

Personal Information

Name: Salim **Family name:** BOULAHROUZ

Date of Birth: 16-03-1972 Place of Birth: Ain Beida (w. of Oum El Bouaghi), Algeria.

Professor in Mechanical Engineering,

Specialization: Mechanical Engineering,

Bachelor's Degree :1990, Enginner's Degree :1995, Ph.D : 2008, Professor : 2023



Professional Information

Home institution : Abbes Laghrour University - Khenchela

Faculty of Science and Technology, Mechanical Engineering Department, BP 1252, El Houriya, 40004, Algeria.



boulahrouz.salim@univ-khenchela.dz

Scientific Experience

I. Educational Activities

I.1 Teaching :

Fluid Mechanics :

- Practical work for students in the 4th year of Mechanical Engineering (1996..1998).
- Courses and tutorials for students in the 3rd year of LMD Mechanical Engineering (2009/2010).
- Courses and tutorials for students of the 3rd year PEST Mechanical Engineering (2010/2011).
- Advanced Fluid Mechanics :
- Courses and tutorials for students in the 1st year of the Master of Mechanical Engineering (2016/2024).
- Mechanical simulation software :
- Courses and practical work for students in the 2nd year of the Master's degree in Mechanical Engineering (2021/2022).

Heat transfer :

- Courses and tutorials for students in the 3rd year of Electrical Engineering (2000/2003).
- Courses,TD and TP for students of the 3rd year LMD Materials Engineering (2016/2024).
- Courses,TD and TP for students in the 3rd year LMD Mechanical Construction (2016-/2024).

Classical Thermodynamics :

- Courses, tutorials and practical work for students in the 3rd year of Mechanical Engineering (2000..2009).
- Courses and tutorials for students in the 3rd year of Electromechanical Engineering (2000..2009).
- Courses and tutorials for students in the 3(rd) year of the License Energétique (2009..2015).



<https://scholar.google.fr/citations?user=zYz6Ni4AAAAJ&hl=fr>



<https://orcid.org/0000-0001-6071-1427>

ResearchGate

<https://www.researchgate.net/profile/Salim-Boulahrouz>

- Courses and tutorials for students in the 3(rd) year of process engineering (2017/2018).
- Energy conversion
- Courses and tutorials for students in the 3(rd) year of the License Energétique (2009..2015).
- Technical Thermodynamics :
- Courses and tutorials for students in the 1st year of the Master 1 Industrial Energy program (2011..2015)

Programming techniques in Matlab I & II :

- Courses and practical work for students in the 1st year of the Master 1 in Industrial Energy (2011..2015).

Maths and Computing :

- Courses and practical work for students of the 1th year Diplôme des études Universitaires Appliquées DEUA (2001..2002).

II. Post-Graduation Supervision

- Doctoral thesis supervisor (first enrolled Oct 2018 and defended 06/06/2023).

Thesis title: Modeling heat and mass transfer in metallic foams using COMSOL software.

Student: Sid Nouredine

III. Graduation framing

- 20 engineering and DEUA diploma projects (as supervisor)
- 01 (DUEA) in 2000-01 at the Institut de Mécanique, Université de Skikda.
- 02 (DEUA) in 2001-02 at the Institut de Mécanique, Université de Skikda.
- 02 (DEUA) in 2002-03 at the Institut de Mécanique, Université de Skikda.
- 01 (ING) in 2003-04 at the Institut de Mécanique, Université de Skikda.
- 04 (ING) in 2004-05 at the Institut de Mécanique, Université de Skikda.
- 01 (ING) in 2005-06 at the Institut de Mécanique, Université de Skikda.
- 02 (ING) in 2006-07 at the Institut de Mécanique, Université de Skikda.
- 02 (ING) in 2007-08 at the Institut de Mécanique, Université de Skikda.
- 03 (ING) in 2008-09 at the Institut de Mécanique, Université de Skikda.
- 01 (ING) in 2010-11 at Institut de Mécanique, Université de Skikda.
- 01 (Master) in 2011-12 at Institut de Mécanique, Université de Skikda.
- 02 (Master) in 2012-13 at Institut de Mécanique, Université de Skikda.
- 01 (Master) in 2013-14 at Institut de Mécanique, Université de Skikda.
- 01 (Master) in 2014-15 at Institut de Mécanique, Université de Skikda.
- 01 (Master) in 2017-18 at the Department of Mechanics, Université Abbès Laghrour Khenchela.
- 01 (Master) in 2018-19 at the Department of Mechanics, Université Abbès Laghrour Khenchela.
- 02 (Master) in 2019-20 at the Department of Mechanics, Université Abbès Laghrour Khenchela.
- 02 (Master) in 2020-21 at the Department of Mechanics, Université Abbès Laghrour Khenchela.
- 02 (Master) in 2021-22 at the Department of Mechanics, Université Abbès Laghrour Khenchela.
- 01 (Master) in 2022-23 at the Department of Mechanics, Université Abbès Laghrour Khenchela.

IV. ADMINISTRATIVE ACTIVITIES

- Member of the department's Scientific Committee (CSD):
- Member of the Departmental Scientific Committee (DSC) for the periods (2000...2003), (2003..2007), (2007..2014) and (2015..2022).
- Member of Faculty Scientific Council (FSC):
- Member of the Faculty Scientific Council (FSC) (2022-2024).

V. RESEARCH ACTIVITIES

Research projects :

- Doctoral training research project (PRFU - Since 01/01/2021). Project code: A11N01UN400120210003
Title: Study of the thermal performance of metal foam heat sinks: design, modeling, numerical simulation and experimental validation.
- Team leader: "Electrical networks and systems" (2018...2024)
Electromechanical Engineering Laboratory, Université Badji Mokhtar Annaba.
- University-company cooperative research project: (December 19, 2021)

University - SONATRACH company cooperation research project on renewable energies.
Project title : "Improving the energy efficiency of adsorption solar refrigeration systems by using metal foams on heat exchange surfaces".

Research internships :

- Internship at the Condensed Matter Physics Laboratory (September 2005), theme: "Bibliographic Research".
- Internship at the CETHIL thermics laboratory in Lyon (December 2008), topic: "Study of the performance of LHP loops used for cooling embedded electronic components".
- Internship at the Grenoble Electrical Engineering Laboratory (G2Elab), Grenoble Polytechnic Institute (February 17 - March 17, 2012), topic: "Modeling heat transfer in metallic foams".
- Internship at the Grenoble Electrical Engineering Laboratory (G2Elab), Grenoble Polytechnic Institute (April 01 - March 28, 2013), topic: "Numerical simulation using COMSOL software of heat transfer in metallic foams".
- Internship at the Heat Transfer Laboratory (ITU- Turkey), Grenoble Polytechnic Institute (September 01 - September 15, 2019), topic: "Study of the thermal performance of metallic foam heat sinks".

Published Academic Articles in the Last Year

1. S. BOULAHROUZ & A. HADDOUCHE

"Finite Volume Analysis of a Wire-On-Tube Heat Exchanger Used For Cooling Of Electronics", International Review of Mechanical Engineering, Vol. 1, n.3, pp. 304-312, May 2007.

2- MARCHESINI, J.-L. , AVENAS, Y. , JEANNIN, P.-O. & BOULAHROUZ, S.

"Reduction of the stray inductance in a switching cell using the Power Chip-On-Chip 3D integration concept", Energy Conversion Congress and Exposition (ECCE), 2012 IEEE, North Carolina-USA.

- 3- LAZHAR MEROUANI, SAID ABBOUDI and SALIM BOULAHROUZ
 "Analysis of conjugated processes of film evaporation and condensation in a tubular heat exchanger". The Canadian Journal of Chemical Engineering, Sep 2016.
- 4- A. CHEHHATA, M. SI-AMEUR, B. BOUMEDDANE, E. ABO-SERIE and S. BOULAHROUZ
 "Numerical investigation of diffuser solidity effect on turbulent airflow and performance of the turbocharger compressor". Applied and Computational Mechanics, Vol 10, 79-96, Jan 2016.
- 5- S. BOULAHROUZ, Y. AVENAS and A. CHEHHAT
 "CFD simulation of heat transfer and fluid flow within metallic foam in forced convection environment", Mechanics and Mechanical Engineering, Vol. 21, No 3, Oct 2017.
- 6- N. MENECEUR, K. KHOUNFAIS, S. BOULAHROUZ and A. ATIA, "Numerical and Experimental Studies of Heat and Mass Transfer Process Through Packing Zone in a Counter-Flow Wet Cooling Tower," International Journal of Mechanical & Mechatronics Engineering IJMME-IJENS, Vol.17, No. 06, 2017.
- 7- N. MENECEUR, S. BOULAHROUZ, K. KHOUNFAIS and A. BOUKHARI, "Theoretical and Experimental Study of Thermal Performance Within a Counter flow Wet Cooling Tower" Journal of Engineering Science and Technology, JESTEC, Vol. 13, No. 11 (2018) 3691 - 3709.
- 8- B. Regaiguia, O. Chahaoui, S. Boulahrouz, N Brinis, ML Fares, Constitutive Modelling of an Industrial Rolled Sheet for a DIN 1623 St14 (DC04) Steel, Solid State Phenomena, 2019, 31-50.
- 9- O. Chahaoui, N. Matougui, S. Boulahrouz, M. Heddar, K. Babouri, An Associated and Nonassociated Flow Rule Comparison for AISI 439-430TI Forming: Modeling and Experimental Analysis, Latin American Journal of Solids and Structures, 2021, 18(7), e406, <https://doi.org/10.1590/1679-78256724>.
- 10- N. Sid, S. Boulahrouz, A. Saoudi, O. Chahaoui, K. Mansouri, Numerical Studies of Thermal Management of Multiple Electronic Devices Using Metal Foam Heat Sinks, Journal Of Nano- And Electronic Physics, 14 (4), 2022, 2077-6772.
[https://doi.org/10.21272/jnep.14\(4\).04032](https://doi.org/10.21272/jnep.14(4).04032).
- 11- A. Abboudi, S. Boulahrouz, K. Mansouri, Transient 3D Thermomechanical Simulation of the Frictional Contact of the Pin-on-Disc System, Journal Of Nano- And Electronic Physics, 14 (4), 2022, 2077-6772.
[https://doi.org/10.21272/jnep.14\(4\).04032](https://doi.org/10.21272/jnep.14(4).04032).
- 12- A. Saoudi, S. Boulahrouz, S. Fares, M. Chitour, K. Mansouri, L. Aissani, A. Abboudi, Numerical Modeling of Thin-Film Growth by Random Deposition with Particle Evaporation, Journal Of Nano- And Electronic Physics, 14 (6), 2022, 2077-6772.
[https://doi.org/10.21272/jnep.14\(6\).06016](https://doi.org/10.21272/jnep.14(6).06016).
- 13- A. Saoudi, L. Aissani, S. Boulahrouz, L. Radjehi, O. Chahaoui, M. Mebarki, H. Djebaili, Influence of the Surface Diffusion Length on the Roughness of Thin Layers Obtained by Random Deposition, Journal Of Nano- And Electronic Physics, 14 (5), 2022, 2077-6772. [https://doi.org/10.21272/jnep.14\(5\).05021](https://doi.org/10.21272/jnep.14(5).05021).
- 16- N. MENECEUR, S. BOULAHROUZ, K. KHOUNFAIS, A. BOUKHARI, Theoretical and

experimental study of thermal performance within a counter- flow wet cooling tower, Journal of Engineering Science and Technology, Vol. 13, No. 11 (2018) 3691 - 3709.
https://jestec.taylors.edu.my/Vol%2013%20issue%2011%20November%202018/13_1_18.pdf.

17- L. Ghelani, M. Naoun, L. Aissani, A. Abbassi, S. Boulahrouz, Electrodeposition and Mechanical Characterization of Ni/SiC Composite Coatings, Journal Of Nano- And Electronic Physics, 11 (3), 2019, 2077-6772.
[https://doi.org/10.21272/jnep.11\(3\).03016](https://doi.org/10.21272/jnep.11(3).03016).

18- B. Regaiguia, O. Chahaoui, A. Saoudi, S. Boulahrouz, M.L. Fares, An Evolutionary Anisotropic Behavior for DC04 Sheet Using Hill48 Function under Non-Associated Flow Rule Hypothesis, Journal Of Nano- And Electronic Physics, 14 (5), 2022, 2077-6772.
[https://doi.org/10.21272/jnep.14\(5\).05009](https://doi.org/10.21272/jnep.14(5).05009).

18- N. Meneceur, S. Boulahrouz, A. Boukhari, R. Meneceur, Thermal Behavior Simulation of An Externally Cooled Electric Motor, Engineering and Technology Journal, 40 (07) (2022) 926- 941. <http://doi.org/10.30684/etj.2021.131114.1006>.

19- Boulahrouz Salim, Saoudi Abdenour, Chahaoui Oualid, Hadi M. Marwani, Rokkaya Sami, N.I. Aljuraide, Raed H. Althomali, Mohammed M. Rahman, Meser M. Ali, M.A. El Bouz, Three- dimensional transient CFD modeling of multiple finned aluminum foam heat sinks in a horizontal channel, Alexandria Engineering Journal, Volume 78, 1 September 2023, Pages 426-437
<https://doi.org/10.1016/j.aej.2023.07.074>.

Published Books

1. SALIM BOULAHROUZ. Techniques de Programmation en Matlab, Éditions Universitaires Européennes, 2023.

