ABBES LAGHROUR UNIVERSITY – KHENCHELA
Faculty of Science and Technology
Department of Material Sciences

CURRICULUM OF LIFE

Personal informations :

Name : *FALEK*

First name: *Mokhtar*

Date and place of birth: *24 January 1975 in Khenchela.*

Family situation : *Married (+ 04 children)*

Personal address: *Coop Aures 750 housing units Khenchela 40000 Algeria.*

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Function: *Teacher Researcher*

Rank : *Professor*

Professional address: *Abbes Laghrour Khenchela University, Department of Material Sciences, Faculty of Sciences and Technologies (40000) Khenchela, Algeria.*

Diplomas Obtained:

- ➢ *Baccalaureate, June 1994 session, Algeria, Exact Sciences Option.*
- ➢ *Diploma of Higher Studies (D.H.S), June 1999, Solid Physics, University of Batna.*
- ➢ *Magister in Physics, Theoretical Physics option, 2006 at the University of Oum-El-Bouaghi, Algeria.*

  « Traitement de quelques problèmes relativiste et non relativiste dans

  l'espace commutatif et non commutatif »

- ➢ *Doctorate in Sciences Physique, option : Physics Theorique, October 2011 at the University of Jijel, Algérie.*

  « Traitement de certains problèmes via la théorie de Duffin-Kemmer-Petiau »

- ➢ *Habilitation to direct research 2016 at the university of Biskra, Algeria.*

Personal Activities:

- ➢ *2007-2008 : Contract teacher at the Khenchela University Center.*
- ➢ *2009-2010 : Assistant teacher "B" at the University of Biskra, Algeria.*
- ➢ *2010-2011 : Assistant teacher "A" at the University of Biskra, Algeria.*
- ➢ *2011-2016 : Conference teacher "B" at the University of Biskra, Algeria.*
- ➢ *2016-2021 : Conference teacher "A" at the University of Biskra, Algeria.*
- ➢ *2021-2023 : Professor at the University of Biskra, Algeria.*
- ➢ *2023 : Professor at the University of Khenchela, Algeria.*

Supervision activities:

- ➢ *2021/2022 : Doctorat en sciences « Quantum Studies of Some Non-Central Potentials» Mr. Heddar Mebarek (Univ Biskra).*
- ➢ *2022/2023 : Doctorat en sciences « Study of certain atomic systems in the context of generalized quantum mechanics » Mr. SEK Lakhdar (Univ Biskra).*
- ➢ *2022/2023 : Doctorat en sciences « Traitement de certains systèmes microscopiques via la mécanique quantique déformée » Mr HEMAME Zoubir (Univ Biskra).*
- ➢ *2013-2014 : Master de Physique Photovoltaïque " Etude de certains problèmes quantiques non relativistes avec une masse variable ". Kherroub Mebarka (Univ Biskra).*
- ➢ *2014-2015 : Master de Physique des Matériaux "Paradoxe de Klein pour des particules relativistes de spin zéro dans un potentiel scalaire". Boucenna kharfia (Univ Biskra).*
- ➢ *2014-2015 : Master de Physique des Matériaux " Etude de quelques problèmes quantiques relativistes avec une masse variable". Namoussi Kenza (Univ Biskra).*
- ➢ *2015-2016 : Master de Physique Photovoltaïque " Résolution de l'équation de Klein Gordon généralisé par la méthode de Nikiforov-Uvarov". Tabbi Sakina (Univ Biskra).*
- ➢ *2015-2016 : Master de Physique des Matériaux " Etude quantique de quelques potentiels scalaires via l'équation de Klein Gordon à trois dimensions". Elguerri Fatma (Univ Biskra).*

- *2016-2017 : Master de Physique des Matériaux " Etude de l'oscillateur harmonique non relativiste avec un principe d'incertitude généralisé". Badaoui Houda (Univ Biskra).*

- *2016-2017 : Master de Physique Photovoltaïque " Etude des propriétés thermodynamiques de l'oscillateur de Schrödinger dans l'espace non commutatif ". Rafika chaibeddra (Univ Biskra).*

- *2016-2017 : Master de Physique des Matériaux " Etude de l'équation de Klein Gordon déformée avec un potentiel vectoriel et leurs propriétés thermodynamiques". Chaibeddra Dalel (Univ Biskra).*

- *2017-2018 : Master de Physique Photovoltaïque " Traitement quantique de certains alcalins et leurs propriétés radiatives à D dimensions". Benalia Houda (Univ Biskra).*

- *2017-2018 : Master de Physique des Matériaux " Etude de l'oscillateur harmonique de K-G Avec la présence de la longueur minimale à D dimension". Mancer Kenza (Univ Biskra).*

- *2018-2019 : Master de Physique Energétique" Traitement de quelques systèmes microscopiques dans le modèle quantique de Snyder". Abboude Mouna (Univ Biskra).*

- *2019-2020 : Master de Physique Energétique et les Energies Renouvelables*

  '' حل معادلة شرودنجر في الفضاء المشوه لذرة الهيدروجين بطريقة نيكيفوروف-يوفارو ف''

  عياضي عبد العزيز، لعمامرة فريال. (جامعة بسكرة)

- *2020-2021 : Master de Physique des Matériaux*

  '' دراسة كمومية نسبية لهزاز توافقي بوجود الحقل المغناطيسي في اطار الهندسة غير تبديلية''
  غروي ناجي , بلعمري زهير. (جامعة بسكرة)

- *2021-2022 : Master de Physique Energétique et les Energies Renouvelables*

  Etude quantique de l'oscillateur harmonique de Pauli-Schrödinger deformé dans le modèle de Snyder-de Sitter.

  Elalouani Khira, Djfafla Romaissa, (Univ Biskra).

- *2022-2023 : Master de Physique des Matériaux*

  '' دراسة الهندسة غير تبديلية لهزاز توافقي لشرودينجر في فضاء منحني''

  نور الهدى سعدية. (جامعة بسكرة)

Scientific Activities:

- *Décembre-2004 : Journées Scientifiques Algéro-Françaises à l'université de Jijel, Ecole doctorale de Jijel "physique-chimie", M. Falek, université de Jijel*

- *Novembre-2007 : Colloque international sur les Equations aux dérivées partielles et leurs applications "CISEDPA 07" « Treatment of Relativistic Problem in a Noncommutative Space», M. Falek, université de Guelma.*

- *Octobre-2011: The 8th International conference on progress in theoretical physics. LPMPS « Duffin-Kemmer-Petiau Equation in Curved Space-Time», M. Falek, université de Constantine.*

- *Septembre-2013: The 9th International conference Subatomic Physics and with Applications. LPMPS « Klein Paradox for the Duffin-Kemmer-Petiau Equation in the presence of Minimal Length», M. Falek, université de Constantine.*

- *Mars-2013 : VIIIème Congrès Internationale sur les Energies Renouvelables et l'Environnement, "Simulation numérique du refroidissement de l'absorbeur d'un réfrigérateur solaire à adsorption par convection", M. Falek, N. Belghar, A. Oubiri. Sousse, Tunisie.*

- *Novembre-2018 : Workshop sur les systèmes dynamiques et les équations différentielles et leurs applications "SEDEDA2018" « Nikiforov-Uvarov method and polynomial solutions of hypergeometric equation », M. Falek, Université de Oum el Bouaghi.*

- *Novembre-2018 : Workshop sur les systèmes dynamiques et les équations différentielles et leurs applications "SEDEDA2018" « Exact solution of the D-dimensional Klein-Gordon oscillator with Snyder-de Sitter algebra », Z.Hemame and M. Falek, Université de Oum el Bouaghi.*

- *Février-2020: 13th International Days of Theoretical and Computational Chemistry M. Falek (organization member), Université de Biskra.*

- *December-2020: Third international Conference on Technology and Science « Exact Solutions Of D-Dimenional Schrodinger Oscillator With Snyder–De Sitter Algebra », Z.Hemame , M. Falek and M.Moumni, Turkey.*

- *December-2020: Third international Conference on Technology and Science « Dipole potential in 2d de sitter and anti-de Sitter spaces », Mebarek HEDDAR and M. Falek, Turkey.*

- *December-2020: Third international Conference on Technology and Science « (2 + 1) Dimensional thermal properties of Dirac oscillator under a uniform magnetic field in anti-de-sitter space », M. Falek, Lakhdar SEK and M.Moumni, Turkey.*

- *December-2020: Third international Conference on Technology and Science « (2 + 1)-Dimensional relativistic oscillators under a uniform magnetic field in noncommutative space», Lakhdar SEK, M. Falek and M.Moumni, Turkey.*

- *April-2021: First International Conference on Sustainable Energy and Advanced Materials IC-SEAM'21« Dipole potential in 2D de Sitter and anti-de Sitter spaces », Mebarek HEDDAR and M. Falek, Ouargla.*

- *April-2021: First International Conference on Sustainable Energy and Advanced Materials IC-SEAM'21« Non-Relativistic Bound State Solutions of Kratzer Potential in Anti-deSitter Space», Meriem Abdelaziz and M. Falek, Ouargla.*

- *April-2021: First International Conference on Sustainable Energy and Advanced Materials IC-SEAM'21« Thermal Properties of Graphene via the Massless Dirac Equation with an External Magnetic Field in Non-Commutative Space», Zoubir HEMAME, M. Falek and M.Moumni, Ouargla.*

- *April-2021: First International Conference on Sustainable Energy and Advanced Materials IC-SEAM'21« Thermodynamical Properties of Graphene in Anti de- Sitter Space», Lakhdar SEK, M. Falek and M.Moumni, Ouargla.*

- *April-2021: First International Conference on Sustainable Energy and Advanced Materials IC-SEAM'21« Thermal Properties of Duffin Kemmer Petiau Oscillator under the Influence of an External Magnetic Field in Non-Commutative Space», Lakhdar SEK, M. Falek and M.Moumni, Ouargla.*

- *December-2022: Hradec Kralové International Physics Days 2022« Exact solution of one-dimensional Dirac oscillator in Snyder», M. Falek, A.Abboudi and L. SEK, University of Hradec Kralové.*

- *March in 2023: 2nd International Conference on Scientific and Academic Research "Vector Particle Case of Duffin Kemmer Petiau Oscillator in a Magnetic Field in Noncommutative Space" M. Falek, Konya/Turkey.*

➢ *January in 2023: 3rd International Conference on Engineering and Applied Natural Sciences "On the Energy Eigenvalues of KLEIN GORDON Oscillator under a Uniform Magnetic Field in Anti deSitter Space" M. Falek, Konya/Turkey.*

➢ *April in 2023: 2nd International Conference on Engineering, Natural and Social Sciences ICENSOS "Energy Eigenvalues of Dirac Oscillator in de-Sitter Space" M. Falek Konya/Turkey.*

Research Activities:

➢ *2011 : Member of the research project PNR 8/u04/4981 LSDC Title : « Théorie de la déformation et quantification des champs » At the University of Oum el Bouaghi.*
Project Manager : Merad Mahmoud. Date of approval: 02/05/2011.

➢ *2013 : Member of the CNEPRU research project D03020120002 Title : « Formulation de la mécanique quantique relativiste et non relativiste dans le cadre des algèbres déformées » At the University of Oum el Bouaghi.*
Project Manager : Merad Mahmoud. Date of approval: 01/01 2012.

➢ *2019 : Research Project Manager PRFU B00L02UN070120190003 Title : « Formulation des systèmes physiques dans le cadre de la mécanique quantique déformée » At the University of Biskra*
Approval date : 01/01/ 2019.

➢ *Since 2016 : Research team leader in the "LPPNM" Photonic Physics and Multifunctional Nanomaterials laboratory at the University of Biskra.*

Scientific publications :

➢ *M. Falek and M. Merad, "The DKP (Duffin-Kemmer-Petiau) Oscillator in a Noncommutative Space" Commun. Theor. Phys. 50, 587 (2008).*

➢ *M. Merad and M. Falek, " The time-dependent linear potential in the presence of a minimal length" Phys. Scr. 79, 015010 (2009).*

➢ *M. Falek and M. Merad,"Bosonic oscillator in the presence of minimal length" J. Math. Phys, 50, 023508 (2009).*

➢ *Mokhtar. Falek and Mahmoud. Merad, "Duffin-Kemmer-Petiau equation in Robertson-Walker space-tim" Cent. Eur. J. Phys. 8, 408 (2010).*

- ➢ **M. Falek** and M. Merad, "Exact solution of the scalar DKP equation in (1+3)-Dimensional Robertson-Walker Space-Time" Int. J. Mod. Phys A 25, 1 (2010).

- ➢ **M. Falek** and M. Merad, "A generalized Bosonic oscillator in the presence of a minimal length" J. Math. Phys. 51, 033516 (2010).

- ➢ **M. Falek** and M. Merad, "Duffin-Kemmer-Petiau equation in curved space-time" AIP Conf. Proc. 1444, 367 (2012).

- ➢ M.Merad, F.Zeroual and **M. Falek**, " Relativistic particle in electromagnetic fields with a generalized uncertainty principle" Mod. Phys. Lett. A 27, 1250080 (2012).

- ➢ **M. Falek**, M.Merad and M.Moumni, "Klein Paradox for the Bosonic Equation in the Presence of Minimal Length" Found. Phys. 45. 507 (2015).

- ➢ M.Moumni and **M. Falek**, "Schrödinger equation for non-pure dipole potential in 2D systems" J. Math. Phys 57, 072104 (2016).

- ➢ **M. Falek**, M. Merad, and T. Birkandan. "Duffin–Kemmer–Petiau oscillator with Snyder-de Sitter algebra » J. Math. Phys. 58, 023501 (2017).

- ➢ **M. Falek**, M.Merad and M.Moumni, "Bosonic oscillator under a uniform magnetic field with Snyder-de Sitter algebra" J. Math. Phys. 60 (1). 013505 (2019).

- ➢ M.Heddar, M.Moumni and **M. Falek** "Non-relativistic and relativistic equations for the Kratzer potential plus a dipole in 2D systems" Phys. Scr. 94, 108863 (2019).

- ➢ **M. Falek**, N. Belghar and M.Moumni, "Exact solution of Schrödinger equation in (anti-) deSitter spaces for hydrogen atom" Eur. Phys. J. Plus. 135 (66) 335 (2020).

- ➢ Kamel Chadi, Nourredine Belghar, **Mokhtar Falek**, Zied Driss, Belhi Guerira, "Effect of the position of parallelogram ribs in micro channel on heat transfer using diamond nanoparticles" Metall. Mater. Eng. (2020). https://doi.org/10.30544/537.

- ➢ Zoubir Hemame, **Mokhtar Falek**, and Mustafa Moumni, "Exact solutions of D-dimensional Klein–Gordon oscillator with Snyder–de Sitter algebra » J. Math. Phys. 61 (10), 102301 (2020).

- ➢ Mourad Baazouzi, Mustafa Moumni , **Mokhtar Falek**, "Exact solutions for a quantum ring with a dipolar impurity" Eur. Phys. J. Plus 135. 894 (2020).

- ➢ Mustafa Moumni , **Mokhtar Falek** and Mebarek Heddar, "Solutions of Klein–Gordon and Dirac Equations for Non-pure Dipole Potential in 2D Systems" Few-Body Syst 61. 47. (2020).

- *Lakhdar Sek, **Mokhtar Falek** and Mustafa Moumni, "2D Relativistic Oscillators with a Uniform Magnetic Field in Anti-de Sitter Space" Int. J. Mod. Phys A 36.2150113. (2021).*

- *Mebarek Heddar, **Mokhtar Falek**, Mustafa Moumni and Bekir Can Lutfuoglu "Pauli oscillator in noncommutative space" Modern Physics Letters A, 36, 40, 2150280. (2021).*

- *Belhi Guerira, **Mokhtar Falek**, Mustafa Moumni, and Noureddine Belghar "Exact solutions of Pauli oscillator with Snyder–de Sitter algebra" International Journal of Modern Physics A, 37, 13, 2250069. (2022).*

- *Lakhdar Sek, **Mokhtar Falek,** Mustafa Moumni Thermal properties of (2+1) dimensional relativistic oscillator in non-commutative space AIP Conference Proceedings 2679, 030002 (2023).*