KHAIRAYU BT. BADRON

• KULLIYYAH OF ENGINEERING
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المؤهل العلمي

• Doctor of Philosophy (Engineering)
• Master of Science (Communication Engineering)
• of Engineering (Communication) (Hons)

مسؤوليات التدريس

CIRCUIT ANALYSIS	2015/2016 2016/2017 2017/2018
COMMUNICATION ENGINEERING	2018/2019 2019/2020
COMMUNICATIONS ENGINEERING LAB I	2007/2008 2008/2009 2018/2019 2019/2020 2020/2021
ELECTRICAL AND COMPUTER ENGINEERING LAB I	2016/2017 2018/2019 2019/2020 2020/2021
ELECTRICAL ENGINEERING LAB	2016/2017 2017/2018
ENGINEERING ETHICS FROM ISLAMIC PERSPECTIVE	2019/2020
ENGINEERING LAB I	2008/2009 2011/2012 2012/2013
ENGINEERING LAB II	2008/2009 2011/2012 2012/2013
FAMILY MANAGEMENT & PARENTING	2016/2017 2017/2018
FINAL YEAR PROJECT 1	2019/2020
FINAL YEAR PROJECT I	2018/2019
FINAL YEAR PROJECT II	2018/2019
FUNDAMENTAL OF COMMUNICATION ENGINEERING	2017/2018 2018/2019 2019/2020 2020/2021
FUNDEMENTAL OF COMMUNICATION ENGINEERING	2016/2017 2017/2018
INTEGRATED DESIGN PROJECT	2017/2018 2018/2019
SEMINAR	2007/2008 2018/2019
SEMINAR I	2007/2008

المشاريع البحثية

In Progress

2019 - Present	Sustainable Development Goals for Digital Entrepreneurship ? assesment of technological requirements, beyond computers and internet access
2019 - Present	Empirical Studies of Diurnal Variability and Cloud Effects on Solar Ultraviolet Radiation for augmented Skin Vitamin D synthesis.
2018 - Present	Investigation of Techniques to Mitigate Interference in Multi-Tiers Heterogeneous Wireless Network
2018 - Present	INTEGRATED CARBON EMISSION MONITORING USING IOT FOR KUALA LUMPUR CITY CENTRE
2017 - Present	TNB Wireless Network in AMI- Modeling and Analysis Time Critical Communications
2017 - Present	Profiling Radar Reflectivity as Improved Fade Margin Estimator for Reliable Future Ka-band Satellite link in Equatorial Region
2016 - Present	Development of Rain Fading Characteristics for Tropical Stratiform and Convective Events for High Frequency Satellite Link in Malaysia
2016 - Present	Derivation of a Modified Free Space Path Loss (FSPL) Formulation for Satellite Links Fade Margin Operating in Malaysia
2015 - Present	Development of a Revised Free Space Path Loss (FSPL) Formulation for a more Reliable Satellite Link Fade Margin in Tropical Region
Unknown - Present	INTEGRATED CARBON EMISSION MONITORING USING IOT FOR KUALA LUMPUR CITY CENTRE
Unknown - Present	Transfer of Drones Assisted Precision Farming and Data Analytics Skill for Malaysian Farmers to Mitigating Food Insecurity and Poverty Post COVID-19

Completed

2017 - -1	TNB Wireless Network in AMI- Modeling and Analysis Time Critical Communications
2016 - 2019	Modeling of Multiband / Wideband Stack Series Array Antenna Configuration for 5G Application
2016 - 2019	Derivation of a Modified Free Space Path Loss (FSPL) Formulation for Satellite Links Fade Margin Operating in Malaysia
2016 - 2019	Derivation of a Modified Free Space Path Loss (FSPL) Formulation for Satellite Links Fade Margin Operating in Malaysia
2016 - 2020	An Investigation to Identify Possible Technological Challenges in the 5G Wireless Heterogeneous Network
2016 - 2018	Development of Rain Fading Characteristics for Tropical Stratiform and Convective Events for High Frequency Satellite Link in Malaysia

2015 - 2017	Development of a Revised Free Space Path Loss (FSPL) Formulation for a more Reliable Satellite Link Fade Margin in Tropical Region
2012 - 2015	RU 2011: Rain Fade Mitigation Technique Time-Diversity for Future Millimeter-Wave Satellite Communication
2008 - 2012	Issue of Reliable Communications at Frequencies Bands Above 25GHz in the Tropics

المنشورات

Article

2020	Study of microstrip patch array antenna for side lobe suppression in the x-band region using uniform, binomial and tschebyscheff excitation methods. IIUM Engineering Journal , 21 (1) pp.61-72
2020	Study of tropospheric scintillation effects in Ku-band frequency for satellite communication system. International Journal of Electrical and Computer Engineering (IJECE) , 10 (3) pp.3136-3144
2019	Two-year rain fade empirical measurement and statistics of earth-space link at ka-band in Malaysia. ASM Science Journal , (Special Issu) 12 (2) pp.35-46
2019	Investigation of time diversity gain for earth to satellite link using rain rate gain. Bulletin of Electrical Engineering and Informatics , 8 (3) pp.951-959
2018	Throughput analysis on dynamic spectrum allocation technique to mitigate interference on LTE heterogeneous network. International Journal of Control and Automation , 11 (4) pp.95-104
2018	Propagation measurements during Daytime for RazakSAT S-band space to earth satellite signal transmission. International Journal of Future Generation Communication and Networking , 11 (1) pp.63-72
2018	Determination of correlation coefficients for RazakSAT received signals. International Journal of Future Generation Communication and Networking , 11 (2) pp.1-10
2018	High gain UWB horn antenna for concealed metal detection and microwave imaging application. Sindh University Research Journal (Science Series) , 50 (3D) pp.161-164
2018	Design and optimization of ultra-wideband antipodal vivaldi antenna for radar and microwave imaging application. Sindh University Research Journal (Science Series) , 50 (3D) pp.6-9
2018	Fade margin estimations for Malaysian armed forces military X-band satellite communication links. International Journal of Future Generation Communication and Networking , 11 (3) pp.1-9
2018	Recognition of metal objects inside wall using antipodal vivaldi antenna. Indonesian Journal of Electrical Engineering and Computer Science , 11 (1) pp.27-35

2018 Determination of fade margin for Ka band operating in equatorial region. Journal of Fundamental and Applied Sciences , 10 (2S) pp.229-238

2017 Free space attenuation analysis for X -band and S-band satellite link using meteorological radar data in the tropics. Journal of Telecommunication, Electronic and Computer Engineering (JTEC) , 9 (3-10) pp.105-108

2017 Dynamic spectrum allocation scheme for heterogeneous network: BER analysis. Journal of Telecommunication, Electronic and Computer Engineering (JTEC) , 9 (3-10) pp.99-104

2017 RSSI measurements of a GSM signal within an indoor environment. International Journal of Smart Home , 11 (3) pp.1-8

2017 Performance analysis of rain attenuation on earth-to-satellite microwave links design in Libya. IOP Conference Series: Materials Science and Engineering , 260 (na) pp.012041

2016 Refining ku-band rain attenuation prediction using local parameters in tropics. Indian Journal of Science and Technology , 9 (25) pp.97240-1-97240-8

2016 Analyses of meteorology information during Malaysian flood disaster 2014. Advanced Science Letters , 22 (10) pp.2814-2816

2016 Preliminary analyses on measured received signals of orbiting RazakSAT satellite. Advanced Science Letters , 22 (10) pp.2790-2793

2016 Analyses of cloud characteristic during Malaysian 2014 flood event. Indian Journal of Science and Technology , 9 (25) pp.94834-1-94834-8

2016 Derivation of Z-γ (Reflectivity-specific attenuation) relation for satellite link in tropical region. Advanced Science Letters , 22 (10) pp.2750-2753

2016 Analyses of rainfall rate during Malaysian 2014 flood event. International Journal of Multimedia and Ubiquitos engineering , 11 (8) pp.237-246

2016 A test-bed evaluation of cognitive hybrid functionality for future hyper-dense networks. Advanced Science Letters , 22 (10) pp.2769-2772

2015 Estimating tropical rain attenuation on the Earth-satellite path using radar data. International Journal of Remote Sensing , 36 (24) pp.6101-6115

2015 Cognitive energy efficient for closed-proximity devices: an empirical study and standardization issues. ARPN Journal of Engineering and Applied Sciences , 10 (3) pp.987-992

2014 A modified rain attenuation prediction model for tropical V-band satellite earth link. International Journal of Satellite Communications and Networking , 32 (1) pp.1-11

2014 Assessment of X-band earth-satellite link rain attenuation prediction in Malaysia. Australian Journal of Basic and Applied Sciences , 8 (24) pp.254-259

2014 Development of RF spectrum management tool for Malaysia using Open-Source software. International Journal of Electrical Energy , 2 (1) pp.7-12

2013 Assessments of time diversity rain fade mitigation technique for v-band space-earth link operating in tropical climate. International Journal of Electrical Energy , 1 (4) pp.268-273

2013 Rain fade estimations for the X-Band satellite communication link in the tropics. International Journal of Computer and Communication Engineering , 2 (4) pp.408-412

2013 Comparison of radar derived rain attenuation with the RazakSAT's X-Band link signal measurement. International Journal of Computer and Communication Engineering , 2 (4) pp.428-432

2010 V-Band fade dynamics characteristics analysis in tropical region. American Journal of Applied Sciences , 7 (8) pp.1109-1114

Conference or Workshop Item

2018 Improved radiation characteristic of balanced antipodal vivaldi antenna in array configuration. **In: 2nd International Conference on Intelligent Systems Engineering (ICISE) 2018**

2018 Time diversity gain analysis for earth to satellite link based on measured rain rate. **In: 7th International Conference on Computer and Communication Engineering (ICCCE) 2018**

2018 Detection and analysis of metal impairment inside wall using UWB modified antipodal vivaldi antenna. **In: 2017 4th IEEE International Conference on Engineering Technologies and Applied Sciences (ICETAS)**

2017 Ultra-wideband antipodal vivaldi antenna for radar and microwave imaging application. **In: IEEE 3rd International Conference on Engineering, Technologies and Social Sciences 2017 (ICETSS-2017)**

2017 High gain UWB horn antenna for concealed metal detection and microwave imaging application. **In: 3rd International Conference on Engineering, Technologies and Applied Sciences 2017 (ICETAS-2017)**

2016 Design of a quintuple band microstrip patch antenna using multiple L-slots. **In: 6th International Conference on Computer and Communication Engineering (ICCCE 2016)**

2016 Mutual impedance with finite feed gap model of dipole antennas using the induced EMF method. **In: 2015 IEEE 12th Malaysia Internation Conference On Communications**

2015 Development of spectrum management tool for Malaysia using open-source GIS software. **In: 1st Applied Electromagnetic International Conference (APPEIC 2014)**

2015 Assessment of conversion methods to acquire 1-minute integration time rain intensity statistic. **In: 1st Applied Electromagnetic International Conference, APPEIC 2014**

2015 Fade margin estimation technique using radar data for satellite link. **In: Full Text(opens in a new window)|View at Publisher| Export | Download | Add to List | More... Lecture Notes in Electrical Engineering Volume 344, 2015, Pages 247-253 1st Applied Electromagnetic International Conference, APPEIC 2014**

2015	Classification of precipitation types detected in Malaysia. **In: 1st Applied Electromagnetic International Conference, APPEIC 2014**
2014	Self-organizing joint sensing and power allocation scheme (SJSPA) to coordinate cross-tier interference for LTE-A heterogeneous networks. **In: 2014 2nd IEEE International Symposium on Telecommunication Technologies (ISTT2014)**
2014	Assessment of ITU-R predictions for ku-band rain attenuation in Malaysia. **In: 2014 IEEE International Symposium on Telecommunication Technologies (ISTT)**
2014	Comparison of X-band satellite link measurements with radar derived rain attenuation in the tropics. **In: The 3rd International Conference on Computer Engineering & Mathematical Sciences (ICCEMS 2014)**
2014	Fade margin estimations for military X-band satellite communication links in tropical region. **In: The 3rd International Conference on Computer Engineering and Mathematical Sciences (ICCEMS14)**
2014	Cluster-based spectrum sensing scheme in heterogeneous network. **In: International Conference on Applied Electromagnetics (APPEIC 2014)**
2013	Development of spectrum monitoring tool for Malaysia . **In: 2013 IEEE 11th Malaysia International Conference on Communications**
2013	Evaluation of RazakSAT's S-band link signal measurement with the radar derived rain attenuation. **In: International Conference on Space Science and Communication (IconSpace)**
2013	Determination of Ku-band specific attenuation parameters based on measurements in the tropics. **In: 2013 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting**
2013	Comparison of Ku-Band satellite rain attenuation with ITU-R prediction models in the tropics. **In: 2013 IEEE Antennas and Propagation Society International Symposium (APSURSI)**
2013	Proposed rain fade mitigation technique for Ka band space earth links in tropical climate. **In: 2013 IEEE 11th Malaysia International Conference on Communication (MICC 2013)**
2013	Rain induced attenuation studies using RazakSAT space-Earth links. **In: 2013 IEEE International Conference on Space Science and Communication (IconSpace),**
2011	Rain attenuation prediction model for tropical V-band satellite earth link. **In: International Conference on Telecommunication Technology and Applications**
2009	Rain induced attenuation studies for v-band frequency in tropical regions. **In: Loughborough Antennas & Propagation Conference**

Book

Book Section

2015 Cluster-based spectrum sensing scheme in heterogeneous network. **In: Theory and Applications of Applied Electromagnetics (APPEIC 2014)** Springer International Publishing Switzerland . ISBN 978-3-319-17268-2 , pp.1-11

2011 Worst-month rain fade statistics at 38 GHz. **In: Antennas and propagation: modeling, simulation & measurements** IIUM Press . ISBN 9789674181383 , pp.298-309

2011 Investigation of rain attenuation at 38 GHz. **In: Antennas and propagation: modeling, simulation & measurements** IIUM Press . ISBN 9789674181383 , pp.214-219

2011 Rain attenuation prediction models for earth-space link. **In: Antennas and propagation: modeling, simulation & measurements** IIUM Press . ISBN 9789674181383 , pp.220-225

2011 Development of a modified rain attenuation prediction model. **In: Antennas and propagation: modeling, simulation & measurements** IIUM Press . ISBN 9789674181383 , pp.226-232

2011 Analyses of rain fade characteristics for a GHz link in the tropics. **In: Antennas and propagation: modeling, simulation & measurements** IIUM Press . ISBN 9789674181383 , pp.278-284