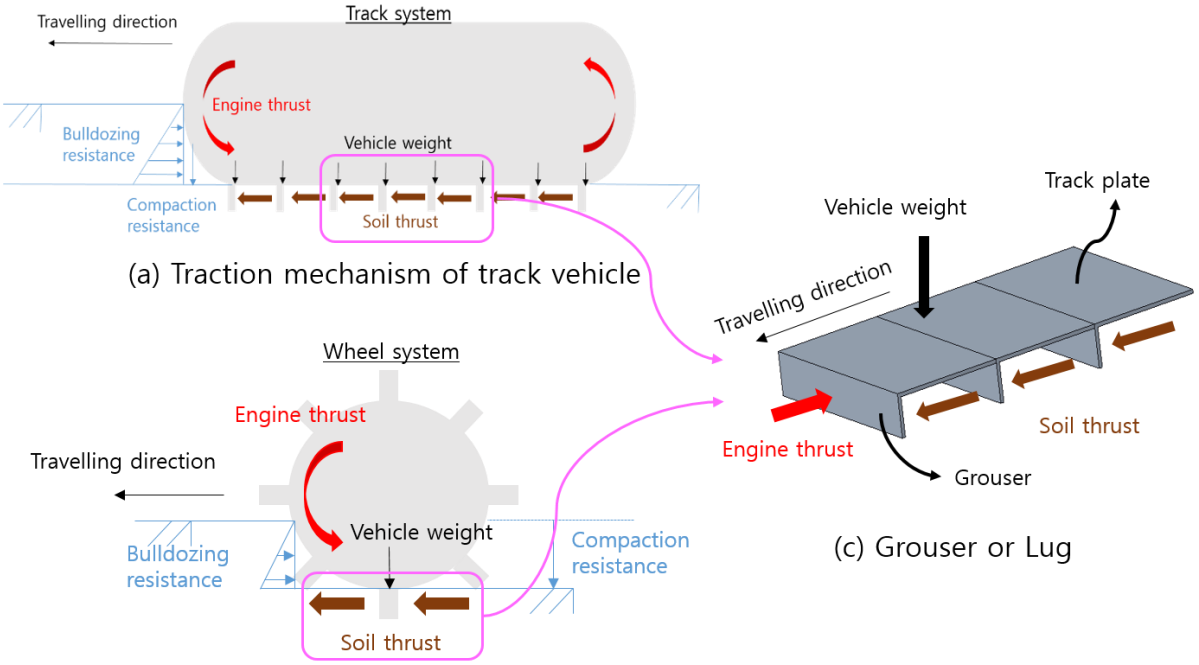
RESEARCH TOPICS

Topic#1: 노외기계설계



Tractor transmission simulation model

Topic#2: 토양기계시스템



(a) Traction mechanism of track vehicle

(b)Traction mechanism of Wheel vehicle

(c) Grouser or Lug

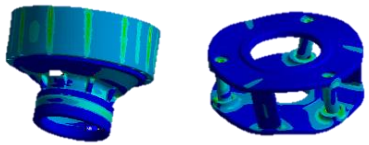
Interaction between off-road vehicle and terrain

RESEARCH FIELDS

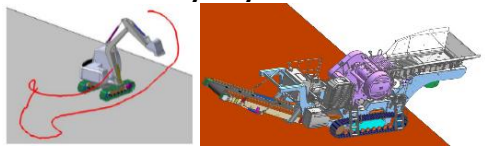
· **Application** : tractors, combines, upland crop machines

· **Sub-system** : transmissions, axles, suspensions

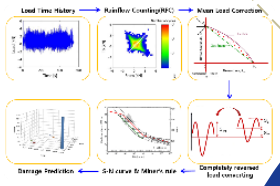
- Structural analysis



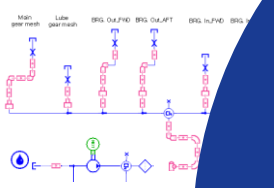
- Multi-body dynamics



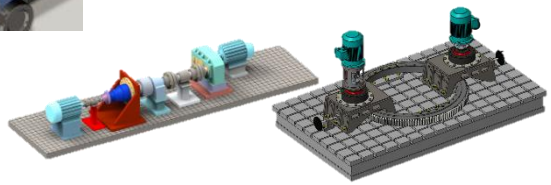
- Fatigue analysis



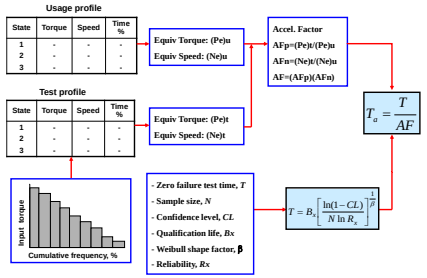
- Lubrication analysis



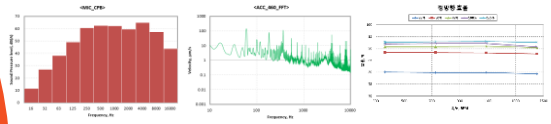
- Design of test rig



- Accelerated test code



- Signal monitoring & analysis



DESIGN

ANALYSIS

TEST AND EVALUATION

Agricultural Machinery Design & Off-Road Machinery Engineering

RESEARCH TOPICS

1 Development of Upland Crop Machines

- Application : Transplanter, Harvester & Implement
- Crops : Onion, Garlic, Chili Pepper, Potato, etc.

2 Ergonomics for agricultural machinery

- Mechanism of interaction between humans and machines
- Application : Agricultural machinery, Rehabilitation medical industry

3 Development of soft ground driving device

- Optimal design driving device
- Application : Agricultural machinery, lunar exploration rover

4 Technology Development of Automatic Transmission for Tractors

- Noise Reduction Technology of Automatic TM for Tractors

5 New Accelerated Life Test Code based on Equivalent Damage

- Prediction of Input Loads using Virtual Load Test Model
- New Accelerated Life Test Code using Simulation Model