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Energy Technology, Refrigeration and air conditioning, Heat Engine, Thermodynamics, Biodiesel Technology



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Heat transfer enhancement, Gas Turbine and electronic cooling, Jet Flow Engineering, Drying and microwave heating



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Thermal-Fluid Mechanics, Transport through Porous Media, Fluidized-bed Combustion, Torrefaction, Pelletization



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Dynamics System, Multibody Dynamics



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Heat transfer enhancement, Thermal-Fluid Engineering, Computational Fluid Dynamic, Palm Oil Extraction Process



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Automatic Control, Energy Management, Mechanical Vibrations



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Material Science and Engineering, Ceramic Composites, Thermal Plasma Processing



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Energy conservation in commercial buildings and industries, Biomass energy, Renewable energy



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Robotic control, Mechatronic system, Finite Element Analysis, Piezoelectric



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Biodiesel Technology, Renewable Energy, Combustion



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Drying, Refrigeration and air conditioning, Heat Pump, Energy Conservation and Management, Pelletization



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Biodiesel Technology, Renewable energy, Energy Technology



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Thermal-Fluid Engineering, Finite element method, Finite volume method



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Energy Technology, Biomass energy, Renewable Energy

Material and Applied Mechanics

- Rubber for Mechanical Applications
- Rubber composites and sensors
- Materials Development and Design of Hip Protector
- Materials Development and Design of Heel Cushion for Reducing Plantar Heel Pressure
- Thermal Plasma Processing
- Material Synthesis and Ceramic Composites

Thermal-Fluid Engineering

- Heat Transfer and Cooling in Gas Turbine
- Heat transfer enhancement of impinging jet from pulse jet combustion
- Impinging jet, Pulsating flame jet
- Heat transfer enhancement in channel flow by rib, pin, wing, dimple and protrusion
- Aerosol Mechanics using CFD and experiment

Renewable Energy and Combustion

- Development of energy efficient furnace for biomass combustion
- Pelletization / Fluidized bed combustion for biomass pellet fuel
- Gasification burner
- Pulse jet combustion for hot air jet generator
- Development of an electrostatic precipitator for collection of particles from rubber wood combustion
- Upgrading solid biomass heating value by Torre fraction
- Wind energy potential/Low wind speed wind turbine
- Solar energy for thermal processes
- Bio-hythane production

Biodiesel production

- Biodiesel production from high FFA oils using static mixer and ultrasonic reactors
- Ultrasound-assisted biodiesel production using circulation and continuous processes
- Two-stage process of methyl ester and ethyl ester from high FFA oils
- Extraction, properties and utilization of oil from spent coffee grounds and oil palm meal
- Testing of biodiesel oil on modern diesel engine
- Alcohol recovery from biodiesel production
- FFA reduction from crude palm oil in biodiesel production

Drying Technology

- Design energy efficient smoking room for rubber sheet drying using CFD technique
- Jet impingement dryer/ Spray drying
- Heat pump drying
- Microwave drying

Energy Management in buildings and industries

- Industrial Energy Management
- Energy saving home/ low energy house
- Reduce the load of air conditioning

- Study of the solar collector for hot water generation system
- Applications of solid desiccant for dehumidification
- Parametric study for thermal comfort through the use of radiant cooling system
- Thermal comfort study

Robotic and Control

- Human-Robot Interaction
- Industrial and mobile robotics
- Embedded sensing and measurement systems
- Multi-axis motion control systems and Real-time control
- Movement control system in the artificial foot
- Low Energy Ultrasonic Motor for Linear Translation
- Ultrasonic Motor for Curvilinear Translation
- Validation of the finite element model of the piezoelectric head gimbal assembly system for vibration analysis
- Position control of the dual-state hard disk drive head
- Piezoelectric micro gripper