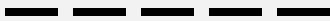# Hala Siddiq

Lecturer- Faculty of Sciences- Jazan University, Jazan, Saudi Arabia. P.B 2079

✉ hasiddiq1987@gmail.com · 📱 +966 502550151
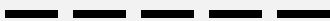
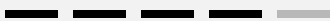📍 Saudi Arabia, Jazan ·

Skills

Matlab

Latex

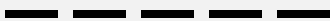**Multiscale Oscillatory Dynamics Analysis**

Python

Languages

Arabic

English

Profile

Good skilled and dedicated physicist with a strong background in [simulation the data]. Experienced in utilizing cutting-edge technology and software to facilitate experiments and data analysis.

Education

Ph.D. in Physics — April 2023

Condensed-matter physics

Thesis Title: Visualization of Oscillatory Electron Dynamics on the Surface of Liquid Helium

MSc in physics — Dec 2015 - Oct 2024

Western Illinois University

Courses involving hands-on experience in workshop settings to design samples for superconductivity research.

BSc in Physics — 2009

Jazan University

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Administrative Experience

Coordinator for Faculty of Education and Scientific Management Information System — 2016

Faculty of Science - Girls Section, Jazan University, Jazan, Saudi Arabia

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Coordinator for Activity Committee — 2017

Faculty of Science - Girls Section, Jazan University

Head of Physics Department — 2023

University College in Al-Aarda

Teaching Experience

PHY101 Laboratory in General Physics

Spring 2009, Fall 2015 to 2017, 2023

.

PHY211 Laboratory in Geometrical Optics — Spring 2009

PHY312 Laboratory in Atomic Physics and Spectroscopy `Fall 2015`

PHY311 Theoretical in Electronics 1 `Spring 2016`

PHY411 Laboratory in Electronics 2 `Spring 2016`

PHY101 Theoretical in General Physics `2016, Spring 2017`

PHY101 Theoretical in General Physics `2016, Spring 2017`

PHY471 Laboratory in solid `2017`

PHY462 Laboratory in solid `Summer 2017`

.

Area of Expertise

- Data Analysis using MATLAB and Python
- Multiscale Oscillatory Dynamics Analysis (MODA)

Research Interests

- Visualizing electron motion inside the experimental cell and identifying the type of motion.
- Explaining the relationship between microscopic and collective macroscopic dynamics.
- Investigating whether the currents exhibit the properties of chronotaxic systems, and if so, under which conditions.

To achieve these aims, I focus on the following:

1. Using multi-scale, time-resolved methods to analyze the currents recorded at different electron densities and pressing voltages at a fixed helium depth, providing a coherent picture of how these parameters influence the nonlinear dynamics captured in the measured currents.

2. Employing two distinct inverse approach methods, namely phase fluctuation analysis (PFA) and dynamical Bayesian inference, to detect chronotaxicity in the system.

Publications

Visualization of Oscillatory Electron Dynamics on the Surface of Liquid Helium 🔗

`March 2023`

Lancaster University

Hala Siddiq, Kostyantyn Nasyedkin, Kimitoshi Kono, Dmitry E. Zmeev, Peter McClintock, Yuri A. Pashkin & *A. Stefanovska. accepted in* Phys Rev B.*.*

Conferences and Poster Presentations

Physics of Biological Oscillators

`27–30 November 2018`

Chicheley Hall, Buckinghamshire, UK

Poster Presentation

Electrons and Ions in/on Helium

`23–25 January 2020`

Centre for Nano Science and Engineering (CeNSE),Indian Institute of Science, Bangalore

Poster Presentation

QFS Conference 2021

`10–19 August 2021`

Centre for Nano Science and Engineering (CeNSE), Indian Institute of Science (IISc), Bangalore

Oral Presentation

Frontiers of Quantum and Mesoscopic Thermodynamics 2021 (FQMT'21)

`18–23 July 2021`

Conference Venue

Poster Presentation

Visualization of Oscillatory Electron Dynamics on the Surface of Liquid Helium

`2022`

Lancaster University

Seminar

Attendance

Techniques for Effective Researching on IEEE Xplore

`Wednesday, 14 November 2018`

Management School Lecture Theatre 05, Management School, Lancaster University, Lancaster, United Kingdom

Your Personal Project From Idea to Entrepreneurship

`November 22-23, 2017`

Radisson Blu Hotel

Attendance at the Small & Medium Enterprises Forum

Bader Program and Incubation Opportunities

`November 22-23, 2017 (4-5 / 3 / 1439H)`

Radisson Blu Hotel

Attendance at the Small & Medium Enterprises Forum

Use 3D Printer for Prototyping

`November 22-23, 2017 (4-5 / 3 / 1439H)`

Radisson Blu Hotel

Attendance at the Small & Medium Enterprises Forum

The 1ᵗʰ Small & Medium Enterprises Forum `November 22-29, 2017`

Jazan Youth Council, Jazan, Saudi Arabia

Attendance at the workshop

Awards, Honors, and Recognitions

- Best Poster Award, at the International Workshop "Electrons and Ions in-/on Helium (EIH-2020)", which was organized by the Centre for Nano Science and Engineering (CeNSE), Indian Institute of Science (IISc) Bangalore on 23–25 January, 2020.

Training

A Practical Introduction to Python Programming `2022-2023`

Lancaster University

Using LaTeX to Produce Articles, Books, or Your Thesis, etc. `2021`

Lancaster University

Matlab Programming `2019`

Lancaster University

Memberships

Member of Human Resources Committee.

American Physics Society APS Graduate Student member

References

- Prof. Aneta Stefanovska Department: Physics Office: C507, C - Floor, Physics Building Tel: +44 (0)1524 521794 Email: aneta@lancaster.ac.uk

- Prof.Peter McClintock Department:Physics Office: C506, C - Floor, Physics Building Telephone: +44 (0)7761 334260 Email: p.v.e.mcclintock@lancaster.ac.uk