

### -جامعة الملك سعود كلية الهندسية

## قسم الهندسة الكهربانية Department of Electrical Engineering

#### نشاطات عضو هيئة التدريس خلال العام 1436/1435هـ

يتم ارسال النموذج بالبريد الإللكتروني من عضو هيئة التدريس إلى منسق لجنة التقرير السنوي بالقسم لوضع جميع النشاطات للزملاء في النموذج كملف واحد

ملاحظة هامة: العام الجامعي يبدأ من سبتمر 2014 إلى سبتمبر 2015م،، ففضلا أذكر الانشطة خلال هذه الفترة فقط، مع التباع التعليمات الواردة لكل نشاط وعدم استخدام ترتيب أو تنسيق أخر غير الموضح

#### Activities of Faculty Member during Academic year 2014/2015G

To be e-mailed by the faculty member to the Annual Report Convener at the department to arrange activities of faculty members in one file

**Important note**: the academic year starts Sept. 2014 and ends Sept. 2015. Kindly, mention activities during this period only, and follow the required instructions indicated for each activity and do not follow different arrangements than indicated

#### براءات اختراع

منحت (وليس سجلت او نشرت) خلال العام الجامعي 1436/1435هـ

اسم المخترع والمشاركين، اسم الإختراع، رقم براءة الاختراع، مكتب براءة الاختراع، تاريخ منح البراءة

#### **Patents**

Awarded (not filed or published) during the academic year 2014/2015

Inventor(s) name(s), Invention name, Patent number, Patent office, Award date

Inventor(s) name(s), Sami Ghannam (Saudi Aramco) and Yasin Khan (KSU) Invention name: GSM/GPRS System To Detect And Locate High Impedance Faults On Medium Voltage Distribution Networks in High Resistivity Areas Patent number, WO2014043479 Patent office: USPTO Application date: 15th September, 2012	1.
Abdel F. A. Sheta, Majeed A. R. Alkanhal, Saleh A. Alshebeili and Mohamed A. M. Abouelela," Triple-Mode Microstrip Filter," Patent no.: US 8,854,159 B2, date: October 7, 2014.	2.

#### جوائز علمية

#### منحت خلال العام الجامعي 1436/1435هـ

اسم صاحب الجائزة، اسم الجائزة، اسم الجهة المانحة للجائزة، مجال الجائزة، تاريخ المنح

#### **Scientific Awards**

conferred during the academic year 2014/2015

Name of person awarded, Title of award, , Donor, Field of award, Date

Traine of person awaraea, Time of awara, Bonor, Treta of awara, Bare	
Award for scientific publication in ISI Journal, awarded from the College of Engineering Research Center- Deanship of Scientific Research, October 22/2014.	1.
Best Paper Award June 2015, IEEE ICCIT 2015 and in IEEE ICCIT 2012	2.
Award from Al-Zamil Industrial Group for research advancement on Central air- conditioners Specifications, Energy Conservation, 12/10/2014.	3.
Award from Al-Babtain for Energy and Communication, "Inspection of Electric steel Standards Conformity 10 m Octagonal Pole, for Utilization by the Saudi Electric Company, Saudi Standards, 7/9/1436 H.	4.
Award from the Ministry of Municipal and Rural Affairs, Riyadh, "Participation in the Workshop of Electrical Requirements in the Saudi Building Code", 2/8/1436 H.	5.

#### أوراق علمية

منشورة خلال العام الجامعي 1436/1435هـ

المؤلف أو المؤلفون، سنة النشر، عنوان الورقة، اسم المجلة، رقم المجلد، الصفحات

#### **Journal Papers**

Published during the academic year 2014/2015

Author(s), Year of publication, Title of paper, Journal name, Vol, pp	
Sher ,H.A ;.Murtaza ,A.F ;.Noman ,A ;.Addoweesh ,K.E ;.Al-Haddad ,K ;. Chiaberge ,M., "A New Sensorless Hybrid MPPT Algorithm Based on Fractional Short-Circuit Current Measurement and P&O MPPT ",Sustainable Energy ,IEEE Transactions on , vol.PP ,no.99 ,pp.1-9.	1.
Sher ,Hadeed Ahmed and Murtaza ,Ali F .and Noman ,Abdullah and Addoweesh , Khaled E .and Chiaberge ,Marcello , "An intelligent control strategy of fractional short circuit current maximum power point tracking technique for photovoltaic applications" ,Journal of Renewable and Sustainable Energy ,7 ,013114 (2015 ,( DOI:http://dx.doi.org/10.1063/1.4906982.	2.
Sher ,Hadeed Ahmed ,Ali F .Murtaza ,Khaled E .Addoweesh ,and Marcello Chiaberg " .Pakistan's progress in solar PV based energy generation ".Renewable and Sustainable Energy Reviews 47 (2015) pp. 213-217.	3.
Sher ,Hadeed A., Khaled E .Addoweesh ,Zorays Khalid ,and Yasin Khan . "Theoretical and experimental analysis of inverter fed induction motor system	4.

under DC link capacitor failure ".Journal of King Saud University-Engineering Sciences (2015).	
Sher ,Hadeed Ahmed; Addoweesh ,Khaled E; Khan ,Yasin," ;Effect of short circuited DC link capacitor of an AC–DC–AC inverter on the performance of induction motor,Journal of King Saud University-Engineering Sciences ,2014.	5.
M. A. Esamil and H. Fathallah, "Performance Evaluation of Special Optical Coding Techniques Appropriate for Physical Layer Monitoring of Access and Metro Optical Networks, Photonic Network Communications, pp. 1-11, April 2015.	6.
M. A. Esamil and H. Fathallah, "Indoor Visible Light Communication without Line-of-Sight: Investigation and Performance Analysis, Photonic Network Communications, pp. 1-8, April 2015.	7.
M. I. Memon, M. Siraj, H. Fathallah, "Radio frequency generator using four wave mixing in cascaded semiconductor optical amplifier", APMAS 2015	8.
M. I. Memon, M. Siraj, H. Fathallah, "Optical mm-wave synthesizer using semiconductor ring laser (A review)", Acta Physica Polonica A (2015) accepted.	9.
Ragheb, A.M.; Shoaib, M.; Alshebeili, S.; Fathallah, H., "Enhanced Blind Equalization for Optical DP-QAM in Finite Precision Hardware," IEEE Photonics Technology Letters, vol. 27, no.2, pp.181-184, 2015.	10.
B. Hammami, H. Fathallah, and H. Rezig "Effect of AWGN on BER Performance of Multiuser Detection in DS-OCDMA System using Novel Multilevel Periodic Codes," International Journal of Computer and Information Technology, Volume 04, Issue 02, pp. 231-238, March 2015.	11.
M. I. Memon, H. Fathallah, "Noise Response and Stability in Injection Locked Semiconductor Ring Laser", Acta Physica Polonica A, vol. 125, no. 2, pp. 454-455, 2014.	12.
M. I. Memon, H. Fathallah, "Dependence of Bandwidth on Size of Optical Injection Locked Semiconductor Ring Laser", Acta Physica Polonica A, vol. 125, no. 2, pp. 462-464, 2014.	13.
A. Nassar, Ahmed Iyanda Sulyman and A. Alsanie, Aug 2015, "Radio Capacity Estimation for Millimeter Wave 5G Cellular Networks Using Narrow Beamwidth Antennas at the Base Stations," International Journal of Antennas and Propagation, Vol. 2015, Article ID 878614, 6 pages.	14.
I. Ahmad, Ahmed Iyanda Sulyman, S. Alshebeili, A. Alasmari, Feb. 2015, "Ergodic Capacity of Nonlinear MIMO–OFDM Relaying Channels," Wireless Personal Communications, Vol. 81, Issue 1, pp. 207-224.	15.
Ahmed Iyanda Sulyman, J. Kang, and S. Yousefi, Sept. 2014, "Deployment Challenges for Large-Scale MIMO Communications," Hindawi Publishing Corp., International Journal of Antennas and Propagation (IJAP), Vol. 2014, Article ID 967372, pp.1-3.	16.
Ahmed Iyanda Sulyman, A. Nassar, M. K. Samimi, G. R. MacCartney, T. S. Rappaport, and A. Alsanie, Sept. 2014, "Radio Propagation Path Loss Models for 5G Cellular Networks in the 28 and 38 GHz Millimeter-Wave Bands," IEEE Commun. Mag., Special Issue on 5G mmWave Communications.	17.

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Zuhair M. Hejazi and Zeshan Ali, "Multi-band Bandpass Filters with Suppressed Harmonics using a Novel Defected Ground Structure", Microwave & Optical Technology Letters (MOTL), Vol. 56, No. 11, pp. 2726-2731, Nov. 2014.	18.
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"Design and optimization of micro-bolometer multilayer optical cavity" ACTA Physica Polonica A, April 2015	20.
"Comparison of V <sub>2</sub> O <sub>5</sub> microbolometer optical performance using NiCr and Ti thin-films" IEEE Photon. Technol. Lett., March 2015	21.
A. M. Al-Shaalan, "Electric Power Systems Tie-Grids", Scientific Research, No. 4, Vol. 1, September, 2014.	22.
A. M. Al-Shaalan, "Reducing Electric Energy Interruptions to Residential Sector By Means of Proper Practical Measures", Journal of Energy and Power Engineering, No. 5, Vol. 2, November 2014.	23.
A. M. Al-Shaalan, "Design Guidelines for Buildings in Saudi Arabia Considering Energy Conservation Requirements", Applied Mechanics and Materials Vols. 548-549 (2014) pp 1601-1606 © (2014) Trans Tech Publications, Switzerland doi: 10.4028.	24.
A. M. Al-Shaalan, "Reducing Electric Energy Interruption to Residential Sector By Means of Practical Measures", IEEE-Xplore Publications, 2014.	25.
A. M. Al-Shaalan, "Obstacles Facing Developing Countries in Power System Planning", Journal of Power and Energy Engineering (JPEE), 2015, No. 3, 7-15 Published in Science Research, <a href="http://www.scirp.org/journal/jpee">http://www.scirp.org/journal/jpee</a> .	26.
A. M. Al-Shaalan, "Appropriate Electric Energy Conservation Measures for Big Mosques in Riyadh City", Applied Mechanics and Materials, Vol 492, pp. 24-30, Jan. 2014.	27.
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Hamsakutty Vettikalladi, High Gain Superstrate loaded Membrane Antenna based on Substrate Integrated Waveguide Technology, International Journal of Antennas and Propagation, Vol.2015, pp.1-7.	29.
H. Vettikalladi, M. Kamran Saleem and Majeed A.S. Alkanhal, Membrane Antenna Array based on Substrate Integrated Waveguide Technology for 94 GHz Communication Systems, International journal of microwaves and wireless technologies, 2015, pp.1-9.	30.
Ahmed Telba, Khalid Jamil" Design and Simulation of High speed Radio Frequency Identification" International Journal of Advanced Computer Technology (IJIRTS) Vol 3, No 3 page 15-19 on May 2015.	31.
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El Aroudi, A.; Calvente, J.; Giral, R.; Al-Numay, M.; Martinez-Salamero, L., 2015, Boundaries of Subharmonic Oscillations Associated to Filtering Effects of Controllers and Current Sensors in Switched Converters Under CMC, IEEE Transactions on Industrial Electronics, IEEE Early Access Articles.	39.
F. Al-Kamal, E. Hassan, M. El-Naby, F. Shawki, S. El-Khamy, M. Dessouky, B. Sallam, S. Alshebeili, and F. Abd El-samie, "An Efficient Transceiver Scheme for SC-FDMA Systems Based on Discrete Wavelet Transform and Discrete Cosine Transform," Wireless Personal Communications, pp. 1-23, April 2015.	40.
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O. M. Haraz, A. R. Sebak, and S. A. Alshebeili, "Performance investigation of V-band PLPDA antenna loaded with a hemispherical dielectric lens for millimeter-wave applications," Microwave and Optical Technology Letters, vol. 57, pp. 630-634, January 2015.	43.

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T. Alshawi, A. Bentrcia, and S. Alshebeili, "Design and Low-Complexity Implementation of MatrixVector Multiplier for Iterative Methods in Communication Systems," IEEE Transactions On Very Large Scale Integration (VLSI) Systems, vol. PP, p. 1, January 2015.	45.
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O. M. Haraz, AR. Sebak, and S. A. Alshebeili, "Ultra-Wideband 4\ times 4 Butler Matrix Employing Trapezoidal-Shaped Microstrip-Slot Technique," Wireless Personal Communications, pp. 1-13, December 2014.	47.
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T. N. Alotaiby, S. A. Alshebeili, T. Alshawi, I. Ahmad, and F. E. A. El-Samie, "EEG seizure detection and prediction algorithms: a survey," EURASIP Journal on Advances in Signal Processing, vol. 2014, p. 183, December 2014.	49.
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R. A. Ghazy, M. Amoon, H. A. Abdallah, N. A. El-Fishawy, M. M. Hadhoud, M. I. Dessouky, S. A. Alshebeili, and F. E. A. El-Samie, "Block Based Embedding of Encrypted Watermarks Using Singular Value Decomposition," Optik - International Journal for Light and Electron Optics, vol. 125, pp. 6299–6304, October 2014.	51.
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N. A. Odhah, E. S. Hassan, M. Abdelnaby, W. E. Al-Hanafy, M. I. Dessouky, S. A. Alshebeili, and F. E. A. El-Samie, "Adaptive Resource Allocation Algorithms for Multi-user MIMO-OFDM Systems," Wireless Personal Communications, pp. 1-19, September 2014.	53.
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M. A. Hossain, I. Elshafiey, and M. A. Alkanhal, "High-resolution and Wideswath UWB OFDM MIMO Synthetic Aperture Radar System Using Image Fusion," Journal of the Indian Society of Remote Sensing, pp. 1-18, 2014.	59.
Hossain, Md Anowar, and Ibrahim Elshafiey. "Compressed sensing based MIMO UWB-OFDM SAR imaging using image fusion." Journal of Optoelectronics and Advanced Materials, Vol. 16, pp. 964-972, 2014.	60.
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A. W. Al-Alimi, M. H. Yaacob, A. F. Abas, "Half-linear cavity multiwavelength Brillouin-erbium fiber laser," J. Europ. Opt. Soc., Vol. 9, 2014	63
A. W. Al-Alimi, M. H. Yaacob, A. F. Abas, "Nonlinear Fiber Loop Mirror Optimization to Enhance the Performance of Multiwavelength Brillouin/Erbium-Doped Fiber Laser," IEEE Photonics Journ., Vol. 6, No. 6, 2014, pp. 1-10	64
HK Hisham, GA Mahdiraji, AF Abas, MA Mahdi, FR Mahamd Adikan, "Frequency modulation response due to the intensity modulation of fibergrating Fabry–Perot lasers", Journal of Modern Optics, Vol. 61, No. 13, 2014, pp. 1081-1091	65
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# المؤلف أو المؤلفون، السنة، عنوان الورقة، عنوان المؤتمر او الندوة، مكان المؤتمر، والتاريخ

## **Conference/ Symposium Papers**

Presented during the academic year 2014/2015

Presented during the academic year 2014/2015	
Author(s), Year, Title of paper, Conference title, Location, Date	
"Target Detection using Space-Time Adaptive Processing (STAP) and a Multi-Band, Multi-Channel Software Defined Passive Radar", Mubashir Alam, Khalid Jamil and Sami M. Alhumaidi Accepted In the IEEE/IET 12 <sup>th</sup> European Radar Conference (EuRad) (43 <sup>rd</sup> European Microwave Week), Paris, France, September 2015.	1.
"Efficient Techniques to Enhance Nearfield Imaging of Human Head for Anomaly Detection," M. N. Tabassum, I. Elshafiey, and Mubashir Alam, In 10 <sup>th</sup> IEEE International Symposium on Medical Measurements and Applications (MeMeA), Torino, Italy, 7-9 May, 2015.	2.
"Enhanced Noninvasive Imaging System for Dispersive Highly Coherent Space," M. N. Tabassum, I. Elshafiey, and Mubashir Alam, 40 <sup>th</sup> IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Brisbane, Australia, 19-24 April, 2015.	3.
"Compressed Sensing Based Near field Electromagnetic Imaging," M. N. Tabassum, I. Elshafiey, and Mubashir Alam, in Proceedings of 4 <sup>th</sup> IEEE International Conference on Control System, Computing and Engineering (ICCSCE), Penang, Malaysia, 28-30, November, 2014.	4.
"Innovative Nearfield Electromagnetic Imaging System," M. N. Tabassum, I. Elshafiey, and Mubashir Alam, in Proceedings of IEEE International Conference on Smart Instrumentation, Measurement and Applications (ICSIMA), Kuala Lumpur, Malaysia, 25-27 November, 2014.	5.
Syed Arslan Abbas Rizvi ,Khaled Addoweesh ,Abdelrehman El-Leathy ,Hany Al-Ansary "Sun Position Algorithm for Sun Tracking Applications ,"Industrial Electronics Society ,IECON 2014 - 40th Annual Conference of the IEEE ,Oct .29 - Nov .1 ,2014.	6.
Hadeed Sher ,Ali Murtaza ,Khaled Addoweesh ,Kamal Haddad ,Marcello Chiaberge" ,A New Irradiance Sensorless Hybrid MPPT Technique for Photovoltaic Power Plants ,"Industrial Electronics Society ,IECON 2014 - 40th Annual Conference of the IEEE ,Oct .29 - Nov .1 ,2014.	7.
Khaled Issa, Habib Fathallah, 'High Performance 60 GHz Antenna for Electromagnetic Energy Harvesting', in the 2015 International Conference on Information and Communication Technology Research (ICTRC2015), May 17-19, 2015.	8.
Salehs Chebaane, Hussein Seleem, Habib Fathallah, "Design Tradeoffs of Few-Mode Step Index Fiber for Next Generation Mode Division Multiplexing Optical Networks', in the 2015 International Conference on Information and Communication Technology Research (ICTRC2015), May 17-19, 2015.	9.
Waleed Tariq Sethi, Hamsakutty Vettikalladi and Habib Fathallah, "Dielectric Resonator Nanoantenna at Optical Frequencies", 2015 International Conference on	10.

Information and Communication Technology Research (ICTRC), 17-19 May, 2015.	
Amr Mohamd Ragheb; Habib Fathallah; Saleh Alshebeili; Hussein Seleem "Performance Investigation of under/over-Sampling for Arbitrary DP-MQAM Optical Transmitter," in the 2015 International Conference on Information and Communication Technology Research (ICTRC2015), May 17-19, 2015.	11.
Ziyad Almatroudi; Amr Mohamd Ragheb; Abdelouahab Bentrcia; Habib Fathallah, "Performance Investigation of CMA and RLS based Equalization for Next generation Long Reach Passive Optical Networks"; in the 2015 International Conference on Information and Communication Technology Research (ICTRC2015), May 17-19, 2015.	12.
Amr Mohamd Ragheb; Abdelouahab Bentrcia; H. Fathallah "Experimental Investigation of the Laser Phase Noise Effect on Next Generation High Order MQAM Optical Transmission," The International Conference on Information and Communication Technology Research (ICTRC2015), May 17-19, 2015.	13.
B. Hammami, H. Fathallah, and H. Rezig "Numerical Analysis of Orbital Angular Momentum based Next Generation Optical SDM Communications System," The Fifth International Conference on Communications and Information Technology ICCIT 2015, April 2015, Turkey.	14.
Ragheb, A.; Fathallah, H.; Fischer, H.; Doberstein, A.; Haisch, H.; Alshebeili, S.; Alhumaidi, S., "384Gb/s per carrier Quad-DAC based dual-polarization software defined optical transmitter," 11th Annual High-capacity Optical Networks and Emerging/Enabling Technologies (HONET), pp.150-153, 15-17 Dec. 2014.	15.
A. Alwarafy, A.I. Sulyman, A. Alsanie, S. Alshebeili, and H. Behairy, Sept. 2015, "Receiver Spatial Diversity Propagation Path-Loss Model for an Indoor Environment at 2.4 GHz," <i>Proc. IEEE Int'l. Conf. Networks of the Future (NoF'15)</i> , Montreal, Canada.	16.
A. Khawar, I. Ahmad, and Ahmed Iyanda Sulyman, June 2015, "Spectrum Sharing between Small Cells and Satellites: Opportunities and Challenges," <i>Proc., IEEE-ICC'15</i> , London – England.	17.
H. Seleem, A. Alsanie, and Ahmed Iyanda Sulyman, Apr. 2015, "Two-Stage Multiuser Access in 5G Cellular using Massive MIMO and Beamforming," <i>Proc. IEEE-Crowncom'2015</i> , Dhoha, Qatar.	18.
K. M. Humadi, Ahmed Iyanda Sulyman, and A. Alsanie, Apr. 2015, "Experimental Results for Generalized Spatial Modulation Scheme with Variable Active Transmit Antennas," <i>Proc. IEEE-Crowncom'2015</i> , Dhoha, Qatar.	19.
Zeshan Ali and Zuhair M. Hejazi, "Reconfigurable Multiband Bandpass Filters Using Short Bridges Resembling MEMS or Pin Diodes", IEEE Conference on Research & Development (SCOReD-2014), Universiti Sains Malaysia, Pinang-Malaysia, (ISBN: 978-1-4799-6427-7), 16-17/12/2014.	20.
A. M. Al-Shaalan, "Upgrading the Power Transformer Design to Improve its Efficiency and Performance", The IEC 78th General Meeting, Tokyo, Japan, 10-14 November 2014.	21.
A. M. Al-Shaalan, "International Experiences in Load Management and Energy Conservation", 5th General Conference of Arab Union of Electricity and Exhibition, Renewable Energy and Smart Grid: Future Solutions of Electric Power,	22.

6 – 8 January, 2014, Sheraton Doha Resort and Convention Hotel, Qatar.	
A. M. Al-Shaalan and Wakeel Ahmed, "Electric Energy Conservation Measures for	
Big Buildings in Saudi Arabia", The Power and Energy Engineering Conference,	23.
Seoul, S. Korea, 10 – 12 March 2014.	
A. M. Al-Shaalan, "Standards role in protect personnel and equipment of electric	
power systems", 3rd Electrical Safety Experts Symposium, Ministry of Water and	24.
Electricity, Riyadh, 5 - 6 November 2014.	
A. M. Al-Shaalan, "Upgrading the Transformer Design to Improve its Performance",	25
The IEC 78 <sup>th</sup> General Meeting, Tokyo, Japan, 10-14 November 2014.	25.
A. M. Al-Shaalan, "Electrical Requirements in the Building Saudi Code",	
Workshop, Ministry of Municipal and Rural Affairs, Riyadh, 1 – 2/8/1436 H (19 –	26.
20/6/2015).	
A. M. Al-Shaalan, "Obstacles Facing Developing Countries in Power System	
Planning", The 7th Asia-Pacific Power and Energy Engineering Conference	27.
(APPEEC 2015) Beijing, China. April 12-14, 2015.	
A. M. Al-Shaalan, "Technical and Economical Merits of Power Systems	
Interconnection", the 6th Asia-Pacific Power and Energy Engineering Conference	28.
(APPEEC 2014) Shanghai, China. April 12-14, 2014.	
A. M. Al-Shaalan, "Appropriate Electric Energy Conservation Measures for Big	
Mosques in Riyadh City", 2nd International Conference on Power Science and	29.
Engineering (ICPSE 2014), December 20-21, 2014, Paris, France.	
A. M. Al-Shaalan, "Reducing Electric Energy Interruption to Residential Sector By	
Means of Practical Measures", International Renewable and Sustainable Energy	30.
Conference, Congress Palace, Ouarzazate, Morocco, October 17 – 19, 2014.	
A. M. Al-Shaalan, "Renewable Energies: Methods of Applications and Reduction	
of Waste Energy", Sheraton Hotel, Riyadh, Riyadh Economic Forum, Riyadh	31.
Chamber of Commerce and Industry, 8/11/1436 H (23/8/2015).	
A. M. Al-Shaalan, "Load Factor Correction", Workshop organized by the Saudi	22
Electric Company, Sheraton Hotel, Riyadh, 17/5/1436 H.	32.
A. M. Al-Shaalan and Wakeel Ahmed, "Electric Energy Conservation in Big	
Mosques Using Zoning and Shading Techniques", The IEEE 8th International	
Power Engineering and Optimization Conference, IPEOCO, Selangor, Malaysia,	33.
2014.	
Ahmed Telba, Khalid Jamil "Radio Frequency Identification Design and	
Simulation" in International Conference of Electrical and Electronics Engineering	34.
The World Congress on Engineering 2014 (WCE 2014) will take place in London,	34.
U.K., 2-4 July, 2014.	
Ahmed Telba "Motor Speed Control Using FPGA " International Conference of	
Electrical and Electronics Engineering The World Congress on Engineering 2014	35.
(WCE 2014) will take place in London, U.K., 2-4 July, 2014.	
Ahmed Telba, Khalid Jamil "Modeling and Simulation of High Speed PLL Based	
Frequency Synthesizer Used in RFID" International Conference of Electrical and	36.
Electronics Engineering The World Congress on Engineering 2014 (WCE 2015)	30.
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¥ ' ' V'	

Ahmed Telba, Mohamed Shehata Aly "Determination of the stress and Resistivity of stainless steel foams" International Conference of Electrical and Electronics Engineering The World Congress on Engineering 2015 (WCE 2015) will take place in London, U.K., 1-3 July, 2015	37.
F. R. Pazheri, M. F. Othman, N. H. Malik and Safoora O. K., 2014, "Reduction in Cost with Limited Emission at Hybrid Power Plant in Presence of Renewable Power", 2014 IEEE Global Humanitarian Technology Conference South Asia Satellite, India, September 2014.	38.
Muhammad Hafeez Abbasi, Abdulhameed Al-Ohaly, Yasin Khan, "Design Phases for Grid Connected PV System", Intl. Conf. on Renewable Energy Research and Application (ICRERA 2014), October 2014 Milwaukee, USA.	39.
Muhammad Hafeez Abbasi, Abdulhameed Al-Ohaly, Yasin Khan, Hany.M Hasainen, "Cascaded Control Scheme of Grid Tied PV Inverter", Sixth International Renewable Energy Congress" IREC 2015, March 2015, Sousse-Tunisia.	40.
El Aroudi, A.; Garcia, G.; Fournier, D.; Al-Numay, M.; Al Hosani, K.H.; Martinez-Salamero, L., 2015, Bifurcation behavior in a two-loop DC-DC quadratic boost converter, IEEE International Symposium on Circuits and Systems (ISCAS), Portugal, 24-27 May, 2015.	41.
El Aroudi, A.; Lu, WG.; Al-Numay, M.; Iu, H.H.C., Subharmonic instability boundary in DC-AC H-bridge inverters with double edge PWM, IEEE International Symposium on Circuits and Systems (ISCAS), Portugal, 24-27 May, 2015.	42.
Al-Numay, M.S.; Adamali Shah, N.M., 2014, Unified output tracking control of non-minimum phase PWM systems using output redefinition, 6th International Conference on Modelling, Identification & Control (ICMIC), Australia, 3-5 December, 2014.	43.
M. N. Tabassum, I. Elshafiey, and M. Alam, "Compressed Sensing Approach for Nearfield Electromagnetic Imaging," Presented at Inverse Problems Symposium 2015 at Michigan State University, East Lansing, MI, May 31- June 2, 2015.	44.
M. N. Tabassum, I. Elshafiey, and M. Alam, "Compressed sensing based nearfield electromagnetic imaging," in Control System, Computing and Engineering (ICCSCE), 2014 IEEE International Conference on, 2014, pp. 571-575.	45.
M. M. Ali, O. Haraz, I. Elshafiey, S. Alshebeili, and A. R. Sebak, "Efficient single-band and dual-band antennas for microwave imaging and hyperthermia treatment of brain tumors," in Control System, Computing and Engineering (ICCSCE), 2014 IEEE International Conference on, 2014, pp. 597-600.	46.
M. I. Khalid, S. A. Aldosari, S. A. Alshebeili, T. Alotaiby, and F. E. Abd El-Samie, "Online adaptive seizure prediction algorithm for scalp EEG," inProc. International Conference on Information and Communication Technology Research (ICTRC'15), pp. 44-47, May 2015.	47.
U. Ahsun, T. Badar, S. Tahir, and S. Aldosari, "Autopilot fusion with external pilot inputs for enhancing flight safety of UAVs," in Proc. IEEE 53rd Annual Conference on Decision and Control (CDC'14), pp. 236-241, Dec. 2014.	48.
W. Saif, S. Aldosari, R. Djemal, and H. Fathallah, "Parallel FPGA implementation of incoherent OCDMA systems," in Proc. 11th Annual High-capacity Optical	49.

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F. Alsolamy, A. AlAmoudi, S. Almorqi, O. Haraz, S. Alshebeili, and AR. Sebak, "Constant Refractive Index Lens Printed Yagi Antenna for Automotive Radars," in The 2015 IEEE AP-S Symposium on Antennas and Propagation and URSI CNC/USNC Joint Meeting, Vancouver, July 19-25, 2015.	52.
M. M. Ali, O. M. Haraz, I. Elshafiey, S. Alshebeili, and AR. Sebak, "Efficient SAR Localization for Hyperthermia Treatment of Cancer Cells by Applying a Dual-Band 8-Element Phased-Array," in The 2015 IEEE AP-S Symposium on Antennas and Propagation and URSI CNC/USNC Joint Meeting, Vancouver, July 19-25, 2015.	53.
A. Alaqeel, S. Almorqi, O. Haraz, M. Ashraf, S. Alshebeili, and AR. Sebak, "Broadband 4 x 4 Butler Matrix for K- and Ka- Bands," in The 2015 IEEE AP-S Symposium on Antennas and Propagation and URSI CNC/USNC Joint Meeting, Vancouver, July 19-25, 2015.	54.
A. Alaqeel, S. Almorqi, M. Algassim, O. Haraz, S. Alshebeili, and AR. Sebak, "Broadband Phase Shifter for K- and Ka- Bands Beam-Steering Networks," in The 2015 IEEE AP-S Symposium on Antennas and Propagation and URSI CNC/USNC Joint Meeting, Vancouver, July 19-25, 2015.	55.
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O. Haraz, M. A. Ashraf, and S. Alshebeili, "8x8 Patch Antenna Array witPolarization and Space Diversity for Future 5G Cellular Applications," in the 2015 International Conference on Information and Communication Technology Research (ICTRC2015), Abu Dhabi, UAE, May 17-19, 2015.	57.
M. A. Hadi, S. Alshebeili, F. Abdelsamie, and K. Jamil, "Compressive Sensing for improved MIMO Radar performance - A Review," in the 2015 International Conference on Information and Communication Technology Research (ICTRC2015), Abu Dhabi, UAE, May 17-19, 2015.	58.
N. Ashraf, O. Haraz, S. Alshebeili, and M. A. Ashraf, "28/38-GHz Dual-Band Millimeter Wave SIW Array Antenna with EBG Structures for 5G Applications," in the 2015 International Conference on Information and Communication Technology Research (ICTRC2015), Abu Dhabi, UAE, May 17-19, 2015.	59.
A. Aldabbagh, S. Alshebeili, T. Alotaiby, and F. Abdelsamie, "Low Computational Complexity EEG Epilepsy Data Classification Algorithm For Patients with	60.

Intractable Seizures," in Proc. 2nd Inter. Conf. on Biomedical Engineering, Penang, Malaysia, March 30-31, 2015.	
M. M. Ali, O. M. Haraz, I. Elshafiey, S. Alshebeili, and AR. Sebak, "Design of Dual-Band Phased Array Antenna System with Layered Cylindrical Human Tissue Model for Hyperthermia Treatment and Microwave Imaging Applications," in the 2015 32nd National Radio Science Conference (NRSC), 6th of October City, Greater Cairo, Egypt, March 24-26, 2015.	61.
M. M. Ali, O. M. Haraz, S. Alshebeili, and AR. Sebak, "Broadband Millimeter-Wave Rectangular Reflectarray Antenna Utilizing Novel Polarization Insensitive Multi-Resonant Unit Cells," in the 2015 32nd National Radio Science Conference (NRSC), 6th of October City, Greater Cairo, Egypt, March 24-26, 2015.	62.
A. M. Ragheb, H. Fathallah, H. Fischer, A. Doberstein, H. Haisch, S. Alshebeili, and S. Al-Humaidi, "384Gb/s per Carrier Quad-DAC Based Software Defined Optical Multi-format Transmitter," in the 11th IEEE International Conference on High Capacity Optical Networks and Enabling Technologies HONET-PfE, UNC Charlotte, NC, USA, December 15-17, 2014.	63.
H. Shaman, S. Almorqi, O. M. Haraz, S. A. Alshebeili, Abdel-Razik Sebak, "Millimeter-Wave Microstrip Diplexer using Elliptical Open-Loop Ring Resonators for Next Generation 5G Wireless Applications," in the Mediterranean Microwave Symposium (MMS'14), Marrakech, Morocco, December 12-14, 2014.	64.
H. Shaman, S. Almorqi, O. M. Haraz, S. A. Alshebeili, "Hairpin Microstrip Bandpass Filter for Millimeter-Wave Applications," in the Mediterranean Microwave Symposium (MMS'14), Marrakech, Morocco, December 12-14, 2014.	65.
Abdulrahman Alaqeel, H. Shaman, S. Almorqi, O. M. Haraz, S. A. Alshebeili, Abdel-Razik Sebak, "Butterfly–Shaped Slot Coupled Microstrip 90° Hybrid Couplers for K- and Ka-Band Millimeter-Wave Radar Applications," in the Mediterranean Microwave Symposium (MMS'14), Marrakech, Morocco, December 12-14, 2014.	66.
O. M. Haraz, M. Abdel-Rahman, S. A. Alshebili, and AR. Sebak, "A Novel 94 GHz Dipole Bow-tie Antenna for Imaging Applications," in 2014 IEEE Asia-Pacific Conference on Applied Electromagnetics, Malaysia, December 8-10, 2014.	67.
M. F. A. Ahmed, O. M. Haraz, G. Kaddoum, S. A. Alshebili, and AR. Sebak, "On Using Gaussian Excitation Amplitudes to Improve the Antenna Array Radiation Characteristics," in 2014 IEEE Asia-Pacific Conference on Applied Electromagnetics, Malaysia, December 8-10, 2014.	68.

#### المشاريع البحثية

التي تمت الموافقة على مقترحها او ما زالت جارية خلال العام الجامعي 1436/35هـ (تعبأ من قبل الباحث الرئيسي فقط ويذكر اسماء الباحثين المشاركين، وفي حالة كون الباحث الرئيسي من قسم آخر فيمكن للباحث المشارك تعبئتها)

#### **Research Projects**

whose proposals are approved during the academic year, 2014/2015 or still ongoing (filled

# in by <u>PI only</u> and should state the CIs. In case that the PI is from another department, the CIs can fill in this part)

تاريخ البدء والانتهاء (الشهر والسنة Start & End Period (month and year)	مدة المشروع Duration	الميزانية المقدرة (ريـال) Budget	الجهة الداعمة Sponsor	الباحثيـن Researchers انظر اعلاه للأهمية See above	اسم المشروع Project Title
Proposal Submitted in Second Semester, 1435 – 1436 (January, 2015)	12 months	30,000 SAR	Deanship of Scientific Research	Dr. Abu Syed Mahajumi	"III-V Semiconductor nanostructures for concentrator solar cell"
1434/12/1هـ إلى 1436/12/01	24 months	0.9M SR	KACST-TIC	Dr. Habib Fathallah	Simulation and Design Platform of Novel Optical Fibers for Next Generation Space Division Multiplexing Optical Communication Systems
1435/7/27هـ إلى 1438/01/01	30 months	2.1M SR	KACST-TIC	Dr. Habib Fathallah	Prototyping a Novel Rectenna / Nantenna based Next Generation Green Energy Harvesting System at RF and Optical/Solar Frequencies
1435/06/01 إلى 1437/06/01	24 month	1.8M SR	KACST	Dr. Habib Fathallah, Dr. Mohammed Alouini,	Free Space Optical Communications Prototyping and Performance Assessment in Desert Environment

1435/06/01 إلى 1437/06/01	24 month	1.5M SR	KACST	Dr.Habib Fathallah Dr. Irfan Memon	Prototyping a Tunable Millimeter-Wave Synthesizer using Photonics
01/01/2014	2 years	SR 1,792,000	NPST	Ahmed Iyanda Sulyman, Awad Alasmari, Abdulhameed Alsanie	MIMO and Relay- assisted Network Planning Tool for Next-Generation Cellular Systems
08/12/2014	2 years	SR 1,864,000	NPST	Ahmed Iyanda Sulyman, Abdulhameed Alsanie, A. Alshebeili, H. Behairy	Field Measurements and Propagation Models for mm Wave 5G Cellular Services in Riyadh Area
الفصل الثاني 1435 الفصل الأول 1436	سنه و احدة	20,000 SR	Deanship of Scientific Research (DSR)	Zuhair M. Hejazi and Zeshan Ali	"Compact Planar Multi-Band Bandpass Filters with Enhanced Performance for Modern Wireless Communication Systems"
6/1438 H	2.5 Years	750,000	Ministry of Water and Electricity	Abdullah M. Al-Shaalan & Abdul Hamid A. Al- Ohaly	Load Management and Energy Conservation Strategies
6/1436 H	6 months	50,000	Gulf Cooperation Council	Abdullah M. Al-Shaalan	Establishing the Gulf Building Cod (GBC)
12/2016 G	10 months	350,000	Ministry of Municipal and Rural Affairs	Abdullah M. Al-Shaalan & Abdul Hamid A. Al- Ohaly	Updating the present Status of Saudi Building Code (SBC)

	24 months	1.98 Million	NPST	Hamsakutty Vettikalladi	Luneburg Lens- and Substrate- Integrated Waveguide-Based Beam-Steerable Antenna Array for 60-GHz High- Speed Indoor Communication Systems
March-2014 to March 2016	24 months	1.74 Million	KACST	Hamsakutty Vettikalladi	79 GHz Short Range Radar Antenna Design for Next Generation Intelligent Automotive Radar System
March 2015- march 2016	10 months	18000	Research Center, College of Engineering KSU	Hamsakutty Vettikalladi	Study and the design of Sub- Terahertz antennas for extra high speed wireless communication after 2020
March 2014- march 2015	10 months	17500	Research Center, College of Engineering KSU	Hamsakutty Vettikalladi	94 GHz innovative antenna design for next generation high speed Point to point fixed radio system
To be determined by KACST	24 Months	SR 1,408,600	General Directorate of Research Grants-King Abdulaziz City for Science and Technology	Ibrahim Elshafiey Abdelfattah Sheta Mubashir Alam	نظام تصوير قريب المدى و عريض النطاق لتركيز فعال للطاقة في العلاج الحراري للسرطان Wideband Nearfield Imaging System for Active Energy Concentration in Hyperthermia Treatment of Cancer

February 2013 January 2015	24 months	1,400,000	Saudi Electricity Company	Yasin Khan, A.A. Al- Arainy, N. H. Malik	Non-Tripping of Overhead MV Line Feeders
2015/2/25	سنة	7330000 ريال	الملك عبد الله للبحوث والدراسات الاستشارية	د. فتحي السيد عبدالسميع د. صالح بن عبد الله الشبيلي د. تركي بن نايف العنيبي	Electroencephalogr aphy EEG and magnetoencephalog raphy MEG signals Analysis for "I Seizure Detection and Prediction
2015	24 Months	1,432,302	NPST	Ahmad Fauzi Abas & Ehab Awwab	2 um Laser for LIDAR Applications based on Multichannel Bril Iouin Fiber Laser Technology

### كتب مؤلفة او فصل في كتاب

تم نشر ها خلال العام الجامعي 1436/35هـ المؤلف أو المؤلفون، عنوان الكتاب أو الفصل، الناشر، مكان النشر، سنة النشر

#### Authored Books or Chapter(s) in Books

published during the academic year 2014/2015

Author(s), Title of book or chapter, Publisher, Place of publishing, Year

A. M. Al-Shaalan, "Contemporary Issues in Energy Conservations", Awareness Department, Ministry of Water and Electricity, Riyadh, 1435 H.	1.		
A. M. Al-Shaalan and others, "Conservation of Electricity Consumption",			
Collaboration of Joint work between Al-Zamil Industrial Group and Ministry of Water	2.		
and Electricity, Riyadh, December 2014.			
Ahmed Telba, " Motor Speed Control Using FPGA" (American Institute of			
Physics-API) IAENG Transactions On Engineering Technologies Volume 6 -	3.		
Special Edition of the World Congress on Engineering and Computer Science 2014.			
A. A. Al-Arainy, A. Beroual and N. H. Malik, 2014, "Experiments in High Voltage	4.		
Engineering" King Saud University Press, Riyadh, 2014			
F. R. Pazheri, M. F. Othman, N. H. Malik, A. A. Al-Arainy and Y. Khan, "Optimum			
Power Dispatch Management in Presence of Renewable Energy and Energy Storage",			
Science and Technology Publishing Inc, www.scitecpub.com, 2014.			
El-Aroudi, A.; Al-Numay, M.; Al-Hosani, K. H.; Al-Sayari, N., Using Steady-			
State Response for Predicting Stability Boundaries in Switched Systems Under	6.		
PWM with Linear and Bilinear Plants, a chapter in the Springer book Structural	0.		
Nonlinear Dynamics and Diagnosis, Springer, 2015.			

#### كتب مترجمة

تم نشر ها خلال العام الجامعي 1436/35هـ المؤلف أو المؤلفون، عنوان الكتاب، اسم الناشر، مكان النشر، تاريخ النشر

#### **Translated Books**

published during the academic year 2014/2015

Author(s), Year, Title of book and its author(s), Publisher, Place of publishing, year

A. M. Al-Shaalan, "Electrical Installation Guide", prepared by Schneider Electric	
Company (Schneider Electric), Riyadh Branch, Published by The Saudi Arabian	1.
Standards Organization (SASO), Riyadh, 2014.	
A. M. Al-Shaalan, "Safety Regulations in Electrical Installations and Erections	
for Governmental Buildings in the Kingdom", Ministry of Municipal and Rural	2.
Affairs, Riyadh, 1435 H.	

### رسائل الماجستير

تم اعتماد مقترحها في مجلس القسم أو تم مناقشتها خلال العام الدراسي 1436/1435هـ

#### **Master theses**

Master theses
whose proposals endorsed by department council or presented during the academic year 2014/2015

	T	2014/2015	I	1
اعتمدت من مجلس القسم / منحت Endorsed by Department Council / Presented	اسم المشرف Supervisor name	اسم الطالب Student Name	عنوان رسالة الماجستير Title of Master Thesis	م
نعم	Dr. Khaled Addoweesh	Syed Arslan Rizvi	Development of Sun Tracking System For Point Focus Fresnel Collector	1.
Awarded مناقشة	Dr. Habib Fathallah	Ziyad Ahmad Almatroudi	Performance Investigation of Complex Modulated Data over SPCOCDMA Channel	2.
Fall 2014	Dr. Ahmed Iyanda Sulyman	Khalid Alhumadi	Spatial Modulation Concept for Massive Multi-User MIMO Systems	3.
Fall 2014	Dr. Ahmed Iyanda Sulyman	Abdulmalik Hameed Ahmed Alwarafy	MmWave Measurements and Channel Modelling for 5G Cellular Communications	4.
Presented	Dr. Saeed Aldosari	Waddah Saif	FPGA implementation of Optical CDMA over high speed (FTTH/PON) Intrusion Detection	5.
نو قشت	Dr. Zuhair M. A. Hejaz	Zeshan Ali	Compact Planar Multi- Band Bandpass Filters with Enhanced Performance for Modern Wireless Communication Systems	6.
Endorsed by Department Council	Dr. Abdullah M. Al-Shaalan	Abdulmajeed Majid Almalki	Remedy and Mitigations of Unexpected Power Outages by using Reliability Evaluation Measures	7.
Presented	Dr. Abdullah M. Al-Shaalan & Dr. Abdul Hamid A. Al-Ohaly	Wakeel Ahmed	Appropriate Electric Energy Conservation Measures for Grand Mosques in Riyadh City	8.
Degree Granted	Dr. Mubashir Alam	Muhammad	Enhanced Nearfield	9.

in May 2015	&	Naveed Tabassum	Three-Dimensional	
	Dr. Ibrahim		Electromagnetic Imaging	
	Elshafiey		Using Compressed	
			Sensing	
			Constan False Alarm Rate	
Presented	Dr. Saleh. A.	Rayyan Alshaalan	Anomaly-Based	10
Fresented	Alshebeili	Approach for Netwo	Approach for Network	10.
			Intrusion Detection	
			Self-Similarity and Long	
Presented	Dr. Basil AsSadhan	Khan Zeb S. Khan	Range Dependence for	11.
			Network Traffic Analysis	
Presented	Dr. Saleh. A.	Abdulmuneem	Network Traffic Analysis	12.
riesenteu	Alshebeili	Bashaiwth	for Botnet Detection	10. 11.

#### رسائل الدكتوراه

تم اعتماد مقترحها في مجلس القسم أو تم مناقشتها خلال العام الدراسي 1436/1435هـ

#### PhD theses

whose proposals endorsed by department council or presented during the academic year  $2014/2015\,$ 

اعتمدت من مجلس القسم / منحت Endorsed by Department Council / Presented	اسم المشرف الرئيس Supervisor Name	اسم الطالب Student Name	عنوان رسالة الدكتوراه Title of PhD Thesis	
Presented	Dr. Habib Fathallah	Amr Mohamed Ragheb	Multi-format Optical Transmission System for Next Generation Terabit Networks	1.

# Department seminars

No.	Date	Topic	Speaker & Affiliation
1	29/10/2014	Paving the Way to 5G	Farris Alhorr, National Instruments, KSA
2	10/11/2014	Data Science: Analytics by DSP on Graphs	Prof. Jose Moura, MU, USA
3	19/11/2014	Rateless Space-Time Block Code for Large-Scale Multiple input- Multiple output Systems	Eng. Ali H. Alqahtani KSU, (PhD)
4	11/12/2014	Smart Antennas and the Impact of Antenna Array Geometries on Communication Channel BER.	Prof. Constantine A. Balanis ASU, USA
5	24/12/2014	E-learning in the Classrooms	Dr. Ahmad Omar KSU, KSA
6	05/01/2015	Multiformat Optical Transmission	Eng. Amr Mohamed

		System for Next Generation Terabit Networks	Ragheb, KSU, (PhD)
7	05/01/2015	Spectrum Scarcity and Optical Wireless Communications	Dr. Mohamed-Slim Alouini KAUST, Saudi Arabia
8	04/02/2015	O Operating Region of Modular Multilevel Converter for HVDC with Controlled Second-order Harmonic Circulating Current: Elaborating P-Q Capability	Dr. Kyeon Hur, Yonsei University South Korea
9	04/02/2015	Stochastic Process-Based Harmonic Current Generation For Harmonic Assessment in the Planning Studies for Wind Power Plants	Dr. Kyeon Hur, Yonsei University South Korea
10	04/03/2015	Pattern Classifiers and Methods of Reinforcement	DR. CHING Y. SUEN Concordia University – Canada
11	16/03/2015	Platform Based Design with Software Defined Radio	Farris Alhorr, National Instruments, KSA
12	01/04/2015	Power Processing in Photovoltaic Applications by Means of Cascaded Voltage Step-up Canonical Elements	Dr. Abdelali El Aroudi, (URV), Tarragona, Spain
13	06/04/2015	Optical Wireless Systems and Applications	Prof. Jaafar Elmirghani, University of Leeds, UK
14	15/04/2015	Development of Wideband High Efficiency Power Amplifier for Next Generation Wireless Systems	Eng. Waqar Ahmad Malik KSU, KSA (PhD)
15	29/04/2015	Smart RFIC: Millimeter-wave Gigabit Transceivers with Digitally enabled Built-in Self- calibration and Auto-switching Functions	Dr. TIAN-WEI HUANG Professor, National Taiwan University – Taiwan
16	12/05/2015	Millimeter wave Antenna Design and Technologies	Pr. Mohamed Himdi Professor at Rennes 1 University – France
17	21/05/2015	Free Space Optics for Next Generation Networks	Eng. Maged Abdullah Esmail KSU