Research and Technology Center of Energy
Thermal Processes Laboratory
Technopole of Borj Cedria
Hammam Lif - B.P. 95
2050 - Tunisia

salwa.bouadila@crten.rnrt.tn
bouadilasalwa@yahoo.fr
Phone: +21679325588
Mobile: +21697772206
Fax: +21679325825
Website: www.crten.rnrt.tn

Curriculum Vitae

Salwa BOUADILA, Assistant Professor

https://www.researchgate.net/profile/Salwa_Bouadila

Personal Information

Nationality	Tunisian
Date and place of birth	10/04/1978 Ben Arous - Tunisia
Personnel Address	Appartement B 4.3 Residence SAINT GERMAIN of Boumhel 2097- Tunisia
Marital status	Married
Passport	01-08-2016/31-07-2021

Education

Sep 2011 – Jan 2015 **University of Tunis El Manar / Faculties of Science of Tunis**
Phd defended and awarded with outstanding honors (Jan 2015), Ph.D. in **Physics** entitled: "*latent storage solar energy in low enthalpy application*" realized in the Research and Technologies Center of Energy of Tunisia.

Oct 2008 – Oct 2010 **National Institute of Applied Science and Technology, Tunisia**
Master's Degree in "*Energy and Transfers*", with honors (Oct 2010).

Sep 2002 – Jun 2005 **National Engineering School of Monastir**
Engineer Degree, Energy Engineering Option: Energy System, with honors mentions (Jun 2005).

Research Experience

Oct 2015-Present **Assistant Professor** in Thermal Processes Laboratory, Research and Technology Center of Energy; Technopole of Borj Cedria, Tunis, Tunisia
The Research and Technology Center of Energy is a technological platform where pilot R&D actions play a significant role in the accompaniment and the development of the innovating companies working in the various renewable energy sectors.

Jan 2006 – Oct 2015 **Energy engineer** in Thermal Processes Laboratory, Research and Technology Centre of Energy.

Jan 2010 – Jan 2015 **Graduation Phd Project**
Ph.D. in Physics entitled: "*Latent storage solar energy in low enthalpy applications*".

Jan 2009 – Sep 2010 **Graduation Master Project**

Master project entitled:" *Thermal energy study of latent heat of fusion: Application in the solar water collector*".

Feb-Jun 2005 **Graduation Engineer Project**

Teaching experience

Feb 2019 – Jun 2019 Assistant professor in the Faculties of Science of Tunis– Tunisia.

Course: *Simulation of energy production systems for Energy Professional Master undergraduate students.*

Feb 2019 – Jun 2019 Assistant professor in the Faculties of Science of Bizert– Tunisia.

Course: *Petroleum Refinery Processing for Energy undergraduate students.*

Feb 2018 – Jun 2018 Assistant professor in the Faculties of Science of Bizert– Tunisia.

Course: *Petroleum Refinery Processing for Energy undergraduate students.*

Feb 2017 – Jun 2017 Assistant professor in the Faculties of Science of Bizert– Tunisia.

Course: *Petroleum Refinery Processing for Energy undergraduate students.*

Oct 2016 – Jan 2017 Assistant professor in the University of Cartage, ISSTE of Borj Cedria; Energy and Environment – Tunisia.

Course: *Thermal Storage of Energy for Energy Master students.*

Oct 2016 – Jan 2016 Assistant professor in the Faculties of Science of Bizert– Tunisia.

Course: *Petroleum Refinery Processing for Energy undergraduate students.*

Feb 2016 – Jun 2016 Assistant professor in the Faculties of Science of Bizert– Tunisia.

Course: *Petroleum Refinery Processing for Energy undergraduate students.*

Oct 2013 – Jun 2014 Assistant in the University of Cartage, ISSTE of Borj Cedria; Energy and Environment – Tunisia.

Practical work: *Optical physics for Environmentally undergraduate students.*

Oct 2012 – Jun 2013 Assistant in the University of Cartage, ISSTE of Borj Cedria; Energy and Environment – Tunisia.

Practical work: *Fluid Mechanics and Hydraulics for Environmentally undergraduate students.*

Awards & Grants

Feb 1st - Mar 27th, 2016. Certificate to completed the online course **"Powering Agriculture - Sustainable Energy for Food"**.

This MOOC was offered by the global initiative "Powering Agriculture – An Energy Grand Challenge for Development" (PAEGC) in cooperation with TH Köln – University of Applied Sciences. It dealt with the key questions of how we can produce more food while using less energy, how agriculture can become energy-smart, and how energy technologies can provide efficient and sustainable power to agricultural processes.

Dec 2014 **Award the 2nd Prize** for the best scientific research on renewable energy in 2014, awarded by Federation of Arab Scientific Research Councils FASRC researchers in the Arab world.

Dec 2013 **Award the 2nd ALESCO Prize** for Innovation and Creativity Techniques in 2013, awarded by the Arab Organization for Education, Culture and Science ALECSO young researchers.

Oct 2013 Awarded the Desert Energy Best Paper by the DII-EUMENA (2013) recognized outstanding academic work in the field of renewable energy in North African and Middle Eastern deserts.

Patents Ref. TN 2012/0341

FARHAT Abdelhamid, **BOUADILA Salwa**, KOOLI Sami, LAZAAR Mariem, CRTEn – Technopole de Borj Cedria - Tunis (TN).

Title: (EN) Solar air heater collector with heat storage absorbent: to product hot air, instantaneous for day-use, and delayed for night-use.

Skills & Activities

Skills Renewable energy, Solar Energy, Solar collector, Solar greenhouse, latent storage energy, Energy Efficiency, Exergy Efficiency, Solid/liquid State Physics, Phase Change Materials (PCM), Fluid Dynamics, Heat Exchangers.

Education /Work fields Heat Transfer and Mass Transfer, Fluid Flow, Thermodynamics, Renewable Energy Systems, Solar energy, Energy conversion, Dynamics Fluid, Two-phase flows, heat transfer advanced, Scientific computing, Modeling and optimization.

Computer Skills

Good knowledge of: Microsoft Word, Microsoft Excel, Microsoft Front Page, Microsoft PowerPoint, Access, Publisher

Programming languages: C++, turbo Pascal, MATLAB/Simulink, Fluent, MAPLE, Visual C++, HPVEE, LoggerNet, FORTRAN,

Software: AUTO CAD, C++, VB, Solo, Fluent (beginner)

Languages

***Arabic*:** mother tongue

***English*:** fluent, written and spoken

***French*:** fluent, written and spoken

Publication Highlights

Book Chapter (2)

1. **Salwa BOUADILA**, Rim Ben Ali: *Low-Cost Systems for Agriculture Energy Management in Tunisia. Low Carbon Energy Supply*, 06/2018: pages 69-90; , ISBN: 978-981-10-7325-0, DOI:10.1007/978-981-10-7326-7_5.
2. Safa SKOURI, **Salwa BOUADILA:** *Optical Analysis of Solar Concentrators Using Photogrammetry Process*. Recent Advances in Applied Thermal Imaging for Industrial Applications, Edited by V. Santhi, 03/2017: Chapter 7: pages 175-201; IGI Global Reference Books., ISBN: ISBN13: 9781522524236| ISBN10: 1522524231| EISBN13: 9781522524243, DOI:10.4018/978-1-5225-2423-6.ch007.

Journal Publications (28)

1. **Salwa Bouadila**, Sami Kooli, Mariem Lazaar, Safa Skouri, Abdelhamid Farhat: *Performance of a new solar air heater with packed-bed latent storage energy for nocturnal use*. **Applied Energy** 110:267–275.
2. **Salwa Bouadila**, Mariem Lazaar, Safa Skouri, Sami Kooli, Abdelhamid Farhat: *Assessment of the greenhouse climate with a new packed-bed solar air heater at night, in Tunisia*. **Renewable and Sustainable Energy Reviews** 2014; 35:31–41.
3. **Salwa Bouadila** Mariem Lazaar, Safa Skouri, Sami Kooli, Abdelhamid Farhat: *Improvement of the greenhouse climate using a solar air heater with latent storage energy*. **Energy** 2014; 64:663-672.
4. **Salwa Bouadila,** Mehdi Fteiti, Mohamed Mehdi Oueslati, Amenallah Guizani, Abdelhamid Farhat: *Enhancement of latent heat storage in a rectangular cavity: Solar water heater case study*. **Energy Conversion and Management** 2014; 78:904-912.
5. **Salwa Bouadila**, Mariem Lazaar, Safa Skouri, Sami Kooli, Abdelhamid Farhat: *Energy and exergy analysis of a new solar air heater with latent storage energy.* **International Journal of Hydrogen Energy**, 27:1–9.
6. **Salwa Bouadila**, Safa Skouri, Sami Kooli, Mariem Lazaar, Abdelhamid Farhat: *Solar energy storage application in Tunisian greenhouse by means of phase change materials.* **IEEE** 978-1-4799-2516-2/14/$31.00 ©2014.
7. **Salwa Bouadila**, M Fteiti, M M Ouslati, A A Guizani, S Ben Nasrallah: *Study of storage thermal energy of latent heat Application to the solar collector*. **Revue des Energies Renouvelables** 2011; Vol. 14 N°1:13–20.
8. Sara Baddadi, **Salwa Bouadila**, Wahid Ghorbel, AmenAllah Guizani: *Autonomous greenhouse microclimate through hydroponic design and refurbished thermal energy by phase change material*. **Journal of Cleaner Production** 11/2018; 211., DOI:10.1016/j.jclepro.2018.11.192
9. Rim Ben Ali, **Salwa Bouadila**, Abdelkader Mami: *Development of a Fuzzy Logic Controller applied to an agricultural greenhouse experimentally validated*. **Applied Thermal Engineering** 08/2018; 141(2018)., DOI:10.1016/j.applthermaleng.2018.06.014

10. Rim Ben Ali, Maughal Ahmed Ali Baig, **Salwa Bouadila**, Abdelkader Mami: *Energy Management of A Small-Scale Wind Turbine System Combined with Battery Storage System*. DOI:10.24247/ijmperdjun2018121.
11. Douja Sellami, Hassen Boughanmi, **Salwa Bouadila**, Abdelwahed Ghorbel, Asma Ben Salem-Fnayou: *Comparative study of the performance of two greenhouse heating ways: Solar air heater and a heat pump*. **Heat Transfer Research** 01/2018;, DOI:10.1615/HeatTransRes.2018026690
12. Douja Sellami, **Salwa Bouadila**, Asma Ben Salem Fnayou, Abdelwehed Ghorbel: *Agronomic and Physiological Performances of Tomato (Lycopersicum esculentum L.) Under Latent Storage Solar Air Heating Conditions*. DOI:10.4172/2576-1463.1000209
13. Nessim Arfaoui, **Salwa Bouadila**, Amenallah Guizani: *A highly efficient solution of off-sunshine solar air heating using two packed beds of latent storage energy*. **Solar Energy** 10/2017; 155:1243-1253., DOI:10.1016/j.solener.2017.07.075
14. Aymen El Khadraoui, **Salwa Bouadila**, Sami Kooli, Abdelhamid Farhat, Amenallah Guizani: *Thermal behavior of indirect solar dryer: nocturnal usage of solar air collector with PCM*. **Journal of Cleaner Production** 02/2017 ; DOI:10.1016/j.jclepro.2017.01.149.
15. Aymen EL Khadraoui, **Salwa Bouadila**, Sami Kooli, Amenallah Guizani, Abdelhamid Farhat: Solar air heater with phase change material: An energy analysis and a comparative study. **Applied Thermal Engineering** 07/2016; 107. DOI:10.1016/j.applthermaleng.2016.07.004
16. Mariem Lazaar, **Salwa Bouadila,** Sami Kooli, Abdelhamid Farhat: *Conditioning of the tunnel greenhouse in the north of Tunisia using a calcium chloride hexahydrate integrated in polypropylene heat exchanger*. **Applied Thermal Engineering** 2014; 68:62–68.
17. Sami Kooli, **Salwa Bouadila**, Mariem Lazaar, Abdelhamid Farhat: *The effect of nocturnal shutter on insulated greenhouse using a solar air heater with latent storage energy*. **Solar Energy** 2015; 115: 217–228.
18. Safa Skouri, Abdessalem Ben Haj Ali, **Salwa Bouadila**, Mohieddine Ben Salah, Sassi Ben Nasrallah: *Design and construction of sun tracking systems for solar parabolic concentrator displacement*. **Renewable and Sustainable Energy Reviews** 07/2016; 60:1419-1429.
19. Mohamed Chafie, Mohamed Fadhel Ben Aissa, **Salwa Bouadila**, Moncef Balghouthi, Abdelhamid Farhat, Amenallah Guizani: *Experimental investigation of parabolic trough collector system under Tunisian climate: Design, manufacturing and performance assessment.* **Applied Thermal Engineering** 02/2016.
20. Safa Skouri, **Salwa Bouadila**, Mohieddine Ben Salah, Sassi Ben Nasrallah: *Comparative study of different means of concentrated solar flux measurement of solar parabolic dish*. **Energy Conversion and Management** 2013; 76:1043-1052.
21. Hassen Boughanmi, Mariem Lazaar, **Salwa Bouadila**, Abdelhamid Farhat: *Thermal performance of a conic basket heat exchanger coupled to a geothermal heat pump for greenhouse cooling under Tunisian climate*. **Energy and Buildings** 10/2015; 104(1):87–96.

22. Safa Skouri, Abdessalem Ben Haj Ali, **Salwa Bouadila**, Sassi Ben Nasrallah: *Optical qualification of a solar parabolic concentrator using photogrammetry technique*. **Energy** 08/2015; 90. DOI:10.1016/j.energy.2015.07.047.
23. Safa Skouri, Mohieddine Ben Salah, **Salwa Bouadila**, Moncef Balghouthi, Sassi Ben Nasrallah: *Optical, geometric and thermal study for solar parabolic concentrator efficiency improvement under Tunisia environment: A case study*. **Energy Conversion and Management** 2013; 75:366–373.
24. Safa Skouri, **Salwa Bouadila**, Mohieddine Ben Salah, Sassi Ben Nasralla: *Experimental study of two types of solar heat exchanger used to determine concentrated solar energy in solar parabolic concentrator*. **IEEE** 978-1-4799-2516-2/14/2014.
25. Safa Skouri, **Salwa Bouadila**, Sassi Ben Nasrallah: *Economical and efficient automatic sun tracking system used to handle solar parabolic concentrator*. **International Journal of Scientific Research & Engineering Technology** Vol.2, ISSN: 2356-5608.
26. **Salwa Bouadila**, Safa Skouri, Mariem Lazaar: *Experimental characterizations of a new solar air heater with packed-bed latent storage energy*. **IEEE,** DOI:10.9790/1684-16053025559
27. Karima Ghazouani, Safa Skouri, **Salwa Bouadila**, Amenallah Guizani: Thermal Study of Solar Parabolic Concentrator. **IEEE** , DOI:10.9790/1684-1605304118123
28. Safa skouri, **Salwa bouadila**, Sassi Ben Nassrallah: *Improvement of Solar Parabolic Concentrator Thermal Efficiency Correlated To Different Factors*. **IEEE,** DOI:10.9790/1684-16053026773.

Conference Proceedings (18)

1. **Salwa Bouadila**, Safa Skouri, Sami Kooli, Mariem Lazaar, Abdelhamid Farhat: *Experimental study of two insulated solar greenhouses one of them use a solar air heater with latent heat*. 6th International Renewable Energy Congress (IREC 2015); 03/2015, DOI:10.1109/IREC.2015.7110873.
2. Safa Skouri, **Salwa Bouadila**, Sassi Ben Nasrallah: *Estimating intercept factor of a solar parabolic dish with photogrammetric equipment*. Renewable Energy Congress (IREC), 2015 6th International; 03/2015.
3. Safa Skouri, **Salwa Bouadila**, Sassi Ben Nasrallah: *Contribution of the study of solar concentrated technologies under Tunisia environment. Energy, Water, Climate Change Building Bridges between Europe and MENA and between Generations*, The Cyprus Institute, Nicosia, Cyprus; 06/2015.
4. **Salwa Bouadila**, Safa Skouri, Sami Kooli, Mariem Lazaar, Abdelhamid Farhat; Oral Communication in the International Conference on Composite Materials & Renewable Energy Applications, (ICCMREA'2014), January 2014, Sousse, Tunisia, *"Solar energy storage application in Tunisian greenhouse by means of phase change materials".*
5. **Bouadila Salwa**, Skouri Safa, Kooli Sami, Mariem Lazaar, Abdelhamid Farhat; Oral Communication in the International Conference on Renewable Energy (CIER'13), December 2013 Sousse, Tunisia, *"Energy analysis of a New Solar Air Heater with Latent Storage Energy*".

6. **Salwa Bouadila**, Sami Kooli, Safa Skouri, Abdelhamid Farhat; Communication in the 12th Tunisian Japanese Symposium on Science, Society and Technology, (TIJAST 2013) November 2013, Hamammet – Tunisia, *"The effect of nocturnal shutter on insulated greenhouse microclimate"*.
7. **Salwa Bouadila**, Sami Kooli, Mariem Lazaar, Safa Skouri, Abdelhamid Farhat; Communication in the 4th Dii DESERT ENERGY CONFERENCE, 30-31 Octobre 2013 à Rabat – Maroc. "*Performance of a New Solar Air Heater with Packed-Bed Latent Storage Energy for Nocturnal Use*".
8. **Salwa Bouadila**, Mohamed Mehdi Oueslati, Mehdi Fteït, Amenallah Guizani, Abdelhamid FARHAT; Oral Communication in the 4th International Renewable Energy Congress (IREC 2012), December 2012 Sousse, Tunisia, "*Experimental and numerical investigation of a solar water heater with latent storage cavity*".
9. **Bouadila Salwa**, Lazaar Mariem, Farhat Abdelhamid ; Communication in the 13 éme congrès de la Société Française de Génie des Procédés SFGP du 29/11 au 01/12 2011, Lille grand palais France, *"Étude expérimentale du stockage thermique par chaleur latente dans un capteur solaire sous vide"*.
10. **Bouadila Salwa**, Fteiti Mehdi, Ouslati Mouhamed mehdi, Guizani amen Allah, Ben Nasrallah Sassi ; Communication in the 7émes Journées Tunisiennes sur les Ecoulements et les Transferts, du 20 au 22 Décembre 2010 à Tozeur, Tunisie, *"Etude de stockage de l'énergie thermique par chaleur latent : application capteur solaire"*.
11. **Salwa Bouadila**, Safa Skouri, Sami Kooli, Meriem Lazaar, Abdelhamid Farhat; 16èmes Journées Internationales de Thermique (JITH 2013), Marrakech, Maroc; 11/2013, *"Experimental investigation of a new solar air heater with packed-bed latent storage energy "*.
12. Safa Skouri, **Salwa Bouadila**, Sassi Ben Nasrallah; Communication in the International Conference on Composite Materials & Renewable Energy Applications, (ICCMREA'2014), January 2014, Sousse, Tunisia, "*Experimental study of two types of solar heat exchanger used to determine concentrated solar energy in solar parabolic concentrator*".
13. Skouri Safa, **Bouadila Salwa**, Sassi Ben Nassrallah; Communication in the International Conference on Renewable Energy (CIER'13), December 2013 Sousse, Tunisia, *"Economical and efficient automatic sun tracking system used to handle solar parabolic concentrator*".
14. Safa Skouri, **Salwa Bouadila**, Mohieddine Ben Salah, Sassi Ben Nasrallah; Communication in the 12th Tunisian Japanese Symposium on Science, Society and Technology, (TIJAST 2013) November 2013, Hamammet – Tunisia, *"Optical and photogrammetry study of parabolic dish concentrator"*.
15. Safa SKOURI, **Salwa BOUADILA**, Mohieddine BEN SALAH, Sassi BEN NASRALLAH, 16èmes Journées Internationales de Thermique (JITH 2013), Marrakech, Maroc; 11/2013, *"Optical and photogrammetry study of parabolic dish concentrator "*.
16. Rania RAMZI, **Salwa BOUADILA**, Amen Allah GUIZANI, Ridha ABID ; Vème Congrès International sur les Energies Renouvelables et l'Environnement, 04-06 Novembre, 2010, Sousse, Tunisie "*Stockage thermique par chaleur latente dans un capteur solaire sous vide*".

17. Douja Sellami, **Salwa BOUADILA**,, Hassen Boughanmi, Asma Ben Salem-Fnayou: *Comparative Study of the Performance of Two Heating Ways in the Greenhouse Production*. 5th International Conference on Green Energy and Environmental Engineering (GEEE-2018); 07/2018
18. Karima Ghazouani, Safa Skouri, **Salwa BOUADILA**,, Aman Allah Guizani: *Thermal study of solar parabolic trough concentrator.* 2018 9th International Renewable Energy Congress (IREC); 03/2018, DOI:10.1109/IREC.2018.8362474.

SCI and SCI Expanded Journal Referee's (8)

Energy - Heat and Mass Transfer- Energy and Buildings - Solar Energy – Applied Energy - Renewable and Sustainable Energy Reviews - Applied Thermal Engineering - Energy Conversion and Management.

Thesis Co-supervisor (4)

1. **Aymen ELKHADRAOUI,** Experimental study of a solar dryer, 2013.
2. **Nassim ARFAOUI**, Bond-Graph modeling of a latent thermal storage in the greenhouse application, 2014.
3. **Hela BEN AMARA**; Characterization and simulation of the thermo-energy behavior of a greenhouse: case studies, 2017.
4. **Sarra BADDADI**, Energetic and climatic optimization under hydroponic greenhouse: Integration of renewable energy, 2017.

Invited speakers (2)

1. International Advisory Board of the International Conference, December 10th & 11th 2016 at CMR Technical Campus, Hyderabad, India.
   Website: http://www.cmrtc.ac.in/icam2k16
2. Invited speakers in the 8th International Advanced Technologies Symposium IATS'17; October 19-22, 2017 at Fırat University, Elazığ, Turkey (IATS'17).
   Website: http://iats17.firat.edu.tr/index.php/invited