

Ahmed Hassan Ibrahim Abdel Hamid, Ph.D.

Academic Material Science Researcher

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EXECUTIVE SUMMARY

I am an academic researcher and Assistant Professor of Materials Science with over 15 years of experience in solid-state physics, with a particular focus on nanomagnetic materials and their advanced applications. Throughout my academic career at Suez Canal University, I have been committed to excellence in research, teaching, and academic development. I have authored more than 15 peer-reviewed publications in international journals, covering topics such as solid oxide fuel cells (SOFCs), functional nanomaterials, and the optical and magnetic properties of complex compounds.

My scientific journey includes international training programs and collaborative research at prestigious institutions, such as ELETTRA Synchrotron in Italy and the Joint Institute for Nuclear Research (JINR) in Russia. These experiences have enriched my expertise in synchrotron radiation, neutron diffraction, and advanced material characterization techniques.

In addition to my research, I have actively supervised both master's and Ph.D. theses and taught a wide range of undergraduate and postgraduate courses. I also lead several digital academic systems at my university, focusing on quality assurance, e-learning, and student information management. As a peer reviewer and judge in international science competitions, I remain deeply engaged in both the academic and scientific communities. My career is driven by a passion for discovery, interdisciplinary collaboration, and the pursuit of scientific excellence in both research and education.

EDUCATION

- **B.Sc. in Physics**, Physics Department, Faculty of Science, Suez Canal University, Ismailia, Egypt 2006–2009 (Very Good)
- **Pre-Master Studies**, Physics Department, Faculty of Science, Suez Canal University, Ismailia, Egypt 2009–2010 (Excellent). Field: Solid State Physics
- **M.Sc. in Solid State Physics**, Physics Department, Faculty of Science, Suez Canal University, Ismailia, Egypt 2010–2014. Thesis on Nanomagnetic Materials & Applications
- **Ph.D. in Solid State Physics**, Suez Canal University, Faculty of Science, Suez Canal University, Ismailia, Egypt 2016–2018. Thesis on Nanomagnetic Materials & Applications

Academic & Professional Experience

- **Assistant Professor of Material Science**, Suez Canal University (Nov 2024 – Present)
- **Lecturer**, Physics Department, Suez Canal University (2018 – 2024)
- **Assistant Lecturer**, Physics Department, Suez Canal University (2013 – 2016)
- **Demonstrator**, Physics Department, Suez Canal University (2010 – 2013)

Responsibilities:

- Teaching undergraduate and postgraduate physics and material science courses.
- Supervising graduate and postgraduate student research.
- Managing educational software systems.

Research Supervision

- **Master's Thesis:** Chromium-substituted lanthanum orthoferrites (2020 –2023)
- **Ph.D. Theses:**
 - Oxide glasses doped with transition elements (2020 – Present)
 - Bi₂O₃-based electrolytes for SOFC applications (2022 – 2024)
 - Development of dielectric and magnetic materials for electronic devices (Present)
- **Undergraduate Research:**
 - Hydrogen generation via Al-Sn alloys (2017).
 - Structure, morphology & magnetic properties of Cr-substituted LaFeO₃ (2021)
 - Magnetic & structural investigations of Zn_{1-x}Co_xO nanoparticles (2022)
 - Novel solid electrolytes for SOFC applications (2025)

Publications

- Abbas, Y.M., Bakry, A., & Hassan, A. (2014). *Super paramagnetism and polymorphism in nanolithium ferrite: Magnetic and structural study*. **American Journal of Materials Science**, 4(2), 84–96.
- Abbas, Y.M., Bakry, A., & Hassan, A. (2016). *The effect of Tin addition on structural and magnetic properties of the stanioferrite Li_{0.5+0.5x}Fe_{2.5-1.5x}SnXO₄*. **Journal of Advances in Physics**, 12(3).
- Abbas, Y.M., Hassan, A., Mosaad, S., & Orabi, M. (2017). *Hydrogen production using Al-Sn alloys prepared by rapid solidification*. **Journal of Advances in Physics**, 13(6).
- Abbas, Y.M., Mansour, A.B., Ali, S.E., & Ibrahim, A.H. (2018). *Synthesis*. **Journal of Advances in Physics**, 14(2).
- Abbas, Y.M., Mansour, A.B., Ali, S.E., & Ibrahim, A.H. (2019). **Journal of Magnetism and Magnetic Materials**, 482, 66–74.
- El-Damhogi, D.G., ELesh, E., Ibrahim, A.H., Mosaad, S., Makhlof, M.M., & Mohamed, Z. (2022). *The impact of radiation on gallium phthalocyanine chloride thin films for optoelectronic devices*. **Radiation Physics and Chemistry**, 195, 110060.

- Sadeq, M.S., Elashry, M.Y., El-Daly, A.A., & Ibrahim, A.H. (2023). *High Na₂O additions' environmental influence on Cr³⁺ in borosilicate glass*. **Ceramics International**, 49(16), 27201–27213.
- Ibrahim, A.H., Abbas, Y.M., Abdel Aziz, R.A., & Mosaad, S. (2023). **Journal of Materials Science: Materials in Electronics**, 34, 830.
- Ibrahim, A.H., Abbas, Y.M., Ayoub, H.A., Ali, M.H., & Aldoori, M. (2023). *Synthesis of stabilized Bi_{1-x-y}Gd_xDy_yO_{1.5} solid electrolytes for IT-SOFCs*. **Journal of Rare Earths**.
- Mosaad, S., Ibrahim, A.H., Elesh, E., El-Damhogi, D.G., & Elgazzar, E. (2023). *Prussian blue analog (Co/TCNi/HCCr) nanoparticles for electronic applications*. **Journal of Materials Science: Materials in Electronics**, 34, 2204.
- Nawar, A.M., Mosaad, S., & Ibrahim, A.H. (2024). **Physica B: Condensed Matter**, 676, 415624.
- Ibrahim, A.H., Mosaad, S., & Elesh, E. (2024). **Journal of Materials Science: Materials in Electronics**, 35, 400.
- Sadeq, M.S., El-Daly, A.A., Mosaad, S., & Ibrahim, A.H. (2024). **Optical Materials**, 149, 115106.
- Ibrahim, A.H., Abbas, Y.M., Ali, M.H., Ayoub, H.A., & Aldoori, M. (2024). **Journal of Materials Science: Materials in Electronics**, 35, 676.
- Nawar, A.M., Mansour, S.F., Mosaad, S., & Ibrahim, A.H. (2025). **Journal of Materials Science: Materials in Electronics**, 36, 295.
- Shehab E Ali, Yehia M Abbas, Mohamed S Nafie, Omar A Ahmed, S Mosaad, Ahmed H Ibrahim. Enhanced magnetic and cytotoxic properties of Co-substituted ZnNdFeO₄ spinel ferrites, **Physica Scripta**, 100(2025).

Awards & Scholarships

- Best Poster Award, El-Gona Conference, 2014
- Best Oral Presentation, JINR Dubna Summer School, 2015
- SESAME Light Source, Summer School, Amman, 2015
- LAAMP Training Program Awards, ELETTRA-Italy (2017 & 2018)
- Distinction in Physics Education Workshops, 2021

Academic & Administrative Roles

- **Director, Ibn Al-Haytham System for Student Affairs**, Suez Canal University (2019–Present)
- **Director, Al-Farabi Teaching Quality System** (2019–Present)
- **Director, Al-Farouq HR System** (2019–Present)
- **Coordinator of Graduate Authentication Certificates**, Faculty of Science (2019–Present)
- **Board Member | Electronic Practical & Oral Examinations Project**
Faculty of Science, Suez Canal University | *Funded by Higher Education & Scientific Research Development Fund* | Jan 2025–Present
- **Coordinator of the Interactive E-Book Platform**, Faculty of Science, Faculty of Science. Suez Canal University (2019–Present).

- **Head of the Quality Assurance Unit**, Department of Physics – Faculty of Science – Suez Canal University (2025 – Present).
- **Board Member of the Quality Assurance Unit**, Faculty of Science – Suez Canal University (2019 – Present)
- **Director of the Measurement and Evaluation Unit**, Faculty of Science – Suez Canal University (2025)

Peer Review & Editorial Contributions

- Invited Reviewer for 2 Q1 journals (Avg. IF: 3.2)
- American Journal of Material Science (2019–Present)
- Journal of Advances in Physics (2020–Present)
- Evaluated 20+ manuscripts in nanomaterials and condensed matter physics
- Recognized as "Outstanding Reviewer" by Journal of Sol-Gel Science and Technology (2024)
- Invited reviewer for Scientific Reports (2025-Present)
- Invited reviewer for Discover Chemistry (2025-Present)

Workshops, Conferences & Scientific Training

- **Workshop on Applications of Synchrotron Radiation in Structure Determination for Powder Data**, National Research Center, Giza, Egypt – 18 Jan 2011
- **X-ray Diffraction Anatomy Workshop**, Ras Sedr, Egypt – 2011
- **11th Int'l School & Workshop of Crystallography**: Macro-molecular Structure of Biological and Non-Biological Materials, Hurghada, Egypt – 18–22 Nov 2012
- **12th Int'l School & Workshop on Synchrotron Radiation in Nanomaterials Research**, El-Gouna, Egypt – 15–18 Nov 2014
- **Awarded Best Poster**, Superparamagnetism in Spinel Lithium Iron Oxide, El-Gouna Conference, Egypt – 2014
- **Synchrotron Radiation in Life Science**, National Centre of Research (NCR), Egypt – 2013
- **7th Int'l Advanced Summer School**, JINR & ASRT, Dubna, Russia – 25 May 2015
- **Introduction to 13th SESAME Users Meeting**, National Research Center, Cairo, Egypt – 3 Nov 2015
- **2nd Young Researchers Conference**, Suez Canal University, Ismailia, Egypt – 24–25 Oct 2015
- **SESAME International Meeting**, Amman, Jordan – 29–30 Nov 2015
- **Bioinformatics & Synchrotron Radiation in Life Science**, Helwan University & ESCA – 2017
- **Synchrotron User Award**, LAAMP Training Program, ELETTRA, Italy (2 months) – 2017
- **1st Annual Conference on Scientific Research: Reality & Application**, Faculty of Science, SCU, Ismailia, Egypt – 27 Nov 2018 (*Organizer & Participant*)
- **Synchrotron User Award**, LAAMP Training Program, ELETTRA, Italy (2 months) – 2018
- **Safety Training Program**, ELETTRA Synchrotron, Trieste, Italy – 2018
- **Elsevier Author Workshop**: How to Publish an eBook – 2020
- **Workshop: Publishing in High Impact Journals**, 6th Young Researchers Conf., SCU, Ismailia – 8 Apr 2019
- **Training on Web of Science & EndNote**, SCU – 7 Apr 2019 (Online)
- **SCU Conference Workshop**, Ismailia, Egypt – 8 Apr 2019
- **Online Workshop: EndNote X9** – 2020

- **Microsoft OneDrive for Cloud File Management – 2020**
- **Workshop on Scientific Research Ethics**, IFAD platform – 2020 (Online)
- **Workshop on Preparing Electronic Tests**, Higher Education Development Project, SCU – 2020
- **Microsoft Forms for Exam Preparation**, IFAD – 2020 (Online)
- **Workshop: Tackling COVID-19**, London School of Hygiene & UK Public Health Team – 2020 (Online)
- **Workshop: Creativity & Scientific Research**, IFAD – 4 Dec 2020 (Online)
- **Workshop: E-learning in Arab Universities**, IFAD – 2 Dec 2020 (Online)
- **7th Young Researchers Conference**, SCU, Ismailia – 17–18 May 2020 (Organizer)
- **Workshop: Scientific Method and Criticism**, IFAD – 2020 (Online)
- **Workshop: Inspiring Leadership**, IFAD – 2020 (Online)
- **Workshop: Reference Indexing Using EndNote**, IFAD – 2020 (Online)
- **Workshop: How to Publish an eBook**, ELSEVIER & NRC & EKB, Cairo – 22 Dec 2020
- **8th Young Researchers Conference**, SCU, Ismailia – 2021 (Organizer)
- **4th Postgraduate Research Conference**, Faculty of Science, SCU – 2021 (Organizer)
- **Workshop: Descriptive Studies - Methodology and Application**, IFAD – 1 Jan 2021 (Online)
- **Workshop: Systematic Review & Meta-Analysis**, IFAD – 5 Jan 2021 (Online)
- **Workshop: Scientific Research - Design to Analysis**, IFAD – 11 Jan 2021 (Online)
- **Workshop: Scientific Publishing - Necessity & Need**, IFAD – 13 Jan 2021 (Online)
- **Workshop: Interdisciplinary Studies & Research**, IFAD – 15 Jan 2021 (Online)
- **Workshop: Semiotics & Research Methodology**, IFAD – 22 Jan 2021 (Online)
- **Workshop: Publishing in Int'l Journals - Practical Approach**, IFAD – 24 Jan 2021 (Online)
- **Workshop: COVID-19 Home Isolation Guidelines**, SCU – 23 Jan 2021
- **Workshop: Data Handling & Statistical Analysis**, SCU – 28 Jan 2021
- **Workshop: Meta-Analysis Review Guide**, SCU – 26 Jan 2021
- **Workshop: Manuscript Editing using MS Word**, SCU – 26 Jan 2021
- **Workshop: Egyptian Knowledge Bank Guide**, SCU – 30 Jan 2021
- **Workshop: Reception Theory in Research**, IFAD – 29 Jan 2021 (Online)
- **Workshop: Cleanliness & Disinfection in COVID-19**, SCU – 25 Jan 2021
- **Workshop: Skills in Int'l Publications**, SCU – 27 Jan 2021
- **Foundational Excellence in Physics Education**, SCU – 2021 (Completed with Distinction)
- **Workshop: SCU Ranking Benefits to Young Researchers**, SCU – 6 Feb 2021
- **Workshop: Basics of MATLAB & Simulation**, SCU – 11 Feb 2021 (Online)
- **Workshop: Troubleshooting in Publishing**, SCU – 13 Feb 2021 (Online)
- **Workshop: COVID-19 Disaster Management in Higher Education**, SCU – 14 Feb 2021
- **Workshop: Programmatic Accreditation Application**, SCU QA Unit – 14 Feb 2021
- **Workshop: Academic Program & Course Evaluation**, SCU QA Unit – 17 Feb 2021
- **Workshop: Secrets of Int'l Publishing**, IFAD – 20 Feb 2021 (Online)
- **Workshop: Avoiding Predatory Journals**, IFAD – 20–21 Feb 2021 (Online)
- **Workshop: Tips for Academic Writing**, IFAD – 23 Feb 2021 (Online)
- **5th Postgraduate Research Conference**, Faculty of Science, SCU – 2022 (Organizer)
- **Nature Research Academies Workshop: Logical Manuscript Structure** – May 2022
- **Annual Postgraduate Research Conference**, SCU, Ismailia – 2023 (Organizer)
- **Annual Postgraduate Research Conference**, SCU, Ismailia – 23 Apr 2024 (Organizer)

- Neutron Diffraction, JINR Dubna, Russia,
- Software Testing, E-learning, Python, Java (2019–2020)
- High proficiency in MATLAB, OriginLab, SPSS, ImageJ, Crystal Maker, and LaTeX
- Scientific Research Methodologies – Skilled in designing, conducting, and analyzing physics experiments and studies.
- Laboratory Safety & Protocols – Trained in lab safety procedures, risk assessment, and equipment calibration.
- Academic Writing & Publishing – Proficient in writing research papers, theses, and journal publications.
- Data Analysis & Interpretation – Strong background in analyzing experimental data using Python, MATLAB.
- Simulation & Modeling Tools.
- Higher Education Pedagogy – Attended workshops in student-centered learning, assessment design, and e-learning tools.
- Curriculum Design & Development – Experience in structuring course content, learning outcomes, and lab manuals.
- Scientific Presentation Skills – Trained in preparing and delivering research presentations at academic conferences.
- Student Advising & Mentorship – Active role in supervising student projects and academic advising.

Professional Service & Judging Roles

- **Local Judge**, NASA International Space Apps Challenge (Galactic Local Event) – *7–8 October 2023*
- **Judge**, Regeneron International Science and Engineering Fair (ISEF) – *2020, 2022, 2023*
- **Academic Advisor**, Physics Department – mentoring undergraduate and postgraduate students.
- **Thesis Committee Member** – participating in MSc and PhD thesis defense panels.
- **Conference Judge**, [S.C.U postgraduate conference research] – evaluating research posters and oral presentations.
- **Organizer**, Departmental Seminars and Scientific Workshops.
- **Internal Examiner**, Undergraduate Lab & Final-Year Projects (2019 – present)
- **Community Outreach Speaker** – delivering public talks on science awareness and physics education.
- **Supervisor**, Undergraduate Research Projects & Internships

Teaching Experience

Undergraduate Courses

- *Physics I, II & III* – Faculty of Science
- *Waves and Oscillations* – Level 1, Faculty of Science
- *Waves and Electromagnetism* – Level 2, Geophysics Students (2019, 2020, 2022, 2023)

- *Electricity and Magnetism* – Level 1, Faculty of Science
- *Material Science* – Level 4, Faculty of Science
- *Material Characterization* – Level 4, Faculty of Science
- *Polymer and Nanocomposites* – Level 4, Faculty of Education
- *Nanoscience and Nanotechnology* – Level 4, Faculty of Education
- *Biophysics I* – Level 1, Faculty of Applied Health Sciences and Technology, Ismailia New University (2022, 2023)
- *Radiation Protection* – Ismailia Technical Health Institute

Postgraduate Courses

- *X-ray Crystallography*
- *Magnetism and Magnetic Materials*
- Nanoscience and Nanotechnology II

Additional Topics Taught

- *Molecular Spectroscopy*
- *Semiconductor Physics*
- *Crystallography*
- *X-ray Diffraction*
- *Thin Films*
- *Nanotechnology & Nanoscience*
- *Practical Physics & Instrumentation*
- *Darkroom Techniques & Radiography*

Computer & Scientific Software Skills

General Software

- Microsoft Office 365
- EndNote
- MATLAB
- Latex

Scientific & Research Software

- FullProf
- SingleCrystal
- Diamond
- Mercury
- C Spot Trial
- E Spot

- ImageJ
- Origin Lab
- CrystalMaker
- PowderCell
- Electron Diff

Languages

- Arabic: Native
- English: Fluent
- French: Intermediate

Invited Talks & Presentations

- **Radiation Protection and Medical Therapy**
Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research
Dubna, Russia | 2015
- **Synchrotron Radiation and Its Applications in Life Science**
Physics Department, National Research Centre
Egypt | 2013
- **Bioinformatics and Synchrotron Radiation in Life Science**
The Egyptian National Committee of Crystallography (ESCA) & Helwan University
Egypt | 2016
- **Image Processing and Microstructural Analysis Using ImageJ**
Young researcher committee/ Suez Canal University& Ismailia
Egypt | 2020