

## CV

### PERSONAL INFORMATION: Mahmoud Nasar



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🌐 <http://www.bu.edu.eg/staff/mahmoudnasar7>  
Sex: Male | Date of birth: 05/08/1986 | Nationality: Egyptian

### RESEARCH EXPERIENCE

- 1/3/2021–till now Assigned to teach a physics course at the Faculty of Computers and Information, Future University, Cairo, Egypt.
- 5/1/2019 – 5/8/2020 Researcher in the field of high energy physics at the Egyptian Centre for Theoretical Physics (ECTP), Nile University, Egypt. Specialized in particle production in heavy-ion experiments.
- 31/12/2022 – till now Associate Professor at Physics Department, Faculty of Science, Benha University, Benha 13518, Egypt; <http://www.bu.edu.eg/staff/mahmoudnasar7>.
- 28/1/2017–30/12/2022 Lecturer at Physics Department, Faculty of Science, Benha University, Benha 13518, Egypt; <http://www.bu.edu.eg/staff/mahmoudnasar7>
- 20/3/2012-27/1/2017 Teaching Assistant at Physics Department, Faculty of Science, Benha University, Benha 13518, Egypt; <http://www.bu.edu.eg/staff/mahmoudnasar7>
- 13/1/2008-19/3/2012 Demonstrator at Physics Department, Faculty of Science, Benha University, Benha 13518, Egypt; <http://www.bu.edu.eg/staff/mahmoudnasar7>
- 28/1/2017-till now Five years of teaching experiences of systems modelling, applied physics, using computer in physics and numerical analysis courses.

### EDUCATION AND TRAINING

- 12/12/2012-21/12/2016 Ph.D degree in theoretical physics entitled " On the correlations and critical phenomena at high energies " from Physics Department, Faculty of Science, Benha University, Benha 13518, Egypt.
- 15/9/2013-30/7/2014 Predoctoral in theoretical physics from Physics Department,

- 10/6/2009-27/2/2012 Faculty of Science, Benha University, Benha 13518, Egypt.  
M.Sc degree in theoretical physics entitled " A Study on Baryon Spectroscopy" from Physics Department, Faculty of Science, Benha University, Benha 13518, Egypt.
- 15/9/2007-30/7/2008 Premaster in theoretical physics from Physics Department, Faculty of Science, Benha University, Benha 13518, Egypt.
- 15/9/2003-30/7/2007 B.Sc of physics with the first class of honour from Physics Department, Faculty of Science, Benha University, Benha13518, Egypt.

#### LANGUAGE SKILLS

- Mother tongue(s) Arabic
- Other language(s) English, B2-level, Toefl from faculty of arts, Benha university, Benha 13518, Egypt.

#### OTHER SKILLS

- 17/5/2021-22/5/2021 Experience in co-organizing an online school and three physics master classes event day, in the framework of the International Particle Physics Outreach Group IPPOG, for particle therapy masterclass school for both undergraduates and postgraduates students at Benha University, Obour Branch, Egypt.
- <https://indico.cern.ch/event/840212/>  
<https://physicsmasterclasses.org/>  
<https://indico.cern.ch/event/803568/>  
[https://physicsmasterclasses.org/index.php?cat=country&page=eg\\_benha](https://physicsmasterclasses.org/index.php?cat=country&page=eg_benha)

#### Programming and statistical skills

Self-assessment grid,  
 C++ programming language, ROOT (the framework of data analysis) package , Ultra-relativistic Quantum Molecular Dynamic (UrQMD), Cosmic Ray Monte Carlo (CRMC) with it's different hadronic interactions, A Multi-Phase Transport Model for Relativistic Heavy Ion Collisions (AMPT).

## **Publications**

1. **Mahmoud Hanafy**, *Rapidity distribution for charged pions in the hadron resonance gas model*, Journal of Basic and Environmental Sciences, 4 370-374 (2017).
2. **Mahmoud Hanafy**, *Thermal description of hadrons thermodynamics using Tsallis distribution*, Journal of Basic and Environmental Sciences, 5 342-348 (2018).
3. **M. Hanafy**, M. Maher, *An Approach of Statistical Corrections to Interactions in Hadron Resonance Gas*, Advances in High Energy Physics, 2021, 6660872 (2021).
4. **M. Hanafy**, A. N. Tawfik, M. Maher, W. Scheinast, *Particle ratios within EPOS, UrQMD and thermal models at AGS, SPS and RHIC energies*, International Journal of Modern Physics E, 30(8), 2150072 (2021).
5. **M. Hanafy**, O. S. A. Qandil, A. G. Shalaby, *Strangeness Enhancement at LHC Energies Using the Thermal Model and EPOSLHC Event Generator*, Advances in High Energy Physics, 2489232 (2021).
6. A. N. Tawfik, **M. Hanafy**, W. Scheinast, *Multiplicity per rapidity in Carruthers and hadron resonance gas approaches*, Indian J Phys (2022). <https://doi.org/10.1007/s12648-021-02228-5>.
7. D. M. Habashy, M.Y. El-Bakry, A. N. Tawfik, R. M. Abdel Rahman, **M. Hanafy**, *Particles multiplicity based on rapidity in Landau and artificial neural network (ANN) models*, International Journal of Modern Physics A, 37 (2) 2250002 (2022).
8. D. M. Habashy, Mahmoud Y. El-Bakry, Werner Scheinast, **Mahmoud Hanafy**, *Entropy per rapidity in Pb-Pb central*

*collisions using Thermal and Artificial neural network(ANN) models at LHC energies, Chinese physics C (2022).*

9. Abdel Nasser Tawfik, L. I. Abou-Salem, Asmaa G. Shalaby and **M. Hanafy**, "*Dynamical net-charge fluctuations within a hadron resonance gas (HRG) model*", Advances in High Energy Physics 2016 (2016).
10. Abdel Nasser Tawfik, Loutfy I. Abou-Salem, Asmaa G. Shalaby, **Mahmoud Hanafy**, Alexander Sorin, Oleg Rogachevsky and Werner Scheinast, "*Particle production and freeze-out parameters from the hybrid UrQMD approach at NICA energies*", Eur. Phys. J. A 52 324 (2016).
11. R. M. Abdel Rahman, Abdel Nasser Tawfik, M.Y. El-Bakry, D. M. Habashy, and **Mahmoud Hanafy**, Rapidity Distribution within Landau hydrodynamical model and EPOS event-generator at AGS, SPS, and RHIC Energies, published in Physica Scripta (2022).

## Projects

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|----------------------|---|
| 3/2/2020-2/8/2020    | “Strange Hyperons Reconstruction at Compressed Baryonic Matter Experiment”, through Get_Involved program at GSI, Germany, 2020. |
| 14/9/2015-16/10/2015 | "Membership to MPD and BM@N experiments at NICA" on behalf of ARE-JINR cooperation between Egypt and Russia.                    |

## Conferences

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|---------------------|---|
| 23/5/2022-27/5/2022 | Attending FAIRNESS2022-7th Edition that held in a Greece with talk entitled” Statistical Thermodynamics within Hadron resonance gas (HRG) model including magnetic field at CBM Experiment” . |
| 2/10/2017-6/10/2017 | Attending the xx-international conference in Dubna, Russia with a   |

- talk "Particle production and freezeout parameters including excluded volume correction at NICA energies".
- 14/3/2016-18/3/2016 Attending the xx-international conference with a talk entitled "Freezeout parameters and dynamical net-charge fluctuations at NICA energies".
- 4/12/2011-8/12/2011 Attending the primordial QCD matter in LHC era conference as a participant with scientific article: "Implications of QCD results on the early universe", which organized by the Egyptian Centre for Theoretical Physics (ECTP) and a talk "A Study on Baryon Spectroscopy Using a Modified Cornell potential form".

### **Supervising activities**

- Supervisor of Ph.D. student thesis entitled "Scaling Characteristics of particle production in relativistic high energy collisions" at faculty of Education, Ainshams University, Cairo, Egypt.
- Supervisor of M. Sc Student thesis at chemistry department, faculty of science, Benha University, Benha, Egypt.