Mohamed Aboelghar

Professor and Researcher

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ORCID | Google Scholar | LinkedIn | Portfolio

SUMMARY

Professor and senior researcher specializing in **Remote Sensing and GIS agricultural applications**, with over **30 years of experience** in satellite data analysis, crop monitoring, yield prediction, water productivity assessment, and AI-driven geospatial modeling. Extensive experience leading **national and international funded research projects**, supervising multidisciplinary teams, and publishing in **high-impact peer-reviewed journals**. Proven expertise in applying geospatial technologies to agriculture, water resources, and environmental management.

PROFESSIONAL EXPERIENCE

National Authority for Remote Sensing and Space Sciences (NARSS), Egypt

Professor – Head of Agricultural Applications, Soil and Marine Sciences Division 07/2025 – Present

- Lead and supervise national research programs in remote sensing and GIS for agriculture
- Serve as **Principal Investigator** for local and international funded projects
- Develop short- and medium-term research strategies
- Ensure quality assurance of scientific outputs and institutional compliance

Professor – Head of Agricultural Applications Department 09/2019 – 06/2025

- Planned and managed departmental research activities
- Led multidisciplinary research teams
- Delivered postgraduate, graduate, and professional training courses
- Coordinated project execution, reporting, and stakeholder engagement

Assistant Professor – Supervisor, Agricultural Applications Department 09/2013 – 08/2019

- Co-Principal Investigator on agricultural remote sensing projects
- Taught undergraduate and postgraduate courses
- Contributed to project design, data analysis, and publications

Researcher 06/2008 – 08/2013

- Conducted applied research in agricultural remote sensing and GIS
- Delivered professional training programs
- Supported satellite data processing and technical reporting

Research Assistant 10/1995 – 03/2001

- Supported agricultural remote sensing research projects
- Assisted with data collection, preprocessing, and analysis

International & Academic Appointments

Center for Environmental Remote Sensing (CEReS), Chiba University, Japan Lecturer | 04/2005 – 05/2008

- Developed global geodatabases and land cover products
- Contributed to MODIS-based global land cover mapping

Zewail City for Science and Technology, Egypt Adjunct Professor | 2016 – 2018

- Taught Remote Sensing and GIS for ecosystem monitoring

Menofia University, Faculty of Agriculture, Egypt Adjunct Professor | 2014 – 2015

- Taught Remote Sensing applications in Plant Pathology

Arab Organization for Agricultural Development (League of Arab States) Consultant | 03/2015 – 07/2015

- Delivered professional training programs in Sudan and Arab countries
- Provided technical advisory services for agricultural development

SKILLS

Technical Skills: Remote Sensing • GIS • Satellite Data Integration • Crop Monitoring • Yield Prediction • AI and Machine Learning • IoT • ArcGIS, ENVI |

Research & Management Skills: Project Management • PI / Co-PI Roles • Multidisciplinary Research Leadership

EDUCATION

Chiba University 03/2005
Ph.D. in Remote Sensing Chiba, Japan
Dissertation: Agricultural Land Monitoring and Crop Yield Prediction Using Remote Sensing

Menoufia University 10/1998
M.Sc. in Plant Pathology Menoufia, Egypt
Dissertation: Studies on Some Citrus Diseases Using Remote Sensing Techniques

Menoufia University 05/1995
B.Sc. in Plant Pathology Menoufia, Egypt

PROFESSIONAL DIPLOMAS

- Diploma in Project Management – NARSS (2011)
- Diploma in Strategy and National Security – Nasser Military Academy (2023)
- Diploma in Crisis Management & Decision Making – Nasser Military Academy (2023)
- Diploma in Leadership Development – Helwan University (2024)

PROJECTS AND TECHNICAL REPORTS

Crop Pattern Monitoring of Dakahlia and Damietta Governorates Using High Resolution Satellite Imagery and Artificial Intelligence 2025 – 2026
NARSS, Egypt

Using Multi Sources of Remote Sensing Data and Artificial intelligence for crop types mapping in the Northern Nile Delta and Middle Egypt 2024 – 2025
NARSS, Egypt

Winter Agricultural Crops Survey 2023 – 2024
NARSS and Ministry of Agriculture, Egypt

Integrated Geospatial Database for Sustainable Agricultural Development in Fayoum Governorate 2022 – 2023
NARSS and Fayoum Governorate, Egypt

Management and Applications of Remote Sensing Big Data in Old and Reclaimed Lands for Sustainable Agricultural Development of Egypt 2020 – 2022
NARSS, Egypt

Building an Integrated Geospatial System for Periodic Monitoring of Egyptian Export Crops Using Remote Sensing and GIS 2019 – 2020
NARSS, Egypt

Integrated crop Monitoring and Estimation of Water Productivity in Egyptian Nile Delta 2018 – 2019
NARSS, Egypt

Spatial Data Management and Integration for Sustainable Agricultural Development and Food Security in the Northern West Coast of Egypt 2017 – 2018
NARSS, Egypt

Remote Sensing and GIS for Crop and Water Management in Nile Valley and Delta) 2016 – 2017
NARSS, Egypt

Assessment of Desertification in Waset and Misan provinces, Iraq using remote sensing and GI 2015 – 2016
Arab Organization of Agricultural Dvelopment

Water harvesting in Kassab area, Garadef, Sudan 2014 – 2015
Arab Organization of Agricultural Development, Sudan

Land cover and land use mapping using remote sensing and GIS in Karblaa province, Iraq 2014 – 2015
Arab Organization of Agricultural Development, Sudan

Monitoring and estimation of the area of the main Strategic crops in Egypt 2012 – 2014
NARSS, Egypt

Modeling yield prediction for the main cereal crops in Egypt using multi-source remote sensing data 2009 – 2011
NARSS, Egypt

Study on Validation of Crop Leave Area Inversion Using Multi - Source Remote Sensing Data 2008 – 2009
NARSS and Chinese Academy of Science, Egypt

Global Land Cover Mapping 2005 – 2008
Japanese Space Agency, Japan

Selected Publications

Multi-sensors Remote Sensing and Machine Learning Techniques Applications in Agriculture 2026
Egypt. J. Bot., 66 (1) 1-17

Magnesium Oxide Nanoparticles Enhance Growth Performance, Spectral Vegetation Indices, Yield Quantity, and Quality of Green Onion under Egyptian Conditions 2025
Russ J Plant Physiol 72, 124

Delineation of site-specific management zones to enhance nutrient status, growth, and quality of green onion (Allium cepa L.) in a newly reclaimed area in Ismailia, Egypt 2025
Front. Sustain. Food Syst. 9:1508115

Crop Yield Prediction Using Multi Sensors Remote Sensing (Review Article) 2022
The Egyptian Journal of Remote Sensing and Space Science, 25 (3), 711–716

Integrated method for rice cultivation monitoring using Sentinel-2 data and Leaf Area Index 2021
The Egyptian Journal of Remote Sensing and Space Science, 24 (3), 431–441

Spectral wheat yield prediction modeling using SPOT satellite imagery and leaf area index 2014
Arabian Journal of Geosciences, 7:465–474.

Spectral footprint of Botrytis cinerea, a novel way for fungal characterization 2013
Advances in Bioscience and Biotechnology, 4(3), 374 – 382

Rice yield forecasting models using satellite imagery in Egypt 2013
The Egyptian Journal of Remote Sensing and Space Sciences. 16, 125–131

Using SPOT data and leaf area index for rice yield estimation in Egyptian Nile delta - ScienceDirect 2011
The Egyptian Journal of Remote Sensing and Space Science, 14 (2), 81–89

Production of global land cover data – GLCNMO 2011
International Journal of Digital Earth, 4 (1) 22–49

Retrieving leaf area index from SPOT4 satellite data 2010
The Egyptian Journal of Remote Sensing and Space Science,13 (2), 121–127

Agricultural land monitoring in the Egyptian Nile Delta using Landsat data 2004
International Journal of Environmental Studies, 61(6), 651– 657.

(Full publication list available on Google Scholar)

Languages

Arabic — Native/Bilingual

English — Fluent

Japanese — Conversational