

# CURRICULUM VITAE



## 1. Personal Details:

<b>Surname</b>	Nabil		
<b>Middle name</b>	Ahmed		
<b>Last Name</b>	Abdel Ghany		
<b>Title</b>	Professor (Full)		
<b>Gender</b>	Male		
<b>Work Address</b>	Physical Chemistry Dept., National Research Centre (NRC), El-Buhuoth St., Dokki, Giza, Egypt		
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<b>Date of Birth</b>	21 Dec. 1967	<b>Place of Birth</b>	Kafr El Sheikh, Egypt
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## 2. Education & Training:

Degree	Faculty	University	Year	Field of Study
B.Sc.	Science	Al Azhar	1991	Chemistry (very good)
M.Sc. @	Science	Al Azhar	1994-1997	Physical Chemistry (Electrochemistry)
Ph.D. @@ Incomplete	Science	Al Azhar	1997-2000	Physical Chemistry (Electrochemistry)
Ph.D. @@@	Tohoku Institute of Technology Japan	Tohoku Institute of Technology Japan	2001-2004	Electronic Engineering (Materials Science)
B. Law	Law	Cairo	2012	Law

@ Corrosion Inhibition and Passivation during the Chemical Cleaning Process of Boilers

@@ Inhibition of Corrosion Caused by CO<sub>2</sub> in Petroleum Production Industry

@@@ Tailoring of Oxygen Evolution Anodes for Seawater Electrolysis

## Training

As an organizer and trainee	Place	Date (from – To)
Nondestructive Analytical Techniques for Metallic Artifacts	Egypt-Italy, NRC, Egypt	16/3/2009 - 18/3/2009

Recent Trends in Metals Extract using Electrochemical Techniques	NRC, Egypt	24/8/2008 - 28/8/2008
Hazardous Waste management	JICA, Japan-NRC, Egypt	1/1/2005 - 9/3/2005
Conservation of Metallic artifacts	Malta	11/11/2005- 13/11/2005
Corrosion and protection in Industry	NRC, Egypt	10/4/2016- 21/11/2016 15/9/2015- 19/9/2015 22/9/2013- 26/9/2013
Corrosion and cathodic protection		2/12/2012- 6/12/2012

### 3. Employment Records:

**Jan, 2017- till now:**

- ❖ Professor of Applied Physical Chemistry, National Research Centre (NRC), Cairo, Egypt.

**Sep, 2011- Dec,2016:**

- ❖ Assoc. Prof., Electrochemistry and Corrosion, and a member of Advanced Materials and Nanotechnology Group, Centre of Excellence for Advanced Sciences (CEAS), National Research Centre (NRC), Cairo, Egypt.

**Feb, 2014- Aug. 2014:**

- ❖ Member of scientific mission, funded by Egyptian Gov., to National Institute for Materials Sciences (NIMS), Japan.

**April, 2004- March 2011:**

- ❖ Researcher, Electrochemistry and Corrosion, and a member of Advanced Materials and Nanotechnology Group, Centre of Excellence for Advanced Sciences (CEAS), National Research Centre (NRC), Cairo, Egypt.

**April, 2001- March, 2004:**

- ❖ Ph.D. Student, Tohoku Institute of Technology, Sendai, Japan.

**January, 2001- March, 2001:**

- ❖ Research Student, Tohoku Institute of Technology, Sendai, Japan.

**March, 1997- December, 2000:**

- ❖ Ph.D. Student, Uncompleted, NRC, Cairo, Egypt.

**March, 1997- December, 2000:**

- ❖ Associate Researcher, Electrochemistry and Corrosion Lab., NRC, Cairo, Egypt.

**June., 1993-February, 1997:**

- ❖ Research Assistant, Electrochemistry and Corrosion Lab., NRC, Cairo, Egypt.

### 4. Field of Specialization:

Research in our group focuses on challenges affecting materials in the areas of electrochemistry and electrocatalysis (clean energy production, conversion and storage),

fuel cells, supercapacitors, thin films, electrochemical sensors, biomaterials, wastewater treatment and corrosion protection.

The main goal of our research is to fabricate, develop and characterize nanocrystalline materials with improved corrosion resistance for hydrogen energy production, fuel cells, supercapacitors and biomaterials. Particular attention is heading for the efficiency and durability, size and shape of prepared materials.

The ongoing research is:

- developing and improving non-Pt based durable electrode materials for oxygen evolution and hydrogen production (as clean energy) during seawater/wastewater electrolysis.
- Energy conversion and storage (full cells and supercapacitors)
- Improvement of biocompatible and corrosion resistance of implanted metallic materials.
- Advanced electrochemical treatment of wastewater.
- Formulation and preparation of corrosion and scale inhibitors.
- Conservation and restoration of metallic artefacts.

## 5. Suggested Areas of Collaboration:

- 1- Preparation of (non-precious) electrocatalytic materials for clean energy production, conversion and storage.
- 2- Electrochemical Sensors/Biosensors
- 3- Development of implanted bio-materials.
- 4- Corrosion prevention of metals and alloys.
- 5- Conservation and restoration of metallic artefacts.

## 6. Missions:

- ❖ Visiting Researcher, Japan, Feb. 2014- Aug.2014
- ❖ PhD student, Japan, 2001-2004

## 7. List of Patents & Publications:

### 7.1. Patents

- ❖ Electrode for oxygen generation.  
K. Hashimoto, N. A. Abdel Ghany, S. Meguro, and N. Kumagai, Materials Japanese patent, JP2003129267, 2003.

### 7.2. List of Publications

- ❖ Polyol synthesized graphene/PtxNi100-x nanoparticles alloy for improved electrocatalytic oxidation of methanol in acidic and basic media  
Elsharif, Safaa A., Ehab N. El Sawy, and Nabil A. Abdel Ghany. *Journal of Electroanalytical Chemistry*. 2020, Vol. 856, 113601
- ❖ Comparative antibacterial study between bioactive glasses and vancomycin hydrochloride against *Staphylococcus aureus*.  
Maany DA, Alrashidy ZM, Ghany NA, Abdel-Fattah WI. *Egyptian Pharmaceutical Journal*. 2019;Vol. 18,4, 304-310.

- ❖ **Development of advanced-functional polyurethane/red iron oxide composites as protective one coating systems for steel.**  
Morsi SM, Mohamed HA, **Ghany NA**. *Progress in Organic Coatings*. 2019 Nov 1;136:105236.
- ❖ **Synergistic effect of silver and adenine on boosting the supercapacitance performance of spongy graphene**  
Dalia M El-Gendy, **Nabil A Abdel Ghany**, Nageh K Allam, *Journal of Energy Storage*, (2019), 24,100776.
- ❖ **Green, single-pot synthesis of functionalized Na/N/P co-doped graphene nanosheets for high-performance supercapacitors**  
Dalia M El-Gendy, **Nabil A Abdel Ghany**, Nageh K Allam, *Journal of Electroanalytical Chemistry*, (2019), 837, pp. 30-38.
- ❖ **Black titania nanotubes/spongy graphene nanocomposites for high-performance supercapacitors**  
Dalia M El-Gendy, **Nabil A Abdel Ghany**, Nageh K Allam. *RSC Advances*, (2019), 9(22), pp. 12555-12566.
- ❖ **Facile, cost-effective and eco-friendly green synthesis method of MnO<sub>2</sub> as storage electrode materials for supercapacitors**  
Abuzeid, H.M., Elsherif, S.A., **Abdel Ghany, N.A.**, Hashem, A.M., *Journal of Energy Storage*, 21, (2019), pp. 156-162
- ❖ **Application of (polyaniline/zeolite X) composite as anticorrosion coating for energy recovery devices in RO desalination water plants. International**  
Aziz AH, Jamil TS, Shalaby MS, Shaban AM, Souaya ER, **Ghany NA**. *Journal of Industrial Chemistry*. 2019 Jun 1;10(2):175-91.
- ❖ **CeO<sub>2</sub>-TiFe<sub>2</sub>O<sub>4</sub> nanocomposite for effective removal of uranium ions from aqueous waste solutions.**  
El Said AN, Lasheen TA, El-sherif RM, **Ghany NA**, Jebiril EA. *SN Applied Sciences*. 2019 Feb 1;1(2):159.
- ❖ **Detachment of Cu (II) and Co (II) ions from synthetic wastewater via adsorption on Lates niloticus fish bones using LIBS and XRF.**  
Rezk, R. A., Galmed, A. H., Abdelkreem, M., **Ghany, N. A.**, & Harith, M. A., *Journal of Advanced Research*, 14, (2018) 1-9.
- ❖ **Orthopaedic bioactive glass/chitosan composites coated 316L stainless steel by green electrophoretic co-deposition.**  
Zainab M. Al-Rashidy, M.M. Farag, **N.A. Abdel Ghany**, A.M. Ibrahim, Wafa I. Abdel-Fattah. *Surface & Coatings Technology*, 334 (2018) 479–490.
- ❖ **Revolution of Graphene for Different Applications.**  
**Nabil A. Abdel Ghany**, Safaa A. Elsherif and Hala T. Handal. *Surfaces and Interfaces*, 9, (2017), 93–106.
- ❖ **Novel corrosion inhibitors for acidizing oil wells.**  
**N. A. Abdel Ghany**, M. F. Shehata, R. M. Saleh and A. A. El Hosary. *Materials and Corrosion*, 68, No. 3, (2017), 355-360.
- ❖ **Aqueous electrophoretic deposition and corrosion protection of borate glass coatings on 316L stainless steel for hard tissue fixation.**  
Al-Rashidy ZM, Farag MM, **Ghany NA**, Ibrahim AM, Abdel-Fattah W. *Surfaces and Interfaces*, 7, 2017, 125-133.
- ❖ **Adenine-functionalized Spongy Graphene for Green and High-Performance Supercapacitors.**  
El-Gendy DM, **Ghany NA**, El Sherbini EF, Allam NK. *Scientific Reports*. 2017 Feb 20;7:43104.

- ❖ Environmental impact elimination of chrome tanning effluent using electrocoagulation process assisted by chemical oxidation.  
M.A. El-Khateeb, El-Shahat H.A. Nashy, **N.A. Abdel Ghany**, Ahmed M. Awad, *Desalination and water treatment*, 65(2017)147-152
- ❖ Corrosion of biomaterials: anodic treatment and evaluation of 316L stainless steel in simulated body fluid.  
Hassan N, **Abdel Ghany NA**. *Corrosion Engineering, Science and Technology*. 2017 Jan 19:1-9.
- ❖ Proposed Corrosion Control Method for Fire Fighting Systems in Oil Fields.  
M.F. Shehata, **N. A. Abdel Ghany**, and A.A. El Hosary, *Egypt. J. Chem*, Volume 59, Issue 6, December 2016, Page 1127-1135
- ❖ Electrocatalytic Oxygen Evolution on Nanoscale Crednerite (CuMnO<sub>2</sub>) Composite Electrode. DOI 10.1515/zpch-2015-0627  
Fathi, A. M., Abdel-Hameed, S. A., Margha, F. H., & **Abdel Ghany, N. A.**, *Zeitschrift für Physikalische Chemie*, Online, 2016.
- ❖ Quantitative analysis of Cu and Co adsorbed on fish bones via laser-induced breakdown spectroscopy. <http://dx.doi.org/10.1016/j.optlastec.2016.02.025>  
Rezk, R. A., Galmed, A. H., Abdelkreem, M., **Ghany, N. A.**, & Harith, M. A. *Optics & Laser Technology*, 83, 131-139, 2016.
- ❖ Mesocage collector cavities as nanopockets for remediation and real assessment of carbamate pesticides in aquatic water. <http://dx.doi.org/10.1016/j.nanoso.2015.05.001>  
Derbalah, A., El-Safty, S. A., Shenashen, M. A., & **Ghany, N. A.**, *Nano-Structures & Nano-Objects*, 3: 17-27, 2015.
- ❖ Mesoporous Alumina Nanoparticles as Host Tunnel-like Pores for Removal and Recovery of Insecticides from Environmental Samples DOI: 10.1002/cplu.201500098 **Derbalah,**  
A., El - Safty, S. A., Shenashen, M. A., & **Abdel Ghany, N. A.**, *ChemPlusChem*, 80.7: 1119-1126, 2015.
- ❖ Electrochemical advanced oxidation of cosmetics waste water using IrO<sub>2</sub>/Ti-modified electrode DOI:10.1080/19443994.2013.848671  
A. M. Awad and **N. A. Abdel Ghany**, *Desalination and Water Treatment*, 53, 681–688, 2015.
- ❖ Ternary Ti-Mo-Ni mixed oxide nanotube arrays as photoanode materials for efficient solar hydrogen production DOI: 10.1039/c3cp52076e  
Allam, N.K., Deyab, N.M., **Abdel Ghany, N.** *Physical Chemistry Chemical Physics*, 15 (29), pp. 12274-12282, 2013.
- ❖ Investigation of active corrosion sites of biofilm formed at mild steel electrolyte interface induced by mixed bacterial culture  
Ghazy, E.A., Elmokadem, M.T., Gadallah, M., Mahmoud, M.N., **Abdel Ghany, N.A.**, Abo, E.M.M., *International Journal of ChemTech Research*, 5 (1), pp. 409-417, 2013.
- ❖ Influence of Heat and Laser Treatments on the Corrodibility of the Reinforced Carbon Steel  
G. A. El-Mahdy, M. M. Hegazy, M. M. Eissa, A. M. Fathy, F. M. Sayed, **N. A. El-Manakhly** and Hamad –Al-Lohedan, *Int. J. Electrochem. Sci.*, 7, 6666-6676, 2012.
- ❖ Characterization of Egyptian Bronze Archaeological Artifacts  
V. K. Gouda, G. I. Youssef and **N. A. Abdel Ghany**, *Surf. Interface Anal.*, 44, 1338–1345, 2012.

- ❖ The Inhibitive Effect of Some Amino Acids on the Corrosion Behaviour of 316L Stainless Steel in Sulfuric Acid Solution  
**N.A. Abdel Ghany**, A. E. El-Shenawy and W.A.M.Hussien, *Modern Applied Science*, Vol. 5, No. 4, pp. 19–29, 2011.
- ❖ Removal of tarnishing and roughness of copper surface by electropolishing treatment  
A.M. Awad, **N.A. Abdel Ghany**, T.M. Dahy, *Applied Surface Science*, 256, pp. 4370–4375, 2010.
- ❖ Anodically deposited Mn-Mo-O electrodes by direct and pulse current as novel anode materials for hydrogen production during seawater electrolysis  
**N. A. Abdel Ghany**, N. M. Deiab and A.A. El-Moneim, *Egypt. J. Chem., Special Issue(A. M. Shams El-Din)*, pp. 13-28, 2009.
- ❖ Corrosion inhibitor formulations from coal-tar distillation products for acid cleaning of steel in HCl  
**N. A. Abdel Ghany** and A. A. El Hosary, and R. M. Saleh, *Egypt. J. Chem., Special Issue(A. M. Shams El-Din)*, pp. 125-133, 2009.
- ❖ Silver Artifacts Protection by Anticorrosive Coatings  
**Venice Gouda, Nabil Abdel Ghany, Ahmed Awad J, elica Novakovic and Panayota Vassiliou**, *Egypt. J. Chem., Special Issue(A. M. Shams El-Din)*, PP. 29-46, 2009.
- ❖ Characterization of electrophoretically deposited nanocrystalline hydroxyapatite on 316L stainless steel for biomedical applications  
**A. M. Elbasiony, N.A. Abdel Ghany and Y. A. Elewady**, *Mansoura Journal of Chemistry*, Vol. 36(2), pp. 81-92, 2009.
- ❖ Effect of grain orientations on the corrosion behaviour of anisotropic sintered NdFeB-based magnet in 0.1M<sub>H2</sub>SO<sub>4</sub> solution  
**A.A.El-Moneim and N. A. Abdel Ghany**, *Materials Science: An Indian Journal*, Vol. 4 no.3, pp 166-170, 2008.
- ❖ Anodically deposited Mn-Mo-Fe oxide anodes for oxygen evolution in hot seawater electrolysis.  
**N. A. Abdel Ghany, S. Meguro, N. Kumagai, K. Asami and K. Hashimoto**, *Journal- Japan Institute of Metals*, 2004, vol. 68, no. 7, pp. 447-455 (in Japanese).
- ❖ Anodically deposited Mn-Mo-Fe oxide anodes for oxygen evolution in hot seawater electrolysis.  
**N. A. Abdel Ghany, S. Meguro, N. Kumagai, K. Asami and K. Hashimoto**, *Materials Transactions* 44 (2003) 2114-2123.
- ❖ Oxygen evolution anodes composed of anodically deposited Mn-Mo-Fe oxides for seawater electrolysis.  
**N. A. Abdel Ghany, N. Kumagai, S. Meguro, K. Asami and K. Hashimoto**, *Electrochimica Acta*, 48 (2002) 21-28.



## 8. Active Participant in International Conferences & Workshops.

- ❖ Residual analysis of Scale Inhibitors in Oil Field: Why?  
**A. A. El Hosary N.A. Abdel Ghany, M.F. Shehata,,**  
Proceeding of 4<sup>th</sup> International Conference on Corrosion Mitigation and Surface Protection Technologies, Hurghada, Egypt, 2015.
- ❖ Novel Corrosion Inhibitors for Acidizing Oil Wells  
**M N.A. Abdel Ghany, M.F. Shehata, R.M. Saleh and A A. El Hosary,**  
Proceeding of 4<sup>th</sup> International Conference on Corrosion Mitigation and Surface Protection Technologies, Hurghada, Egypt, 2015.
- ❖ *Conservation of an Outdoor Historical Bronze*  
**Wafaa A. Mohammed, Mai M. Rifai, Nabil A. Abdel Ghany and Mohammed S. Elmetwaly,** ICOMOS France, 2014.
- ❖ One-step method to produce Graphene-Pt/Ni nano-electrocatalyst for methanol oxidation  
**S. Elsherif, N. Abdel Ghany, M. Zawrah, R. Khattab M. El-fass and F.Taher**  
proceeding of NANO-MATERIALS AND NANO-DEVICES, Cairo, Egypt, 2014.
- ❖ Proposed Corrosion Control Method for Fire Fighting Systems in Oil Fields  
**M.F. Shehata, N. A. Abdel Ghany and A.A. El Hosary,**  
Proceeding of 3rd International Conference on Corrosion Mitigation and Surface Protection Technologies, Luxor, Egypt, 2014.
- ❖ Influence of Surface Treatment on the Corrosion Behavior of Stainless Steel Electrode in Artificial Body Fluid  
**Nazly Hassan and Nabil A. Abdel Ghany**  
Proceeding of 3rd International Conference on Corrosion Mitigation and Surface Protection Technologies, Luxor, Egypt, 2014.
- ❖ Electrochemical study of the inhibitive effect a new prepared quinoline derivative on the corrosion of steel in 3.5% NaCl solution  
**N. Hassan, N. A. Abdel Ghany, National R.M. El-Shishtawy, S. Khalil, EuroCorr,** Pisa, Italy, 2014.
- ❖ Using LIBS to Follow Up Abundance of Heavy Metals Adsorbed in Fish Bone  
**R. A. Rezk, A. Galmad, M. Abdelkreem, N. A. Abdel Ghany, and M.A. Harith,** 8th International Conference on Laser-Induced Breakdown Spectroscopy (LIBS) China, 2014.
- ❖ Nono-crystalline Electrodeposited Oxygen Evolution Anodes for Green Hydrogen Production  
**N. Abdel Ghany,** EuroCorr, Estoril, Portugal, 2013.
- ❖ Investigation of chemical composition, structure and corrosion of ancient Egyptian bronze  
**V.K. Gouda, G.I. Youssef, N. Abdel Ghany,** EuroCorr, Ankara, Turkey, 2012.
- ❖ Electrochemical polishing of 316L stainless steel in the acidic bath for biomedical applications  
**N. Abdel Ghany, and A.M. Elbasiony,** EuroCorr, Ankara, Turkey, 2012.

- ❖ Electrochemical Corrosion Mitigation of Metallic Implants: Electrophoretic Deposition of Nano-Crystalline Hydroxyapatite on 316L SS

**N. Abdel Ghany, and A.M. Elbasiony, 18<sup>th</sup>International Corrosion Congress, ICC, Austria 2011.**

- ❖ Analytical approaches for corrosion investigation and conservation of copper-based artefacts in Egypt

**N. Abdel Ghany, and V.K. Gouda, EuroCorr, Moscow, Russia, 2010.**

- ❖ Characteristics studies of electropolished 316L stainless steel in simulated body fluid for biomedical utilization

**N. Hassan and N. Abdel Ghany, EuroCorr, Moscow, Russia, 2010.**

- ❖ Characterization of electrophoretically deposited nanocrystalline hydroxyapatite on Titanium for biomedical applications

**A.Elbasiony and N. Abdel Ghany, EuroCorr, Moscow, Russia, 2010.**

- ❖ Soliman Pasha Al-Fransawi Statue: An Outdoor Bronze Statue from the 19<sup>th</sup> Century

**Wafaa A. Mohammed, Mai M. Rifai, Nabil A. Abdel Ghany and Mohammed S. Elmetwaly, EgyptCorr, Alex., Egypt, 2010.**

- ❖ Conservation of copper base artefacts using eco-friendly corrosion inhibitors

**N. Abdel Ghany and V. Gouda, EuroCorr, Nice, France, 2009.**

- ❖ Aluminium coatings for corrosion protection applications

**S. Zein El Abedin, N. Abdel Ghany, A. Ismail, and F. Endres, , EuroCorr, Nice, France, 2009.**

- ❖ Effect of Dissolved Gases (O<sub>2</sub>, CO<sub>2</sub> and H<sub>2</sub>S) on The Performance of Corrosion Inhibitors in Petroleum Fields

**A.A. El-Hosary, A.A. Elmoniem, R.M. Saleh, and N. A. Abdel Ghany, 27<sup>th</sup> conference "Corrosion problems in industry" , Egypt, 2008.**

- ❖ Tailoring of Anodically Deposited Mn-Mo-O Electrodes by Direct and Pulse Current as a Novel Anode Materials for Clean Energy production by Seawater Electrolysis

**N. A. Abdel Ghany, N. M. Deiab and A.A. El-Moneim,17<sup>th</sup> International Corrosion Congress, ICC, USA, 2008.**

- ❖ Silver Artifacts Protection by Anticorrosive Coatings

**Venice Gouda, Nabil Abdel Ghany, Ahmed Awad J, elica Novakovic and Panayota Vassiliou, 17<sup>th</sup>International Corrosion Congress, ICC, USA, 2008.**

- ❖ Improve the corrosion resistance of stainless steel 316L in simulated body fluid

**N. A. Abdel Ghany and A. M. El-basiony, EuroCorr, UK, 2008.**

- ❖ Corrosion Inhibition in Petroleum Production: Formulation and Evaluation of Corrosion Inhibitor from Industrial Byproducts

**N. A. Abdel Ghany, R. M. Saleh and A. A. El Hosary, EUROCORR, Germany, 2007.**



❖ Sustainable inhibition of archaeological metallic artefacts

**G.M. Ingo, E. Angelini, T. de Caro, S. Grassini, V. Gouda, and N. A. Abdel Ghany**, International conference on conservation strategies (CSSIM), Egypt, 2007

❖ Electrodeposited Anode for Oxygen Evolution: Durability of Mn-Mo-W-Fe Oxide Anode in Seawater Electrolysis.

**N. A. Abdel Ghany, N. Kumagai, and K. Hashimoto**, EUROCORR, Netherlands, 2006.

❖ Non-Chemical Devices (NCD) For Water Treatment.

**N.A. Abdel Ghany and A.A. El Hosary**, EUROCORR, Netherlands, 2006.

❖ Conservation of Copper and Copper-Base Alloys Using Coatings and Corrosion Inhibitors

**N. A. Abdel Ghany and V. K. Gouda**, workshop of "PROMET" EU-project, Malta, 2005.

❖ Accelerated Corrosion Testing Procedure for Cu-base Alloys,

**V. K. Gouda and N. A. Abdel Ghany**, 16<sup>th</sup> International Corrosion Congress, ICC, China, 2005.

❖ Accelerated Corrosion Testing Procedure for Cu-base Alloys

**N. A. Abdel Ghany, and V. K. Gouda**, 24<sup>th</sup> conference "Corrosion problems in industry" , Hurghada, Egypt, 2005.

❖ Electrodeposited Mn-Mo-Fe oxide anodes for oxygen evolution in hot seawater electrolysis.

**N. A. Abdel Ghany, S. Meguro, N. Kumagai, K. Asami and K. Hashimoto**, Proceeding of the 23<sup>rd</sup> "Corrosion problems in industry" meeting, Ras Sidr, Egypt, (2004).

❖ Oxygen evolution anodes composed of anodically deposited Mn-Mo-Fe oxides for seawater electrolysis.

**N. A. Abdel Ghany, N. Kumagai, S. Meguro, K. Asami and K. Hashimoto**, 7<sup>th</sup>, Inter. Symposium on Electrochemical/Chemical Reactivity of Metastable Materials, Poland, (2003).

❖ Carbon dioxide recycling by renewable energy.

**K. Hashimoto, K. Izumiya, P. Zabinski, and N. A. Abdel Ghany**, 7<sup>th</sup>, Inter. Symposium on: Electrochemical/Chemical Reactivity of Metastable Materials, Poland, (2003).

❖ Anodically deposited oxygen evolution anodes for seawater electrolysis.

**K. Hashimoto, K. Izumiya, N. Kumagai, S. Meguro K. Asami, and N. A. Abdel Ghany**, 204<sup>th</sup> The Electrochemical Society (2003).

❖ Durability enhancement by addition of tungsten to anodically deposited Mn-Mo-Fe oxide anodes for oxygen evolution in hot seawater electrolysis.

**N. A. Abdel Ghany, K. Asami, N. Kumagai, S. Meguro, and K. Hashimoto, proc., 50<sup>th</sup>, Japan Society of Corrosion Engineering, Okinawa, Japan (2003) 71-74.**

❖ Durability study of anodically deposited Mn-Mo-Fe oxides for oxygen evolution in hot seawater electrolysis.

**N. A. Abdel Ghany, K. Asami, N. Kumagai, S. Meguro, and K. Hashimoto, proc; Japan Society of Corrosion Engineering, Tokyo, Japan (2003) 367-370.**

❖ Advanced oxide anodes for oxygen evolution in seawater electrolysis.

**K. Hashimoto, N. A. Abdel Ghany, N. Kumagai, K. Izumiya and S. Meguro, 53<sup>rd</sup> International Society of Electrochemistry, Germany (2002).**

❖ Characterization of anodically deposited Mn-Mo-Fe oxides for oxygen evolution in hot seawater electrolysis.

**N. A. Abdel Ghany, N. Kumagai, S. Meguro, and K. Hashimoto, proc., 49<sup>th</sup>, Japan Society of Corrosion Engineering, Kobe, Japan (2002) 239-242.**

❖ Anodically deposited Mn-Mo-Fe oxide anodes for oxygen evolution in hot seawater electrolysis.

**N. A. Abdel Ghany, N. Kumagai, S. Meguro, and K. Hashimoto, proc., Japan Society of Corrosion Engineering, Kawasaki, Japan (2002) 163-166.**

❖ Oxygen evolution anodes composed of anodically deposited Mn-Mo-Fe oxides for seawater electrolysis.

**N. A. Abdel Ghany, N. Kumagai, S. Meguro, and K. Hashimoto, proc., 48<sup>th</sup>, Japan Society of Corrosion Engineering, Sapporo, Japan (2001) 229-232.**

❖ Corrosion Inhibitors from Oil Refinery By-products for Acid Cleaning Processes: III. Synergistic Action of Halides.

**R. M. Saleh, A. A. El Hosary and N. A. Abdel Ghany, 6<sup>th</sup> All-Polish Corrosion Conference Korozia 99 "Materials and Environment" Czestachowa, Poland, June (1999).**

❖ Corrosion Inhibitors from Oil Refinery By-products for Acid Cleaning Processes:II. Inhibition of Mild Steel in Hydrochloric, Citric, and Sulfuric Acids.

**R. M. Saleh, A. A. El Hosary And N. A. Abdel Ghany, Proceeding of the 11<sup>th</sup> European Corrosion Congress, Utrecht, Netherlands, August (1998).**

❖ Non-Chemical Devices (NCD) For Water Treatment.

**A. A. El Hosary and N. A. Abdel Ghany, Proceeding of the 15<sup>th</sup> Annual Water Treatment Technology Conference, Abu Qir Fertilizer and Chemical Industries, Alex., Egypt, (1997).**

❖ Corrosion Inhibitors from Oil Refinery By-products for Acid Cleaning Processes: I-Inhibition of Mild Steel in HCl.

**R. M. Saleh, A. A. El Hosary and N. A. Abdel Ghany, Proceeding of the 10<sup>th</sup> European Corrosion Congress, Trondheim, Norway, Vol. 1, 731-36, (1997).**

❖ Ferric Ion and Corrosion Inhibition in Acid Cleaning.

W. Taylor, A. A. El Hosary, R. M. Saleh and N. A. Abdel Ghany, Proceeding of the 8<sup>th</sup> European Symposium on Corrosion Inhibitors (8 SEIC) Ann. Univ. Ferrara, N.S., Sez. V, Suppl. N. 10, (1995).

## 9. Grants:

*As a PI, Co-PI, postdoctoral, PhD, research student, and M.Sc. in the following projects:*

### 9.1. International Research Projects

- ❖ Heterogeneous photo catalysis and electrochemical treatment of textile wastewater by nanosized  $M_2Zr_2O_7$  (Group leader, Egypt- Jordon Funded STDF Joint Project (No. 21743), 2016-2018)
- ❖ Novel dyes with multiple anchoring sites for high-efficiency electron transfer in dye-sensitized solar cells (Co-PI, Egypt-France Funded IRD-STDF Joint Project (No.), 2014-2016)
- ❖ Tailored strategies for a sustainable maintenance of Cultural Heritage artefacts (Co-PI, Funded Egypt Italy, 2013-2016,)
- ❖ Mediterranean Conservation Alliance.(Co-PI) MEDAL (EU Project-FP6) Egyptian PI Prof. V. K Gouda, NRC, Egypt 2007-2009.
- ❖ Developing new analytical techniques and materials for monitoring and protecting metal artefacts and monuments from Mediterranean region.(Co-PI) PROMET (EU Project-FP6) Egyptian PI Prof. V. K Gouda, NRC, Egypt 2004-2007.
- ❖ Tailored strategies for the conservation and restoration of archaeological value Cu-based artefacts from Mediterranean countries.(Co-PI) EFESTUS, (EU-Project-FP6) Egyptian PI Prof. V. K Gouda, NRC, Egypt 2003-2005.
- ❖ Global Carbon Dioxide Recycling, “Tailoring of oxygen evolution anodes for seawater electrolysis”. (as a PhD protocol) Head of the project Prof. Dr. K. Hashimoto, Tohoku Institute of Technology, Sendai, Japan, 2001-2004.
- ❖ Local Production of Biocides for Cooling Systems,(Member, USA-Egypt cooperation, NRC, Egypt,1993-1995)

### 9.2. National Research Projects

- ❖ Preparation and Evaluation of Corrosion and Scale Inhibitors for Sugar Evaporators from Industrial By-products, (Member, ASRT-NRC, Egypt 1996-1999).
- ❖ Preparation and Evaluation of Corrosion and Scale Inhibitors for Water Cooling System. (Member, ASRT-NRC, Egypt 1994-1996.

### 9.3. Local Research Projects

- ❖ Advanced technologies modifications to upgrade the properties of industrial wastes to be used in different applications, (Co-PI, Funded, NRC Egypt, 2013-2016).

- ❖ Green Hydrogen Production from Seawater Electrolysis: Materials and Developments (PI & Co-PI), Advanced materials and nanotechnology group, NRC, Egypt, 2007-2010).
- ❖ Preparation and characterization of some nano-materials, which can be used as a catalyst or in lithium batteries. (Member, Funded, NRC, Egypt, 2006-2008).
- ❖ Corrosion inhibition of some alloys used in water cooling systems in chemical industries. (Member, Project PI, Prof. E.A. Abdel Meguid, NRC, Egypt, 2004-2006).
- ❖ Production of Corrosion Inhibitors for Acid Cleaning from Industrial Byproducts. NRC, Egypt, 1997.
- ❖ Corrosion Problems in Petroleum Industries. NRC, Egypt 1994-1996.
- ❖ Inhibition of Corrosion Caused by CO<sub>2</sub> in Petroleum Production Industry. (uncompleted PhD protocol), NRC, Egypt, 1997-2001).
- ❖ Corrosion Inhibition and Passivation During the Chemical Cleaning Process of Boilers. (as M.Sc. protocol), NRC, Egypt, 1993-1996).

## 9.2. Prizes & Awards

**National Individual Prize of late Prof. Dr. Ibrahim Amar for Excellence in Materials Corrosion and Surface Technology, Egyptian Government, 2012.**

## 10. Supervision of M.Sc. & PhD Theses:

### 10.1 Master Dissertation Titles:

- 1- Tailoring of  $\gamma$ -manganese oxide based anodes as electrocatalyst for seawater electrolysis. ( Awarded March 2010 Al Azhar Univ., Egypt)
- 2- Corrosion Resistance Improvement Of Titanium And 316l Stainless Steel In Simulated Body Fluid. ( Awarded Dec. 2009 Mansoura Univ., Egypt)
- 3- Electrodeposited Ni-based Electrodes as Cathode Materials for Hydrogen Generation during Water Electrolysis. (Not completed, NRC and Helwan Univ., Egypt)
- 4- Treatment and conservation of outdoor historical bronze statues with application on a selected object from Cairo. (Awarded, NRC and Cairo Univ., Egypt)
- 5- Development of fuel cells using nanomaterials (Running, NRC and Al-Azhar Univ., Egypt)

### 10.2. Doctoral Dissertation Titles:

- 1- Corrosion and Scale Inhibition in Water Cooling Systems in Industry. (Running, NRC and Assiut Univ. Egypt)
- 2- Nanotechnology applications in the production of some medicinal and aromatic plants(Not completed, NRC and Cairo Univ., Egypt)
- 3- Developments and functionalizing bioactive glass coatings on 316L stainless steel for hard tissue implementation and fixation( Running, NRC and Ain Shams Univ., Egypt)

4- Electrochemical fabrication and design of nanostructured semiconductor electrodes for hydrogen production by solar photoelectrolysis of water (Running, NRC and Al-Azhar Univ., Egypt)

## 11. List of Books

**Book name:** Metals and Museums in the Mediterranean, Protecting, Preserving and Interpreting, TEI of Athens, edited by Vasilike Argyropoulos, 2008.

**Chapter1 entitled:**

“Past and current conservation practices: The need for innovative and integrated approaches”

**Chapter2 entitled:**

“Conservation Damage Assessment of Metal Collections”

## 12. Membership in Scientific Societies and Associations

\***Japanese Society of Corrosion Engineering** (member-Japan).

\* **Egyptian Society of Advanced Materials and Nanotechnology** (Board member, Founder and treasurer- Egypt)

\* **The Egyptian Society for Science and Technology of Biomaterials** ( Founder and member- Egypt)

\***Egyptian Corrosion Society** (Board member- and Treasure, Egypt).