

Research

Research

Area of Interests

- Mobile terminal antennas
- Multi-element antenna system
- Antenna performance evaluation and user interaction
- Antenna measurement techniques
- Diversity and Multiple-Input Multiple-Output (MIMO) Systems
- Mobile propagation

Research Grants

**International Research Grants: €
26,440.00**

2012

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Propagation and MIMO

Principle Researcher

Travel grant award for European School of Antennas (ESoA) course, entitled "Propagation and MIMO". Funded by the European Antennas Virtual Center of Excellence

(VCE). June 2012. € 440.00.

2012

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Multi-antenna Structures for Radio Direction Finding and Communications: Design and User Interactions

Principle Researcher

Ella and Georg Ehrnrooth Foundation Grant. May 2012. € 11,000.00.

2011

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High Performance Multi-antenna Solutions for Future Mobile Communication Systems

Principle Researcher

Ella and Georg Ehrnrooth Foundation Grant. May 2011. € 9,000.00.

2010

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High Performance Antenna Solutions for Future Mobile Communication Systems

Principle Researcher

Ella and Georg Ehrnrooth Foundation Grant. May 2010. €
6,000.00.

**Governmental Research Grants: RM
1,543,594.00**

2015

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A Deployable Antenna System for CubeSat Applications

Co – Researcher

Prototype Research Grant Scheme (PRGS) fund from
Ministry of Education. RM 107,000.00

2015

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A Study of Microwave Excitation Localized Surface Plasmons (MLSPs) on Metallic Nanorods New Platform to Detect Asymptomatic (non-symptom) Cancerous Diseases

Co – Researcher

Fundamental Research Grant Scheme (FRGS) fund from Ministry of Education. **RM 120,200.00**

2015

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A Fundamental Study on the Applicability using Flexible 3D Frequency Selective Surface for Structural Health Monitoring System

Co – Researcher

Fundamental Research Grant Scheme (FRGS) fund from Ministry of Education. **RM 86,100.00**

2015

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**Fundamental Modeling and
Characterization of Wearable Flexible
Fluidic Antennas (WFFA) using
Characteristic Modes**

Co – Researcher

Fundamental Research Grant Scheme (FRGS) fund from
Ministry of Education. **RM 60,400.00**

2015

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**Energy-Efficient Mobile Terminal
Antennas for Green 5G Wireless
Communication Networks**

Project Leader

Sciencefund from Ministry of Science, Technology and
Innovation. **RM 368,094.00**

2015

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Fabrication of Hand-held Device For Symptomatic (before symptom appear) Microwave Imaging Lung Tumour Detection (MILTD) Using Microwave Inverse Scattering Nanomesh Technique (MISN)

Co – Researcher

Prototype Research Grant Scheme (PRGS) fund from Ministry of Education. **RM 150,000.00.**

2014

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Novel Decoupling Technique to Reduce Mutual Coupling in Multi-antenna Mobile Terminals for High Accuracy Localization

Project Leader

Fundamental Research Grant Scheme (FRGS) fund from Ministry of Education. **RM 75,900.00.**

2014

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Sensitivity Enhancement of Split-Ring-Array Responses using Mie-Nicolson-Ross-Weir Approach for High Speed Communications

Co – Researcher

Fundamental Research Grant Scheme (FRGS) fund from Ministry of Education. **RM 83,300.00.**

2007

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A Study on Effect of Multilayer Ceramic Based Substrate to the Frequency Selection of a Tuned Circuit for Wireless Application

Co – Researcher

Fundamental Research Grant Scheme (FRGS) fund from Ministry of Education. **RM 30,000.00.**

2007

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A Study on Signal Amplification of Ceramic Based Interconnection for Wireless Application

Co – Researcher

Fundamental Research Grant Scheme (FRGS) fund from Ministry of Education. **RM 30,000.00.**

2007

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A Correlation Study Utilising Novel Design Techniques and Distinct Materials Designed to Evaluate Folded Meander Line Microstrip Antennas

Co – Researcher

Fundamental Research Grant Scheme (FRGS) fund from Ministry of Education. **RM 50,000.00**

2007

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Design and Modeling an Extension of Smart Antenna (MIMO System) for Cellular Communications

Co – Researcher

Fundamental Research Grant Scheme (FRGS) fund from Ministry of Education. **RM 13,500.00**

2007

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Planar Inverted F Antenna Mechanism of Operation for Wireless Sensor Network Application

Co – Researcher

Fundamental Research Grant Scheme (FRGS) fund from Ministry of Education. **RM 13,500.00**

2007

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Design and Development of Microstrip Patch Array Antenna for WLAN Applications

Project Leader

Fundamental Research Grant Scheme (FRGS) fund from Ministry of Education. **RM 13,500.00**

2007

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Design and Development of a Portable Anechoic Chamber for Microwave Antenna Measurements

Project Leader

Sciencefund from Ministry of Science, Technology and Innovation. **RM 224,000.00**

Industrial Research Grants: RM 188,589.47

2015

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CREST Grant

Co - Researcher

CREST industrial fund for research grant entitled "Super Wi-Fi Utilization from TV White Space Spectrum (TVWS)".
RM 188,589.47

Institutional Research Grants: RM 75,000.00

2015

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Special Research Grant

Co - Researcher

UniMAP Special Research Grant for research grant entitled "Implementing Information and Communication Technology (ICT) in Construction Industry". **RM 45,000.00**

2015

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Incentive Journal Grant

Project Leader

Incentive Grant from Universiti Malaysia Perlis, for journal published in 2013. **RM 5,000.00.**

2014

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Incentive Journal Grant

Project Leader

Incentive Grant from Universiti Malaysia Perlis, for journal published in 2011. **RM 5,000.00.**

2005

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Simulated Radar Emission Environment

Co – Researcher

Short Term Grant fund from KUKUM. **RM 20,000.00**

Product-based Research Exhibition Award

International Exhibition Awards

- 2015

Massive MIMO Terminal Antennas for Future 5G Applications

GOLD

KIDE Taiwan, Principle Researcher

- 2015

Keystroke Dynamics for Construction Industry: A Novel Technique to determine the Working Validity Period of Construction Workers

SILVER

KIDE Taiwan, Co - Researcher

- 2015

Gender Recognition: A Novel Soft Biometric Trait for
Keystroke Dynamics Biometric Systems

GOLD

IWIS Poland, Co - Researcher

- 2015

8-CCE: 8-port Antenna for Future 5G Mobile Terminal

SILVER

ITEX Malaysia, Principle Researcher

- 2011

1Antenna: A Novel Antenna for Wireless Applications

GOLD

SIIF Korea, Co – Researcher

- 2007

Educational Antenna Training Set for Pattern Plotting and Analysis using Basic Antenna Shapes

SILVER

ITEX Malaysia, Principle Researcher

National Exhibition Awards

- 2009

F2: A Novel Planar Inverted-F Antenna for Wireless Application

SILVER

MTE, Co – Researcher

- 2009

1Antenna: A Novel Antenna for Wireless Applications

SILVER

PeCIPTA, Co – Researcher

- 2008

A Compact Planar & Highly Efficient Antenna for WLAN Application

BRONZE

MTE, Principle Researcher

- 2007

Antenna Training Set using Basic Microstrip Antenna Shapes for Education Purposes

PeCIPTA, Principle Researcher

Institutional Exhibition Awards

- 2015

A Wireless Remote Sitting Posture Monitoring System using Textile Sensors

SILVER

UniMAP Expo, Co - Researcher

- 2014

8-CCE: 8-port Antenna for Future 5G Mobile Terminal

GOLD

UniMAP Expo, Principle Researcher

- 2009

A Wideband Fractal PIFA for Wireless Communication Application

GOLD

UniMAP Expo, Co – Researcher

- 2009

A Broadband Planar Inverted F Antenna for Outdoor WLAN Application

GOLD

UniMAP Expo, Co – Researcher

- 2008

Smart Direction Finder using WLAN Antenna

GOLD

PPKKP FYP Expo, Final Year Project Supervisor

- 2008

A Compact Planar & Highly Efficient Antenna for WLAN Application

SILVER

UniMAP Expo, Principle Researcher

- 2006

Basic Microstrip Antenna Shapes for 3G/UMTS Wireless Application

BRONZE

KUKUM Expo, Principle Researcher