



CURRECULUM VITAE

1- PERSONAL DATA

Name: KHENATA RABAH

Designation: Full Professor.

Date and Place of Birth: 27 January 1967 - El Hachem- Algeria

Nationality: Algerian

Qualification: Computational Physics, Materials Physics, PhD.

Office Address: Department of Technical Sciences, Faculty of Science & Technology, University of Mascara, P. B. 763-29000 Mascara, Algeria.

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2- EDUCATION

July 1987 Baccalaureate (Mathematic), - (Mascara-Algeria)

July 1992 "Engineer in electronics", University of Sidi Bel Abbès- Algeria

July 1995 Magister in Physics, University of Sidi-Bel Abbès- Algeria

June 2005 Ph.D (Doctorat), University of Sidi-Bel Abbès- Algeria

3- EMPLOYMENT HISTORY

1992-1993 Assistant Professor, Institute of Science- Sidi Bel Abbès University.

1995-2004 Assistant Professor of Physics, Institute of Biology- Mascara University.

2005-2009, Associate Professor of Physics, Faculty of Sciences and Technology at Mascara University.

2010-2020, Professor of Physics, Faculty of Sciences and Technology at Mascara University.

4- RESEARCH ACTIVITIES

In our research, we use the program package WIEN2k, which allows to performing electronic structure calculations of solids using density functional theory (DFT). It is based on the full-potential (linearized) augmented plane-wave ((L)APW) + local orbitals (lo) method, one among the most accurate schemes for band structure calculations. In DFT the local (spin) density approximation (LDA) or the improved version of the generalized gradient approximation (GGA) can be used. WIEN2k is an all-electron scheme including relativistic effects and has many features. Using this program we can studied: the structural (Structural stability, transition pressures), the mechanical (elastic properties), electronic (Band structure, energy gaps, density of states, bonding properties) and optical properties; including the different optical transitions, refractive index, reflectivity, loss function, of solids. The effect of pressure and temperature on different physical properties can also study. The Plane Wave Pseudo potential PWP as well as FPLMTO methods are also used to calculate the above properties.

5-SCIENTIFIC PRODUCTIONS:

5-1. PUBLICATIONS in (ISI)

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

<https://scholar.google.com/citations?user=4FYHetYAAAAJ&hl=fr>

With h-index: 43 in Google Scholar with More than 8200 Citations

1. K Gherab, Y Al-Douri, U Hashim, R Khenata, A Bouhemadou, M Ameri **“Temperature effect to investigate optical and structural properties of AZO nanostructures for optoelectronics »**Bulletin of Materials Science 44 (1),2021, 1-10,
2. E Güler, G Uğur, Ş Uğur, M Güler, R Khenata **“Structural, elastic and mechanical properties of Ti-15Nb-x Ge alloys: insight from DFT calculations »** Bulletin of Materials Science 44 (1), 2021, 1-7
3. AK Kushwaha, SP Mishra, MK Vishwakarma, Shivali Chauhan, Hamad R Jappor, R Khenata, S Bin Omran **.Theoretical study of thermal conductivity, mechanical, vibrational and thermodynamical properties of Ln₂Zr₂O₇ (Ln= La, Nd, Sm, and Eu) pyrochlore »** Inorganic Chemistry Communications 127, 2021, 108495

4. R Moussa, A Abdiche, R Khenata, R Ahmed, SA Tahir, SB Omran, "Investigation of the structural, electronic, optical, elastic, and thermodynamic properties of the zinc blende $\text{Ga}_{1-x}\text{Al}_x\text{As}_{1-y}\text{Py}$ quaternary alloys: A DFT-Based simulation » Materials Science in Semiconductor Processing 126,2021, 105642
5. A Khireddine, A Bouhemadou, S Alnujaim, N Guechi, S Bin-Omran, Y Al-Douri, R Khenata, S Maabed, AK Kushwaha" **First-principles predictions of the structural, electronic, optical and elastic properties of the zintl-phases E_3GaAs_3 (AE= Sr, Ba)** » Solid State Sciences 114, 2021, 106563
6. M Benzineb, F Chiker, H Khachai, H Meradji, Ş Uğur, SH Naqib, S Bin Omran, Xiaotian Wang, R Khenata "A comparative study of structural, thermal, and optoelectronic properties between zircon and scheelite type structures in SrMoO_4 compound: An ab-initio study, Optik, 166714, 2021
7. Muhammad Faizan, Shah Haidar Khan, Houari Khachai, Taieb Seddik, Saad Bin Omran, Rabah Khenata, Jiahao Xie, Murefah mana AL-Anazy "Electronic, optical, and thermoelectric properties of perovskite variants A_2BX_6 : Insight and design via first-principles calculations »International Journal of Energy Research 45 (3),2021, 4495-4507
8. Mohamed Amine Ghebouli, Brahim Ghebouli, Tayeb Chihi, Messaoud Fatmi, Rabah Khenata, Hamad Rahman Jappor, Saleh H Naqib "Electronic band structure, elastic, optical and thermodynamic characteristic of cubic YF_3 : An ab initio Study » Optik, 2021,166680
9. Junaid Khan, Shah Khalid, Waqar Uddin, Rabah Khenata, Maaz Khan, Shafiq Ur Rehman, Munir Ahmad, Shuangxi Wang, Wenqi Huang, S Bin Omran, Muhammad Fawad,"A new approach to study combination mixture organic solvent ethylene carbonate with lithium-ion for alkali-ion battery: A density functional theory »Journal of Materials Research and Technology 11, 2021, 1672-1677
10. R Moussa, A Abdiche, R Khenata, F Soyalp" **First principles calculation of the structural, electronic, optical and elastic properties of the cubic $\text{Al}_x\text{Ga}_{1-x}\text{Sb}$ ternary alloy** » Optical Materials 113,2021, 110850
11. MS Abu-Jafar, RT Jaradat, A Abu-Labdeh, R Khenata, AA Mousa"Ab initio studies of structural, electronic and magnetic properties of $\text{Al}_{1-x}\text{Mn}_x\text{N}$ in zinc blende structure » Computational Condensed Matter 26,2021, e00517

12. F Dahmane, C Zouaneb, A Abdiche, H Meradji, R Khenata, R Ahmed, A Bouhemadou, S Bin Omran, Sikander Azam, SH Naqib, "Insight view of **Hf₂CrZ (Z= B, Ga, In, Si, Ge, Sn) Heusler materials via DFT calculations: A study on structural, electronic and magnetic properties** » Computational Condensed Matter 26, 2021, e00518
13. MS Abu-Jafar, V Leonhardi, R Jaradat, AA Mousa, S Al-Qaisi, R. Khenata, "Structural, electronic, mechanical, and dynamical properties of scandium carbide » Results in Physics 21, 2021, 103804
14. Muhammad Mushtaq, Saubia Khalid, Muhammad Atiff Sattar, Rabah Khenata, Taieb Seddik, Sajad Ahmad Dar, Iltaf Muhammad, S Bin Omran, "Electronic band structure, phase stability, magnetic and thermoelectric characteristics of the quaternary Heusler alloys **CoCuZrAs and CoRhMoAl: Insights from DFT computations** » Inorganic Chemistry Communications 124, 108384
15. M Matougui, B Bouadjemi, M Houari, A Zitouni, T Lantri, S Haid, S Bentata, R. Khenata "Electronic structure, mechanical and thermoelectric properties of the full Heusler **Ba₂AgZ (Z= Bi, Sb) alloys: insights from DFT study** » Indian Journal of Physics, 2021, 1-12
16. Y Li, J Xia, R Khenata, M Kuang "First prediction of all types of topological nodal lines in a realistic **P63/mmc type titanium selenide** » Journal of Physics: Condensed Matter, 2021
17. S Zeffane, M Sayah, F Dahmane, M Mokhtari, L Zekri, R Khenata, N Zekri "Prediction of electronic and half metallic Properties of **Mn₂YSn (Y= Mo, Nb, Zr) Heusler alloys** » Condensed Matter Physics 24 (1) 2021.
18. A Ababou, F Chiker, H Khachai, R Miloua, R Khenata, R Ahmed, SH Naqib, A Bouhemadou, S Bin Omran, F Boukabrine, Xiaotian Wang "DFT-based computer simulation of the physical properties of transparent conducting oxide of delafossite-type: **AgInO₂ and AgYO₂** » Physica B: Condensed Matter 601, 2021, 412584
19. A Mokadem, M Bouslama, B Kharoubi, A Ouerdane, R Khenata, M Guezzoul, A Baizid, M Abdelkrim, KB Bensassi, SH Naqib, Xiaotian Wang, "XPS, AES AND UPS INVESTIGATION OF **SnO₂/Si AND DFT-BASED THEORETICAL STUDY WITHIN THE mBJ-GGA SCHEME** » Surface Review and Letters (SRL) 28 (02), 2021, 1-7
20. Sikander Azam, Muhammad Irfan, Zeesham Abbas, Saleem Ayaz Khan, Rabah Khenata, Shabbir Muhammad, Saifeldin M Siddeeg, SH Naqib, Xiaotian Wang, S Muhammad, "Optoelectronic properties of **Nd³⁺ doped**

CaTa2O6: Insights from the GGA+ U calculations »Optik 225, 2021, 165270

21. Shah Khalid, Yue Ma, Xiaoliang Sun, Guanggang Zhou, Haicheng Wu, Guiwu Lu, Zhenqing Yang, Junaid Khan, Rabah Khenata, Abdelmadjid Bouhemadou “**Electronic and optical properties of Tl₄GeX₃ (X= S, Se and Te) compounds for optoelectronics applications: insights from DFT-computations** » Journal of Materials Research and Technology 9 (1), 2020, 413-420
22. DP Rai, TV Vu, A Laref, MA Hossain, E Haque, S Ahmad, R Khenata” **Electronic properties and low lattice thermal conductivity (κ l) of mono-layer (ML) MoS₂: FP-LAPW incorporated with spin-orbit coupling (SOC)** » Rsc Advances 10 (32),2020, 18830-18840
23. X Wang, M Wu, T Yang, R Khenata “**Effect of Zn doping on phase transition and electronic structures of Heusler-type Pd₂Cr-based alloys: from normal to all-d-metal Heusler** » RSC Advances 10 (30), 2020,17829-17835
24. Y Li, J Xia, R Khenata, M Kuang « **Insight into the topological nodal line metal YB₂ with large linear energy range: a first-principles study** » Materials 13 (17),2020, 3841
25. Y Li, J Xia, R Khenata, M Kuang « **Perfect Topological Metal CrB₂: A One-Dimensional (1D) Nodal Line, a Zero-Dimensional (0D) Triply Degenerate Point, and a Large Linear Energy Range** » Materials 13 (19),2020, 4321
26. M Wu, F Zhou, R Khenata, M Kuang, X Wang”**Phase Transition and Electronic Structures of All-d-Metal Heusler-Type X₂MnTi Compounds (X= Pd, Pt, Ag, Au, Cu, and Ni)** »Frontiers in Chemistry 8,2020.
27. J Ji, Q Gu, R Khenata, F Guo, Y Wang, T Yang, X Tan » **Structural configuration and tetragonal phase stability in the equiatomic quaternary Heusler compound TiZnMnSi** » RSC Advances 10 (65), 2020,39731-39738
28. W Ahmed, R Khenata, S Siraj, Y Al-Douri “**Ionic Liquid Potential to Recycle Polymeric Waste: An Experimental Investigation** » Materials Research 23 (6),2020.

29. Sikander Azam, Saleem Ayaz Khan, Rabah Khenata, SH Naqib, Ahmed Abdiche, ŞULE Uğur, Abdelmadjid Bouhemadou, Xiaotian Wang “ **An ab-initio investigation of the electronic structure, chemical bonding and optical properties of Ba₂HgS₅ semiconductor** » Molecular Physics 118 (1), 2020, e1587026
30. DNA Baker, MS Abu-Jafar, AA Mousa, RT Jaradat, KF Ilaiwi, R Khenata “**Structural, magnetic, electronic and elastic properties of half-metallic ferromagnetism full-Heusler alloys: Normal-Co₂TiSn and inverse-Zr₂RhGa using FP-LAPW method** » Materials Chemistry and Physics 240, 2020,122122
31. N Guechi, Abdelmadjid Bouhemadou, I Benaisti, Saad Bin-Omran, Rabah Khenata, Yarub Al-Douri “**Temperature and doping effects on the transport properties of SrIn₂P₂ Zintl compound** » Journal of Alloys and Compounds 815,2020, 152384
32. A Assali, F Kanouni, Q Zou, R Khenata “**Optical characteristics of dilute gallium phosphide bismide: Promising material for near-infra photonic device applications** » Physics Letters A 384 (6), 2020, 126147
33. Y Megdoud, R Mahdjoubi, M Amrani, H Bendjeddou, S Ghemid, H Meradji, R Khenata “**Phase stability and physical properties of BAs and BP compounds: An ab-initio study** » Computational Condensed Matter 22, 2020, e00434
34. T Yang, J You, L Hao, R Khenata, ZY Wang, X Wang” **Structural configuration and phase stability in full Heusler alloys Cr₂ZnSi and Cr₂ZnGe** » Journal of Magnetism and Magnetic Materials 498,2020, 166188
35. L Salik, Abdelmadjid Bouhemadou, K Boudiaf, F Saad Saoud, Saad Bin-Omran, Rabah Khenata, Yarub Al-Douri, Ali H Reshak “**Structural, elastic, electronic, magnetic, optical, and thermoelectric properties of the diamond-like quaternary semiconductor CuMn₂InSe₄** » Journal of Superconductivity and Novel Magnetism 33 (4), 2020, 1091-1102
36. Sikander Azam, Muhammad Arshad Kamran, Muhammad Waqas Iqbal, Muhammad Irfan, Tayyaba Qaiser, Muhammad Salman Khan, Thamer Alharbi, Abdul Majid, R Khenata, S Bin Omran, Xiaotian Wang “**Ab-initio study of Cu-based oxychalcogenides: A new class of materials for**

optoelectronic applications » Journal of Solid State Chemistry 284,2020, 121191

37. S Azam, Z Abbas, Q Bilal, M Irfan, MA Khan, SH Naqib, R Khenata” **Effect of Fe doping on optoelectronic properties of CdS nanostructure: Insights from DFT calculations** » Physica B: Condensed Matter 583,2020, 412056
38. M Boukhtouta, Y Megdoud, S Benlamari, H Meradji, Z Chouahda, R Ahmed, S Ghemid, Mohammed Abu-Jafar, S Syrotyuk, DP Rai, S Bin Omran, R Khenata “ **Predictions on structural, electronic, optical and thermal properties of lithium niobate via first-principle computations** » Philosophical Magazine 100 (9),2020, 1150-1171
39. T Yang, R Khenata, X Wang » **Predicted remarkably topological nodal surface states in P63/m type Sr3WN3 from first-principles** » Results in Physics 17,2020, 103026
40. Shakeel Ahmad Khandy, Ishtihadah Islam, Kulwinder Kaur, Amel Laref, Shobhna Dhiman, Seemin Rubab, Dinesh C Gupta, Rabah Khenata “ **DFT investigations on the electronic structure, magnetism, thermodynamic and elastic properties of newly predicted cobalt based antiperovskites: Co3XN (X= Pd, Pt & Rh)** » Results in Physics 17, 2020, 103112
41. S Gagui, H Bendjeddou, H Meradji, B Chouial, B Hadjoudja, S Ghemid, R Khenata, AK Kushwaha, DP Rai, S Bin Omran, Xiaotian Wang “**Phase stability and optoelectronic characteristics of Ba_{1-x}Be_xS: a DFT-based simulation** » S Gagui, H Bendjeddou, H Meradji, B Chouial, B Hadjoudja, S Ghemid, R Khenata, AK Kushwaha, DP Rai, S Bin Omran, Xiaotian Wang” Journal of Molecular Modeling 26, 1-21
42. Sikander Azam, Muhammad Arshad Kamran, Muhammad Waqas Iqbal, Muhammad Irfan, Saman Abdullah, Amjid Mahmood, Muhammad Salman Khan, Thamer Alharbi, Abdul Majid, Souraya Goumri-Said, R Khenata, Xiaotian Wang “**Revealing the optoelectronic properties of Re-based double perovskites using the Tran-Blaha modified Becke-Johnson with density functional theory** » Journal of Molecular Modeling 26, 2020, 1-10
43. S Khalid, R Khenata, Y Ma, X Sun, M Gao, H Wu, G Lu, Z Yang “**Structural, Electronic and Optical Characteristics of HgSiX₂ (X= P, As) Chalcopyrite Materials: A DFT-Based Computer Simulation** » Journal of the Korean Physical Society 77 (1),2020, 72-77

44. S Hadji, A Bouhemadou, K Haddadi, D Cherrad, R Khenata, S Bin-Omran” **Elastic, electronic, optical and thermodynamic properties of Ba₃Ca₂Si₂N₆ semiconductor: First-principles predictions** » Physica B: Condensed Matter 589,2020, 412213
45. Ahmad A Mousa, Samah Al-Qaisi, Mohammed Abu-Jafar, Said Al Azar, Raed Jaradat, Jamil M Khalifeh, Tarik Ouahrani, Rabah Khenata” **Ab initio studies of the structural, elastic, electronic and optical properties of the Ni₃In intermetallic compound** » Materials Chemistry and Physics 249, 2020,123104
46. Y Chang, SR Moon, X Wang, R Khenata, H Khachai, M Kuang **“Computational insights into the electronic structure and magnetic properties of rhombohedral type half-metal GdMnO₃ with multiple Dirac-like band crossings** » Frontiers in chemistry 8,2020, 558
47. M Bouchenafa, A Benmakhlouf, M Sidoumou, A Bouhemadou, S Maabed, M Halit, A Bentabet, S Bin-Omran, R Khenata, Y Al-Douri **“Theoretical investigation of the structural, elastic, electronic, and optical properties of the ternary tetragonal tellurides KBTe₂ (B= Al, In)** » Materials Science in Semiconductor Processing 114, 2020, 105085
48. M Abu-Jafar, R Dayton-Oxland, R Jaradat, AA Mousa, R Khenata” **Structural, electronic, mechanical and elastic properties of Scandium Chalcogenides by first-principles calculations** » Phase Transitions 93 (8),2020, 773-783
49. L Hao, P Cheng, R Khenata, PF Liu, X Wang, T Yang” **Complete spin gapless semiconductivity in equiatomic quaternary Heusler material TiZrMnAl** » Journal of Magnetism and Magnetic Materials 508, 2020, 166880
50. L Salmi, H Meradji, S Ghemid, O Nemiri, F Oumelaz, R Khenata” **Phase stability, pressure-induced phase transition and electronic properties of AlX (X= P, As and Sb) compounds from first principle calculations**” Phase Transitions 93 (9),2020, 843-855
51. N Serir, F Ckiker, H Khachai, A Bouhemadou, Saleem Ayaz Khan, T Ouahrani, Sikander Azam, SH Naqib, Ajaya K Singh, R Khenata **“Electronic, elastic, thermodynamic and vibrational properties of Li₆BeZrF₁₂:**

Insights from DFT-based computer simulation, Computational Condensed Matter, 2020, e00506

- 52.A Abdiche, A Oualdine, M Guemou, R Khenata, F Soyalp, R Ahmed,” **Structural, electronic, optical and thermodynamic properties of the cubic quadratic quaternary alloys $GaxIn_{1-x}AsyN_{1-y}$. Insight from DFT computations** » Materials Today Communications,2020, 101752
- 53.N Limbu, M Ram, H Joshi, A Saxena, S Bin Omran, R Khenata, A Shankar “ **Enhanced electronic and thermoelectric properties of p -type doped filled skutterudites RFe_4Sb_{12} ($R = Pr, Nd$)** » Journal of Applied Physics 128 (14), 2020, 145104
- 54.V Srivastava, N Kaur, R Khenata, SA Dar « **Investigation of the electronic, magnetic, elastic, thermodynamic and thermoelectric properties of Mn_2CoCr Heusler compound: A DFT-based simulation** » Journal of Magnetism and Magnetic Materials 513, 2020, 167107
- 55.A Trad Khodja, R Boulechfar, H Meradji, Y Akeb, R Chemam, S Ghemid, S Bin Omran, R Khenata, Xiaotian Wang” **Phase stability, mechanical, electronic, magnetic and optical properties of tetragonal and cubic M_3V ($M: Pd, Pt$) structures** » Journal of Molecular Graphics and Modelling 100, 2020, 107651
- 56.S Khalid, S Fahad, J Khan, X Sun, R Khenata, W Huang, S Wang, G Lu” **Understanding the structural, electronic and optical properties of $CuXY_2$ ($X = Si, Ge, Y = P, As$): A DFT+ U approach** » Optik 221,2020, 165212
- 57.N Merabet, A Abdiche, R Riane, R Khenata, WK Ahmed, SB Omran “**The Implications of Pressure on Electronic, Magnetic, Mechanical, and Elastic Properties of Cobalt and Cobalt Hydride: DFT Calculation** » Journal of Superconductivity and Novel Magnetism 33 (11),2020, 3451-3461
- 58.A Boumaza, S Ghemid, H Meradji, O Nemiri, R Belghit, F Oumelaz, L Hamioud, MH Gous, R Khenata, S Bin Omran, Xiaotian Wang “**DFT-Based Calculations of the Structural Stability, Electronic and Elastic Characteristics of $BBi_{1-x}Sb_x$ Ternary Ordered Alloys** » , Journal of Electronic Materials,2020, 1-15

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- 60.S Touam, R Belghit, R Mahdjoubi, Y Megdoud, Hocine Meradji, Muhammad Shehryar Khan, Rashid Ahmed, Rabah Khenata, Sebti Ghemid, Dibya Prakash Rai, Yarub Al-Douri “**First-principles computations of $\text{YxGa}_{1-x}\text{As}$ -ternary alloys: a study on structural, electronic, optical and elastic properties** » , Bulletin of Materials Science 43 (1), 2020, 1-11
- 61.MZ Bouayed, A Yakoubi, R Ahmed, H Khachai, R Khenata, SH Naqib, MM Obeid, HR Jappor, SJ Edrees, S Bin Omran, Xiaotian Wang “ **Insight view of mechanical, electronic and thermodynamic properties of the novel intermetallic REPt_4In_4 ($\text{RE} = \text{Eu, Gd, Tb, Dy, Ho}$) compounds via ab initio** “ Bulletin of Materials Science 43,2020, 1-9
- 62.S Azam, M Irfan, MW Iqbal, MA Kamran, R Khenata, T Seddik, B Gul” **A first-principles investigation on electronic, optical and thermoelectric properties of $\text{La}_2\text{Pd}_2\text{O}_5$ compound** » Bulletin of Materials Science 43 (1), 2020, 1-10
- 63.Mahpara Ghazanfar, Sikander Azam, Muhammad Farooq Nasir, Saleem Ayaz Khan, Hafiz Usama, Muhammad Irfan, Shabbir Muhammad, Abdullah G Al-Sehemi, SH Naqib, Rabah Khenata, Souraya Goumri-Said, XT Wang “ **Exploring the potential use of $\text{Ca}[\text{LiAl}_3\text{N}_4]: \text{Eu}^{2+}$ as phosphor-LED material: Ab-initio calculations** » Materials Today Communications 25,2020, 101302
- 64.H Mebtouche, O Baraka, A Yakoubi, R Khenata, SA Tahir, R Ahmed, SH Naqib, A Bouhemadou, S Bin Omran, Xiaotian Wang” **First-principles calculations of the structural, electronic, mechanical and thermodynamic properties of MAX phase $\text{Mon}^+ \text{GeC}_n$ ($n = 1-3$) compounds** » Materials Today Communications 25, 2020, 101420
- 65.F Annane, H Meradji, S Ghemid, H Bendjeddou, F El Haj Hassan, Vipul Srivastava, R Khenata “**Ab-initio study of ordered III-V antimony-based semiconductor alloys $\text{GaP}_{1-x}\text{Sb}_x$ and $\text{AlP}_{1-x}\text{Sb}_x$** » , Pramana 94 (1),2020, 1-16

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- **6th Morocco Days on Materials Science. 9-11 November 1998. Annaba University-Algeria,**"Spin-orbit splittings of II-VI and III-V semiconductor bands at Γ , L and X". R. Khenata, B. Belgoumene, M. Driz, H. Aourag.
- **International Congress on Materials Science and Engenniring.27-30 November 1999. University-U.S.T.H.B- Algeria.**"Empirical pseudo-potential calculations of ternary semimagnetic semiconductors Cd Mn Te".R. Khenata, B. Belgoumene, H. Khachai, S. Brahou.
- **International Congress on Materials Science and Engenniring.27-30 November 1999. University-U.S.T.H.B- Algeria.**"The modification of the spin-orbit interaction in the zinc-blende binary II-VI and III-V Semiconductors".R. Khenata, B. Belgoumene, M. Driz, H. Khachai, S. Brahou.
- **International Congress on Materials Science and Engenniring.27-30 November 1999. University-U.S.T.H.B- Algeria.**"The model dielectric function for semiconductors" H. Baltache, R. Khenata, M. Driz.
- **Maghreb Conferences in engineering Sciences- CMGE'99.4-6 December1999. Constantine University** "Band structure study of ternary diluted magnetic semiconductor ZnMnTe".R. Khenata, H. Baltache, M. Sahnoun, B. Belgoumene, M. Driz
- **The International Conferences in Materials Science,3-5 April 2000, M'sila- University-Algeria.**"The calculation of the static dielectric function and the plasmon energy"H. Baltache, R. Khenata, M. Driz, H. Aourag
- **5th International Day on Marine Sciences, J'NESMA2001, Mai2001, Borg-el Bahi, Temenfost, Alger-Algeria.**" Infrared Rayon and useful in electronic applications"R. Khenata, M. Sahnoun, H. Baltache
- **5th International Workshop on Computational Condensed Matter Physics: Total energy and force methods.11-13 January 2001.** Trieste, Italie."Full-LAPW Calculations of electronic structure of beryllium chalcogenides of BeS, BeSe and BeTe" R. Khenata, M. Sahnoun, H. Baltache, H. Aourag
- **5th International Workshop on Computational Condensed Matter Physics :Total energy and force methods.11-13 January 2001.** Trieste, Italie. "Full-Potential LAPW study of MgO using different exchange-correlation functionals".M. Sahnoun , R. Khenata, H. Baltache, B. Bouhaf, M. Driz, H. Aourag
- **International Conference in Materials Science, Tlemcen-University-Algeria, November-2003.**"Structural phase transformation and equation of states of Strontium chalcogenides at high pressure”. R. Khenata, H. Baltache, M. Driz, B. Abbar.

- **International Conference on Electrical Engineering, Communication & Physical Systems. Saida University- Algeria- Mai -2004.** “First principle calculation of optical properties of GeC, SnC and GeSn under hydrostatic pressure”.M. Driz, R. Khenata, M. Sahnoun, M. Rérat.
- **Scientific Days- Franco-Algerian - Ourgla – University-November-2004.**“ FP-LAPW calculations of ground states properties for the cubic zinc-blende-like AlN, GaN and InN compounds”.B. Daoudi, R. Khenata, O. Boukraa, H. Abid
- **Scientific Days- Franco-Algerian - Ourgla – University-November-2004.**“ Ab initio study of the phase transformations under high pressure and elastic properties of cerium chalcogenides”.Bouhamadou, R. Khenata, M. Kharoubi.
- **4th International Congress in Materials Sciences -2-4 Mai 2006 : Tlemcen-University - Algeria.**“First principle study of optical properties of MgAl₂O₄ and ZnAl₂O₄ compounds” R. Khenata, H. Baltache, B. Bouhafs, B. Bouhemadou, M. Rérat.
- **5th International Congress on Materials Science and Engineering CISGM-5-22-24- Novemeber-2008-Gulma University-Algeria** “Electronic band structure and optical properties of ZnIn₂Te₄ with FP-LAPW approach” Y. Ayeub, R. Arrar. M. Halit, M. Hachemaoui, R. Khenata
- **5th International Congress on Materials Science and Engineering CISGM-5-22-24- Novemeber-2008-Gulma University-Algeria**“First principle study of electronic and optical properties of alkali metal oxides under pressure effects” R. Khenata, M. Moakafi, A. Bouhemadou, M. Hachemaoui, H. Khachai
- **6th International Conferences on the Materials Science(CSM6), Beirut-Lebanon(2008).**“ Structural , Electronic and optical properties of X₂S compounds”,“Theoretical Study of the mechanical and electronic properties of some spinel compounds”“FP calculations of high pressure properties of ThX (X=S,Se and Te)”R. Khenata, A. Bouhemadou and H. Baltache
- **10th International Conferences on the Materials Science(CIPMCPS), Beni Mellal- Morocco.25-26 Mars-2010** “First- principle study of elastic, electronic and optical properties of some spinel compounds”.
- **10th International Conferences on the Materials Science(CIPMCPS), Beni Mellal- Morocco.25-26 Mars-2010** “Structural phase transformation and elastic properties of GdN” H. Baltache and R. Khenata

5.3.3. INVITED PLENARY CONFERENCES:

Plenary conference titled: **First principle studies of the mechanical, electronic and optical properties of some spinel sulphides under pressure effects**”. Department of Physics and Astronomy- King Saud university- Saudi Arabia- March 2012.

6. RESEARCH AND PROJECTS:

I was president (of) and member (in) more than 15 projects in different fields (Physics, Mechanics). Eight of them are completed.

- I was member in more than 15 CNEPRU Projects: Algérien CNEPRU projects : N° D01220060041 (2007) ; N° D01220080007 (2009) ; N° D01220090033 (2010) ; N° E03720090011(2010) ; N° D02120100026 (2011) ; D02120140039 (2014), B00L021Un220120150013 (2015); B00L02UN220120150013 (2016) B00L02UN220120190005 (2019); B00L02UN290120180004 (2018)....
- I was responsible (Chief) of the CNEPRU Project number D03720060004 (for three years starting from January 2006)
- I was member in one PNR project number: In fundamental Sciences.

7- RESEARCH SUPERVISION:

7-1: TWELVE MAGISTER THESIS COMPLETED

- 1. Hichour Malika, Mascara University
- 2. Sedik Tayeb, Mascara University
- 3. Missoun Adda, Mascara University
- 4. Djiad Abdelhamid, Mascara University
- 5. Ougad Sofiane, Mascara University
- 6. Boubker Nacéra, Mascara University
- 7. Moutassem Mohamed, Mascara University
- 8. Bendjedid Aicha, Mascara University
- 9. Zerrouki Tayeb, Mascara University
- 10. Meziane Ouda, Mascara University
- 11. Amriche Oumria, Mascara University
- 12 Belkacemi Benyamina, Mascara University

7-2: FOURTEEN (15) DOCTORATE (PHD) THESIS COMPLETED

1- Moakafi Mohamed

Title : Contribution à l'étude des propriétés structurales, électroniques et optiques sous l'effet de pression des oxydes alcalin: X_2O ($X=Li, Na, K, Rb$) par la méthode FP-LAPW

Date of presentation: March 2010 at Sidi Bel-Abbès university.

2- Hichour Malika

Title: Etude des propriétés structurales, élastiques, électroniques et optiques des antipérovskites $ANSr_3$ ($A=AS, Sb$ et Bi).

Date of presentation: May 2010 at Sidi Bel-Abbès University.

3- Benalia Salah Eddine

Title: Etude des propriétés structurales, électroniques et optiques des Skutterudites remplis $CeTr_4P_{12}$ (Tr=Fe, Ru et Os) par la méthode FP-LMTO. **Date of presentation: November 2009** at Sidi Bel-Abbès university.

4- Ayeb Yakob

Title: Etude des propriétés structurales, électroniques et optiques du $ZnIn_2Te_4$ chalcopyrites
Date of presentation: June 2012 at Sidi Bel-Abbès University.

5- Ouahrani Tarik

Title: Calcul des propriétés structurales, thermiques et optiques des composées chalcopyrites par la méthode FP-(L)APW.
Date of presentation: February 2011, at Abou Bekr Belkaid University - Tlemcen.

6- Hachemaoui Malika

Title: Etude de l'effet de pression sur des propriétés structurales, élastiques électroniques et optiques des matériaux de type skutterudites par la méthode FP-LAPW : Cas du XFe_4Y_{12} (X=La, Ce; Y=P, As, Sb).
Date of presentation: June 2012 at Sidi Bel-Abbès university

7- Seddik Tayeb

Title: Contribution à l'étude des propriétés structurales, élastiques, optoélectroniques et thermodynamiques des matériaux à base de (K, Y et Lu).
Date of presentation: April 2013 at Sidi Bel-Abbès University

8- Semari Fatiha

Title: Contribution à l'étude des propriétés mécaniques, optoélectroniques et thermophysiques des matériaux de type $X^{II}Y^{III}_2Z_4$ et $X^{IV}Y^{II}_2Z_4$ (Z=O, S et Se) par la méthode FP-LPAW.
Date of presentation: July 2013 at Sidi Bel-Abbès University

9- Djied Abdelhamid

Title: Contribution à l'étude des propriétés structurales, mécaniques et optoélectroniques des composés ternaires à base sodium $NaZnX$ (X=P, As et Sb) par la méthode (FP-LAPW).
Date of presentation: Juin 2014 at Sidi Bel-Abbès University

10- Ould Kada Mokhtaria

Title: Contribution à l'étude des propriétés structurales, électroniques et thermodynamiques des matériaux à base de (Rh et de Ce) par la méthode FP-LAPW.
Date of presentation: Juin 2014 at Sidi Bel-Abbès University

11- Mekkaoui Fatiha

Title: Etudes des propriétés structurales, élastiques et électroniques des pérovskites cubiques $RBRh_3$ (R=Sm, Eu, Gd et Tb)

Date of presentation: Juin 2014 at Sidi Bel-Abbès University

12- Missoum Adda

Title: Contribution à l'étude des propriétés mécaniques, optoélectroniques et thermodynamiques des alliages Heusler à base de (Al, Ga, Sb et Sn) par la méthode des ondes planes linéairement augmentées

Date of presentation: April 2015 at Sidi Bel-Abbès University

13- Djaafri Tayeb

Title: Full potential calculations of the elastic, magnetic and thermodynamic properties of some metal Heusler alloys

Date of presentation: April 2015 at Sidi Bel-Abbès University

14- Arar Rabie

Title: Etude des propriétés structurales, électroniques et mécaniques des Composés fluoro-pérovskites à base de sodium $NaXF_3$ (X:Mg, Zn) par la méthode FP-LAPW.

Date of presentation: 03 July 2018 at Sidi Bel-Abbès University

15- Belfarh Toufik

Title: Contribution à l'étude des propriétés physiques des composés de type Zintl à structure $LaLi_3Sb_2$

Date of presentation: 10 April 2019 at Mascara.

FOUR (04) OTHER DOCTORATES ARE UNDERWAY:

Zouaneb Chahrazed

Etude ab Initio des Propriétés Physiques des Alliages de type Heusler pour des Applications Technologiques Actuelles

Bettir Kadour

Contribution à l'étude des propriétés mécaniques, optoélectronique, magnétiques, thermiques et phonon des matériaux de type pérovskite par la méthode FP-LAPW

Sebbaa Souad

Etudes des propriétés physiques de quelques matériaux monocristallins

Si Youcef Abderahim

Etude des propriétés électroniques et optiques des matériaux à base des chalcogenides: perspectives pour le photovoltaïque

7.3. TEACHING EXPERIENCE:

Twenty five years (25) of teaching

1995-2013: Course of Physics for Biology and Agronomy.

2013-2020: Physics for LMD Sciences and Technology: Tutorials and practical works.

2016-2018: Scientific writing and plagiarism for Electrical engineering doctorate.

7.4. SEMINAIR ORGANIZATION:

- President of the Scientific and organization committies of « Mascara International Numerical Simulation Days” (JSNM1) 25-27 Aprial-2006-Mascara».
- Member in the Scientific and organization committies for more than 15 scientific manifestations.

8- MEMBER OF THE EDITORIAL BOARDS

- **Editor: International Journal of Nanoelectronics and Materials (IJNEAM).**

<http://www.myjurnal.my/public/browse-journal-view.php?id=219>

- **Editorial broad: Experimental and Theoretical NANOTECHNOLOGY;** ISSN: 2328- 5443.

<http://www.ijnst.com/Editorial%20Board.php>

- **Editorial broad: Biointerface Research in Applied Chemistry, Open Access Journal (ISSN: 2069-5837)**

http://biointerfaceresearch.com/?page_id=87

Referee in More than 20 Journals (Elsevier, IOP, Springer and ACS)

- Referee of the “Computational Materials Science”, Publisher “Elsevier”.
- Referee of the “Journal of Alloys and Compounds”, Publisher “Elsevier”.
- Referee of the Journal Phys. Chem. B. (ASC).
- Referee of the “Physica B”, Publisher “Elsevier”.
- Referee of the “Journal of Molecular Structure”, Publisher “Elsevier”.
- Referee of the “ Solid State Communications”, Publisher “Elsevier”.
- Referee of the journal of “Physica Status Solidi b”, Publisher “Wiley”.
- Referee of the journal of “Physics Letters A”, Publisher “Elsevier”.
- Referee of the journal of “Physics Research International”, Publisher “Springer”.
- Referee of the journal of “European Physical Journal B”, Publisher “Springer”.

- Referee of the journal of “Phylosophical magazine”, Publisher “Springer”.
- Referee of the journal of “Materials Sciences”, Publisher “Springer”
- Referee of the journal of “Journal of Applied Physics”, Publisher “ACS”
- Referee of the “Materials Today and Communications”, Publisher “Elsevier”.
- Referee of the “Inorganic Chemistry Communication”, Publisher “Elsevier”.
- Referee of the “International Journal of Energy Research”, Publisher “Wely Sciences”.
- Referee of the “International Journal of Termoelectric”, Publisher “Elsevier”.
- Referee of the “International Journal of Modern Phys B”, Publisher “World Scientific”.
- Referee of the “ Indian Journal of Physics”, Publisher “Springer”.
- Referee of the “Optical Materials”, Publisher “Elsevier”.
- Referee of the “Materials Science Semiconductor Pocessing”, Publisher “Elsevier”.
- Referee of the “Hydrogen Energy”, Publisher “Elsevier”.
- Referee of the “Physica B” Publisher “Elsevier”.
- And others

9. SCIENTIFIC AND PEDAGOGIC RESPONSABILITIES:

9.1. SCIENTIFIC

- Founding Member of the Academy of Sciences and Technology of Algeria (ASTA)- (Presidential decree).
- Member of the National Scientific Commission for the Validation of Scientific Reviews (CSNVRS). (Ministerial decision).
- Member of the National University Commission (CUN) - (Ministerial decision).
- Permanent member in the Scientific Council of the Thematic Research Agency in Science and Technology (ATRST- Former: ANDRU). (Ministerial decision).
- Member of the National Documentary Resources Commission for Higher Education Establishments (CNRDDEES). (Ministerial decision).
- Member of the Board of Ethics and Professional Conduct at the University of Mascara- University of Mascara (local decision)

- Member of the Scientific Council of the Faculty of Science and Technology. University of Mascara (local decision).
- Responsible (DOMAIN) for field training LMD "Science and Technology" from April 2010 to date "Two contracts", October 2010 (Ministerial decision).
- Head of "Semiconductor and numerical simulation" team in the Laboratory of Quantum Physics and Mathematical Modeling of the Material (LPQ3M). (Ministerial Decision)
- Head of LPQ3M-Laboratory. Ministerial Decision, Febr. 2014 (Ministerial Decision)

9.2. PEDAGOGIC

- Responsible on the Magister formation titled " Physics of nanomaterials" Ministerial Decision, 26 August 2006.
- Local coordinator of the Doctoral school in physics titled "Physics and Chemistry of Materials " Ministerial Decisions, N° 224 and 225 July 2009 and N° 257 du Juillet 2010

10. HONOURS AND AWARDS

- National Award : President of the Algerian republic- Laghouat University , November 2011
- International Award: Scopus award –November 2013.

11. SCIENTIFIC VISITS

1. Invitation from Prof. Gerard Vorgoten- Department of Physics-Chemical laboratory-Lille University-France (2003 for one month).
2. Invitation from Prof. Michel Rérat- Physical Chemistry Group (IPREM-UMR) - Pau University- France.(2004; 2005, 2007; 2008 for one month in each year).
3. Invitation from Prof. Claude Daul - Physics Department-Fribourg University-Suisse(2006 for one month)
4. Invitation from Prof. Claude Demengeat- Institute of Physical and Chemistry of Materials of Strasbourg (IPCMS) Strasbourg University- France (2007 for one month).

5. Invitation from Prof. Fouad El Haj Hassan- Physics Department-El Hadeth University Beirut-Lebanon (2009 for one month)
6. Invitation from Prof. Fethi Soyak and Gokay Ugur (Ghazi university- Turkey)-2011, 2015 for one month each year.
7. Invitation from Prof. AbdelAziz Zugbi- Physics Department-DAMAS- University- Syria (2009 for one month)
8. Invitation from Prof. A. Munoz, Terinife-Spain (2013 for one month) Invitation from prof. Dinesh Varshney- Devi Ahilya University-India (2014 for one month)
9. Invitation from Prof. Saad Binomran , King Saud University- Arabie Saudite (2016, 2018 and 2019 for 15 days for each year)
10. Invitation from the University Schola Normal Superior_ Pisa-Italy-15 days.