

Curriculum Vitae

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Profile:

- **Research projects manager**

- **Projet 1 : " Installation et expérimentation d'un système hybride Photovoltaïque-éolien "**. 2014-2016.
- **Projet 2 : " Contribution à l'étude de la faisabilité technique et la rentabilité économique d'un système énergétique multi sources injecté au réseau "**. 2017-2021.

Sous Projet : " **Etude de la faisabilité technique et la rentabilité économiques d'un système hybride (éolien-photovoltaïque-thermique) dans un climat Saharien "**. 2022-2025.

Scientific Interests:

Wind system, solar photovoltaic system and hybrid (wind -photovoltaic) energy system

Scientific Production:

1. International Publications

- **R. Maouedj, S. Bousalem et B. Benyoucef; « Estimation du potentiel énergétique éolienne sur les sites de Tlemcen et d'Adrar ».** Revue Internationale d'héliotechnique énergie - environnement - N° 36B (2007). 37-42. France.
- **R. Maouedj, S. Bousalem et B. Benyoucef ; « Etude des performances d'un système de pompage photovoltaïque au fil du Soleil ».** Revue de l'Union des professeurs de physique et de chimie UPPC, Vol. 102, 41- 57. Janvier 2008. France.
- **R. Maouedj, S. Bousalem et B. Benyoucef; « Optimisation d'un système de pompage éolien. Application aux sites sahariens ».** Revue des Energies Renouvelables Vol. 11 N°2 (2008) 239 – 250. CDER. Alger. Algérie.

- S. Bousalem **R. Maouedj**, and B. Benyoucef; « **Optimizing the integrate output of a wind electric water pumping system** ». International Scientific Journal for Alternative Energy and Ecology. Russia. № 5 (61), 57-61. 2008.
- **R. Maouedj**, S. Bousalem et B. Benyoucef ; « **Etude des performances d'un système de conversion éolienne. Application au site d'Adrar** ». PCN. Volume 45 Janvier 2009. Pages: 91-100. Maroc.
- **R. Maouedj** et B. Benyoucef; « **Probabilistic methods for the evaluation of the performance and reliability of wind energy systems** ». Revue international d'héliotechnique N° 39 (2009) 26-31. France.
- **R. Maouedj**, S. Bousalem, Y. Hadji et B. Benyoucef; « **Wind energy resource assessment for Algeria** ». Revue technologique et scientifique COST. N°8, 9-15. 2010. Oran. Algérie.
- **R. Maouedj** and B. Benyoucef; « **A statistical analysis of wind power density based on the Weibull and Rayleigh models at six regions of Algeria** ». International Review of Physics. Italy. Vol. 4 N°6, 209-297. December 2010.
- **R. Maouedj**, S. Diaf and B. Benyoucef; « **Wind Characteristics Analysis for Selected Site in Algeria** ». International Journal of Computer Applications (0975–8887). Vol. 56–N°5, October 2012. DOI: 10.5120/8890-2896.
- **R. Maouedj**, A. Mammeri, M.D. Draou and B. Benyoucef; « **Performance evaluation of hybrid Photovoltaic-Wind power systems** ». Energy Procedia. Vol. 50, 2014, Pages 797–807. <https://doi.org/10.1016/j.egypro.2014.06.098>.
- **R. Maouedj**, A. Mammeri, M.D. Draou and B. Benyoucef; « **Techno-economic analysis of a standalone hybrid photovoltaic-wind system. Application in electrification of a house in Adrar region** ». Energy Procedia. Vol. 74, August 2015, Pages 1192–1204. <https://doi.org/10.1016/j.egypro.2015.07.762>.
- **R. Maouedj**, A. Mammeri and B. Berbaoui; « **Wind power statistics and an evaluation of wind energy density in Algeria** ». International Journal of Control, Energy and Electrical Engineering (CEEE), Vol.3-Issue.2 – 2016, pp.37-44.
- Miloud Benmedjahed, **Rachid Maouedj**, Samir Mouhadjer; « **Wind turbine selection and wind farm design in Tindouf** ». International Journal of Renewable Energy, Vol. 12, No. 1, January - June 2017.
- Djamel Saba, Housseem Eddine Degha, Brahim Berbaoui, Fatima Zohra Laallam, **Rachid Maouedj**; « **Contribution to the modeling and simulation of multiagent systems for energy saving in the habitat** ». International Conference on Mathematics and information Technology, Adrar, Algeria – December 4 - 5, 2017. DOI: [10.1109/MATHIT.2017.8259718](https://doi.org/10.1109/MATHIT.2017.8259718)

- Miloud Benmedjahed, **Rachid Maouedj**, Samir Mouhadjer; « **Wind Potential Assessment of M'sila in Algerian Highlands Regions; Modeling of Wind Turbine Noise** ». Energy Procedia Volume 119, July 2017, Pages 642-649 119. <https://doi.org/10.1016/j.egypro.2017.07.090>.
- Y. Marif, B. Hebbal and **R. Maouedj**; « **Empirical models for estimating solar radiation in Algeria: A review and case study** ». Revue des Energies Renouvelables Vol. 21 N°4 (2018) 651 – 660. **DOI:** <https://doi.org/10.54966/jreen.v21i4.718>
- **R. Maouedj**, M. Benmdjahed, D. Saba, A. Mamemri, B. Barbaoui, et S. Bezari, « **Experimental Analysis of a Stand-alone Wind-photovoltaic Hybrid System in the Sahara Desert** », European Journal of Electrical Engineering. Vol. 21, No 1, P. 93-97, 2019. **DOI:** <https://doi.org/10.18280/ejee.210114>.
- Saba D, Sahli Y, Abanda FH, **Maouedj R** and Tidjar B; « **Development of new ontological solution for an energy intelligent management in Adrar city** ». Sustainable Computing: Informatics and Systems 21:189–203. **doi:** [10.1016/J.SUSCOM.2019.01.009](https://doi.org/10.1016/J.SUSCOM.2019.01.009). 2019.
- **Rachid Maouedj**, Ahmed Youcef, « **Impact of twisted fins on the overall performances of a rectangular-channel air-heat exchanger** », Mathematical Modelling of Engineering Problems, Vol. 7, No. 3, September, 2020, pp. 335-344. <https://doi.org/10.18280/mmep.070302>.
- Chafika Zidani, **Rachid Maouedj**, Mohamed Salmi, « **Numerical simulation of water as base fluid dispersed by Al₂O₃ aluminum oxide nano-sized solid particles with various concentrations** », Annales de Chimie - Science des Matériaux, Vol. 44, No. 4, August, 2020, pp. 231-238. <https://doi.org/10.18280/acsm.440401>.
- Asma Adda, Salah Hanini, Salah Bezari, Houari Ameer, **Rachid Maouedj**; « **Managing and Control of Nanofiltration / Reverse Osmosis Desalination System: Application of Artificial Neural Network** ». International Journal of Design & Nature and Ecodynamics Vol. 15, No. 6, December, 2020, pp. 843-853. <https://doi.org/10.18280/ijdne.150610>.
- Mohamed Salmi, Younes Menni, Ali J. Chamkha, Houari Ameer, **Rachid Maouedj**, Ahmed Youcef, « **CFD-Based simulation and analysis of hydrothermal aspects in solar channel heat exchangers with various designed vortex generators** », CMES-Computer Modeling in Engineering & Sciences, Vol.126, No.1, 2021, pp.147-173, [doi:10.32604/cmes.2021.012839](https://doi.org/10.32604/cmes.2021.012839)
- **Rachid Maouedj**, Younes Menni, Mustafa Inc, Yu-Ming Chu, Houari Ameer and Giulio Lorenzini; « **Simulating the Turbulent Hydrothermal Behavior of Oil/MWCNT Nanofluid in a Solar Channel Heat Exchanger Equipped with Vortex Generators** », CMES-Computer Modeling in Engineering & Sciences, Vol.126, N°3, 2021, pp.855-889. **DOI:** [10.32604/cmes.2021.014524](https://doi.org/10.32604/cmes.2021.014524).

- Mohamed Salmi, Abdelhakim Boursas, Mederreg Derradj, Giulio Lorenzini, Hijaz Ahmad, Younes Menni, Houari Ameer, **Rachid Maouedj**; « **Improved Heat Transfer in W-Baffled Air-Heat Exchangers with Upper-Inlet and Lower Exit** ». Mathematical Modelling of Engineering Problems Vol. 8, No. 1, February, 2021, pp. 1-9. <https://doi.org/10.18280/mmep.080101>.
- M. Benmedjahed, R. **Maouedj**, S. Mouhadjer, Y. Menni, H. Ameer, A. Dahbi, D. Saba, T. Touahri; « **Analysis of the Wind Resources in Saharan Atlas of Algeria: Adrar Region as a Case Study** ». July 2021. Iranica Journal of Energy & Environment 12(02):155-160. [DOI:10.5829/ijee.2021.12.02.08](https://doi.org/10.5829/ijee.2021.12.02.08).
- Asma Adda, Salah Bezari, Mohamed Salmi, Giulio Lorenzini, Maamar Laidi, Salah Hanini, **Rachid Maouedj**, Younes Menni, Houari Ameer, Hijaz Ahmad; « **Investigation of the Efficiency of Small-Scale NF/RO Seawater Desalination by Using Artificial Neural Network Modeling** ». International Journal of Design & Nature and Ecodynamics. Vol. 16, No. 3, June, 2021, pp. 293-299. <https://doi.org/10.18280/ijdne.160307>.
- Derradji Mederreg, Mohamed Salmi, **Maouedj Rachid**, Hijaz Ahmad, Giulio Lorenzini, Younes Menni, Houari Ameer; « **Assessment of the Resources of Wind Energy in Various Regions of Algeria**. International Journal of Sustainable Development and Planning Vol. 16, No. 4, August, 2021, pp. 641-650. <https://doi.org/10.18280/ijdsdp.160404>.
- Benaissa Mandi, Younes Menni, **Rachid Maouedj**, Giulio Lorenzini, Mohammad Hossein Ahmadi, and Sampath Emani; « **Improvement and Nocturnal Extension of the Efficiency of a Solar Still** ». International Journal of Photoenergy. Volume 2021, Article ID 6631121, 11 pages. <https://doi.org/10.1155/2021/6631121>.
- M'hammed Amar, **Rachid Maouedj**, Ali Ben Atillah, Giulio Lorenzini, Hijaz Ahmad, Younes Menni; « **Design, Construction and Experimental Testing of Solar Water Heaters under Saharan Weather Conditions** ». International Journal of Sustainable Development and Planning. Vol. 16, No. 6, October, 2021, pp. 997-1003. <https://doi.org/10.18280/ijdsdp.160601>

2. Conference Proceedings

- S. Bousalem, **R. Maouedj** et B. Benyoucef; « *Optimisation du fonctionnement d'un système de captage éolien destiné au pompage de l'eau* ». Revue des Energies Renouvelables CICME'08 Sousse (2008) 87 – 94. CDER. Alger. Algérie.
- **R. Maouedj**, K. Bouchouicha et B. Benyoucef; « *Evaluation of the wind energy potential in the Saharan sites of Algeria* », DOI: [10.1109/EEEIC.2011.5874582](https://doi.org/10.1109/EEEIC.2011.5874582). 13 June 2011, Page(s): 1 – 4. IEEE Conference Publications.
- Saba, D., Degha, H. E., Berbaoui, B., & **Maouedj, R.**; « *Development of an Ontology Based Solution for Energy Saving Through a Smart Home in the City of Adrar in Algeria* ». In M. M. (Eds. . Hassanien, A.E., Tolba, F., Elhoseny, M., Fouad (Ed.), Advances in Intelligent Systems and Computing (pp. 531–541). Springer, Cham. https://doi.org/10.1007/978-3-319-74690-6_52 (2018).

- Touahri Tahar, Aoun Noir, **Rachid Maouedj**, Slimane Laribi, Touhami Ghaitaoui; « *Design of Stand-Alone PV System to Provide Electricity for a House in Adrar, Algeria* ». IC-AIRSE'2018. In book Hatti M. (eds): Renewable Energy for Smart and Sustainable Cities. (2018). Lecture Notes in Networks and systems. Vol. 62, Springer. pp. 225-232. DOI: [10.1007/978-3-030-04789-4_25](https://doi.org/10.1007/978-3-030-04789-4_25).
- Miloud Benmedjahed, **Rachid Maouedj**; " **Assessment of Acoustic impact for the wind farm in Algeria** ". 1st Global Power, Energy and Communication Conference (GPECOM). Conference Paper. Publisher: IEEE. DOI: [10.1109/GPECOM.2019.8778498](https://doi.org/10.1109/GPECOM.2019.8778498). 29 July 2019.
- Salah Lachtar, Ahmed Bouraiou, Omar Djaafri and **Rachid Maouedj**: « *Smooth Sliding Mode-Based MPPT Algorithm for Photovoltaic Applications* ». 1st Global Power, Energy and Communication Conference (GPECOM). Conference Paper. Publisher: IEEE. DOI: [10.1109/GPECOM.2019.8778484](https://doi.org/10.1109/GPECOM.2019.8778484). 29 July 2019.
- Djamel Saba, **Rachid Maouedj**, Brahim Berbaoui, « *Contribution to the development of an energy management solution in a green smart home (EMSGSH)*». ACM Digital Library, "ICSENT'2018", [doi>10.1145/3330089.3330101](https://doi.org/10.1145/3330089.3330101).
- Brahim Berbaoui, Djamel Saba, Rachid Dehini, Abdeldjalil Dahbi and **Rachid Maouedj**, « *Optimal control of shunt active filter based on Permanent Magnet Synchronous Generator (PMSG) using ant colony optimization algorithm* ». ACM Digital Library, "ICSENT'2018", [doi>10.1145/3330089.3330110](https://doi.org/10.1145/3330089.3330110).
- Touhami Ghaitaoui, Laribi Slimane, **Rachid Maouedj**, Touahri Tahar; « *Advance Control of a Isofotón-75W Photovoltaic Module Under Matlab-Simulink* ». IEEE Xplore. IRSEC2018. DOI: [10.1109/IRSEC.2018.8703003](https://doi.org/10.1109/IRSEC.2018.8703003) . 02 May 2019.
- Abdeldjalil Dahbi; **Rachid Maouedj**; Brahim Berbaoui; Abdellatif Reama; Mehdi Adel; « *Analysis and Control of the Wind Turbine in Different Operation Modes* ». IEEE Xplore. IRSEC2018. DOI: [10.1109/IRSEC.2018.8702977](https://doi.org/10.1109/IRSEC.2018.8702977). 02 May 2019.
- M. Benmedjahed et **R. Maouedj**; « *Technical and Economic Analysis of Wind Turbine System for Isolated Location at Adrar in Algeria* ». IEEE Xplore. IRSEC2018. DOI: [10.1109/IRSEC.2018.8702948](https://doi.org/10.1109/IRSEC.2018.8702948) . 02 May 2019.
- **Rachid Maouedj**, Brahim Barbaoui, Miloud Benmedjahed, Abdelkrim Mammeri, Djamel Saba, Ghaitaoui Touhami, Laribi Slimane; « *Wind Energy Resource Assessment at three Sites in the Algerian Highlands* ». IEEE Xplore. IRSEC2018. DOI: [10.1109/IRSEC.2018.8702275](https://doi.org/10.1109/IRSEC.2018.8702275). 02 May 2019.
- M. Benmedjahed et **R. Maouedj**; « *Wind Power Assessment In Algeria; Methods Development* », IEEE Xplore. ICWEAA 2018. DOI:[10.1109/ICWEAA.2018.8605049](https://doi.org/10.1109/ICWEAA.2018.8605049). 10 January 2019.

- T. Touahri, S. Laribi, **R. Maouedj**, and T. Ghaitaoui; « *Feasibility Analysis of a Solar PV Grid-Connected System Using PVsyst Software Tools* ». Smart Energy Empowerment in Smart and Resilient Cities, Renewable Energy for Smart and Sustainable Cities. International Conference in Artificial Intelligence in Renewable Energetic Systems ICAIRES2019. <https://doi.org/10.1007/978-3-030-37207-1>. December 2019.
- Miloud Benmedjahed, **Rachid Maouedj**, Samir Mouhadjer; « *Wind energy resource assessment of desert sites in Algeria: energy and reduction of CO₂ emissions* ». International Journal of Applied Power Engineering (IJAPE). Vol.9, N^o. 1, April 2020, pp. 22~28. [DOI:10.11591/ijape.v9.i1.pp22-28](https://doi.org/10.11591/ijape.v9.i1.pp22-28).
- Miloud Benmedjahed, **Rachid Maouedj**, Samir Mouhadjer, Abdeldjalil Dahbi, Djamel Saba et Tahar Toiheri; « *Wind Energy Source Assessment for Four Locations in the Adrar Region (Southern Algeria)* ». ICIST '20: Proceedings of the 10th International Conference on Information Systems and Technologies, June 2020, Pages 1–6, <https://doi.org/10.1145/3447568.3448535>.
- Touahri Tahar, **Maouedj Rachid**, Berbaoui Brahim and Benmedjahed Miloud; « *Study and Sizing of Stand-Alone Photovoltaic System Using PVsyst Software* ». ICIST '20: Proceedings of the 10th International Conference on Information Systems and Technologies, June 2020, Pages 1–4, <https://doi.org/10.1145/3447568.3448529>.
- Younes Menni, Houari Ameer, Kamal Amghar, **Rachid Maouedj**; « *The importance of the finning technology in modernizing simple solar air-heat exchangers* ». Materials Today: Proceedings, Volume 45, Part 8, 2021, Pages 7547-7552. <https://doi.org/10.1016/j.matpr.2021.02.363>.
- Brahim Berbaoui, Djamel Saba, Rachid Dehini, Tahar Touahri, Youcef Hammaoui Abdeldjalil Dahbi, **Mouedj Rachid**; « *Optimization of shunt active filter connected to electrical network system using fuzzy logic controller based on ant colony algorithm* ». ICIST '20: Proceedings of the 10th International Conference on Information Systems and Technologies, Article No.: 11. Pages 1–7. <https://doi.org/10.1145/3447568.3448519>.
- Djamel Saba, Youcef Sahli, Brahim Berbaoui, **Rachid Maouedj**; « *Towards Smart Cities: Challenges, Components, and Architectures -A Review-* », Book title: Toward Social Internet of Things (SIoT): Enabling Technologies, Architectures and Applications. Studies in Computational Intelligence by Springer. 24 July 2019. Volume 846. pp 249-286.
- Saba, D., Sahli, Y., **Maouedj, R.**, Hadidi, A. « *Energy management based on internet of things* ». Studies in Systems, Decision and Control, 2021, 335, pp. 349–372. https://doi.org/10.1007/978-3-030-64987-6_20.
- Saba, D., Sahli, Y., **Maouedj, R.**, Hadidi, A., Medjahed, M.B. « *Towards artificial intelligence: Concepts, applications, and innovations* ». Studies in Computational Intelligence, 2021, 911, pp. 103–146. https://doi.org/10.1007/978-3-030-52067-0_6.
- Saba, D., Sahli, Y., **Maouedj, R.**, Hadidi, A., Medjahed, M.B. « *Contribution to the realization of a smart and sustainable home* ». Studies in Computational Intelligence, 2021, 912, pp. 261–290. DOI: [10.1007/978-3-030-51920-9_14](https://doi.org/10.1007/978-3-030-51920-9_14).