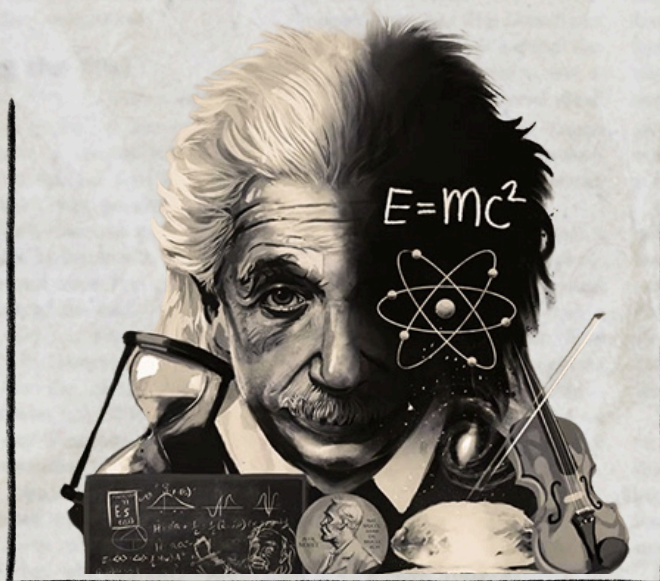


THE PHYSICS MAGAZINE

V1: ISSUE-1

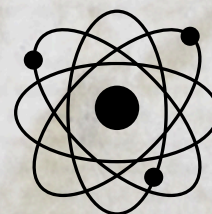
MAY-2025

YARMOUK
UNIVERSITY



THE
SCIENCE
COLLAGE

EXPLORING
THE BOUNDS
OF SCIENCE



SYLLABUS

Bringing Physics to Life: Highlights from Experts and Teams



- Deans Profile 1



- Meet Our Faculty Members 2

- Get to know the team 7

- Exploring the Physics & Medical Physics
Department : Our Mission and Achievements 11



- End Page 22



THE PHYSICS MAGAZINE

EXPLORING THE BOUNDARIES OF SCIENCE



Dean Faculty of Science
Prof. Amjad D. Al-Nasser
Email: amjadn@yu.edu.jo

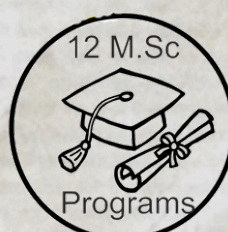
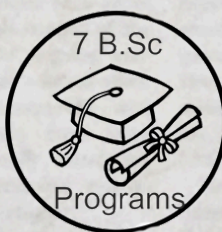
FACULTY OF SCIENCE AT YARMOUK UNIVERSITY

The Faculty of Science, a cornerstone of academic excellence and scientific advancement. Since its establishment in 1976, alongside the founding of our university, the Faculty of Science has played a vital role in shaping the future of education and research. Originally part of the Faculty of Science and Arts, we became an independent institution in 1981, marking the beginning of a journey dedicated to innovation, discovery, and service to society.

Departments

- Physics
- Mathematics
- Chemistry
- Biological Sciences
- Statistics
- Environmental Sciences
- SSC

Programs



Facility units

- Jordan Natural History Museum
- Animal House
- Glass House
- Green House

THE PHYSICS MAGAZINE

Our Faculty: Experts Behind the Knowledge



Head of Physics Department
Prof. Muhammad S. Bawa'aneh
Email: msbawaaneh@yu.edu.jo
EDITOR-IN-CHEIF of the Jordan
Journal of Physics

PHYSICS DEPARTMENT

The Department of Physics was established in 1976 as part of the Faculty of Science within the Yarmouk University. The Department offers two Bachelor degrees: Bachelor of Physics and Bachelor of Biomedical Physics, as well as two Master degrees: Masters of Science in Physics and Master of Science in Medical Physics. The department has 28 full-time faculty members and is supported by 5 technicians and 1 administrative staff. In Fall 2025, the program has an enrollment of 668 undergraduate students and 32 graduate students.

Specialization

Plasma Physics



Notable Publications

- Distance learning during COVID-19 pandemic in UAE public schools: Student satisfaction, attitudes and challenges.
- Microwave Propagation in Warm, Collisional Magnetoionic Media

Key Awards

- ORS Award - UK
- Best Teaching and Innovation Award-Khalifa University



Physics Department
Prof. Mehdi Salem Gwaider Lataifa
Email: mahdi.q@yu.edu.jo.

Specialization

Physics of the condensed matter

**Notable Publications**

- An NMR study of ^{165}Ho in a Pauli paramagnet,
- Crystal field anisotropy of Tb, Ho and Tm in gadolinium, C.Carboni, M. A. H

Key Awards

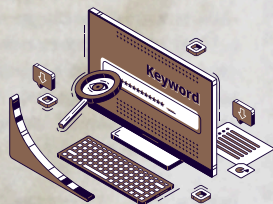
- TWAS prize for young Scientists in Physics from the Third World Academy of Sciences, Trieste, Italy (1995).



Physics Department
Prof. Abdullah Hamouda Mahmoud Qatish
Email: aqteish@yu.edu.jo

Specialization

Computer Solid State Physics

**Notable Publications**

- Microscopic atomic structure and stability of Si-Ge solid solutions,
- Thermodynamic properties of Si-Ge alloys,

Key Awards

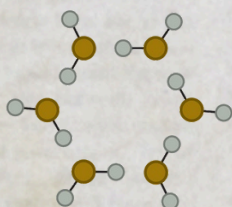
- DAAD Fellowship (1998, German Government)
- The Abde-Hameed Shuman Award for Young Arab Scientists (1995, Physics)



Physics Department
Prof. Abdel-Fatah D. Lehlooh
Email: aflehlooh@yu.edu.jo

Specialization

Solid State Physics



Notable Publications

- Mössbauer Spectroscopy Study of Y-type Hexaferrite ($\text{BaCo}_2\text{Fe}_{12}\text{O}_{22}$)
- Mössbauer Spectroscopy Study on $\text{BaSrNixCo}_{2-x}\text{Fe}_{12}\text{O}_{22}$ Hexaferrite

Key Awards

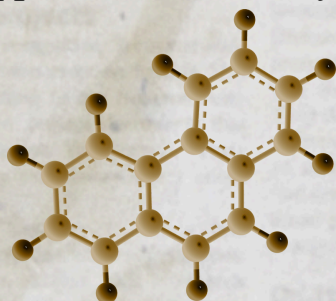
- Junior Associate of the ICTP (1996-1999).
- DAAD Scholarship: 3-Month Research Visit to TUM (Summer 2022)



Physics Department
Prof. Nihad Mohammed Ibrahim Tashtoush
Email: nehadmt@yu.edu.jo

Specialization

Applied Solid State Physics



Notable Publications

- Subnanoscale Molecular Self-assembly for Nanotech Applications
- Optical Constants of Sol-Gel V_2O_5 Thin Films via Transmittance & Reflectance Spectra

Key Awards

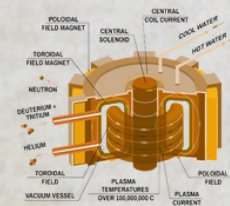
- Member of ASU Self-Study Portfolio Panel (A'Sharqiyah University, Oman)
- Member of Higher Student Affairs Committee (Civil & Military Wings, Mu'tah University, Jordan)



Physics Department
Prof. Ahmed Muhammad Suleiman Al-Khatib
Email: helga@yu.edu.jo

Specialization

Plasma physics



Notable Publications

- Published in journals like Physical Review Letters and IEEE Transactions on Plasma Science.
- Research on Beam Dynamics, EM Waves in Plasmas, and Impedance Modeling

Key Awards

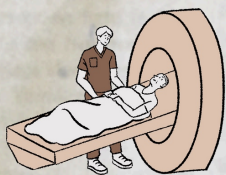
- Ministry of Higher Education Award for Distinguished Research (2003)
- Distinguished Scholar Award (2006/2007)



Medical Physics Department
Prof. Anas M. Ababneh
Email: ababneha@yu.edu.jo

Specialization

Biomedical Physics



Notable Publications

- Authored 23 articles on radiation safety, DNA interactions, and environmental physics.
- Published 4 conference proceedings and 4 laboratory manuals

Key Awards

- Shields of Appreciation for service and contributions
- Elected Member, Sigma Pi Sigma National Physics Honor Society

PHYSICS DEPARTMENT



Biomedical Physics Department
Prof. Zaid Q. Ababneh
Email: zababneh@yu.edu.jo

Specialization

Biomedical and Radiation



Notable Publications

- Estimation of Organ & Effective Dose in X-ray Examinations (Saudi Arabia)
- Radioactivity of Gamma Emitters in Baby Formula & Cereal in Jordan

Key Awards

- Assessment of Heavy Metals and Radionuclide Pollution in the Gulf of Aqaba
- Gamma Ray Activity and Annual Dose in Soils and Food in Northern Jordan

About PSI Team

PSI (Physics Sees Impossibilities)

Our team of physics and medical physics students came together with one goal, to create a magazine that makes physics exciting, inspiring, and accessible. We are thinkers, dreamers, and problem-solvers, united by a passion for uncovering the mysteries of the this world. With every page, we challenge ideas, spark curiosity, and bring science to life in a way that speaks to everyone.



Meet the Leader

Leading PSI with passion and dedication, ensures the team's vision comes to life through innovation and teamwork.



FARAH NOORELDEEN ABDULAL

Leader & Editor of the magazine

Second year Physics

Participated in NASA SPACE APPS 2024



Meet the Team

PSI is driven by a group of enthusiastic members, each bringing unique skills and creativity. Together, we strive to make physics engaging through events, competitions, and our magazine.



LOUZAN IHAB ALRAMAHI

Editor of the magazine

Fourth year Medical Physics

Organizer of the International Day of Medical Physics

An Introduction to space suit (AESS)



AHMAD SAID JABER

Editor of the magazine

Fourth year Physics

Participated in Hijjawi mathematical olympiad

Participated in NASA SPACE APPS 2024



FARES MUHIALDEEN ABU ALHIJA

Editor of the magazine

Fourth year Medical Physics

Organizer of the International Day of Medical Physics

Participated in Hijjawi mathematical olympiad

Participated in NASA SPACE APPS 2024



QUSAI AHMAD ALI ALBATINEH

Editor of the magazine

Fourth year Medical Physics

Organizer of the International Day of Medical Physics

Participated in NASA SPACE APPS 2024

Participated in Hijjawi mathematical olympiad



ASMA'A BASSAM FAISAL QASIM ABDULLAH

Editor of the magazine

Fourth year Physics



MAKRAM AHMAD MALKAWI

Editor of the magazine

Fourth year Physics

Participated in Hijjawi mathematical olympiad

Participated in NASA SPACE APPS 2024



ZAID ALSQQA

Editor of the magazine

Second year Physics



RAZAN ANAS SALEM SALEM

Editor of the magazine

Second year Physics

PHYSICS DEPARTMENT



Arranged by: Mohammad Khalid Ghraibeh

Where Physics comes to explore the fundamental principles of the universe and advance mankind's well-fair. Physics helps us understand how the world around us works, from the smallest particles to the vastness of space. In our department, we engage in a variety of activities that foster learning, innovation, and collaboration

INTERNATIONAL MEDICAL PHYSICS DAY



Arranged and executed by: Prof. Anas Ababneh, Prof. Zaid Ababneh, Prof. Riad Ababneh and Prof. Molham Ayeda

Fourth year medical physics students (Louzan Alramahi, Fares Abu alhija, Qusai Albatineh and Abdelrahman Alabsi)

The International Day of Medical Physics (IDMP) is celebrated annually on November 7th, marking the birthday of Marie Curie, who made groundbreaking contributions to the discovery of radioactivity . The day aims to highlight the vital role of medical physics in healthcare, focusing on improving diagnosis and treatment while recognizing the efforts of medical physicists in advancing patient care.



Nov-7th-2024

INTERNATIONAL MEDICAL PHYSICS DAY



TIME AND QUANTUM MECHANICS LECTURE

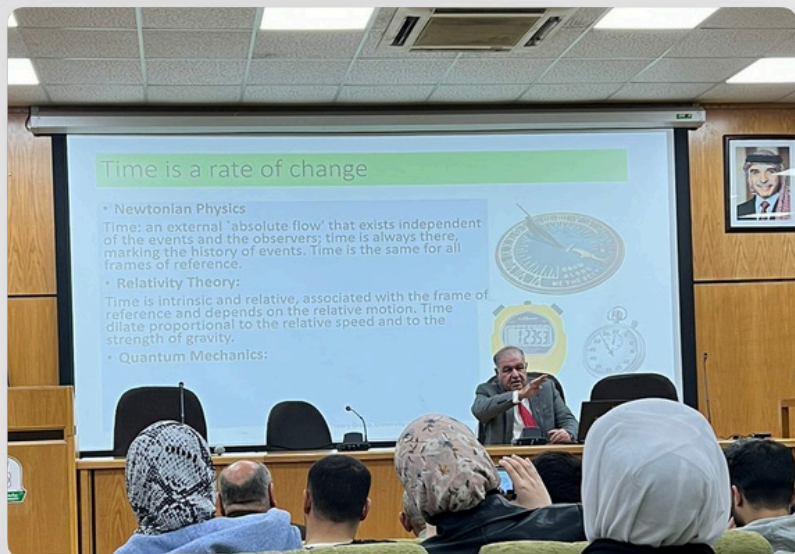


During his visit to Jordan on December 4th, Professor Basil Altaie, who worked for twenty years in this department delivered a talk about Quantum Time and the Quantum Clocks. In this lecture he presented the understanding of quantum mechanics and its relationship with time, highlighting how time behaves differently at microscopic scales compared to classical physics. In this domain, time is not an external measure of change but is an internal dynamical measure that can be influenced by quantum phenomena such as superposition and entanglement. These concepts challenge our conventional understanding, suggesting that time may not flow uniformly and could be subject to the probabilistic nature inherent in quantum states. The relationship between time and quantum mechanics opens new pathways for exploring the fundamental structure of the universe. In collaboration with some colleagues, Altaie who is now an Emeritus Professor at the University of Leeds published an excellent review article on this subject.

The article can be accessed through the following link:

<https://www.frontiersin.org/journals/physics/articles/10.3389/fphy.2022.897305/full>





NASA SPACE APPS 2024



Students from our physics department have represented us in this competition, showcasing their skills and dedication

The NASA Space Apps Irbid 2024 competition was organized at Yarmouk University under the patronage of Prof. Dr. Mohammad Al-Zubeidi, Dean of the Hijjawi Faculty for Engineering Technology.

The event took place on October 5-6, 2024, at PHu Building, ZINC Hall, and was led by President Hassan Abu Sarris and Deputy Rayan Al-Aifan. The competition was successfully organized by a dedicated volunteer team.



NASA



Physics Department team



The Physicists Team

- The team members:
- Fares M. Abu AL-Haija'a (MPHY)
- Ahmad S. Jaber (PHYS)
- Qosai A. Batainh (MPHY)
- Makram A. malkawi (PHYS)



The Challenger's Team

- The team members:
- Farah Nooreldeen (PHYS)
- Roua Qais (PHYS)
- Qassam Abu hassuna (GEO)



The new earth Team

- The team members:
- Shaima'a A. Aljarrah (PHYS)
- Rawnaq alhorani (EES)

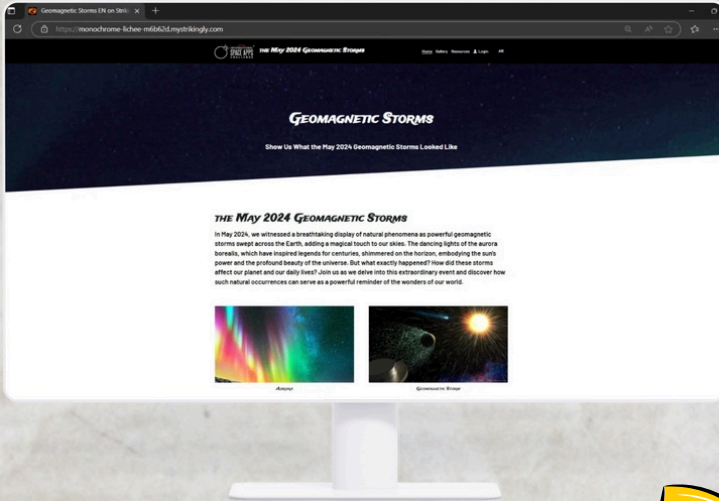


Astronomy YU Team

- The team members:
- Esra'a Awni Shani (PHYS)
- Aina'a Motaz Barham (PHYS)
- Shifa'a Al-Awaishah (PHYS)



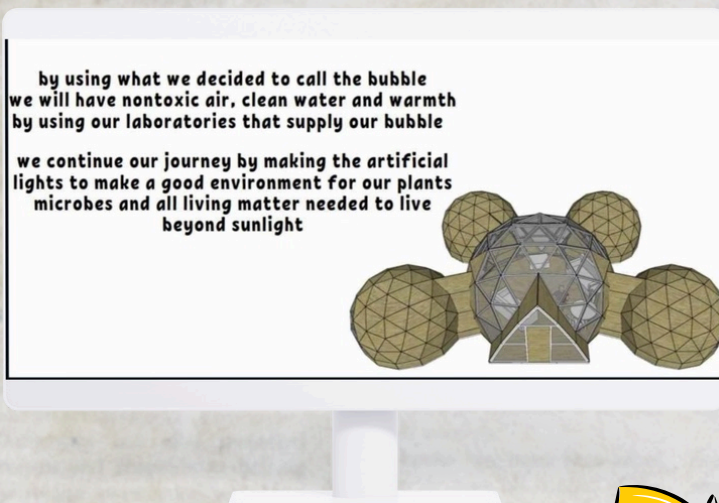
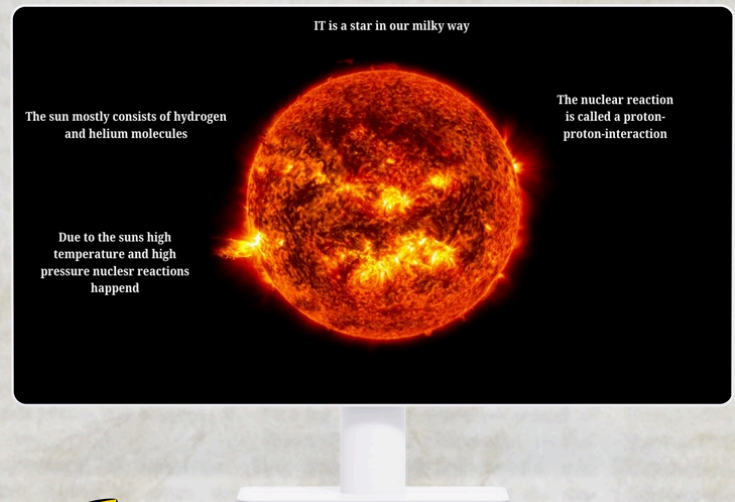
TEAMS PROJECTS & WORK



• Our Challenge:
Show Us What the May 2024
Geomagnetic Storms Looked Like.



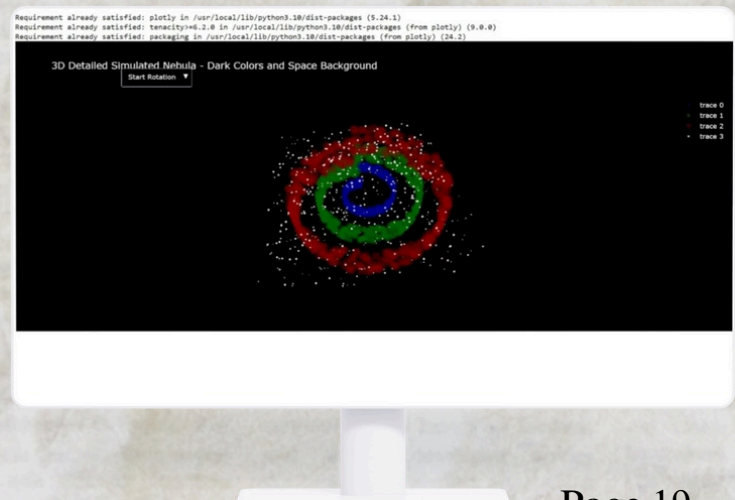
• Our Challenge:
Show Us What the May 2024
Geomagnetic Storms Looked Like.



• Our Challenge:
Symphony of the Stars: Harmonizing
the James Webb Space Telescope in
Music and Images



• Our Challenge:
Beyond Sunlight: An Aquatic
Chemosynthetic World



AL HUSSAIN CANCER CENTER TRIP

**ARRANGED BY : Prof. Anas Ababneh & Medical Physicist Mohammed Alsheik
for 4th year Medical Physics students (Radiation Therapy Course)**



Exciting football showdown



The winning team: Physics.



The Physics team played three matches in the College of Science League. The first match was against the Statistics team on December 8, 2024, followed by a semifinal match against the Medical Physics team on December 10, 2024. The final match took place on December 19, 2024, against the Chemistry team. The Physics team secured a decisive victory in all three matches and won the championship

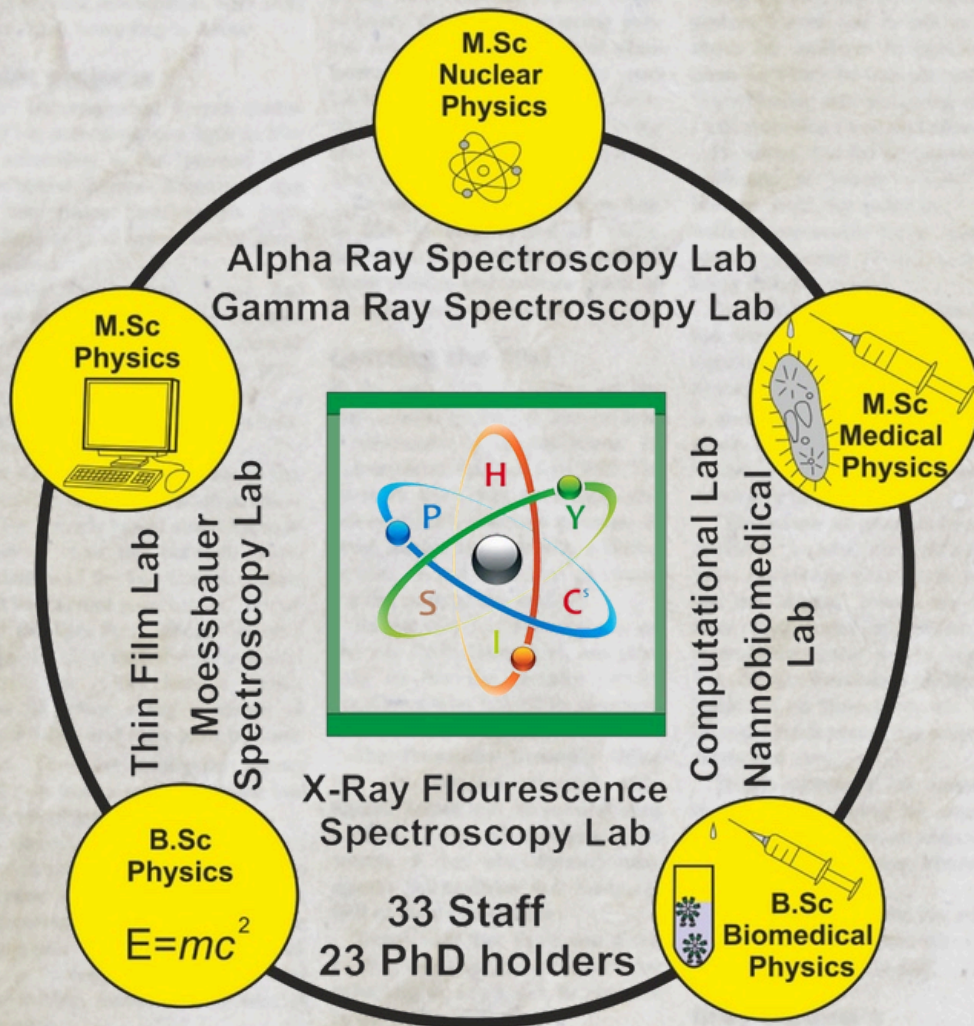


Yarmouk
Univeristy

Physics.dept@yu.edu.jo



Physics
Department



Stay tuned for exciting
upcoming events—you
don't want to miss what's
next!



Teampsii



Teampsii

