Universiti Malaysia Perlis (UniMAP) is Malaysia's 17th public institution of higher learning. It was approved by the Malaysian Cabinet on May 2001. Originally known as Kolej Universiti Kejuruteraan Utara Malaysia (KUKUM), or Northern Malaysia University College of Engineering, it was renamed as Universiti Malaysia Perlis (UniMAP) in 1st February 2007. The establishment of UniMAP aims to produce highly skilled and competent engineers to meet and support the agenda of National Industrial Plan. The first intake consisted of 116 engineering students who started classes on June 2002. At the beginning, the School of Materials Engineering has offered a Bachelor of Materials Engineering and Metallurgical Engineering program (June 2003). The Polymer Engineering Programme at UniMAP was first offered in 2007/2008 academic session with an enrolment of 34 students and this first cohort of students has graduated in June 2011. The expertise in rubber field were produced once the Polymer Engineering Programme offered in UniMAP.

**Mission:** To produce holistic human capital that contributes to the nation’s development and industrial competitiveness agenda.

**Vision:** An internationally competitive academic and research institution.
UNIVERSITI MALAYSIA PERLIS

SUBJECT AREA: ENGINEERING & TECHNOLOGY
WORLD'S TOP 500
ASIA'S TOP 148

SUBJECT: ENGINEERING – MECHANICAL, AERONAUTICAL & MANUFACTURING
WORLD'S TOP 300
ASIA'S TOP 98

SUBJECT: ENGINEERING – ELECTRICAL & ELECTRONIC
WORLD'S TOP 350
ASIA'S TOP 110

SCORED IN 16 SUBJECTS:
- COMPUTER SCIENCE & INFO SYSTEMS
- ENGINEERING – CHEMICAL
- ENGINEERING – ELECTRICAL
- ENGINEERING – MECHANICAL
- AGRICULTURE & FORESTRY
- BIOLOGICAL SCIENCES
- CHEMISTRY
- ENVIRONMENTAL SCIENCES
- MATERIALS SCIENCE
- MATHEMATICS
- PHYSICS & ASTRONOMY
- BUSINESS & MANAGEMENT STUDIES
- EDUCATION
- ECONOMICS & ECONOMETRICS
- SOCIAL POLICY & ADMINISTRATION
- SPORTS RELATED SUBJECTS
State-of-the-art Equipment & Facilities

- Teaching factory
- Physical & virtual libraries
- Dedicated research equipment
- Hostel to all students
Awards & Recognition

- Loreal Women in Science - Latex from tapioca
- ITEX Best of the best – New glove from tapioca
- IBM – Antimicrobial coating
- ITEX – High toughness macrosphere from recycle tyre
- IPITEX (Thailand) – High toughness Rubber macrosphere

Academic Programme

- Accredited Programme (10 years)
  - Bachelor of Engineering (Honours) (Polymer Engineering)
  - Master of Science Mixed Mode (Polymer Engineering)

Facilities & Equipment

- Two-roll mill, Brabender, Injection Moulding, Twin screw extruder, z-blade internal mixer, Equipment for characterization & dipping, Capillary Rheometer, Rheometer, Viscometer, Brookfield Viscometer, FESEM, FTIR, DSC, TGA
- Compression Moulding, Instron

Skills. Knowledge. Experiences. Researchers

- Assoc. Prof. Dr. Hakimah Osman
  - 15 years
  - Gloves, Tyre, Foam Composites, Latex Formulation & Processing, IOT
  - hakimah@unimap.edu.my

- Assoc Prof. Dr. Teh Pei Leng
  - 10 years
  - Rubber toughening, electronic material, Rubber wearable material
  - tehpeileng@unimap.edu.my

- Dr. Nor Azura Abdul Rahim
  - 8 years
  - Rubber foam, Biodegradable Polymer, Rubber formulation & Processing, Natural fibers
  - norazura@unimap.edu.my

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  - 8 years
  - Rubber foam, Biodegradable Polymer, Rubber formulation & Processing, Natural fibers
  - norazura@unimap.edu.my

- Mr. Ismail Ibrahim
  - 7 years
  - Polymeric Foam, Latex, recycle tyre, nNBR Glove
  - ismail@unimap.edu.my

- Dr. Du Ngoc Uy Lan
  - 6 years
  - Polymeric Foam, Latex, recycle tyre, nNBR Glove
  - duy@unimap.edu.my

- Dr. Zunaida Zakaria
  - 5 years
  - Polymeric Foam, Latex, recycle tyre, nNBR Glove
  - zunaida@unimap.edu.my

- Dr. Mohamad Syahmie Mohamad Rasidi
  - 3 years
  - Biodegradable Polymer, Biocomposites, Natural fibers
  - syahmie@unimap.edu.my

Industrial Collaborations

- Ansell N.P Sdn Bhd (Melaka)
  - 1. Design Online Monitoring Water Quality System Of Leaching Tank In Surgical Glove Production Line
  - 2. Characterization of rubber gloves after exposing to different simulated biological fluids

- Malaysia Rubber Board
  - 1. Epoxidized natural rubber (Ekoprena) with Butadiene Rubber
  - 2. Investigation on Thermal-Mechanical Degradation of Silica filled Polypropylene -High Density Polyethylene Composite

- ITW Meritex (Impro) Sdn. Bhd
  - Analyze the defective in Gen 4MM and suggest a solution proposal by using simulation process

- Continental Tyre Sdn Bhd, Mergong, Kedah
  - High End Industry Graduate Internship Programme (HEIGIP)- every semester break

- Top Glove
  - Research collaboration on product from recycle glove

Scopes of Research

- Development of new materials:
  - Latex from tapioca
  - Antioxidant from Gambir
  - Nano cellulose
  - Antimicrobial coating
  - Macro sphere from recycle tyre
  - Macro sphere from nNBR glove

- Process:
  - Modification of leaching for curing
  - Modification of Dunlop in foam
  - Ternary Blend for thread tyre
  - Implementation of IOT
  - Online monitoring leaching quality tank

Universiti Malaysia Perlis

- VISIBILITY AND FEASIBILITY OF RUBBER RESEARCH (UNIMAP)
**PROJECTs**

- **Top Glove**: Research collaboration on product from recycle glove

- **Malaysia Rubber Board**
  - Establishment of Eoprena/NR/SBR and Ekoprena/NR/BR triblends

- **Continental Tyre Sdn Bhd, Mergong, Kedah**
  - High End Industry Graduate Internship Programme (HEIGIP)—every semester break.
  - Rubber compounding and testing

- **Ansell N.P Sdn Bhd**
  - 1. Design Online Monitoring Water Quality System Of Leaching Tank In Surgical Glove Production Line
  - 2. Characterization of rubber gloves after exposing to different simulated biological fluids

- **Coming Project**
  - 1. Latex properties improvement—Yield improvement (eliminate blister)—Bard Sdn Bhd
  - 2. Alternate material for Wingstay-L for latex compounding—Bard Sdn Bhd
  - 3. Production of Green Silica from Rice Husk and its Utilization in Rubber Product—Dibuk Sdn Bhd
  - 4. Antimicrobial, Latex Extrusion, IOT
Research & Development (R&D) Capabilities

- Attachment @ Mobility
- Materials Testing & Characterization
- Consultation & Assessment
- Expertise & Industrial Experience

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