

Oussama Rejeb: Research Fellow

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Tunisian/Married

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1. EMPLOYMENT

Sep.2018-Present: Postdoctoral Researcher

University of Sharjah (UAE); Institute of Sciences and Engineering (RISE) (UAE)

Research Project (SEWA):

- Powered solar air conditioning system
- Demand Side Management using Stand-Alone Hybrid Power Systems
- Hybrid solar PV-thermal System

Feb.2018-Aug 2018: Postdoctoral Researcher

University of Savoy Mont Blanc (France); Lacie UMR CNRS 5271 (France)

Research Project (ANTEA): Edible flowers: Innovations for the development of a cross-border sector.

Mar.2017-Jan 2018: Postdoctoral Researcher

University of Savoy Mont Blanc (France); Lacie UMR CNRS 5271(France)

Research Project (CLAY-PV): Improvement of the electrical performance for the PV module incorporating with terra cotta tile.

Sep.2014- Jan 2016: Research assistant

National Institute of Applied Sciences of Lyon -INSA Lyon, France INSA-EDF Chair

“Habitats and Energy Innovations (France)

- Modeling of a hybrid thermal-photovoltaic collector.
- Photovoltaic thermal collector coupled with energy system. (Cold-heat-electricity).

2013 – 2014: lecturer

Faculty of Science of Monastir (Tunisia)

- Fluid Mechanics Lab
- Optic lab

2. EDUCATION

Ph.D: 2016; Physic, Faculty of Science of Monastir, University of Monastir, Tunisia with two years research internship at Energy and Thermal Centre of Lyon Laboratory (French).

Dissertation: “Investigation of a photovoltaic thermal collector (PVT)”

M. Sc: 2012; Energetic engineering, National Engineers School of Monastir, University of Monastir, Tunisia.

Dissertation: “Improvement of the heat transfer inside a photovoltaic thermal collector (PVT)”

B. Sc: 2010; Physics of the solid, Faculty of Science of Monastir, University of Monastir, Tunisia

3. TEACHING

2013 – 2014: lecturer :**University of Monastir**

- Fluid Mechanics Lab
- Optic lab

2012– 2013: Lecturer: **University of Sousse**

- Analogue electronics

4. RESEARCH PROJETS

Period	Partner	Name of the project
2020-2021	National: External Research project with the UAE Ministry of Energy & Infrastructure*	Cool pavement
2018-2021	National: External Research project with Sharjah Electricity and Water Authority*	Powered solar air conditioning system (95000 AED≈21792€)
2018-2021	National: External Research project with Sharjah Electricity and Water Authority*	Demand Side Management using Stand-Alone Hybrid Power Systems (95000 AED≈21792€)
2018-2021	National: External Research project with Sharjah Electricity and Water Authority*	Hybrid solar PV-thermal System (95000 AED≈21792€)
2018	International:*	ANTÉA
2017	National: ADEME- FédESol*	CLAY-PV

***Postdoctoral Researcher**

5. MANAGEMENT

- Management and organisation of research project; quotation for external user
- Networking and creation of new collaborations

6. COLLABORATION

- Prof **Christophe Menezo**: University of Savoy Mont-Blanc (France)
- Dr **Samson Shittu**: University of Hull (UK)
- Prof **Abdelmajid Jemni**: University of Monastir (Tunisia)

7. SCIENTIFIC INTEREST

- ❖ **Bifacial solar photovoltaic collector:**
 - Evaluation of the performance of a bifacial photovoltaic module
 - Study of the effects of albedo, elevation, solar radiation, wind speed and ambient temperature meteorological, design and optical parameters.
- ❖ **Photovoltaic thermal collector:**
 - Front cooling PV module, absorber design, different cooling fluid (air, water, nanofluid), cooling PV module with thermoelectric, cooling PV module with PCM, PV module with radiative cooling, cooling PV with heat pipe, the PV module incorporating with terra cotta tile...
- ❖ **Solar Trigeneration System Based on a Hybrid concentrated Photovoltaic thermal collector (heating-electricity-cooling: absorption, adsorption, desiccant)**
- ❖ **Solar concentrated CPVT equipped with PEM electrolyzer and LiBr-H₂O absorption chiller**

8. PROGRAMMING AND SOFTWARE SKILLS

Fortran, Matlab, Turbo Pascal, Python., Solid Works, EES, Trnsys, Energyplus, Matlab, Simulink, COMSOL, Design expert, ANSYS FLUENT.

9. PROFESSIONAL SOCIETIES

- Reviewer for international journal (Energy Conversion and Management, Applied Energy)

- Sustainable Energy Development Research Group (Member, Nov 2018-present)

10. LANGUAGE AND HOBBIES

Hobbies: Sport: jogging, football, walking.

Languages: French (fluent), English (fluent) and Arabic (fluent)

11. MOST SIGNIFICANT CONTRIBUTIONS (Refereed Journal Publications: Q1) Total Impact >63:

1. **Oussama Rejeb**, Houcine Dhaou, Abdelmajid Jemni, Parameters effect analysis of a photovoltaic thermal collector: Case study for climatic conditions of Monastir, Tunisia, *Energy Conversion and Management*, Volume 89, 1 January 2015, Pages 409-419. (IF:8.208)
2. **Oussama Rejeb**, Houcine Dhaou, Abdelmajid Jemni. A numerical investigation of a photovoltaic thermal (PV/T) collector, *Renewable Energy*, Volume 77, May 2015, Pages 43-50. (IF:6.274)
3. **Oussama Rejeb**, M. Sardarabadi, Christophe Menezo, M. Passandideh-Fard, H. Dhaou, A. Jemni. Numerical and model validation of uncovered nanofluid sheet and tube type photovoltaic/thermal solar system. *Energy Conversion and Management*. Volume 110, 15 February 2016, Pages 367-377. (IF:8.208)
4. Abadeh, **O. Rejeb**, M. Sardarabadi, C. Menezo, M. Passandideh-Fard, A. Jemmi, Economic and environmental analysis of using metaloxides/water nanofluid in photovoltaic thermal systems (PVTs), *Energy* 159 (2018) 1234-1243. (IF:6.082)
5. **Oussama Rejeb**, Leon Gaillard, Stephanie Giroux-Julien , Chaouki Ghenai, Abdelmajid Jemni, Maamar Bettayeb, Christophe Menezo. Novel solar PV/Thermal collector design for the enhancement of thermal and electrical performances. *Renewable Energy*. 146 (2020)610-627. (IF:6.274)
6. **Oussama Rejeb**, Chaouki Ghenai, Mohamed Hedi Jomaa, Maamar Bettayeb. Statistical study of a solar nanofluid photovoltaic thermal collector performance using response surface methodology. *Case studies in thermal Thermal Engineering* (accepted). (IF:4.010)
7. **Oussama Rejeb**, Samson Shittu, Chaouki Ghenai, Guiqiang Li, Xudong Zhao, Maamar Bettayeb, Optimization and performance analysis of a solar concentrated photovoltaic-thermoelectric (CPV-TE) hybrid system, *Renewable Energy*, Volume 152, 2020, Pages 1342-1353. (IF:6.274)
8. **Oussama Rejeb**, Chaouki Ghenai, Maamar Bettayeb. Modeling and Simulation Analysis of Solar Absorption Chiller Driven by Nanofluid-based Parabolic Trough Collectors (PTC) under Hot Climatic Conditions. *Case studies in thermal Thermal Engineering* (accepted). (IF:4.010)
9. **Oussama Rejeb** et al. Numerical Analysis of Passive Cooled Ultra-High Concentrator Photovoltaic Cell Using Optimal Heat Spreader Design. *Case Studies in Thermal Engineering* (accepted). (IF:4.010)
10. **Oussama Rejeb**, Mohamed S.Yousef, Chaouki Ghenai, Hamdy Hassan, Maamar Bettayeb. Investigation of a solar still behaviour using response surface methodology. *Case Studies in Thermal Engineering* (accepted). (IF:4.010)
11. Fahad Faraz Ahmad, Chaouki Ghenai, Abdul Kadir Hamid, **Oussama Rejeb**, Maamar Bettayeb. Performance Enhancement and Infra-Red (IR) Thermography of Solar Photovoltaic Panel Using Back Cooling from the Waste Air of Building Centralized Air Conditioning System. *Case Studies in Thermal Engineering* (accepted). (IF:4.010)

12. CONFERENCES

1. **O.REJEB**, H.Dhaou A.Jemni, Etude du transfert de la chaleur dans un capteur photovoltaïque thermique (PV/T), JTET2013, Sousse-Tunisie 29 Novembre - 1er Déc. 2013.
2. **O.REJEB**, H.Dhaou A.Jemni, Numerical study a Photovoltaic thermal (PV/T) collectors, the fourth International Renewable Energy Congress «IREC2012 » Décembre 20-21-22 .2012.
3. **O.REJEB**, H.Dhaou A.Jemni, Etude paramétrique de trois différentes configurations de capteurs solaires photovoltaïques thermiques (PV/T), 16ème Edition des Journées Internationales de Thermique « JITH2013 » Marrakech- Maroc 13, 14 et 15 Novembre 2013.
4. Mohamed Houcine DHAOU, **O.REJEB**, Insaf. ZOMMIT, Aymen. SOUHLIA, Jemni Abdelmajid, SASSI. Ben Nasrallah. Caractérisation expérimentale d'un réacteur métal-hydrogène fabriqué en Aluminium, 16ème Edition des Journées Internationales de Thermique « JITH2013 » Marrakech- Maroc 13, 14 et 15 Novembre 2013.
5. **O. REJEB**, Christophe Ménézo, M. Houcine Dhaou, Abdelmajid Jemni, Contribution à l'étude de l'amélioration de performance de capteur photovoltaïque thermique (PV-T) - XII ème Colloque Interuniversitaire Franco-Québécois sur la Thermique des Systèmes. Sherbrooke 8-10 juin 2015.
6. **O. REJEB**, Christophe Menezo, Mohamed Houcine Dhaou, Abdelmajid Jemni. Etude d'un capteur solaire photovoltaïque thermique en utilisant le nanofluide comme un fluide caloporteur. 17ème Edition des Journées Internationales de Thermique « JITH2015 » 28, 29 et 30 Octobre 2015, Marseille, France.

7. **O. REJEB**, Christophe Ménézo, M. Houcine Dhaou, Abdelmajid Jemni, Contribution à l'étude de l'amélioration de performance de capteur photovoltaïque thermique (PV-T) - XII ème Colloque Interuniversitaire Franco-Québécois sur la Thermique des Systèmes. Sherbrooke 8-10 juin 2015.
8. **O. REJEB**, Christophe Ménézo, M. Houcine Dhaou, Abdelmajid Jemni, Etude **comparative des différents capteurs photovoltaïques thermiques pour la production d'eau chaude sanitaire- Congrès jnes 2015 du 1er au 3 juillet 2015.**
9. **O. REJEB**, Christophe Ménézo, M. Houcine Dhaou, Abdelmajid Jemni, Etude comparative des différents capteurs photovoltaïques thermiques pour la production d'eau chaude sanitaire- Congrès jnes 2015 du 1er au 3 juillet 2015.
10. **O. REJEB**, Juan Alvarez-Labrador, Stéphanie Giroux—Julien, Christophe Ménézo. Etude des performances thermiques et électriques des tuiles PVs ventilés- Congrès jnes 2017 du 13-15 juin 2017.
11. **O. REJEB**, Aicha haj HASSEN, Christophe MENEZO. Le projet ANTEA/ modélisation numérique et gestion du climat d'une serre solaire pour la croissance et de la production de fleurs comestibles. Congrès jnes 2018 du 27-29 juin 2018
12. C. Ghenai, **O. Rejeb**, M. Bettayeb. Performance of Solar Lithium Bromide Water Absorption Air-Conditioning System for a Conference Hall in Hot Desert Climates. ICMSAO 19. Apr. 15 - 17, 2019. Bahrain.
13. **O. Rejeb**, C.Ghenai, A. Jemni, M. Bettayeb. Performance Assessment of a Solar Photovoltaic Thermal Heat Pipe Collector under Hot Climate: A Case Study. ASET19.

13. REFERENCES

- **Prof Christophe Menezo:** University of Savoy Mont-Blanc (France); Email: christophe.menezo@univ-smb.fr
- **Prof Chaouki Ghenai:** University of Sharjah (UAE); Email: cghenai@sharjah.ac.ae
- **Prof Abdelmajid Jemni:** University of Monastir (Tunisia); Email: abdelmajidjemni1@gmail.com