CURRICULUM VITAE

NAME: Mohamed Mahmoud Sowilem Mohamed

POSITION TITLE

- Researcher, Environmental studies and landuse division, National Authority for Remote Sensing and Space Sciences (NARSS), Cairo, Egypt.

EDUCATION and ACADEMIC DEGREES

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Faculty of Science, Ain Shams University, Cairo, Egypt.	B.Sc.	1982	Entomology
Faculty of Science, Ain Shams University, Cairo, Egypt.	M.Sc	1993	Medical Entomology
Faculty of Science, Ain Shams University, Cairo, Egypt.	Ph.D.	2004	Medical Entomology

Nationality: Egyptian

Address: Egypt, Benha, Qaliobia governorate, Kafr Manaqer, 14 Motawa street

Date of birth: 8 May 1960

Marital stage: Marred

Work address;

In Egypt: National Authority for Remote Sensing and Space Sciences

23 Bros Teto Street, El_Nozha El-Gdeda (behind Airport), Cairo, Egypt

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A. Qualifications:

- Engaged in Entomology as well as remote sensing and GIS research with good teaching skills in meny fields. I specialize in studying relationship between environmental factors and mosquito's distribution.

- 18 years of experience in using remote sensing and GIS for mapping the different Ecological and habitat characterization of mosquitoes, as well as modeling and production of risk classification maps for areas vulnerable to mosquito-transmitted Diseases in Egypt.

B. Positions and honors:

1986-2000: Specialist of medical insects in Research & Training Center on Vectors of Diseases, Ain Shams University, Cairo, Egypt.

2000-2005: Assistant researcher, Environmental studies and landuse division, National Authority for Remote Sensing and Space Sciences (NARSS), Cairo, Egypt.

2005- Until now: Researcher in Environmental studies and landuse division, National Authority for Remote Sensing and Space Sciences (NARSS), Cairo, Egypt.

2007- 2008: Admin on department of the Environmental Studies Department, Environmental Studies and Land Use, National Authority for Remote Sensing and Space Sciences (NARSS), Cairo, Egypt.

2008- 2009: Project manager of integrated pest control and dengue fever program, Jeddah, Saudi Arabia.

2010-2012: Researcher in Plant Protection Department, College of Food and Agriculture Sciences, King Saud University, Riyadh, Saudi Arabia.

2015-2018 : Deputy Director of Public Health Pests laboratory, Jeddah Governorate, Jeddah, Saudi Arabia

C. Research objectives:

To develop and implement environmental early warning systems for endemic diseases and epidemics crossing international borders using remote sensing techniques and Geographical Information Systems

• Particular interest areas include diseases risk assessment and pest control

D. Training courses:

1988: Ain Shams University, Research & Training Center on Vectors of Diseases, Cairo, Egypt. Training Course in blood meal identification by "Direct Enzyme–linked Immunosorbent Assay (ELISA)"

1996-1997: Ain Shams University, Scientific Computing Center, Cairo Egypt. "Integrated Training Course in Computer Sciences":

1999: Ain Shams University, Research & Training Center on Vectors of Diseases, Cairo, Egypt " Applications of diagnostic Molecular Biology.

2000: Ain Shams University, Research & Training Center on Vectors of Diseases, Cairo, Egypt " The Art of Scientific Writing".

2000: National Authority for Remote Sensing and Space Sciences, Training Department, Cairo Egypt, Training courses in digital image processing.

2001: National Authority for Remote Sensing and Space Sciences, Training Department, Cairo Egypt, Training course in "The Role of Remote Sensing and Space Technologies in Environmental Impact Assessment".

2001: Workshop on Geographic Information system (GIS) for malaria, EMRO, Cairo, from 25-27 June.

2003: UNSCO, Training Department, Cairo University, Software Development Center, Egypt, Training course in ***International Computer Driving License*** (*ICDL*).

2004: National Authority for Remote Sensing and Space Sciences, Training Department, Cairo Egypt, Training courses in

1. *Introduction to ArcGIS* I & II (3-11 October 2004).
2. *Building Geodatabases* I & II (22-29 November 2004).
3. *Geodatabase Design Concepts* (1-2 December 2004).
4. *Modeling Geodatabase Using CASE Tools* (6-8 December 2004).

2005: National Authority for Remote Sensing and Space Sciences, Training Department, Project Management training Program, Cairo Egypt, Training courses in Microsoft Project Server 2003.

2006: Institute of Remote Sensing Applications, Chinese Academy of Sciences, Beijing population Republic of China. Training courses on "2006 Training Course on Remote Sensing Applications for African Countries" From16 October to 26 November 2006.

2007: National Authority for Remote Sensing and Space Sciences, Training Department, Training courses in "RADARSAT SAR APPLICATIONS TRANNING PROGRAM"

• Malaysia Experience Workshop on Dengue and pests Control. This was held on 12/04/2018, in cooperation with the General Directorate of Environmental Health Jeddah Municipality. Kingdom of Saudi Arabia

E. Review activities:

International journals reviewer

- Reviewer for "the Egyptian Journal for Remote Sensing and Space Sciences", Elsevier

F. Awarded projects and participated in the following research studies:

2000: Project of "Environmental sensitivity mapping of some sectors of the Red Sea, Egypt", National Authority for Remote Sensing and Space Sciences, Cairo, Egypt.

2000-2001: Project of "Setting an Early Warning and Detection for Malaria and Rift Valley Fever Diseases in Egypt", National Authority for Remote Sensing and Space Sciences, Cairo, Egypt.

2001: Project of "Environmental Impact Assessment for extension operation of Sharm EL- Sheikh Airport", National Authority for Remote Sensing and Space Sciences, Cairo, Egypt, AND Arab International Environmental Services.

2001-2002: Project of "Towards the Development of a Georeferenced Database for Malaria Transmission Risk Management in Egypt Using Remote Sensing and GIS", National Authority for Remote Sensing and Space Sciences, Cairo, Egypt, and WHO.

2002: Project of "Production of Digital Maps for Assuit with Scale 1:1000", National Authority for Remote Sensing and Space Sciences, Cairo, Egypt.

2002: Project of "Preparation of Digital Maps for Area between Marssa Allam- Rass Benass and Red Sea Coastal Zone", National Authority for Remote Sensing and Space Sciences, Cairo, Egypt.

2002-2003: Project of "Environmental Assessment for Lake Bardawel Area", National Authority for Remote Sensing and Space Sciences, Cairo, Egypt.

2003-2005: Project of "Environmental Evaluation of Land Resources in the Northwestern Coast of Egypt, Using Space Data and Land Information Systems", National Authority for Remote Sensing and Space Sciences, Cairo, Egypt.

2004-2005: Alternate principal investigator for project "Environmental approach to assess the risk of mosquito-borne diseases in peri-urban area in Egypt", Institute of Environmental Studies and Research, Ain Shams university, Cairo, Egypt, National Authority for Remote Sensing and Space Sciences (NARSS) and WHO.

2005-2006: National Authority for Remote, Participant in, NARSS funded research Project of "Application of remote sensing and GIS in evaluation of natural resources of the northwestern coastal area, Egypt, for agricultural usage (Area from Grawlla to Marsa Matrouh), December 2005 uptill June 2006.

2006-2007: National Authority for Remote Sensing, Participant in, NARSS funded research Project of "Environmental Evaluation of Land Resources in the Northwestern Coast of Egypt, Using Space Data and Land Information Systems - Phase III: Area from Marsa El-ٍٍٍAssi to El Sallum, September 2006 uptill June 2007

2006-2007: Principle investigator for Project of "Vectors of Rift Valley Fever and Malaria diseases study and risk map production in northwestern coastal area, by using GIS and satellite images", National Authority for Remote Sensing and Space Sciences, Cairo, Egypt.

2008-2009: Project manager of integrated pest control and dengue fever program, Jeddah, Saudi Arabia.

2009-2010: Principle investigator for Project of " Study the environmental impact of irrigation on vector of diseases habitats in the oases of Egypt's Western Desert ", National Authority for Remote Sensing and Space Sciences, Cairo, Egypt.

2012: Consultant for Project "Spatiotemporal Characteristics of Mosquito Larval Breeding Habitats in Different Ecological Environments in Saudi Arabia Using GIS/RS Technology" The Long-Term Comprehensive National Plan for Science, Technology and Innovation, STRATEGIC TECHNOLOGIES Research Program, STRP-10, King Saud University, Saudi Arabia,

2012-2013: Principle investigator for Project "Detection of ecological characteristics for some vector of disease's breeding sites in greater Cairo using GIS and satellite images. ", National Authority for Remote Sensing and Space Sciences, Cairo, Egypt. (Proposed Research Project) (F1/Pr– 01).

2012-2013: Participant in project "Sustainable development of South Sinai using Remotely Sensed Data and Spatial Decision Support Systems (Tourism _ Industrial_Urban)" . ", National Authority for Remote Sensing and Space Sciences, Cairo, Egypt. (Proposed Research Project).

2013-2014: Participant in project "Assessment and Detection of Some Triggering Factors Causing Degradation of the Urban Environment, using Multi Temporal and Hyper Spectral Data and GIS, Case of Cairo City (Urban Heat Island - Urban Sprawl- Vector Borne Disease)" ", National Authority for Remote Sensing and Space Sciences, Cairo, Egypt. (Proposed Research Project).

2014-2015: Participant in project "Geo-environmental Studies for Sustainable Development of the Suez Canal Corridor, Egypt" (Study of mosquito diversity and distribution (spatial / temporal) in the Suez Canal zone, using remote sensing and geographic information system), "National Authority for Remote Sensing and Space Sciences, Cairo, Egypt. (Proposed Research Project).

2015-2018: Deputy Director of the Public Health Pests Laboratory of Jeddah Governorate, Saudi Arabia.

G. Selected publications (in chronological order).

Shehata, M.G.; Doha, S.; El-Hosary, S.; Sowilem, M.M.; abdel-Mohsen, A. and El-kady, G. (1995). Filed Behavior of Sand Flies in Wady Feran, Sinai Egypt. J. Egypt. Ger. Soc. Zol., 16:29-52.

Kenawy, M.A.; Sowilem, M.M.; Hamed, M.S. and Merdan, A.I., (1995). Comparison of the life table characteristics of Anopheles sergentii (Diptera: Culicidae) from two malarious areas in Egypt. J. Egypt. Public Health Assoc., 70:324-341.

Kenawy, M.A.; Sowilem, M.M.; Hamed, M.S. and Merdan, A.I., (1995). Anopheles mosquitoes in El Faiyum, Egypt: Binomics and Behavior in Relation to Their Malaria Vector potential. J. Egypt. Soc. Parasitol.

Kenawy, M.A.; Sowilem, M.M.; Hamed, M.S. and Merdan, A.I., (1996). The ecological characteristics of Anopheles' mosquitoes associated with low malaria transmission in Siwa oases, Egypt. J. Egypt. Public Health Assoc. 3:186-187.

Kenawy, M.A.; Sowilem, M.M.; Yousrya, M. and Wahba, M.M. (2000). Preliminary observations on cross mating of the malaria vector, Anopheles sergentii from two Egyptian oases. J. Egypt. Soc. Parasitol., 30(3): 761-764.

Gad, A. and Sowilem, M. M. (2002). The use of remote sensing (RS) and geographical information system (GIS) in monitoring and environmental assessment for some areas of Arab republic of Egypt. Conference of the Arabic scientific research council's union (Cairo. Egypt 28-30 December 2002).

Hassan, A.N.; Kenawy, M.A.; Kamal, H.; Abdel Sattar, A.A and Sowilem, M.M. (2003). GIS-based prediction of malaria risk in Egypt. Eastern Mediterranean Health Journal., 9(4): 548-558.

Gad, A.; Ali R.; El-Gamily, H. and Sowilem, M. M. (2004). Practicing the Participatory Management Approach for Improving Alluvial Soils of Egypt. Medcostland project (Third workshop). Promoting Participatory Management of the land system to enhance soil conservation (Alexandria. Egypt 9-13 October 2004).

Hassan, A.N.; El Ashry, H.E. and Sowilem, M.M. (2004). Mosquito Founa of New Water Resources and Agricultural Development Projects in Egypt: Al-Salam Canal and Toshka. J. Environ. Science. 9(3): 787-800.

Bahgat, I.M.; EL-Sawaf, B.M; Sowilem, M.M. and El Kady, G.A. (2004). Sugar feeding pattern and age structure of mosquito species in two Egyptian villages. Bull. Ent. Soc. Egypt, 81(85): 85-94.

Bahgat, I.M.; El Kady, G.A; Sowilem, M.M. and EL-Sawaf, B.M. (2004). Host Feeding Patterns of Culex Pipiens (Diptera: Culicidae) in a village in Qalubiya Governorate, and in a new settlement in ismailiya Governorate. Bull. Ent. Soc. Egypt, 81(77): 77-84.

Sowilem,M.M.; Bahgat,I.M.; El Kady,G.A; and EL-Sawaf,B.M. (2006). Spectral and landscape characterization of filarious and non-filarious villages in Egypt. J. Egypt. Soc. Parasitol., 36(2): 373-388.

Sowilem,M.M. (2006). Defining Spatial Relationships between Mosquitoes, Human, Animals and diseases Incidence Using Remote Sensing – GIS integration, Case Study in Northwestern Coast of Egypt. 15th International Symposium and Exhibition On Remote Sensing and Assisting Systems General Organization of Remote Sensing Damascus- Syria 18-21 September 2006.

Sowilem, M.M.; Kamal, H. A. and Khater E. I. (2013). Life table characteristics of Aedes aegypti (Diptera: Culicidae) from Saudi Arabia.J. Trop.Biomed., 30(2): 301–314.

Khater, E.I., Sowilem, M.M., Sallam, M.F.and Alahmed, A.M. (2013). Ecology and habitat characterization of mosquitoes in Saudi Arabia. Tropical Biomedicine 30(3): 409–427.

Sowilem, M. M., (2014). Defining spatial distribution of mosquito breeding sites and areas under risk using remote sensing - GIS integration. J. Biotechnol Biomater, 3(5), p. 76.

El-Zeiny Ah. M. and Sowilem M.M. (2016). Environmental Characterization for the Area under Risk of Mosquito Transmitted Diseases, Suez Canal Zone using Remote Sensing and Field Surveys. Journal of Environmental Sciences, Vol. 45, No. 3-4 : 283-297.

El-Zeiny Ah, El-Hefni A, Sowilem M. 2016. Geospatial techniques for environmental modeling of mosquito breeding habitats at Suez Canal Zone, Egypt. The Egyptian Journal of Remote Sensing and Space Sciences. 11, pp.

El-Zeiny Ah. M., El-Hefni A. M. and Sowilem M.M. 2017. Production of Risk Classification Map for the Area Vulnerable to Mosquito-Transmitted Diseases, Suez Canal Zone. 5th International Conference on Waste Management, Ecology and Biological Sciences (WMEBS-) 17-18,

Sowilem M., Elshaier M., Atwa W., El-Zeiny Ah. and El-Hefni A. 2017. Species Composition and Relative Abundance of Mosquito Larvae in Suez Canal Zone, Egypt Asian Journal of Biology, Article no. AJOB.35053, ISSN: 2456-7124, 3(3): 12PP.

Sowilem M, El-Zeiny Ah, Atwa W, Elshaier M. and El-Hefni A. 2017. Assessing and Monitoring Spatiotemporal Distribution of Mosquito Habitats, Suez Canal Zone. Asian Journal of Environment & Ecology. Article no. AJEE.35054, ISSN: 2456-690X, 4(2): 1-13.

Tambo E , El-Hossary S. S. , Sowilem M.M., Ammar Sh , Bilal H , Alshamrani Y , El Dessouky A.G. , Kazienga A. , Kamal H.A , Khater E. 2017. Assessment of extent and pattern insecticide use and exposure impact in integrated dengue vector management programs (1995-2016) in Saudi Arabia. Conference: 2nd Regional Arab Pharmacovigilance Network Meeting, , Riyath, KSA.

Tambo E. , Sowilem M.M., Khater E., Kamal H.A ,. 2018. Climatic risk impact on Aedes vector seasonal fluctuation and persistent dengue public health burden in Saudi Arabia. Conference: The 15Th Arbovirus Surveillance and Mosquito Control Workshop in Conjunction with the NE 1443 Regional Project's 4 Th Annual Meeting And the Fmca's NE Regional Meetingat: Florida, USA.

Sowilem M.M., El-Zeiny A.M., Mohamed E.S. 2019. Mosquito larval species and Geographical information system (GIS) mapping of environmental vulnerable areas, Dakhla Oasis, Egypt. International Journal of Environment and Climate Change. Accepted march 2019.