


# Curriculum Vitae – Anjum Munir

PERSONAL INFORMATION				
Name	Anjum Munir			
Father's Name	Munir Ahmad			
Date of Birth	21.02.1969			
Nationality	Pakistani			
NIC No.	33100-2889565-3			
Passport No.	AB0765652			
Marital Status	Married			
Designation	Professor/Chairman (Assisting the Vice Chancellor in the matters of the Faculty of Agri- Engineering & Technology, UAF (Serving Dean of the Faculty))			
University/ Institution	University of Agriculture, Faisalabad			
Department	Energy Systems Engineering			
Office Address	Department of Energy Systems Engineering, Faculty of Agricultural Engineering and Technology, University of Agriculture, Faisalabad- Pakistan			
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## EDUCATIONAL QUALIFICATIONS

### (a) University

Degrees obtained	Name and Place of University and college	Years attended		Division	Major Subjects
		From	To		
B.Sc. Agricultural Engineering	University of Agriculture, Faisalabad	1987	1991	First	B.Sc. Agricultural Engineering subjects
M.Sc. (Hons.) Agricultural Engineering	University of Agriculture, Faisalabad	1991	1995	First	M.Sc (Hons.) Agri- Engineering subjects
PhD	University of Kassel, Germany	2007	2010	First Division / German Note 1.0/1.0 (Magna cum laude)	PhD Agri- Engineering/Solar Energy

**Thesis topic: PhD (University of Kassel, Germany)**

Design, development and modeling of a solar distillation system for the processing of medicinal and aromatic plants published in Max-Eyth-Gesellschaft Agrartechnik im VDI (VDI-MEG) N, ISSN 0931-6264, Germany

**Thesis topic: M.Sc. (Hons.) Agri-Engineering**

Optimization of milling performance of a sugar plant by using linear programming technique

**(b) Secondary School and Intermediate or equivalent**

Certificate obtained	Institution attended	Years attended		Division	Major Subjects
		From	To		
Matriculation (SSC)	M.C. High School, Samanabad, Faisalabad	1982	1984	First	Science Subjects
F.Sc (Pre-Engineering)	Govt. College Faisalabad	1984	1987	First	F.Sc (Pre- Engg. Subjects)

**(c) Other formal training**

Certificate / Diploma obtained	Name and Place of Institution	Years attended		Major Subjects Specialization
		From	To	
Certificate of Participation	University of Agriculture, Faisalabad-Pakistan	Year 2011		Construction of Scheffler Fixed Focus Concentrator
Certificate of Participation	Munich, Germany	Year 2011		Intersolar Europe 2011
Certificate of Participation	International Islamic University, Islamabad	Year 2010		Power Generation Systems and Renewable Energy Technologies
Certificate of Participation	University of Kassel, Witzenhausen, Germany	Year 2008		Design and constructional details for Scheffler fixed focus concentrator
Certificate of Participation	University of Kassel, Witzenhausen, Germany	Year 2007-08		German language course

**International professional training and tasks achieved**

Name of Country	Purpose of Visit
Thailand	February 28, 2025 to March 02, 2025 (Notification Endst. No. PS-4/1247-53 Dated 10-02-2025) To attend Study Tour of the Asian and Pacific Network for Testing of Agricultural Machinery (ANTAM) in Bangkok and Kamphaeng Saen, Thailand, organized by the Centre for Sustainable Agricultural Mechanization (CSAM) of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) as ANTAM Secretariat, in collaboration with the Thailand National Agricultural Machinery Center (NAMC) of Kasetsart University, Thailand
Philippines	February 24-27, 2025 (Notification Endst. No. PS-4/1247-53 Dated 10-02-2025) To attend Knowledge-Sharing Workshops on Agricultural Machinery Standard and Testing Code Development by the Agricultural Machinery Testing and Evaluation Center, the University of the Philippines, Los Banos (UPLB), the Philippines

Nepal	December 03-11, 2024 To attend ANTAM workshop on sustainable and climate resilient mechanization organized by the Asian and Pacific Network for Testing of Agricultural Machinery (ANTAM) at Kathmandu, Nepal along with 11th Annual Meeting of ANTAM and 7th Regional Training of Trainers of ANTAM sponsored by Asian Development Bank (ADB).
Malaysia	October 25-26, 2024 To attend workshop and exploratory visit for the potential utilization of rice straw in bio-pellet and bio-plastic production in the Japan International Research Center for Agricultural Sciences (JIRCAS) site in MALAYSIA sponsored by Asian Development Bank (ADB)
Thailand	May 19-24, 2024 To attend meeting of the Technical Working Group (TWG) on combine harvesters of the Asian and Pacific Network for Testing of Agricultural Machinery (ANTAM) from 19-24 May 2024 at Khon Kaen & Bangkok, Thailand organized by Centre for Sustainable Agricultural Mechanization of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP-CSAM) in collaboration with the Khon Kaen Agricultural Engineering Research Center (KK-AERC) and the Agricultural Engineering Research Institute (AERI) of the Department of Agriculture of Thailand sponsored by Asian Development Bank (ADB).

### **Academic and professional distinctions**

- Serving as Elected Governing Body member of Pakistan Engineering Council.
- Installed 1.5 MW on-grid solar PV system at UAF main and sub-campus of Faisalabad.
- Won competitive HEC-DAAD Overseas Scholarship to conduct PhD studies in Germany
- Won DAAD competitive research grant from DAAD to develop various solar technologies and for student & faculty exchange program.
- Successfully completed 20 need-based research projects on solar and bioenergy from various domestic and foreign funding agencies.
- Got 3 Patents by Patent office, Government of Pakistan
- Won competitive grant of “Professorship” under Ela Bhatt Professorship funded by German Ministry for Economic Cooperation and Development (BMZ) through the German Academic Exchange Service (DAAD) Germany (June 1st – September 30th 2018). I have honor to taught the students of University of Kassel and University of Göttingen
- Having more than 20 years teaching and research experience and about 10 years technical experience in Industry (Total Experience = 30 Years)
- Recipient of Research Productivity Award 2014, 2015, 2016 and 2017.
- Secured 1.0 (Magna cum laude = Excellent) in PhD studies in Germany
- HEC Approved Supervisor and supervised 6 PhDs students at UAF; 02 as Co-supervisor in Germany; 63 MS students as major supervisor and 45 as member of supervisory committee
- My thesis was selected among best 7 theses in VDI (Verein Deutscher Ingenieure) German Engineering Council (2010)
- Presentation as Resource Person from Pakistan at Solar World Congress 2011
- Published more than 100 research publication mainly on various aspects of Engineering and Energy having citation score of 1857 (h-index<sup>1</sup> = 22).

- Developed 08 solar based technologies for value addition of agricultural products
- Won consultancy services of the Government of the Punjab Project (Directorate of Water Management, Lahore) entitled "Promotion of High Value Agriculture through Provision of Climate Smart Technology Package and have worked as a Team Leader/Project Manager from the JV Consultants and have installed solar drip irrigation over more than 2300 acres in Punjab province were added in rural Punjab for Energy and Water Conservation.
- Working as Director in Punjab Bioenergy Institute (PBI), UAF
- As a Chairman/convener, initiated and launched new need-based degree program (Energy Systems Engineering) at MS, MS and PhD level accredited at Level-II (Washington Accord) as a basic requirement of PC-I of Punjab Bioenergy Institute (PBI)

## TECHNICAL AND ACADEMIC EXPERIENCE

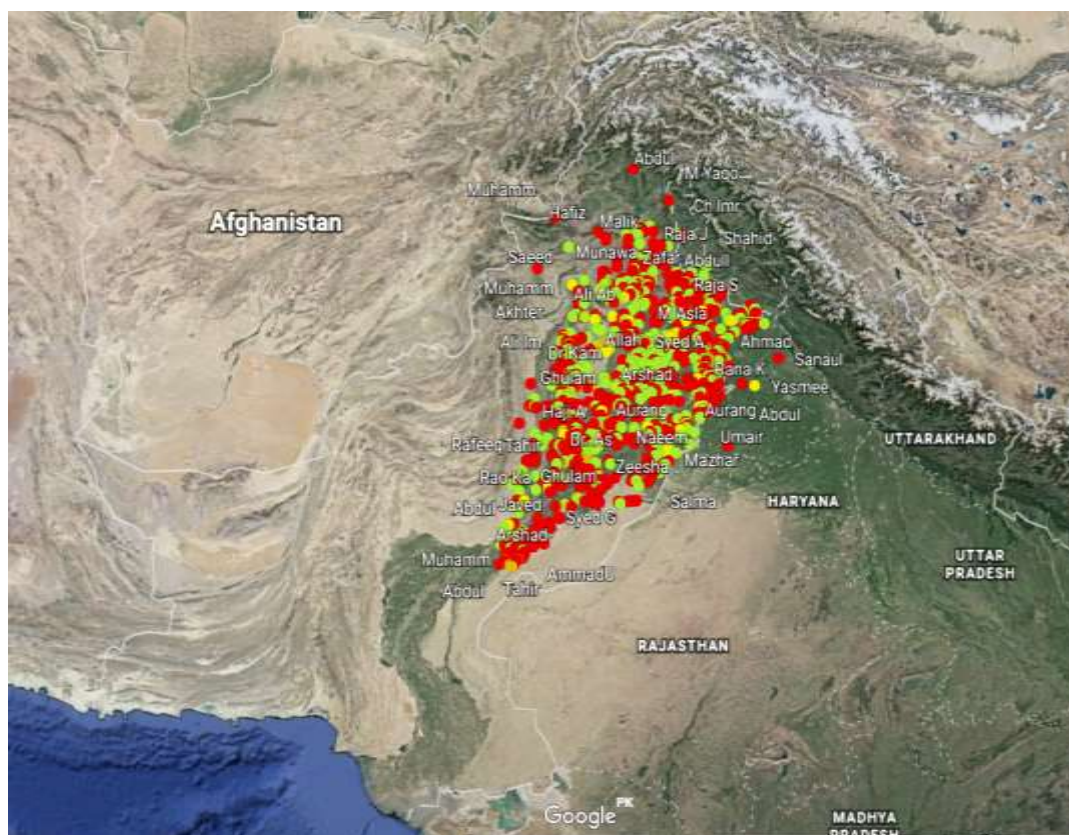
Post held	Where employed	Dates		Duration
		From	To	Y-M-D
Shift Engineer	Pahrianwali Sugar Mills, Limited, Lalian, District Jhang-Pakistan	11.10.1993 22.12.1998	-	05-02-11
Senior Engineer	Crescent Sugar Mills & Distillery, Faisalabad-Pakistan	24.12.1998 14.04.2003	-	04-03-20
Lecturer BPS-17 & BPS-18	University of Agriculture, Faisalabad-Pakistan	15.04.2003 18.08.2010	-	07-10-03
Lecturer BPS-18	University of Agriculture, Faisalabad-Pakistan	19.08.2010 18.02.2011	-	00-05-30
Assistant Professor-TTS	University of Agriculture, Faisalabad-Pakistan	19.02.2011 28.12.2014	-	03-10-09
Associate Professor-Tenured (BPS-20)	University of Agriculture, Faisalabad-Pakistan	29.12.2014 21.12.2022	-	07-11-22
Professor (BPS-21)	22.03.2022	22.03.2022 to date		02-11-27
Total experience				32-08-02
Teaching experience				23.02.01

## Consultancy services

Research Projects	Role	Duration (From-To) Funding Agency
<b>Promotion of High Value Agriculture through Provision of Climate Smart Technology Package</b>	Worked as a <b>Team Leader /Project Manager</b> and has successfully completed the project as a consultant as a JV partner with 8.2 Renewable Energy and Engineering Consultancy Services Punjab (ECSP) by installing solar systems for drip irrigation over	<b>2017-19 Government of the Punjab /Water Management 99 Million</b>

	more than <b>2300 acres</b> in Punjab province and have added more than <b>23 MW Solar PV Systems</b> in rural Punjab for <b>Energy and Water Conservation</b> (*Consolidated site map of solarizing HEIS in the Punjab Province is shown below)	
Pilot Project to test Financing of Solar Tubewells in South Punjab	Member	2015 HBL Bank
Solarizing UAF IT Library and Science Block	Convener (Solar systems on all three buildings have been installed and commissioned)	GOP 1.7024 Million

**\*Consolidated site map of solarizing HEIS in Punjab Province is shown below**



## Research Project

S. No	Project Title	Funding Agency	Worth	Duration	As PI/ Co-PI	Present Status
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1	Value addition to agricultural products using solar energy	International Center for development and decent work (ICDD), Germany	40,000 Euros	Two years (2011-12)	PI	Completed
2	Ergonomics and Occupational health in sugar industry of Pakistan	International Center for development and decent work (ICDD) Germany		One Year (2011)	PI	Completed
3	Fabrication, Installation and Operation of Biogas at UAF	Endow. Fund Secretariat , UAF	5.134 Million Rs.	Two Years (2012-13)	PI	Completed
4	Renewable Energy Technologies in Pakistan (PI)	German Academic Exchange Service (DAAD), Germany	120000 Euro	Three Years (2013-15)	PI	Completed
5	Design, development and modeling of a Scheffler fixed focus solar concentrator for the post-harvest processing of different agricultural products (PI)	Agricultural Linkage Program (ALP), PARC, Islamabad	3.9826 Million Rs.	Three Years (2015-17)	PI	In Progress
6	Commercialization of IC engines for power generation from agricultural waste (PI)	Endow. Fund Secretariat , UAF	2.4011 Million Rs	One Year (2015-16)	PI	Completed
7	Establishment of Punjab Bio-energy Institute (PBI) at University of Agriculture, Faisalabad (Team Member)	Government of Punjab, Lahore		Three Year (2014-17)	Member	In Progress
8	Skills for Biogas funded by" amount 22.207 Million for the training of Biogas Supervisors and Technicians.	Punjab Skills Development Funds (PSDF) Lahore	22.207 Million Rs.	One Year (2015)	PI	Completed
9	Evaluating the Potential of Bioenergy from Weeds	British Council, UK And HEC Islamabad	3.7 Million Rs.	Three Years (2015-17)	Co-PI	On going
10	Income Generation	International	59878	One Year	PI	Completed

	using Solar Based Food Processing Technologies for Rural Community (PI)	Center for development and decent work (ICDD) Germany	Euro	(2015-16)		
11	Awareness Campaign regarding Energy Saving Strategies in Faisalabad	Higher Education Commission (HEC), Islamabad	1.0 Million Rs	One Year 2015	PI	Completed
12	Income Generation through Development and Indigenization of Energy Efficient e-pedelic Rikshaw and Solar Assisted Milk Powder Machine for Rural Community.	International Center for Development and Decent Work (ICDD), Germany.	28611 Euro	One Year 2017	PI	Completed
13	Development of solar assisted multi-crop dryers and energy efficient storage structures for value addition and food security".	USPCAS-AFS	75000 US\$	2017-19	PI	Completed
14	Development of Quality Oriented Solar Assisted Diagonal Batch Dryer for Perishable Products"	HEC under NRPU Program	2.4 M	2017-19	PI	Completed
15	Development of locally fabricated flat plate solar collector and solar driven desalination system through Reverse Osmosis (PV-RO).	National Research Program for Universities (NRPU) by Higher Education Commission (HEC), Islamabad-Pakistan	PKR 1.819 Million	Two Years (2017-2019)	Co-PI	Completed
16	Design and Development of Solar Assisted Cold Storage System for the Preservation of Perishables	HEC under Technology Development Fund (TDF)		2017-19	PI	Completed
17	Numerical and experimental based	Higher Education	0.5 Million	One Year (2017-18)	Co-PI	Completed

	optimization of design and operating conditions of solar-based innovative food processing technologies (prototypes) for outreach	Commission (HEC) Pakistan, Start-Up Research Grant Program.	PKR			
18	Design and development of solar hybrid seed dryer (SHSD) using ANSYS	HEC-Establishment of Technology Development Fund	3.8205 Million PKR	Two Years (2017-19)	Co-PI	Completed
19	Design, development and computational modeling of a solar assisted cold storage system for the preservation of perishables agricultural products.	Pakistan Agricultural Research Council; Agricultural Linkages Programme (ALP-8th Batch)	5.448 Million PKR	Three years (2018-21)	Co-PI	Completed
20	Development and Experimental Investigation of Self-propelled Row Crops Variable Height Crop Sprayer for Efficient Crop Spraying	National Research Program for Universities (NRPU) by Higher Education Commission (HEC), Islamabad-Pakistan	PKR 1.90 Million	Two Years (2018-20)	PI	Completed
21	Retrofitting of Energy Inefficient Appliances with Energy Efficient Appliances in University of Agriculture Faisalabad	Punjab Energy Efficiency and Conservation Agency (PEEC) funded by World Bank	72 Million	One Year (2020)	FP	Completed
22	Development of Solar Thermal Energy Storage System at medium temperature using Phase Change Material (PCM) for	International Center for development and decent work (ICDD) Germany	5000 Euro	One Year (2021)	PI	Awarded



	continuous on-farm decentralized food processing.					
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PI=Principal Investigator, Co-PI=Co-Principal Investigator, FP=Focal Person

## LIST OF PUBLICATIONS-PEER REVIEWED JOURNALS

S.No	Authors	Year	Title	Name of Journal with Volume, Page and ISSN Numbers	Category
01	Zuhair Qamar Anjum Munir Waseem Amjad Timothy Langrish Syed Nabeel Husnain Oliver Hensel	2024	Energy and exergy analyses of a solar assisted milk powder spray dryer	Volume 57, January 2025, 103131	ISI Thermal Science and Engineering Progress
02	Zeeshan Munir, Franz Roman, Badar Munir Khan Niazi, Naveed Mahmood, <b>Anjum Munir</b> , Oliver Hensel	2023	Parametric analysis for exergetic optimisation of a solar shell-and-tube latent heat storage unit for agricultural applications	Volume 233 Pages 121029	ISI Applied Thermal Engineering
03	Waseem Amjad, <b>Anjum Munir</b> , Fatima Akram, Aditya Parmar, Marcelo Precoppe, Furqan Asghar, Faisal Mahmood	2023	Decentralized solar-powered cooling systems for fresh fruit and vegetables to reduce post-harvest losses in developing regions: a review	Volume 7 Issue 3 Pages 635-653	ISI Clean Energy

04	Syed Nabeel Husnain, <b>Anjum Munir</b> , Waseem Amjad, Faizan Majeed, Oliver Hensel	2023	Comparative quality analysis and economic feasibility of solar assisted yogurt processing unit for decentralized dairy value chain	Vol: 13 Issue: 1 6878	ISI Scientific Reports
05	Zuhair Qamar, <b>Anjum Munir</b> , Timothy Langrish, Abdul Ghafoor, Muhammad Tahir	2023	Experimental and Numerical Simulations of a Solar Air Heater for Maximal Value Addition to Agricultural Products	Volume:13 Issue:2 Pages:387	ISI Agriculture
06	Zeeshan Munir, Franz Roman, Badar Munir Khan Niazi, Naveed Mahmood, <b>Anjum Munir</b> , Oliver Hensel	2023	Thermal analysis of a solar latent heat storage system using Scheffler concentrator for agricultural applications	Volume:218 Pages: 119230	ISI
07	Waseem Amjad, <b>Anjum Munir</b> , Fatima Akram, Aditya Parmar, Marcelo Precoppe, Furqan Asghar, Faisal Mahmood	2023	Decentralised solar-powered cooling systems for fresh fruits and vegetables to reduce postharvest losses in developing regions: a review	Vol: 7 Issue: 3 Pages:635-653	Clean Energy
08	Khawar Saeed Khan, Yasir Latif, <b>Anjum Munir</b> , Oliver Hensel	2022	Comparative thermal analyses of solar milk pasteurizers integrated with solar concentrator and evacuated tube collector	8	Energy Reports 4.937
09	Faizan Majeed, Syed Nabeel Husnain, Ali Raza, Muhammad Sultan, <b>Anjum Munir</b> , Oliver Hensel, Abozar Nasirahmadi	2022	Energy and exergy analysis of a solar coffee roaster using concentrating scheffler-reflector	34	Thermal Science and Engineering Progress 4.56
10	Syed Nabeel Husnain, Waseem Amjad, <b>Anjum Munir</b> , Oliver Hensel	2022	Energy and exergy based thermal analysis of a solar assisted yogurt processing unit	-	Frontiers in Energy Research 3.858

11	Iqra Ayub, Muhammad Salman Nasir, Yang Liu, <b>Anjum Munir</b> , Zhen Wu, Fusheng Yang, Zaoxiao Zhang	2022	Exergo-economic analysis for screening of metal hydride pairs for thermochemical energy storage for solar baking system	30	Thermal Science and Engineering Process 4.56
12	Syed Nabeel Husnain, Waseem Amjad, <b>Anjum Munir</b> , Oliver Hensel	2022	Development and Experimental Study of Smart Solar Assisted Yogurt Processing Unit for Decentralized Dairy Value Chain	14-7	Sustainability 3.889
13	Waseem Amjad, Muhammad Ali Raza, Furqan Asghar, <b>Anjum Munir</b> , Faisal Mahmood, Syed Nabeel Husnain, Muhammad Imtiaz Hussain, Jun-Tae Kim	2022	Advanced Exergy Analyses of a Solar Hybrid Food Dehydrator	15-4	Energies 3.004
14	Faizan Majeed, Ali Raza, <b>Anjum Munir</b> , Oliver Hensel	2022	Development and Experiments on a Batch-Type Solar Roaster—An Innovative Decentralized System for Coffee Roasting	14-4	Sustainability 3.889
15	Muhammad Asghar Majeed, Furqan Asghar, Muhammad Imtiaz Hussain, Waseem Amjad, <b>Anjum Munir</b> , Hammad Armghan, Jun-Tae Kim	2022	Adaptive dynamic control-based optimization of renewable energy resources for grid-tied microgrids	14-3	Sustainability 3.889
16	Khawar Saeed Khan, <b>Anjum Munir</b> , Ali Raza, Yasir Latif, Oliver Hensel	2022	Improving Milk Value Chains: A Case Study for Qualitative-Economic Feasibility of Decentralized Solar Milk Pasteurization and Chilling Processes	38-2	Applied Engineering in Agriculture 0.896

17	Muhammad Awais, Muhammad Mubashar Omar, <b>Anjum Munir</b> , Muhammad Ajmal, Sajjad Hussain, Syed Amjad Ahmad, Amjad Ali	2022	Co-gasification of different biomass feedstock in a pilot-scale (24 kWe) downdraft gasifier: An experimental approach	238	Energy 8.857
18	Arslan Afzal, <b>Anjum Munir</b> , Waseem Amjad, Jorge L Alvarado, Muhammad Umair, Muhammad Azam, Muhammad Naveed Anjum	2021	Use of Perforation and Mathematical Modeling to Increase Solar-Based Steam Distillation System Efficiency	143-6	Journal of Solar Energy Engineering 2.384
19	Ghulam Murtaza, <b>Anjum Munir</b> , Abdul Ghafoor, Asif Tanveer	2021	Effect of operational parameters on drying rate and moisture content of maize by using hybrid solar dryer	58-5	Pakistan Journal of Agricultural Sciences 0.856
20	<b>Anjum Munir</b> , Tallha Ashraf, Waseem Amjad, Abdul Ghafoor, Sidrah Rehman, Aman Ullah Malik, Oliver Hensel, Muhammad Sultan, Tatiana Morosuk	2021	Solar-Hybrid Cold Energy Storage System Coupled with Cooling Pads Backup: A Step towards Decentralized Storage of Perishables	14-22	Energies 3.004
21	Muhammad Awais, Wei Li, <b>Anjum Munir</b> , Muhammad Mubashar Omar, Muhammad Ajmal	2021	Experimental investigation of downdraft biomass gasifier fed by sugarcane bagasse and coconut shells	11-2	Biomass Conversion and Biorefinery 4.05
22	Waseem Amjad, Muhammad Waseem, <b>Anjum Munir</b> , Abdul Ghafoor, Furqan Asghar, Gohar Ali Gilani	2021	Solar assisted dehydrator for decentralized controlled and homogeneous multi-product drying	143-1	Journal of Solar Energy Engineering 2.384

23	<b>Anjum Munir,</b> Farhat Mahmood, Waseem Amjad, Syed Amjad Ahmad	2021	Thermal analysis of a solar hybrid dehydrator designed for uniform multi- product drying	1-34	Journal of Thermal Science and Engineering Applications, IF: 1.544
24	Muhammad Awais, Wei Li, <b>Anjum Munir,</b> Muhammad Mubashar Omar, Muhammad Ajmal	2021	Experimental investigation of downdraft biomass gasifier fed by sugarcane bagasse and coconut shells	Volume:11 Issue:2	Biomass Conversion and Biorefinery IF:2.602
25	Waseem Amjad, M Waseem, <b>Anjum Munir</b> Abdul Ghafoor, Furqan Asghar, GA Gilani,	2020	Solar assisted dehydrator for decentralized controlled and homogeneous multi- product drying	Volume: 143 Issue: 1 Pages:	Journal of Solar Energy Engineering IF: 1.641
26	Waseem Amjad <b>Anjum Munir</b> Barbara Sturm	2020	Development of an imaging system for spatially real-time measurement of drying parameters in industrial drying units	CIGR Volume 22 Issue 4 Pages: 238- 249	CIGR Journal (Agricultural Engineering International) Impact Factor = 0.41
27	I Ayub, MS Nasir, Y Liu, <b>A Munir,</b> F Yang, Z Zhang	2020	Performance improvement of solar bakery unit by integrating with metal hydride based solar thermal energy storage reactor	Renewable Energy Volume 161 Pages: 1011-1024	Renewable Energy IF = 5.439
28	I Ayub, MS Nasir, Y Liu, A Munir, Z Wu, F Yang, Z Zhang	2020	Numerical modeling and performance comparison of high- temperature metal hydride reactor equipped with bakery system for solar thermal energy storage	Volume 45 Issue: 56 Pages: 31612-31631	International Journal of Hydrogen Energy IF=4.939
29	Usman Haider, <b>Anjum Munir,</b> Abdul Ghafoor Shoukat Ali	2020	Design of biogas fermentation chamber and techniques to enrich bio- methanation	Volume 57 Issue: 6, Pages: 1617- 16271	Pakistan Journal of Agricultural Sciences IF: 0.276
30	A Ghafoor, T Ahmed, <b>A Munir,</b> Ch Arslan, SA Ahmad	2020	Techno-economic feasibility of solar based desalination through reverse osmosis	Desalination Volume 485 <a href="https://doi.org/10.1016/j.desal.2020.114464">https://doi.org/10.1016/j.desal.2020.114464</a>	HEC Recognized ISI Journal) Impact Factor = 6.035

31	Fareeha Akram, Furqan Asghar, Muhammad Asghar Majeed, Waseem Amjad, M Owais Manzoor, <b>Anjum Munir</b>	2020	Techno-economic optimization analysis of stand-alone renewable energy system for remote areas	Sustainable Energy Technologies and Assessments (Elsevier) Volume:38 <a href="https://doi.org/10.1016/j.seta.2020.100673">https://doi.org/10.1016/j.seta.2020.100673</a>	HEC Recognized ISI Journal) Impact Factor = 3.456
32	Abdul Ghafoora <b>Anjum Munir</b> Tauseef Ahmed Muhammad Nauman Waseem Amjad Azlan Zahida	2020	Investigation of hybrid solar-driven desalination system employing reverse osmosis process	Desalination and Water Treatment Volume:178 Pages:32-40	HEC Recognized ISI Journal) Impact Factor = 3.456
33	Khawar Saeed Khan Waseem Amjad <b>Anjum Munir</b> Oliver Hensel	2020	Improved solar milk chilling system using variable refrigerant flow technology (VRF)	Solar Energy (Elsevier) Volume 197(C) Pages 317-325 ISSN 0038-092X DOI: 10.1016/j.solener.2020.01.014	HEC Recognized ISI Journal) Impact Factor = 4.674
34	Waseem Amjad Gohar Ali Gilani <b>Anjum Munir</b> , Furqan Asghar Azhar Ali Muhammad Waseem	2019	Energetic and exergetic thermal analysis of an inline-airflow solar hybrid dryer	Applied Thermal Engineering doi.org/10.1016/j.applthermaleng.2019.114632	HEC Recognized ISI Journal) Impact Factor: 4.026
35	Muhammad Usama Yaseen, Muhammad Ashraf, <b>Anjum Munir</b>	2019	Development and Performance Evaluation of Solar Assisted Milk Pasteurizer by using Vacuum Tube Collector	Pak. J. Agri. Sci, Volume 56 Issue: 3 Pages:693-700	Y (HEC Recognized) Impact Factor: 0.618
36	Ali Raza Faizan Majeed <b>Anjum Munir</b> Oliver Hensel	2019	Development and Experimental Results of a Thermal Oil Based Roasting System for Decentralized Processing of Groundnuts	Applied Sciences 9(20):4342 DOI: 10.3390/app9204342	HEC Recognized ISI Journal) Impact Factor: 2.217
37	Mahmood ul Hassan Aman ullah Malik Sajad Ali Raheel Anwar Amna Imtiaz <b>Anjum Munir</b> Waseem amjad	2019	Modern drying techniques in fruits and vegetables to overcome postharvest losses: A review	Journal of Food Processing and Preservation DOI: 10.1111/jfpe.13184 Vol: 43, Issue 12	HEC Recognized ISI Journal) Impact Factor: 1.288

38	Ali Raza, <b>Anjum Munir</b> , Abdul Ghafoor, Shoukat Ali.	2019	Soybean roasting using continuous solar roaster – A decentralized approach for agricultural processing	Journal of Food Process Engineering (Early View) DOI: 10.1111/jfpe.13 184 ISSN:1745- 4530	HEC Recognized ISI Journal) Impact Factor: 1.448
39	Iqra Ayub <b>Anjum Munir</b> Abdul Ghafoor Waseem Amjad Muhammad Salman Nasir	2018	Energy- and exergy- based thermal analyses of a solar bakery unit	Journal of Thermal Analysis and Calorimetry DOI: 10.1007/s1097 3-018-7165-3	HEC Recognized ISI Journal) Impact Factor: 2.471
40	Iqra Ayub <b>Anjum Munir</b> Abdul Ghafoor Waseem Amjad Muhammad Salman Nasir	2018	Solar thermal application for decentralized food baking using Scheffler reflector technology	Journal of Solar Energy Engineering DOI: 10.1115/1.4040 206	HEC Recognized ISI Journal) (Impact Factor:1.19
41	M Mubashar Omar <b>Anjum Munir</b> Manzoor Ahmad Asif Tanveer	2018	Downdraft gasifier structure and process improvement for high quality and quantity producer gas production	Journal of the Energy Institute <a href="http://dx.doi.org/10.1016/j.joei.2017.07.005">http://dx.doi.org/10.1016/j.joei.2017.07.005</a> Vol: 91 Issue: 6 Pages:1034- 1044	HEC Recognized ISI Journal) (Impact Factor:3.774
42	Waseem Amjad, Stuart O.J.Crichton, <b>Anjum Munir</b> , Oliver Hensel, Barbara Sturm	2018	Hyperspectral imaging for the determination of potato slice moisture content and chromaticity during the convective hot air drying process	Biosystems Engineering Volume 166, February 2018, Pages 170-183	HEC Recognized ISI Journal) (Impact Factor:2.983
43	Sidra Ashfaq Manzoor Ahmad <b>Anjum Munir</b>	2017	Improvement of Air Homogeneity in Paddy Dryer With Central Air Flow Channel	International Journal of Food Engineering Volume 13, Issue 10 Pages: 1-8 DOI: <a href="https://doi.org/10.1515/ijfe-2015-0408">https://doi.org/10.1515/ijfe-2015-0408</a>	HEC Recognized ISI Journal) (Impact Factor: 0.685

44	Arslan Afzal, <b>Anjum Munir</b> , Abdul Ghafoor, Jorge L. Alvarado	2017	Development of a hybrid solar distillation system for essential oils extraction	Renewable Energy (Elsevier) Volume 113 (May 2017) Pages 80-90 ISSN 0960- 1481	(HEC Recognized ISI Journal) Impact Factor: 5.435
45	Azlan Zahid, Abdul Ghafoor, <b>Anjum Munir</b> , Manzoor Ahmad, Abdul Nasir, Syed Amjad Ahmad.	2017	Solar desalination of water using evaporation condensation and heat recovery method	Desalination and Water Volume 68 (March 2017) Pages 80-90 ISSN 1944- 3986	HEC Recognized ISI Journal) Impact Factor: 1.234
46	Hamza Bilal, Abdul Ghafoor <b>Anjum Munir</b> . 2016. Desalination of brackish water using dual acting solar still	2016	Desalination of brackish water using dual acting solar still	Journal of Engg. Research Vol. 4 No. (4) December 2016 Pages 178-193 ISSN 2307- 1885	HEC Recognized ISI Journal) Impact Factor: 0.27
47	Pengcheng Li, Jing Li, Gang Pei, <b>Anjum Munir</b> , Jie Ji	2016	A cascade organic Rankine cycle power generation system using hybrid solar energy and liquefied natural gas	Solar Energy (Elsevier) Volume 127 Pages 136-146 ISSN 0038- 092X	HEC Recognized ISI Journal) Impact Factor = 4.674
48	Abdul Ghafoor Tanzeel ur Rehman <b>Anjum Munir</b> Manzoor Ahmad Muhammad Iqbal	2016	Current status and overview of renewable energy potential in Pakistan for continuous energy sustainability	Renewable & Sustainable Energy Reviews (Elsevier) Volume 60 Pages 1332- 1342 ISSN 1364- 0321	HEC Recognized ISI Journal) Impact Factor = 10.556
49	Rabia Anum Abdul Ghafoor <b>Anjum munir</b>	2016	Study of drying behavior and performance evaluation of gas fired hybrid solar dryer	Journal of Food Process Engineering Volume, Pages, ISSN 1745- 4530	HEC Recognized ISI Journal) Impact Factor: 0.675



50	Waseem Amjad Oliver Hensel <b>Anjum Munir</b> Albert Esper Barbara Sturm	2016	Thermodynamic analysis of drying process in a diagonal-batch dryer developed for batch uniformity using potato slices	Journal of Food Engineering (Elsevier) Volume 169 Pages 238-249 ISSN 0260-8774	Impact Factor = 2.771 (HEC Recognized)
51	Sidra Ashfaq Manzoor Ahmad <b>Anjum Munir</b>		Design, development and performance evaluation of a small-scale solar assisted paddy dryer for on-farm processing	Mehran University Research Journal of Engineering & Technology Volume 35(2) Pages 217-228 ISSN 0254-7821	X-Category (HEC Recognized)
52	Waseem Amjad Oliver Hensel <b>Anjum Munir</b>	2015	Batch drying of potato slices: Kinetic changes of color & shrinkage in response of uniformly distributed drying temperature	Agricultural Engineering International: the CIGR Ejournal, Volume 12, Pages 296-308, ISSN 16821130	CIGR Journal (Agricultural Engineering International) (HEC Recognized)
53	H. M. Nauman Abdul Ghafoor <b>Anjum Munir</b> Manzoor Ahmad	2015	Development and performance evaluation of indigenized flat plate collector water heater for domestic and industrial applications	Agricultural Engineering International: the CIGR Ejournal, Volume 17(4), Pages 156-164, ISSN 16821130	CIGR Journal (Agricultural Engineering International) (HEC Recognized)
54	Abdul Ghafoor <b>Anjum Munir</b>	2015	Worldwide overview of solar thermal cooling technologies	Renewable & Sustainable Energy Reviews (Elsevier) Volume 43 Pages 763-774 ISSN 1364-0321	(Impact Factor = 10.556) (HEC Recognized)
55	Waseem Amjad <b>Anjum. Munir</b> Albert Esper Oliver Hensel	2015.	Spatial homogeneity of drying in a batch type food dryer with diagonal air flow design	Journal of Food Engineering (Elsevier) Volume 144(1) Pages 148-155 ISSN 0260-8774	(Impact Factor = 2.576) (HEC Recognized)

56	M. Usman Ghani Manzoor Ahmad <b>Anjum Munir</b> Asif Tanveer	2015	Design, fabrication and performance evaluation of updraft gasifier for small sized internal combustion engines	Pak. j. life soc. Sci., Volume 13(2) Pages 79-85 ISSN 1727-4915	Y (HEC Recognized)
57	Abdul Nasir M. Usman Khalid <b>Anjum Munir</b> Shafiq Anwar Ch. Arslan M. Azhar Ali	2015	Comparative study of mechanically dried bioslurry and commercial fertilizers	IMPACT: Journal of Research in Engineering & Technology (IMPACT: JRET) Vol. 1(1) Pages 81-88 ISSN	
58	Abdul Ghafoor <b>Anjum Munir</b>	2015	Thermo-economic optimization of solar assisted heating and cooling (SAHC) system.	International Journal of Renewable Energy Development (IJRED), Volume 3(3) Pages 217-227 ISSN 2252-4940	
59	Azeem Anjum, Abdul Ghafoor, <b>Anjum Munir</b> Muhammad Iqbal Manzoor Ahmad	2015	Design modification of conventional wheat straw chopper	Agricultural Engineering International: the CIGR Ejournal, Volume 17(1), Pages 50-58, ISSN 16821130	
60	Abdul Ghafoor <b>Anjum Munir</b>	2015	Design and economics analysis of an off-grid PV system for household electrification.	Renewable & Sustainable Energy Reviews Renewable & Sustainable Energy Reviews (Elsevier) Volume 42 Pages 496-502 ISSN 1364-0321	(Impact Factor = 10.556) (HEC Recognized)
<u>61</u>	<b>Anjum Munir</b> Oliver Hensel Wolfgang Scheffler Heike Hoedt Waseem Amjad Abdul Ghafoor	2014	Design, development and experimental results of a solar based distillery for the essential oils extraction from medicinal plants	Solar Energy (Elsevier) Volume 108 Pages 548-559 ISSN 0038-092X	(Impact Factor = 4.674). (HEC Recognized)

<u>62</u>	<b>Anjum Munir</b> Jehan Zeb Alvi Sidra. Qasim Abdul Ghafoor	2014	Performance evaluation of a biomass boiler on the basis of heat loss method and total heat values of steam	Pak. J Agri. Sci. Volume 51(1) Pages 209-215 ISSN 0552-9034	(Impact Factor = 0.618) (HEC Recognized)
<u>63</u>	M. Tauseef Asghar Abdul Ghafoor <b>Anjum Munir</b> Muhammad Iqbal Manzoor Ahmad	2014	Design modification and field testing of groundnut digger	Asian Journal of Science and Technology, Volume 5(7) Pages 389-394 ISSN: 0976-3376	
<u>64</u>	S. Nabeel Hasnain <b>Anjum Munir</b> Farhan Saeed Muhammad Faheem	2014	Quality drying of ripened chilies using a glass solar tunnel dryer	J. Glob. Innov. Agric. Soc. Sci., Volume 2(1) Pages 16-22 ISSN 2311-3839	
65	Gill. A., Abdul Ghafoor <b>Anjum Munir</b> Muhammad Iqbal	2014	Design modification and field performance of two row maize planter	International Journal of Development Research, Volume 4(7) Pages 1336-1340. ISSN: 2230-9926	(GIF = 0.471)
65	Abdul Ghafoor <b>Anjum Munir</b>	2014	Thermo-Economic Optimization of Solar Assisted Heating and Cooling (SAHC) System	International journal of Renewable Energy Development (IJRED)	
67	Waseem Amjad Imtiaz Hussain <b>Anjum Munir</b> L. In-Gweon	2014	Design of air distributor for proper burning of fuel in furnace for high temperature and low NOx emission	Asian Journal of Science and Technology. Volume 5(5): Pages 299-304 ISSN: 0976-3376	(GIF= 0.552).
68	<b>Anjum Munir</b> Umair Sultan Muhammad Iqbal	2013	Development and performance evaluation of a locally fabricated portable solar tunnel dryer for drying of fruits, vegetables and medicinal plants	Pak. J Agri. Sci., Volume 50(3) Pages 495-498 ISSN 0552-9034	(Impact Factor = 0.618) (HEC Recognized)
69	<b>Anjum Munir</b> Aman Ullah M.Usman Ghani Muhammad Iqbal Manzoor Ahmad	2012	Performance evaluation and simulation of photovoltaic powered water pumping system	Pak. j. life soc. Sci., Volume 10(2) Pages 166-171 ISSN 1727-4915	Y Category (UIF = 1.029) (HEC Recognized)

<u>70</u>	Muhammad Iqbal <b>Anjum Munir</b> Manzoor Ahmad K. Altaf Hussain Muhammad Umair	2012	Evaluation of energy efficient zone disk drill for sowing wheat after harvesting paddy crop	International Journal of Agriculture and Biology (IJAB) Volume 4(4) Pages 933-636 ISSN 1560–8530;	(Impact Factor = 0.806) (HEC Recognized)
<u>71</u>	<b>Anjum Munir</b> M. Adeel Ashraf Abdul Nasir Oliver Hensel Muhammad Iqbal	2012	Ergonomics and occupational health in sugar industry of Pakistan	Pak. j. life soc. Sci., Volume 10(1) Pages 74-79 ISSN 1727-4915	Y Category (UIF= 1.029)
72	K. Altaf Hussain <b>Anjum Munir</b> Abdul Nasir M. Azam Khan	2012	Effect on pulp recovery and pulp percentage by using tomato cold pulping machine at room temperature	Pakistan Journal of Agricultural Sciences, Volume 49(1), Pages 53-59 ISSN 0552-9034	(Impact Factor = 0.618)  (HEC Recognized)
<u>73</u>	Manzoor Ahmad M. Usman Ghani <b>Anjum Munir</b> Muhammad Iqbal Muhammad Umair	2011	Fabrication and evaluation of a downdraft gasifier running with biomass for sustainable agriculture	Pakistan Journal of Life and Social Sciences Volume 9(1) Pages 52-57 ISSN 1727-4915	Y (HEC Recognized)
<u>74</u>	<b>Anjum Munir</b> Oliver Hensel Wolfgang Scheffler	2010	Design principle and calculations of a Scheffler fixed focus concentrator for medium temperature applications	Solar Energy (Elsevier) Volume: 84 (8) Pages 1490-1502 ISSN 0038-092X	Impact Factor (4.674) (HEC Recognized)
75	<b>Anjum Munir</b> Oliver Hensel	2010	On-farm processing of medicinal and aromatic plants by solar distillation system	Biosystems Engineering (Elsevier) Volume 106 (3) Pages 268-277 ISSN 1537-5110	Impact Factor (2.983) (HEC Recognized)

76	<b>Anjum Munir</b> Oliver Hensel	2010	Investigation of Optimal Thermal Parameters for Essential Oils Extraction using Laboratory and Solar Distillation Systems	Agricultural Engineering International: the CIGR Ejournal, Volume 12, Pages 107-114, ISSN 16821130	CIGR Journal (Agricultural Engineering International) (HEC Recognized)
77	Muhammad Iqbal K. Altaf Hussain Muhammad Iqbal <b>Anjum Munir</b> Muhammad Younis.	2006	Evaluation of spray uniformity distribution by environment friendly University boom sprayer test bench	Pakistan Journal of Agricultural Sciences Vol. 43(1-2): Pages 93-96. ISSN 0552-9034	(Impact Factor = 0.618) (HEC Recognized)
78	<b>Anjum Munir</b> Abdul Rehman Tahir Muhammad Shafi Sabir Khuram Ejaz	2004	Efficiency calculations of bagasse fired boiler on the basis of flue gases temperature and total heat values of steam	Pakistan Journal of Life and Social Sciences Vol. 2(1) Pages 36-39 ISSN 1727-4915	Y Category (HEC Recognized)
79	<b>Anjum Munir</b> Abdul Rehman Tahir Muhammad Shafi Sabir	2003	Optimization of milling performance of a sugar mill by using linear programming technique	Pakistan Journal of Agricultural Sciences Vol. 40(1-2) Pages 87-92 ISSN 0552-9034	(Impact Factor = 0.618) (HEC Recognized)

## LIST OF CONFERENCE PUBLICATIONS

79	Muhammad Usman, <b>Anjum Munir</b> , Furqan Asghar, Muhammad Hamza Latif, Rana Asad Ali 2022. Achieving Sustainability in the Academic Institutes of Pakistan: A Techno-economic Analysis of 40 kWp Rooftop Photovoltaic Grid-tied System at University of Agriculture, Faisalabad, 5th International Conference on Energy Conservation and Efficiency (ICECE), 1-8, 2022
80	Waseem Amjad, Adil Nawaz, <b>Anjum Munir</b> , Faisal Mahmood 2021, Hybrid Nanofluid-Based Thermal Fluid–Structure Interaction (FSI) Investigations for the Thermal Management System of a Computer Microprocessor, Engineering Proceedings, Volume 12, Issue 01, 2021
81	Waseem Amjad, Fatima Akram, Sidrah Rehman, <b>Anjum Munir</b> , Owais Manzoor 2021, Thermal Analysis of a Solar Assisted Cold Storage Unit for the Storage of Agricultural Perishables Produce, Engineering Proceedings, Volume 12, Issue 01, 2021
82	Waseem Amjad, Mubeen Shahid, <b>Anjum Munir</b> , Furqan Asghar, Owais Manzoor 2021. Energy Assessment of a Combined Cycle Power Plant through Empirical and

	Computational Approaches: A Case Study, Engineering Proceedings, Volume 12, Issue 01, 2021
83	Afzal, A., J. Alvarado, <b>A. Munir</b> , A. Ghafoor 2017. Income generation of rural community by using solar distillation system, International Conference on Renewable Energies and Power Quality (ICRE PQ), Renewable and Power Quality Journal (RE&PQJ), ISSN 2172-038 X, No. 15 April 2017.
84	Qiliang Wang, Gang pei, Yang Honglun, <b>Anjum Munir</b> , Hu Migke 2016. Performance study of a parabolic trough solar collector with an inner radiation shield, Bulgarian Chemical Communication, Volume 48, Special Issue E(pp 77-88).
85	Nadeem, M., M. Iqbal, A. Farooque, A. Munir, M. Ahmad, Q. Zaman 2015. Design and evaluation of self-propelled reaper for harvesting multi crops, ASABE Annual International Meeting Sponsored by ASABE New Orleans, Louisiana, USA July 26 – 29, 2015.
86	<b>Munir, A.</b> , O. Hensel, K. Vajen, W. Scheffler and H. Hoedt 2011. Design, development and experimental results of a solar distillation system for the processing of medicinal and aromatic plants, Solar World Congress 2011 (ISES SOLAR WORLD CONGRESS 2011) held on Aug, 28- Sep, 02, 2011 in the University of Kassel, Germany.
87	<b>Munir, A.</b> , O. Hensel, W. Scheffler, H. Hoedt. 2011. Development of a Scheffler Fixed focus concentrator for the processing of agricultural products, A paper presented and published in: Proceedings of “International Seminars on the eve of Golden Jubilee Year Farm Machinery Week Celebrations” under heading “Role of Agricultural Machinery on Poverty Alleviation and Food Security in Pakistan” held on March 26, 2011, University of Agriculture, Faisalabad, pp. 41-49 (ISBN 978-969-9035-03-6)
88	Ashraf, M., <b>A. Munir</b> , A. Akhtar 2011. Biogas technology and future prospects in Pakistan, A paper published in: Proceedings of “International Seminars on the eve of Golden Jubilee Year Farm Machinery Week Celebrations” under heading “Role of Agricultural Machinery on Poverty Alleviation and Food Security in Pakistan” held on March 26, 2011, University of Agriculture, Faisalabad, pp. 8-21 (ISBN 978-969-9035-03-6).
89	Hussain, K.A., <b>A. Munir</b> , M.S. Sabir, M. Iqbal. 2011 “Effect on pulp recovery and pulp percentage by using tomato cold pulping machine at normal temperature”, A paper published in: Proceedings of “International Seminars on the eve of Golden Jubilee Year Farm Machinery Week Celebrations” under heading “Role of Agricultural Machinery on Poverty Alleviation and Food Security in Pakistan” held on March 26, 2011, University of Agriculture, Faisalabad, pp. 96-105 (ISBN 978-969-9035-03-6).
90	Iqbal, M., K.A. Hussain, <b>A. Munir</b> , M. Ahmad. 2011 “Mechanical energy input saving for producing wheat, rice cotton and maize in Pakistan”, A paper published in: Proceedings of “International Seminars on the eve of Golden Jubilee Year Farm Machinery Week Celebrations” under heading “Research and development in agricultural machinery: a 50 year review of Pakistan” held on March 21, 2011, University of Agriculture, Faisalabad, pp. 62-70 (ISBN 978-969-9035-03-6).
91	<b>Munir, A.</b> , O. Hensel, W. Scheffler. 2010. Development of a Scheffler fixed focus concentrator for the processing of medicinal plants and fruits, International conference on “Power Generation systems and Renewable Energy Technologies” held on 29 <sup>th</sup> November to 2 <sup>nd</sup> December, 2010 organized by the “Faculty of Engineering and Technology”, International Islamic University, Islamabad., Pakistan.
92	<b>Munir, A.</b> & O. Hensel. 2009. Biomass energy utilization in solar distillation system for essential oils extraction from herbs. Paper submitted for paper/poster publication and presentation in International conference for

	“Biophysical and Socio-economic Frame Conditions for the Sustainable Management of Natural Resources”(Tropentag 2009) which will be held on October 6 - 8, 2009 in university of Hamburg, Germany. The paper has been accepted for oral presentation in the section “Engineering”.
93	<b>Munir, A. &amp; O. Hensel.</b> 2009. Development and experimental results of solar distillation system for essential oils extraction from herbs. Paper published and oral presentation in “CIOSTA XXXIII CIGR CONFERENCE 2009 and Workshop IUFRO, Technology and management to ensure sustainable agriculture, agro-system, forestry and safety”. University Mediterranea of Reggio Calabria, Faculty of Agriculture- 89122 Reggio Calabria (Italy). The conference was held on 16-06-09 to 19-06-09.
94	<b>Munir, A. &amp; O. Hensel.</b> 2007. Development of solar distillation system for essential oils extraction from herbs. Paper presented on International Conference “Utilization of diversity in land use systems: Sustainable and organic approaches to meet human needs” (Tropentag 2007) under Category “Technological Innovations in Agriculture” on October 9-11, 2007 in Witzenhausen organized by University of Kassel and Göttingen.

### BOOK CHAPTERS PUBLISHED AS AUTHOR

S. No	Authors	Year	Chapter Title/Book Title	Publisher with ISBN Numbers
1	<b>Anjum Munir,</b> Abdul Ghafoor, Waseem Amjad, Adeel Ashraf, Oliver Hensel	2019	Book Chapter: Occupational Health and Safety in Pakistan’s Sugar Mills (In book: Occupational Safety and Health Challenges in Southern Agriculture)	Publisher: Rainer Hampp Verlag Augsburg, München Vorderer Lech 35, 86150 Augsburg, Germany
2	<b>Anjum Munir</b> Oliver Hensel, Abdul Ghafoor, Waseem Amjad	2018	Book chapter: Rural Energy Solutions for Community Development In book: Decent Work Deficits in Southern Agriculture_ Measurements, Drivers and Strategies	Rainer Hampp Verlag Augsburg, München 2018: 291-304
3	<b>Anjum Munir</b> Allah Bakhsh Abdul Ghafoor, Waseem Amjad Muhammad Umer	2018	Book chapter: Rural Energy Solutions for Community Development In book: Developing Sustainable Agriculture in Pakistan,	Catalog No. K336489 April 2018, 902 pp. ISBN: 978-0-8153-6653-9

### BOOKS/MANUALS PUBLISHED AS AUTHOR

S. No	Authors	Year	Title of the chapter	Publisher with ISBN Numbers
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	Muhammad Iqbal <b>Anjum Munir</b> , Abdul Ghafoor	2014	Biogas Energy Plant Supervisor	ISBN*: 978-969-9035- 08-1.
	Muhammad Iqbal <b>Anjum Munir</b> , Abdul Ghafoor	2014	Biogas Plant Technician (in Urdu)	ISBN*: 978-969-9035- 09-8.

\* International Standards Book Numbering Agency, National Library of Pakistan

## BOOKS/MANUAL/PROCEEDINGS EDITED

Editor	Title	Year	Other detail of publication
Oliver Hensel Allah bakhsh <b>Anjum Munir</b> Abdul Ghafoor	"Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan"	2016	ISBN*: 978-969- 9035-13-5
Oliver Hensel Allah bakhsh <b>Anjum Munir</b> Abdul Ghafoor	Abstract Book entitled "International Workshop on Renewable Energy Technologies for Community Development in Pakistan"	2015	ISBN*:978-969- 9035-11-1.
Oliver Hensel Muhammad Iqbal <b>Anjum Munir</b> Abdul Ghafoor	"Abstract Book for International Conference on Renewable Energy Technologies in Pakistan"	2013	ISBN*:978-969- 9035-05-0.
Muhammad Iqbal <b>Anjum Munir</b>	"One Day International Seminar on Food Engineering- Way to Food Security"	2012	ISBN*:978-969- 9035-04-3
Muhammad Iqbal <b>Anjum Munir</b>	Proceeding of International Seminars on the eve of Golden Jubilee Year Farm Machinery week Celebrations	2011	ISBN*:978-969- 9035-03-6

\* International Standards Book Numbering Agency, National Library of Pakistan

## List of Published Abstracts

### List of abstract published in 2019

Author(s) & Title	Year	Publication Detail
<b>Anjum Munir</b> , Oliver Hensel, Waseem Amjad 2019 Green energy technologies for value addition and income	2019	Published in Abstract Book of "International Conference on Green Energy Technologies: Opportunities and challenges (GET)" held at University of



generation		Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
Muhammad Rizwan Tabassum <b>Anjum Munir</b> , Furqan Asghar, Waseem Amjad, Jerry D Murphy 2019 Unlocking the biomass potential in Pakistan: opportunities and challenges	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
<b>Anjum Munir</b> , Oliver Hensel, Christian Schellert, Khawar Saeed 2019. Development of energy efficient e-pedelec rickshaw for the easy transportation of milk and agri-products	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
Iqra ayub, Muhammad Salman Nasir, Yang Liu, <b>Anjum Munir</b> , Zaoxiou Zhang 2019. Designing and numerical study of metal hydride based solar thermal energy storage system: An effective way towards sustainable energy	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
Syed Nabeel Husnain, Oliver Hensel, <b>Anjum Munir</b> 2019 Design and development of solar assisted yogurt processing unit for the production of on-farm high quality yogurt	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
Design and development of solar based milk pasteurization using Scheffler reflector as a heat source	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
Muhammad Ibrahim, Furqan Asghar, Owais Manzoor, Waseem Amjad, <b>Anjum Munir</b> 2019. Comprehensive approach to minimize energy losses in power distribution networks using synergy	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
Khawar Saeed Khan, Waseem Amjad, <b>Anjum Munir</b> , Oliver Hensel 2019. Improved solar milk chilling system using variable refrigerant flow technology (VRF)	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0

Talha Ashraf, <b>Anjum Munir</b> , Waseem Amjad, Oliver Hensel, Aman ullah Malik 2019. Development of energy efficient decentralized cold storage employing cooling pads.	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
Adil Majeed, Faizan Majeed, <b>Anjum Munir</b> 2019. Evaluation and optimization of a solar pumping system in Pakistan	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
Zeeshan Munir, Oliver Hensel, <b>Anjum Munir</b> , Badar Munir Khan Niazi 2019. iPotential of phase change material (PCM) as a thermal energy source for uninterrupted in-farm agricultural food processing	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
Furqan Asghar, Muhammad Talha, Sung Ho Kim, Owais Manzoor, Waseem Amjad, <b>Anjum Munir</b> 2019. Fuzzy logic based efficient energy management for wind-PV-direct based hybrid micro grid system.	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
Zahee ul Hassn, Furqan Asghar, Waseem Amjad, Khalil Ahmad, <b>Anjum Munir</b> 2019. Efficient power management and autonomous fault detection and diagnosis for neceassy power distribution system	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
Awais Rehman, Furqan Ashghar, Waseem Amjad, <b>Anjum Munir</b> , Muhammad Talha 2019. Energy conservation and load management of textile industry through comprehensive energy audit.	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
Faizan Majeed, Oliver Hensel, <b>Anjum Munir</b> , Arslan Afzal 2019. Design, development and performance evaluation of a distillation system for essential oils extraction using Scheffler solar concentrator	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
Hasnain Yousaf, <b>Anjum Munir</b> , Abdul Ghafoor, Waseem Amjad 2019. Real-time data investigation of the 2 kWp solar system	2019	Published in Abstract Book of “International Conference on Green Energy Technologies: Opportunities and

installed at Solar Park Department of Energy Systems Engineering, UAF.		challenges (GET)” held at University of Agriculture, Faisalabad, Pakistan, (October 29-30, 2019) ISBN: 978-969-9035-18-0
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#### A. List of abstract published in 2017

<b>Anjum Munir</b> , Abdul Ghafoor, Manzoor Ahmad, Muhammad Mubashar Omar 2017. Development of biogas plants and biomass gasifiers for thermal and power applications	2017	Published in Proceedings of 3 <sup>rd</sup> International Conference on Biotechnology (ICB): Challenges and opportunities in Pakistan organized by Faculty of Life and Health Sciences and ORIC, University of South Asia (USA) , Lahore Pakistan on February 8-9, 2017.
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#### B. List of abstract published in 2016

<b>Anjum Munir</b> , Oliver Hensel, Abdul Ghafoor, Waseem Amjad 2016. Sustainable solar and bioenergy technologies for community development in Pakistan	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Allah Bakhsh, Furqan Aslam, Muhammad Ashraf, <b>Anjum Munir</b> 2016. Developing and testing pressurized water scrubbing system to purify biogas	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Jahan Zeb Alvi, Gang Pei, <b>Anjum Munir</b> , Abdul Ghafoor, Waseem Amjad, Sidrah Ashfaq 2016. Comparison and optimization of the configurations for organic Rankine cycles with different working fluids using medium-temperature geothermal water	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Waseem Amjad, Stuart Crichton, <b>Anjum Munir</b> , Oliver Hensel, Barbara Sturm Syed Nabeel Husnain 2016. Use of hyperspectral imaging	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at

(HSI) for energy optimization of an industrial drying process		University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Azlan Zahid, Abdul Ghafoor, Manzoor Ahmad, <b>Anjum Munir</b> 2016. Sustainable thermal desalination using combined-cycle solar and geothermal heat sources	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Iqra Ayub, <b>Anjum Munir</b> , Muhammad Salman Nasir, Rabia Anam 2016. Effective nutrients recovery technology development and optimization from the digested effluent of biogas plants for manure treatment	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Naveed Farah, Izhar Ahmad Khan, <b>Anjum Munir</b> 2016 Use of solar cookers for improved health of rural households	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Faizan Majeed, Zahid Mehmood Khan, <b>Anjum Munir</b> , Hafiz Umar Farid, Aamir Shakoor and Aftab Nazeer 2016. Installation and optimization of solar water pumping system for irrigation purpose in Pakistan	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Hasnain Yousuf, Saqlain Yousuf, <b>Anjum Munir</b> , Abdul Ghafoor, Yasir Jamil, Noor-uz-Zaman 2016. Development and application of a work-bench for the real-time parametric investigation of in function photovoltaic system	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Syed Shariq Pervaiz, <b>Anjum Munir</b> , Abdul Ghafoor 2016. Design modification of a hybrid continuous solar roaster for quality roasting of agricultural products	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan,

		(November 08-09, 2016) ISBN: 978-969-9035-13-5
Faizan Majeed, Zahid Mehmood Khan, <b>Anjum Munir</b> , Arslan Afzal Design, development and performance evaluation of a distillation system for essential oils extraction using Scheffler solar concentrator	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Syed Nabeel Husnain, Muneeb Bin Muzzamal <b>Anjum Munir</b> , Waseem Amjad, Zeeshan Munir 2016. Stirling engine: A potential solution to energy crises in Pakistan	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Muhammad Tariq, <b>Anjum Munir</b> and Pervez Akhtar 2016. Sustainable rural development through biogas production as a viable alternative energy source	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Abubakar Bin Talat, <b>Anjum Munir</b> , Syed Nabeel Husnain, Abdul Ghafoor 2016. Solar thermal energy storage using phase change materials	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Noor uz zaman, <b>Anjum Munir</b> 2016. Energy auditing	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Ch. Sohail Babar, Manzoor Ahmad, <b>Anjum Munir</b> 2016. Modification and performance evaluation of an updraft gasifier operating with crop residue	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Faizan Majeed*, Zahid Mehmood Khan, <b>Anjum Munir</b> , Adil Majeed	2016	Published in Abstract Book of International Workshop

2016. Installation, optimization and performance evaluation of solar photovoltaic system for rural electrification		on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Muhammad Faheem, Manzoor Ahmad, <b>Anjum Munir</b> , Abdul Basit, Aamir Saeed 2016. Fabrication and performance evaluation of dual tracking solar parabolic trough for steam generation	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Adil Majeed, Faizan Majeed, <b>Anjum Munir</b> 2016. Evaluation and optimization of a solar pumping system in Pakistan	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
M. Owais Manzoor, <b>Anjum Munir</b> , Umar Farooq, M. Usman Khan 2016. Energy efficiency in lighting	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
Zuhair Qamar, <b>Anjum Munir</b> , Muhammad Zaman, Kashif Mahmood 2016. Development and indigenization of solar assisted milk powder machine	2016	Published in Abstract Book of International Workshop on Sustainable Energy Solutions for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, (November 08-09, 2016) ISBN: 978-969-9035-13-5
<b>Anjum Munir</b> , Oliver Hensel, Abdul Ghafoor, Waseem Amjad 2016. Development of solar and bioenergy technologies for value addition and rural development	2016	Published in International Conference Asia Pacific Policy Dialogue on Water, Energy and Food Security for Poverty Alleviation in Dryland Regions organized by UNESCO and PMAS Arid Agriculture University Rawalpindi, Pakistan on November 23-25, 2016
<b>Anjum Munir</b> 2016 Design and development of floating drum biogas plants for tubewell operation and farm electrification	2016	Published in 2 <sup>nd</sup> International Conference on Biotechnology(ICB): Challenges and Opportunities in Pakistan held at University of South Asia (USA) on February 24-25, 2016
<b>Anjum Munir</b> 2016 Downdraft gasification:	2016	Published in 2 <sup>nd</sup> International Conference on Biotechnology(ICB): Challenges and

thermochemical process of energy conversion from biomass		Opportunities in Pakistan held at University of South Asia (USA) on February 24-25, 2016
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### C. List of abstract published in 2015

<b>Title</b>	<b>Year</b>	<b>Other detail of publication</b>
Development of decentralized RE technologies for value addition and income generation.	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Study of the drying behaviour and performance evaluation of gas fired hybrid solar dryer.	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. ISBN 978-969-9035-11-1.
Mathematical modelling of Diagonal-batch dryer for convective drying of potato	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Bio-Energy- Status and future prospects in Pakistan	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
A novel, widely applicable indicator for the efficiency assessment of organic Rankine cycle.	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community

		Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Combining heat pump with solar collectors and buffer storage for sanitary hot water production in hospital.	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Extraction of essential oil from eucalyptus leaves by using solar distillation system.	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Application of response surface methodology for studying the quality characteristics of dried paddy with solar assisted paddy dryer	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Design, development and testing of hybrid solar dryer for the processing of perishable agricultural products.	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Design optimization and performance evaluation of a continuous solar roaster to process the agricultural harvests	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Composition and yield base comparative study of solar and conventional distillation systems for eucalyptus camaldulensis essential oils.	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Solar distillation of water by heat recovery method using flat plate collector	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad,



		Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Quality drying of ripened chillies a glass glazed solar tunnel dryer	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Study of the drying behaviour and performance evaluation of gas fired hybrid solar dryer	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Development and performance evaluation of solar assisted bakery unit for value addition.	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Efficient utilizing pattern of bio-energy for rural areas	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Biomass gasification power generation a solution for energy crises	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Power generation potential from wind and solar in Pakistan	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Design, development and simulation of flat strip solar concentrator (FSSC) for thermal energy production using locally available materials and fabrication facilities	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Evaluation and optimization of	2015	Published in Abstract Book of

solar pumping system in Pakistan		“International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Performance evaluation of solar water pumping system for irrigation: A case study in Gujranwala Pakistan	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Design, development and performance evaluation of distillation for essential oils extraction using Scheffler solar concentrator	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
The technological options and outlook for developing renewable energy in Pakistan	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Estimation of solar insolation potential in different districts in Pakistan	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Performance evaluation of solar tunnel dryer for drying mango slices	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Pakistan`s energy mix: Possibilities and challenges	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
LED as instant power saving device.	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at

		University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Capacity building of rural community for installation of biogas plants.	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Design and development of passive solar water distiller for the production of purified drinking water at domestic level.	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Real-time parametric studies a on stand-alone photovoltaic system developed for domestic, off-grid remote and on farm agricultural application	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Hybrid design of energy efficient cold storage for processed foods and farm products.	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Performance evaluation of industrial solar water heater to reduce energy losses	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Energy efficiency in lighting	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Design and fabrication of mini self-propelled rotary tiller	2015	Published in Abstract Book of "International Workshop on Renewable Energy Technologies for Community Development in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>

Economic feasibility of biogas plant for rural areas of Pakistan	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Greener energy: Issues and challenges for Pakistan- Wind Energy Prospective	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Present status and future prospects of biodiesel technology in Pakistan	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Design and development of Jatropha oil extractor and processor for biodiesel production under local climatic conditions at farm level	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>
Microbial fuel cells: A technology for energy recovery from waste water and power generation	2015	Published in Abstract Book of “International Workshop on Renewable Energy Technologies for Community Development in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, November 04-06, 2015. <b>ISBN 978-969-9035-11-1.</b>

## B. List of Abstracts published before 2015

1. **Munir, A.** and O. Hensel 2014. Development of solar based technologies for value addition in agriculture under ICDD project. “ICDD Conference on Linkages, Value Chains, and Development along the Rural-Urban Interface” held on January 9-12, 2014 in New Senate Hall.
2. Amjad, W., O. Hensel, **A. Munir** and A. Esper (2013). Value addition of food in drying process: Development of an enhanced food dryer with uniform heat/air distribution. International Research on Food Security, Natural Resource Management and Rural Development, Tropentag, 2013, Germany, ISBN: 978-3-95404- 498- 6 <http://www.tropentag.de> Note: You can find it in the proceeding of Tropentag (attached file) at page no 210 – 212.
3. Amjad, W., **A. Munir**, A. Esper and O. Hensel, (2013). Effect of spatial non-homogeneity of drying in drying machines/dryers for agricultural products. II. International Food Research and Development Brokerage conference, Izmir/Turkey, 03-04 June, 2013.

4. Amjad, W., O. Hensel, **A. Munir** and A. Esper (2013). Application of computational fluid dynamics (CFD) for the prediction of air distribution in a new batch type food dryer. International Conference on renewable energy technologies in Pakistan, 1-3 October, 2013. ISBN 978-969-9035-05-0
5. **Munir, A.** and O. Hensel. 2013. Development of renewable energy technologies under ICDD and DAAD projects. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
6. Ali, M.A., A. Nasir, **A. Munir**. 2013. Physio-thermal characteristics of biomass briquettes. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
7. Iqbal, M., **A. Munir**, A. Ghafoor. 2013. Energy at agriculture farms of Pakistan: Status and future prospectus. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
8. **Munir, A.**, O. Hensel, W. Scheffler, H. Hoedt, A. Ghafoor, W. Amjad. 2013. Design, development and experimental results of a solar based distillery for the essential oils extraction from medicinal plants. Published in Abstract Book of SuNEC-2013 Conference, Sicily, ITALY, 10-12 September 2013.
9. Ashraf, M., **A. Munir**, A.A. Khan. 2013. Biogas as alternative energy resource for rural community in Pakistan. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
10. Amjad, W., O. Hensel, **A. Munir**, A. Esper 2013. Predication of air distribution in an enhanced batch type food dryer for spatial homogeneity of temperature using computation fluid dynamics. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
11. Ashfaq, S., M. Ahmad, **A. Munir**, A. Ghafoor. 2013. Design, development and modeling of natural air dryer for rice. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
12. Ghafoor, A., **A. Munir**, M. Iqbal, M. Ahmad. 2013. Potential of solar assisted cooling systems in Pakistan. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
13. **Munir, A.**, A. Ghafoor, M. Iqbal. 2013. Development, installation and performance evaluation of a biogas plant for tubewell operation. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
14. Tayyab, M., **A. Munir**, O. Hensel, M. Iqbal, S. N. Husnain 2013. Design and development of a solar roaster for value addition of agricultural products. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad,

- Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
15. Husnain, S. N., **A. Munir**, O. Hensel, M. Iqbal, M. Tayyab 2013. Design and development of solar assisted milk pasteurizer based Scheffler Technology. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
  16. Alvi, J.Z., **A. Munir**, A. Ghafoor, H. A. Qahir. 2013. Efficiency Calculation of a biomass boiler using direct and indirect methods. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
  17. Majeed, F., **A. Munir**, A. Afzal. 2013. Design, development and performance evaluation of a distillation system for essential oils extraction using Scheffler solar concentrator. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
  18. Hussain. Z. and **A. Munir**. 2013. Optimization of solar distillation system and analysis of essential oils using gas chromatography. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
  19. Hussain, F., **A. Munir**, A. A. Afzal. 2013. Quality drying of ripened chillies using solar tunnel dryer. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
  20. Majeed, F., **A. Munir**, A. Afzal. 2013. Solar water pumping system prospects and testing in Pakistan for irrigation purposes. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
  21. Qahir, H.A., **A. Munir**, A. Ghafoor, J. Z. Alvi. 2013. Design, development and installation of biogas plant for tubewell operation at UAF. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
  22. Rashid, Z. and **A. Munir**. 2013. Quality drying of sliced potatoes using solar tunnel dryer. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
  23. Munir, Z., and **A. Munir**. 2013. Comparative study of solar and conventional distillation systems based on yield and composition of essential oils for Eucalyptus Camaldulensis. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
  24. Murtaza, G., **A. Munir**, A. Ghafoor, J. Z. Alvi. 2013. Parametric study of a biogas plant to optimize the tubewell operation installed at UAF. In Abstract Book of "International Conference on Renewable Energy Technologies in Pakistan" held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
  25. Mahmood, N., **A. Munir**, M. Ahmad, I. Ashraf. 2013. Design and

development of a solar based double jacketed autoclave for sterilization of surgical instruments. In Abstract Book of “International Conference on Renewable Energy Technologies in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.

Khan, M.U., M. Iqbal and **A. Munir**. 2013. Performance evaluation of SY-S60 PV panel. In Abstract Book of “International Conference on Renewable Energy Technologies in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.

26. Hanif, S., **A. Munir**, S. Ashfaq, A. Afzal. Extraction of essential oils from Citrus (*Citrus Sinensis* L. Osbeck.) Peel using solar distillation system. In Abstract Book of “International Conference on Renewable Energy Technologies in Pakistan” held at University of Agriculture, Faisalabad, Pakistan, October 1-3, 2013, ISBN 978-969-9035-05-0.
27. **Munir, A.** and O. Hensel. 2014. Solar-based technologies for value addition of agricultural products. Published in proceeding of International conference on Emerging Horizons of agri. Extension for Sustainable Rural Development held at University of Agriculture, Faisalabad, Pakistan, Feb, 27-28, 2014.
28. Majeed, F. and **A. Munir**. 2014. Design of solar water pumping for irrigation and its comparison with diesel and grid connected system in Gujranwala (Pakistan). Published in proceeding of International conference on Emerging Horizons of agri. Extension for Sustainable Rural Development held at University of Agriculture, Faisalabad, Pakistan, Feb, 27-28, 2014.
29. Afzal, A., **A. Munir**, F. Majeed, M. Tayyab. 2013. Value addition of agricultural products using solar distillation system. Published in proceeding of International conference on Emerging Horizons of agri. Extension for Sustainable Rural Development held at University of Agriculture, Faisalabad, Pakistan, Feb, 27-28, 2014.
30. **Munir, A.**, O. Hensel, K. Vajen, W. Scheffler and H. Hoedt 2012. Design & development of a Scheffler solar concentrator and experimental results of a solar distillation system, paper presented and abstract published in the International Conference entitled “Pakistan Energy Options”, Technology, Availability and Affordability and the Role of Regional Grids, Islamabad (March 29-30, 2012).
31. **Munir, A.**, N. Ahmad, A. Ali. 2012. Industrial steam applications by a fixed focused Scheffler concentrator” Poster presented in Video/Poster competition on energy conservation to help industry” Islamabad “An all Pakistan Poster competition on “Green Industry Green Pakistan” (Aug, 14 2012)
32. **Munir, A.** 2012. Value addition of Agricultural products using solar energy. Paper presented as a keynote speaker on 1<sup>st</sup> International Conference on “Global Environmental Changes” organized by department of Environmental Sciences, Government College University Faisalabad.
33. **Munir, A.**, O. Hensel. 2012. “Processing of medicinal plants and fruits using Scheffler solar concentrator”, Proceedings of “One Day International Seminar on Food Engineering-Way to Food Security” organized by “Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad” on March 16, 2012 International Standard Book Numbering Agency, National Library of Pakistan, ISBN 978-969-9035-04-3.
34. Hussain. K.A. **A. Munir**. 2012. Effect on pulp recovery and pulp percentage by using tomato machine at normal temperature, Proceedings of “One Day International Seminar on Food Engineering-Way to Food Security” organized by “Faculty of Agricultural Engineering & Technology, University of

- Agriculture, Faisalabad” on March 16, 2012 International Standard Book Numbering Agency, National Library of Pakistan, ISBN 978-969-9035-04-3.
35. **Munir, A.** 2012. Use of Solar Energy in Agriculture, Presentation to a batch of eight Agricultural Credit Officers (ACOs) of Allied Bank Limited for the capacity buildings of ACOs at the Institute of Agricultural Extension and Rural Development, University of Agriculture, Faisalabad on 24.04.2012 (1100-1230 hours) (DEE/9391 dated 20.04.2012)
  36. Ashraf, M.A., **A. Munir**. 2011. “Ergonomics and occupational health in the Sugar Industry of Pakistan”, poster presented and abstract published in: Proceedings of “International Conference on “Urban, Peri-Urban Agriculture, Employment & Value Chain Management” held on October 18-22, 2011, University of Agriculture, Faisalabad, pp. 30
  37. **Munir, A.**, O. Hensel, W. Scheffler, H. Hoedt. 2011. “Value addition to agricultural products using solar energy”, paper presented and abstract published in: Proceedings of “International Conference on “Urban, Peri-Urban Agriculture, Employment & Value Chain Management” held on October 18-22, 2011, University of Agriculture, Faisalabad, pp. 30
  38. **Munir, A.**, O. Hensel, K. Vajen, W. Scheffler and Heike Hoedt. 2011. Design, development and experimental results of a solar distillation system for the processing of medicinal and aromatic plants, Oral presentation and paper published in “Solar World Congress 2011” (ISES SOLAR WORLD CONGRESS 2011) held on Aug, 28- Sep, 02, 2011 by the University of Kassel, Germany.
  39. **Munir, A.**, O. Hensel. 2011. High temperature applications in solar based post-harvest technology and food processing” Participation and Presentation in Summer School “Applied solar technologies in developing countries” held in the University of Kassel, 37213 Witzenhausen Germany from May 31<sup>st</sup> to June 11<sup>th</sup>, 2011 organized by the university of Kassel, and the German Institute for Tropical and subtropical Agriculture (DITSL), Germany and supported by German Academic exchange Service (DAAD). The presentation topic was “ High temperature applications in solar based post-harvest technology and food processing”
  40. **Munir, A.**, O. Hensel, W. Scheffler, H. Hoedt. 2011. Development of a Scheffler Fixed focus concentrator for the processing of agricultural products, A paper presented and published in: Proceedings of “International Seminars on the eve of Golden Jubilee Year Farm Machinery Week Celebrations” under heading “Role of Agricultural Machinery on Poverty Alleviation and Food Security in Pakistan” held on March 26, 2011, University of Agriculture, Faisalabad, pp. 41-49 (ISBN 978-969-9035-03-6)
  41. Ashraf, M., **A. Munir**, A. Akhtar 2011. Biogas technology and future prospects in Pakistan, A paper published in: Proceedings of “International Seminars on the eve of Golden Jubilee Year Farm Machinery Week Celebrations” under heading “Role of Agricultural Machinery on Poverty Alleviation and Food Security in Pakistan” held on March 26, 2011, University of Agriculture, Faisalabad, pp. 8-21 (ISBN 978-969-9035-03-6)
  42. Hussain, K.A., **A. Munir**, M.S. Sabir, M. Iqbal. 2011 “Effect on pulp recovery and pulp percentage by using tomato cold pulping machine at normal temperature”, A paper published in: Proceedings of “International Seminars on the eve of Golden Jubilee Year Farm Machinery Week Celebrations” under heading “Role of Agricultural Machinery on Poverty Alleviation and Food Security in Pakistan” held on March 26, 2011, University of Agriculture, Faisalabad, pp. 96-105 (ISBN 978-969-9035-03-6)



43. Iqbal, M., K.A. Hussain, **A. Munir**, M. Ahmad. 2011 “Mechanical energy input saving for producing wheat, rice cotton and maize in Pakistan”, A paper published in: Proceedings of “International Seminars on the eve of Golden Jubilee Year Farm Machinery Week Celebrations” under heading “Research and development in agricultural machinery: a 50 year review of Pakistan” held on March 21, 2011, University of Agriculture, Faisalabad, pp. 62-70 (ISBN 978-969-9035-03-6)
44. **Munir, A.**, O. Hensel, W. Scheffler and H. Hoedt. Development of a Scheffler fixed focus concentrator for the processing of medicinal plants and fruits” Presentation and paper submission in International conference on “Power Generation systems and Renewable Energy Technologies” held on 29<sup>th</sup> November to 2<sup>nd</sup> December, 2010 organized by the “Faculty of Engineering and Technology”, International Islamic University, Islamabad.

### Oral Presentations National/International Conferences/Seminar/Workshop

1.	Design and development of a Scheffler solar concentrator and experimental results of a solar distillation system. International Conference on Pakistan Energy Options, Technology, Availability and Affordability and the role of regional grids”, which was organized by OPREST and GIH Institute, Islamabad (Venue: Comstech) on March, 29-30, 2012.
2.	Design, development and experimental results of a solar distillation system for the processing of medicinal and aromatic plants. Solar World Congress 2011 (ISES SOLAR WORLD CONGRESS 2011) held on Aug, 28- Sep, 02, 2011 by the University of Kassel, Germany.
3.	High temperature applications in solar based post-harvest technology and food processing. Oral Presentation in Summer School “Applied solar technologies in developing countries” held in the University of Kassel, 37213 Witzenhausen Germany from May 31 <sup>st</sup> to June 11 <sup>th</sup> , 2011 organized by the university of Kassel, and the German Institute for Tropical and subtropical Agriculture (DITSL), Germany and supported by German Academic exchange Service (DAAD).
4.	Power Generation Systems and Renewable Energy Technologies” held on 29 <sup>th</sup> November to 2 <sup>nd</sup> December, 2010 organized by the “Faculty of Engineering and Technology”, International Islamic University, Islamabad.
5.	Summer School “Applied solar technology in developing countries” held in Witzenhausen Germany from May 31 <sup>st</sup> to June 11 <sup>th</sup> , 2010 organized by the university of Kassel, and the German Institute for Tropical and subtropical Agriculture (DITSL), Germany and supported by German Academic exchange Service (DAAD).
6.	Mobile feldnahe Destillation ätherischer Öle ohne Zusatzenergie (mit Scheffler Kollektor) on 12-12-2007”. Presentation to the farmer’s Association in Germany “ÖkOPLANT” titled “ <a href="http://www.oekoplant-ev.de/VABerichte/tr1212C.pdf">http://www.oekoplant-ev.de/VABerichte/tr1212C.pdf</a>

7.	Presentations to different technical delegates from Slovakia, Mexico, China, etc, distinguish personalities like president of the university, Andrea Ypsilanti, Bürgermeisterin of the city etc and to esteemed organizations like Red Cross, DITSL, and VGH etc.
8.	Presentation in Solar Staff meeting held on 10-07-07 and 11-09-2008 organized by "Institute of Solar and System Engineering, Department of Mechanical Engineering, University of Kassel, Germany

## **Conferences/Seminar/Workshop attended/Summer school attended**

1. Participation in "Intersolar Europe 2011" which was held on June 15-17 in Munich
2. Applied solar technologies in developing countries" held in the University of Kassel, 37213 Witzenhausen Germany from May 31<sup>st</sup> to June 11<sup>th</sup>, 2011 organized by the university of Kassel, and the German Institute for Tropical and subtropical Agriculture (DITSL), Germany and supported by German Academic exchange Service (DAAD). The presentation topic was
3. Power Generation Systems and Renewable Energy Technologies" held on 29<sup>th</sup> November to 2<sup>nd</sup> December, 2010 organized by the "Faculty of Engineering and Technology", International Islamic University, Islamabad.
4. Participation in two-month workshop about design and constructional details for Scheffler fixed focus concentrator held in Witzenhausen on May- June, 2008.
5. Certificate of successful completion of English course designed for PhD students to improve paper writing and presentation skills titled "Englisch für ausländische Doktoranden" (English for foreigners Ph.D students organized by "Sprachenzentrum", University of Kassel in "Winter Semester 2007-08"
6. Certificate of successful completion of German language courses organized by University of Kassel
7. Attended workshop titled "Getting Published in Science, Strategies for Writing Journal Articles, a workshop for students at grad. C-environment" held in University of Kassel, Germany
8. Attended Summer School entitled "Applied solar technology in developing countries" held from May 31<sup>st</sup> to June 11<sup>th</sup>, 2010 in Witzenhausen Germany organized by the University of Kassel and the German Institute for Tropical and subtropical Agriculture (DITSL), Germany and supported by German Academic exchange Service (DAAD).

Participation in "Intersolar Europe 2010" in Munich as a solar specialist from the University of Kassel.

## Technologies Developed (1 of 2)



Solar Distillation System (SDS)



Continuous Solar Roaster (CSR)



Solar Tunnel Dryer (STD)



Energy Efficient Solar Milk Chiller



Solar old Storage With Cooling Pads



Solar Double Jacketed Autoclave

## Technologies Developed (2 of 2)



Multi-crop dryer with Auger stirring



Controlled Solar Assisted Cabinet Dryer



	
Diagonal Air Flow Dryer for Perishables	Solar Grain Dryer with Air Central Duct
	
UAF Floating Drum Biogas Plants	Downdraft Biomass Gasifier

## Reviewer of International Journals

- Solar Energy Materials and Solar Cells, an International Journal devoted to the promotion of photovoltaic (PV), photo thermal and photochemical solar energy conversion
- International Journal of Sustainable Energy
- CIGR-International Journal of Agricultural Engineering
- Applied Energy (Elsevier)
- Reviewed research paper entitled “Effect of temperature and slice size on drying of avocado pulp”: CIGR-International Journal of Agricultural Engineering
- Reviewed research paper entitled” Evaluation and Performance of an Indigenous Wet Scrubber Unit in biogas plant”, “Pakistan Journal of Agricultural Sciences”
- Reviewed research paper entitled “Evaluating the Drying Process of *Mondia whytei* Roots Under Different Drying Conditions”: CIGR-International Journal of Agricultural Engineering

- Reviewed research paper entitled “Investigating the Effect of Different Loading Densities on Selected Properties of Dried Coffee Using a GHE dryer”: CIGR-International Journal of Agricultural Engineering
- Reviewed research paper entitled” Feasibility Study for Supersedence of Conventional Energy Resources with Renewable Sources of Energy, in Fars Province, “Pakistan Journal of Agricultural Sciences”

## Memberships

- Pakistan Engineering Council (PEC)
- German Academic Exchange Service (DAAD)
- Solar Food Processing, International Solar Energy Society
- Association of Energy Engineers (AEE) Pakistan Chapter

## Teaching abroad / Training

- Delivered lectures to the Master degree classes during “Winter Semester 2007-08” in “Energy in Agriculture” and “International Food Business” subjects.
- Presentation of my research work in Solar Staff meeting held on 10-07-07 and 11-09-2008 organized by “Institute of Solar and System Engineering, Faculty of Mechanical Engineering, University of Kassel, Germany.
- Taught module on “Solar Energy in Agriculture” as a visiting Professor” under Ela
- Bhatt Visiting Professorship funded by German Ministry for Economic Cooperation and Development (BMZ) through the **German Academic Exchange Service (DAAD)** Germany (June 1<sup>st</sup> – September 30<sup>th</sup> 2018)

## Computer skills

- Having an experience of drafting letters, preparing statements, worksheets and presentations in Microsoft office. I have also grip on internet and drawing and statistical software
- Attended two months course of “Basic computing skills development program” in the computer science department and awarded participation certificate
- Matlab for solving modeling problems
- PVsyst and Helioscope for the designing solar systems
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## Modern languages

- Attended a 3 month (March–May 2006) intensive German language course organized by DAAD in Lahore (Goethe Institute Karachi, Pakistan) and qualified with 80 % marks
- Attended and qualified German course organized by university of Kassel and qualified with Gesamtnote 1.3 (very good grade).
- Attended the course “English for foreigners doctoral candidates” organized by university of Kassel in winter semester 2007-08 and qualified with Gesamtnote 1.3 (very good grade).
- Matlab for solving modeling problems

## Teaching

### (I) A: Teaching (Feb 18, 2011 to date)

**(i) Postgraduate Courses Taught**

FMP-701 Advanced Power and Machinery	4(3-1)
FMP-709 Hydraulic Control System	4(3-1)
FMP-713 Grain Preservation and Processing	3(2-1)
FMP-715 Renewable Energy Engineering	3(2-1)
FMP-718 Agri. Storage Engineering	3(2-1)
FMP-719 Seminar	1(1-0)
FMP-720 Special Problem	1(1-0)
ESE-702 Solar Thermal Engineering	3(2-1)
ESE-708 Refrigeration and Air Conditioning	3(2-1)
ESE - 719 Seminar	1(1-0)
ESE - 720 Special Problem	1(1-0)

**(ii) Undergraduate Courses Taught**

Course No.	Course Title	Credit Hours
FMP-201	Farm Mechanization	2(1-1)
FMP-202	Energy in Agriculture	2(2-0)
FMP-304	Engineering Thermodynamics	3(2-1)
FMP-401	Engineering Thermodynamics	3(2-1)
FMP-401	Energy Resources and Utilization	2(2-0)
FMP-402	Boiler Engineering and Power Plants	3(2-1)
FMP-506	Farm Machinery-I	3(2-1)
FMP-506	Energy Resources and Management	3(2-1)
ESE-302	Principles of Energy Engineering	2(2-0)
ESE-501	Solar Energy Systems	3(2-1)
ESE-506	Heating, Ventilation and Air conditioning plants	4(3-1)
ESE-504	Bioenergy Engineering	3(2-1)
ESE-604	Energy Economics, Policy and Management	3(3-0)
ESE-603	Project and Report-I	2(2-0)
ESE-727	Energy Management in Food Processing Industries	3(2-1)

**(iii) New Courses Developed/book chapters**

1. Developed new course “Renewable Energy Engineering” (FMP 715) which is being offered to the students of M.Sc. (Hons.) Agricultural Engineering.
2. Developed a new elective course “Energy in Agriculture” (FMP 202) which is being offered to the students of B.Sc. (Hons.) Agri. Sciences.
3. Developed new course “Boiler Operation and Maintenance” for the “Associate Degree of Feed Science & Technology”, Institute of Animal Nutrition and Feed Technology, UAF. (2012)
4. Developed a new one month course entitled “Biogas Energy Plant Supervisor” and published as a curriculum by Faculty of Agricultural Engineering and Technology, University of Agriculture, Faisalabad. ISBN: 978-969-9035-07-4.

5. Developed a new one month course entitled “Biogas Plant Technician” and published as a curriculum by Faculty of Agricultural Engineering and Technology, University of Agriculture, Faisalabad. ISBN: 978-969-9035-06-7.

## Student Supervision

Role	M.Sc. or equivalent	M.Sc. (Hons.)/M.Phil	Ph.D.
As major Supervisor	Project & Report	54	*06 (Completed) **(03 in progress)
As committee Member		40	***03 (Completed) ****(04 in progress)

### \* PhD Supervised as a major supervisor (06 PhD completed)

Scholar Name	Thesis Title	Supervisory Committee	Notification No. & Date
Dr. Mubashar Omar (HEC Scholar)	Design, development and performance evaluation of biomass gasifier for power generation	Dr. Anjum Munir Prof. Dr. Manzoor Ahmad Prof. Dr. Asif Tanveer	CE/PA/2126-46 Dated: 06.04.2018
Dr. Arslan Afzal	Development of a hybrid solar distillation system for value addition of medicinal plants	Dr. Anjum Munir, Dr. Abdul Ghafoor, Dr. Shoukat Ali	CE/PA/2488-2508 Dated: 24.04.2018
Dr. Ali Raza (HEC Scholar)	Design and development of a continuous solar roaster (CSR) for the processing of agricultural products	Dr. Anjum Munir, Dr. Abdul Ghafoor, Dr. Shoukat Ali	CE/PA/4565-4585 Dated: 30.08.2019
Dr. Usman Haider	Design modification of indigenized floating drum biogas plant for upgradation of biogas	Dr. Anjum Munir, Dr. Abdul Ghafoor, Dr. Shoukat Ali	CE/PA/4523-27 Dated: 01.12.2020
Engr. Ghulam Murtaza (HEC Scholar)	Design, development and performance evaluation of a multi crop hybrid solar dryer	Dr. Anjum Munir, Dr. Abdul Ghafoor, Prof. Dr. Asif Tanveer	CE/PA/7414-34 Dated: 31.12.2021
Engr. Zuhair Qamar (HEC Scholar)	Development and modeling of solar assisted milk power spray dryer for decentralized applications	Dr. Anjum Munir, Dr. Abdul Ghafoor, Dr. Muhammad Tahir	CE/PA/5196-5216 Dated: 20.04.2023

### \*\* PhD Supervised as a major supervisor (01 PhD in progress)

Scholar Name	Thesis Title	Supervisory Committee	Status
Engr. Hasnain Yousuf		Dr. Anjum Munir, Dr. Abdul Ghafoor,	



**\*\*\* PhD Supervised as a Co-supervisor of Foreign University (01 PhD completed)**

Scholar Name	Thesis Title	Supervisor & Co-supervisor	Notification No. & Date
Dr. Waseem Amjad Matriculation No. 32208951	Design and development of a diagonal-airflow batch dryer for spatial drying homogeneity	Prof. Dr. Oliver Hensel, <b>Dr. Anjum Munir,</b>	VDI (VDI-MEG) 562 Matriculation No. 32208951
Engr. Khawar Saeed Khan (ICDD-DAAD Scholar)	Development of solar assisted milk pasteurizer and mobile chiller unit for income generation of rural communities	Prof. Dr. Oliver Hensel, <b>Dr. Anjum Munir,</b>	PhD completed

**PhD Supervised as a first member of the supervisory committee (03 PhD completed)**

Scholar Name	Thesis Title	Supervisory Committee	Notification No. & Date
Dr. Sidra Ashfaq (2002-ag-635)	Design and development of a continuous solar roaster (CSR) for the processing of agricultural products	Prof. Dr. Manzoor Ahmad, <b>Dr. Anjum Munir,</b> Dr. Aftab Wajid	CE/PA/3030-50 Dated: 17.06.2015
Dr. M. Usman Ghani 2003-ag-2333)	Design modification of indigenized floating drum biogas plant for upgradation of biogas	Prof. Dr. Manzoor Ahmad, <b>Dr. Anjum Munir,</b> Prof. Dr. Asif Tanveer	CE/PA/3030-50 Dated: 17.06.2015

**\*\*\*\* PhD Supervised as a co-supervisor of foreign university (03 PhD in progress)**

Scholar Name	Thesis Title	Supervisory Committee	Status
Engr. Syed Nabeel Shah (HEC-DAAD Scholar)	Development of decentralized solar assisted yogurt processing unit	Prof. Dr. Oliver Hensel, <b>Dr. Anjum Munir,</b>	Research & Thesis in progress
Engr. Faizan Majeed (Faculty Development)	Development of batch type solar coffee roaster	Prof. Dr. Oliver Hensel, <b>Dr. Anjum Munir,</b>	Research & Thesis in progress
Engr. Zeeshan Niazi HEC-DAAD Scholar)	Energy Storage by solar concentrator using Phase Change Material (PCM)	Prof. Dr. Oliver Hensel, <b>Dr. Anjum Munir,</b>	Research & Thesis in progress

(I am HEC recognized supervisor in the department from the discipline of Engineering & Technology. Research work of all the students will be completed by the end of 2023.

***M.Sc. (Hons.)/M.Phil. Students Research Work Supervised/Co-Supervised (2014 and before)***

➤ **M.Sc. (Hons.) students supervised as a major supervisor (63)**

1. Nazish 2022. Design optimization and mathematical modeling of solar cold storage system (2019-ag-7437) Notification No. CE/1731/M.Sc.,2022
2. Muhammad Umar Ahmad 2022. Techno Economic feasibility and layout plan of 1.5 MW grid-tied PV system on the roof top of UAF (2020-ag-750) Notification No. CE/1731/M.Sc.,2022
3. Hanzla 2022. Designing and implication of automated cleaning systems and dust removal from solar PV modules at solar park UAF (2020-ag-751) Notification No. CE/1731/M.Sc.,2022
4. Sajaad Haidar 2021. Retrofitting of inefficient electrical devices by Efficient Devices – A case study of University of Agriculture Faisalabad.(2014-ag-4514)
5. Muhammad Mubeen 2021. Energy Balance of Hybrid Solar Cold Storage Unit for the Preservation of Perishables (2014-ag-4500)
6. Asad Ejaz Baig 2020. Solar Assisted Controlled Yogurt Processing Unit – A Decentralized Approach for Value Addition (2013-ag-4688)
7. Muhammad Usman 2020. Design and Techno Economic Analysis of 125 kWp Rooftop Photovoltaic Grid-Tied System installed at UAF (2018-ag-2894)
8. Muhammad Hamid Abbas 2020. Solar Assisted Cross Flow Grain Dryer for Homogeneous and Controlled Multi-Product Grains (2014-ag-4511)
9. Jawariah 2020. Thermal Analysis of Solar Hybrid Controlled Cabinet Dehydrator (2014-ag-4510)
10. Talha Ashraf 2019. Development of Solar Assisted Decentralized cold storage system employing cooling pads for the preservation of perishables (2013-ag-4651)
11. Usman Maqsood 2019. An Automated Control System for Multi Crop Grain Dehydrator (2017-ag-2194)
12. Marib Usman 2019. Development of solar Assisted Energy Efficient Cold Storage Structures (2017-ag-2211)
13. Muhammad Jawad Farooq 2019. Experimental and performance analysis of energy efficient forced convection storage structure with plenum chamber for perishables (2013-ag-4674).
14. Awais Ashraf 2019. Experimental investigation of cold storage unit coupled with hybrid solar system for continuous operation (2013-ag-4696)
15. Abu Bakar Sajjad 2019. Investigation of transient heat transfer in a solar assisted cabinet dryer (2013-ag_4682).
16. Usman Abdul Qadir 2019. Fabrication of a solar assisted dehydrator with the diagonal airflow pattern (2013-ag-4669)
17. Hafiza Aqsa Aslam 2019. Design and performance evaluation of a grid-tied photovoltaic system installed on the rooftops of IT Library and other allied buildings of UAF
18. Hafiz M. Talha Siddiqui 2019. Surplus air wall turbine (SAWT) for harnessing energy from the exhaust air for industrial fans (2013-ag-4649)
19. Farhat Mahmood 2019. Design and development of solar powered diagonal air flow dryer for quality drying of perishables. (2017-ag-2200)
20. Muhammad Mohsin 2018. Batch type solar roaster – a decentralized approach for grains and nuts (2012-ag-3663)

21. Muhammad Faisal Nisar 2018. Enrichment of biogas using chemical treatment techniques (2012-ag-3656)
22. Mubashir Riaz (2018) On-farm milk processing using solar assisted milk spray dryer (2012-ag-3673)
23. Muhammad Ishfaq (2018) Optimization of cleaning system for Syngas purification (2012-ag-3655)
24. Muhammad Awais (2017) Performance Evaluation of Cyclone separator, we scrubber and biomass filter for enhancing producer gas quality (2011-ag-2799)
25. Muneeb bin Muzzamal (2017) Energy optimization of a solar assisted milk chilling unit (2011-ag-2797)
26. Hafiz Muhammad Mubashar (2017) Heat and mass balance in a downdraft gasifier for CHP (2011-ag-2786)
27. Muhammad Mudassar Arif (2015) Design development and performance evaluation of hybrid solar dryer for the processing of perishable agricultural products (2008-ag-2739)
28. Syed Shariq Pervaiz (2015) Design modification of a hybrid continuous solar roaster for quality roasting of agricultural products (2009-ag-3153)
29. Iqra Ayub (2015) Development and performance evaluation of a solar assisted bakery unit for value addition (2008-ag-2622)
30. Saqlain Yousuf (2015) Real time Parametric studies on Stan Alone Photovoltaic System Developed for domestic, Off-Grid Remote and on farm agricultural applications (2013-ag-6174)
31. Umar Hanif (2015). Comparative study of solar, biogas, diesel and electric operated tubewells (2008-ag-2791)
32. Hasnain Yousaf (2016). Development of a workbench for real time parametric investigation of a photovoltaic system for domestic, industrial and on-farm application (2009-ag-3145)
33. Noor uz Zaman 2016. Parametric study and performance of off-grid, on-grid and hybrid PV system using real time data logging (2007-ag-1224)
34. Fraz Ahmad Khan 2016. Development and performance evaluation of solar assisted batch type maize dryer (2010-ag-2288)
35. Muhammad Usama Yaseen 2016. Development and performance evaluation of solar milk pasteurizer by using vacuum tube collector (2010-ag-2333)
36. Muhammad Atif Saleem 2016. Optimization of solar assisted bakery unit for quality baking of different products using Scheffler reflector (2010-ag-2378)
37. Engr. Iqra Ayub 2015. "Development and performance evaluation of a solar assisted bakery unit for value addition" (Reg. No.2008-ag-2622)
38. Syed Nabeel Hasnain (2015). Development and field experiments of solar distillation systems of the extraction of essential oils using direct steam injection (2007-ag-1243)
39. Engr. Syed Sharik Pervaiz (2015) "Design modification of a hybrid continuous solar roaster for quality roasting of agricultural products" (Reg. No. 2009-ag-3153)
40. Engr. Amir Saeed (2016) "Qualitative study of fragile agricultural products using solar hybrid dryer" (2008-ag-2755)
41. Engr. Muhammad Imran Akhtar 2016. "Quality drying of apricot using CFD simulation in solar tunnel dryer" (Reg. No. 2006-ag-2149)
42. Mr. Suqlain Yousuf (2015) "Real time parametric studies on a stand-

alone photovoltaic systems developed off-grid remote and on-farm agricultural applications” (Reg. No. 2013-ag-6174)
43. Engr. Noor Asif Noor (2014) Design, development and performance evaluation of a 2.7 m <sup>2</sup> portable fixed focus solar cooker (Registration No. 2012-ag-911)
44. Engr. Zuhair Qamar (2013). Design, development and performance evaluation of sterilizing unit for hospitals using Scheffler fixed focus concentrator (Registration No. 2006-ag-2236)
45. Engr Farukh Ehsan (2014) Performance Evaluation of continuous solar roasting system for agricultural products (Registration No. 2008- ag-2741)
46. Engr. Zeeshan Rasheed (2013). Quality drying of sliced potatoes using solar tunnel dryer (Registration No. 2006-ag-2120)
47. Engr. Jahan Zeb Alvi (2013). Fabrication and performance evaluation of biomass boiler (Registration No. 2007-ag-1157)
48. Engr. Farhan Hussain (2013). Quality drying of ripened chillies using a glass solar tunnel dryer (Registration No. 2006-ag-2214)
49. Engr. Zeeshan Munir (2013). Comparative study of solar and conventional distillation systems based on yield and composition of essential oils for Eucalyptus Camaldulensis (Registration No. 2007-ag-1245)
50. Engr. Muhammad Rehman Asghar (2013). Hybridization of solar distillation still with biomass boiler for processing of medicinal plants (Registration No. 2007-ag-1240)
51. Engr. Hafiz Abdul Qahir (2013). Design and development of a biogas plant for tubewell operation at UAF (Registration No. 2007-ag-1167)
52. Engr. Ghulam Murtaza (2013). Parametric study of a biogas plant to optimize the tube well operation installed at UAF (Registration No. 2006-ag-2154)
53. Engr. Muhammad Tayyab (2013). Design and development of solar roasting system for value addition of agricultural products (Registration No. 2006-ag-2204)
54. Engr. Naveed Mahmood (2013). Design and development of solar based double jacketed autoclave for the sterilization of surgical instruments (Registration No. 2007-ag-1229)
55. Engr. Umair Sultan (2012). Design, development and performance evaluation of a locally fabricated portable solar tunnel dryer for drying of fruits, vegetables and medicinal plants.
56. Engr. Faizan Majeed (2012). Design, development and performance evaluation of a distillation system for essential oils extraction using Scheffler solar concentrator (Registration No. 2006-ag-2153)
57. Engr. Mohammad Mohsan (2012). Performance evaluation of boiler at steam power station FESCO (Registration No. 2004-ag-1889)
58. Engr. Arslan Afzal (2012). Value addition of Agricultural products using solar distillation system (Registration No. 2006-ag-2175)
59. Engr. Muhammad Ramzan (2012). Effects of tillage treatment and crops spraying applications on cotton productivity (Registration No. 2005-ag-2188)
60. Engr. Muhammad Khalid Jamil (2012). Design, development and performance evaluation of a solar tunnel dryer using glass glazing (Registration No. 2006-ag-2169)
61. Engr. Zawar Hussain (2012). Optimization of distillation and analysis of

essential oils using gas chromatography (Registration No. 2006-ag-2192)
62. Engr. Amman Ullah (2011). Performance evaluation and simulation of photovoltaic powered water pumping system (Registration No. 2009-ag-573)
63. Engr. Muhammad Adeel Ashraf (2011). Ergonomics and occupational health in sugar industry of Pakistan (Registration No.2005-ag-2222)

➤ **M.Sc. (Hons.) students supervised as member of committee (40)**

- i. Engr. Muhammad Zuhair Akram (2014). Design, fabrication and simulation of a flat plate solar concentrator (Registration No. 2008-ag-2724)
- ii. Engr. Muhammad Shahbaz Akram (2014) Performance analysis of tractor engine based on tractor power, age and engine rpm (Registration No. 2005-ag-2226)
- iii. Engr. Mudassar Ali (2014) Comparative study for productivity enhancement and power saving for wheat crop (Registration No. 2006-ag-2152)
- iv. Engr. Shahzad Latif (2014). Design, fabrication and performance evaluation of carbon catcher for efficient biochar production (Registration No. 2008-ag-2803)
- v. Engr. M. Rizwan Mehdi (2014). Modification and performance evaluation of multi crop mini thresher for small farmers (Registration No. 2008-ag-2747)
- vi. Engr. Muhammad Iqbal (2014). Performance evaluation of solar biomass hybrid dryer (Registration No. 2008-ag-2720).
- vii. Engr. M. Zeeshan Maqbool (2014). Comparative study of solar tunnel and hybrid fruit and vegetable dryer (Registration No. 2008-ag-2775).
- viii. Engr. Ch. Sohail Babar (2014). Modification and performance evaluation of an updraft gasifier operating with crop residue (Registration No. 2008-ag-2752)
- ix. Engr Muddassir Ali (2014) Comparative study for productivity enhancement and water saving for wheat crop (Registration No. 2006-ag-2152).
- x. Engr. M Shahbaz akram (2014) Performance analysis of tractor engine based on tractor power age and engine RPM (Registration No. 2005-ag-2226).
- xi. Engr. Tinat Anwar (2014) Performance Evaluation of Modified Grain Dryer (Registration No. 2007-ag-1202).
- xii. Engr. Shazia Hanif (2013). Extraction of essential oils from citrus [Citrus Sinensis (L.) Osbeck.] Peel using solar distillation system (Registration No. 2007-ag-1177)
- xiii. Engr. Muhammad Jawad Liaqat (2013). Extraction of essential oil of peppermint using solar distillation system and comparing with conventional system (Registration No. 2005-ag-2234)
- xiv. Ghulam Asghar (2013). Design and development of conditioning unit for upgrading producer gas to IC engine quality fuel (Registration No. 2007-ag-1165)
- xv. Shahzad Aslam (2013). Design, fabrication and performance evaluation of updraft gasifier running with biomass

- xvi. Engr. Muhammad Amir Younas (2013). Examination and valuation of tractor mounted reaper opposed to self-propelled wheat reaper under local field condition (Registration No. 2005-ag-2215)
- xvii. Engr. Muhammad Waqas Jameel (2013). Performance evaluation of photovoltaic module using aluminium reflectors (Registration No. 2007-ag-1272)
- xviii. Engr Muddassir Ali (2014) Comparative study for Productivity Enhancement and Water Saving for Wheat Crop (Registration No. 2006-ag-2152)
- xix. Engr. Muhammad Faheem (2013). Design, fabrication and performance evaluation of solar parabolic trough for domestic applications (Registration No. 2006-ag-2193)
- xx. Engr. Muhammad Ramzan (2013). Performance evaluation of floating type biogas plant installed at University of Agriculture Faisalabad (Registration No. 2007-ag-1257)
- xxi. Engr. Farooq Ahmad (2013). Comparative study of indigenous and imported PV panel (Registration No. 2006-ag-2209)
- xxii. Engr. Muhammad Usman Khan (2013). Performance evaluation of distillery type yeast sludge dryer (Registration No. 2006-ag-2177)
- xxiii. Engr. Rao Imran Ahmad (2013). Ergonomics and occupational health in agricultural industry of Punjab, Pakistan (Registration No. 2005-ag-2151)
- xxiv. Engr. Usman Ullah (2012). Design, fabrication and performance evaluation of self-propeller multi crop reaper for small farmers (Registration No. 2005-ag-2306)
- xxv. Engr. Muhammed Mubashar Omer (2012). Modification and evaluation of downdraught gasifier running with biomass (Registration No. 2006-ag-2133)
- xxvi. Engr. Baber Sharif (2012). Performance evaluation of self-propeller reaper for wheat. (Reg. No. 2005-ag-2307)
- xxvii. Engr. Ghulam yasin (2012). Comparative performance evaluation of fertilizer band placement drill, Rabi drill and broadcasting for wheat crop (Reg. No. 2005-ag-2236)
- xxviii. Engr. Abdullah Khan (2012). Demonstration of Techno-chemical method for reclamation of saline sodic soils (Reg. No. 2005-ag-2273)
- xxix. Engr. Kamran Ikram (2012). Comparison of different sowing Techniques and crop production of wheat crop using the concept of conservation agriculture. (Reg. No. 2006-ag-2115)
- xxx. Muhammad Saeed Ahmed Khan (2012). Optimization of dual-fueled engine operated at different biogas and diesel ratios (Reg. No. 2005-ag-2297)
- xxxi. Engr. Adnan Abbas (2011) Performance evaluation of motor operated maize Sheller, 2011
- xxxii. Engr. Ikram Ullah Khan Gill (2011). Performance evaluation of different solar water heaters for domestic and industrial applications (Reg. No. 2005-ag-2327)
- xxxiii. Engr. Muhammad Sohaib (2011). Fabrication and performance evaluation of carrot digger (Reg. No. 2005-ag-2257)
- xxxiv. Engr. Zafar Hussain (2011). Development and fabrication of solar water distiller and impact assessment of frontal height on its productivity (Reg. No. 2005-ag-2253).
- xxxv. Engr. Usman Ullah (2011). Design, fabrication and performance evaluation of self-propelled multi crop reaper for .small farmers. (Reg. No. 2005-ag-2306)

- xxxvi. Engr. M. Atif Shahzad (2011). Modification and testing of SWAN-SON mini thresher (Reg. No. 2005-ag2318).
- xxxvii. Engr. Mahmood Ali (2012). Performance evaluation of Super Fine Rice thresher (Registration No. 2005-ag-2213).
- xxxviii. Engr. Rabia Anum 2008-ag-2652. Performance evaluation of a gas-fired hybrid solar tunnel dryer
- xxxix. Engr. Azlan Zahid 2009-ag- 3108. Solar desalination of water using evaporation, condensation heat recovery method
- xl. Desalination of brackish water using indigenous dual acting solar still system

### **International Workshop/Conference Organized as Chief Organizer**

- International Workshop on Solar and Bio-Energy Systems (November 2011)
- International conference on renewable energy technologies in Pakistan (2013)
- International workshop on renewable energy technologies in Pakistan (2014)
- International workshop on renewable energy technologies for community development in Pakistan (2015)
- International Workshop on Sustainable Energy solutions for Community Development in Pakistan (2016)
- International Conference on
- International Conference on Green Energy Technologies: Opportunities and Challenges (GET)n(October 29-30, 2019)

### **International training organized as Focal Person**

Year 2013

Sr. Nr.	Name of traveller	Date of travelling	Stay (days)	Country		Purpose
				From	To	
1.	Prof. Dr. Oliver Hensel	September 30, 2013	5	Germany (Uni-Kassel)	Pakistan	- Teaching and training to the students about the Scheffler technology - Keynote address on solar tech. for power generation during conference (Oct, 2013)
2.	Mr. Wolfgang Scheffler	September 30, 2013	5	Germany (Simply Solar Company)	Pakistan	- Teaching and training to the students about the Scheffler technology - Keynote address on solar tech. for power generation during conference (Oct, 2013)
3.	Mr. Christian Schellert	September 30, 2013	5	Germany (Uni-Kassel)	Pakistan	- Teaching and training to the students about solar drying and solar water pumping
4.	Dr. Franz Roman	September 30, 2013	5	Germany (Uni-Kassel)	Pakistan	- Student training about simulation and modeling in quality solar drying (Oct, 2013)

Year 2014

Sr. Nr.	Name of traveller	Date of travelling	Stay (days)	Country		Purpose
				From	To	

1.	Dr. Uwe Richter	Dec, 15-20, 2014	6	Uni-Kassel, Germany	Pakistan (UAF)	<ul style="list-style-type: none"> <li>- To attend the international workshop on Renewable energy technology</li> <li>-To train the students of B.Sc. energy Systems Engineering and B.Sc. Agricultural Engineering</li> <li>-Technical lessons and on-hand practical training for designing, assembling , instrumentation and system integration of Re technologies for continuing professional development (CPD) under Pakistan Engineering Council Umbrella)</li> <li>- Keynote address on Use of Modern Sensor Systems (Acoustics, cameras, GPS etc.) in RE technologies and Agri-machinery (Dec, 16, 2014)</li> </ul>
2.	Michael Hesse	Dec, 15-20, 2014	6	Uni-Kassel,	Pakistan	<ul style="list-style-type: none"> <li>- To attend the international workshop on Renewable energy technology</li> <li>-To train the students of B.Sc. energy Systems Engineering and B.Sc. Agricultural Engineering</li> <li>-Presentation on Developments and experiences of RELOAD Project in developing</li> </ul>
3.	Ms. Katharine Troeger	Dec, 15-20, 2014	6	Germany	(UAF)	<ul style="list-style-type: none"> <li>- Student training about simulation and modeling in quality solar drying (Oct, 2013)</li> </ul>

## Visits Abroad of Faculty members/students organized as Focal Person

Year 2013

Sr. Nr.	Name of traveller	Date of travelling	Stay (days)	Country		Purpose
				From	To	
1.	Mr. Arslan Afzal	Nov. 01, 2013	21	Pakistan (UAF)	Germany	<ul style="list-style-type: none"> <li>- Conducted field research on solar distillation system in University of Kassel, Germany (Nov, 2013)</li> <li>- Presented his research on solar distillation system in the "DAAD Summer School 2013"</li> </ul>
2.	Mr. Faizan Majeed	Nov. 01, 2013	21	Pakistan (UAF)	Germany	<ul style="list-style-type: none"> <li>- Attended lessons on solar pumping and solar drying in Germany (Uni-Kassel)</li> <li>- Presented his research on solar pumping-current situation in Pakistan in "DAAD Summer School 2013"</li> </ul>
3.	Mr. Muhammad Tayyab	Nov. 01, 2013	21	Pakistan (UAF)	Germany	<ul style="list-style-type: none"> <li>- Participated in lessons regarding different solar based technologies for value addition</li> <li>- Presented his research on design and development of biogas plants for tubewell operation in "DAAD Summer School 2013"</li> </ul>
4.	Mr. S.Nabeel Husnain	Nov. 01, 2013	21	Pakistan (UAF)	Germany	<ul style="list-style-type: none"> <li>- Took lesson and conducted field research on solar and biogas technologies</li> </ul>



						- Presented his research on present scenario and future prospectus of biogas technology in Pakistan, in "DAAD Summer School 2013"
5.	Mr. Jahan Zeb Alvi	Nov. 01, 2013	21	Pakistan (UAF)	Germany	- Conducted field research on renewable energy technologies based on biomass - Presented his research on performance evaluation of biomass boiler in "DAAD Summer School 2013"

#### Year 2014

Sr. Nr.	Name of traveller	Date of travelling	Stay (days)	Country		Purpose
				From	To	
1.	Dr. Anjum Munir (Co-operator DAAD project)	June 14, 2014	21	Pakistan (UAF)	Germany	- Participation in the DAAD summer school 2014 with UAF team - Technical discussion with Prof. Dr. Oliver Hensel regarding DAAD Project - Presentation at ATC meeting 2014 organized by ICDD (Uni-Kassel)
2.	Dr. M. Iqbal (Professor)	June 14, 2014	10	Pakistan (UAF)	Germany	- Participation in the DAAD summer school 2014 - Visit of SMA, Hay dryer Frankenhäusen, biomass seminar at University of Schmalkalden, Solar Park Grumbachau etc.
3.	Dr. Abdul Ghafoor, (Uni. Teacher)	June 14, 2014	21	Pakistan (UAF)	Germany	- Participation in the DAAD summer school 2014 - Visit of SMA, Hay dryer Frankenhäusen, biomass seminar at University of Schmalkalden, Solar Park Grumbachau etc. - Presentation on solar cooling and group discussion with faculty members
4.	Ms. Sidrah Ashfaq, (Uni. teacher)	June 14, 2014	10	Pakistan (UAF)	Germany	- Participation in the DAAD summer school 2014 - Visit of SMA, Hay dryer Frankenhäusen, biomass seminar at University of Schmalkalden, Solar Park Grumbachau etc.
5.	Mr. Arslan Afzal (PhD Scholar)	June 14, 2014	21	Pakistan (UAF)	Germany	- Participation in the DAAD summer school 2014 - Visit of SMA, Hay dryer Frankenhäusen, biomass seminar at University of Schmalkalden, Solar Park Grumbachau etc. - Data collection regarding his PhD research work

6.	H. M. Usman Ghani (PhD student)	June 14, 2014	10	Pakistan (UAF)	Germany	- Participation in the DAAD summer school 2014 - Visit of SMA, Hay dryer Frankenhausen, biomass seminar at University of Schmalkalden, Solar Park Grumbachau etc.
7	Mr. Zeeshan Rasheed (PhD Scholar)	June 14, 2014	10	Pakistan (UAF)	Germany	- Participation in the DAAD summer school 2014 - Visit of SMA, Hay dryer Frankenhausen, biomass seminar at University of Schmalkalden, Solar Park Grumbachau etc.
8	Mr. M. Mudassar Arif (student)	June 14, 2014	10	Pakistan (UAF)	Germany	- Participation in the DAAD summer school 2014 - Visit of SMA, Hay dryer Frankenhausen, biomass seminar at University of Schmalkalden, Solar Park Grumbachau etc.

### Advisory, Administrative and Community Services Rendered

- Serving as Chairman in the Department of Energy Systems Engineering
- Servig as Director, Punjab Bioenergy Institute (PBI), Jhang Road, Faisalabad.
- Served as Principal Officer in Engineering Construction Department-Maintenance (ECD-M).
- Served as a "Tutor" of Tutorial Group "Nishtar 4" at UAF.
- Served as "Adviser" of B.Sc. Agricultural Engineering and B.Sc. Food Engineering to sign UG-1 forms, Library/Student ID cards application forms, railway/PIA concession forms, scholarship/loan forms, character certificate forms and registration forms etc. on behalf of the Dean from 18.10.2012 to date (Office order No. DET/2279 dated 18.10.2012).
- Served as "Presiding Officer" at Constituency No. 90 (No. 75) during the "General Election 2013" held on May 11, 2013
- Serving as "Laboratory In charge" of "Thermodynamics and Energy Lab" of Faculty of Agricultural Engineering & Technology, UAF. During 2012, the laboratory was upgraded by adding new equipment on solar energy.
- Serving as expert on "Energy and Biogas" from the University of Agriculture Faisalabad to assist the "Energy Department, Government of Punjab, Lahore" in the Field of Energy and Biogas vide D.O No. VC/2012/613-14 dated 15.06.2012.
- Serving as "President" to conduct sports trials (Squash) for the admission to under- graduate and post-graduates classes during session 2012-13 (DS/13/F-27/1405 dated 18.09.2013).
- Reviewer of research proposals, reports and manuscripts.
- Selected as team leader in the field of R & D of Mechanical Product to carry out Tangible Industrial Research Programme with collaboration of

Engineering Development Board (EDB), Ministry of Industries, Government of Pakistan.

- Serving as a member of the committee constituted by the honorable Vice Chancellor to setup "Green Energy Electricity Generation Unit (Combination of Solar, Bio-mass and Solid Waste) at UAF under Built-Own-Operate-Transfer (BOOT) basis (No./Acs. Dev./10173-79 dated 04.06.2012)
- Participated in Dawn Sarsabz Pakistan Agri. Expo on April 4-5, 2013 at Expo Center Johar Town, Lahore (DET/475 dated 01.03.2013).
- Awarded Scholarships to students from ICDD and DAAD Projects to conduct innovative research on solar energy (DFA&UA/13/10061-71 dated 12-08-2013).
- Served as a member of Examination Conduct Committee to conduct of entry test for admission to B.Sc. Agricultural Engineering, B.Sc. Food Engineering, B.Sc. Energy System Engineering, B.Sc. Environmental Engineering and B.Sc. Textile Technology 2013-2014.
- Served as a member of Approval of Marking and other committees along with other criteria for admission to B.Sc. Agricultural Engineering, B.Sc. Food Engineering, B.Sc. Energy System Engineering, B.Sc. Environmental Engineering and B.Sc. Textile Technology 2013-2014.
- Served as a member of comprehensive examination and result compilation committee to conduct the comprehensive examination of 8<sup>th</sup> semester B.Sc. Agricultural Engineering students (No. DET/3235, Dated: 04-06-2013).
- Served as member of "Exhibition and Kisan Convention Committees" for making arrangements of Spring/Kissan Mela 2013 at University of Agriculture, Faisalabad. (No. A-5/409/36616 dated: 03-1-2013)
- Served as a member of "International Coordination/Transport/Local Hospitality" committee for ICDD conference on "Linkages Value Chain and Development along the Rural-Urban Interface" held at the University of Agriculture, Faisalabad from January 09-12, 2014 (Endst. No. COORD/07/13.02.11-76 dated 30.11.2013).
- Supervisor of internees from different universities under "Punjab Youth Internship Program" 2013-14 to engage them in the academic/research and development activities (Notification No. 1083/ORIC).
- Served as member of Vigilance/Examination Committee, Faculty of Agriculture, University of Agriculture, Faisalabad for the final examination of Winter Semester, 2012-13 (Notification No. DFA/891-926 dated 31.01.2013).
- Served as member of Examination Committee for Entry Test held for all the department of Faculty of Agricultural Engineering & Technology, University of Agriculture, Faisalabad.
- Serving as member of Departmental as well as Faculty Board of Studies, UAF (Department of Farm Machinery & Power, Faculty of Agricultural Engineering & Technology).
- Served as member of "Book Purchase Committee" for selecting of new books for B.Sc. Agricultural Engineering ((No. DET/546 dated: 06-03-2013 & No. DET/2297 dated: 07-06-2013).
- Member of organizing committee of "One day Seminar on Energy Scenario in Pakistan" held on March 29, 2013, organized by Faculty of Agricultural Engineering and Technology, University of Agriculture, Faisalabad.
- Worked as convener for CAS-Ag Meeting held on 8<sup>th</sup> July 2013. (No. DET/3443 dated: 26-06-2013).
- Nominated as Energy expert from UAF for CAS energy sector committee and technical committee for biogas plant project at NUST. (VC Office No. 3329 dated: 29-07-2013).

- Serving as a member of technical committee for Biogas Energy Projects of Agriculture Department Government of Punjab (No. SO (R&E) 6-8/2013-Biogas, Dated: 23-10-2013).
- Worked as a member of committee constituted by worthy Vice Chancellor for the evaluation and monitoring of 50 Biogas Plants installed by the Department of Agriculture (Field Wing), Govt. of Punjab, Lahore. (No. DET/5224, Dated: 29-10-2013).
- Worked as member of Tender Committee of the project titled "Formulating water allocations using remote sensing and GIS modeling" against Tender No. 85/2013 (No. DPIC. 7543-47 dated 12.12.2013).
- Serving as subject expert for HEC curriculum revision committee 2013-14 in the discipline of Agricultural Engineering (No. 9-290/NCRC/Curri/HEC/2012/435 Dated: 24-05-2013)
- Served as convener of the committee for the construction and installation of bag- type biogas plant at UAF (No. DET/5560, Dated 29-11-2013).
- Worked as convener with Chinese engineers for the completion of Bag Type Biogas plant in University of Agriculture, Faisalabad. (No. Coord/7-B/13579-88 Dated: 11-12-2013)
- Working as an active member for pre-qualification of contractor committee as well as consultant selection committee for EOI. (No. DET. 67 dated 13.01.2014 & No. Coord/2/5/2495-2517 Dated: 24-03-2014)
- Member Mosque Committee, University Villas, Ismail Road, University of Agriculture, Faisalabad.
- Served as an authorized person to sign Synopsis /Coursework, E-30 forms and Semi Final Thesis of M.Sc. and PhD levels on behalf of the Dean, Faculty of Agricultural Engineering and Technology, UAF from 22.11.2010 to 17.10.2012 (Office Order No. 1977 dated 22.11.2010 & 1832 dated 04.10.2011).
- "Graduate Research adviser" to review the synopses of "Farm Machinery and Power department from 07.07.2011 to date. (Office Order No. FMP/516 dated 07.07.2011)
- Serving as a committee member to prepare an introductory booklet/brochure encompassing all salient features/activities of the Faculty of Agricultural Engineering & Technology in the field of academic and research from 20.08.2011 to date (No. DET 1649 dated 20.08.2011).
- Served as a committee member for the purchase/installation of different materials under project entitled " International Center of Development and Decent Work" against tender No. 52/2012 during 2012 (No. DPIC 1678-81 dated 02.06.2012).
- Served as Secretary Seminar in organizing "One Day International Seminar on Food Engineering-Way to Food Security" on March 16, 2012 (worked as secretary Seminar).
- Served as member of the tender committee for project "Value Addition to Agricultural Products using Solar Energy for ICDD project held on Aug, 20, 2012.
- Participation and presentation from Pakistan in "DAAD Meeting" held in the office of International Center of development and decent work, Kassel,
- Served as a committee member to take measures/initiatives for the accreditation/registration of undergraduate students degree programs of

Faculty of Agricultural Engineering & Technology with Pakistan Engineering Council.

- Served as a member of the tender committee for project entitled “Development, Fabrication, Installation and operation of Biogas at UAF (No. Acs.Dev./50069 dated 25.09.2012).
- Served as a member of the tender committee for project entitled “Watershed Rehabilitation Project in Pakistan” against Tender No. 45/2012 (Office Order No. DPIC 1521-26 dated 21.05.2012).
- Served as External Examiner for the program “Tractor and Auto Mechanic” (TAM-1, Math for Mechanics etc.) of Pak. German Institution, Chak 5 Faiz, Multan (No./CE 1990 dated 17.11.12).
- Served as external examiner for B. Tech. program (Mechanical Production Technology, Automotive and Farm Machinery) (Order No. 51/Secy dated 14.01.2013).
- Awarded Merit Scholarships to nine students from ICDD Solar Project amounting 2400 € to conduct innovative research on solar energy (ORIC/2959 dated 25.08.2012).
- Prepared the Vision & Mission Statement and SWOT analysis of the department of Farm Machinery and Power.
- Served as convener to conduct internship evaluation of 8<sup>th</sup> semester students during 2012 (FMP. 518 dated 16.07.2012).
- Served as committee member for the physical verification of the departments for the financial year 2009-2010.
- Serving as a committee member to prepare an introductory booklet/brochure encompassing all salient features/activities of the Faculty of Agricultural Engineering & Technology in the field of academic and research as well as up gradation of Faculty website up to National /International Levels.
- Arranged a Seminar entitled “One Day International Seminar on Food Engineering-Way to Food Security” on March 16, 2012 (worked as secretary Seminar)
- Served as Technical Secretary in organizing “International Seminars on the eve of Golden Jubilee Year Farm Machinery week Celebrations” on March, 21-26 2011 (No. FMP-27 Dated: 17-01-2011)
- Served as committee member for organizing “International Conference on Urban, Peri-Urban Agriculture, Employment and Value Chain Management (ICDD) which was held on October 18-22, 2011
- Organized an International Workshop on “Solar and Bio-Energy Systems” on Nov, 24, 2011 (As chief organizer).
- Served as committee member for the exhibition during the Golden Jubilee Week (March 13-17, 2011)
- Participation as a resource person from Pakistan in “Intersolar Europe 2011” which was held on June 15-17 in Munich
- Attended DAAD Alumni Seminar on “Pakistan and German Universities-Joining forces for a better future” in Islamabad, Pakistan on Oct. 29-31, 2010.