

VEHICLE SYSTEM ENGINEERING (VSE)

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- Dr. Ahmad Muhsin B. Ithnin Senior Lecturer
- Dr. Mohd Hatta B. Mohammed Ariff, Senior Lecturer

NUMBER OF STUDENTS

- Ph.D : 21 students
- Master: 12 students
- Bachelor : 14 students

RESEARCH KEYWORDS

Bio-signal Processing, AI & Robotics, Active Safety & Autonomous Vehicles, Vehicle Safety, Product Design, Structural Dynamics, Smart Materials

OUTLINE OF IKOHZA

The Vehicle System Engineering (VSE) ikohza is a highly dedicated research group with activities and facilities spanning the field of alternative fuel for efficient combustion in automotive, smart materials fabrication & application, future driving & active safety technologies in vehicles. VSE has close collaboration with industries and some of the top universities in the world, thus enabling access to state-of-the-art testing equipment and technology know-how.

CURRENT RESEARCH

RESEARCH 1: BIOSIGNAL PROCESSING & ROBOTICS

This research focuses on the development of the instrumented healthcare device for wearable passive controlled ankle orthosis for post-stroke rehab treatment. The output of this research work is a physical prototype of a wearable device that helps measure the gait patterns for lower limb therapy or biomechanics study.



RESEARCH 2: REAL-TIME NON-SURFACTANT EMULSION

Fuel Supply System (RTES)

Emulsion fuel can reduce exhaust emissions and fuel consumption of diesel engines and burners. RTES can produce emulsion fuel without addition of surfactant or additives.



RESEARCH 3: ASEAN ANTHROPOMORPHIC MANIKIN

Development of 6- and 10-years-old-sized manikins to act as child surrogates or reference tools for relevant design and vehicle safety assessment.



MERIT OF THE TECHNOLOGY

- Wearable Passive Controlled Ankle Foot Orthosis – Figure 1
- Save fuel consumption and reduce exhaust emissions – Figure 2
- Indigenous manikin design based on actual ASEAN children's anthropometric database – Figure 3



Figure 1: Health care



**Figure 3:
Anthropomorphic
Manikin**

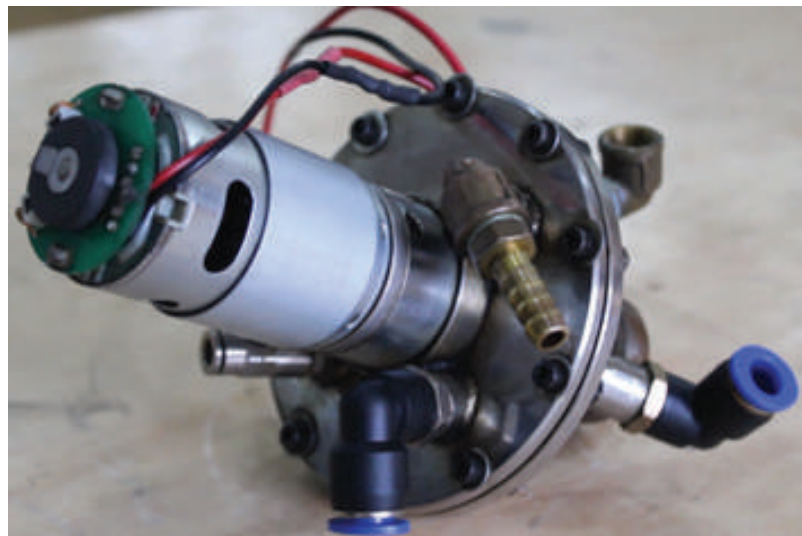


Figure 2: RTEs

POSSIBLE INDUSTRY APPLICATION

- Assistive device, exoskeleton, wearable prototype in health care industries.
- With a focus on Artificial Intelligence (AI), machine learning, and automated systems, we push the limit in transforming energy systems and road transportation (www.rtes.my)
- Established collaboration with MIROS/ASEAN NCAP and ACTS Smart Solutions Sdn Bhd (www.actssmartsolutions.com)

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