

CURRICULUM VITAE

Personal data

Name : Asmaa G. Shalaby

Date of Birth : October 10, 1976

Place of Birth : Shobra– Egypt

Nationality : Egyptian

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Degrees

2024-present: Professor Doctor of Theoretical Physics أستاذ دكتور فى الفيزياء النظرية

2017-2024: Associate Professor in theoretical Physics استاذ مشارك فيزياء نظرية

2011 : Ph.D. in Theoretical high energy Physics from Faculty of Science, Physics Department, Benha University.

Thesis Topic : “quark-gluon plasma formation in the framework of quarkonium system dissociation”

2003 : M.Sc. in Theoretical high energy Physics from Faculty of Science, Physics Department, Benha University.

Thesis Topic : “Hadron-hadron interaction in terms of the quark model”

1999 : Pre-Master in theoretical Physics from Faculty of Science, Physics Department, Benha University

1998 : B.Sc. (Very good with honor degree) from Faculty of Science, Physics Department, Benha University.

Professional History

2024-Present: Professor Doctor of Theoretical Physics , Physics Department, Benha University.

2017- 2024: Associate Professor, Faculty of Science, Physics Department, Benha University.

2011– 2016 : Lecturer in Faculty of Science, Physics Department, Benha University.

2003 – 2010: Assistant Lecturer in Faculty of Science, Physics Department, Benha University.

1998 – 2003 :Demonstrator in Faculty of Science, Physics Department, Benha University.

Awards and membership:

1- 2008-2009 : internal fellowship (Collective data program) for 18 months in Nuclear Engineering Department – **North Carolina State University (NCSU) USA**, funded by the Department of missions, Ministry of High Education, Egypt.

2- 2012-present collaborate with Dr. Athanasios N. Petridis, Drake university, Des Moines, Iowa, USA.

3- A Short visit to JINR, Dubna , Russia (5-16) Oct., 2015.

Home Page online

<https://scholar.google.com.eg/citations?user=m78KOpUAAAAJ&hl=en>

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

<http://bu.edu.eg/staff/asmaashalaby7>

Attended workshops and Conferences

- **3rd Conference on Nuclear and Particle Physics (NUPPAC'01), 20-24 Oct. 2001, Atomic Energy Authority (AEA) and Egyptian Nuclear Physics Association (ENPA), Cairo, Egypt.**

- Primordial QCD matter in LHC era, implications of QCD results on the early universe Conference, 10-14 Feb., (2013) Egypt.
- German-Egyptian school of Particle Physics at Zewail city of Science and Technology in Collaboration with the university of Bonn in Germany ,24-28 Feb., (2013).
- Smr2619:Advanced workshop on LHC Physics and Cosmology 3rd-14th Feb., 2014 Cairo Egypt.
- International Master Classes hands on particle Physics represented for Egypt . April, 3,2014.
- Primordial QCD Matter 2014 , September 24th-28th, 2014 Cairo-Egypt
- Parallel day at ECTP at MTI Egypt of a Russian Egyptian Workshop which was held in Sheraton DreamLand (6th-October-City) March,5 (2015).
- 11th International Masterclasses in Physics ,March 13 & 28, 2015 Cairo-Egypt at Faculty of Women Ain Sham university, Egypt.
 - International Conference on Physics, Materials Sciences & Engineering (ICPMSE) 23-25 March 2017, Luxor, Egypt.
 - 44th International Conference on Particle in Collision (PIC2025) 20-23 Oct., 2025 Zewail city, Egypt.
 - One Day Workshop on Differential Geometry and its applications. On the memorial of late Professor Nabil Labib Youssef Feb., 7 2026 Mathematics Department Cairo University, Egypt.

Workshops

- Workshop of evaluation of students.
- Workshop of the methods of scientific research
- Workshop lecture of the ethics of the profession.

- Workshop of **the effective presentation skills.**
- Workshop of **university teacher preparation.**
- Workshop of **management of time and committees.**
- Workshop of **quality of the education .**
- Workshop of **electronic sites management.**
- Workshop of **marketing of scientific research.**

Computer Skills:

- Microsoft Office package (word. Access, excel, PowerPoint, internet, information technology, using the computer and managing files).
- **LATEX** typing.
- Access on Linux system (**Ubuntu, scientific Luinx**)
- Programming with **FORTTRAN.** Access on Mathematica , Maple, and **C-language.**
- **Recently learning Python.**

Languages

Native language:- Arabic , Second Language:- English Very Good

Teaching Activity

- ❖ Experimental physics (lab. of Heat and properties of matter)
- ❖ Experimental physics (lab. of electricity and magnetism)
- ❖ Quantum Mechanics I (Undergraduate Course)
- ❖ Reactor Physics (Undergraduate Course)
- ❖ Elementary Particle Physics. (Undergraduate Course)
- ❖ Modern Physics. (Undergraduate Course)
- ❖ History and Development of Physics. (Undergraduate Course)
- ❖ Radiation Physics. (Undergraduate Course)

- ❖ principals of Modern Physics (Undergraduate course)
- ❖ Atomic and Molecular spectra (Undergraduate & postgraduate Course)
- ❖ Electricity & magnetism (Undergraduate Course)
- ❖ Thermal physics (Undergraduate Course)
- ❖ Waves and vibrations (Undergraduate Course)
- ❖ Elementary Particle Physics (Undergraduate Course)
- ❖ Cosmology (Graduate Course)

Research Interests

- Quantum Chromodynamic (QCD)
- The Quark model, Hadron-hadron interaction
- Quark-Gluon Plasma (QGP), heavy ion collisions
- Time-dependent relativistic and non-relativistic quantum mechanics.
- General Relativity and the Modified Theories of Gravity such as $f(R)$

Supervision Activity

MSc supervision

1- Student Name: Rabab Husen

Thesis Title: The Mesons and Quarks as Degrees of Freedom in Prediction of Ground State Energy for Some Nuclei.

DONE at Benha University.

2- Student Name:- Esam Tarek

Thesis Title:- Study of the Thermodynamical Properties of quantum chromodynamic matter (QCD) and quark-Gluon Plasma (QGP). DONE at Helwan University.

3- Student Name: Wafaa Saleh

Thesis Title:- Particles production from nonextensive quark gluon plasma.
DONE at Ain Sham University.

PhD Supervision:-

1- Student Name:- Mahmoud Hanafy

Thesis Title: On correlations and net charge fluctuations in QGP in ALICE experiment. DONE at Benha University.

2- Student Name:- Wafaa Saleh

Thesis Title :- A Study in F(R) Modified General Relativity Theory.
In Progress at Ain Shams University.

3- Student Name:- Esam Tarek

Thesis Title:- GUP effect alongside with f(R) modified theories of gravity.
In Progress at Sohag University.

List of Publications:

	<u>Titles and Authors</u>	<u>Journal</u>
1-	Balance Function in High-Energy Collisions	Advances in High Energy Physics Volume, Article ID 186812 (2015). A. Tawfik and <u>Asmaa G. Shalaby</u>
2-	Time-Dependent Dynamics of Massive Quarkonium Resonances in Nuclear and Quark-Gluon-Plasma Media.	Bulletin of the American Physical Society 59 (2014) . http://meetings.aps.org/Meeting/APR14/Session/B6.3 Athanasios Petridis , Noor Sabrina Mah Hussin, and <u>Asmaa. G. Shalaby</u>
3-	Time-Dependence of the Survival Probability of Quarkonia in Quark-Gluon Plasma	Bulletin of the American Physical Society 60, No.13 (2015). http://meetings.aps.org/Meeting/DNP15/Session/Pg . Athanasios Petridis , Noor Sabrina Mah Hussin, and <u>Asmaa. G. Shalaby</u>
4-	Particle Production at RHIC and LHC Energies.	International Journal of Modern Physics A Vol. 30 (2015) 1550131,. e-Print arXiv: 1209.5379 [hep-ph] A. Tawfik, E. Gamal and <u>A. G. Shalaby</u>
5-	Partitions of 4d Transition Metal Nuclei and Related Correlations Using the Core-Cluster Model	Chin. J. Phys. 53, No. 2, 040301-1 (2015). arXiv preprint arXiv:1312.2471 K. E. Abd El Mageed, <u>Asmaa. G. Shalaby</u>

6-	Cluster Decay Half-lives of 5d Transition Metal Nuclei using the Coulomb and Proximity Potential Model.	Chin. J. Phys. 53, NO. 7, 120304-1 Phys (2015). K. E. Abd El Mageed, L. I. Abou Salem, K.A.Gado, Asmaa G. Shalaby
7-	The equation of state for non-ideal quark gluon plasma	<i>Physical Science International Journal</i> 4(7): 2014 e-Print arXiv:1309.5825 [hep-ph]. N.M El Naggar, L.I.Abou Salem, A.G. Shalaby , and M.A. Bourham.
8-	Microscopic Description of K+ Scattering on 4He , 6Li, 12C, 16O, 28Si and 40Ca Nuclei using Meson Exchange Theory.	e-Print arXiv:1309.5848 [nucl-th] Arab Journal of Nuclear Science and Applications. 94 (2), 48-59 (2015). K. M. Hanna, Sh.M. Sewailem, Asmaa. G. Shalaby
9-	Study on the deconfined degree of freedom g_1 and the running coupling constant $\alpha_s(T)$	International Journal of Physical Sciences Vol. 7(11), pp. 1741 - 1745, 9 March, 2012 . e-print arXiv:1309.6220 A. G. Shalaby
10-	Abstract, submitted and accepted "Timometer for hadronic and partonic fireball at LHC energies"	International school of subnuclear physics 52nd course: Status of theoretical Understanding and of experimental power for LHC physics and beyond Erice, 24 June – 3 July 2014 A. Tawfik , Asmaa G. Shalaby
11	"Projectile fragmentation in Hadron-hadron interaction "	3rd Conference on Nuclear and Particle Physics (NUPPAC'01) , 20-24 Oct. 2001, Atomic Energy Authority (AEA) and Egyptian Nuclear Physics Association (ENPA), Cairo, Egypt. N.M El Naggar, L.I.Abou Salem, and A.G. Shalaby
12	Balance function in high energy Physics,	Talk at Primordial QCD Matter 2014 conference, September 24th-28th 2014, Cairo-Egypt. Abd Al Nasser. Tawfik , Asmaa G. Shalaby
13	Toward the dynamical equation of state of the quark-gluon plasma	Talk at Primordial QCD matter in LHC era, implications of QCD results on the early universe conference,10-14 Feb., (2013) Egypt. Athanasios N. Petridis, Asmaa. G. Shalaby
14	QCD Thermodynamics and Magnetization in Nonzero Magnetic Field	Advances in High Energy Physics Volume 2016 (2016), Article ID 1381479, 8 pages http://dx.doi.org/10.1155/2016/1381479 arXiv:1604.00043 [hep-ph] Abdel Nasser Tawfik, AbdelMagied Diab, Nada Ezzelarab, and Asmaa G. Shalaby

15	Chemical Freeze-out conditions	The first International Conference in Science and Technology , Benha university September (2015). Abd Al Nasser Tawfik , L.I.AbouSalem , Mahmoud Hanafy, Asmaa G. Shalaby
16	Particle production and chemical freezeout from the hybrid UrQMD approach at NICA energies	Eur. Phys. J. A (2016) 52 : 324 A. Tawfik, L.I.Abou-Salem, Asmaa shalaby , Mahmoud Hanafy, Alexander Sorin, Oleg Rogachevsky, and Werner Scheinast
17	Extensive and Non-extensive thermodynamics	Acta Physica Polonica B , Vol. 47, No 5 (2016) Asmaa G. Shalaby
18	On dynamical net-charge fluctuations within a hadron resonance gas approach	Advances in High Energy Physics Volume 2016 (2016), Article ID 2475916 http://dx.doi.org/10.1155/2016/2475916 arXiv:1604.03497 [hep-ph] Abdel Nasser Tawfik, L. I. Abou-Salem, Asmaa G. Shalaby , and M. Hanafy
19	“GUP Modified Phase-Space and Thermodynamics Self-Consistency,	In Proceedings of the 4th International Electronic Conference on Entropy and Its Applications, 21 November–1 December 2017; Sciforum Electronic Conference Series, Vol. 4, 2017 ; Asmaa G. Shalaby
20	Modified Gravity effect on Thermodynamics	In Progress Asmaa G. Shalaby
21	Weak and Strong Magnetic Fields Effect on the Non-Extensive Thermodynamics	E Tarek, MM Ahmed, Asmaa G. Shalaby , Acta Physica Polonica B, 54 (4) (2023). https://doi.org/10.5506/APhysPolB.54.4-2
22	Barrow-type structure and thermodynamics of black holes	Athanasios Petridis, Asmaa G. Shalaby , Physics Letters B Vol.836, 137616 (2023). https://doi.org/10.1016/j.physletb.2022.137616
23	Strangeness Enhancement at LHC Energies Using the Thermal Model and EPOS LHC Event Generator	M Hanafy, OSA Qandil, Asmaa G. Shalaby, Advances in High Energy Physics (2021), 1-13. https://doi.org/10.1155/2021/2489232
24	- Effect of the generalized uncertainty principle on QGP phase transition	IA Elmashad, Asmaa G. Shalaby, International Journal of Modern Physics D 30 (15), 2150118 (2021). https://doi.org/10.1142/S0218271821501182

25	Non-Extensive Transverse Momentum Distribution For Identified Particles at 7.7, 11.5, 19.6, 27, 39 GeV .	W Saleh, Asmaa G. Shalaby, International Journal of Modern Physics E, 30 (08), 2150073 (2021). https://doi.org/10.1142/S0218301321500737
26	Non-Extensive Thermodynamics Effects in the Cosmology of f(T) Gravity	Asmaa G. Shalaby, Oikonomou, Vasilis K. and Gamal. G. L. Nashed, Symmetry 13 (1), 75 (2021). https://doi.org/10.3390/sym13010075
27	Impact of the running gravitational constant on the extensive thermodynamics of galaxies	Asmaa G. Shalaby, International Journal of Modern Physics A 34 (2), 17 (2019). https://doi.org/10.1142/S0217751X19500143
28	- GUP deformed phase-space and axiomatic thermodynamic self-consistency	Asmaa G. Shalaby, International Journal of Modern Physics A 34 (06n07), 1950039 (2019). DOI: 10.1142/S0217751X19500398