

Faisal Sayed

MASTER STUDENT

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Education

Assiut University

Asyut, Egypt

MASTER OF SCIENCE, PHYSICS

Apr. 2021

- **Area of Specialization:** Theoretical Plasma Physics
- **Thesis:** Electrostatic ion acoustic waves at plasma environment of lower ionosphere of Venus
- **Supervisor:** Prof. Waleed Moslem

Assiut University

Asyut, Egypt

BACHELOR OF SCIENCE, PHYSICS

Sept. 2012 – June. 2016

- **Honors thesis:** Invariance of Maxwell's Equations under Lorentz transformations
- **Academic supervisor:** Dr. Sherif Rashad
- **Cumulative GPA:** 3.60/4.00
- **Rank:** Second

Teaching Experience

Department of Physics, Faculty of Science, Assiut University

Asyut, Egypt

PERMANENT TEACHING ASSISTANT

Jul. 2017 – Present

Teaching undergraduate student labs such as:

- Mechanics Lab
- Thermodynamics Lab
- Electricity and Magnetism Lab
- Nuclear & Radiation Physics Lab
- Optics Lab
- Modern Physics Lab
- Physical electronics Lab

This work included grading student reports and devising exams. These tasks were performed for a range of class levels, from introductory to advanced upper level

Tutoring topics in physics for science and engineering undergraduates, including:

- Mechanics
- Thermodynamics
- Modern Physics
- Electricity and Magnetism
- Light and Optics

At the level of Serway and Jewett's textbook Physics for Scientists and Engineers with Modern Physics

Research Experience

Joint Institute for Nuclear Research

Dubna, Moscow

THE FOURTH STAGE OF THE INTERNATIONAL STUDENT PRACTICE INTERN

8 – 28 Dec. 2019

- Attended a short course on modern cosmology and solved some problems on the evolution of the Universe given by Friedmann model filled with radiation and dark energy. I also numerically compared the theoretical models with observational data.

Assiut University

Asyut, Egypt

MASTER RESEARCH

Mar. 2019 – Present

- My research interests are located in the fields of theoretical space plasma physics and involve theoretical modelling of the propagation of different waves and their instabilities in the planetary ionospheres and magnetospheres of the solar system using different mathematical techniques and numerically compared the theoretical models with observational data.

Assiut University

Asyut, Egypt

UNDERGRADUATE RESEARCH

Sept. 2015 – Jun. 2016

- My graduation research project was in the field of relativistic electrodynamics and discussed in detail the advent of the transformations as a requirement of Maxwell's equations to be invariant when transforming between inertial frames.

Publications

PUBLISHED

F S H Sayed, W M Moslem, R E Tolba, A A Turkey, R A Koramy. Three-dimensional propagation of ion-acoustic waves in the plasma environment of the Venusian ionosphere. *Physica Scripta*, 95, 115603, 2020

F.S.H. Sayed, A.A. Turkey, R.A. Koramy, W.M. Moslem. Nonlinear ion-acoustic waves at Venus ionosphere. *Advances in Space Research* 66, 1276, 2020

Conference presentations

Mar. 2021, **Electrostatic ion acoustic waves at plasma environment of lower ionosphere of Venus.** 3rd One day conference (Downstream Research in Plasma Physics), held on the last day of the 6th Spring Plasma School which was held under the auspices of the British University in Egypt in Port Said, Egypt

Mar. 2020, **Nonlinear analysis of ion acoustic waves at Venus ionospheres.** 2nd One day conference (Downstream Research in Plasma Physics), held on the last day of the 5th Spring Plasma School which was held under the auspices of the British University in Egypt in Port Said, Egypt

Oct. 2016, **Invariance of Maxwell's equations under Lorentz transformations.** The Fifth International Conference for Young Scientists in Basic and Applied Sciences held at Faculty of Science, Assiut University, Egypt

Schools, Workshops, & Conferences

6th Biennial African School of Fundamental Physics and Applications (ASP2020)

Marrakesh, Morocco
May 2020 – Present

- The school was postponed due to COVID-19 Pandemic, instead a series of online seminars were organized in the research areas of interest at ASP. I attended these seminars which was based on close interplay between theoretical, experimental, and applied physics. They thus covered a wide range of topics in nuclear & particle physics, astrophysics & cosmology, accelerators, radiation & medical physics, material physics, renewable energies & energy efficiency, high performance computing, physics education and physics communication.

5th Spring Plasma School (5th SPSP)

Port Said, Egypt
1 – 5 Mar. 2020

- Annual event that targets BSc and MSc students who are interested in or studying plasma physics and plasma applications. It is a week of lectures provides the research points in Plasma Theory, hands-on computational tutorials, and problem-solving in plasma physics.

Advanced Summer Workshop of Physics

Zewail City, Egypt
29 Aug. 2019

- One day event under supervision of Physics of Earth and Universe Program Faculty held at Zewail City that targets BSc and MSc students and consist of three advanced lectures, Special Relativity, General relativity, and Astrophysics and Cosmology, respectively.

4th Spring Plasma School (4th SPSP)

Port Said, Egypt
10 – 14 Mar. 2019

- Week of lectures in Plasma physics and other related topics as Electrodynamics and Quantum Mechanics, tutorials in Python and LaTeX, and problem-solving in Plasma Physics.

3rd Summer School on Basic Physics

Zewail City, Egypt
28 Aug – 8 Sept. 2016

- Two-week program of advance and intensive lecturing on selected physics topics (Classical Mechanics, Quantum Mechanics, Statistical Physics, and Electrodynamics) which is intended to provide fundamental understanding of basic physics to BSc and MSc students across Egypt.

SCITA Astrofans Conference

Cairo, Egypt
6 – 7 Nov. 2015

- The conference includes some of the seminars on a variety of physics topics.

Relativity Day conference

Zewail City, Egypt
10 May. 2015

- The conference includes some of the seminars on research points related to Gravitational Theory

Awards, & Grants

- Nov. 2020 **Assiut University award for scientific publishing**, Assiut University
Jul. 2020 **Assiut University award for scientific publishing**, Assiut University
Jan. 2020 **Academic Scientific Research and Technology (ASRT) Award**, National Network of Nuclear Science (NNS)
Oct. 2016 **The best graduate student oral presentation**, The Fifth International Conference for Young Scientists in Basic and Applied Science

Skills

A) Computer skills

- **Numerical computation:** Matlab – Mathematica – Maple
- **Word/text processing software:** LaTeX – Scientific WorkPlace – Microsoft Office
- **Programming:** Python

B) Languages

- **English**
TOEFL IBT: Overall Best Score: 82, Reading: 19, Listening: 20, Speaking: 21, Writing: 22
- **Arabic** (native)

University services

- Aid the undergraduate administrative office in their tasks for freshman students throughout students' union.
- Scheduling the working hours of the teaching assistants at the different undergraduate physics labs for four semesters.
- Participating in the development of the physics labs and creating online resources for these labs on the Faculty website.

Memberships

- **EGYPTIAN PLASMA SOCIETY (EGYPlasma)**, member since 2018
- **EGYPTIAN SYNDICATE OF SCIENTIFIC PROFESSIONS**, member since 2017

References

1) Prof. Waleed Moslem

- Physics Department, Faculty of Science, Port Said University
- ✉ wmmoslem@sci.psu.edu.eg & ☎ **W. M. Moslem**

2) Prof. Bijan Saha

- Laboratory of Information Technologies, Joint Institute for Nuclear Research, Dubna, Moscow reg. Russia
- ✉ bijan64@mail.ru & ☎ **Bijan Saha**

3) Dr. Sherif Rashad

- Physics Department, Faculty of Science, Assiut University
- ✉ srmokhtar@aun.edu.eg & ☎ **Sherif Rashad MOKHTAR**