

## **Dr. Kamal Khalifa Taha**

Dept. of Chemistry, College of Science, Al Imam Mohammad Ibn Saud Islamic University.

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### **RESEARCH FOCUS**

#### **Nanotechnology**

Clays Catalytic Effect in Petroleum Industry

Corrosion Chemistry & NDT

Natural Products & Pharmaceuticals

Environment

### **EDUCATION**

**Ph.D.** (August 1999 - December 2002), Central College, Bangalore University, Bangalore, India.

**Thesis Title:** Studies on the Corrosion and Corrosion Inhibition of Brass Copper and Zinc in Perchloric Acid.

**Supervisors:** Prof. B.S. Sheshadri & Prof. M.F. Ahmed, Bangalore University, Bangalore, India.

**Masters in Science (M.Sc.),** Khartoum University, Khartoum, Sudan.

**Thesis Title:** Investigation of the elemental Chemistry (March 1998), contents of some environmental samples from the Blue and White Niles around Khartoum Area.

**Supervisors:** Dr. Ali Hamood & Dr. Mohamed A. H. Tayeb

**Bachelor of Science & Education (B.Sc. & Ed.)** Chemistry, 1<sup>st</sup> division. (April 1978), Khartoum University, Khartoum, Sudan

### **TEACHING EXPERIENCE**

- **Associate Professor** (2013 to date), College of Sciences, Al Imam Mohammad Ibn Saud Islamic University.
- **Associate Professor** (2011 to 2013), University of Bahri (formerly Juba), Khartoum, Sudan
- **Assistant Professor**, (March 2003 to 2011), College of Applied and Industrial Science, Juba University, Sudan.
- In charge of Head of Examination (2003 – 2004), College of Applied and Industrial Science, Juba University, Sudan.
- **Lecturer** (February 1997 to May 2003), College of Applied and Industrial Science, Juba University, Sudan.
- **Teaching Assistant** (March 1994 to March 1997), College of Applied and Industrial Science, Juba University, Sudan.

- **Dean**, College of Applied and Industrial Sciences, University of Bahri (4<sup>th</sup> August 2011 till date)
- **Deputy Secretary for Academic Affairs (Feb. 2009 - August 2011)**, Juba University, Sudan.
- **Head of Chemistry & Industrial Chemistry Department (2006- 2009)**, College of Applied and Industrial Science, Juba University, Sudan.

**AREA OF WORK:**

Courses I teach include: Corrosion, Cathodic protection, Electrochemical plating, Scales formation and removal, Thermodynamics, Batteries and accumulators, Non-destructive testing, Quantum Chemistry, Spectroscopy (UV, IR, NMR, ESR, Mass spectroscopy, flame photometry, ICP), Chemical Kinetics, Nuclear Chemistry, Molecular Symmetry, Catalysis and Surface Chemistry, Phase equilibria, Electrochemistry, physical pharmacy & introduction to physical chemistry.

**Part Time Teaching Assistant** at different universities including Khartoum University,

**Part time Jobs :**

- **Khartoum University**, Faculty of Science: teaching quantum mechanics & fine structure courses for M. Sc. Students.
- **Islamic University, Juba University etc. (1991-1993)**
- **Rabat National University**, Faculty of Pharmacy: teaching classes of physical chemistry, analytical chemistry & physical pharmacy.

**Instrumental work experience :**

Worked with the following instruments, AAS, UV, FT-IR, AUTOLAB ELECTROCHEMICAL SETUP FOR POLARIZATION, CV AND IMPEDANCE, GC, HPLC, GC-MS, FLAME PHOTOMETER, XRD & XRF.

**RESEARCH EXPERIENCE**

- **Supervision:** 4 Ph.D. and 8 M.Sc. students.

- **Area of Research**

- **Red Sea :**

Conducted a research in the Red Sea to study the effect of corrosion of zinc and steel. The experimental work covered weight loss, polarization (logarithmic & linear), electrochemical impedance spectroscopy (EIS), scanning electron microscopy (SEM), electron diffraction analysis by X-ray (EDAX).

- **Crude Oil:**

The research was conducted to furnish data base about Sudanese crude by studying different properties like pour point, kinematic viscosity, wax, salt, sulfur and asphaltene content.

- **Natural Product:**

Flavonoids from alcoholic extracts were isolated with TLC. Their characterization was carried out using UV screening, UV spectroscopy, FT-IR spectroscopy, MS and GC.

### **Other Professional Activities**

**External examiner** for M.Sc. thesis at Al-Nelien University - 2004 - date.

**Internal examiner** for M.Sc. thesis at Juba University 2003 - date.

### **Seminars**

- **NDT techniques**, University of Khartoum - 2006.
- **Crude analysis**, Juba University – 2006.
- **Rotating disc corrosion**, Sudan Institute for Natural Sciences – 2005.
- **Pipeline corrosion monitoring**, Sudan Institute for Natural Sciences – 2004.
- **Corrosion Inhibitors**, Sudan Institute for Natural Sciences (2004)
- **Introduction to Corrosion**, Sudan Institute for Natural Sciences (2003).
- Training course for young scientist organization – National institute for research and industrial consultancy.
- **Sulfur containing amino acids & iodide as inhibitors for Brass in perchloric acid**, the 90<sup>th</sup> Indian Science Congress 2003, Bangalore University, Bangalore, India
- **Benzimidazole & Substituted Benzimidazole as corrosion inhibitors for brass, copper and zinc in perchloric acid**, the 10<sup>th</sup> convention of Electrochemical Society of India, 2001, Karikudi, India.

### **Publications:**

- K. K. Taha, B. S. Sheshadri & M. F. Ahmed, Aliphatic Amines Inhibition for Brass Corrosion, Sudan J. of Basic Sciences (2005), Vol. 7, pp. 119 – 132.
- B. S. Sheshadri, M. F. Ahmed & K. K. Taha, Corrosion Inhibition of Brass by Triazoles, Bulletin of Electrochemistry (2003), Vol. 19, pp. 449 – 454.
- K. K. Taha, B. S. sheshadri & M. F. Ahmed (2008), Benzimidazole and Substituted Benzimidazoles as Corrosion Inhibitors for Brass in Perchloric Acid, Industrial Research Journal, Vol. 6, pp. 25 – 49.

- K. K. Taha, B. S. Sheshadri, M. F. Ahmed & V. S. Muralidharan (2006), Corrosion Inhibition of Brass by thiocarbamides, *Indian Journal of Chemical Technology*, Vol. 13, pp. 128 – 134.
- Kamal K. Taha, B. S. Sheshadri, M. F. Ahmed & V. S. Muralidharan (2008), Corroion Inhibition of Brass by Amino Acids and Iodide ions in HClO<sub>4</sub>, *J. Bangladesh Chem. Soc.*, Vol (21), pp. 50 – 60.
- K. K. Taha, A, Elnour & M. A. H. Eltayeb (2009), Characterization of Nigella Sativa Fixed Oil, *Juba J. of Arts and Sciences*, Vol. 8, pp. 9 – 18.
- K. K. Taha & A. Muhideen (2009). Characterization of Anti-corrosion Triazole Film, *Science and Technology Journal, Sudan University for Science and Technology*. Vol. 10 (2) – pp. 92 – 97.
- K. K. Taha, A. Muhideen & A/ Allah Gutbi (2009). Inhibition of zinc corrosion in the Red Sea water. *Industrial research J.*, Vol. 7, pp. 84 – 97.
- K. K. Taha et al. (2008), Investigation of the elemental Contents of Some Samples of Sediments and Fish from the blue Nile and white Nile around Khartoum using AAS and XRF, *Proceedings of the 9<sup>th</sup> Arab Conf. on the Peaceful uses of Atomic Energy, Beirut 13–16 December 2008*.
- Kamal Khalifa Taha, A/ Alla Gutbi, Musa El'bala & Anjum Muhdeen (2010). Study of Corrosion Inhibition in Acidic Medium of Rotating Brass Disc, *Industrial Research Journal*, Vol. 8, pp. 1 – 14.
- Musa E. Mohamed , and Kamal K. Taha, (2011). Quantum Chemical Calculations on Some Substituted Benzothiazole Derivatives as Corrosion Inhibitors for Brass in Acidic Media, *Nature and Science*, 9(8), pp. 34 – 39.
- Musa E. Mohamed , and Kamal K. Taha, (2012). Quantum Chemical Calculations on Some Thiocarbamides as Corrosion Inhibitors for Brass in Acidic Media, *Nature and Science*, 10(3), pp. 55 – 60.
- Kamal K. Taha\*, Tagelsir M. Suleiman\*. & Musa A. Musa\* (2011). Performance of Sudanese Activated Bentonite in Bleaching Cottonseed Oil, *J. Bangladesh Chemical Society*, 24 (2), pp. 191 – 201.
- K. K. Taha , R. H. Elmahi , E. A. Hassan , S. E. Ahmed and M. H. Shyoub (2012). Analytical Study On Three Types Of Gum From Sudan, *JOURNAL OF FOREST PRODUCTS & INDUSTRIES*, 2012, 1(1), : 11-16.

- Musa E. Mohamed , and Kamal K. Taha, (2012). Theoretical Study on the Structural Effect of Sulfur, Containing Amino Acids As Corrosion Inhibitors On Brass In HClO<sub>4</sub>, Researcher 4(11); pp. 92 – 97.
- K. k. Taha, M. E. Mohamed, S. A. Khalil and S. A. Talab (2013). Inhibition of Brass Corrosion in Acidic Medium using Thiazoles. International Letters for Chemistry, Physics & Astronomy, 9 (2); pp. 87 - 102.
- Ali M. El-hassan; Shayoub M E , Abdalkreem M. abdalkreem; Osman H M and Kamal Khalifa (2012). Design, Formulation, and Evaluation of *Senna* Effervescent Tablets, *JOURNAL OF FOREST PRODUCTS & INDUSTRIES*, 2012, 1(2), 21-25 ISSN: 2166
- K. K. Taha, M. E. Mohamed, S. A. Khalil, S. A. Talab (2013). Inhibition of Brass Corrosion in Acid Medium Using Thiazoles. *International Letters of Chemistry, Physics and Astronomy*, 9(2) ;pp. 87-102
- Kamal K.Taha, Mona I. Shmou, Maisoon H.Osman, M. H. Shayoub (2013). Soil-Plant Transfer and Accumulation Factors for Trace Elements at the Blue and White Niles. *Journal of Applied and Industrial Sciences*, 2013, 1 (2): 97-102, ISSN: 2328-4595
- *Ammar Elsanousi, Nazar Elamin & kamal Khalifa Taha,(2013) Magnetic field effect on the photocatalytic activity of self organized TiO<sub>2</sub> nanotubes, Research and Reviews in Electrochemistry Volume 4(4),*
- Ammar Elsanousi, Kamal Khalifa Taha and Nazar Elamin, (2013). Synthesis of porous Titania and its Application to Dye-sensitized Solar Cells, *Advanced Material Letters* (DOI-10.5185/amlett.2013.5472).
- A. Saifelnasr, M. Bakheit, K. Kamal, A. Lila, (2013). Calcium Carbonate Scale Formation, Prediction and Treatment (Case Study Gumry Oilfield-PDOC). *International Letters of Chemistry, Physics and Astronomy*, vol. 12, pp. 47-58.
- Musa El Balla Mohamed and Kamal K. Taha (2013). Computational Simulation of the Molecular Structure of Benzimidazole and Substituted Benzimidazoles as Corrosion Inhibitors for Brass in Perchloric Acid. *American Journal of Research Communication*,

### Awards and Honors

- Recipient of the National Award for **Outstanding Researcher**, Ministry of Higher Education, Sudan- 2004.
- Indo-Sudan exchange Programme Scholarship 1999 - 2000 for Ph.D. Programme in Bangalore University, Sponsored By Government of India

### Training:

- Nanotechnology ; Nanomaterials synthesis & Nanotechnology for Energy Solutions,(2 – 24- July 2012), Ministry of Science & Technology, Sudan.
- Innovative Methods for Teaching Science at the University Level, UNISCO, 15 – 17 Jan. 2005, Sans'a, Yemen.
- Laser & Its Applications, Sudan University for Science & Technology, 2010.
- Unit Operations, University Of Jezera, Sudan, 2008.
- XRF techniques, Liden University, 1997.

### **Professional Membership**

- Active member (No. A 1572) of The Society for Advancement of Electrochemical Science & Technology, Karaikudi- India.
- Technical Editor for the Asian Journal of Applied Sciences.
- Technical Editor for the Asian Journal of Industrial engineering.
- Technical Editor for the Asian Journal of Material Science.
- Technical Editor for Current Research in Chemistry.
- Technical Editor for International Journal of Chemical Technology.
- Reviewer Korean Journal of Chemical Engineering.

### **Language Proficiency**

- **English**--Both Spoken and Written
- **Arabic**-- Both Spoken and Written

### **Computer Skills**

- Windows 95/2000, Microsoft Word, Excel, PowerPoint, Adobe Photoshop
- Software for Chemical Data analysis: Origin, Chemwin, SPSS.
- Using Internet, email

### **Personal Information :**

- Marital Status : Married
- Date & Place of Birth : 10<sup>th</sup> December 1960, Umrawaba, Sudan.