Curriculum Vitae

Sama Al-Dabbagh
Academic Lecturer and Researcher

Work Address:
Mustansiriyah University – College of Sciences - Department of Atmospheric Sciences
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Academic Qualifications and Degrees:

- Ph.D. [2011-2016] from Mustansiriyah University College of science, department of Atmospheric Sciences specialized in Dust Modeling, thesis entitled "Analysis of Dust Events Using BSC-DREAM8b Regional Model and NCEP Data over West Asia (Iraq)".
- M.Sc. [1997-2000] from Mustansiriyah University College of science, department of Atmospheric Sciences specialized in Modeling of Atmospheric Aerosols Scavenging by Rain.
- B.Sc. [1993-1997] from Mustansiriyah University College of science, department of Atmospheric Sciences.

Work Experience:

- Principal Investigator PI, NASA/GSFC Aerosol Robotic Network (AERONET) Baghdad Station – Iraq.
- Guest Scientist at Barcelona Supercomputing Center -Department of Earth Sciences (June – December 2014).
- Lecturer at Mustansiriyah University College of Science, Department of Atmospheric Sciences (November 2016 - ongoing) as a Theoretical courses instructor and undergraduate research studies supervisor.
- Assistant Lecturer at Mustansiriyah University College of Science, Department of Atmospheric Sciences (November 2005 - 2016) as a Laboratory instructor.
- Assistant lecturer at Al-Nahrain University College of Science, department of Physics (September 2002-Febeuary 2003).

Courses Taught for Undergraduate Studies:

- Atmospheric Thermodynamics
- Weather Instruments and Observations

- Synoptic Meteorology
- Weather Forecasting
- Research Project
- Operating Systems (MS-DOS, Windows and Linux)
- Programming language (Turbo Pascal), (C++) , (Fortran) and MATLAB
- General Physics
- Numerical Analysis
- Meteorological Statistics
- Numerical Weather Prediction.

Professional Affiliations:

- Member in the examination Committee in 2009-2010, 2021-2023.
- Member in the Educational Guidance Committee in 2015-2016.
- Administrator of Avicenna Committee for E-learning in 2015-2021.
- Member in the Graduation Ceremony for the year (2016-2017).
- Member of the Department Council for the years (2017-2018) and (2021-2022).
- Member of the committees participating in the activity of the volunteer work week of the Department of Atmospheric Sciences for the period in 2018.
- Administrator of the Station Maintenance Committee in the Department of Atmospheric Sciences since 2018.
- Member of the Central Committee to follow up and manage the system of courses in the college of Science in 2019.
- Member of the Committee for the system of courses for undergraduate studies in 2019.
- Administrator of the Committee of the Global Classification of University Sites in the Department of Atmospheric Sciences in 2019.
- Member of the Curriculum Development and Modernization Committee for undergraduate studies in 2022.
- Administrator of the Academic Accreditation Committee in 2023.
- Member in the Data Center committee in 2022,2023-2024.
- Member in the Laboratory Quality Assurance Committee in 2023-2024.
- Member in Bologna learning implementation system Committee for undergraduate studies in 2023-2024.
- Member in Bologna learning implementation system Committee for undergraduate studies in 2023-2024.
- Administrator of National Classification Committee in 2024-2025.
- Member of Program Accreditation Committee in 2024-2025.
- Administrator of Self-Assessment Report Writing Committee in 2024-2025.
- Member of Academic Program Description Committee in 2024-2025.

Scientific Affiliations:

- Reviewer in the AL-MUSTANSIRIYAH JOURNAL OF SCIENCE since 2018.
- Member of the minstrel committee “Movement and pathways of dust phenomena over Iraq” in 2018.
- Member of the "Weather Forecasting Committee" in 2018-2019.

- Member of the preparatory committee of the 4th International Electronic Conference on Atmospheric Sciences, 16–31 July 2021.
- A member in Young Earth System Scientists community (YEES) since 2021.
- Member of the scientific committee of the 8th International Scientific Conference for College of Science in Atmospheric Sciences (ISCCSAS-2023), 3-4 May 2023 College of Science, Mustansiriyah University, Iraq.
- Member of the scientific team specialized in studying the climatic data for cloud seeding process, in cooperation with the Iraqi General Authority for Meteorology and Seismic Monitoring, in 2023-2024.
- Member of the minstrel committee "UK Collaboration on Sandstorm Modelling and Mitigation in Southern Iraq", in cooperation with the Iraqi Ministry of Environment, since 2024.
- Member of the preparatory committee of the 11th International Scientific Conference for College of Science and 3rd in Atmospheric Sciences and Climate Changes (ISCCSAS-2025), 26–27 May 2025.

Research Experience:

- Evaluation of BSC-DREAM8b Model (Barcelona Supercomputing Center-Dust Regional Atmospheric Model Version 2.0) over west Asia.
- Evaluation of WRF-ARW Model (Weather Research and Forecasting Model) over Iraq.
- Analysis and processing of Satellite and modelled products using CDO (Climate Data Operators).
- Spatial and temporal analysis of Satellite and modelled products using programming languages.
- Weather prediction through analyzing weather surface and upper charts.
- Investigating critical fire weather patterns.
- Dust-Aerosols Interaction and Air Quality.

Research Interests:

- Characteristics of Atmospheric aerosols and Mineral Dust in particular.
- Remote sensing of atmospheric aerosols.
- Evaluating of Ground-based and Space-borne aerosols products.
- Aerosols radiative forcing and Dust-Aerosols Interaction.
- Numerical Weather Prediction and dust modeling.
- Weather modification.
- Dynamics and Synoptic Meteorology.

Technical Skills:

- Geostatistics using CDO (Climate Data Operators).
- Data Processing and Visualization using Python, NCL, Bash and R programming languages.
- LINUX environment (openSUSE).
- MATLAB and Fortran Programming languages.

Conferences Participation:

- First International Conference on Sand and Dust Storms, Riyadh, Saudi Arabia, 4-6 March 2024.
- 8th International Scientific Conference for College of Science in Atmospheric Sciences (ISCCSAS-2023), 3-4 May 2023 College of Science, Mustansiriyah University, Iraq.
- 4th International Electronic Conference on Atmospheric Sciences, 16–31 July 2021; Available online: https://ecas2021.sciforum.net.

- 1st International Conference on Pure Science (ISCPS-2020) July, 2020; University of Kufa, Najaf, Iraq.
- 7th scientific conference, May, 2011; Mustansiriyah University, Baghdad, Iraq.

Training Workshops:

- EUMeTrain MTG-I EVENT WEEK 2025, organized by EUMETSAT, June ,23 – 27, 2025.
- Online course on "Atmospheric Research Infrastructures: Sharing the future of our atmosphere", France Université Numérique, February, 2025.
- Participated in the workshop held by the Climate Change Department at the Iraqi Ministry of Health to discuss the preparation of the National Adaptation Plan for the Health Sector (HNAP), held in Baghdad, October, 8-10, 2024.
- Online Training on NASA Atmospheric Composition Ground Networks Supporting Air Quality and Climate Applications, organized by NASA's Applied Remote Sensing Training (ARSET), August, 08, 13, 15, 20, & 22, 2024.
- EUMeTrain online Event Week on MTG-I, organized by EUMETSAT, September ,25 – 29, 2023.
- Online Training School and Workshop on Dust Aerosol Detection and Monitoring, on state-of-the-art satellite-based, ground-based and model-based products for aerosol detection and monitoring, organized by EUMETSAT and the WMO SDS-WAS Regional Center, November, 9 -17 & 22-24,2021.
- Online Training workshop on Introduction and Access to Global Air Quality Forecasting Data and Tools, ARSET(Applied Remote Sensing Training Program), NASA, September, 23-30, 2021.
- Online Training workshop on Joint WRF/MPAS Users, NCAR, June, 8 – 9, 2020.
- The 3rd Training Course on WMO SDS-WAS products (satellite and ground observation and modeling of atmospheric dust) in Muscat-Oman in December, 2013.
- Attended many virtual webinars held by Barcelona Supercomputing Center (BSC-CNS) | Earth System Services https://cost-indust.eu/events/indust-events.
- Attended many actual and virtual workshops and seminars held by the Continuing Education Division in College of Science/ Mustansiriyah University.

Other Training courses:

- A Course on plotting, analyzing and interpreting the upper air charts by held by Atmospheric Sciences Department/ College of Science/ Mustansiriyah University in 2015.
- A course on plotting and processing of climatic data using sigma plot held by Atmospheric Sciences Department/ College of Science/ Mustansiriyah University in in 2016.
- A course on plotting, analyzing the upper weather maps, held by Atmospheric Sciences Department/ College of Science/ Mustansiriyah University in 2019.
- A course on Advanced applications of spatial analysis in geographic information system(GIS) held by Atmospheric Sciences Department/ College of Science/ Mustansiriyah University in 2021.
- A course on Cloud structure by Atmospheric Sciences Department/ College of Science/ Mustansiriyah University in 2023.

Invited speaker and Instructor:

- A workshop entitled "UK Collaboration on Sandstorm Modelling and Mitigation in Southern Iraq", held in Kuwait Fund for Arab Economic Development in Kuwait City, October, 2-3,2024.

- A workshop entitled "Numerical Simulation of Meteorological Elements and Their Roles in Society" held by Department of Atmospheric Science at the Faculty of Science at Mustansiriya University and the Association for Computing Machinery (ACM) Chapter-Iraq in 2018.
- A seminar on numerical prediction of dust held by Department of Atmospheric Science at the Faculty of Science at Mustansiriya University Civil Aviation Institute in 2018.
- A workshop of climatic data operator CDO held by Atmospheric Sciences Department/ College of Science/ Mustansiriyah University in 2018.
- A training course of The basics of weather forecasting using modern methods held by Atmospheric Sciences Department/ College of Science/ Mustansiriyah University in 2019.
- A training workshop of Mendeley application and its use in scientific research held by Atmospheric Sciences Department/ College of Science/ Mustansiriyah University in 2019.
- A workshop entitled" Aerosols: Tiny Particles, Big Impacts" held by Atmospheric Sciences Department/ College of Science/ Mustansiriyah University in 2021.
- Webinar entitled "Emerging challenges of particulate pollution in eastern Mediterranean countries" held by Young Earth System Scientists community (YEES) in 2021 https://www.yess-community.org/2021/09/06/webinar-for-central-asian-ecrs/ .
- Workshop entitled "Dust storms: their causes, damages, and modern methods of combating" held by National University of Science and Technology in 2022.
- Workshop entitled "Characterization of Aerosol Types Using Satellite Remote Sensing Datasets over the Middle East held by Continuing Education Division, College of Science/ Mustansiriyah University in 2022.

PUPLICATIONS:

2025

Sama K. Al-Dabbagh, 2025: Diagnosis of a Severe Dust Storm Event over Iraq. Al-Mustansiriyah Journal of Science. Vol. 36 No. 2, 59-69. https://doi.org/10.23851/mjs.v36i2.1686

One of the co-authors: 366 News from 2050," One Day in 2050, Jan. 2025. [Online]. Available: **https://mcusercontent.com/05029fefeb09e61eff7ed3715/files/4337d2cd-dbd0-ce4f-e7f6-20588c474590/WEB_One_Day_ENG_10MB.pdf.**

2023

Sama K. Al-Dabbagh, Vian Almusawi and Basim Abdulsada Alknani, 2023: Verification of Some Weather Elements Forecasts from BSCDREAM8b V2 Model. J. Earth and Environmental Science. IOP Conf. Series: 1223 ,012008. https://iopscience.iop.org/article/10.1088/1755-1315/1223/1/012008.

Ahmed F. Hassoon and **Sama K. Al-Dabbagh**, 2023: Effect Dynamic Stability of Atmospheric Boundary Layer on Plume Downward Flux Emitted from Daura Refinery Stacks. Iraqi Geological Journal. 56(1A), 161-171. https://doi.org/10.46717/igj.56.1A.12ms-2023-1-24.

2021

Al-Dabbagh, S.;AL-Shouhani, H.; Hussein, N., 2021: An Investigation of Critical FireWeather Patterns: A Case Study. Environ. Sci.Proc., 8, 37. https://doi.org/10.3390/ecas2021-10694.

2020

Sama K. Al-Dabbagh, 2020: The Use of Aerosol Optical Properties in Identification of Dust Sources in Iraq. J. Phys.: Conf. Ser. https://doi.org/10.1088/1742-6596/1660/1/012049.

2015

Sama K. Mohammed, Neamah M. Al Fatla , Saadi A. Abdul Wahab,2015:Numerical simulation of dust event during (1-6) June 2012 using BSC-DREAM8b dust regional model over West Asia, a case study, Journal of Environmental Science, Toxicology and Food Technology (IOSR-JESTFT), Volume 9, Issue 12 Ver. II ,PP 63-78. Journal homepage: www.iosrjournals.org.

Sama K. Mohammed, Neamah M. Al Fatla , Saadi A. Abdul Wahab,2015: Analyzing the synoptic patterns associated to dust events over west Asia during summer months - Case Studies, Journal of Applied Physics (IOSR-JAP), Volume 7, Issue 6 Ver. II, PP 53-66. Journal homepage: www.iosrjournals.org.

2012

Hassan H.Salman, **Sama K. AL-Dabbagh**, Hadil J. AL-Shouhani , 2012: A study of kinematic vertical motions in the troposphere in Iraq, INTERNATIONAL JOURNAL OF ENERGY AND ENVIRONMENT, Volume 3, Issue 3, pp.435-446 ,Journal homepage: *www.IJEE.IEEFoundation.org.*

2011

Sama Khalid Mohammed, 2011: The Evaluation of Using the Kinetic Method in The Calculation of The Vertical Velocity in Iraq", Al-Mustansiriya Journal of Science, Vol 22, Issue 5, pp.240-258, http://iasj.net/iasj?func=fulltext&aId=85366.