

Curriculum Vitae

Mai Mohamed Rifai



Personal Information

Family name : Rifai
First names : Mai Mohamed
Nationality : Egyptian
Current position : Associate Professor
Sex : Female
Marital status : Married
Date/place of birth : 9th- August, 1969, Moscow, Russia
Address : 33 Abdel Razik El Sanhoury St., Nasr City, Cairo, Egypt.
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Languages : English, Russian, Arabic (fluently)

Education

2006 Ph.D from the Faculty of Archaeology, Conservation Department, Cairo University entitled "The Impact of Soil on the Corrosion of Copper-Based Artifacts and Methods of their Conservation"
1998 Master of Arts at the Faculty of Archaeology, Conservation Department, Cairo University, titled "A Study of the Conservation and Restoration of Some Bronze Objects from Sais and preparing them for Display at the Egyptian Museum, Cairo".
1990-1991 Post-graduate studies at the Faculty of Archaeology, Conservation Department, Cairo University.
1986-1990 Bachelor of Arts (Excellent with Honors) from the Faculty of Archaeology, Conservation Department, Cairo University
1985-1986 G.C.E.(General Certificate of Education), The British Council in Cairo

Professional experience

2011 Associate Professor, Conservation Department, Faculty of Archaeology, Cairo University
2006 Lecturer, Conservation Department, Faculty of Archaeology, Cairo University.
1998 Assistant lecturer, Conservation Department, Faculty of Archaeology, Cairo University.
1993 Demonstrator, Conservation Department, Faculty of Archaeology, Cairo University.
1992 Conservator at the Manial Palace museum of Prince Mohamed Ali, Egyptian Ministry of Antiquities.
1990 Conservator at the Egyptian Museum, Cairo, Egyptian Ministry of Antiquities

Professional Training

1988 The Malak Elkebly church in restoring Coptic Icons and Frescoes.

1989	An excavating site in Matareya in restoring pottery.
1990	Sampling, chemical analysis and X-ray Diffraction at the scientific research lab, Egyptian museum, Cairo under the supervision of Prof. Shawki Nakhla
1994	X-ray diffraction course at the Faculty of Science, Cairo University.
1995	A course on “Ancient Mining and Metallurgy and Conservation of metals” at the Tabbin Institute for Metallurgical studies.
1998	A course on teaching Strategies and Education at the Faculty of Education, Cairo University.
1999	Training at the Deutsches Bergbaumuseum, Institut für Archäometallurgie, Bochum, Germany under the supervision of Prof. Dr. Andreas Hauptmann.
1999	Training at the Deutsches Bergbaumuseum Museum, Bochum, Germany on the conservation of metal artefacts under the supervision of Mr. Joachim Kunkel.
2003	A six month scholarship to the University of Tor Vergata, Rome 2 to pursue experimental work on the Corrosion behavior on copper-based alloys using Electrochemical Impedance spectroscopy (EIS) under the supervision of Prof. Dr. Gualtiero Gusmano
2005	Short advanced Intensive Training course on conservation of cultural heritage. Academy of scientific research and technology in cooperation with the National Research Center of Italy.
2007	A course on how to design a study course for higher Education, Faculty and leadership development Project, Cairo University
2007	A course on how to write and publish a scientific paper, Faculty and leadership development Project, Cairo University
2007	A course on Quality Assurance and accreditation in higher Education, Quality Assurance and accreditation Center, Cairo University
2008	A course on implementing the credit hour system in higher Education, Faculty and leadership development Project, Cairo University
2010	Applications of Electron microscope, Faculty of Agriculture, Cairo University
2018	Managing time and meetings, FLDC
2018	Exams and students evaluation systems, FLDC
2018	Competing for research funds, FLDC
2018	Stress management, FLDC
2024	Critical Thinking FLDC

Projects

2008	Restoration of a Royal Diadem inlaid with diamonds and pearls at the Royal Jewellery museum Alexandria
2010	Restoration of historic weapons at the museum of the Faculty of applied arts, Helwan University.
2013	Restoration of the metal chandeliers at the Military Museum, Citadel, Cairo
2016	Tutankhamun Shrine Project "Condition survey of the first (outermost) shrine and pall frame in cooperation with the ICOM-CIPEG.
2017	Conservation of bronze coins at Tuna el-Gabal excavation site.
2018-2020	Examination, treatment and conservation of the shrines of Tutankhamun prior to their transfer to the GEM

2020 Dismantling and assembly of the third and fourth shrines of Tutankhamun at the GEM.

Professional memberships

1998-now	Member of the General Association of Arab Archaeologists
2010-now	Member of the Egyptian Corrosion Society ECS
2017	Member of the Coordinating Committee for Science and Conservation, Ministry of Antiquities
2020	Language editor for Advanced Research in Conservation Science, journal

Teaching Undergraduate and Postgraduate Courses:

1. Metalworking 1
2. Technology of ancient metal artefacts
3. Metallurgy and microstructure of ancient and historic metals
4. Conservation of ancient metal artefacts
5. Conservation of metal polychromy
6. Conservation of composite artefacts

Supervision of PhD and Master Theses:

PhD

Dina Refaat: Corrosion Mechanism of archaeological iron artefacts in chloride-rich environment and methods of chloride removal with application on a selected object.

Dalia Elzayat: Evaluation of materials and methods used for the treatment of tin amalgam mirrors

Fatma Elzahraa:

Mohamed Samir: Evaluation of the Performance of Nano-Coatings for the Protection of Outdoor Bronze Sculptures, with Application on a Chosen Object

Samah Gafar: A Study of Treatment and Conservation of ornamental Metal fixed on Archaeological Buildings with Application on Selected Objects from Cairo

Eman Elsisi : Evaluation and Development of reversibility of polyurethane as a coating material for copper alloys

Almoatz-bellah Elsaied : Evaluation of the Efficiency of some Nano-Green Inhibitors with Nano reinforcement for the Protection of Archaeological Bronze Artifacts, with Application on a Selected Object

Yasmin AbdelMoez : Assessment of the Performance of Plasma Enhanced Chemical Vapor Deposition (PECVD) in the Corrosion Protection of Silver Artefacts with Application on a Selected Object

Yasmin Abdelaziz : Evaluation of the Effectiveness of Nano-composites in Cleaning and Protecting Gold_Silver Composite Artefacts, with Application on a Selected Object.

Master Theses

Yousri Salem: Treatment and conservation of hollow bronze statues with application on a selected object

Yasmin AbdelMoez : Conservation and restoration of claret jugs with application on a selected museum collection

Nehal Abuzaed : Treatment and Conservation of Ecclesiastical Bronze Bells, With Application on a Selected Object

Fatma Awad: A Study on the Use of Preventive Conservation in Storage of Iron Artifacts with Application on a Selected Object

Mahmoud Samir: Study of Materials Used for the Conservation of Coin Hoards (Bronze-Bellon) from the Excavation of Al Amhieda at Dakhla Oasis (An experimental-Applied study)

Almoatz-bellah Elsaied: A Comparative Study for the Evaluation of the Efficiency of Traditional and Modern (Green) Inhibitors in the Protection of Archaeological Bronze Artifacts, with Application on a Selected Object

Mohamed Samir: Treatment and Conservation of Outdoor Historical Bronze Statues with Application on a Selected Object from Cairo

Fatma Elzahraa: Applications of Laser and Ultrasonic techniques in the cleaning of metal threads

Yasmin Abdelaziz: Treatment and Conservation of Cloisonné necklace inlaid with Glass and Faience.

Abdelaziz Elmarazky: Treatment and Conservation of Brittle Silver Artifacts and Their Preparation for Museum Exhibition, With Application on a Selected Object.

Ahmed Gamal: Conservation of historical enameled medals with application on a selected museum collection

Doaa Eid: An experimental study to evaluate the efficiency of some environmentally friendly inhibitors for the protection of iron artifacts applied on selected object

Eman Allam: An Experimental and Applied Study on the Evaluation of Coating Materials on Composite Artifacts with Application on a Chosen Object

Heba Othman: Experimental study for the evaluation of some adhesives used in reassembling mother of pearl inlays on copper – with the application on an object at the museum of Islamic art

Muhammed Shoaib: Evaluation of the Efficiency of Some Protective Materials for the Protection of Iron Artifacts

Noha Hamdy: Conservation of painted tin –plated iron artifacts (toleware) with application on a selected Object

Mohamed Ezzat Mohamed ; The Role of First Aid in Preserving Archaeological Artifacts, Case study: National Museum of Egyptian Civilization. 2023

Publications:

Abdelhadi, M., Elbanna, E., Rifai, M.M., (1998), "Technical examination of a group of bronze artifacts from Sais" Proceedings of the Second International Conference on Ancient Egyptian Mining, Metallurgy and Conservation of Metallic Artifacts, Cairo, Egypt.

Rifai, M.M., Elhadidi, N.M.N., (2007), "Investigation and analysis of three gilded wood samples from the tomb of Tutankhamun" Decorated Surfaces on Ancient Egyptian Objects: Technology, Deterioration and Conservation Conference, Cambridge, England, Sept.14-16, 2007.

Wafaa A. Mohamed and Mai M. Rifai, (2009), "A Novel Restoration Method of a Jeweled Platinum Diadem", Journal of the Faculty of Archaeology, Faculty of Archaeology, Cairo University, Vol. XIV, pp. 107-123.

Wafaa A. Mohamed, Mai M. Rifai, Sawsan S. Darwish, Mahmoud S. Morsy and Fatma Z. Sadat, (2010), "Deterioration Aspects of a Dyed Textile Embroidered with Gilded Copper Metallic Threads", The 3rd International Conference of the Faculty

of Archaeology, Cultural Contributions of Egypt and its Impact on the Human Civilization Through Ages, 17-19 April 2010, Faculty of Archaeology, Cairo University.

Wafaa A. Mohamed, Mai M. Rifai, Nabil A. Abdel Ghany, Mahamed S. Elmetwaly, (2010), "Soliman Pasha Al-Fransawy: An Outdoor Bronze Statue from the 19th Century", The 29th International Conference of Corrosion Mitigation and Surface Protection Technologies of Materials, 14-16 December 2010, The Egyptian Corrosion Society, Alexandria, Egypt.

Rifai, M.M.,(2010)," The Conservation of an Ottoman Egyptian Percussion Muzzleloader" 2nd Balkan Symposium on Archaeometry, "Science Meets Archaeology and Art History" September 15-17, 2010, Istanbul Kültür University, Istanbul, Turkey.

Rifai, M.M.,(2011)," The Conservation of an Ottoman Egyptian Percussion Muzzleloader" Journal of Association of Arab Archaeologists, vol.(2011).

Yasser Abd El-Rahman, Adel A. Surour, Abdel Hamid W. El Manawi, Mai Rifai, Ali Abdel Motelib, Walid K. Ali , Abdel Moniem El Dougoug, (2012) Ancient mining and smelting activities in Wadi Abu Gerida area, Central Eastern Desert, Egypt: Preliminary results in Archaeometry (2012)

Rifai, M.M.,(2012) "Analytical Study of Copper Alloy Artefacts from Egypt" 2nd International Conference on Corrosion Mitigation and Surface Protection Technologies, 30th Annual Conference, 10-13 December, 2012, Seagull Hotel, Hurghada, Egypt.

Mohamed, W. A, Rifai, M. M., and Sadat, F. E.,(2014) Comparative Empirical Study for Cleaning Tarnished Metal Threads Using Laser and Ultrasonic Scaler, Lacona 10 "Lasers in the conservation of artworks", 9-13 June 2014, Sharjah, UAE.

Mohamed, W. A, Rifai, M. M., Abdel Ghany, N.A., Elmetwaly, M.S.,(2014), Conservation of an Outdoor Historical Bronze , "Open air metal symposium" Outdoor Metallic Sculpture From The XIXth to the Beginning of the XXth Century, Identification, conservation, restoration, symposium, 4- 6 December 2014, Paris, France.

M.M. Rifai, Sh.A. Ahmed, S.M. Saleh, M.M. Abdelbar, Conservation of Viceroy Muhammed Ali's Clock Tower Staircase (Poster) "Open air metal symposium" Outdoor Metallic Sculpture From The XIXth to the Beginning of the XXth Century, Identification, conservation, restoration, symposium, 4- 6 December 2014, Paris, France.

M.M. Rifai, Z. Abdel Hamid, S.M. Saleh, M.M. Abdelbar,(2014), Evaluation of new coatings for the protection of ornamental cast ironwork exposed in uncontrolled

environment, 3rd International Conference on Corrosion Mitigation and Surface Protection Technologies, 31th Annual Conference, 8-11 December, 2014, Steigenberger Hotel, Luxour, Egypt.

Mohamed, W. A, Rifai, M. M., Abdel Ghany, N.A., Elmetwaly, M.S.,(2015), Repatination for Outdoor Bronze Sculpture Conservation: A comparative study , Poster article, SPARK, Conservation of Sculpture Parks, September 14-16 , 2015, Sisak, Croatia.

M.M. Rifai, Z. Abdel Hamid, S.M. Saleh, M.M. Abdelbar,(2015), Evaluation of new coatings for the protection of ornamental cast ironwork exposed in uncontrolled environment, International Journal of Conservation Science,Volume 6, Issue 4, October-December 2015: 611-624

M.M. Rifai, Z. Abdel Hamid, S.M. Saleh, M.M. Abdelbar,(2015), New coatings for the protection of ornamental cast ironwork exposed in uncontrolled environment, Eurocorr 2015" Earth, Water, Fire, Air, Corrosion Happens Everywhere" European Corrosion Congress, 6-10 September, 2015, Graz, Austria.

Mohamed, W. A, Rifai, M. M., Sadat, F. E.,(2016) Corrosion of Metal Threads in-Situ: Case Study, IJISET, International Journal of Innovative Science, Engineering &Technology, Vol 3 Issue 2, February 2016.

Mohamed, W. A, Rifai, M. M., Abdel Ghany, N.A., Elmetwaly, M.S., Testing Coating Systems for Bare and Patinated Outdoor Bronze Sculptures, METAL 2016, September 26-30, 2016, New Delhi, India

Rifai, M.M., Z. Abdel Hamid, Abdelwahab, A-B., Corrosion Inhibition of Bronze Alloy by Aloe Vera Extract in Neutral Media for Application on Bronze Artifacts, EUROCORR 2017, & 20th ICC & Process Safety Congress 2017, Prague, Czech Republic, September 3–7, 2017.

Mohamed, W. A, Rifai, M. M., Sadat, F. E., Yurdun, T., (2018), HPLC/DAD-MS Characterisation of Diverse Dyestuffs from a Case Study of Historic Fabric, Mediterranean Archaeology and Archaeometry, Vol.18, No.1, pp.113-121, (2018).

Rifai, M.M., Othman, M., Abou El-Khier, O., Mohamed, H., Abdrabou, A., Hamdy, A., Hussein, A., Ali, F.M., Ahmed, M.M., Mahmoud, R., Tutankhamen's Innermost Shrine: 90 years of treatment, 12th Congress of Egyptologists, Cairo, November 2019.

Shaaban,Y., Rifai, M.M., Scientific documentation and its role in deciphering a gold and silver artefact at the GEM, 6th international conference of Fine arts, Faculty of Fine Arts, Luxour, 21-22 march, 2020.

Mohamed, W.A., Rifai, M.M., Abdel Ghany N.A., Mohamed, A., Elmetwaly, M.S., Cairo University Memorial Statue: A historical, artistic and scientific study, JGUAA_Volume 22, Issue 1, pages 770-797.

Abdelaziz, Y., Rifai, M.M., Analytical Study to Evaluate the Condition of a Gilded Silver and Gold Winged Scarab Inlaid With Semi-Precious Stones at The Grand Egyptian Museum, Cairo, دراسة تحليلية لتقييم حالة جرمان مجنب مركب من الفضة المذهبة والذهب المرصع بالأحجار نصف الكريمة بالمتاحف المصري الكبير – القاهرة Journal of Arts & Humanities. Vol. 9b, 2022, pp.186- 212. Doi: 8.24394/JAH. 2022 MJAS-2207-1087

Elshahawi , A., Rifai, M.M., Abdel Hamid, Z., Corrosion Inhibition of Bronze Alloy by Jatropha Extract in Neutral Media for Application on Archaeological Bronze Artifacts, Egypt. J. Chem. Vol. 65, No. SI:13B pp. 869 - 878 (2022)

Abd EL-Moaz, Y., Mohamed, W., Rifai, M., Morgan, N., Application of PECVD in the conservation of metallic cultural heritage: A review, Egyptian Journal of Archaeological and Restoration Studies, EJARS – Vol. 12 (2) – Dec. 2022:pp.147-163

Abdelaziz, Y., Rifai, M.M., The Role of Scientific Documentation in Revealing (Disclosing) The Manufacturing Techniques of a Winged Scarab Made of Gold and Silver at The Grand Egyptian Museum, JARCH, 2023, Volume 13, issue 26 pages 1003-1025 (Arabic) دور التوثيق العلمي في الكشف عن تقنيات صياغة جرمان أثري مجنب مصنوع من الذهب والفضة بالمتاحف المصري الكبير <https://doi.org/10.21608/jarch.2023.277280>

Yasmin, A. EL- Moaz, Wafaa, A. Mohamed, Mai, M. Rifai, Nasser, N. Morgan, A Case Study of a Set of Coin Silver Spoons from Mohamed Ali Museum, Cairo, Egypt, Egyptian Journal of Chemistry, Egypt. J. Chem. Vol. 66, No. 9. pp. 385 - 394 (2023)

Elshahawi , A., Rifai, M.M., Abdel Hamid, Z., Technical and conservation study of a bronze mirror from Aniba, lower Nubia, Egypt, SCIENTIFIC CULTURE, Vol. 9, No. 1, (2023), pp. 21-35, DOI: 10.5281/zenodo.7125756

Eman Elsisi, Mai Rifai, Hanaa Nasr, Chemical Characterization and Conservation of Bronze Coins Excavated from Tell Timai, El Sembelawen, Daqahleya, Egypt, Egyptian Journal of Chemistry, Egypt. J. Chem. Vol. 66 No. 11 pp. 345 – 352 (2023)

Yasmin A. El-Moaz, Wafaa A. Mohamed, Mai M. Rifai, Nasser N. Morgan, Khaled H. Metwally, and Nabil A. Abdel Ghany, Fabrication, Characterization, and Corrosion Protection of Siloxane Coating on an Oxygen Plasma Pre-treated Silver-Copper Alloy, Journal of Material Engineering and Performance, JMEPEG (2023) 32:8818–8830.

Abd EL-Moaz, Y., Mohamed, W., Rifai, M., Morgan, N., Abdel Ghany, N., Rf- Plasma Protective Coating On Silver- Copper Alloys Using HdmsO/O₂/Ar

Precursors, Egyptian Journal of Archaeological and Restoration Studies, EJARS – Vol. 13 (1) – June 2023: 61-74

Rifai, M.M., Evaluation of Self-Healing Corrosion Protection using Benzotriazole-Loaded Mesoporous Silica Nanocontainers for Application on Archaeological Bronze Artefacts, Egyptian Journal of Archaeological and Restoration Studies "EJARS". The Article is scheduled for publication in Vol. 14. No. 2- Dec. 2024.

Rifai, M.M.,et. Als." Tutankhamen's Innermost Shrine: 100 years of treatment" Egyptian Journal of Archaeological and Restoration Studies "EJARS". The Article is scheduled for publication in Vol. 15. Special Issue- March. – 2025.

Wafaa Anwar Mohamed, Mai Mohamed Rifai, Nabil Ahmed Abdel Ghany, Mohammed Samir Elmetwaly Gaber, The role of nano-coatings for the protection of outdoor bronze sculptures 'surfaces, Journal of Architecture, Arts and Humanistic Sciences ,Vol. 10, issue 53, 2025

Lectures and Presentations

2008	"Metallographic examination of Ancient Metal Artefacts" (Training course for visiting students from Kuwait)
2010	"First Aid for museum objects", Training course for curators working at the Fine arts museum, Ministry of Culture.
2010	"The restoration of Princess Shwikar's Diadem", presented at the Supreme Council of Culture, Ministry of culture
2012	"Topics in metal conservation" presented at the Museum of Islamic art
2013	"Treatment and conservation of metal artefacts", presented at the Administration of training, Historic Cairo
2013	'Basic principles of metal conservation', presented at the Administration of training, Historic Cairo
2014	"Display of metal objects and numismatics", Conservation center for archaeological and historical buildings and museum artefacts, Cairo University
2015	Training course "Conservation of Metal Archaeological artifacts" Architectural heritage and antiquities department, Dubai Municipality, 29-31 March
2016	"Conservation of Metal Artefacts Past and Present", Keynote speaker at the 4th GEM CC Symposium "Conserving in the 21st century".
2019	"Metal conservation" training course, Central administration of training and scientific publishing
2020	"Applications of Archaeometry in Metal Conservation", presented at Rencontres en Archéométrie, Palais Mohamed Ali à Manial, IFAO

Conference coordinator

Assisted in the planning and execution of academic conferences, including coordinating logistics and managing communications.

2008	4-6 March, The International Conference of Giza Through Ages, Studies in Archaeology, Conservation, Environment and Tourism.
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2010 17-19 April, The 3rd International Conference of the Faculty of Archaeology (Cultural Contributions of Egypt and its Impact on the human civilization through ages)

2012 9-11 October, The second International Conference on Egyptian Science Through Ages

Community Activities

2008-2010 Scientific and language editor of third year student's journal "Conservation News".

2000- 2004 Board member of the Egyptian Federation for Modern Pentathlon, participated in organizing the 2001 and 2002 International Modern pentathlon competitions in Cairo, Egypt.

1999 Head of the woman's team delegation to the Modern Pentathlon competition held in Athens, Greece.

2000 Awarded a diploma from the International Olympic Committee for the contribution, as a volunteer to the development of sport.

2001 Head of the woman's team delegation to the Modern Pentathlon competition held in Budapest, Hungary.

Sport Activities

1984-1985 Second place in Alexandria's open modern pentathlon championship.

1984-1985 Second place in Cairo's open modern pentathlon championship.

1985-1986 First place in Cairo's open modern pentathlon championship.

1991 First place in Cairo's Shooting Championship.

1992 First place in Cairo's Shooting Championship.

1993 Second place in Cairo's Shooting Championship.