

Salwa Alsaleh

ASSOCIATE PROF. THEORETICAL PARTICLE PHYSICS

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Academic positions

Department of Physics and Astronomy, King Saud University

Riyadh, Saudi Arabia

ASSOCIATE PROFESSOR IN THEORETICAL PARTICLE PHYSICS

Aug. 2018 - current

- Teaching postgraduate and undergraduate physics courses
- Supervising graduation project thesis
- Conducting research in the area of elementary particle phenomenology with groups outside Saudi Arabia
- Academic advisor

Department of Physics and Astronomy, King Saud University

Riyadh, Saudi Arabia

ASSISTANT PROFESSOR IN THEORETICAL PARTICLE PHYSICS

Sept. 1992 - Aug. 2018

Department of Physics, Aleppo University

Aleppo, Syria

ASSISTANT PROFESSOR IN THEORETICAL PARTICLE PHYSICS

Sept. 1989 - Sept. 1992

- Teaching postgraduate and undergraduate physics courses
- Academic advisor

CERN

Geneva, Switzerland

ASSOCIATE RESEARCHER

Jul. 1984 - Sept. 1989

- Working on the R608 experiment
- Working in the theory group at CERN

Laboratoire de Physique Corpusculaire

Clermont-Ferrand, France

DOCTORAL RESEARCHER

Jul. 1984 - Sept. 1989

- Co-supervising D.E.A reports and other internal reports in the lab
- Working in the theory group

Department of Physics, Aleppo University

Aleppo, Syria

DEMONSTRATOR

Jun. 1976 - Jun. 1982

- Teaching tutorials and lab courses

Education

Université Blaise Pascal. (UCA)

Clermont-Ferrand, France

DOCTORATE IN PARTICLE PHYSICS

Sept. 1988

- Dissertation: *CALCUL RELATIVISTE, EN ELECTRODYNAMIQUE QUANTIQUE, DE LA DIFFUSION COMPTON SUR UN ELECTRON LIE.*

Université Blaise Pascal. (UCA)

Clermont-Ferrand, France

DIPLÔME D'ÉTUDES APPROFONDIES (DEA) IN PARTICLE PHYSICS

Jul. 1984

- Honour mention

Aleppo University

Aleppo, Syria

B.Sc. IN PHYSICS

Jun. 1976

Skills

Programming Python, C/C++, FORTRAN, \LaTeX , Mathematica, Bash, Perl

Languages Arabic, French, English

Teaching

King Saud University

UNDERGRADUATE COURSES

Sept. 1992 - PRESENT

- Introductory physics : 101 Physics, 102 Physics, 209 Physics, 212 Physics, 241 Physics,
- Advanced physics : 396 Physics, 313 Physics, 342 Physics, 343 Physics, 352 Physics, 353 Physics, 381 Physics, 453 Physics, 454 Physics, 480 Physics, 481 Physics, 492 Physics.
- Supervising graduation projects 499 Physics

Al-Imam Muhammad Ibn Saud Islamic University

UNDERGRADUATE COURSES

Collaborated to teach 303 Physics, 250 Physics, and 334 Physics.

King Saud University

GRADUATE COURSES

- MSc. courses : 551 Physics, 508 Physics and 506 Physics.
- Doctoral courses : 652 Physics

Administrative duties

2010-2011 **Vice-head of the Physics and Astronomy department,**

2014-
current **Coordinator of the academic accreditation** , Physics and Astronomy dept.

1995-
current **Member of academic advisory committee** ,

2016 **Member of examination committee,**

2009-2014 **Coordinator of the quality and Development committee,** Physics and Astronomy dept.

2010 **Co-Author of the College of science annual report,**

2011 **Rapporteur of burden of teaching and timetabling,** College of science

Service to the community and profession

- Academic Advisor
- Presenting a lecture " How to make a scientific poster" the Research center for Scientific and Medical colleges (2018)
- Contribution to Physica Club at KSU
- Attribution to The Research Center for Scientific and Medical Studies, (2014–now)
- Attribution with a poster to " My research, My community" Gallery at PSU, Riyadh Saudi Arabia (2017).
- Attribution to the Scientific research week in KSU. (2018)
- Attribution with three posters to the 7th Research Day at KSU (2017)
- A public lecture in collaboration with Physica club, astronomy week. (2016)
- Member of judging committee of *The King's Ambition For a Nations Future*
- Contribution in Developing Methods of Learning and Teaching for Middle and High School Students. (2017–2015)
- Trainer/Examiner for the Saudi Team for the International Physics Olympiad.(2009–2014)
- Training School Teachers in Physics and Mathematics for the Ministry of Education (2013)
- Visiting professor at Al-Imam Muhammad Ibn Saud Islamic University (2012)
- Demonstrators examiner for the Physics and Astronomy dept. (2010–2012)
- Attribution in the First and Second Conference for Student Research. (2009–2011)
- Teaching in Riyadh Community College. (2007–2011)

journal articles

- [1] Abeer Al-Modlej et al. "Proton decay and the quantum structure of space-time". In: *Can. J. Phys.* 97.12 (2019), pp. 1317–1322. doi: 10.1139/cjp-2018-0423. arXiv: 1903.02940 [hep-th].
- [2] Salwa Alsaleh. "Accelerated detector response function in squeezed vacuum". In: *Technol.* 5.2 (2017), p. 17. doi: 10.3390/technologies5020017.
- [3] Salwa Alsaleh. "Relativistic Dynamics of the Compton Diffusion on a Bound Electron". In: *Eur. Phys. J. Plus* 131 (2016), p. 146. doi: 10.1140/epjp/i2016-16146-y. arXiv: 1704.07872 [physics.hist-ph].
- [4] Salwa Alsaleh. "Thermodynamics of BTZ black holes in gravity's rainbow". In: *Int. J. Mod. Phys. A* 32.15 (2017), p. 1750076. doi: 10.1142/S0217751X17500762. arXiv: 1703.09617 [physics.gen-ph].
- [5] Salwa Alsaleh. "Thermodynamics of rotating Kaluza-Klein black holes in gravity's rainbow". In: *Eur. Phys. J. Plus* 132.4 (2017), p. 181. doi: 10.1140/epjp/i2017-11501-2. arXiv: 1704.07404 [gr-qc].
- [6] Salwa Alsaleh, Abeer Al-Modlej, and Ahmed Farag Ali. "Virtual black holes from the generalized uncertainty principle and proton decay". In: *EPL* 118.5 (2017), p. 50008. doi: 10.1209/0295-5075/118/50008. arXiv: 1703.10038 [physics.gen-ph].
- [7] Salwa Alsaleh and Lina Alasfar. "ER = EPR and non-perturbative action integrals for quantum gravity". In: *Int. J. Geom. Meth. Mod. Phys.* 14.10 (2017), p. 1750138. doi: 10.1142/S0219887817501389. arXiv: 1611.02573 [physics.gen-ph].
- [8] Salwa Alsaleh et al. "Quantum no-singularity theorem from geometric flows". In: *Int. J. Mod. Phys. A* 33.10 (2018), p. 1850052. doi: 10.1142/S0217751X18500525. arXiv: 1705.00977 [hep-th].
- [9] Anha Bhat et al. "Time-Dependent Strain in Graphene". In: *Eur. Phys. J. B* 91.8 (2018), p. 174. doi: 10.1140/epjb/e2018-80389-1. arXiv: 1803.00051 [cond-mat.mes-hall].
- [10] Maria Chiara Braidotti et al. "Path Integral for Non-Paraxial Optics". In: *EPL* 124.4 (2018), p. 44001. doi: 10.1209/0295-5075/124/44001. arXiv: 1803.10218 [quant-ph].
- [11] Mir Faizal et al. "Quantum fluctuations from thermal fluctuations in Jacobson formalism". In: *Eur. Phys. J. C* 77.9 (2017), p. 608. doi: 10.1140/epjc/s10052-017-5194-x. arXiv: 1710.06918 [gr-qc].
- [12] Davood Momeni et al. "Thermodynamic and Holographic Information Dual to Volume". In: *Eur. Phys. J. C* 78.9 (2018), p. 765. doi: 10.1140/epjc/s10052-018-6226-x. arXiv: 1704.05785 [hep-th].

Conferences

1. Laila Babsail, Leda Bousiakou, Salwa Alsaleh, and Mesude Saglam (2011) Calculation of the Zeeman-Fine Energies and the Spectrum with Doppler-Shift Correction of Atomic Lithium. Electronic and Atomic Collisions (ICPEAC 2011) IOP Publishing Journal of Physics: Conference Series 388.
2. Alsaleh, S., et al. "Calculation of the effective Lande-g factors for entangled states in Hydrogen and Hydrogen-like atoms." Journal of Physics: Conference Series. Vol. 388. No. 2. IOP Publishing, 2012.
3. Alsaleh, Salwa, and Mesude Saglam. "Calculation of the Zeeman-fine energies of atomic Potassium." Journal of Physics: Conference Series. Vol. 388. No. 2. IOP Publishing, 2012.
4. S. Alsaleh, L. Alasfar, M. Faizal and A. F. Ali, "Quantum geometric flows" The 3rd Karl Schwarzschild Conference, Frankfurt Germany

CERN internal reports

1. Salwa Al Saleh, Differed calibration for measuring the time of flight for the Identification of particles in experiment (R608 at CERN (Geneva) ClermontFD, July 1984.
2. Salwa Al Saleh, Problems related to electronic calibration of spectrometre at 90 Degree in experiment (R608 at CERN Geneva) Clermont-FD. June 1984.

3. A. MAHROUSSEH, S. AL SALEH, F.VAZEILLE, L.MERITET. Calculus of spectrometre acceptance at 90 degree (r608 at CERN In Geneva) PCCF RI 85/08 , December 1985
4. P. CHAUVAT, F.VAZEILLE, S.AL SALEH, L.MERITET, A.MAHROUSSEH. Comparison of the inclusive productions of charged pion in p-p Collision at 90 degree and for the intermediate transverse momenta at the CERN-ISR , 1987.
5. P. CHAUVAT, F.VAZEILLE, S.AL SALEH, L.MERITET, A.MAHROUSSEH. Experimental study of CR and CP invariances in p-p collisions. At the CERN-ISR , 1987.
6. A.SMITH, P. CHAUVAT, F.VAZEILLE, S.AL SALEH, L.MERITET, A.MAHROUSSEH Identification of particles below 3 GeV/c from the association of Aerogel counters and time of flight measurements, 1988.