Research Group Profile

Computational Fluid Mechanics Research Group (CFM)

NICHE AREAS

- Fundamental and applied fluid mechanical phenomena
- Flows in biological systems
- Lubrication and tribology
- Turbomachinery

SERVICES

- CFD codes, models development and analysis
- Fluids engineering testing
- Lubricant and tribology testing
- Lubrication management and oil analysis course

MEET OUR TEAM

RESEARCH GROUP LEADER
Dr. Muhammad Noor Afiq Witri Bin Muhammad Yazid

RESEARCH GROUP MEMBER
Prof. Ir. Dr. Syahrullail Bin Samion

RESEARCH GROUP MEMBER
Assoc. Prof Dr. Nor Azwadi Bin Che Sidik

RESEARCH GROUP MEMBER
Prof. Dr Kahar Bin Osman

RESEARCH GROUP MEMBER
Mr. Mohamad Nor Bin Musa

RESEARCH GROUP MEMBER
Dr. Fazila Binti Mohd Zawawi

RESEARCH GROUP MEMBER
Dr. Zulhanafi Bin Paiman

RESEARCH GROUP MEMBER
Dr. Mohamad Ikhwan Bin Kori

RESEARCH GROUP MEMBER
Dr. Noor Fawazi Bin Md Noor Rudin

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FACILITIES

UTM Wind Turbine lab

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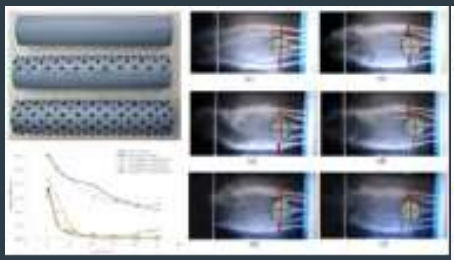
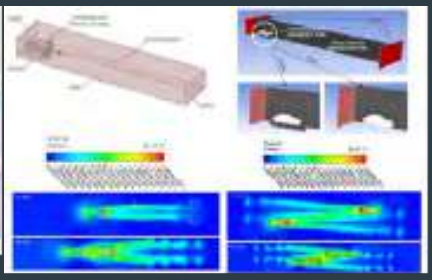
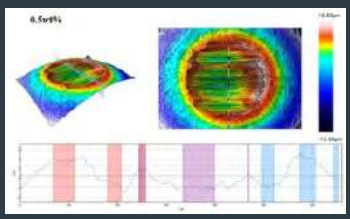
PROJECT HIGHLIGHTS

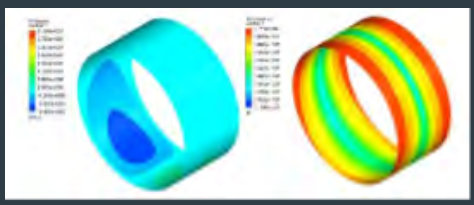
FLUID MECHANICS



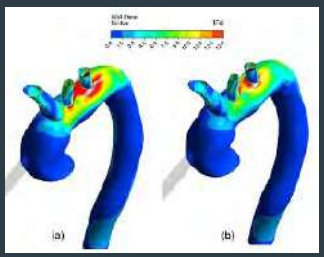


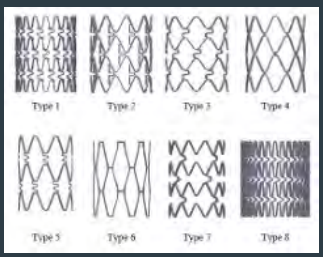
LUBRICATION AND TRIBOLOGY





BIOMEDICAL ENGINEERING





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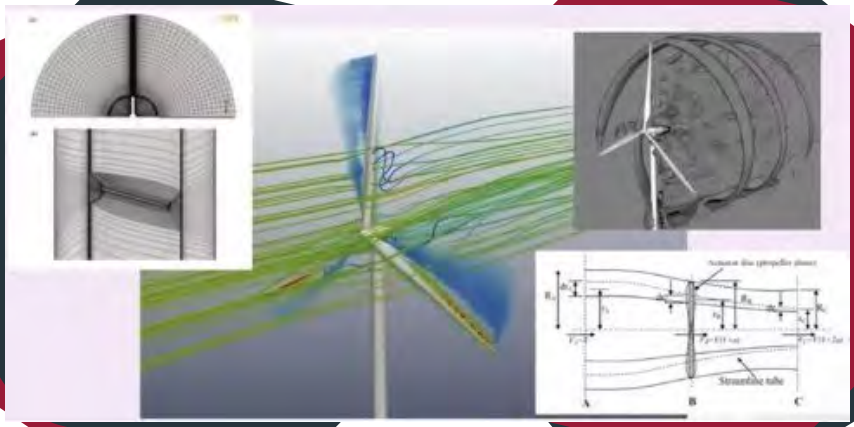
ACTIVITIES

FLAGSHIP RESEARCH PROJECT

Name: Development of low speed wind turbine

Motivated from the fact that the Malaysian Government has set an ambitious target to achieve higher penetration of Renewable Energy (RE) in the Malaysian energy mix which is 20 % by 2025, other than their emergent need and target, this UTM-ICC-funded prototype development project was conducted with the aim of developing a showcase unit of a fully functional, reliable and cost-effective wind RE-based power generation system for the Malaysia wind environment. In Malaysia's energy sources point of view, wind RE-based power generation system is foreseen a promising potential provided the technology is capital-intensive technology. This project is also the continuation of the two previous government-funded research and product development projects related to the wind turbines which mainly focused on the turbine aerodynamic blades, with possible maximum performance with and efficiency of 59.3% in the Malaysian wind environment range between 4 to 7 m/s. The economically-viable implementation of the wind RE power generation system that was proposed in the project is in line with the niche area of RMK-11 that enforces affordable and clean energy technology.



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ACTIVITIES

FLAGSHIP RESEARCH PROJECT

Lubrication management and oil analysis course

The objective of this course is to raise awareness among participants regarding the critical role that lubricants and lubrication play in enhancing the reliability of machines and bearings. Additionally, this course introduces standard codes associated with industrial lubricants, engine lubricants, greases, and even gears. The concept of proactive maintenance techniques, such as the Oil Analysis, is also introduced to ensure the readiness of lubricants for optimal performance.