

SAVIOUR ALPHONSUS UMOREN, PhD

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Saviour A. Umoren is a Professor/ Senior Research Scientist at the Interdisciplinary Research Center for Advanced Materials (IRC-AM), King Fahd University of Petroleum & Minerals (KFUPM), Dhahran, Saudi Arabia. He obtained his BSc in Applied Chemistry from the University of Jos, Nigeria in 1990 and MSc in Polymer Science and Engineering and PhD in Polymer Science from the Federal University of Technology, Owerri, Nigeria in 1997 and 2008 respectively. He was a Postdoctoral Research Fellow at the State Key Laboratory for Corrosion and Protection, Institute of Metal Research, Chinese Academy of Sciences, Shenyang, China courtesy of TWAS – CAS Postdoctoral Research Fellowship award from May 2009 – April 2010 and a visiting researcher at Research Institute of Theoretical and Applied Physical Chemistry (INIFTA), La Plata, Argentina courtesy of TWAS – UNESCO Associateship appointment. He has 20 years' experience in teaching and research in both the University and Industrial environments in the field of corrosion inhibition. He has led many research projects in the area of corrosion mitigation such as corrosion inhibitor development in acidic condition, corrosion inhibitor development for oil and gas industry. He has supervised and graduated 12 MSc students and 1 PhD student and 1 Postdoc Fellow. He has authored/co-authored over 130 research articles in international peer reviewed journals mostly ISI rated including several critical reviews and some of his publications have been highly cited. He has four (4) granted US Patents, one authored and one edited books and many book chapters to his credit. He is on the editorial board of twelve (12) international journals and has served as a reviewer to more than one hundred and fifty (150) international journals. He has also served as a consultant to a number of funded research projects and a reviewer of research proposals for a number of funding agencies/organizations including National Research Foundation (NRF) of South Africa, National Science Centre, Poland, and American Chemical Society (ACS) Petroleum Research Fund (PRF), Chilean National Commission for Scientific and Technological Research (CONICYT), Croatia Science Foundation (CSF) amongst others. He has attracted and as well participated in a number of research projects funded by reputable organizations and industries as a principal investigator (PI), co-investigator (Co-I) and project team member. His research interests is extensively on investigation of corrosion and corrosion inhibition phenomena in different environments. His current research is on polymer composites/nanocomposites for corrosion protection and environmentally friendly corrosion inhibitors development for industrial metals. He is a member of a number of professional Associations including International Society of Electrochemistry (ISE), National Association of Corrosion Engineers (NACE), American Chemical Society (ACS), Royal Society of Chemistry (RSC) and Chemical Society of Nigeria (CSN) amongst others.

1. Professional Experience

(a) Teaching experience

(i) Associate Professor: October 2011 – Date (University of Uyo, Nigeria)
Activities: Teaching undergraduate and postgraduate courses and supervision of MSc and PhD theses.

(ii) Senior Lecturer: October 2008 – September 2011 (University of Uyo, Nigeria)
Activities: Teaching undergraduate and postgraduate courses and supervision of MSc theses.

(iii) Lecturer I: October 2005 – September 2008 (University of Uyo, Nigeria)
Activities: Teaching undergraduate courses and supervision of undergraduate research projects.

(iv) Lecturer II: October 2002 – September 2005 (University of Uyo, Nigeria)
Activities: Teaching undergraduate courses and supervision of undergraduate research projects.

(v) Assistant Lecturer: March 1998 – September 2002 (University of Uyo, Nigeria)
Activities: Teaching undergraduate courses and supervision of undergraduate research projects.

(b) Research Experience

(i) Senior Research Scientist (Professor): February 2022 – date (KFUPM, Saudi Arabia)
Activities: Writing research proposals, conducting research and supervision/co-supervision of postgraduate thesis and Postdocs

(ii) Research Scientist I (Associate Professor): July 2017 – February 2022 (KFUPM, Saudi Arabia)
Activities: Writing research proposals, conducting research and co-supervision of postgraduate thesis

(iii) Research Scientist II (Associate Professor): December 2012 - July 2017 (KFUPM, Saudi Arabia)
Activities: Writing research proposals, conducting research and co-supervision of postgraduate thesis

(iv) Visiting researcher, Institute of Theoretical and Applied Physical Chemistry (INIFTA), La Plata, Argentina: September – November 2012
Activities: Conducting research

(v) Postdoctoral Research Fellow, State Key Laboratory for Corrosion Protection, Institute of Metal Research, Shenyang, China: May 2009 – April 2010
Activities: Conducting research

(c) Administrative Experience

(i) Chairman (Head), Department of Chemistry, University of Uyo, Nigeria (2010 – 2012)

(ii) Member, Research Institute (RI) publication committee, KFUPM, Saudi Arabia (2015-2016)

(iii) Chairman, Publications and Documentations Committee, Interdisciplinary Research Center for Advanced Materials (IRC-AM), KFUPM, Saudi Arabia (2017- date)

(iv) Editor, Interdisciplinary Research Center for Advanced Materials (IRC-AM) Newsletter (2020- date)

2. Education/Academic Qualifications

2003-2008 **Doctor of Philosophy (PhD)**

Subject	:	Chemistry
From	:	Federal University of Technology, Owerri, Nigeria
Area of Specialization:		Polymer Science
Thesis Title	:	Effect of halide ions and polymers on the corrosion inhibition of aluminium and mild steel in acidic medium

1992-1997 **Master of Science (MSc)**

Subject	:	Chemistry
From	:	Federal University of Technology, Owerri, Nigeria
Area of Specialization:		Polymer Science
Thesis Title	:	Usefulness of kolanut as filler in polymeric materials

1986-1990 **Bachelor of Science (BSc)**

Subject	:	Applied Chemistry
From	:	University of Jos, Jos, Nigeria

3. Awards and Distinctions

- TWAS-UNESCO Associateship appointment (2011 – 2013)
- CAS-TWAS Postdoctoral Fellowship (2009 - 2010)
- Akwa Ibom State Government of Nigeria Postgraduate Scholar (2002, 2005)
- Federal Government of Nigeria Postgraduate Scholar (1992)
- Akwa Ibom State Government of Nigeria Scholar (1988 - 1990)
- Mary Lot's Prize for the best Science Student in Year II, Faculty of Natural Sciences, University of Jos (1989)
- University of Jos Award for the best Year II Chemistry Student (1988)

- High Impact/Quality Research Publication Award, Research & Development Office (RDO), Ministry of Education, Saudi Arabia, 2019.

4. Publications

4.1 International (ISI Rated) peer-reviewed Journals

1 **Umoren, S. A**., Solomon, M. M., Suleiman, R. K., A., Obot, I. B., Adesina, A. Y. (**2022**). Elucidation of corrosion inhibition property of compounds isolated from Butanolic Date Palm Leaves extract for low carbon steel in 15% HCl solution: Experimental and theoretical approaches, *Journal of Molecular Liquids* 356: 119002

2 Umoren, P. S., Kavaz, D., Nzila, A., Sankaran, S. S., **Umoren, S. A.** (**2022**). Biogenic synthesis and characterization of chitosan-cuo nanocomposite and evaluation of antibacterial activity against gram-positive and -negative bacteria. *Polymers*14(10): 1832.

3 Uzoma, I. E., Solomon, M. M., Loto, R. T., **Umoren, S. A.** (**2022**). Aspartame as a green and effective corrosion inhibitor for T95 carbon steel in 15 wt.% HCl solution. *Sustainability* 14 (10): 6500.

4 Suleiman, R. K., Umoren**, S. A**., Iali, W., El Ali, B. (**2022**). Isolation of new constituents from whole plant of *Salsola imbricata Forssk.* of Saudi origin. *ACS Omega* 7: 20332−20338.

5 Umoren, P. S., Kavaz, D., **Umoren, S. A.** (**2022**). Corrosion inhibition evaluation of chitosan–CuO nanocomposite for carbon steel in 5% HCl solution and effect of KI addition. *Sustainability* 14 (10): 7981.

6 **Umoren, S. A**., Abdullahi, M. T., Solomon, M. M. (**2022**). An overview on the use of corrosion inhibitors for the corrosion control of Mg and its alloy in diverse media. *Journal of Materials Research and Technology* 20 : 2060 –2093.

7 **Umoren, S. A**., Solomon, M. M., Suleiman, R. K., A., Obot, I. B. (**2021**). Date Palm leaves extract as a green and sustainable corrosion inhibitor for **low** carbon steel in 15 wt.% HCl solution: The role of extraction solvent on inhibition effect, *Environmental Science and Pollution Research* 28 (21): 40879–40894

8 **Umoren, S. A**., Solomon, M. M., Obot, I. B., Suleiman, R. K. (**2021**). Effect of intensifier additives on the performance of butanolic extract of date palm leaves against the corrosion of API 5L X60 carbon steel in 15 wt. % HCl solution, *Sustainability* 13 (10): 5569.

9 Ismail, N. B., Ghazali, M. S. B. M., Zulkifli, M. F. R. B., **Umoren, S. A.,** Kamal, C., Haque, J, Wan Nik W. M. N. B. (2021). Employing *Cymbopogon citratus* (lemon grass) as eco-friendly corrosion inhibitor for mild steel in seawater, *Journal of Sustainability Science and Management* 16 (3): 71-82.

10 Sulieman, R. K., Iali, W., El Ali, B., **Umoren, S. A. (2021)** New constituents from the leaves of date palm (*Phoenix dactylifera* L.) of Saudi origin, *Molecules* 26: 4192

11 **Umoren, S. A**., Solomon, M. M., Madhankumar, A., Obot, I. B. (**2020**). Exploration of natural polymers for use as green corrosion inhibitors for AZ31 magnesium alloy in saline environment. *Carbohydrate Polymers* 230, 115466.

12 Obot, I. B., Onyeachu, I. B., **Umoren, S. A.,** Quraishi, M. A., Sorour, A. A., Chen, T., Aljeaban, N., Wang, Q. (**2020**). High temperature sweet corrosion and inhibition in the oil and gas industry: progress, challenges and future perspectives, *Journal of Petroleum Science and Engineering* 185, 106469.

13 Solomon, M. M., **Umoren, S. A**., Quraishi, M.A., Tripathi, D., Abai, E. J. (**2020**). Effect of alkyl chain length, flow and temperature on the corrosion inhibition of carbon steel in a simulated acidizing environment by an imidazoline-based inhibitor, *Journal of Petroleum Science and Engineering* 187, 106801.

14 Onyeachu, I. B., Solomon, M. M., **Umoren, S. A.,** Obot, I. B., Sorour, A. A. (**2020**). Corrosion inhibition effect of a benzimidazole derivative on heat exchanger tubing materials during acid cleaning of multistage flash desalination plants, *Desalination* 479, 114283.

15 **Umoren, S. A**., Solomon, M. M., Nzila, A., Obot, I. B. (**2020**). Preparation of silver/chitosan nanofluids using selected plant extracts: Characterization and antimicrobial studies against gram-positive and gram-negative bacteria, *Materials* 13 (7), 1629.

16 Madhan Kumar, A., Adesina, A. Y., Hussein, M. A., **Umoren, S. A,** Ramakrishna, S. Saravanan, S. (**2020**). Preparation and characterization of biodegradable Pectin based multifunctional coatings on TiNbZr alloy for orthopaedic applications, *Carbohydrate Polymers* 242:116285.

17 Quraishi1, M. A., Ansari1, K. R., Chauhan1, D. S., **Umoren1, S. A.,** Mazumder, M.A.J., (**2020**). Vanillin modified chitosan as a new bioinspired corrosion inhibitor for carbon steel in oil-well acidizing relevant to petroleum industry, *Cellulose* 27 (11): 6425–6443.

18 Mohammed, A. I., Solomon, M. M., Haruna, K., **Umoren, S. A.,** Saleh, T. A. (**2020**) Evaluation of the corrosion inhibition efficacy of *Cola acuminata* extract for low carbon steel in simulated acid pickling environment, *Environmental Science and Pollution Research* 27 (27): 34270-34288

19 Odewunmi, N. A., Solomon, M. M., **Umoren, S. A.,** Ali, S. A. (**2020**). comparative studies of the corrosion inhibition efficacy of a dicationic monomer and its polymer against api x60 steel corrosion in simulated acidizing fluid under static and hydrodynamic conditions, *ACS Omega* 5 (42): 27057−27071**.**

20 Obot, I. B., Solomon, M. M., Onyeachu, I. B., **Umoren, S. A.,** Meroufel, A., Alenazi, A, Sorour, A. A. **(2020**). Development of a green corrosion inhibitor for use in MSF desalination plant, ***Desalination*** 495: 114675.

21 Obot, I. B., **Umoren, S. A.** (**2020**). Experimental, DFT and QSAR models for the discovery of new pyrazines corrosion inhibitors for steel in oilfield acidizing environment, *International*

*Journal of Electrochemical Scienc*e 15 (9): 9066 – 9080.

22 **Umoren, S. A**., Solomon, M. M. (**2019**). Protective polymeric films for industrial substrates: A critical review on past and recent applications with conducting polymers and polymer composites/nanocomposites, *Progress in Materials Science* 104: 380 – 450.

23 Solomon, M. M., **Umoren, S. A**., Quraishi, M.A. Mazumder M.A. J. (**2019**). Corrosion inhibition of N80 steel in simulated acidizing environment by N-(2-(2-pentadecyl-4, 5-dihydro-1H-imidazol-1-YL) ethyl) palmitamide, *Journal of Molecular Liquids* 273: 476–487.

24 Solomon, M. M., **Umoren, S. A.,** Quraishi, M. A., Salman, M. (**2019**). Myristic acid based imidazoline derivative as effective corrosion inhibitor for steel in 15% HCl medium, *Journal of. Colloid and Interface Science* 551: 47–60.

25 Ituen, E.B., Solomon, M.M., **Umoren, S.A.,** Akaranta, O. **(2019).** Corrosion inhibition by amitriptyline and amitriptyline based formulations for steels in simulated pickling and acidizing media, *Journal of Petroleum Science and Engineering* 174: 984 – 966.

26 **Umoren, S. A**., Solomon, M. M., Ali, S. A., Dafalla, H. D.M. (**2019**). Synthesis, characterization and utilization of a diallylmethylamine cyclopolymer for corrosion mitigation in simulated acidizing environment, *Materials Science & Engineering C* 100:897 – 914.

27 **Umoren, S. A**., Solomon, M. M., Obot, I. B., Sulieman, R K. (**2019).** A critical review on the recent studies on plant biomaterials as corrosion inhibitors for industrial metals, *Journal of Industrial and Engineering Chemistry* 76: 91 – 115.

28 Haruna, K., Saleh, T. A., Obot, I. B**., Umoren, S. A**. (**2019).** Cyclodextrin-based functionalized graphene oxide as an effective corrosion inhibitor for carbon steel in acidic environment, *Progress in Organic Coatings* 128: 157 – 167.

29 Usman, B. J., Gasem, Z. M. **Umoren, S. A**., Solomon, M.M., (**2019**). Eco-friendly 2-Thiobarbituric acid as a corrosion inhibitor for API 5L X60 steel in simulated sweet oilfield environment: Electrochemical and surface analysis studies, *Scientific Reports* 9(1): 830, DOI:10.1038/s41598-018-37049-w

30 Obot, I. B**., Umoren, S. A**., Ankak, N. K. (**2019).** Pyrazine derivatives as green oil field corrosion inhibitors for steel, *Journal of Molecular Liquids* 277: 749 – 761.

31 Haladu, S. A., Umoren, S. A., Ali, S. A., Solomon, M. M., Mohammed, A. I. (**2019**), Synthesis, Characterization and Electrochemical Evaluation of Anticorrosion Property of a Tetrapolymer for Carbon Steel in Strong Acid Media. *Chinese Journal of Chemical Engineering* 27(4): 965 – 978.

32 Obot, I. B., Onyeachu, I. B., Zeino, A., **Umoren, S. A.** (**2019**). Electrochemical Noise (EN) technique: Review of recent practical applications to corrosion electrochemistry research, *Journal of Adhesion Science and Technology* 33(13) 1453 – 1496.

33 Obot, I. B., Onyeachu, I. B., **Umoren S. A**. (2019). Alternative corrosion inhibitor formulation for carbon steel in CO_2-saturated brine solution under high turbulent flow condition for use in oil and gas transportation pipelines, *Corrosion Science* 159: 108140

34 Alhaffar, M. T., **Umoren**, **S. A.,** Obot, I. B., Ali, S A., Solomon, M. M. (**2019**). Studies of the anticorrosion property of a newly synthesized green isoxazolidine for API 5L X60 steel in acid environment, *Journal of Materials Research & Technology* 8 (5): 4399-4416.

35 Obot, I. B., Solomon, M. M., **Umoren, S. A.,** Suleiman, R., Elanany, M., Alanazi, N. M., Sorour A. A. (**2019**). Progress in the development of sour corrosion inhibitors: Past, present, and future perspectives, *Journal of Industrial and Engineering Chemistry* 79: 1-18.

36 Solomon, M. M., Gerengi, H., **Umoren, S. A**., Essien, N. B., Essien, U. B., Kaya, E. (**2018).** Gum Arabic – silver nanoparticles composite as a green anticorrosive formulation for steel corrosion in a strong acid media**.** *Carbohydrate Polymers* 181: 43 – 55.

37 Solomon, M. M., **Umoren, S. A**., Obot, I. B., Sorour, A. A., Gerengi, H., (**2018).** Exploration of dextran for application as corrosion inhibitor for steel in strong acid Environment: Effect of molecular weight, modification, and temperature on efficiency, *ACS Applied Materials and Interfaces*, 10 (33): 28112−28129.

38 Khan, M. I., Amary, A.A., Mustafa, A., Shoukry, Ali, I. H., **Umoren, S. A.,** Madhan Kumar, A. (**2018**). Synthesis, characterization and application of ferrochrome slag/polyaniline nanocomposite as corrosion protection coatings for carbon steel, *International Journal of Electrochemical Science* 13 (8): 7358 – 7396.

39 Alhaffar, M. T., **Umoren**, **S. A.,** Obot, I. B., Ali, S A. (**2018).** Isoxazolidine Derivatives as Corrosion Inhibitors for Low Carbon Steel in HCl Solution: Experimental, Theoretical and Effect of KI Studies, *RSC Advances* 8(4): 1764 – 1777.

40 Khan, M. I., Amary, A.A., Mustafa, A., Shoukry, Ali, I. H., **Umoren, S. A.,** Madhan Kumar, A. (**2018**). Synthesis, characterization and application of ferrochrome slag/polyaniline nanocomposite as corrosion protection coatings for carbon steel, *International Journal of Electrochemical Science* (Accepted, in press).

41 **Umoren, S. A**., Al Ahmery, A. A., Gasem, Z. M., Solomon, M. M. (**2018**). Evaluation of chitosan and carboxymethyl cellulose as ecofriendly corrosion inhibitors for steel, *International Journal of Biological Macromolecules*, 117: 1017 – 1028.

42 Yildiz. M, Gerengi, H., Solomon, M. M., Kaya, E., **Umoren, S. A.** (**2018**). Influence of 1-Butyl-1-Methylpiperidinium Tetrafluoroborate (BMPTFB) on St37 steel dissolution behavior in HCl environment, *Chemical Engineering Communications* 205 (4): 538 -548.

43 Essien, E. A., Kavaz, D., Ituen**,** E. B**., Umoren, S. A. (2018).** Synthesis, characterization and anticorrosion property of olive leaves extract-titanium nanoparticles composite. *Journal of*

Adhesion Science and Technology, 32 (16): 1773–1794.

44 **Umoren, S. A**., Solomon, M. M., Obot, I. B., Sulieman, R K. (**2018).** Comparative studies on the corrosion inhibition efficacy of ethanolic extracts of date palm leaves and seeds on carbon steel corrosion in 15% HCl solution, *Journal of Adhesion Science and Technology*, 32(17): 1934 – 1951.

45 Solomon, M. M., Gerengi, H., **Umoren, S. A**. (**2017).** Carboxymethyl cellulose/ silver nanoparticles composite: Synthesis, characterization and application as a benign corrosion inhibitor for St37 Steel in 15% H_2SO_4 medium, *ACS Applied Materials and Interfaces*, 9 (7): 6376-6389

46 Solomon, M. M., Gerengi, H, Kaya, T. **Umoren, S. A**. (**2017).** Performance evaluation of chitosan/silver nanoparticles composite on st37 steel corrosion in 15% HCl solution, *ACS Sustainable Chemistry and Engineering*, 5 (1): 809 – 820.

47 **Umoren, S. A.,** Nzila, A. M., Sankaran**, S.,** Solomon, M. M, Umoren, P. S. (**2017**), Green synthesis, characterization and antibacterial activities of silver nanoparticles from strawberry fruit extract. *Polish Journal of Chemical Technology* 19 (4):128-136.

48 Solomon, M. M., Gerengi, H, Kaya, I., Yildiz, M., Kaya, E., **Umoren, S. A.** (**2017).** Synergistic inhibition of St37 steel corrosion in 15% H_2SO_4 solution by chitosan-iodide ions mixture, *Cellulose* 24 (2):931 – 950.

49 Usman, B. J., **Umoren, S. A**., Gasem, Z. M. (**2017**), inhibition of API 5L X60 steel corrosion in CO_2 –saturated 3.5% NaCl solution by tannic acid and synergistic effect of KI additive, *Journal of Molecular Liquids, **237***:146 – 156.

50 **Umoren, S. A**., Solomon, M. M., (**2017).** Synergistic corrosion inhibition effect of metal cations and mixtures of organic compounds: A Review, *Journal of Environmental Chemical Engineering*, 5 (1): 246 – 273.

51 Solomon, M. M., Gerengi, H, Kaya, T. **Umoren, S. A**. (**2017).** Enhanced corrosion inhibition effect of chitosan for st37 steel in 15% H_2SO_4 environment by silver nanoparticles, *International Journal of Biological Macromolecules* 104: 638–649.

52 Haladu, S. A., **Umoren, S. A.,** Ali, S. A. Solomon, M. M. (**2017**), Synthesis and Characterization of Cyclic Cationic Polymer and its Anti-corrosion Property for Low Carbon Steel in 15% HCl Solution, *International Journal of Electrochemical Science* 12 (10): 9061 – 9083.

53 Ituen, E. B., Akaranta, O., **Umoren, S. A.** (**2017**). N-acetyl cysteine based corrosion inhibitor formulations for steel protection in 15% HCl solution, *Journal of Molecular Liquids,* 246: 112 – 118.

54 Solomon, M. M., **Umoren, S. A**. (**2016).** In-situ preparation, characterization and anticorrosion property of polypropylene glycol/silver nanoparticles composite for mild steel corrosion in

acid solution, *Journal of Colloid and Interface Science* 462:29 – 41.

55 Ahovan, M., Nasr-Esfahani, M., **Umoren, S. A. (2016).** Inhibitive effect of 1-[(2-hydroxyethyl) amino]-2-(salicylideneamino) ethane towards corrosion of carbon steel in CO_2 saturated 3.0% NaCl solution, *Journal of Adhesion Science and Technology* 30 (1): 89 – 103.

56 **Umoren, S. A**., Eduok, U. M. (**2016**). Application of carbohydrate polymers as corrosion inhibitors for metal substrates in different media: A review, *Carbohydrate Polymers* 140: 314 – 341.

57 **Umoren, S. A**., Madhankumar, A. (**2016**). Effect of addition of CeO_2 nanoparticles to Pectin as inhibitor of X60 steel corrosion in HCl medium, *Journal of Molecular Liquids*, 224:72 – 82.

58 Inam, E. I., Etim, U. J., Akpabio, E. G., **Umoren, S. A.** (**2016**). Simultaneous adsorption of lead (II) and 3,7-bis(Dimethylamino)-phenothiazin-5-ium chloride from aqueous solution by activated carbon prepared from plantain peels, *Desalination and Water Treatment*, 57 (14): 6540-6553.

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60 Solomon, M. M., **Umoren, S. A**., Israel, A. U., Etim, I. G. **(2016).** Synergistic inhibition of aluminium corrosion in H_2SO_4 solution by polypropylene glycol in the presence of iodide ions, *Pigment and Resin Technology* 45 (4): 280 – 293.

61 **Umoren, S. A. (2016).** Biomaterials for Corrosion Protection: Evaluation of Mustard Seed Extract as Eco-friendly Corrosion Inhibitor for X60 Steel in Acid Media, *Journal of Adhesion Science and Technology* 30 (17): 1858-1879.

62 **Umoren, S. A. (2016).** Polypropylene glycol: A novel corrosion inhibitor for X60 pipeline steel in 15% HCl solution, *Journal of Molecular Liquids* 219: 946 – 958.

63 Essien, E. E., **Umoren, S. A**., Effiong, E. E. (**2016**). Synthesis and characterization of *luffa cylindrica* fatty acids-based alkyd resins, *Research on Chemical Intermediates* 42(3): 2177 – 2189.

64 Etim, U. J., **Umoren, S. A.,** Eduok, U. M. (**2016**). Coconut coir dust as a low cost adsorbent for the removal of cationic dye from aqueous solution, *Journal of Saudi Chemical Society* 20 (S1) : S67 – S76.

65 **Umoren, S. A.,** Eduok, U.M., Solomon, M. M., Udoh, A. P. (**2016**). Corrosion inhibition by leaves and stem extracts of *Sida acuta* for mild steel in 1 M H_2SO_4 solutions investigated by chemical and spectroscopic techniques, *Arabian Journal of Chemistry* 9 (S1):S209 – S224.

66 Solomon, M. M., **Umoren, S. A.,** Abai, E. J. (**2015**). Poly(methacrylic acid)/silver nanoparticles composites: *In-situ* preparation, characterization and anticorrosion property for mild steel in H_2SO_4 solution. ***Journal of Molecular Liquids*** 212: 340 – 351.

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69 Solomon, M. M., **Umoren, S. A**. (**2015**). Electrochemical and gravimetric measurements of inhibition of aluminium corrosion by poly (methacrylic acid) in H_2SO_4 solution and synergistic effect of iodide ions, *Measurement* 76: 104 – 116.

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72 Odewunmi, N. A., **Umoren, S. A.,** Gasem, Z. M. (**2015**). Utilization of watermelon rind extract as a green corrosion inhibitor for mild steel in acidic media. *Journal of Industrial and Engineering Chemistry* 21(1):239 – 246.

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4.4 Books

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4.5 Book Chapters

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6. **Umoren, S. A.** and Solomon, M. M, "Green Corrosion Inhibitors: Natural Polymers and Amino Acids" In Corrosion Science: Theoretical and Practical Applications (S. Kaya, I. B. Obot, and L. H. Madkour (Eds.) (to be published by CRC Press) (ISBN: 9781771886024)

7. **Umoren, S. A.** and Solomon, M. M. "Polymeric Corrosion Inhibitors for the Oil and Gas Industry" In Corrosion Inhibitors for Oil and Gas Industries, V. S. Saji and S. A. Umoren (Eds), Wiley-VCH, ISBN 978-3-527-34618-9, 2020, pp 303 – 320.

8. **Umoren, S. A.,** Solomon, M. M. and Saji, V. S., "Corrosion inhibitors for sour oil field environment (H_2S corrosion)" In Corrosion Inhibitors for Oil and Gas Industries, V. S. Saji and S. A. Umoren (Eds), Wiley-VCH, ISBN 978-3-527-34618-9, 2020, pp 229 – 254.

9. **Umoren, S. A.** and Solomon, M. M., "Chemical Additives for Corrosion Control in Desalination Plant" In Corrosion and Fouling Control in Desalination Industries, V. S. Saji, A. A. Sorour and A. A. Meroufel (Eds), Springer (**ISBN**: 978-3-030-34283-8)

10. **Umoren, S. A.** and Solomon, M. M., "Biopolymer Composites and Nanocomposites for Corrosion Protection of Industrial Metal Substrates: In Corrosion Protection of Metals and Alloys Using Graphene and Biopolymer Based Nanocomposites, Hatem M. Amin, A. Galal (Eds), Taylor and Francis, (**ISBN**: 978-1-138-04665-8), 2021, pp16 – 31.

11. Research & Development Accomplishments

5.1 Research Interests

Research is the key to the development of any nation. My interest is to conduct fundamental and applied trans-disciplinary research and develop innovative methods with the aim of achieving the following: (a) bring about maximum human capital, sustainable economic growth and improved quality of life ; (b) enhance the nation's knowledge – generation capacity in order to produce world class research outputs and assist in turning some of the advanced findings into innovative products and processes; (c) develop appropriate human capital for science, technology and innovation to meet the needs of the society and (d) to build and train the next generation of researchers and enable technology development and transfer as well as knowledge interchange. It is against this background that my research interest is focused on the following areas:

- Electrochemical investigation of corrosion phenomena in different aqueous aggressive environments namely CO_2, H_2S, seawater and acid etc.
- Development of environmentally friendly corrosion inhibitors for oil and gas and chemical industries
- Development of corrosion inhibitors for high temperature applications
- Development of scale inhibitors for cooling water systems, oil and gas industries.
- Development of polymer-nanoparticles composites for corrosion protection of metals and other industrial applications.
- Development of vapour phase corrosion inhibitors (VpCI) and microbiologically influenced corrosion (MIC) inhibitors for industrial applications.

5.2 Research accomplishments

(a) Patents

(i) Obot, I. B., **Umoren, S. A.** and Gasem, Z. M., Composition and methods for inhibition of metal corrosion for use in the oil and gas industry, Patent #: US10323327 B2 (Issued June 18, **2019**)

(ii) Obot, I. B. and **Umoren, S. A.,** Methods of inhibiting corrosion with pyrazine corrosion inhibitor, Patent #: US10,626,319 B1 (Issued April 21, **2020**)

(iii) **Umoren, S. A**., Kavaz, D., Essien, E. A. and Solomon, M. M. Biomediated-titanium nanocomposite for corrosion protection, Pub. No.: US2020/0255734 A1 (Pub. Date: Aug. 13, 2020).

(iv) Solomon, M. M. and **Umoren, S. A.** Corrosion inhibitor composition and methods of inhibiting corrosion during acid pickling, Patent #: US 11408079 B1 (Issued August 9, **2022**)

(v) Obot, I. B., Solomon, M. M., Onyeachu, I. B., **Umoren, S. A**., Meroufel, A., Alenazi, A. and Sorour, A. A. Chemical formulation for cleaning MSF desalination plant, Patent #: US10,626,319 B1 (Issued November 23, **2021**)

5.3 Funded Research Projects

S/N	Project #	Project Title	Funder/Client	Amount	Duration	Role	Status
1	10−107RG /CHE/AF/ AC-G	Studies On Corrosion Inhibition Potential of Extracts of Coconut Coir Dust	TWAS (The Academy of Sciences for the	$23,860	18 months	PI	Completed

		Obtained from Different Solvent Systems for Mild Steel in Different Environments	Developing World)				
2	14-ADV2452-04	Development of Environmentally Friendly Corrosion and Scale Inhibitors from Indigenous Plants of Saudi Arabia	KACST (NSTIP project)	SAR 1,995,550	24 Months	PI	Completed
3	14-ADV2447-04	Computer-Aided Design of Ecofriendly Organic Inhibitors for Steel Corrosion	KACST (NSTIP project)	SAR 1,523,680	24 Months	Co-I	Completed
4	CREC2421	Green corrosion inhibitors for MSF acid cleaning	Saline Water Conversion Company (SWCC), Saudi Arabia	SAR 300,000	18 Months	Co-I	Completed
5	CREC2443	Development of Corrosion Inhibitors For High-Temperature Sweet Gas Wells	Saudi Aramco	SAR 1,200,000	24 Months	Co-I	Completed
6	CREC2444	Development of New And Efficient Corrosion Inhibitor Formulations For Wet Sour Crude Environments	Saudi Aramco	SAR 1,800,000	30 Months	Co-I	Completed
7	RDO-HQIP19_32	Exploration of Natural Polymers for Use as Green Corrosion Inhibitors for AZ31 Magnesium Alloy in Saline Environment	MOE	SAR 39,000	9 Months	PI	Completed
8	RDO-HQIP 19_09	Alternative Corrosion Inhibitor Formulation for	MOE	SAR 44,000	9 Months	C0-I	Completed

		Carbon Steel in CO2-Saturated brine Solution under High Turbulent Flow Condition for Use in Oil and Gas Transportation Pipelines					
9	RDO-HQIP 19_11	Fabrication and characterization of biodegradable polymer bio-active coatings on newly developed Ti alloys for orthopedic applications	MOE	SAR 39,000	9 Months	Co-I	Completed
10	DF181019	Development of Biomediated Chitosan – Silver Nanoparticles Composite as Multifunctional Corrosion Inhibitor for Oil Field Applications	DSR/KFUPM	SAR 213,197	36 months	PI	In Progress
11	DF181007	Development of environmentally friendly corrosion inhibitor for oil well acidization	DSR/KFUPM	SAR 180,000	24 months	Co-I	Completed
12	INAM2101	Development of potential sweet corrosion inhibitor from *Salsola imbricata* Plant of Saudi Origin	IRC-AM/KFUPM	SAR 100,000	12 Months	Co-I	Completed
13	INAM2205	Evaluation of the Phytochemical Constituents of the *Salsola imbricata* Plant of Saudi Origin as Antimicrobial and Sweet Corrosion-Inhibitive (CO_2)	IRC-AM/KFUPM	SAR 150,075	12 months	PI	In Progress

		Agents for Low Carbon Steel					

5.4 Research Supervision

S/N	Name of Student	Department/ Institution/ Year	Level	Thesis Title	Role	Status
1	Moses Monday Solomon	Chemistry, University of Uyo, Nigeria (2012)	PhD	Synthesis, characterization and application of polymers and composites as corrosion inhibitor for mild steel and aluminium in tetraoxo sulphate (vi) acid	Advisor	Completed
2	Nadeem Baig	Chemistry, KFUPM, Saudi Arabia (2016)	PhD	Novel Graphene modified Carbon Electrode for Trace Electroanalytical Determination of L-Tyrosine, Dopamine and Uric Acid	Committee member	Completed
3	Azeem Rana	Chemistry, KFUPM, Saudi Arabia (2016)	PhD	Development of Electrochemical Phenol, a-Naphthol and Selected Derivatives Sensors Utilizing Electrochemically Treated Carbon Electrodes	Committee member	Completed
4	Edidiong Emmanuel Effiong	Chemistry University of Uyo, Nigeria (2012)	MSc	Utilization of *Lagenaria breviflorus* and *Luffa cylindrica* seed oils in the synthesis of alkyd resins	Advisor	Completed
5	Emaeyak Jeremiah Effiong	Chemistry, University of Uyo, Nigeria	MSc	Extraction and characterization of humic acid from bat (*Edolon sp*.) dung and its application in adsorption of malachite green dye from aqueous mixture	Co-advisor	Completed
6	Ubong Jerome Etim	Chemistry, University of Uyo,	MSc	Studies on the removal of cationic dye from waste water using	Advisor	Completed

		Nigeria (2011)		synthetic polymer and coconut coir dust		
7	Aniekan Archibong Udoidiong	Chemistry, University of Uyo, Nigeria (2011)	MSc	Extraction and characterization of humic acid from some livestocks dung and its application as corrosion inhibitor for aluminium in alkaline medium	Advisor	Completed
8	Patience Okon Asuquo	Chemistry, University of Uyo, Nigeria (2010)	MSc	Inhibition of mild steel corrosion by extracts of coconut coir dust using different solvent systems in acidic medium	Advisor	Completed
9	Ifeoma E. Eze	Chemistry, University of Uyo, Nigeria (2010)	MSc	Development of unsaturated polyester from *Hura crepit*ans seed oil for industrial use	Advisor	Completed
10	Edidiong Augustine Essien	Chemistr, University of Uyo, Nigeria (2009)	MSc	Preparation, characterization and application of metallic soaps from the seed oil of *Citrullus lanatus*	Co-advisor	Completed
11	Ubong Monday Eduok	Chemistry, University of Uyo, Nigeria (2009)	MSc	Studies of *Sida acuta* (Broomweed) extracts as eco-friendly corrosion inhibitor for mild steel in sulphuric acid solution and effect of iodide ions additive	Advisor	Completed
12	Udeme Felix Ekanem	Chemistry, University of Uyo, Nigeria (2008)	MSc	Studies of anticorrosive effects of ethanolic pineapple leaf extract (*Ananas sativum*) on mild steel corrosion in acidic medium	Advisor	Completed
13	Moses Monday Solomon	Chemistry, University of Uyo, Nigeria (2008)	MSc	Inhibition of mild steel corrosion by carboxymethylcellulose in acidic medium	Advisor	Completed
14	Abdullah Ahmed AlAhmary	Mechanical Engineering, KFUPM, Saudi Arabia	MSc	Environmentally friendly inhibitors for CO_2 corrosion	Co-advisor	Completed

		(2015)				

12. **Teaching Interests**

Teaching graduate and postgraduate courses in various areas of chemistry including General, Organic, Polymer and Industrial Chemistry courses

6.1 Courses taught at graduate level

(a) CHM 111 ……. General Chemistry I
(b) CHM 121 ……. General Chemistry II
(c) CHM 222 ……. Organic Chemistry II
(d) CHM 315 …….. Polymer Chemistry I
(e) CHM 317 ……. Industrial Chemical Process I
(f) CHM 328 ……. Industrial Chemical Technology I
(g) CHM 415 ……. Polymer Chemistry II
(h) CHM 425 ……. Polymer Technology
(i) CHM 418 ……. Industrial Chemical Process II
(j) CHM 424 ……. Research Project

6.2 Courses taught at graduate level

(a) CHM 661 ……. Polymerization Synthesis
(b) CHM 668 ……. Polymer Processing and Characterization
(c) CHM 670 ……. Polymer Reactions and Solution

13. **Conferences and Workshop/Seminars Attendance**

A. Conferences attended with paper presented

1. **Umoren, S. A. (2022).** Synthesis, characterization, and application of chitosan/silver nanocomposite as green and effective inhibitor for low carbon steel in CO_2-saturated brine, European Corrosion Congress (EUROCORR 2022), Berlin, Germany, August 28 - September 1st, 2022.

2. **Umoren, S. A. (2019).** Polypropylene glycol/silver nanoparticles composite: in-situ preparation, characterization and anticorrosion property for carbon steel in acid solution, 257th ACS Annual Expo and Exhibition, Orange County Convention Center (OCCC), Orlando Florida, USA (March 31 – April 5, 2019).

3. Solomon, M. M., **Umoren, S. A. (2019).** Exploration of Natural Polymer/Silver Nanoparticles Composite as Inhibitors for Corrosion Protection of Industrial Metals, 257th

ACS Annual Expo and Exhibition, Orange County Convention Center (OCCC), Orlando Florida, USA (March 31 – April 5, 2019).

4. **Umoren, S. A. (2019**). Utilization of A Diallylmethylamine-Based Cyclopolymer for Low Carbon Steel Corrosion Control in Strong Acid Medium, European Corrosion Congress (EUROCORR 2019), Sevilla, Spain, September 9^{th} – 13^{th}, 2019.

5. **Umoren, S. A. (2017**). Towards environmental sustainability: natural products as potential corrosion inhibitors for pickling and oil well acidization applications, NACE Abu Dhabi Section, UAE Annual Conference & Expo, Dusit Thani Hotel, Abu Dhabi, UAE (2-4 May 2017).

6. **Umoren, S. A. (2017**). Corrosion inhibition by cyclic cationic polyelectrolyte for low carbon steel in 15% HCl solution and synergistic effect of some additives, Joint European Corrosion Congress (EUROCORR 2017), 20^{th} International Corrosion Congress (ICC) & Process Safety Congress, Prague, Czech Republic. (September 3–7, 2017).

7. **Umoren, S. A. (2016**). Evaluation of mustard seed extract as eco-friendly corrosion inhibitor for X60 steel in acid media, 16^{th} Middle East Corrosion Conference & Exhibition, Manama, Kingdom of Bahrain (8-11 Feb 2016).

8. **Umoren, S. A. (2016**). Effect of ceria nanoparticles on the corrosion inhibition of pectin for X60 steel in HCl solution, European Corrosion Congress (EUROCORR 2016), Montpellier, France, September 11^{th} – 15^{th}, 2016.

9. **Umoren, S. A. (2015).** Performance evaluation of polypropylene glycol as corrosion inhibitor for x60 pipeline steel in 15% HCl solution, European Corrosion Congress (EUROCORR 2015), Graz, Austria, September 6^{th} – 10^{th}, 2015.

10. AlAhmary, A. A., **Umoren, S. A.** and Gasem, Z. M. (2015). Evaluation of chitosan and carboxymethyl cellulose (CMC) as ecofriendly corrosion inhibitors for X60 pipeline steel in CO_2 saturated 3.5% NaCl solution, European Corrosion Congress (EUROCORR 2015), Graz, Austria, September 6^{th} – 10^{th}, 2015.

11. **Umoren, S. A. (2014).** Corrosion inhibition effect of strawberry fruit extract for mild steel in HCl and H_2SO_4 solutions, NACE China Annual Conference & Expo (SINOCORR 2014), Beijing International Convention Center, Beijing, China (19-22 May 2014).

12. **Umoren, S. A. (2014).** Experimental and theoretical evaluation of strawberry fruit extract and its active component as corrosion inhibitor for mild steel in HCl, European Corrosion Congress (EUROCORR 2014), Pissa De Congressi, Pisa, Italy, September 8^{th} – 12^{th}, 2014.

13. Umoren, S. A. (2014). Inhibition of mild steel corrosion by date palm seed extract in acid media, 15th Middle East Corrosion Conference & Exhibition, Manama, Kingdom of Bahrain (2-5 Feb 2014).

14. Ezeh, I. E., **Umoren, S. A**., Essien, E. E. and Udoh, A.P. (**2011**). Studies on the utilization of *Hura crepitans L.* seed oil in the preparation of alkyd resins, 34th International Conference of the Chemical Society of Nigeria, Ilorin, Kwara State, 19th – 23rd September, 2011.

15. **Umoren**, **S. A.,** Li, Y. and Wang, F. H. (**2010**). Comparative study of corrosion and corrosion inhibition of bulk nanocrystalline and coarse polycrystalline ingot iron in sulphuric acid solution, 16th Egyptian Corrosion Society Internal Conference, Plaza Hotel Alexandria, Egypt, 14-16 December, 2010.

16. Obot I. B., Obi-Egbedi, N. O. and **Umoren**, **S. A.** (**2009**). Antifugal drugs as corrosion inhibitors for aluminium in 0.1 M HCl. 2009 DoD Corrosion conference, Washington D.C.,

17. Obot, I. B., Obi-Egbedi, N. O. and **Umoren, S. A. (2008).** Corrosion inhibition and adsorption behaviour of clotrimazole on aluminium in hydrochloric acid and effect of iodide ion additive. 31st International Conference of the Chemical Society of Nigeria, Effurun- Warri, Delta State, 22nd – 26th SeptemberUSA, 10th-14th August,

18. **Umoren**, **S. A.** and Ebenso, E. E. **(2007**). Studies of Anti – corrosive effect of Raphia hookeri exudates gum – Halide mixtures for aluminium corrosion in acidic medium. First International Conference on Environment Research, Technology and Policy (ERTEP), La Royal Palm Hotel, Accra, Ghana, July 16 – 19.

19. **Umoren**, **S. A.** and Ebenso, E. E. **(2007)**. Blends of polyvinyl pyrrolidone and polyacrylamide as corrosion inhibitors for aluminium in acidic medium. First International Conference on Environment Research, Technology and Policy (ERTEP), La Royal Palm Hotel, Accra, Ghana, July 16 – 19.

20. **Umoren, S. A.** (**2007**). Synergistic effect of iodide ions and polylvinyl pyrrolidone on the corrosion inhibition of mild steel in acidic medium.18th Technical Conference Of The Polymer Institute of Nigeria, Hill Station Hotel, Jos, Plateau State, 27th – 29th October.

21. **Umoren**, **S. A.,** Obot, I. B and Ebenso, E. E. (**2007**). Corrosion inhibition of aluminium using exudates gum from *Pachylobus edulis* in the presence of halide ions in HCl. 30th International Conference of the Chemical Society of Nigeria, University of Abuja, 23rd – 27th September.

22. . **Umoren**, **S. A.** and Ebenso, E. E. (**2006**). Studied on the corrosion inhibition of aluminium in acidic medium using polymer blends. 17th Technical Conference Of The Polymer Institute of Nigeria, L. A. Kings, Port Harcourt, Rivers State, 23rd – 24th November.

B. Invited Talks

1. Application of Polymer Nanocomposites in Corrosion Inhibition of Industrial Metal, Lead paper presented at Institute of Polymer Engineers (A Division of the Nigerian Society of Engineers) International Conference, 1st December 2021.

2. Application of Corrosion Inhibitors for Steel Protection in the Oil and Gas Industry: Challenges and Future Perspectives, Keynote speaker, 2nd International Corrosion and Surface Protection (CASP) Conference 2022, Istanbul Turkey, 25 May 2022.
3.

C. Workshop/Seminar attended

1. 6th Workshop on Concrete Deterioration and Its Prevention, RI, KFUPM, 2012.
2. 9th MIT – KFUPM Collaboration Workshop on Clean water and Clean Energy, KFUPM, 2013
3. 23rd Saudi Japan Symposium on Catalysts in Petroleum Refining and Petrochemicals, December 2-3, 2013, KFUPM.
4. Workshop on Microbial Influence Corrosion (MIC), Gulf Hotel, Bahrain, 2nd February, 2014
5. 22nd Joint GCC-Japan Environment symposium on Sustainable GCC Environment Challenge for Our Future, March 3 – 5, 2014, KFUPM.
6. KFUPM 2nd Entrepreneurship Forum on Building successful Entrepreneurship in an Engineering University, 2014, KFUPM.
7. Training workshop on Research Skill Development in the Kingdom, Feb 12, 2014, KFUPM.
8. Joint Workshop Corrosion and Scale Centre of Excellence, Baker Hughes DGTC, Dec. 16, 2014 (speaker).
9. 2nd KFUPM Digital Rock Physics, April-8-9, 2015. KFUPM.
10. 13th MIT – KFUPM Collaboration Workshop on Clean water and Clean Energy, 6-8 January, 2015, KFUPM.
11. A workshop on role of Intellectual Property (IP) in cultivating innovation growth: Toward effective research and industry partnerships in KSA, 26th April, 2015, DTV, KSA.
12. 23th Saudi Japan Symposium on Catalysts in Petroleum Refining and Petrochemicals, December 7-8, 2015, KFUPM, Dhahran, Saudi Arabia.
13. 5th Annual Corrosion Management Workshop, November 28-29, 2016, Sofitel Hotel, Alkhobar, KSA.
14. NACE Jubail Section Corrosion workshop on Corrosion Control of Infrastructure (JUBCOR 2018), 7 – 8th May, 2018, Jubail Industrial City, KSA
15. Workshop on "Vision for Future of KFUPM R&D and Restructuring the Research System", DTV, KFUPM, 24th December, 2018.

16. Emerging Flow Assurance Technologies: Corrosion, Microbiology and Scale, Saudi Aramco, October 7-9, 2019
17. Iron Sulfide Scale workshop 2.0, Dhahran Techno valley Center (DTVC), October 28, 2019.
18. Green Corrosion Inhibitors: Fundamental Aspects, Synthesis and Industrial Applications, 10/04/2019, RI Seminar, KFUPM.
19. Effects of Eco-Friendly Corrosion Inhibitors on the Behavior of Oil and Gas pipelines under Static and Dynamic Loading Conditions, 13/03/2019, RI Seminar, KFUPM.
20. Modern Approaches to Evaluate Corrosion Inhibitors for Oil and Gas Industries, 29/01/2019, RI Seminar, KFUPM.
21. Antifouling Performance of Green Polyurethane Coatings, 09/01/2019, RI Seminar, KFUPM.
22. Corrosion in Oil and Gas Production: Increasing Future Challenges for Corrosion Inhibitors, 09/10/2019, RI Seminar, KFUPM.
23. Titanium-based alloys: Microstructure Control and Corrosion Protection, 13/11/2019, RI Seminar, KFUPM
24. Halliburton Iron Sulfide Scale 2.0 Workshop, 28th October, 2019, Dhahran Techno Valley, KFUPM.
25. Role of Intellectual Property in Economic Development, KFUPM IP Forum, March 2-3, 2020. Dhahran Techno Valley, KFUPM

- ## Membership of Professional Associations

Member, Chemical Society of Nigeria (CSN)
Member, National Association of Corrosion Engineers (NACE)
Member, American Chemical Society (ACS)
Member, International Society of Electrochemistry (ISE)
Member, Nigerian Corrosion Association (NICA)
Member, Polymer Institute of Nigeria (PIN)
Member, Institute of Chartered Chemists of Nigeria (ICCON)
Member, Royal Society of Chemistry (RSC)

- ## Journal Editorial Activities

A. Journal's Editorial Board Membership

1. American Journal of Chemistry (Scientific and Academic Publishing), USA
2. International Journal of Environment and Bio-energy
3. Journal of Materials and Environmental Science
4. Innovations in Corrosion and Materials Science (Bentham Science)

5. Journal of Adhesion Science and Technology (Taylor and Francis)
6. Current Materials Science (Bentham Science)
7. Open Access Journal of Science and Technology
8. Elyns Journal of Material Science and Techniques
9. Materials Science Research India
10. SN Applied Sciences (Springer)
11. Advanced Materials & Applications (Editor)
12. Journal of the Nigerian Society of Physical Sciences
13. Frontiers in Materials (Polymer and Composite Materials) (Associate Editor)
14. Journal of the Nigerian Society of Physical Sciences
15. Petroleum Research (Elsevier) (Associate Editor)

B. Guest Editorship

(1) Guest Editor of Special Issue for Sustainability (MDPI) on Green and Sustainable Corrosion Inhibitor Materials, 2021
(2) Guest Editor of Special Issue for Frontiers in Materials-Polymeric and Composite Materials Section on Polymeric Materials as Anticorrosion and Adsorbents Materials, 2021

C. Journals Review

1. African Journal of Pure and Applied Chemistry (Academic Journals)
2. Scientific Research and Essay (Academic Journals)
3. Journal of the Association of Arab Universities for Basic and Applied Sciences (Elsevier)
4. Colloids and Surfaces: Physicochemical Engineering Aspects (Elsevier)
5. International Journal of Hydrogen Energy (Elsevier)
6. Journal of Environmental Chemical Engineering (Elsevier)
7. Journal of Industrial and Engineering Chemistry (Elsevier)
8. Journal of Taiwan Institute of Chemical Engineers (Elsevier)
9. Journal of Saudi Chemical Society (Elsevier)
10. Journal of Advanced Research (Elsevier)
11. Arabian Journal of Chemistry (Elsevier)
12. Materials Chemistry and Physics (Elsevier)
13. Comptes Rendus Chimie (Elsevier)
14. Corrosion Science (Elsevier)
15. Desalination (Elsevier)
16. International Journal of Biological Macromolecules (Elsevier)
17. International Journal of Industrial Chemistry (SpringerOpen)
18. Arabian Journal of Science and Engineering A – Science (Springer)
19. Journal of Applied Electrochemistry (Springer)
20. Journal of Solid State Electrochemistry (Springer)
21. Research on Chemical Intermediates (Springer)
22. Journal of Materials Science (Springer)
23. Ionics (Springer)
24. Cellulose (Springer)
25. Journal of Adhesion Science and Technology (Taylor and Francis)
26. Chemical Engineering Communications (Taylor and Francis)
27. Green Chemistry Letters and Reviews (Taylor and Francis)
28. International Journal of Corrosion (Hindawi Publishing Corporation)
29. International Journal of Electrochemistry (Hindawi Publishing Corporation)

30. Advances in Chemistry (Hindawi Publishing Corporation)
31. Industrial and Engineering Chemistry Research (American Chemical Society)
32. Environmental Engineering and Management Journal (Romania)
33. Pigment and Resin Technology (Emerald Insight)
34. Surface Reviews and Letters (World Scientific Publishing)
35. Journal of Biomaterials Application (Sage Journal)
36. QScience Connect (Qatar Foundation)
37. Global Journal of Environmental Sciences
38. Journal of Materials and Environmental Science
39. International Journal of Electroactive Materials
40. Materials Sciences and Applications
41. Journal of Korean Chemical Society
42. Portugaliae Electrochimica Acta
43. European Journal of Chemistry
44. Journal of Biodegradable and Composite Polymers (Savvy Scientific Publisher)
45. Journal of Spectroscopy (Hindawi Publishing Corporation)
46. Scientia Iranica
47. Journal of Molecular Liquids (Elsevier)
48. Nano Express (IOP)
49. Iranian Polymer Journal (Springer)
50. Materials Research (SCIELO)
51. Desalination and Water Treatment (Taylor and Francis)
52. Bulgarian Chemical Communications
53. Surface and Interface Analysis (Wiley Interscience)
54. Journal of surfactants and Detergents (Springer)
55. Journal of Taibah University for Science (Elsevier)
56. Malaysian Journal of Analytical Sciences
57. Journal of Materials Engineering and Performance (Springer)
58. Journal of Chemistry (Hindawi)
59. Journal of Electroanalytical Chemistry (Elsevier)
60. Scientific Reports (Nature Publishing Group)
61. IET-Nanobiotechnology
62. Bulletin of Ethiopian Chemical Society.
63. Journal of Chemical Society of Pakistan
64. Advances in Polymer Technology (Wiley Interscience)
65. Transactions of Nonferrous Metals Society of China (Elsevier)
66. Environmental Technology (Taylor and Francis)
67. Corrosion (NACE publication)
68. Advances in Materials Science & Engineering (Hindawi)
69. Materials Science and Engineering B (Elsevier)
70. International Journal of Chemical Engineering (Hindawi)
71. Chinese Journal of Chemical Engineering (Elsevier)
72. Carbohydrate Polymers (Elsevier)
73. International Journal of Biological Macromolecules (Elsevier)
74. Anti-Corrosion Materials and Methods (Emerald Insight)
75. Usak University Journal of Materials Science (Turkey)
76. Journal of Applied Chemistry (Hindawi)
77. Process Safety and Environmental Protection (Elsevier)
78. International Journal of Materials Science (formerly: Zeitschrift fuer Metallkunde)
79. Polish Journal of Chemical Technology (Poland)
80. Engineering Reviews
81. Adsorption Science and Technology (Sage)
82. Journal of Analytical Science and Technology (Springer)
83. Progress in Organic Coatings (Elsevier)
84. ACS Sustainable Chemistry & Engineering (American Chemical Society)
85. Sustainable Materials and Technologies (Elsevier)
86. Corrosion Reviews (De Gruyter)
87. Journal of Petroleum Science and Engineering (Elsevier)
88. Materials Performance and Characterization (ASTM International)
89. Heliyon (Elsevier)
90. Environmental Engineering Science
91. Journal of Bio- and Tribo-Corrosion (Springer)
92. Revista Mexicana de Fisica
93. BioTechnologia (Polish Academy of Sciences)
94. American Journal of Environmental Engineering (Scientific & Academic Publishing)
95. Journal of Applied Research and Technology (Elsevier)
96. ACS Omega (American Chemical Society)
97. Journal of Cleaner Production (Elsevier)
98. Journal of Central South University (Springer)
99. Journal of King Saud University-Science (Elsevier)
100 Construction & Building Materials (Elsevier)

101 Chemical Engineering Journal (Elsevier)
102 Physical Chemistry Chemical Physics (RSC)
103 Environmental Science and Pollution Research (Springer)
104 Environmental Technology and Innovation (Elsevier)
105 Results in Physics (Elsevier)
106 Physical Chemistry Research (Iranian Chemical Society)
107 Chemical Physics Letters (Elsevier)
108 Applied Surface Science (Elsevier)
109 Surfaces and Interfaces (Elsevier)
110 Journal of Alloys and Compounds (Elsevier)
111 RSC Advances (RSC)
112 Industrial Crops and Product (Elsevier)
113 Journal of Hazardous Materials (Elsevier)
114 New Journal of Chemistry (RSC)
115 Rare Metal (Springer)
116 Research Journal of Chemistry and Environment
117 Emergent Materials (Springer)
118 Chemical Papers (Springer)
119 Royal Society Open Science (RSC)
120 Journal of Materials Research and Technology (Elsevier)
121 Open Chemistry (De Gruyter)
122 Bioelectrochemistry (Elsevier)
123 Egyptian Journal of Petroleum (Elsevier)
124 Current Opinion in Solid State and Materials Science (Elsevier)
125 Materials Research Express (IOP Publishing)
126 Chemistry Africa (Springer)
127 The European Physical Journal Plus (Springer)
128 Indian Journal of Chemical Technology.
129 International Biodeterioration & Biodegradation (Elsevier)
130 Polymer Testing (Elsevier)
131 Journal of Chemical Research (SAGE)
132 Journal of Magnesium and Alloys (Elsevier)
133 Brazilian Journal of Chemical Engineering (Springer)
134 Journal of Harbin Institute of Technology (New Series) (
135 Electroanalysis (Wiley)
136 International Journal of Minerals, Metallurgy and Materials (Springer)
137 Thin Solid Films (Elsevier)
138 Journal of Molecular Structure (Elsevier)
139 BioNanoScience (Springer)
140 Applied Surface Science Advances (Elsevier)
141 Frontiers in Materials (Frontiers)
142 Green Processing and Synthesis (De Gruyter)
143 Journal of Mechanical Behaviour of Materials (De Gruyter)
144 Applied Nanoscience (Springer)
145 Results in Surfaces and Interfaces (Elsevier)
146 Water and Environment Journal (Wiley)
147 Journal of Polymer Engineering (De Gruyter)
148 Vietnam Journal of Chemistry
149 European Journal of Environmental and Civil Engineering (Taylor and Francis)
150 International Journal of Chemical Reactor Engineering (Hindawi)
151Molecules (MDPI)
152 Journal of Dispersion Science and Technology (Taylor and Francis)
153 Journal of Failure Analysis and Prevention (Springer)
154 International Journal of Chemical Kinetics (Wiley)
155 Materials Today Chemistry (Elsevier)
156 Journal of the Iranian Chemical Society (Springer)

9. Other Activities

9.1 External Examiner Engagements

S/N	Thesis Title	Degree	Name of University	Date
1	Monitoring and Evaluation of Corrosiveness of Mild Steel Exposed To Surface Soil As Well Subsoil in Field Conditions for Long	PhD	SRM Institute of Science and Technology, Kattankulathur. India	September, 2019

	Term and Simulated Soil Environment			
2	Synthesis and Characterization of Organic-Inorganic Hybrid Nanocomposite Coatings For Corrosion Protection of 316l SS in Artificial Sea Water	PhD	University of Madras, Chennai, India	December, 2018
3	Experimental and theoretical studies on corrosion inhibition of mild steel in hydrochloric acid	PhD	Indian School of Mines, Dhanbad 826004, INDIA	March 2018
4	Chalcone derivatives as anticorrosive additives for mild steel in acid medium:Experimental and theoretical investigations	PhD	PSGR Krishnammal College for Women (Affiliated to Bharathiar University), India	December, 2017
5	Corrosion inhibition and adsorption potential of biomass extracts-leaves and flowers of *Heliconia rostrata and Canna indica* on corrosion of mild steel / aluminium 1100 in 1M HCl	PhD	Avinashilingam Deemed University for Women, Coimbatore, Tamil Nadu, India	September,2017
6	Enhanced corrosion resistance of mild steel in hydrochloric acid by novel polymer composites poly (vinyl alcohol – aniline derivatives) and poly (vinyl pyrrolidone – aniline derivatives	PhD	Avinashilingam Deemed University for Women, Coimbatore, Tamil Nadu, India	July, 2012
7	The effect of aromatic aldehyde and amine based Schiff bases for corrosion of Al-Mg alloy in hydrochloric acid	PhD	Gujarat University, Navrangputa, Ahmedabad, India	January 2012
8	Adsorption and quantum chemical studies on some dyes as corrosion inhibitors for mild steel in acidic medium	MSc	Northwest University (Mafikeng campus), Mmabatho South Africa	August, 2014.
9	Gravimetric, electrochemical and quantum chemical studies of some naphthalocyanine and naphthalocyanine derivatives as corrosion inhibitors for aluminium in acidic medium.	MSc	Northwest University (Mafikeng campus), Mmabatho South Africa	August, 2014.
10	Synthesis, characterization, antimicrobial studies and corrosion inhibition potential of 1, 8dimethyl-1,3,6,8,10,13-hexaazacyclotetradecane.	MSc	Northwest University (Mafikeng campus), Mmabatho South Africa	August, 2014.
11	Adsorption, thermodynamic and quantum chemical studies of some ionic liquids as corrosion	MSc	Northwest University (Mafikeng campus),	August, 2014.

	inhibitors for mild steel in HCl.		Mmabatho South Africa	
12	Experimental and quantum chemical studies of some imidazolium based ionic liquids as corrosion inhibitors for mild steel in acidic medium	MSc	Northwest University (Mafikeng campus), Mmabatho South Africa	May, 2012.
13	Investigation of Anticorrosive properties of some ionic liquids on selected metals	MSc	University of Venda, South Africa	February, 2018

9.2 Consultancy services

S/N	Project Title	Funding Body/ Organization	Nature of Consultancy	Role
1.	Novel, nanostructured carbogel materials with functional electrochemical properties obtained from natural polymers	National Science Centre, Poland	Research Proposal Review	Review of proposal and recommendation for funding
2	Development of Zwitterionic Corrosion Inhibition Coatings for Mild Steel	American Chemical Society (PRF)	Research Proposal Review	Review of proposal and recommendation for funding
3	Irradiated Polymer Nano-Coatings for Metal protection	Croatian Science Foundation	Research Proposal Review	Review of proposal and recommendation for funding
4	Phototropic hybrid liquid crystal dendrimers as nanophase formation materials. A bioinspired strategy for the fabrication of photoresponsive devices applied to harvesting, conversion and storage of sunlight energy	Chilean funding agency for scientific and technological research (FONDECYT)	Research Proposal Review	Review of proposal and recommendation for funding
5.	Corrosion inhibition in oil and gas industries using new fine-tunable pH-responsive polymers	DSR, University of Dammam, KSA	Research Project Consultant	Providing consultancy services to the funded project.
6	Conductive polymers modified paints for corrosion protection of carbon steel	DSR, King Khalid University, Abha, KSA	Research Project Consultant	Providing consultancy services to the funded project.

11. Useful Links

Linkedln: https://ng.linkedin.com/pub/dir/Saviour/Umoren

Goggle Scholar: **Saviour A. Umoren - Google Scholar Citations**
scholar.google.com/citations?user=R5h8fLAAAAAJ&hl=en

ResearchGate: https://www.researchgate.net/profile/Saviour_Umoren