



Curriculum vitae

Professor: Mohammed Tayeb Meftah

1) Work address

Name: Mohammed Tayeb, Family Name: Meftah
Professor at : Department of Physics, Ouargla University 30000, Algeria
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2) Home address

Mohammed Tayeb Meftah
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3) Personal data

- born on April, 10th 1958 at Guemar 39400, Algeria
- male, algerian, married

4) Education

- **Ph.D in physics** (on March 1996) at : physique des interactions ioniques et moléculaires (PIIM),
Marseille, France
Research Advisor: Dr R. Stamm (Professor at Marseille University, 13397 France)
Research topics: Contributions to the theory of line broadening in plasmas:
Application of the HeII Paschen- α line to diagnostics
- **Master (Magistère) by thesis in physics** (on February 1987) at : Département de physique
théorique, université
de Constantine, 25000 Algeria.
Research Advisor: Dr F. Rocca (Professor at Nice University 06000, France)

Research topics: Bose-Einstein condensation of interacting systems.

- **Maitrise (Bachelor) theoretical physics** (September 1982) at : Département de physique théorique, université de Constantine, 25000 Algeria on September 1982.
- **Baccalauréat** (June 1978), Mathématiques, Mention: Bien; Annaba 23000, Algeria.

5) Research experience

Since 1983, I have worked on different topics in theoretical and mathematical physics:

- Quantum Fermi-Bose systems and phase transitions (1983-1988),
- Quantum mechanics in path integral framework (1989-2008),
- Quantum radiation theory in plasmas (1992-1996),
- Classical statistical mechanics in plasma physics (1996-2012),
- Green functions for some problems encountered in quantum mechanics (2002-2012),
- Fractional derivative in transport phenomena and quantum mechanics (2012-2015)
- Fundamental Plasma physics: radiation and transport phenomena, electron broadening of spectral line shape in plasmas (2000-2016)

6) Supervisor of many graduate students

- **15 PHD thesis (finished):**

- 1- Ismail Chihi: Calculation of the static distribution of the electric microfield derivative in plasmas using Monte-Carlo simulation (February 2005 at Constantine University Algeria).
- 2 - Kamal Eddine Aiadi: Studies of an Optical Sensors : Application to the petrochemistry (November 2006 at Batna University Algeria).
- 3 - Thouria Chohra: Calculation of the static distribution of the electric microfield in cold plasmas (November 2006 at Batna University Algeria).
- 4 - Mosbah Difallah: Berry phase in plasma spectroscopy (July 2012 at Batna University Algeria).
- 5 - Said Douis: Statistical properties of hot electrons in high temperature plasma, July 2013 Ouargla 30000 Algeria
- 6 - Brahim Benali; April 2015; Green's function via exact summation of the perturbations series; University of Biskra (07000) Algeria
- 7 - Amel Naam: May 2015; Relativistic broadening of spectral line shapes in plasmas. University of Ouargla (30000) Algeria

- 8 - Ibtissem Hannachi: Stochastic process application to radiative properties and transport in Tokamak plasma, June 2015 ; University of Batna (05000) Algeria
- 9 – Zineb Korichi; Application of fractional derivative to some problems of classical and quantum statistical systems, November 2016 University of Ouargla (30000) Algeria
- 10 – Med Abdelwahhab ben-Bitour: On disk accretion theory and transport (2016)
- 11 – Dahbi Laid (January 10, 2019): Black hole thermodynamics
- 12 – Ghazel Amel (September 30, 2018):
- 13 – Ababsa Hakima (2018)
- 14 – Bedida Nacira (March 2018)
- 15 – Begui Mohammed (defended Sept.2019)
- 16 – Boumeddane Asma
- 17 – Gossa Hadda (To be defended)
- 18 – Arif Khadra (To be defended)
- 19 – Belghitar Haje Becheraire (in redaction)
- 20 – Boussaid Chouaib (in redaction)
- 21 – Bekhouche Randa (in redaction)
- 22 – Bouzenna el-ghenbazia Fatma
- 23 – Malki Zahida
- 24 – Amieur Bachir
- 25 – Guerrida Houria
- 26 – Haouas Laid
- 27 – Tedjani Abdelkerim

- 20 Master thesis (finished):

- 1) Said Douis: : Calculation of the static distribution of the electric microfield due to the electrons in plasmas (2000 Ouargla University).

- 2) Thouria Chohra: Calculation of the static distribution of the electric microfield in two component plasmas(2000 Ouargla University).
- 3) El-Hadj Bechrayr Belghithar: Calculation of the collision operator in the classical plasma (2002 at Batna University).
- 4) Mosbah Diffallah: Application of the time-dependent problems to plasmas (June 2004, Ouargla University).
- 5) Khadidja Mouaffeki: Feschbach problem in the case of constant magnetic and electric fields (June 2004 at Ouargla university).
- 6) Brahim Benali: Perturbative calculation of Green operator for the step potential (March 2006 at Ouargla University).
- 7) Hakima Ababsa: Theoretical calculation of the water permittivity using Percus-Yevik model (September 2006 at Ouargla University).
- 8) Sana Harzelli: Calculation of the collision operator in the magnetized plasma
- 9) Amal Naam: Calculation of the collision operator in the classical relativistic plasma (September 2006 at Ouargla University).
- 10) Nacira Bedida: Path integral techniques in theoretical plasma physics: Lyman-alpha spectroscopy (November 2006 at Ouargla University).
- 11) Bachir Amieur: Electron collision operator in plasma: spin effects, (November 2006 at Ouargla University).
- 12) Fatma-Zohra Zouari: cooling plasma with laser interaction (November 2006 at Ouargla University).
- 13) Souheila Askri: Statistical distribution of the electric microfield and its spatial derivatives in the model of the independent particles (June 2011 El-oued University)
- 14) Mohammed Bagui: Dipolar and quadripolar matrix elements in non-commutative quantum physics (April 2013 El-oued University)
- 15) Zineb Korichi: Statistical mechanics with fractional derivative (June 2013 Ouargla University)
- 16) Hanane Adaika: Distribution function on angular velocity of the micro-field in plasma (June 2013 El-oued University)
- 17) Gossa Hadda: Relativistic Doppler effect in the broadening of the spectral line in plasmas(June 2013)
- 18) Souad Lachraf: Transport equation with fractional derivative (April 2013 El-oued University)
- 19) Zohra Nefedi: Transport equation with fractional derivative (Dec. 2013)
- 20) Khadidja Bali: Dielectric constant for relativistic plasma (Dec. 2013)
- 21) Zineb Chebouat: Diffusion coefficient in Deutsch potential in Plasma

7) Publications (International) (61 Papers)

- 1) M. Acila, B. Benali and **M.T. Meftah**: The Green function of step potential via an exact summation of the perturbation series, *J. Phys. A: Math. Gen.* **39** (2006) pp1357–1366.
- 2) Application of path integral formalism in spectral line broadening: Lyman alpha in hydrogenic plasma: H. Bouguettaia, K. Chenini; **M.T. Meftah** et al *Journal of Quantitative Spectroscopy and Radiative Transfert (JQSRT 2004)*.
- 3) Green Function of the Morse Potential Using Perturbation Series; B. Boudjedaa, **M. T. Meftah** and L. Chetouani; *Turk J Phys* 31 (2007) , 197 – 203.
- 4) Path integral approach in the plasma radiation; I. Chihi, **M.T. Meftah** and H. Kleinert : *Journal of Plasma Physics* (Oct. 2004), Cambridge Press.
- 5) Ionic Broadening with dynamical effects in plasmas: Path integral point of view: M. DIFALLAH, **M.T. MEFTAH**, N. BEDIDA, D. BOLAND AND R. STAMM; *International Review of Atomic and Molecular Physics*, 1 (1), January-June 2010
- 6) Path Integral Formulation for Ionic Broadening in Plasmas: Lyman- α with Fine Structure and Dynamical Effects: N. Bedida and **M.T. Meftah**; *Journal of Modern Physics*, 2012, 3, 1678-1682
- 7) B. Benali and **M.T. Meftah**, *acta physica polonica A* (2013)
- 8) M. A. Benbitour and **M.T. Meftah**: Report *Mathematical Physics* (Elsevier) (2013)
- 9) B. Benali and **M.T. Meftah** Report in *mathematical physics* (2014) in press
- 10) B. Boudjedaa, **M. T. Meftah** and L. Chetouani; *Journal of Modern Physics* (2014)
- 11) Electric Field dynamics in two plasma component : **M.T. Meftah**, T. Chohra, H. Bouguettaia, F. Khelfaoui, B. Talin, A. Calisti and J.W. Dufty, *European Physical Journal. B*, Vol.37 pp39-46 (2004).
- 12) On the accuracy of Stark broadening calculations for ionic emitters ; L. Mouret, **T. Meftah**, A. Calisti, R. Stamm, B. Talin, M. Gigoso, V. Cardenoso, S. Alexiou, R.W. Lee and L. Klein; *Physical Review Letter*; December (1998).
- 13) Ground Work supporting the codes based upon the frequency fluctuation model B. Talin, A. Calisti, S. Ferri, M. Koubiti, **T. Meftah**, C. Mosse, L. Mouret, R. Stamm, *JQSRT*, 58, 953 (1997).

- 14) Model for Stark Broadening of plasmas created by laser interaction with matter; A. Calisti, L. Godbert, **T. Meftah**, C. Mossé, R. Stamm, and B. Talin in " laser and particle beams" 1994 Vol.12, no.3, pp.407-411.
- 15) Line shapes in the magnetized plasmas; K.A Touati and **M.T. Meftah**; *Journal of Modern Physics*, 2012, 3, 943-946
- 16) Contribution to Calculation of Ion Microfield Nonuniformity Effect on the Asymmetry of Lyman- α Line in Dense Plasma; K. Chenini, F. Khelfaoui, S. Guerricha, S. Chihi, A. Ouahhab, and **M.T. Meftah**; *Contrib. Plasma Phys.* 51, No. 1, 34 – 43 (2011)
- 17) Distribution Function of Spatial Derivative of the Ion Electric Microfield Using the Independent Particles Model in Plasmas: S. Guerricha, S. Chihi, and **M. T. Meftah** ; *Contrib. Plasma Phys* 52, No. 0, 776 – 783 (2012)
- 18) Model of Dynamical Correlation in Two-Ionic Strong Coupling Plasmas : T. Chohra, K. Chenini, **M.T. Meftah** and A. Boukraa; Vol. 116 (2009) *ACTA PHYSICA POLONICA A*
- 19) The adiabatic effect of an oscillating electric field on the spectral line shape in a plasma; M. Difallah, **M.T.Meftah** , A.Bekkouche , N.Bedida *JQSRT* (2011), doi:10.1016/j.jqsrt.2011.11.013
- 20) Berry phase in the theory of radiation in plasmas; M. Difallah and **M.T. Meftah** and N. Bedida: *Phys. Scr.* **85** (2012) 055012
- 21) Oumelkheir Babahani, Fethi Khelfaoui and **Mohammed Tayeb Meftah**. Analytical calculation of site and surface reaction probabilities of SiHx radicals in PECVD process. *The European Physical Journal Applied Physics*, doi:10.1051/epjap/2013120345. (2013)
- 22) S. Douis and **M.T. Meftah**; Relativistic effects of the electrons in plasma: correlation function and electronic line broadening; *The African Review of Physics* (2013) **8**:0002
- 23) S. Douis and **M.T. Meftah**; correlation function and electronic spectral line broadening in relativistic plasmas: *Serb. Astron. J.* (2013)
- 24) S. Douis and **M.T. Meftah**: *Theoretical and applied Physics* (Springer) (2013)
- 25) M. Difallah, N. Bedida and **M.T. Meftah**: *Korean Journal of Physics* (2013)
- 26) A. Naam, S. Douis, **M.T. Meftah** and A. Spiros: *Advances in Physics of Space* (Elsevier) (2014)
- 27) H. Adaika and **M. T. Meftah**: *Contrib. to Plas. Phys.* (2014)
- 28) I. Hannachi and **M. T. Meftah** et al *dgp marseille: Contrib. to Plas. Phys.* (2014)
- 29) N. Bedida, **M.T. Meftah** and M. Difallah : *Contrib. to Plas. Phys.* (2014)

- 30) Z. Korichi and **M. T. Meftah**, Journal of Mathematical Physics aip (2014)
- 31) F. Rehouma, K.E. Aiadi and **M.T. Meftah**; Rouman Journal of Materials (2006)
- 32) Z. Korichi and **M. T. Meftah** accepted in Theo. Math. Phys (Springer) (2015)
- 33) Z. Korichi and **M. T. Meftah** ; Physical Science International Journal (<http://www.sciencedomain.org>) (2015)
- 34) Hichar S, Guerfi A and **Meftah MT** : Estimates for Solutions of Semilinear Elliptic Equation in Two Dimensions, Applied & Computational Mathematics 3: 186. (2015)
- 35) S. Hichar, A. Guerfi, **M.T. Meftah** and S. Douis accepted in: Report in Mathematical Physics (springer) (2015)
- 36) I Hannachia, M Meirenib, H Capesb, F Guzmanb, M Koubitib, Y Marandetb, **M T Meftah**c, L Mouretb, J Rosatob, R Stamm; Effects of Strong Langmuir Turbulence on Hydrogen Lines; Journal of Physics: Conference Series 548 (2014) 012045 doi:10.1088/1742-6596/548/1/012045
- 37) L. Dahbi, **M.T. Meftah**; MAYER's formula for black hole thermodynamics in constant magnetic field, British Journal of Mathematics & Computer Science 2016
- 38) H. Ababsa, **M.T. Meftah** and T. Chohra, Dynamical and transport properties in plasmas including three-particle spatial correlations, J Theor Appl Phys (2017) 11:63–70
- 39) H. Ababsa, **M.T. Meftah** and T. Chohra, Two and three-particles spatial correlation in weak coupling plasma and applications, Physics and Chemistry of Liquids, 2017, <http://dx.doi.org/10.1080/00319104.2017.1301449>
- 40) B. Khalfallah, S. Douis, **M. T. Meftah**, N. Touahri, Electric Microfield Distribution of hydrogen plasma in TCP model, accepted in "Contributions to Plasma Physics" (2017)
- 41) L. Dhahbi and **M. T. Meftah**, Thermodynamics of the black hole in the Grand statistical ensemble, Global Journal of Pure and Applied Mathematics, Volume 13, Number 9 (2017), pp. 5513–5524 <http://www.ripublication.com/gjpam.htm>
- 42) A. Naam, L. Benmabrouk and **M.T. Meftah**, Relativistic Electronic Broadening of the Degenerated Isolated Spectral Line in Plasma, Global Journal of Pure and Applied Mathematics, Volume 13, Number 1 (2017), pp. 51–62, <http://www.ripublication.com/gjpam.htm>
- 43) M. Begui, **M.T. Meftah** and B. Benali, Quantum Green's Function in N-dimensional Space with Spherically Piecewise Continuous Potentials, Advanced Studies in Theoretical Physics, Vol. 11, (2017), no. 7, 337 – 355: <https://doi.org/10.12988/astp.2017.7413>
- 44) A. Ghazel, **M.T. Meftah**, S. Douis and K. Chenini, Spectral line broadening by electron collisions in plasmas, Revista Mexicana de Física **63** (2017) 481-485

- 45) Randa Bekhouche, **Mohammed Tayeb Meftah** and Zineb Korichi, Comparative Study for N D-Dimensional Quantum Oscillators with Respect Fractional Derivative Senses, Few-Body Syst. (2017) 58:153
- 46) Kamel Ahmed Touati, K. Chenini and **M.T.Meftah**, Profils de raies spectrales dans les plasmas magnétisés: Effet Stark Motionnel ; *Canadian Journal of Physics*, Published on the web 14 September 2017, <https://doi.org/10.1139/cjp-2017-0160>
- 47) Ati Sadeghzadeh Lari, Hassan Ranjbar, **M.T. Meftah** and S. Douis: Estimative study of the influence of the ionic electric microfield on the spectral line broadening by electron collisions in plasmas, HEDP (2018), PII: S1574-1818(18)30001-6 DOI: [10.1016/j.hedp.2018.01.001](https://doi.org/10.1016/j.hedp.2018.01.001) Reference: HEDP 646
- 48) B. Ben Ali and **M.T. Meftah**: An alternative derivation of the quantum Green's function for a potential presenting a jump, *Global Journal of Pure and Applied Mathematics*. ISSN 0973-1768, Volume 14, Number 1 (2018), pp. 67–79
- 49) **M.T. Meftah**, K. Arif et al : Contribution of Lienard-Wiechert Potential to the Electron Broadening of Spectral Lines in Plasmas, <http://www.mdpi.com/2218-2004/6/1/6>, *Atoms* (2018), 6(1), 6; doi:[10.3390/atoms6010006](https://doi.org/10.3390/atoms6010006)
- 50) **M.T. Meftah**, H. Gossa et al: Doppler Broadening of spectral line shapes in relativistic plasmas. <http://www.mdpi.com/2218-2004/6/2/16> ; *Atoms* (2018), 6(2), 16; doi:[10.3390/atoms6020016](https://doi.org/10.3390/atoms6020016)
- 51)** Mohammed Abdelwahhab Benbitour, Chaib Boussaid and **Mohammed Tayeb Meftah**, Induced Representation of the $(1 + 1)$ -Quantum Extended Galilei Algebra on the Bargmann Space-Time, (2018); *Int J Theor Phys*. <https://doi.org/10.1007/s10773-018-3769-4>
- 52)** N. Bedida, M. Difallah, **M.T. Meftah**, H. Reinholz and G. Röpke, Path integral approach for Stark broadening of Lyman lines in hydrogen plasma, *Contrib. Plasma Phys.* May (2018). [https://DOI: 10.1002/ctpp.201800039](https://DOI:10.1002/ctpp.201800039)
- 53) B. Benali, **M.T. Meftah** and Rai Vandana: Green's function for piecewise continuous potential via integral equations method, *J. Indones. Math. Soc.* Vol. 24, No. 02 (2018), pp. 20-35.
- 54) E. Sadeghzadeh Lari, H.R. Askari, **M.T. Meftah** and M. Shariat: The effect of power supply parameters on spectral lines in atmospheric pressure plasma jets (APPJs) using the He Stark broadening in optical emission spectroscopy. *International Journal for Light and Electron Optics, Optik*, Volume 176, January 2019, Pages 636-649 <https://doi.org/doi:10.1016/j.ijleo.2018.09.056>
- 55) E. Sadeghzadeh Lari, H.R. Askari, **M.T. Meftah** and M. Shariat: Calculation of electron density and temperature of plasmas by using new Stark broadening formula of helium lines. *Physics of Plasmas* 26, 023519 (2019); <https://doi.org/10.1063/1.5085050>
- 56) Yasmina Ben Nana, Fethi Khelfaoui, Said Douis, Eshrat Sadeghzadeh Lari and **Mohammed Tayeb Meftah** : Effect of the Ions on the Electron Collision Operator through Electronic Trajectory Modification. *Atoms* 2019, 7, 77; <https://doi.org/10.3390/atoms7030077>

- 57) L. Khiari, T. Boudjedaa, A. Makhlouf and **M.T. Meftah**. Coupled oscillators in non-commutative phase space: Path integral approach. Eur. Phys. J. Plus (**2019**) 134: 396 [https://DOI 10.1140/epjp/i2019-12770-3](https://DOI.10.1140/epjp/i2019-12770-3).
- 58) Yasmina Ben Nana, Fethi Khelfaoui, **Mohammed Tayeb Meftah** and Eshrat Sadeghzadeh Lari : A novel investigation in the electronic broadening of spectral line profiles: Application to neutral Magnesium in Plasmas, Optik (Elsevier) Septembre 2019
- 59) L. Khiari, T. Boudjedaa, A. Makhlouf and **M.T. Meftah**. Berry Phase for Time-Dependent Coupled Harmonic Oscillators in the Noncommutative Phase Space via Path Integral Techniques. Siberian Journal of Mathematical Physics, accepted Juin 2019
- 60) F. E. Bouzenna, Z. Korichi and M.T. Meftah, accepted in “Report in Mathematical Physics” (Elsevier) Septembre 2019
- 61) A. Boumeddane, T. Chohra, M.T. Meftah, accepted in “Ciencia e Tecnica Vitivinicola” octobre 2019

International Communications

- 1) Path integral in plasma physics ; S.douis, H. Bouguettaia, **M.T.Meftah** et R. Stamm. 15th International Conference in Spectral Line Shapes, (July 10-14 /2000) Berlin 2000, AIP 2000 proceeding
- 2) Co-Editor of “Actes des journées scientifiques algero-françaises en physique théorique et mathématique” 2006 : Makhlouf A., Maamache M. and Meftah M.T.
- 3) Path integral formalism for the spectral line shape in plasmas: Lyman- α with fine structure ; N. Bedida, D. Boland, M.T. Meftah and R. Stamm 19 ICSLS; 15-20 June 2008, Valladolid, Spain printed by AIP
- 4) Contribution to diagnosis in spectral line shapes of deposit plasma ; F. Khelfaoui, **M.T. Meftah**, K. Chenini, N. Attaf and M.S. Aida ; pp 3275-3278 in Proceedings of the 15th International Symposium on Plasma Chemistry, 09-13 July 2001, Orléans, France. Edited by A. Bouchoule et al.; GREMI, CNRS/Université d’Orléans.
- 5) Radiative transfert in plasma physics ; K.Chenini, F. Khelfaoui, **M.T.Meftah** et R. Stamm. 15th International Conference in Spectral Line Shapes, July (10-14 /2000) Berlin 2000.
- 6) Models for Stark Broadening Applied to Plasma Diagnostics ; R.Stamm, A. Calisti, S. Ferri, M. Koubiti, **T. Meftah**, L. Mouret, C. Mossé, F. Reva, and B. Talin ; American Institut of Physics Conference Proceedings; Auburn (USA), Sept.28 1998 – Vol 443, issue 1, pp.299-316.

- 7) MFF model applied to the hydrogen-like helium paschen- α line; **T. Meftah**, S. Alexiou, A. Calisti, L. Godbert, R. Stamm and B. Talin at 13th, 4eme Colloque de DIAM Bourges France Juillet 96.
- 8) Ph.D Thesis at " universit  de provence Marseille March 1996.
- 9) The frequency fluctuation model applied to the hydrogen-like helium paschen- α line; **T. Meftah**, S. Alexiou, A. Calisti, L. Godbert, R. Stamm and B. Talin at 13th International Conference on Spectral line shapes, Firenze, June 16-21, 1996.
- 10) Analysis of lithiumlike line shapes in gas-liner pinch; R.Stamm, A.Calisti, L. Godbert, **T. Meftah**, C. Moss , B. Talin and S.Glenzer in AIP Conference proceedings 328; Spectral line shapes ol.8; edits. A. David May, J.R. Drumond and Eugene Oks; Toronto, Canada 1994.
- 10) Master Thesis: Bose-Einstein condensation of interacting systems (University of Constantine, Algeria 1987).
- 11) Electronic broadening operator for relativistic plasmas; A. Naam and M.T. Meftah; 19 ICSLS; 15-20 June 2008, Valladolid, Spain printed by AIP
- 12) On the electric micro-field in plasmas: statistics of the spatial derivatives; S. Guerricha, I. Chihi and M.T. Meftah; 19 ICSLS; 15-20 June 2008, Valladolid, Spain printed by AIP
- 13) Spectral line calculation model in no optically thin plasma; K. Chenini, F. Khelfaoui and M.T.Meftah; 19 ICSLS; 15-20 June 2008, Valladolid, Spain printed by AIP
- 14) 9th SCSLSA, Serbian Conference on Spectral Line Shapes in Astrophysics Belgrade 2013
- 15) 22 ICSLS group dgp de Marseille (IOP Proceedings in conferences series **2014**)
- 15) 11th SCSLSA, Serbian Conference on Spectral Line Shapes in Astrophysics Belgrade 2017

8) Papers in preparation

- a) Green's functions of piecewise continuous potential by exact summation of a perturbation series
- b) Model of a constant dielectric in two component plasma (in preparation with ababsa)
- c) Wood-Saxon Potential via path integral integration

- d) Problems via perturbation theory on quantum sphere
- e) Hydrogenic Atom in a Gaussian Time-Dependent Electric Field
- f) Doppler broadening in hot plasma taking place of relativistic effects
- g) Motional Zeeman-Stark effect in plasma

9) Teaching experience (34 years at algerian universities)

Since October 1982 to 1993 I have taught as an assistant and from 1996 to 2003 as associate Professor and from 2003 to 2012 as Professor; these taught courses are:

- a) for undergraduate level
 - Fundamental mechanics and electricity (1982-1984) (at Constantine University)
 - Optics and electromagnetism (1984-1986) (at Constantine University)
 - Classical thermodynamics and statistical physics (1986-1990) (at Constantine University)
 - Hamiltonian and Lagrangian Mechanics (1990-1992) (at Ouargla University)
 - Quantum mechanics (1992-1994) (at Ouargla University)
 - Mathematics for physics (1997-2000) (at Ouargla University)
 - The analytic functions of complex variables (1998-2006) (at Ouargla University)
- b) for graduate level (at Ouargla University):
 - Electrodynamics in solids (2000-2002)
 - Radiation theory in plasmas (2002-2004)
 - Statistical Mechanics both classical and quantum (2002-2004)
 - Molecular spectroscopy theory (2003-2004)
 - Statistical Mechanics and phase transition (2004-2012)
 - Relativistic quantum mechanics (2004-2012)
 - Advanced quantum mechanics (Graduate and under-graduate) (2004-2015)
 - Kinetic theory and transport phenomena in plasmas (2004-2015)
 - Statistical Mechanics (Graduate) (2010-2016)

10) Pedagogical Publications

- Solved Problems in fundamental mechanics; 1989 National University Press
- Solved Problems in fundamental thermodynamics; 1992 at Local University Press,
- Course in fundamental thermodynamics; 2010 at Local University Press,

- Course in quantum mechanics; 2008 at Local University Press,
- Course in advanced quantum mechanics; 2010 at Local University Press,
- Course on the special functions for physics (draft) 2008.

11) Administrative skills

- Dean of a scientific staff (1992-1993) at university of Ouargla, algeria
- Dean of plasmas physics group (1994-2010) at Ouargla university Algeria
- Dean of National Laboratory of Renewable Energy Development (LENREZA) at Ouargla University (2000-2009).
- Dean of the research group (radiation and transport in plasma physics) in LRPPS Laboratory at Ouargla University (2010-2016)

12) Computer Skills

Programming: Fortran77/90

Operating systems: Unix, Microsoft Windows

Text Processing: Microsoft Word, Winedit (Latex)

Mathematical software calculation: Fortran, Mapple

Communication: ftp, telnet, web

Graphics Softwares: OriginX (windows), Gnuplot (Unix)

13) Language Skills

Arabic(native), French (good), English (good)