



# Rana Hussain M Alkhalidi

Assistant Professor

## Personal Data

Nationality | Saudi

Department | Physics

Official IAU Email | rhalkhalidi@iau.edu.sa

## Language Proficiency

Language	Read	Write	Speak
Arabic	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
French	Beginner	Beginner	Beginner

## Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
Aug, 2023	Ph.D. in Applied Physics	School of Physics & Applied Physics- Southern Illinois University	Illinois, US
2014	M.S in Physics	King Fasil University	Al-AHASA, SA.

## PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)

PhD	Electrochemical Energy Storage Devices Using Carbon Nanotubes
Master	New Materials/Composites

## Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work	Date
Assistant Professor	College of Science, Dammam, IAU	2023
Teaching Research Assistant	Southern Illinois University, Illinois, US	2022- 2023
Lecturer	College of Science, Dammam, IAU	2014



## Scientific Achievements

### Published Refereed Scientific Researches

(In Chronological Order Beginning with the Most Recent)

#	Name of Investigator(s)
1	N Asefifeyzabadi*, <b>R. Alkhaldi*</b> , AZ Qamar, AA Pater, M. Patwardhan, K.T Gagnon, S. Talapatra, M. H. Shamsi, "Label-free Electrochemical Detection of CGG Repeats on Inkjet Printable 2D Layers of MoS <sub>2</sub> ", ACS Applied Materials & Interfaces.,12(46), 52156–52165 (2020); DOI: 10.1021/acsami.0c14912, <b>*equally contributing authors</b>
2	T. De Silva, C. Damery, <b>R. Alkhaldi</b> , R. Karunanithy, D. Gallaba, P. D. Patil, M. Wasala, P. Sivakumar, A. Migone and S. Talapatra, "Robust & Flexible All Solid-State Supercapacitor", ACS Applied Materials & Interfaces.,13 (47), 56004-56013 (2021); DOI: 10.1021/acsami.0c14912
3	P. D. Patil, M. Wasala, <b>R. Alkhaldi</b> , L. Weber, K. K. Kovi, B. Chakrabarti, D. A. Rhodes, D. Rosenmann, R. Divan, A. Sumant, L. Balicas, N. R. Pradhan and S. Talapatra, "Photogating driven enhanced responsivity in few-layered ReSe <sub>2</sub> phototransistor", Journal of Materials Chemistry C.,9 (36), 12168-12176 (2021); DOI: 10.1039/D1TC01973B
4	M. Wasala, P. D. Patil, S. Ghosh, <b>R. Alkhaldi</b> , L. Weber, S. Lei, R. Vajtai, P. M. Ajayan and S. Talapatra, "Influence of Channel Thickness on Charge Transport Behavior of Multi-layer Indium Selenide (InSe) Field-Effect Transistors", 2D Mater., 7, 025030 (2020); DOI : 10.1088/2053-1583/ab6f79
5	M Abu Abdeen, Ayman S Ayesh, SS Ibrahim, <b>R AlKhaldi</b> , "Preparation and physical characterization of conjugated polymer-polycarbonate polymer blends", Journal of Composite Materials., 48(16), 1947-1957 (2014); DOI: 10.1177/0021998313492360

### Refereed Scientific Research Papers Accepted for Publication

#	Name of Investigator(s)	Research Title	Journal	Acceptance Date
1	<b>R. Alkhaldi</b> , N. Asefifeyzabadi, T. De Silva, P. Patil, R. Karunanithy, M. Shamsi, P. S Sivakumar, S. Talapatra, "Effect of Post-Production Thermal Treatment on Electrochemical Energy Storage Properties of Single-Walled Carbon Nanotubes", Manuscript Under Preparation, to be submitted in APL. Mater. (2024)			
2	Bushra Elsnousi, <b>Rana Alkhaldi</b> , Prabir K Kolay, Saikat Talapatra, "Cement Biochar Electrochemical Analysis" to be submitted in APL. Mater. (2024)			
3	<b>Rana Alkhaldi</b> , Faith Quinn, Saikat Talapatra, " Effect of Thermal Activation on Breathing Bands of Carbon Nanotubes" to be submitted in APL. Mater. (2024)			

### Contribution to Scientific Conferences and Symposia and workshop



#	The Title	Place and Date of the Conference	Extent of Contribution
1	American Physical Society March Meeting	2022, Chicago, IL, US	Presenter
2	American Physical Society March Meeting	2019, Boston, MA, US	Poster presentation
3	3d Printing Ceramic Materials Research Society-	2023, US	Attended
4	Advanced Materials Characterization Frederick Seitz Materials Research Laboratory	2023, University of Illinois at Urbana-Champaign, Champaign, IL	Attended
5	Science Presentations- Research Experiences Undergraduates(REU)Students- National Science Foundation (NSF)	2023, School of Science, Southern Illinois University, IL, US	Supervising Undergraduate Student

#### Membership of Scientific and Professional Societies and Organizations

- FGSA Executive Committee Nominations Team Member of Forum on Graduate Student Affairs(FGSA) – (2022 – 2023), US
- Member of the American Physical Society (APS)
- Member of the Material Research Society (MRS)

#### Teaching Activities

##### Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Electricity & Magnetism	PHYS 301	Primary Instructor
2	Experimental Solid-State Lab	Physics	Primary Instructor

##### Postgraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Special Topics	Physics 606	Instructor at Southern Illinois University, IL, US(2022-2023)



## Student Academic Supervision and Mentoring

#	Level	Number of Students	From	To
1	Academic Supervision for Undergraduate students-Developing Physical Concepts from Construction Electrical Circuits for Science Presentation Day-Collage of Science IAU.	3	2023	2023

## Administrative Responsibilities, Committee and Community Service (Beginning with the most recent)

### Administrative Responsibilities

#	From	To	Position	Organization
1	2023	Up to Date	The chairman of the Examination Committee of Physics Department, Collage of Science	IAU, Dammam, SA
2	2023	Up to Date	A member of Subjective Evaluation Study	IAU, Dammam, SA

### Volunteer Work

#	From	To	Type of Volunteer	Organization
1	April 2021	Aug 2021	Saudi Festival planner	Saudi Students Club in Chicago, Illinois, US
2	Feb 2022	March 2022	Scientific Judge for the annual Illinois Junior Academy of Science (IJAS) Region Science Fair	Southern Illinois University, Illinois, US
3	Jan 2019	Jan 2020	Officer, the Materials Research Society(MRS), Engineering and Science Collages, University Chapter	Southern Illinois University, Illinois, US
4	2017	2023	A member of the Astronomical Association of Southern Illinois including total lunar eclipse and public astronomy observations(setting NASA Telescopes for Stargazing Planets)	Observation Deck, and University Soccer Field Stadium, Southern Illinois University, Illinois, US



5	April 2023	April 2023	Instructor for Science Day demonstration	Brehm Academy, Illinois, US
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**Personal Key Competencies and Skills: (Computer, Information technology, technical, etc.)**

LaTeX, Python, LabView
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**Last Update**

5/30/2023