بسم الله الرحمن الرحيم

رابطة الجامعيين

جامعة بوليتكنك فلسطين

Palestine Polytechnic University

المؤتمر الدولي الرابع للطاقة وحماية البيئة في التنمية المستدامة

The Fourth International Conference on Energy & Environmental Protection in Sustainable Development

ICEEP IV

6-7/April/2016

Prepared By: Conference Coordinator
Ms. Sameera Abu Ghalyoon

Palestine Polytechnic University (PPU) is one of the leading technical universities in Palestine. The university was founded in 1978 by the University Graduates Union (UGU)– a non-profit organization in the Hebron district. The primary mission of the university is to emphasize high quality vocational and technical engineering education. This is achieved by providing students with practical knowledge to help them acquire an up-to-date experience directly related to their disciplines. The university is currently offering two-year diploma degrees, Bachelor degrees in most science and engineering disciplines, and Master degrees in selective fields.

PPU is officially recognized by the Palestinian Ministry of Higher Education (MoHE) and it is an active member in the Rector Conference of Palestinian Universities. Moreover, PPU is a member of the Palestinian Council for Higher Education, the Association of Arab Universities, the Association of Islamic Universities, and the International Association of Universities.

Furthermore, the university received accreditation from the Ministry of Higher Education of Palestine in 2009 and 2010 for two bachelor-degree academic programs “Electrical Power Engineering”, and “ Environmental Engineering” respectively.

In addition to that, the College of Engineering has received accreditations from MoHE for two graduate master degree programs in the "Renewable Energy" and " Electrical Power" .

There were over 6000 students enrolled in the various areas of specialization at PPU during the academic year 2014-2015. PPU dedicates particular attention and commitment to enhance its relationship with the local community by identifying and working on potential community priorities and needs. It also promotes certain diverse services, strategies and programs to meet these priorities and needs.

PPU Vision

Towards a Science, Technology, Innovation, and Entrepreneurial University by the year 2016.

PPU Mission

- To graduate qualified labor forces able to make a positive change and fulfill the needs and requirements of the community in scientific, technological, and research fields.
- To provide innovative ideas and solutions.
- To strengthen the role of the scientific research and development in accomplishing sustainable and substantial national growth.
- To attract qualified and ranked human resources.
- To reform the university environment and atmosphere.

Main Objectives

- Assuring quality in academic programs.
- Assuring quality in administrative issues.
- Encouraging scientific research.
- Communicating efficiently with the local community.
- Achieving full financial self-dependency.
- Enhancing the university atmosphere and the extracurricular activities.

ICEEP IV Introduction

Initiatives are needed to strengthen international co-operation in order to mobilize investments in energy and environmental management for sustainable development. Being a technological University with diversity of technical and science disciplines, the Palestine Polytechnic University (PPU) is initiating and organizing the 4th international conference on energy and environmental protection in sustainable development that is going to address several relevant issues by local, regional and international experts and scientists.

The Fourth International Conference on Energy & Environmental Protection in Sustainable Development,, which is going to be organized in cooperation with national and international institutions, would represent an opportunity for experts and scientists in addition to national decision makers to interact aiming at enhancing the United Nations initiative "Water and Sanitation, Energy, Health, Agricultural and Biodiversity (WEHAB)". Furthermore it comes as a response to Kyoto Protocol concerning climate change. Palestine Polytechnic University has previously organized several initiatives tackling both environmental and energy. It has organized several conferences in the field, the first one was in 2000 in cooperation with Environmental Quality Authority, Heinrich Boel Foundation (HBF) and the United Nation Development program (UNDP). In 2007, the university organized first specialized conference **ICEEP I** that tackled the energy and environmental issues and their role in sustainable development, followed by the second conference **ICEEP II** in 2009 and the third conference **ICEEP III** in October 2013, the fourth **ICEEPIV** conference will be held in **April 2016**. The university has also implemented two programs in the field of social mobilization program in the field of environment, culture and education. Both programs were funded by the UNDP and implemented by the Renewable Energy and Environmental Research Unit (REERU) of the university. Meanwhile, there is another

research unit focusing on research issues related to electrical energy and energy conversion called" Power Electronics & Signal processing Research Unit (PESPRU) at the same time. In addition , the university has participated in the multilateral cooperative program: " Enhancing Environmental Sustainability through Energy Efficiency and Renewable Energy Technology" with the American University Beirut, the Jordan University of Science & Technology, the University of Central Florida, the Northeast Energy Education Institute of the University of Oregon and the Damascus University.

CONFERENCE OBJECTIVES :

1. To bring together scholars, scientists, experts and researchers, decision makers, and other stake holders from private sectors in the one platform to discuss issues related to the energy and environmental protections in the sustainable development.
2. To introduce the latest advancement in the two fields.
3. To propose crosscutting issues relevant to both main topics that might also be added to integrate social, health and economical of the sustainable development.
4. To strengthen and enhance the reliability and availability of information and experience exchange on advanced and efficient technologies in both energy and environmental management issues.
5. To emphasize the issue of harnessing alternative energy resources, including renewable, to the domestic needs and to present the latest in the important field of technology.
6. To strengthen regional and international cooperation in fields of global concerns.
7. Exhibiting state of the art technologies related to energy and environmental production & exploitation……

CONFERENCE THEMES

i. **Energy**
- Modeling of Energy & Systems
- Energy Transport, Electricity & Fuels
- Energy System & Networks
- Energy Resources & Demand
- Renewable Energy Resources & Technologies
- Energy Auditing & Rational Use of Energy
- Advanced Energy Technologies
- Energy Saving Technologies
- Development & Utilization of Renewable Energy
- Energy Security

ii. **Environment**
- Climate Change & Global Warming
- Environmental Systems & Telecommunication
- Environmental Education
- Environmental Safety & Health
- Environmental Data & Information Management
- Water Resources & Future Conflicts
- Solid Waste , Waste Water Treatment & Management
- Soil Contamination
- Natural Resources Management
- Air Pollutions Control, Noise & Vibration Control.

iii. **Planning & Policies of Sustainable Development**
- Environmental Policies, Planning & Economics
- Energy Policies, Planning & Economics . . Environmental Protection & Policies
- GIS Techniques in Energy & Environment
- Urban &Regional Planning
- The Global Climate Change & International Cooperation On reducing Carbon Emissions
- The Analysis of National Energy Strategy & Decision-Making

iv. **Green Entrepreneurship**
- Green Project Management.
- Green Marketing .
- Green Advertising .

v. **Green Architecture**
- Green Building & Smart Grids

Conference Chair Welcome Message

Dear Conference Participants And Attendance,

On behalf of the ICEEPIV-2016 Steering Committee, I am honored and delighted to welcome you all to the ***"4th International Conference on Energy & Environmental Protection in Sustainable Development",*** Hebron-Palestine. It is very delightful occasion to host this event at Palestine Polytechnic University Campus. I believe we have chosen a venue that guarantees a successful technical conference amid the green spring scenery of Hebron city.

The primary aim of this conference is to bring together local, regional and international academicians, scientists, experts, practitioners, researchers, decision makers, and other stake holders from around the world with varied institutional settings and cultures and private sectors on common platform to discuss issues related to the energy and environmental protections in the sustainable development and related technologies. Indeed, through such conferences, we have the opportunity to network with leaders of academia, government and industry to share our thoughts with your peers through presentations and publications to proffer solutions to global challenges that faced the energy sector and environment.

Our ICEEPIV program is rich and varied. We have received more than 60 full technical papers from prospective authors from different countries (Palestine, Jordan, Turkey, China, South Korea, Russia, Germany and Portugal) with different topics (energy, environment, planning & policies of sustainable development, green entrepreneurship, marketing and project management, green architecture & green building). After peer review process, about 44 papers with high quality were accepted and registered for presentations and discussion in the 12 technical sessions.

We have planned **eight keynote speeches** by distinguished academicians and professional thinkers (from Jordan, Egypt, USA, Romania, and Qatar) to provide you a wide variety of thoughts and enrich the themes of the conference with their experiences and to manage thinking together at the same platform. Besides the conference, an **exhibition for entrepreneurship in renewable energy & green environment Industries** will be held which focuses on the latest scientific innovations and engineering applications in the areas of energy and environmental technology. A workshop and training program of green entrepreneurship will also take place in this conference. The conference also recognizes the importance of technical networking by means of social functions and we have organized an evening program (dinner and cultural program) for the first day and trips to Jerusalem, Bethlehem and old city of Hebron for our guests from outside Palestine. I do hope you will enjoy these events and all our hospitality.

I know that the success of the conference depends ultimately on the many people who have worked with us in planning and organizing the conference and supporting all needed arrangements. I would like to thank all the conference volunteers for their enormous contribution towards the success of this conference. In particular, I wish to thank the conference steering committee members for their wise advice and suggestion on organizing the conference; the scientific committee for their efforts in thorough and timely reviewing of the papers; the administrative committee members and the members of all other sub-committees. My thanks also goes for the expert referees, the authors of all contributed papers, the presenters of accepted papers, the keynote speakers, the session chairs and many thanks to our sponsors who have helped us to keep down the costs of our conference.

Recognition should go to the conference coordinator who has worked extremely hard for the details of important aspects of the conference programs and other activities.

On behalf of the conference steering committee, I would like to extend my thanks and appreciation to the President and Vice-presidents of the Palestine Polytechnic University and board of trustee for their encouragement and support that made this conference a success.

I faithfully hope that the conference is going to be very fruitful. My best wishes to you all to enjoy these two days and to take out maximum learning and knowledge from the conference. I am sure you will have a comfortable stay in Hebron.

Dr. Zuhdi Salhab

Conference Chairman

Conference General Chairman Dr. Eng. Zuhdi Salhab,

Palestine Polytechnic University (PPU),

Dr. Salhab was borne in Hebron, Palestine 1961.

He is an Associate Professor in Mechanical Engineering (Internal Combustion Engines). PhD degree was received from Technical University of Liberec, Czech Republic 2001 in Alternative Fuels. Since 1990 he worked in the College of Engineering at (PPU) as a lecturer and researcher in the field of mechanical engineering and renewable energy. From 2012- to present: Dean of Applied Professions College, PPU.

2004-2006, 2008-2010: Chairman of Mechanical Engineering Department at College of Engineering, PPU.

From March 2011- to present; Deputy Director of Renewable Energy & Environment Research Unit (REERU), PPU.

Member of editorial board and reviewer of many international journals and conferences.

Member of scientific and organizing (steering) committees and reviewer of national and international conferences. He has many publications in international journals and conferences related to his study field and interests.

Taught many courses related to the mechanical engineering, air pollution, and vehicle emissions. Supervising of various graduate projects related to alternative fuels (LPG & hydrogen), renewable energy (especially hydrogen fueled engine, electrical car, and solar car), and others.

His research interests: Traffic induced pollution, their control and pollution, renewable energy, and alternative fuels and their impact on engine performance and environment.

Chairperson of the "4th International Conference on Energy and Environment Protection in Sustainable Development", (April 2016)- Hebron, Palestine.

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Hebron Municipality	
JADA Technology at Speed of Life	JADA TECHNOLOGIES CO. الجدع مؤسسة الجدع للكهرباء

ICEEP IV - Conference Program

Time	Activities
First Day - Wed 6/4/2016, ICEEPIV 2016 Conf.	
08:30 - 09:00	**Registration**
09:00 - 10:10	**ICEEPIV 2016 Opening Session , Bilal Amro Auditorium "C-Ground floor "**
10:10 - 10:50	**Keynote Speech : Renewable Energy Sources And Environmental Impacts** Prof. Muhammad Rashid ,University Of West Florida
10:50- 11:05	**Break**
11:05 - 11:45	**The Opening of the Entrepreneurial Exhibition in Renewable Energy and Green Environment.**
11:45 - 12:25	**Keynote Speech : Smart Grid and New Energy Paradigm,** Prof. Haitham.Abu-Rub- Texas A&M University at Qatar
12:25-01:05	**Keynote Speech : Solar Energy Technologies: "Status, Advances, and Prospects in the Middle East",** Prof.Fuad Ahmed Abulfotuh University of Alexandria, Alexandria, Egypt.
01:05 - 02:20	**Parallel Sessions :Session 1+ Session 2+ Session 3 (4 paper via Skype-Turkey)**
2:20-03:00	**Keynote Speech :The City Roof, Another Kind Of Urban Space The Green Roof,** Prof.Arch.Sorin Vasilescu Ion Mincu University of architecture and urbanism.
03:00 - 03:40	**Lunch**
03:40- 05:00	**Parallel Sessions: Session4+Session5+Session 6**
Second Day - Thu 7/4/2016, ICEEPIV 2016 Conf.	
08:30 - 09:00	**Registration**
09:00 - 09:40	**Keynote Speech :Nanotechnology Application in Solar Energy,** Prof. Mohammed Ahmed Hamdan **University of Jordan)**
09:40 - 10:20	**Keynote Speech :Recent Advances in Distributed Solar Conversion to Enable Smart Cities,** Prof.Issa Batarseh University of Central Florida.
10:20-10:40	**Break**
10:45 - 12:00	**Parallel Paper Sessions -Session1+Session2+Session3**
12:00-12:40	**Presentation : " Joint Master Program in Renewable Energy & Sustainability- JAMILA-TEMPUS" ,** Dr.Sameer Hana Khader, PPU.
12:45 - 01:00	**Break**
01:00 -01:40	**Keynote Speech :Renewable Energy Resources: Current Status and Challenges with Focuses on the MENA Region ,** Prof. Ahmed Salaymeh, University of Jordan
01:45-03:00	**Parallel Paper Sessions : Session 4+ Session 5+ Session6+**
03:00 - 03:50	**Lunch**
03:50 – 04:50	**ICEEPIV 2016 Closing Session**

First Day - Wed 6/4/2016
Parallel Session 1:Environment

Time:01:05- 02:20	**Hall: C304**	**Chair: Dr. Deema al Nazer**

	ID	**Title**	**Author names**
Time:01:30 – 01:45	94	Reducing Organic Pollution Of Wastewater From Milk Processing Industry By Adsorption On Marlstone Particles	Maher Al-Jabari, NaremanZahdeh, Nadia Eqefan , Heba Dweik .
Time:01:45 – 02:00	113	Dew Harvesting From Atmosphere To Supply Water From The Mid Heights In The West Bank Of Palestine	Mohammed Odeh, Mohammad Karaeen
Time: 01:05 - 01:15	17	Identification And Assessment Of Potential Environmental Impacts Of Cesspits On Selected Groundwater Wells In Tulkarem District Using Groundwater Modelling	Lina Hamarshi, Mohammad Al-Masri
Time:01:15 – 01:30	18	Performance Evaluation Of Small Scale Desalination Plants In Gaza Strip	Tamer Alslaibi, JawadAlagha

Session Discussion: 02:00– 02:20

First Day - Wed 6/4/2016
Parallel Session 2:Energy

Time: 01:05 - 02:20	**Hall:C306**	**Chair: Dr. Marwan Mahmoud**

	ID	**Title**	**Authors names**
Time: 01:05 - 01:15	115	Yatta's Medium Voltage Network Analysis And Enhancement	Sameer Khader,Abdel-Karim Daud, Ala' Abu Qbeita, Elias Maharme
Time:01:15 – 01:30	9	Design And Sizing Characteristics Of A Solar Thermal Power Plant With Parabolic Trough Collectors For A Typical Site In Palestine	Aysar Yasin, Osama Draidi
Time:01:30 – 01:45	106	Photovoltaic Wireless Energy Transfer System	Sameer Hana Khader, Abdel-Karim daud ,Ala' Abu Qbeita, Elias Maharmeh
Time:01:45 – 02:00	111	Power Quality Detection And Classification Using Wavelet Tra-power Quality Detection And Classification Using Wavelet Transform And Root Mean Square Methods	Abdel-Karim daud ,Sameer Hana Khader, Ala' Abu Qbeita, Elias Maharmeh

Session Discussion: 02:00– 02:20

First Day - Wed 6/4/2016 Parallel Session3: Energy- Skype Session			
Time:01:05 - 02:20	**Hall: video conference -floor(4)**		**Chair: Prof. Abedl Karim Daud**
Time:	**ID**	**Title**	**Authors names**
Time: 01:05 - 01:15	124	Eliminating Leakage Currents In Single-Phase Transformerless Z-Source Inverter For Photovoltaic Systems	Hussei Mishbak, Khaldoon Aeal, Mohammed Ghalib, Ibrahim Mahariq
Time:01:15 – 01:30	121	FACTS Technology: Current Challenges And Future Trends	Ibrahim Mahariq, Israa Ismael, Raad Salih
Time:01:30 – 01:45	126	Application Of Z-Source Inverter On Wınd Turbine Source	Othman Al Darraji, Ali Elabbadi, Abdalziz Saidi, Ibrahim Mahariq
Time:01:45 – 02:00	128	Design And Simulation Of Three Phase And Single Phase Z-Source Inverters	Raad Salih Jawad, Israa Ismael, Ibrahim Mahariq
Session Discussion:02:00– 02:20			

First Day - Wed 6/4/2016 Parallel Session 4:Environment			
Time: 03:40- 05:00	**Hall: C304**		**Chair: Dr. Tahseen Sayara**
	ID	**Title**	**Author names**
Time: 03:40- 03:55	129	Improvement Of Large Scale Wastewater Treatment Plant Using Epuvalisation Technique	Sabreen Daghra, MohannadQurie
Time:03:55 – 04:10	22	Effect Of Treated Waste Water And The Stone Slurry Water On Concrete Strength	Nabil Al-Joulani
Time: 04:10– 04:25	130	Application of Rainfall Runoff Distributed Model Using HEC-HMS for Al-Faria Catchment, West Bank, Palestine.	Hadeel Sulaiman,Dr. Sameer Shadee, Dr. Anan Jayyousi
Time:04:25 – 04:40	6	Dynamic Evaluation On The Bearing Capacity Of The Human, Resources And Environment Of The Key Development Area In Qinghai Province	Ningyang Zhu Qinghai ,Shengxi Ding
Session Discussion:04:40– 05:00			

First Day - Wed 6/4/2016 Parallel Session 5: Sustainable Development			
Time03:15 - 04:40	**Hall: C306**		**Chair: Dr. Mohammad Karaeen**
	ID	**Title**	**Author names**
Time: 03:40- 03:55	167	Household Hazardous Waste Management In Hebron City, Palestine	Waseem Al-Tamimi,, Issam A. Al-Khatib
Time:03:55 – 04:10	12	Environmental Justice And Sustainability In Palestine: Challenges And Opportunities Under Colonization	Mazin Qumsiyeh
Time: 04:10– 04:25	68	Agriculture Developing Strategies(ADS) In The Lower Jordan Valley Focus On Brackish Water And Crops Salt Resistivity: Case Study Of Auja Catchment In Jericho Area In Palestine; Field Survey And Soil Analysis.	Ayman Shawahna, Marei Amer, Martin Sauter
Time:04:25 – 04:40	134	The Research On Construction Approach And Supporting Measures Of Eco-Type Tourism Industry Cluster	Chen Danhong, Yi Tianyu
Session Discussion:04:40– 05:00			

First Day - Wed 6/4/2016 Parallel Session 6: Green Entrepreneurship, Green Building, Marketing, & Supply chain Management			
Time03:15 - 04:40	**Hall: C308**		**Chair: Dr. Usama Shahwan**
	ID	**Title**	**Author names**
Time: 03:40- 03:55	145	The Green Entrepreneurship	Wisam Shamroukh
Time:03:55 – 04:10	162	Green supply chain management practices Empirical Study on the food industry in Palestine	sadiyya sultan
Time: 04:10– 04:25	78	The Continuity of Green Building	Hasan Awawda,Luís Bragança
Time:04:25 – 04:40	154	مراجعة أدبية و رسم أجندة بحثية في مجال التسويق الأخضر	Lina Abu-Eyash, Diana Hassouneh
Session Discussion:04:40– 05:00			

Second Day - Thursday 7/4/2016 Parallel Session1: Environment			
Time:10:45 - 12:00		**Hall: C304**	**Chair: Dr. Ishaq Sider**
	ID	**Title**	**Authors names**
Time10:45 - 11:00	**127**	Characterization And Treatment Of Al-Menya Landfill Leachate Using Biological And Physical Methods	Ala' Abuayyash, Mohannad Qurie
Time:11:05 – 11:20	**16**	Quality Of Drinking Water Used In Marginalized Communities Of The West Bank, Palestine: With Focus On Harvested Rainwater	Wael Awadallah,Francesca Fulgoni, Giorgio Cancelliere,
Time:11:20 – 11:35	**60**	Waste And Appendages Percentage Of Stone Slabs Cutting Machine	Jawad Al-Haj
Time:11:30 – 11:45	**5**	Environmental Safety & Health	Ahmad Haddad
Session Discussion:11:45 – 12:00			

Second Day - Thursday 7/4/2016 Parallel Session2:Energy			
Time:10:45 - 12:10	**Hall: C306**		**Chair: Prof. Ahmed Salaymeh**
	ID	**Title**	**Authors names**
Time10:45 - 11:00	8	18% Solar Energy Conversion Efficiency By Metal Chalcogenide Nano-Film Electrodes	Prof. Hikmat Hilal
Time:11:05 – 11:20	122	Modelling Of Hybrid Micro Grid Renewable Energy System	Abdel-Karim Daud Sameer Khader, Noor Abu Ayyash
Time:11:20 – 11:35	45	Development Optimized Solar Awning	Moayyad W. Hamad
Time:11:30 – 11:45	20	Prediction Of Hourly Solar Radiation In Amman-Jordan By Using Artificial Neural Networks	Mohammad Hamdan, Eman Abdelhafez, Hamza Salem,Ola Ghnaimat
Time:11:45 – 12:00	Keynote Speech	Photovoltaic Solar Project- Palestine Case Study	Fadi Bkirat
Session Discussion12:00 – 12:15			

Second Day - Thursday 7/4/2016 Parallel Session4: Environment			
Time:10:45 - 12:00		**Hall: Bilal Amro "C-Ground floor "**	**Chair: Dr. Nabil Al-Joulani**
	ID	**Title**	**Authors names**
Time10:45 - 11:00	**96**	Assessment Of Impact Sewage Effluents On The Coastal Water Quality Around The Mouth Of Wadi Gaza (Gaza And Middle Governorates, Gaza Strip, Palestine)	Khalid Fathi Ubeid , Mohammad Ramadan Al Agha
Time:11:05 – 11:20	**123**	The Effect Of Utilization Of Fine Crushed Limestone As Partial Replacement Of Natural Sand In Concrete Mixes	Riyad Abdel-Karim Awad
Time:11:20 – 11:35	**4**	Municipal Waste Gasification	Ali Balaha
Time:11:30 – 11:45	**7**	Israeli occupation forces and settlers pollution of the Palestinian land In the West Bank with Liquid and solid waste	Nael Musa, Mai Mshel, Neme Salame ,
Session Discussion: 11:45 – 12:00			

Second Day - Thursday 7/4/2016 Parallel Session5: Energy			
Time:01:45-03:00		**Hall: C304**	**Chair: Prof. Sameer Hana Kader**
	ID	**Title**	**Authors names**
Time: 01:45 - 02:00	**163.**	Solar Energy For Process Heat In Palestine - Case Study: Process Heat For De-Feathering And Cleaning Applications	Marwan Mokhtar, Samer Alnatsheh,Sameer Mokhtar
Time:02:00 – 02:15	**19.**	Simulation Of Solar Thermal Hybrid Heating System Using Neural Artificial Network	Eman Abdelhafez,Ayat Salem, Mohammad Hamdan,Ahmad Al aboushi.
Time:02:15– 02:30	**2.**	Feeding Of Tubas District Electricity Company's Grid By Photovoltaic Projects(Now And Future)	Ishraq Jarrar
Time:02:30 – 02:45	**192**	Gaza Governorate Electrical Power Distribution Grid Reduction in Power Losses and Voltage Drop through Cable Sizing and Reactive Power Compensation	Hussam Awwad,Assad Abu-Jasser
Session Discussion: 02:45 – 03:00			

Hebron Municipality, Hebron Power Electricity Cooperation,
Awareness Workshop

Time:01:45-02:35	Hall: Bilal Amro "C-Ground floor " HEPCO- Awareness Workshop
Title	**Presenter Name**
Electricity Sector Management in Palestine	**Eng. Abed Al-Raouf El-Sheikh**

Conference Pre- Activity
Green Entrepreneurship Training Work Shop
Monday(4/April/2016)-Tuesday(5/April/2016)
Korean Center Hall
Facilitators:Ali Ramadan,Ayman Soltan,Wisam Shamroukh,Jumana Dweik

Day 1: Monday(4/4/2016)

Time	Topic
09:00-09:30	Registration Networking
09:30-10:00	Workshop Objectives Participants' Expectations
10:00-10:30	Introduction to Green Entrepreneurship
10:30-10:45	Coffee Break
10:45-12:00	Session I: Ideation Opportunities in energy and environmental protection Eco Innovation Factors Affecting ecopreneurship (PESTEL)
12:00-12:45	Lunch and Prayer Break
12:45-13:45	Session II: Stakeholder and Customer Segments Stakeholder map Clients gains and pains Customer segmentation
13:45-14:00	Coffee Break
14:00-15:00	Session III: Value Proposition Environmental Value Social Impact Economical value

Day 2: Tuesday(5/4/2016)

Time	Topic
09:00-10:30	Session IV: Day 1 recap Design Testing
10:30-10:45	Coffee Break
10:45-12:00	Session V: Customer Relationships Channels and Customer journey Project Activities
12:00-12:45	Lunch and Prayer Break
12:45-13:45	Session VI: Resources and Cost Structure Revenue streams & Pricing
13:45-14:00	Coffee Break
14:00-15:00	Session VII: Ecodesign cards,Evaluation and Improvement,Wrap up Conclusion

KEYNOTE SPEAKERS

- **Prof.Issa Batarseh / University of Central Florida.**

Batarseh is a Professor of Electrical Engineering at the University of Central Florida. His work focuses on developing innovative power electronic systems for grid-tied solar applications. The research goal is to design advanced inverter technologies to achieve high efficiency, low cost inverter topologies, enabled by advanced digital control strategies for enhanced performance, fault protection, system integration, and health monitoring for power grid. His research findings have been licensed to three companies. He is a founding partner of two technology companies, Petra Solar and Apecor,. He has received 26 patents, graduated 42 Ph.D students and 70 MS and undergraduate students. He has published 85 journal papers, more than 250 refereed papers at international conferences, and six book and book chapters. Batarseh is a Fellow of the National Academy Inventors (NAI), IEEE and the AAAS. Holds a Professional Engineering (PE) License in Florida.

Presentation Title : Recent Advances in Distributed Solar Conversion to Enable Smart Cities.

ABSTRACT:

In recent years, major research progress has been made in advancing photovoltaic energy conversion technologies including the single-phase and three-phase micro inverters. This progress has resulted in more and more countries consider deploying smart-grid technologies to enable smart communities and cities. These inverters are widely used in PV based energy harvesting systems. The vast majority of these systems have been based on medium to high power string inverters. Recently, micro-inverters have been shown to have advantageous over their string inverter counterparts in both grid-tied PV energy harvesting and standalone micro-grid systems with energy storage. Some of these are simplified installation, no high voltage DC wiring, no single point of failure and improved

energy harvesting. This talk will focus on recent advancement in power electronics inverters for PV energy conversion focusing on the advantages and improvements in the three-phase micro inverter three-phase and how the new solar energy conversion technologies may incorporate smart-grid capabilities in distributed PV systems.

- **Prof. Muhammad Rashid University Of West Florida.**

Professor Muhammad H. Rashid is employed by the University of Florida as Professor of Electrical and Computer Engineering and Director of the UF/UWF Joint Program in Electrical and Computer Engineering. Dr. Rashid received B.Sc. degree in Electrical Engineering from the Bangladesh University of Engineering and Technology, and M.Sc. and Ph.D. degrees from the University of Birmingham in UK. Previously, he worked as Professor of Electrical Engineering and the Chair of the Engineering Department at Indiana University- Purdue University at Fort Wayne. Also, he worked as Visiting Assistant Professor of Electrical Engineering at the University of Connecticut, Associate Professor of Electrical Engineering at Concordia University (Montreal, Canada), Professor of Electrical Engineering at Purdue University Calumet, and Visiting Professor of Electrical Engineering at King Fahd University of Petroleum and Minerals (Saudi Arabia). He also worked as a design and development engineer with Brush Electrical Machines Ltd. (England, UK), a Research Engineer with Lucas Group Research Centre (England, UK), a Lecturer and Head of Control Engineering Department at the Higher Institute of Electronics (Malta). Professor Rashid is actively involved in teaching, researching, and lecturing in power electronics. He has published 16 books and more than 130 technical papers. His books are adopted as textbooks all over the world. Dr. Rashid is a registered Professional Engineer in the Province of Ontario (Canada), a registered Chartered Engineer (UK), a Fellow of the Institution of Electrical Engineers (IEE, UK) and a Fellow of the Institute of Electrical and Electronics Engineers (IEEE, USA). He was elected as an IEEE Fellow with the citation "Leadership in power electronics education and contributions to the analysis and

design methodologies of solid-state power converters." Dr. Rashid is the recipient of the Outstanding Engineer Award from The Institute of Electrical and Electronics Engineers (IEEE). He received the 2002 IEEE Educational Activity Award (EAB) .

Presentation Title :Renewable Energy Sources And Environmental Impacts

ABSTRACT:

Energy is the vital force powering business, manufacturing, and the transportation of goods and services to serve the world economies. Energy is a very important driving force to improve the standard of living and develop a country. Energy supply and demand plays an increasingly vital role in our national security and the economic output. Many countries around the world are struggling to meet their energy demands for their populations and economic growth. With limited resources, they are unable to obtain expensive technology to filter out greenhouse gases before emitting them to the environment. Due the environmental effects of fossil fuels, there is an increased efforts to replace the fossil fuels with renewable energy. This presentation reviews the types of fossil fuels and renewable energy, the areas of energy uses and the sources of electricity generation. It also identifies the environmental impacts of the different energy sources.

- **Prof.Arch.Sorin Vasilescu Ion Mincu University of architecture and urbanism.**

Vasilescu Sorin, architect, professor - "Ion Mincu" University of Architecture, Bucharest.

Date of birth: June, 20. 1947. Bucharest. Education: "Ion Mincu" Institute of Architecture, 1973. Professional retraining courses-the Institute of Architecture, Post-graduate courses, 1983-1984. Attendant and graduate of Andrea Palladio International Courses of Architecture and Studies, Vicenza 1988, 1990. Ph.D in Architecture, 1994.

Professional background: assistant 1973-1990, university lecturer 1990-1994, lecturer (higher degree) 1994-1997, professor, since 1997, head of university department 1990-2000, chancellor of "Ion Mincu" University of Architecture, since 2000, lectures at Cultural and Scientific University, Bucharest 1986. School of Architecture in Strasbourg, 1990, the Faculty of Architecture, Chisinau (1991-1994), School of Architecture in Liége and Tournay, Venetian Atheneum (1992), Romanian Institute of Humanist Culture in Venice(1992,1996), the Faculty of Architecture in Milan (1992, 1995), the Faculty of Architecture in Torino (1993,1995), Academia di Romania in Rome, Kekcsemet, Hungary, 1997 etc. Prof .Sorin Publications: "The History of Universal Architecture 1993"; "Totalitarian architecture" 1994; "A Dictionary of Modern Architects" (3 volumes, 1995), IAIM Publishing House, Bucharest; "Architettura totalitaria"; Notiziaro Italiano Publihsing House, Torino 1997, Articles in Romanian and foreign magazines of architecture (Web Magazine Ragionpolitica.it); Petre Antonescu, Ed.UAUIM, Bucureşti 2002; Notes for a history of architecture – Art Nouveau în Romania, Ed. Ramuri, Bucureşti 2005; Arhitectura Romei imperiale, Ed. Sinorom, Bucureşti 2008; Tropaeum Traiani, Ed. Sinorom, Bucureşti 2008; Art Nouveau in Romania, Ed. Sinorom, Bucureşti 2008; Fascist Italy Architecture, Ed. Arhitext, Bucuresti 2011;Architecture Nazi Germany, Ed.Arhitext, Bucureşti 2012; Karel Liman, the Czech architect of the Royal House of Romania, Ed. Igloo, Bucureşti 2013; Russian Stalinist architecture, Ed. Arhitext, Bucureşti 2013;Monastery

Văcărești (coautor), Ed. Monitorul Oficial, București 2014; Age civilization Brancoveanian
(coautor), Ed. Monitorul Oficial, București 2014.

Presentation Title: The city roof, another kind of urban space-"The green roof"

ABSTRACT

The works that I do as author or coauthor, are for me an opportunity to make some general meditations on the subject in case, without temptation and hope for global awareness of this intellectual approach. This also applies to the study done in collaboration with the young PhD architect Pietro Aureliano Dorissa. This study is an attempt to treat as an architect, the complex relationships of interrelation between nature and architecture addressed in the context of the alienation of modern man due to rupture of nature , the general process of modern urban life dominated by barren " deserts of asphalt " as Hitler called them.
In this key I was approached this study, for which the choice was based on thinking big regarding the germination of new ideas, new forms, based both on certain rules of composition, to try to give a solution for acute problems linked a general lack of green spaces in contemporary urban housing. To some extent this study deals with unresolved problems of living in a "post-postmodern" world. Such a topic gives us the opportunity to meditate on subjects that often resonate more or less harmonic. The thought of dwelling in a context of increasingly distant nature, leads us from the beginning to the intricate and complex term of habitability and sends us to a fundamental study of Noica , entitled *"Introduction to Housing of 2001"*which begins with an imperative grievance : *"Give us houses as our multiple humanity."* It must be well understood that our proximity to figures such as philosopher Noica must be made to avoid falling into enormous and ridiculous, in a certain plan , which should in future be clarified , that of similarities and differences between approach, method , terms and concepts circulating both in philosophical language (often coherent in logic and shape) and the architects (often non-coherent , illogical and lacking formal) . What the philosopher understands by

the fundamental concept of habitation and alienation is similar but far from identical with what is understood by the architect.

- **Prof.Fuad Abulfotuh University of Alexandria, Alexandria, Egypt.**

Prof. Abulfotuh is Emeritus Professor at the Institute Of Post-Graduate Studies and Research (IGSR), Alexandria University, Alexandria, Egypt, **President of International Energy Foundation (IEF)**, North African Regional Headquarter, **Technology Development Consultant** at American Sustainable Energy Corporation (ASEC), Chandler, Arizona, USA.

Prof. Abulfotuh employment history**:** from 1999-2008: Director The Middle-East Center for Energy &Environmental Technologies (MCEET), Arab Academy for Science & Technology, Arab League, Alexandria, Egypt-1983 – 1999: Senior Scientist, National Center for Photovoltaic, National Renewable Energy Laboratory (NREL), US department of Energy. 1977- 1983: Professor, Faculty of Engineering, King Saud University, Riyadh, Saudi Arabia. Assistant Professor, Faculty of Engineering, Cairo University, Giza, Egypt.

Ph.D. 1972, Applied Solid State Engineering Physics from Reading University (UK) and Cairo University in the field of Charge Transfer Solid State Devices.

Prof Abulfotuh Professional Activities Involved in more than 40 major projects and R&D activities during the past 25 years only. More than 110 papers have been published, covering a wide range of technical issues related to Photovoltaic (PV) technology development and application, material science, solid state devices (Solar Cells), measurements and characterizations of semiconductor materials and devices, energy efficiency, and conservation, Photovoltaic systems, materials and devices (fabrication, engineering and Application), and solar cooling and air-conditioning, He also provided technical support and technology transfer to several industrial organizations to establish Si solar cells manufacturing facilities, In addition to renewable energy and energy management project development and systems design. He Organized and chaired 9 international conferences since 1995 and 2007 held in the Middle East, Developed several training courses and

workshops in the field of PV solar cell manufacturing and system design and application.

Presentation Title :Solar Energy Technologies: "Status, Advances, and Prospects in the Middle East"

ABSTRACT:

The sun provides earth with clean, renewable, and abundant energy enough to sustain all aspects of economic development and to ensure prosperity of earth's inhabitant if utilized efficiently. The two leading methods currently employed to generate electric energy from solar energy are photovoltaic (PV) technologies and concentrated solar power (CSP). PV systems (concentrated and flat plate) convert solar radiation directly into electric energy. On the other hand CSP systems, which is considered indirect method, collect solar heat and convert it into mechanical energy then to electric energy.

In this presentation the operation of the two technologies will be explained and compared. The technical and economic status and advancement will be discussed. Additionally, issues related opportunities and barriers to large-scale deployment of solar technologies (PV and CSP) would be presented.

- **Prof. Mohammed Hamdan University of Jordan, Amman.**

Ph.D. in Mechanical Engineering from Washington State University (Pullman) (USA) in 1985. M.Sc. in Mechanical Engineering (Combustion & Energy) from the University of Leeds, United Kingdom. B.Sc. in Mechanical Engineering from the University of Wales (Cardiff), United Kingdom .He was promoted to the rank of full professor in 1995 and worked as Engineering sector Advisor at Higher council for science and technology. He was acting dean of engineering at the University of Jordan (1997-2001), and acting dean of engineering at Hashemite University (2001-2003). He was on unpaid leave from University of Jordan and worked as acting Dean of Engineering at Al-Zaytoonah University of Jordan (2009- 2014). Starting from September of 2014, he is back Currently to University of Jordan. He published over 115 in international journals and conferences most of which in the field of renewable energy. His research interests are renewable energy, alternative fuels, combustion and pollution and heat transfer.

Since 1985, Prof. M. Hamdan has been involved (in addition to teaching energy courses) in research in the field of renewable energy publishing numerous articles, most of which on energy. He has also been involved into Tempus projects in the field of renewable energy, environment and climate change. He is also involved in a project with DLR on CSP. He was recently selected as team member to take part in a workshop organized by the company First Solar to evaluate their work on thin film PV.

Presentation Title :Nano-technology Application In Solar Energy

ABSTRACT:

Solar thermal (solar collector) and photovoltaic (PV) systems are typical applications of solar energy. In both systems solar energy is absorbed and either converted into heat or into electrical power. Unfortunately both systems suffer low efficiency especially the PV one, many attempts over the last decades were carried out to overcome this problem. Recently nano- technology was to increase the thermal conductivity of Nano fluids, this fact triggered an excellent application in the utilization of solar energy in various systems, . In the last couple years research is being conducted to sturdy the effect of using nanofluids on the performance of three main solar systems namely; photovoltaic (PV) system, whose efficiency decreases with its temperature. So a cooling nanofluid was used to cool it down. Also nanofluid was used as a thermal storage media in shallow solar pond, this leads to increasing the amount of energy stored. Finally, nanotechnology was used in solar water desalination still, this also lead to an increase on the condensate obtained.

Currently the performance of a solar water disinfection system will be investigated when nanoparticles will be added to the disinfected water. Also thermal energy stored in a typical will be investigated once nanoparticles are added to a phase change material layer located in the wall. Finally nanoparticles will be used as a on down-shifting materials which has a potential to enhance the overall efficiency of the PV device by emitting photons in the spectral range

- **Prof. Ahmed Said Salaymeh University of Jordan, Amman**.

A Professor at the Mechanical Engineering Department, Faculty of Engineering and Technology, University of Jordan, Amman-Jordan. Director and founder of the Renewable Energy Master Program at the University of Jordan. Also, the director and founder of Environmental Technology and Climate Change Master Program at the University of Jordan. Ex-Director of Water, Energy and Environment Center at the University of Jordan. Also, Ex-Director of Energy Center at the University of Jordan.

A Ph.D. degree from the Institute of Fluid Mechanics, Friedrich Alexander Universität Erlangen-Nürnberg, Erlangen-Germany in April 2001. M.Sc and B.Sc degrees with honor from Mechanical Engineering Department at the University of Jordan. Having special interest in Energy, Renewable Energy, Energy Efficiency, Environment Technology, Climate Change and Fluid Mechanics.Also, Prof. Al-Salaymeh has a good research in the area of Flow-Measurement Techniques and Thermal flow Sensors (Patent registered in Germany). Having many papers in the international Journals and an active in participating in many scientific conferences. During the summers of 2002-2014, Prof. Al-Salaymeh was invited by the many institutes in Germany where scientific research was conducted. He supervised many B.Sc, M.Sc. and Ph.D. students who conducted their research in the field of renewable energy.

Presentation Title : Renewable Energy Resources: Current status and Challenges with focuses on the MENA Region

ABSTRACT:

Energy is a vital factor for the growth of civilization, and to sustain a life on earth. There are many sources that can be used to generate electricity such as fuel and natural gas. However, due to the shortage of these resources, there is a need to find other alternatives. The conventional energy (natural gas and fossil fuel) is the main source of energy to generate electricity in Jordan and MENA. These resources have many disadvantages such as high running cost, and pollution in addition to the fluctuation of the oil price. However, due to the increase in demand for energy resources and the effect of the ongoing events in the region, the energy resources are decreasing over time and that also has a negative effect on the economy. Providing energy is always a vital and significant problem in Jordan and some countries in MENA. On the other hand, Jordan and MENA region is a rich in some of the renewable energy resources, which are not fully used until this moment. Therefore, it is essential to find alternative and renewable energy resources. Moreover, there is also a lack in creating clear and long term future plans in the energy field. The energy strategy in Jordan aims to diversification of energy sources and reduction of reliance energy imports stated that the renewable energy contributes with (10%) of an overall energy mix by 2020. Energy sources and the efficiency of the energy sector in Jordan and in the MENA region will be specified, in addition to the determination of the cofounders and sponsors for enhancing and developing the energy sector. The shift in policy that is needed to increase this efficiency will be also investigated.

- **Prof.Safeyuldeen Metwalley Researcher Professor in the field of applied**

geophysics, Egypt.

Researcher Professor in the field of applied geophysics at Applied Geophysics Department -Desert Research Institute Egypt from 2009 until now , also he work as Projects &Region advisor of Western Michigan University .U.S.A from 2008to 2009,he also work at EL Menyia University G.I.S as a Visitor professor, from 2006 to 2008. Also work as an Expert and advisor on The Ministry of Social Cooperation ,Egypt from 2005 to 2006 , his first working experience is G.I.S. Expert and advisor on The Ministry of Communications and Information Technology ,Egypt from 2004 to 2005. Prof.Dr.Safeyuldeen Metwalley received a Post-Doctoral degree in the field Remote Sensing and G.I.S from Western Michigan University .U.S.A in 2007.

A Ph.D. & M.SC in the field of Applied Geophysics degree from the Institute of Zagazig university & The Academy of Scientific Research and Technology of Egypt from 1991 to 1997. B.Sc degrees from Zagazig university in 1986.

Professor Metwalley is actively involved in researching, and lecturing in Geophysics and G.I.S. He has published 26 journal researches & books and more than 20 conferences technical papers i & more than 20 research project . He also has trained more than 10 training courses in the following areas: Climate changes, monitoring and evaluations, using the Very High Resolution Satellites TRRM, SSMI,(MOADIES&SEAWIFS) Development of a Web-based G.I.S Data sets for Natural resources exploration in arid lands, Remote sensing Data Extraction (RESDEM)Soil and Water Analysis Tools (SWAT(,Environmental remote sensing course (GEO227),Gravitational satellite data (Grace), Petro facies Evaluation of Formations for Engineering Reservoirs Well Logging , Desertification, monitoring and evaluations Modules and strategy, Geographical information systems thematic data Processing applied to hydrogeology on arid area , Remote sensing Training Course . Professor Metwalley supervised on More than 10 thesis.

- **Prof.Haitham Abu-Rub Texas A&M University at Qatar.**

Haitham Abu-Rub is a full professor holding two PhDs. Since 2006, Dr. Abu-Rub has been associated with Texas A&M University at Qatar, where he is currently the chair of Electrical and Computer Engineering program and the Managing director of the Smart Grid Center – Extension in Qatar. He has experience in teaching and doing research in many universities at different countries, eg. Palestine, Germany, USA, Poland, UK and Qatar. His main research interests are energy conversion systems, electric drives, power electronic converters, renewable energy and smart grid. Dr. Abu-Rub is the recipient of many prestigious international awards, such as the American Fulbright Scholarship, the German Alexander von Humboldt Fellowship, the German DAAD Scholarship, and the British Royal Society Scholarship. He has co-authored more than 250 journal and conference papers and five books, four of them with Wiley.Currently he is leading many potential projects on photovoltaic and hybrid renewable power generation systems with different types of converters.

Presentation title : Smart Grid and New Energy Paradigm.

ABSTRACT:

The smart grid has been called “electricity with a brain”, the “energy Internet” and the “Electronet”. Basically, the smart grid integrates electricity and information and communication infrastructures to produce electricity more efficiently and reliably, as well as cleanly and safely for the environment. The smart grid is the new energy paradigm that is characterized by a bidirectional flow of electricity and information. Integration of renewable energy resources and energy storage into the smart grid involve many aspects, such as: efficiency, reliability and energy conversion cost, forecasting of energy production capability, safe connection to the electric grid and/or capability to control micro grids, efficient energy storage with low environmental impact, development of advanced control and monitoring algorithms, and networking of the sources/consumers. The talk will focus on the vision of creating new energy paradigm based on the smart grid principle. Enabling

technologies, current status and the future Smart Energy System prospective will be discussed.

Eng.Fadi K. Bkirat brings strong technical and managerial combination background experience. Over the 14 years I managed to build several type experiences starting in Jordan ending .

Bsc Electrical Engineering from Hebrew UNIVERSITY O't givat ram , BA Breeding & Educations Al-Quds University in the field of Renewable energy finance expert at Aef European Foundation , MBA "isl" –in progress- Egypt Bakore High College ,International Business Development Professional –IBDP-Aef European Foundation,Green finance Professional –GFP-Estidama Institution.

Professional experience (July 2011-May 2013), Founder & General Manager (Palpower Energy Company Ltd – Palestine) ,(April 2008 – June 2011), (Megatech power co') Amman Branch Sales and Projects director .(April 2003-April 2008), Advice Power and electronic engineering-Israel –starting O &M Chief Engineer and then Marketing Director – Arab countries , (2001-2003) The Technical and Engineering Director of the Palestinian Safety and Environment Society –SES, General Secretary of the Palestinian Renewable Energy Companies Association (2009-now) Vice President , Business Development ,and Sales director Mena region – Bagheera Energy LLC U.K, Arab European Foundation Main Trainer in Solar energy Engineering , Rack Tech Energy Co' group Founder and CEO until now .

Projects :Main Consultant Engineer for the first solar plant project 3MW Tubas City ,Consortium project Giga Global –Netherland – 5.7 mw/h "in progress",Coca Cola National B.C first level 400 kw each Roof top Solar system ,Joint Venture Baka Palestine 48 "Israel elec'Grid co' 5MW/h,Al-Nasser Energy Co' Consortium project 10MW/h Beni Naeim ,Implementation of almaqased Power "ups" 250kva ,Aef European Foundation Financial Consultant - Energy Sector.

Presentation Title: Photovoltaic Solar Project- Palestine Case Study.

Green Entrepreneurship Workshop Facilitators& Abstract

- ***Mr. Wisam Shamroukh*** is the Entrepreneurship and Innovation lecturer at Palestine Polytechnic University (PPU) and a senior consultant in Green Entrepreneurship, business development, international trade, capacity building, technical training, and IT development. At PPU, Mr. Shamroukh currently works as a director of Information Technology Center of Excellence. He occupied several positions at PPU, of which he was a chairman of department of Computer and Management, training department manager, director of University Graduates Union. Mr. Shamroukh earned his Master in Computer Science from University of Detroit Mercy UDM in 2001. He is recognized as Green Entrepreneurship Trainer and Intel entrepreneurship Trainer, as well a Certified Technical Trainer CTT+ and Microsoft Certified Trainer (MCT.) He delivered technical training and train of trainers in the United States and Saudi Arabia.

- ***Mr. Aiman Soltan Tamimi*** is the Vice president for Planning and Development, and President Assistant for External Relations at Palestine Polytechnic University; he is responsible for developing, directing and coordinating PPU's strategic plan in addition to multilevel relations to achieve development through productive relations and strategic planning. He currently oversees all PPU units and centers that provide developmental services to PPU staff, students and graduates, in addition to the Planning and Development Department, Public Relations Department, the Quality Assurance Department, and the Project's Coordination Unit. He facilitates the execution of PPU Strategies, defines and tracks the PPU objectives, assures that streamlined, cost effective approaches and improved operating model are in place and communicates and shares with key stakeholders. Mr. Tamimi works with PPU development staff to identify potential funding sources, to support PPU activities, and represents PPU

and higher education institutions in many local and international entities such as the Palestinian Standards Institution, the Quality Improvement Fund, and others. Mr. Tamimi is also a lecturer at the College of Management and Information Systems at PPU. He holds a bachelor's degree in ceramic engineering from the University of Alfred in the USA and an M.B.A. from Maastricht School of Management in the Netherlands. He is a frequent conference presenter, symposiums coordinator, and contributor to academic and professional journals on management and higher education issues and he provides many management and educational consultations on the national level.

- **Mr.Ali Ramadan** was born in Hebron, Palestine; He received M.Sc. degrees in

Computer Studies from Amman Arab University, Jordan, in 2004 and 2005, respectively. In 2011 he moved to be the project manager for the PPU Business Incubator at the Center of Excellence, where he coordinates several projects and initiatives to Led and Develop Education and Entrepreneurship so that young and ambitious people are empowered to lead their post-conflict society into prosperity. Ramadan holds a series of specialized Training in the field of entrepreneurship and innovation from several local and international destinations, he was a certified Build Your Business (BYB) Trainer, SwitchMed Certified Green Entrepreneurship Trainer, Certified Business Incubation Management (infoDev - World Bank) , also he recently return from a training course with title" Promoting Innovations & Entrepreneurship

through Incubation- EDI of India, Ahmedabad", also he attend another Training course from Indonesia with title "Information & Communication Technology Support for Palestinian SMEs Development- Bandung Institute Of Technology", In addition to Technology Commercialization Trough Incubation Programs and Increasing the deal-flow of your Innovation-based Incubator- The European Business and Innovation Center (EBN). In addition He Participate in several conferences, most recently was in the 5TH GLOBAL ENTREPRENEURSHIP SUMMIT GES2014, Marrakesh, Morocco.

Eng. Jumana Kamal Dweik She is the Hebron Business Incubator Center's Director in Hebron Municipality, She holds BCS and MBA, She is the representative of Palestine in the Arab Women Engineers Association

The Green Entrepreneurship Workshops Overview

This workshop provides a full range of activities and tools, such as:

- Access to one of the first highly qualified green entrepreneurship training program in the southern Mediterranean countries.
- Participants learn how to convert step by step Green Business Ideas into a sound and feasible Green Business Project.
- A dynamic, flexible and inclusive training program that includes a set of theoretical and hands-on learning with a wide range of tools that support eco entrepreneurs to transform ideas into a sustainable and successful business.
- Business canvas and the lean start-up methods, the program will impact organizations or projects in all the stages of the business planning.

Training program is conducted through a two-day participative training where participants will:

- Gain knowledge and learn how to use tools to turn their innovative ideas into a Green Business Model;
- Validate Green Business Model through practical exercises and tools provided in the trainings.

The green entrepreneur training program is organized around five steps:

Step 1. Sketch & set: the idea is sketched and reflected on the reasons behind asking "Why" make it happen.

Step 2. Build: projects are designed by means of the green business canvas

Step 3. Test: Seeking to gauge assumptions separately, a progressive approach is adopted to testing in increasingly real market conditions.

Step 4. Implement: Once the model is market-validated, the time comes to plan the functioning and development of the project, by projecting it into the future and making estimations of sales, costs and other resources needed (financial plan)

Step 5. Measure & improve: Lastly, as business is run (operations), a continuous improvement system is put in place by measuring impact in initial objectives and by looking for areas of improvement.

Table of Contents

Identification and Assessment of Potential Environmental Impacts of Cesspits on Selected Groundwater Wells in Tulkarem District using Groundwater Modelling

[1]Lina M. Hamarshi , [2]Mohammad N. Almasri

An-Najah National University, Palestinian Territory
[1]leenahamarshi@gmail.com , [2]mnmasri@najah.edu

Abstract:

Groundwater is the major source of water to the Palestinians. The quality of groundwater may be deteriorated over time due to the cumulative effects of several years of practices. The work of this thesis focused on the identification and assessment of potential impacts of cesspits on groundwater wells in Tulkarm District. A particle-tracking model was developed using MODPATH and different scenarios were worked out in order to delineate the contributing areas of contamination to each well of interest. Results confirm that the cesspits considered as one of the main sources of pollution for many groundwater wells in the study area. A wellhead protection zone was delineated for selected groundwater wells in the study area in order to arrive at effective management plan to minimize the risk of groundwater contamination. Overall, the recommendations call all relevant authorities to assume their responsibilities and to take immediate actions to control an if possible to prevent the groundwater contamination.

Keywords: ***Groundwater; Cesspits; Particle-tracking; MODPATH; Contributing Areas; Contamination; Protection zone.***

Eliminating Leakage Currents in Single-Phase Transformerless Z-Source Inverter for Photovoltaic Systems

[1]Hussein Mishbak , [2]Khaldoon Aeal , [3] Mohammed Ghalib, [4]Ibrahim Mahariq
Electrical and Electronic Engineering
University of Turkish Aeronautical Association
Ankara, Turkey

[1]*hs_ali12@yahoo.com*, [2] *khaldoon24975@yahoo.com*, [3]*Mohamedtalib1981@yahoo.com*, [4]*ibmahariq@gmail.com*

***Abstract*:**

In a grid-connected photovoltaic (PV) system, the traditional Z-source inverter uses a low frequency transformer to ensure galvanic isolation between the grid and the PV system. In order to combine the advantages of both Z-source inverters and transformer- less PV inverters, this project presents a modified single-phase transformer-less Z-source PV grid-connected inverter and a corresponding PWM strategy to eliminate the ground leakage current. By utilizing two reversed-biased diodes, the path for the leakage current is blocked during the shoot-through state. Meanwhile, by turning off an additional switch, the PV array is decoupled from the grid during the freewheeling state. In this paper, the operation principle, PWM strategy and common-mode (CM) characteristic of the modified transformer-less Z-source inverter are illustrated.

Keywords—Common-mode voltage, Leakage current, Photovoltaic power system, Pulse width modulation, Z-source inverter.

18% Solar Energy Conversion Efficiency by Metal Chalcogenide Nano-Film Electrodes

[1]Dr. Hikmat Hilal , [2]Ahed Zyoud, [3]Rola Al-Kerm,[4] Rana Al-Kerm
An-Najah National University, Palestinian Territory
hikmathilal@yahoo.com

Abstract:

Semiconductor (SC) surfaces are heavily investigated for photo-electrochemical (PEC) processes. While most of oncoming solar light lies in the visible or infrared regions, with only traces in the UV region, SC materials with medium to narrow band gaps (2.4 -1.8 eV; 550 – 700 nm) can be used to utilize visible light. Such SC materials are unfortunately unstable under PEC conditions. Therefore, stabilizing narrow-band SC surfaces is imperative [1]. We manifested that chemical anchoring of metalloporphyrinato complexes to mono-lithic SC (GaAs, Si) surfaces enhances their efficiencies. Attaching the complexes (inside polymer matrices) to SC surfaces was then found to enhance both efficiency and stability [1-2]. As mono-lithic SC materials are costly in terms of materials, environment and manufacturing, nano-film SC electrodes are emerging in PEC technology. Our technique is now being evaluated for metal chalcogenide nano-film electrodes (CdS, CdSe, CuS, CuSe and others). The results are encouraging and both film electrode efficiency and stability have been enhanced by up to 8 fold [3-6]. In cases of CuS and CuSe film electrodes, conversion efficiencies up to 18% have been observed. The mode of action of metalloporphyrin ions/molecules in enhancing the electrode stability and efficiency is by: Charge transfer mediation and SC flat-band lowering. By lowering the SC flat band edges of the SC, and by catalyzing the positive-hole transfer from SC to redox couple across solid/liquid junction, the metalloporphyrine complex smartly enhanced solar cell short-circuit current, conversion efficiency and stability all at the same time. To our knowledge, such results have not been preceded before. Details of our results and our proposed models will be presented.

Keywords: Thin film electrodes; high conversion efficiency; stability; solar energy.

Design and Sizing Characteristics of a Solar Thermal Power Plant with Parabolic Trough Collectors for a typical site in Palestine

Aysar Yasin
An Najah National University, Palestinian Territory

aysar.yasin@najah.edu

Abstract:

The concentrated solar power (CSP) technology has been implemented in some countries and proved good effectiveness. Palestine has enormous potential in solar energy which makes CSP technology one of the feasible options to mitigate the crisis of electricity shortage and reduce the dependability on Israeli Electric Company.

The main objective of this research is to perform a design and sizing of solar thermal power plant study with parabolic trough collectors (PTC) for Jericho region. This site is proposed due to larger area of land availability and because it has deserted flat land. Economic analysis will be conducted to calculate the levelized cost rate of produced kWhr of power from the proposed solar thermal power plant. The capacity factor of the proposed power plant will be estimated and the technical specifications of the proposed system will be identified. The initial nominal power demand of the proposed plant is 10 MWe functioning in a Rankine cycle using Therminol VP1 thermal oil (HTF) as working fluid. Different scenarios studies will be performed to find the optimum capacity of the proposed plant. Adding storage system to the plant will be one of the important variables for finding the optimum capacity.

Keywords: ***Direct normal irradiance (DNI), concentrated solar power, parabolic trough collector (PTC), solar thermal power (STP), tracking collector, simulation, and economic analysis.***

Performance Evaluation Of Small Scale Desalination Plants In Gaza Strip

[1]Tamer Alslaibi , Environment Quality Authority ,Palestinian Territory
tamer_2004@hotmail.com
[2]Jawad Alagha , Ministry of Public Works and Housing,Palestinian Territory
jawad_s78@yahoo.com

Abstract:

Gaza Strip experiences severe water problems in terms of water shortage and quality deterioration. In the last decade, more than one hundreds of small private reverse osmosis (RO) desalination plants have been established and operated all over the Gaza Strip to meet the growing population needs of clean drinking water. However, less than 50% of these plants subjected to monitoring and control by the related institutions. This study attempted to evaluate the performance of the small scale desalination plants in Gaza Strip by conducting a comprehensive survey of all private RO desalination plants in terms of the quality of feed and permeate water in Gaza Governorate as a case study. Samples were taken from inlets and outlets of each plant as well as brine water, then these samples were analyzed for TDS, chloride, and nitrate. The study indicated that the concentrations of TDS and Cl in about 50% of the feed water are in compliance with the Palestinian Standards (PS). The average recovery ratio of desalination plants in Gaza governorate (GG) is 68% which is considered as moderate. As for brine water quality, the concentration of minerals in brine water were above the maximum allowable limits for irrigation and infiltration purposes. Optimization of operation conditions are needed to improve and increase water production without increasing water resource abstraction. Furthermore, it is also required to set regulations aiming at establishing all RO plants in the locations of bad water quality not in other locations of acceptable water quality.

Keywords: ***Desalination Plants; Gaza Strip; Quality Control; Reverse Osmosis.***

Reducing Organic Pollution of Wastewater from Milk Processing Industry by Adsorption on Marlstone Particles

Maher Al-Jabari*, [1]Hiba Dwiek, [2]Nareman Zahdeh, [3] Nadia Eqefan
Environmental Technology Engineering, Palestine Polytechnic University
mjabari@ppu.edu, [2]nareman.zahdeh@gmail.com,
[3]10258@ppu.edu.ps, [1]110076@ppu.edu.ps

Abstract:

This paper presents a simple technique for controlling industrial pollution of wastewater with organic content. It summarizes results of an experimental batch adsorption work: Samples of real wastewater from milk processing are mixed with marlstone particles for certain time.

The chemical oxygen demand (COD) is measured as a function of time for monitoring the performance of the process. Kinetic curves of COD in wastewater and surface concentration (on marl particles) as well as equilibrium data are presented. Effects of various parameters are investigated. These include: stirring rate, pH, solid to liquid ratio (dosage), organic load and contact time.

The equilibrium adsorption isotherm is obtained and found to be unfavorable type. Equilibrium adsorption capacity is pH dependent: Adsorption process favors moderate alkaline conditions (pH range of 5-9). Removal efficiency increases with increasing particles to wastewater ratio. The adsorption process is relatively fast upon stirring the system. The rate of adsorption increases with stirring rate. The final (equilibrium) adsorption is reached within four hours. With no stirring, the adsorption process takes more than 10 days to reach equilibrium.

Keywords— wastewater; chemical oxygen demand; adsorption; kinetic; equilibrium; marl.

Photovoltaic Wireless Energy Transfer System

[1]Sameer Khader ,[2]A.K.Daud, [3]Ala' Abu Qbeita, [4]Elias Maharmeh
Palestine Polytechnic University ,Hebron – State of Palestine.
[1]sameer@ppu.edu

Abstract:

This paper presents design and implementation of Photovoltaic _Wireless Energy Transfer system via magnetic resonant coupling is experimentally demonstrated in a system with a large source coil and either one or two small receivers with additional intervention by using magnetic amplifier coil. Resonance between source and load coils is achieved with additional capacitors terminating the coils. A circuit model is developed to describe the system with a single receiver, and with influence of added mediator coil called magnetic amplification circuit. With parameter values chosen to obtain good fits, the circuit models yield transfer frequency responses that are in good agreement with experimental measurements over a range of frequencies that span the resonance. In the single receiver system at resonance, splitting the magnetic amplifier caused significant increase in power transferred to the load . Experimentally results are presented where is shown the at high distance more than 1 feet the transferred power is dramatically reduced, which will be a scope of future work to how to increase the system efficiency aver a long distances. Power electronics Simulation software PSIM is built and the results are demonstrated theoretically & experimentally.

Keywords: Photovoltaic Systems, DC Choppers, Inverters, Resonant Coupling Wireless Energy Transfer, PSIM.

Power Quality Detection and Classification Using Wavelet Transform and Root Mean Square Methods

[1]Abdel-Karim daud, [2] , Sameer Khader
[3]Elias Maharmeh,[4] Ala' Abu Qbeita
Palestine Polytechnic University, College of Engineering.

daud@ppu.edu

Abstract:

This paper presents an evaluation study for detection and monitoring the power system voltage events, the evaluation of possible events in high rate changing and slow rate changing with time, , since the voltage events is the most sever power quality disturbances in power system due to their damaging effects on utility customers. The evaluation is based on using digital signal processing techniques, discrete wavelet transform (DWT) and root mean square method (RMS).By building an online monitoring system and test its ability to detect these events. Several experiments were done and performed using LabView software. The results of the DWT and RMS detect the events in case of sudden changes – high rate changing in voltage waveform with time – while in the case of slow rate variation in the voltage only the RMS method detects the events.

Keywords: Wavelet Transform, Root Mean Square, Power Quality,Multiresoltuion Analysis, Voltage events, sag, swell, interruption.

Dew Harvesting From Atmosphere to Supply Water from the Mid Heights in the West Bank of Palestine

[1]Mohammad M. Karaeen, Birzeit University, Ramallah, Palestine
mkaraen@birzeit.edu

[2]Mohammed W. Odeh, Birzeit University, Research and Teaching Assistant
Ramallah, Palestine
mohammedodeh90@hotmail.com

Abstract:

A pioneer study for dew harvesting from atmospheric air in the mid highest of the west bank in Palestine was taking its place for a full year. Four galvanized iron plates each of 0.5 m2 area were exposed to ambient air in a setup towards the 4 directions with 30o inclination each, available dew was collected each morning from these plates, amounts of water were measured against the average temperature and relative humidity for one year cycle. The northern exposed plate registered the maximum amount of dew which was 190 ml/m2/night at average ambient temperature of 13oC, and about 100% relative humidity, while other plates could produce between 130 and 153 ml/m2/night. During this study results were measured during 59 nights. Unfortunately this year (2014/2015) was different from other years by the limited unusual dew production nights, the usual producing nights (below 19oC temperature and above 40% relative humidity) about 120 nights could produce dew. In comparison to annual rainfall at Birzeit station (579.6 mm). 27 mm of dew (extra 8%) could be added to this amount if it is to be collected.

Keywords: ***Dew Harvesting, Relative Humidity, Ambient Temperature, Atmospheric Air***

FACTS Technology: Current Challenges and Future Trends

[1]Raad Salih Jawad, [2]Israa Ismael Hussein,[3]Ibrahim Mahariq

Electrical and Electronic Department,
University of Turkish Aeronautical Association,Ankara, Turkey

[1]raad.saleh@gmail.com,[2]eng.israaismaeel@gmail.com ,[3]ibmahariq@gmail.com

Abstract:

Flexible alternating current transmission system (FACTS) devices have been proved as a good option to enhance the quality of power systems by enhancing voltage, extending the capacity of the transmission lines to the thermal limits, giving system flexibility, and improving stability in steady state as well as emerging state. This paper discusses the current state in this technology, the challenges and issues of FACTS, and market trends. The semiconductor-based FACTS technology and their constraints are also presented.

Keywords— FACTS; FACTS markets; power electronic; power system; semiconductor

Application Of Z-source Inverter On Wınd Turbine Source

[1]Othman Al Darraji, [2] Ali Elabbadi , [3]Abdalziz Saidi , [4]Ibrahim Mahariq
Department of Electrical Engineering , TAA. University Ankara , Turkey
Ankara
otomn_kh@yahoo.com, elabbadiali@yahoo.com, addd201412@gmail.com
ibmahariq@gmail.com

Abstract:

Recently, Z-source inverter has been considered as a potential solution for grid interfacing wind power generators. This paper presents the application of the Z-source inverter with simple boost control for wind turbine generation system. The proposed system can boost and generate the desired output voltage efficiently in the situation at which low wind speed takes place. By using the equations derived in the analysis of steady states, we present the guidelines to design the impedance network accurately for the case where the inverter is operated only in active and shoot-through states.

Keywords- Wind Turbine; Z-Source Inverter, Rectifier

Design and Simulation of Three Phase and Single Phase Z-Source Inverters

[1]Raad Salih Jawad, [2]Ibrahim Mahariq, [3]Israa Ismael Hussein
Electrical and Electronic Department
The University of Turkish Aeronautical Association
Ankara, Turkey
Master student

raad.saleh@gmail.com , ibmahariq@gmail.com, eng.israaismaeel@gmail.om

Abstract:

In this paper, we presented ZSI for three phase and single phase (DC/AC) inverters, simulate them by Power Sim program (PSIM). The aim of this paper is to study the principle of design ZSI for two types of inverters. All the traditional pulse width modulation (PWM) schemes can be used to control the Z-source inverter, in our paper we applied PWM with simple boost control method. The simulation results have been obtained and discussed intensely, and the main rules for choose ZSI elements are stated.

Keywords— Z-Source Inverter; Simple Boost Control Method; Three Phase Inverter; Single Phase Inverter; Simulation.

Improvement of large scale wastewater treatment plant using Epuvalisation technique

[1]Sabreen Daghra ,[2]Dr. Mohannad Qurie
Al-Quds University, Jerusalem, Palestine,
Sabreen-daghra@hotmail.com
Mohannad.qurie@gmail.com

Abstract:

The Activated Sludge effluent from Al-Quds University Waste Water Treatment Plant was treated using an epuvalisation system. The epuvalisation technique is efficient for tertiary treated wastewater. The epuvalisation system consisted of Rosemery (Rosmarinus officinalis) plants grown in hydroponic channels under continuous water flowing in a closed loop system, placed in a greenhouse at Al-Quds University and underwent two consecutive hydroponic flowing stages: an adaptation stage, in which fresh water was used; followed by a functioning stage, with Secondary treated wastewater. A control treatment using fresh water was included as well. The experiment started in February and ended in April (2015). The primary objectives of this work is to investigate the possibilities of using epuvalisation system in the management of the Secondary Treated wastewater (Activated Sludge) that used at Al-Quds University Waste Water Treatment Plant.

At the end of the experiment, analysis of the effluent Treated wastewater showed a remarkable decrease of Chemical Oxygen Demand and Total Dissolved Solid with a reduction of 25%, 40%, respectively. The effluent of the control treatment showed 17%, 32%, reduction for the same parameters as compared to the influent. Plant growth parameters (plant height, fresh and dry weight) showed no significant difference between fresh water and secondary treatments. Obtained results suggest that the epuvalisation system is a promising technique for inland treatment with added benefits.

Keywords—Epuvalisation; Waste water; Chemical oxygen demand; Total dissolved solid

The Research on Construction Approach and Supporting Measures of Eco-type Tourism Industry Cluster

[1]Danhong Chen
College of Economics and Management, Shenyang Aerospace University
Shenyang, China
1507685405@qq.com

[2]Tianyu Yi
School of Management,Bohai University, Jinzhou, China
310335039@qq.com

Abstract:

The environment problem has become a restraining factor of the development of the tourism industry cluster, and building eco-type tourism industry cluster is the very effective way to solve the problem. The eco-type tourism industry cluster improve the tourist resource utilization rate, productivity and bearing capacity ,which is mainly according to the Eco Cycle Theory. The eco-type tourism industry cluster can lower the terminal emission of the tourist economic activities to the natural environment to the lowest critical point , thus realizing the coordinated development of the tourism industry cluster and the ecological environment. This paper puts forward construction approach of the eco-type tourism industry cluster based on the analyzing of the feasibility and necessity. Lastly, it puts forward safeguard measures for the development of the eco-type tourism industry cluster including develop Circular economy, implement eco-compensation, develop ecological products, tourists split-flow and build green supply chain.

Keywords—Eco-Type Tourism Industry Cluster; Sustainable Development; Eco-Cycle Economy; Construction Approach.

Household Hazardous Waste Management in Hebron City, Palestine

[1]Waseem "M.W." Al-TAMIMI , [2]Issam A. Al-Khatib

Institute of Environmental and Water Studies
Birzeit University, Birzeit, Palestine
[1]w.tamimi_88@hotmail.com, [2]ikhatib@birzeit.edu

Abstract

The aim of this research is to assess of household hazardous waste management in Hebron city, Palestine by finding out household hazardous waste types and proportions and also by dedicating the level of awareness of household heads in regard to knowledge of risks and dangers associated with household hazardous waste management. A questionnaire was distributed among households and there were 385 respondents. Analysis of the 115 samples weighing 14.56 of domestic solid waste was carried out during a fourteen working days period to detect different household hazardous waste components and their proportions.

Results show the great risk associated with household hazardous waste especially that kids are transferring SW from home to container (40.2%) with the potential risk of accident, containers in some cases are more than 150 m away from home (19%) increasing the potential risk. These potential risks are real, as in 18.5% of houses there was an accident related to household hazardous waste risks. Home products constitute the largest percentage of household hazardous waste (42.3%), followed by automotive products (17.2%), and personal care products (15.4%), and healthcare products (12.3%). To meet the challenges of the risks and dangers associated with household hazardous waste, organized awareness strategy should be adopted and implemented. Intervention and innovation solutions should be adopted, among these may be separation household hazardous waste at source, and cooperation with private sector for economical reuse or recycle of household hazardous waste.

Keywords- household hazardous waste; management; components; risks, developing countries

Environmental justice and sustainability in Palestine
Challenges and opportunities under colonization

Mazin Qumsiyeh
Bethlehem University, Palestinian Territory
mazin@qumsiyeh.org

Abstract:

Palestine historically had a high biodiversity index relative to its size and latitude due to geographic and geological circumstances. It is also critical as the major passageway for migration of hundreds of millions of birds between Europe and Africa. Accelerating environmental destruction in Palestine started in the late 19th century constituting today what many call an environmental Nakba (catastrophe). In this paper, I highlight the impact of colonization and demographic changes focusing on the lack of environmental justice. Data are presented on genotoxic effects of Israeli industrial colonies; on impact of economic changes that resulted on Palestinians of Idhna recycling electronic waste and having direct genotoxic effects; on significant decline of vertebrate biodiversity in Bethlehem area; and on studies on amphibians as barometers of water decline. The data presented on these issues and other data all highlight the need for much more research efforts not only to measure impact but to come-up with specific tangible solutions. Retrospective studies can also be done for example on such areas as the destruction of over 500 villages and their fields and replacing them with European pine trees and urban development. Further studies are also needed on impacts of draining the Hula wetlands, of diverting headwaters of the Jordan River, of the Red Sea-Dead-Sea canal, and of climate change (expected rise in temperature by 2-40 C and decline in average rainfall by 20-25% by 2050), and selected other human activities. We highlight some successes both unintended (such as protected wildlife in no man's land and mine fields) and intended (such as efforts at creating protected areas, development of permaculture, increasing awareness, university growing activities). We conclude that we have to have drastic changes in human behavior both locally and globally to preserve our fragile ecosystems and we make concrete recommendations going forward towards sustainable development.

Keywords: ***Colonization, biodiversity, genotoxicity, climate change, industrial pollution***.

Effect Of Treated Waste Water And The Stone Slurry Water On Concrete Strength

[1]Nabil Al-Joulani

Palestine Polytechnic University , Palestinian Territory
njoulani@ppu.edu

Abstract:

The scarcity in water resources in Middle East (especially Palestine and Jordan) imposes difficulties and threats to local governments and water authorities to provide fresh water to the people. The rapid development in different industries in the last fifty years has led to the generation of huge amounts of waste water. For example, concrete production, stone cutting and tanning industries consume large quantities of fresh water which is needed for domestic use and generate different types of waste water.

The current research investigates the utilization of 3 types of waste water in concrete mixtures and how they affect its compressive strength. The results of this study suggest excellent potential for the use of waste water from stone cutting industry in the production of structural concrete and the treated waste water in producing concrete for backfill and non-structural applications. This would allow for the preservation of tremendous amounts of fresh water for domestic use.

Keywords: ***Waste Water, Stone Slurry Water, Concrete, Compressive Strength***

Application of Rainfall Runoff Distributed Model Using HEC-HMS for Al-Faria Catchment, West Bank, Palestine

[1]Hadeel "Qasim Sulaiman", [2]Sameer Shadeed , [3]Anan Jayyousi
Water and Environmental Studies Institute (WESI)
An-Najah National University, Nablus, Palestine
hadeelalqasem@hotmail.com ,sshadeed@najah.edu , anan@najah.edu

Abstract:

The arid and semi-arid regions, such as the West Bank, have its own properties in the hydrological processes as a response to rainfall. Extreme rainfall events and accompanied floods have higher probability in these regions compared to other regions. So, the floods occurrence has become more predictable and the risk of these floods has increased. As such, the importance of rainfall-runoff modeling becomes more challenging in such regions not only to predict the catchment response to these extreme rainfall events but also to be able to produce a more reliable infrastructure designs. This in turn will facilitate the development of proper mitigation measures to reduce its impacts on the surrounding environment.

This study aims to model rainfall-runoff response in Al-Faria catchment, which is located in the northeastern part of the West Bank with a total area of about 320 km2 and drains into the Jordan River. The HEC-HMS was used to simulate the rainfall-runoff response in the catchment based on single events. The GIS tools were utilized to prepare some gridded input data (e.g. land use, soil) whereas, MS excel was used to prepare some time series data (e.g. rainfall, runoff). Model performance was evaluated based on two major rainfall events. The storm of February (8-9), 2006 was used to calibrate the model while the storm of February (4-8), 2005 was used for model validation. The observed flow data from the runoff flumes in the upper part of the catchment were used to calibrate and validate the model. The model performance was tested statistically using both the root mean square error (RMSE) and the Nash-Sutcliffe efficiency (NSE). Results showed that the model was quite good in simulating the single rainfall event response and thus it can be used for further modeling of single rainfall event in the Faria catchment specifically and in the West Bank catchments generally.

Keywords: Semi-arid regions, Rainfall Runoff Model, Al-Faria catchment, and Surface runoff.

Dynamic Evaluation on the Bearing Capacity of the Human, Resources and Environment of the Key Development Area in Qinghai Province

[1]Ningyang Zhu
Qinghai University, China, , 1371597977@qq.com
[2]Shengxi Ding
Qinghai University, China, qhdxjjxdsx@126.com

Abstract:

This paper establishes the evaluation index system of the key development area in Qinghai Province, involving three big aspects that the influence of economy, the supporting capacity of resource and the bearing capacity of the ecological environment. Then, uses the method of Principal Component Analysis to dynamically evaluate the level of the bearing capacity of the human resources and environment of the key development area in Qinghai Province from 1999～2012, makes a comparison of the bearing capacity of the human resources and environment between 26 key development areas. Finally, according to the above analysis, this paper gives several countermeasures to improve the bearing capacity of the human resources and environment of the key development area in Qinghai Province .

Keywords:Principal Component Analysis, The Bearing Capacity Of The Human, Resources And Environment, Comprehensive Evaluation.

Agriculture Developing Strategies(ADS) In The Lower Jordan Valley Focus On Brackish Water And Crops Salt Resistivity: Case Study Of Auja Catchment In Jericho Area In Palestine; Field Survey And Soil Analysis.

[1]Ayman Shawahna, , [2]Martin. Sauter

Geoscience Center, University of Göttingen, Goldschmidtstr. Göttingen, Germany,

[1]aymanth@hotmail.com, [2]martin.sauter@geo.uni-goettingen.dede.

[3]Marei Amer,Al Quds university,Palestinian Authority

[3] Marei.Amer@gmail.com.

Abstract:

The current lack of comprehensiveness and efficiency in water resources management has become one of the problems facing semi-arid Mediterranean region in general, and occupied Palestinian Territory (oPt) in particular; [1] presented that the real problem in semi-arid Mediterranean region yet is not the lack of resources but the lack of an integrated water management policy in case of high pressure on water resources to alleviate the current tragic conditions. Due to the semi-arid climate, in Opt, the Palestinian area which is part of this region suffers from shortage of water [2] . The daily water consumption per capita is about 73L/d, [3] . and this is expected to reach 50 L/d in the coming decade [4] . In consist of water quality, salinity of underground water is increasing by years under reasons of natural hydrological system and anthropogenic activities which were giving less soil fertility and decreasing agriculture productivity caused with soil salinity built up by using brackish water in irrigation. In the case study area, CSA (Auja sub catchment) chloride concentration has reached 1500mg/L and electrical conductivity is 5000µs/cm in some production wells. Along last ten years, the impact of water resources shortage and water quality deterioration, in the CSA, caused decreasing of irrigated agricultural lands in Auja area from 10 thousands donun in 2004 up to reach around 4 thousands donums now a days, as a result of this shortage in water quality and quantity, some of main agriculture crops in the area like banana farms were disappeared, and agriculture sector was ,completely affected negatively by this situation. In this investigation, and along the year of 2013,completely field survey in the CSA has conducted, survey including, main

crops in the area and agriculture land use mapping , texture analysis and hydrochemistry of the soil profile, water resources in terms of quality and quantity in Auja area, this evaluation of soil, water resources and agriculture land use in the CSA aimed to conclude several scenarios of Agriculture Development Strategies(ADS) based on alternatives of crops resistance of brackish water irrigation and , also using fresh water on different types crops ,taking in consideration soil profile and soil quality in the area.

keywords- CSA, ADS, Cropwat, hydraulic Properties.

The Continuity of Green Building (The Integrated Design Process)

[1]Dr. Hasan M.I Awawda
architect_dr_hasan@yahoo.com
University of Minho, Portugal.
[2]Luís Bragança
braganca@civil.uminho.pt
University of Minho, Portugal.

Abstract:

In this paper, I have identified and briefly examined the continuity of green building which constitute the essence of green building as a process and combination which is not just a response for the constant aspects of the site (climate, temperature, energy.. etc.), but dealing with green building as a an integrated design process that is constituted from three factors or determinants. Firstly, the philosophical continuity of green building which discusses the greening of philosophy.

Secondly, the functional continuity which is represented by key strategies and technologies for green building, while the third side is the formal continuity and its translation into the harmonic combination of the green building through sustainable site design as a part of general system of the site.

Keywords- Sustainability, Green building, Concept of Continuity, Greening of philosophy. Integrated design process.

Yatta's Medium Voltage Network Analysis and Enhancement

[1]Sameer Khader, [2]A.K.Daud
[3]Ala' Abu Qbeita [4]Elias Maharmeh
Palestine Polytechnic University College of Engineering
Power Electronics & Signals Processing Research Unit
Hebron – State of Palestine.
sameer@ppu.edu

Abstract:

This Paper presents Analysis and solution scenarios for Yatta city (Y.C.) electrical network which experiences some troubles, firstly the maximum demand of the network is higher than the main feeder capacity, so the main feeder can't cover the maximum demand of the network. Secondly the power factor for the industrial loads is below the acceptable range.

The maximum demand of the first feeder is covered by proposing new interconnection points in addition to installing alternative energy source which is Photovoltaic generation units. The power factor of the system was improved by installing capacitor banks for industrial loads.

As a result of applied solution related to interconnection points the total load demand was fairly distributed, transformer life time is increased. In addition to that due to distributed PV generation the utility capacity is increased and the transformers life time is increased by 4-5 years. A Simulation model using ETAP is implemented and the network capacity and load flow are studied in order to verify the proposed solutions. The simulation results proves the proposed methodology.

Keywords: ***Distribution Network, PV, ETAP, Electrical network, Power Transformers, Power Factor Correction.***

Modeling of hybrid micro grid renewable energy system with environment sense for rural development

[1]Abdel-Karim Daud, [2]Sameer Khader
[3]Noor Abu Ayyash , [4]Weam Dwayyat
Palestine Polytechnic University, College of Engineering
daud@ppu.edu

Abstract:

This paper presents design of renewable micro grid for 'Arroub Technical college' as a case study. It consists of different renewable energy systems (Bio-PV systems) particularly in Palestine, which can supply electricity to a rural community. Biogas system consists Anaerobic digestion units called digester, which the biogas naturally produced by the fermentation of organic waste (dung) into anaerobic digesters. It contains between 40 and 60% of methane, which gives it fuel character and its valorization allows energy conservation while protecting the environment by reducing the greenhouse gases emission. The photovoltaic generator (PV) and also methane generator will produce enough electric power during the day that covers the requirements of the different loads in the farm while the excess power will inject to grid.

The other case methane and solar generator are not able to cover the requirements of the different loads in the farm so the grid will provide the load energy requirements and the difference between production and consumption energy is called net metering technology by unidirectional metering. SCADA technology was proposed in this study as the controlling and management system in micro grid. Moreover, Homer, Etap and Excel software was used to analyses load data and test micro grid stability. As a result, a simple prototype was produced to simulate reality.

Keywords: Hybrid system , Biogas , Etap simulation, Design .

Characterization and treatment of Al-Menya Landfill leachate Using Biological and Physical Methods

[1]Ala' Abuayyash, [2]Mohannad Qurie

Al-Quds University,Jerusalem, Palestine
ala_abuayyash@hotmail.com, Mohannad.qurie@gmail.com

Abstract:

leachate is a complex liquid that contains many contaminants and excessive concentrations of biodegradable and non biodegradable products including organic matter, phenols, ammonia nitrogen, phosphate, heavy metals, and sulfide. The untreated leachate can impact in environment causing surface, ground water and soil contaminations.

The characteristics of Al-Menya landfill leachate is PH, EC, TDS, TSS, turbidity, COD, BOD, nitrate (NO3--N, NO3-), phosphate, ammonia-nitrogen, Ca, Mg, Na, K., Al, Cd, Cr, Cu, Ni, Zn, 6.1, 5.96 ms, 2.97 ppm, 2500 ppm, 3000 NTU, 11000 ppm, 4000 ppm, (19.57 mg/l, 4.4 mg/l), 8 ppm, 3500 ppm, 300 ppm, 5700 ppm, 1000 ppm, 3.86, 3.66, 5.22, 0.643, 5.15, and 3.37 respectively.

This research examined the performance of Sequencing Batch Reactor (SBR) on removal of suspended solid (SS), turbidity, chemical oxygen demand (COD), ammonia-nitrogen, total nitrogen (TN), and total phosphorus (TP) and the removal percentages Physical method as membrane technology especially Reverse Osmosis, which is one of the developments in the last decade for leachate treatment.

The outcomes parameter of biological treatment COD, TDS, TSS, turbidity, EC, Cd, Cr, Cu, Ni, Zn, 1330 ppm, 890 ppm, 124 mg/l, 165 NTU, and 1.78 ms respectively. But the outcomes for membrane treatment, 345 ppm, 40 ppm, 0 mg/l, 0 NTU, 0.09 ms, 3.63, 4.88, 0.669, 4.93, and 1.09 respectively.

Key words: Sanitary Landfill, Leachate, Biological Treatment, Physical Treatment, Sequence Batch Reactor, solid waste management.

البيئة في التشريع الفلسطيني والمقارن " مصر والاردن" دراسة مقارنه

Comparative study in Palestinian environment legislation

مراد منذر المدني[1]، مستشار قانوني، سلطة جودة البيئة فلسطين، رام الله

muradm73@hotmail.com

[2] د. باسل منصور، استاذ القانون الدولي العام، جامعة النجاح الوطنية - كلية الحقوق، فلسطين – نابلس

،bmansoor@najah.edu

الملخص :

تحاول الورقة القاء الضوء على الأحكام القانونية لحماية البيئة في القانون الفلسطيني وهي بذلك تقوم بدراسة مقارنه مع القانون المصري والقانون الاردني في استخدام منهاج البحث العلمي المقارن في محاولة لفهم اعمق لهذه النصوص، وهي بذلك تعتمد بشكل اساسي على القانون رقم 7 لسنة 1999 بشأن البيئة المنشور في الوقائع الفلسطينية في العام 2000 وهو القانون الاساس التي ستجري على نصوصه المقارنة مع القانون رقم 4 لسنة 1994 بإصدار قانون بشأن حماية البيئة المنشور في الجريدة الرسمية لجمهورية مصر العربية في العدد 5 بتاريخ 1994 وقانون رقم 52 لسنة 2006 قانون حماية البيئة المنشور بالجريدة الرسمية للمملكة الاردنية، وعلى ذلك سوف نكتفي في الاشارة الى كل من هذه القوانين منسوبا لبلده فقط في ثنايا هذه الورقة.

سوف ندرس في هذه الورقة المفاهيم العامة لحماية البيئة في تلك القوانين والتي نتعرض فيها لتعريف البيئة والتلوث وبيان عناصرهما وتصنيفهما ثم بيان الاحكام الخاصة بعناصر البيئة من هواء وماء وتربة وبيئة بحرية وبيئة ارضية بما تشمله من نفايات لبة وخطرة والنشاطات الاخرى، للتنقل بعد ذلك لدراسة النصوص الاجرائية لحماية البيئة من حيث وسيلتي الترخيص والضبط القضائي واخيرا دراسة الاحكام الخاصة بالمسؤولية عن الاضرار البيئية من حيث المسؤولية الجنائية واخرى المدنية لنخلص بخاتمة تبين أهم نتائج البحث والتوصيات.

الكلمات المفتاحية : القانون، البيئة، التشريعات، التلوث، المسؤولية، الاحكام الخاصة، الاحكام العامة.

Environmental Safety & Health

Ahmad Haddad

Jacir Palace Hotel – Bethlehem,

Palestinian Territory

haddad_ahmad@yahoo.com

Abstract:

This paper follows a health and safety inspection of the workplace and plant rooms in hotel engineering facilities. Successful health and safety management in engineering plant rooms is about identifying the most frequent and serious risks and adopting the right precautions, taking account of time, money and resources. This study identifies how most serious accidents happen and how most ill health is caused in engineering plant rooms.

Keywords: ***Health , Safety , Inspection ,Boilers Plant Room ,Occupational Health And Safety Management System***

Development Of An Optimized Solar Awning System

Moayyad W. Hamad
Arizona State University
Tempe, Arizona, United States of America
m.hamad@ayavasolar.com

Abstract :

The author has developed a single axis polar N-S tracking system that combines the benefits of tracked solar electric generation and a retractable window awning. The system initially titled Optimized Solar Awning is made of an innovative curved rail allowing 0-90^0 tilt angles based on the specific geographical requirements for optimal shade and optimal solar photovoltaic electric generation. The design allows for vertical building deployment of photovoltaics to compliment roof and ground installation. A small prototype showing the method of the trackers operation has been built for presentation purposes at this stage.

Author, through his small business, plans to continue the development of the system till ready for the market deployment. The development will process intends to develop larger scale system full building façades capable of reducing building energy consumption and increasing building photovoltaic electric production through utilization if available wall space.

Keywords: N-S Tracking System, Solar Photovoltaic Electric Generation, Integrated Photovoltaic (BIPV) Systems.

Waste And Appendages Percentages Of Stone Slabs Cutting Machine

Jawad Al-Haj

Palestinian Stone and Marble Centre, Palestine Polytechnic University

Jawad-alhaj@ppu.edu

Abstract:

This paper aims at studying the stone wastage, appendages and defected stone percentages generated from cutting stone slabs into stone pieces with different dimensions (Cut to Size – CTS) using stone slabs cutting machine (Fraiza). Stone wastage represents the stone which were collected in rubbish containers and through away while appendages and defected stone represents stone pieces do not meet the specifications and the requirements of the customer because it is with different color or dimensions. Practical data for the Input (stone slabs) and the output (stone tiles or pieces- CTS) for this machine was collected from different stone companies in Palestine as random sample. Statistical analysis was carried out for the percentage of wastage, appendages and defected stone in addition to the percentage of ready stone for the customer orders.

This study shows that, the average percentage of stone wastage 14.96%, appendages 6.35%, defected stone 7.7%, and the productivity (ready stone for the customer orders) is about 71% of the total stone entering the stone slabs cutting machine.

Keywords:Stone Industry; Stone Slabs Cutting Machine; Stone Waste; Appendages;Defected Stone.

A Study Of Medical Waste Disposal In Private Medical Laboratories In Hebron City –Palestine.

Adel Alsalaymeh
Hebron municipality,Palestinian Territory
adelsalaymeh@yahoo.com

Abstract:

Medical waste management is of great importance due to its infectious and hazardous nature that can cause undesirable effects on humans and the environment. Only minor attention has been directed to its proper handling and disposal. 34 private medical laboratories in Hebron city was studied to know how they manage the medical wastes produced in these laboratories.

The amount of medical waste generated was 0.190 kg/ patient .day, 77% of the laboratories studied separate the waste to its categories, 43% separate only the infectious waste, 68% of the laboratories treat the medical waste before disposal, 65% use autoclaving for medical waste treatment Medical Laboratory Specialists have weak knowledge about proper medical waste management. They need training and technical support from MOH by employing consultants in medical waste management. They don't do proper waste separation. They request the municipality to provide special containers to collect medical waste.

Keywords: ***: Medical Wastes, Private Laboratories, Hebron, Palestine.***

Quality Of Drinking Water Used In Marginalized Communities Of The West Bank, Palestine: With Focus On Harvested Rainwater

[1]Wael Awadallah, Palestenian Hydrology Group, Palestinian Territory
[1]wael@phg.org
[2]Francesca Fulgoni, [3]Giorgio Cancelliere, GVC, Italy
[2]f.fulgoni.gvc@gmail.com, [3]gcancelliere@gmail.com

Abstract:

During the one year period elapsing between May, 2010 and May, 2011, a water quality monitoring program was conducted for 32 communities, classified as vulnerable and marginal in the West Bank, Palestine. People in the target areas mainly rely on rainwater, tankered water or a mixture of both for their supply. Due to water supply shortage, rainwater was collected either from an external catchment area, from rooftop catchments or both surfaces jointly. The water is stored in cisterns (90% of the surveyed cases), but also fixed tanks may be used mainly in the communities with piped water source. High bacteriological pollution was found all over the study area: Total Coliform (TC) and Fecal Coliform (FC) contamination was present in 84% and 69% of the samples, respectively. The high TC level detected indicates the poor environmental conditions of the cisterns. This was further verified by high FC levels, indicating the existence of fecal matter. The "safe" water sources such as vended/tankered water and piped water do not reduce the level of pollution in the cisterns when it is mixed with the existing polluted rainwater. The study proposed a pollution index incorporating three fundamental relevant water quality parameters.

Keywords: ***Water Quality, Pollution Index, Rainwater Harvesting, Fecal And Total Coliforms.***

Prediction of Hourly Solar Radiation in Amman-Jordan by Using Artificial Neural Networks

[1]Mohammad A. Hamdan, The University of Jordan, Jordan
mashamdan@yahoo.com
[2]Eman A. Abdelhafez, Al-Zaytoonah University of Jordan
eman.abdelHafez@zuj.edu.jo
[3]Hamza Salem, Al Balqa'a University Amman, Jordan
enghamzasalem@yahoo.com
[4]Ola F. Ghnaimat, Risk, Audit and Quality Assurance Department The Royal Scientific Society , Jordan
ola.ghnaimat@rss.jo

Abstract:

In this study, three Artificial Neural Network (ANN) models (Feedforward network, Elman, and Nonlinear Autoregressive Exogenous (NARX)) were used to predict hourly solar radiation in Amman, Jordan. The three models were constructed and tested by using MATLAB software.

Meteorological data for the years from 2000 to 2010 were used to train the ANN while the yearly data of 2011 was used to test it. It was found that ANN technique may be used to estimate the hourly solar radiation with excellent accuracy, with the coefficient of determination of Elman, feedforward and NARX models were found to be 0.97353, 0.97376, and 0.99017, respectively. The obtained results showed that NARX model has the best ability to predict the required solar data, while Elman and feedforward models have the lowest ability to predict it.

Keywords: ***Artificial Neural Network, Solar Radiation,ANN technique.***

Groundwater Assessment and Protection Zone Plan in Al-Fawwar Wells Field

Jawad Hasan Shoqeir,
AL-Quds University,Palestinian Territory
jhassan.aqu@gmail.com

Abstract:

Water recourses in Middle East countries are not only limited but also highly vulnerable to anthropogenic contaminants where effluent can easily infiltrate into groundwater through a typical karst aquifer system. Due to the thin soil cover contaminants will not have the time to be subjected to natural self-purification, therefore contaminant are transported rapidly in karst conduits over large distances. Strategies are required to preserve optimum groundwater quality, and so management of this vital natural resource has become worldwide priority. Groundwater from karst aquifers is among the most important resources of drinking water supply of the worldwide population, in some country karst water contributes 50% to the total drinking water supply, in some regions it is the only available freshwater resource. At the same time karst aquifers are particularly vulnerable to contamination due to thin soil cover, flow concentration in the epikarst, contaminant can easily reach the groundwater, where they may be transported rapidly in karst conduits over large distances (Hasan, 2009). The main source of water in Palestine is groundwater; through drought situation prevailing in recent years, for drinking water, agriculture and industry(Marie and Vengosh, 2001). But these resources of groundwater is suffering from pollution and illegal axis from the activities of community life in the absence of Palestinian laws and legislation implementation that regulate and ensure the protection of groundwater resources in Palestine (Carmon et al., 1997). Ground water was once thought to be protected from contamination by layers of rock and soil that act as filters. We now know, however, contaminants can enter groundwater from landfills and lagoons used for storing waste, chemical spills, leaking underground storage tanks, and improperly managed hazardous waste sites. The study area (Al Fawar wells field) is located in the end of Al Fawar refugee Camp with elevation 718 m above sea level (Fig.1). The camp is located about 8 km south of Hebron city in the southern part of the West Bank. The catchment area which feed the study area extended from Dura at

west to Al Fawar refugee camp at east, and Hebron city to the north. The major scope of the study was to create a protection zone map to the various water sources in the study area and to try to define the water protection zones. It was that in most of the cases the contamination appears randomly and it is impossible to predict when and in which intensity it will appear in the springs and in some wells. The results show that the spring system is the most sensitive to contamination hazard. Only wells that are pumping from unconfined aquifer may receive small amount of effluent that flow in adjacent wadis and penetrate through karst fissures into the deep aquifer system. It was found that the difference in the vulnerability between the spring system and the regional aquifer (well system), is a result of differences in their storage size and in their flow pattern. The spring system has a smaller storage and fast flow and is much more sensitive to contamination hazard than the regional aquifer.

Keywords:Protection Zone, Fawwar Wells, Wellhead Protection.

Assessment of Impact Sewage Effluents on the Coastal Water Quality around the mouth of Wadi Gaza (Gaza and Middle Governorates, Gaza Strip, Palestine)

[1]Khalid Fathi Ubeid , [2]Mohammad Ramadan Al Agha
Department of Geology, Faculty of Science
Al Azhar University - Gaza
Gaza Strip, Palestine
[1]k.ubeid@alazhar.edu.ps , [2]malagha@iugaza.edu.ps

***Abstract*:**

The Gaza Strip is a narrow coastal region locates at the southeastern coastal plain of Mediterranean Sea. Along the beach of Gaza Strip eight sewage stations are observed in addition to mouth of Wadi Gaza, which are pumping sewage into the seawater. The aim of the study to assessment the impact of the wastewater disposal and pollutant sources along the study area, focusing around the mouth of Wadi Gaza. This study is carried out along the beach of Gaza and Middle Governorates. Sampling has done at 36 stations along three lines survey extending from SW to NE, these lines locate at distance 100 m; 200 m; and 350 m respectively in the sea. The results of geochemical analysis show variations in physic-chemical parameters: pH; electrical conductivity (EC); total suspended solids (TSS); total dissolved solids (TDS); nitrates; chlorides; calcium; sodium; and potassium. The results reveal that the pollution had significantly higher level around the raw sewage discharge points and decrease towards north direction and significantly decrease at distance greater than 200 m in the sea.

Keywords: Gaza Strip, Seawater, Sewage, Pollution, TSS, TDS.

The Effect of Utilization of Fine Crushed Limestone as Partial Replacement of Sand on The properties of Concrete

Dr. Riyad Abdel-Karim Awad

An-Najah National University, Nablus-Palestine

Abstract:

The purpose of this study is to investigate the possibility of using fine crushed limestone as partial replacement of natural sand in concrete mixes. The suitability of using fine crushed limestone in partial replacement of sand has been assessed by comparing the basic properties of resulted fresh and hardened concrete with those of conventional concrete. Two mixes were produced using different percentages of fine crushed limestone in replacement of natural sand. The test results indicated that fine crushed limestone can be used effectively to partially replace sand in concrete. Slump test for fresh concrete and compressive strength for hardened concrete showed very good and acceptable results.

Keywords: Crushed Limestone,Concrete Mixes,Natural Sand.

Solar Energy for Process Heat in Palestine - Case Study: Process Heat for De-feathering and Cleaning Applications

[1]Marwa Mokhtar,[2]Samer Al-Natsheh,[3]Saleem Mokhtar
Shamsuna for Renewable Energy Solutions, Palestinian Territory
marwan.mokhtar@shamsuna.ps, samer.alnatsheh@shamsuna.ps
saleem.mokhtar@shamsuna.ps

Abstract:

According to IEA, the 2040 outlook expects that 30% of our total energy consumption will be for industrial use [1],significant amount of which is thermal energy. This paper discusses the use of flat plate collectors to provide the hot water needed for the de-feathering process in a slaughter house in Hebron, Palestine. The system was commissioned in May 2014 and has been providing
hot water for the slaughter house ever since.

The hot water produced is not only used for de-feathering but also for cleaning purposes inside the factory. The solar system is designed to produce around 3000 Liters of hot water at 60oC daily, the produced hot water is accumulated for two days of solar operation in a 6000 Lites hot water storage tank.

Keywords: Solar Thermal Energy, Flat Plate Collectors, Process Heat, Renewable Energy, Palestine, Industrial Applications, Shamsuna.

Municipal Waste Gasification

Ali Balaha , Palestinian Territory

ali.balaha@hotmail.com

الملخص

يتم التخلص من غالبية النفايات الصلبة التي يتم جمعها من قطاع غزة (1450 طن/يومياً في عام 2007) في ثلاث مواقع رئيسية هي: مدفن النفايات بمنطقة جحر الديك شرقي مدينة غزة، ومدفن النفايات بمنطقة صوفا شرقي مدينة رفح، ومدفن النفايات بدير البلح في المنطقة الوسطى لقطاع غزة. التي بلغت طاقتها الاستيعابية القصوى، بالإضافة إلا أن الكميات المتوالدة من النفايات في تزايد مستمر حيث زادت كمية النفايات الناتجة للفرد الواحد لعام 2011 لتصبح 0.94 كجم/يوم بدلا من.0.71 كجم/ يوم في عام 2010. تضمن تكنلوجيا معالجة النفايات الصلبة بتقنية التغويز تخلص آمن لنفايات المنازل، والإلكترونيات، والمصابيح الكهربائية، والبلاستيك، والإطارات المستعملة، ونفايات المستشفيات، والنفايات الزراعية، والحمأة مخلفات مياه الصرف الصحي. تحت ظروف مغلقة تسرع في عملية تحليل النفايات إلى عناصرها الاولية طاقة، وكربون، ومواد اخرى، يمكن جمعها وتعظيم الفائدة من النفايات الصلبة والحد من الأثار البيئة، والصحية، وهدر في الاراضي التي تشكلها مدافن النفايات .لتحقيق مبدأ التنمية المستدامة الذي يدعو إلى التوازن بين البيئة والتنمية من خلال الاستغلال الأمثل للموارد والإمكانات المتاحة لضمان استمرار التنمية بما يخدم احتياجات الأجيال الحالية وبدون إضرار بمتطلبات الأجيال القادمة.

Keywords :Municipal Waste Gasification

Israeli occupation forces and settlers pollution of the Palestinian land In the West Bank with Liquid and solid waste

[1]Nael Musa,[2]Mai Mshel,[3]Neme Salame ,
colonization and wall resistance commission,Palestinian Territory
nael.musa@yahoo.com , may.msheil@yahoo.com,
Nemeh_salamah3@hotmail.com

Abstract:

Since its occupation of the Palestinian territories in 1967, Israel execute and systematically practice various methods to control and take over the Palestinian lands by false claims and argument, (state lands, closed military zones, settlements…etc), aiming to extend the Israeli control over the largest possible area of land, especially in high-security important areas.

The study addressed the monitoring sites used by the occupation authorities for the disposal of its solid and liquid wastes coming from Israeli settlements in the West Bank or from occupied territories in 1948 (Israel), and throw it on the Palestinian land. The research uses the descriptive and analytical method, and depends on satellite images for the years 2011, 2012, 2013, and 2014. The Field visits that the study crew conducted, showed that the targeted sites which are around (100), are locations with high geopolitical importance, which confirms the devious goals of the occupation in selecting the landfill sites, the most notable goals are the poisoning of the Palestinian agricultural lands and polluting the groundwater and surface water, this was confirmed by laboratory tests of the soil that was conducted from different sites, and thus the destruction of land, so it becomes easier for the occupation to take over and seize it later in favor of the settlement projects.

The study focused on analyzing and linking major attacks of the occupation including the settlements, and land confiscation with the waste sites, and to clarify the integration and inclusiveness policy adopted by the occupation authorities. With the help of geographical information system which indicated that these attacks are concentrated along the eastern borders and the annexation wall (west), and in the Arab neighborhoods in the vicinity of Jerusalem, in order to undermine and prevent the establishment of a sovereign Palestinian state with defined borders**.**

Keywords: Agricultural Land Pollution, Ground Water Pollution, Solid And Liquid Waste, Poisons Chemical Waste, Israeli Occupation Procedures

Simulation of Solar Thermal Hybrid Heating System Using Neural Artificial Network

[1]Eman A. Abdelhafez, Al-Zaytoonah University of Jordan
eman.abdelHafez@zuj.edu.jo
[2]Ayat M. Salem, Al Balqa'a University Amman, Jordan
ayat.salem.1986@gmail.com
[3]Mohammad A. Hamdan, The University of Jordan, Jordan
mashamdan@yahoo.com
[4]Ahmad R. Al aboushi, Al-Zaytoonah University of Jordan
A.Aboushi@zuj.edu.jo

Abstract:

Artificial neural network (ANN) used to predict the performance of Solar Thermal Hybrid Heating System, which is used to maintain a swimming pool at 30 oC all year around.. The solar energy is collected using evacuated tubes collectors, within which water is heated up as it flows inside the tubes, before it is introduced into a heat exchanger located inside a large well insulated storage tank, where it cools down as it loses heat to water in the tank. In winter, during cloudy days, an auxiliary system (in addition to the solar thermal system) was used to provide the required heating load. Three types of auxiliary systems were used namely; natural gas, electrical power and diesel powered boiler. In addition an energy management system is used to optimize the percentage of the heating load to be supplied by each auxiliary heating system. Six inputs variables (auxiliary systems type, ambient temperature (Tamb),solar radiation intensity (Gt), wind speed (WS), relative humidity (RH), and Air pressure (AR)) are used in training NARX network. One output variable is average temperature of the pool. Previous experimental data are used to train the neural network. It was found that NARX network is very much capable to estimate the temperature distribution within each of the four layered walls with excellent accuracy .

Keywords:Hybrid Solar Thermal System, Evacuated Solar Collectors, Thermal Solar Fraction, Auxiliary System, Artificial Neural Network.

Water Loss Management in Palestine Water Distribution Networks

Samah Jabari
Palestine Polytechnic University , Palestinian Territory
samahj@ppu.edu

Abstract:

The water supply utilities (systems) should fulfill the water requirement with quantitatively and qualitatively. Drinking water systems are exposed to both natural (snowfall and flood) and manmade hazards (risks) that are common in Palestine. Among manmade risks is the water loss or Non-Revenue Water (NRW) which remains a major concern in Palestine. Levels are estimated at approximately 40 to 50 percent, which is in high levels as per the international standards. In this research work, an attempt is made to study the performance of water distribution systems in terms of NRW in Palestine taking Hebron city water distribution network as a case study. The main objective of the present research is to estimate and audit the water losses in the water distribution network of Hebron and obtained more information on current water loss prevention and management practices. The basic information has been collected from Palestinian Water Authority (PWA) and Hebron Municipality (HM) archive, and one questionnaire has been design and prepared by the researcher in order to collect the necessary data for water auditing and assess the views of stakeholder in PWA and HM (staff) on the current status of water losses and NRW in Hebron water distribution system. The analysis of water losses was carried out using water loss and auditing software developed by American Water Works Association (AWWA) version 4.2.

The results reveal that the estimated present values of water losses and non-revenue water in the Hebron city are high and reach more than 40%. The main factors that contribute to water losses are the inaccuracies in billing volumes and the method of estimating consumptions through faulty meters. Policy for water losses reduction is available in Palestine. But, it is clear that the number of qualified staffs available to carry out the activities related to leak detection is low, and there is lack of appropriate technologies for water loss reduction, and maintenance system, which should be improved for better performance of the network by decrease water losses.

Keywords: Non-Revenue Water, Water Loss, Water Auditing, Real Loss, Apparent Loss, Leak Detection, Water Meters.

Feeding of Tubas district Electricity Company's Grid by Photovoltaic Projects(Now and future)

Ishraq Jarrar, Tubas District Electricity Co

Palestinian Territory

ishraq1987@hotmail.com

الملخص

أمن طاقي؛ اتفاقية شراء الطاقة؛ الدليل الارشادي؛ المبادرة الفلسطينية للطاقة الشمسية؛ صافي القياس قطاع الكهرباء من اهم القطاعات الخدماتية، حيث يعتبر الأساس في ديمومة القطاعات الأخرى، اذ بانقطاع التيار الكهربائي يصبح المجتمع في سبات تام؛ نظرا لتوقف هذه القطاعات كليا او جزئيا. ولغاية المحافظة على هذا القطاع توجب البحث عن طرق لتوفير الطاقة الكهربائية الامنة ولمحافظة اعتمادية النظام الكهربائي ولاستمرارية التزويد. حيث سنتناول أهمية الاستثمار في قطاع الطاقة الشمسية الوطنية والاقتصادية والبيئية، وكما سنقي الضوء على اهم إنجازات شركة كهرباء منطقة طوباس في قطاع الطاقة الشمسية، والإجراءات التي تم اتباعها لمحاولة الخروج من أزمة الطاقة بالاعتماد على الطاقة الشمسيّة، مشيرين الى اهم الإرشادات الفنية المتعلقة بالأنظمة الشمسية وأثر هذه الأخيرة على جودة الكهرباء (Power Quality)في الشبكة.

كلمات مفتاحية: أمن طاقي؛ اتفاقية شراء الطاقة؛ الدليل الارشادي؛ المبادرة الفلسطينية للطاقة الشمسية؛ صافي القياس.

The Green Entrepreneurship

Wisam Shamroukh
Palestine Polytechnic University, Palestinian Territory
wisams@ppu.edu

Abstract:

This paper introduces the definition of green business and green entrepreneur. It highlights the factors distinguishing the green business and what makes green entrepreneurship different. Eco-preneurship, Enviro-preneurship, business sector and the domain in which entrepreneurs may apply or come up with feasible ideas are discussed.

The focus is on entrepreneurial ideas and projects that have three major impacts; namely environmental, economic, and societal. The basic elements of a business plan and a marketing plan are outlined. The ideas here are based mainly on the authors experience in teaching entrepreneurship and innovation with the focus on green projects and ideas.

Keywords—Green Entrepreneurship; Ecopreneurship; Enviropreneurship; Sustainability; Economy; Society.

ممارسات إدارة سلسلة التوريد الخضراء
دراسة تطبيقية على قطاع الصناعات الغذائية في فلسطين
Green supply chain management practices
Empirical Study on the food industry in Palestine

أ . سعدية "محمد شاهر" سلطان
كلية العلوم الإدارية ونظم المعلومات/ جامعة بوليتكنيك فلسطين
sultansadiyya@ppu.edu

الملخص :

تهدف هذه الدراسة إلى فحص مستوى تطبيق ممارسات إدارة سلسلة التوريد الخضراء لدى قطاع الصناعات الغذائية في فلسطين، والتحديات التي تواجهها، ولغايات ذلك تبنت الباحثة المنهج الوصفي، واعتمدت على الاستبانة لجمع البيانات من عينة البحث، واستندت إلى خمس ممارسات لسلسلة التوريد الخضراء هي: التصميم الأخضر، والتوريد الأخضر، والتصنيع الأخضر، والتوزيع الأخضر، واسترداد الاستثمار، وتوصلت إلى أن مستوى تطبيق هذه الممارسات متوسط، أعلاها للتصنيع الأخضر، وأدناها استرداد الاستثمار، وأن أبرز تحدي لتطبيق هذه الممارسات هو ضعف القوانين والتشريعات المنظمة لعمل الشركات الصناعية والإشراف على تطبيقها .

الكلمات المفتاحية: ممارسات إدارة سلسلة التوريد الخضراء، تحديات إدارة سلسلة التوريد الخضراء، قطاع الصناعات الغذائية في فلسطين.

مراجعة أدبية و رسم أجندة بحثية في مجال التسويق الأخضر

Green Marketing :Literature Review and Research Agenda

د. ديانا حسونة [1]

دائرة العلوم الادارية، كلية العلوم الادارية و نظم المعلومات ،جامعة بوليتكنك فلسطين

dhassouneh@ppu.edu

لينا أبو عيشة [2]

قسم ادارة الأعمال، كلية التمويل و الادارة

جامعة الخليل

ملخص الدراسة:

يعتبر التسويق الأخضر ترجمة لمتطلبات المسؤولية الاجتماعية والأخلاقية للتسويق، والذي يعتبر كاستجابة للتحديات البيئية المتزايدة في الزمن الجديد. عربيا بدء حديثا الاهتمام بالتسويق الأخضر على المستويين البحثي و العملي من قبل بعض الشركات الرائدة. تهدف هذه الورقة الى القاء الضوء على أهمية التسويق الأخضر من خلال القيام بمراجعة أدبية شاملة لعينة مختارة من الدراسات السابقة في هذا المجال على المستويين العالمي و العربي كما وتهدف الى دعوة الباحثين و توجيههم للقضايا البحثية التي لازالت غير مطروقة.

كلمات المفتاحية: التسويق الأخضر، مراجعة أدبية، أجندة بحثية.

Gaza Governorate Electrical Power Distribution Grid Reduction in Power Losses and Voltage Drop through Cable Sizing and Reactive Power Compensation

Eng.Hussam Awwad
Palestinian Broadcasting Corporation
Gaza, Palestine husam20111@gmail.com

Abstract

This paper introduces suggestion to reduce the losses and voltage drop by reactive power compensation and cable sizing. This losses reduction ratio, the annual saving and reducing in voltage drop is a good motivation to rehabilitate the Gaza Governorate Electrical Grid by applying this suggestion. The grid was unbalanced in most cases, there was a big difference in losses and voltage drop between balance and unbalanced load in the two feeders have been taken as a case study.

Keywords: Distribution Grid, Cable Sizing, Capacitor Bank, Reactive Power Compensation