SPORTS ENGINEERING

The development of sports equipment will not be successful without close collaboration with sports scientist. Issues encountered by athletes are best expressed by sports scientists who have intimate knowledge of performance analysis and improvement.

COMPUTATIONAL ANALYSIS

The advent of the computer with increasing speed, computing power and memory capacity has made it possible to extend engineering analysis to the human musculoskeletal system and body thermo-fluid system. The latest computing techniques such as FEA and CFD are applied to the development of sports and exercise equipment and their interaction with athletes.

DESIGN & MANUFACTURING

In this research design and prototype of equipment are carried out using existing facilities in the faculty. Human anthropometric data was scan to get an actual measurement.

BIOMATERIALS

Continuous medical advance has driven the demand for long-term medical implant and new medical devices. In the search to enhance the bio-performance of a biomaterial, various processing techniques can be applied to tailor their mechanical properties to suit the intended application.

Universiti Malaysia PAHANG
Engineering • Technology • Creativity

HUMAN ENGINEERING GROUP

CONTACT US

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INTRODUCTION

The Human Engineering Group (HEG) conduct research related to the biomechanics, ergonomics, biomaterials, rehabilitation, and sports engineering. In addition, HEG works in the design and specific application areas such as medical devices and development of technology for diverse user groups. Our group believe that the combination of engineering, technology and human can work together in order to improve the lifestyle.

VISION

Pioneering technological innovation through human engineering.

MISSION

The mission of the group is to become the premier for developing innovative technology and products and provide manpower training for the human engineering:

- creating enabling technologies for the improvement of human life.
- creating new knowledge of the interface between engineering, and medical.
- bringing together a broad range of scientists, engineers, clinicians, industries and content experts working in human engineering across the country and beyond.
- carrying out leading-edge research, conducting workshops and seminars, and providing knowledge transfer through the postgraduate programme.

RESEARCH GRANTS

Project Title	Amount	Project Leader
Development an Olympic Scale of Recurve Bow and Archery For Local Junior Athletes Under 15 and 17 (U-15 and U-17) e-science	RM92,050	Dr. Z akri Ghazalli
Enhanced driver seating comfort in a small size car through digital human modeling (DHM) and pressure mapping method - FRGS	RM115,100	Dr. Z akri Ghazalli
Pristine Blade Characteristics Concept emphasizing Mathematical Model Optimization of Floating Undershot Wheel for Picohydropower generators. - (FRGS)	RM100,000	Idris Mat Sahat
Modeling of Vehicle Seat for Human Comfort of a Small Size Passenger Car (K-Car)	RM27,400	Dr. Z akri Ghazalli
Development and Analysis of Bow and Arrow for Malaysian Athlete (RDU1303108)	RM21,000	Z ulkifli Ahmad
Three-Dimensional (3D) Modeling of Human Airway using Fluid Structure Interaction (FSI) Technique (RDU1303110)	RM16,100	Nasrul Hadi Johari

BIOMECHANICAL ENGINEERING

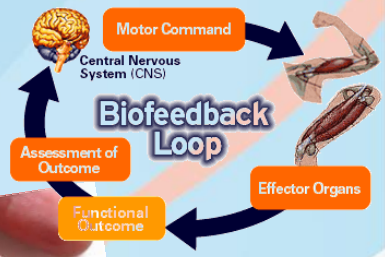
Biomechanical engineering is the application of the principals of biomechanics to the human. In particular, it deals with the interaction between the human musculoskeletal system, technology and apparel.

FACILITIES & EQUIPMENT

- AMTI Tri-axial Force Platforms
- Treadmill

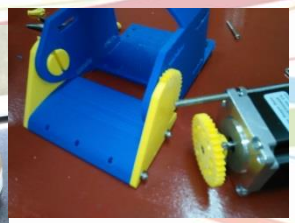
BIOFEEDBACK

It is without doubt that electronics and instrumentation have played a crucial role in human life. Glaring examples are technologies that have been developed to aid decision making in tennis and football. Biofeedback instrumentation have gone out of the clinical environment such that the layman is able to monitor blood pressure, heart rate, pulse etc. in the pursuit of better health and improving fitness..



REHABILITATION ENGINEERING

This research involves the development of equipment for effective rehabilitation. R&D will also be extended to development of rehabilitation equipment for the general public particularly the increasing elderly population.



PRODUCT DEVELOPMENT

Product innovation of control and monitoring system were developed to enhance the human life. It can adapted in real life to help people living comfort.