

Ahmed N. H. Hammouda

Personal Information:

Marital status: Married

Date of Birth: 1/ 11/ 1978

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General Information

My research focuses on the design of new drugs that will alleviate the inflammation associated with rheumatoid arthritis. These drugs need to be administered dermally and be selective for Cu(II) so, that they do not affect the speciation of other metal ions in blood plasma. Recently, I have completed the experimental work on a joint project with *Department of Biological Sciences, University of Cape Town*. This involved measuring the migration of Li and Sr in plants and soil. In all >1000 samples were prepared and measured using Microwave Plasma-Atomic Emission Spectrometer (MP-AES).

Education:

Postdoctoral fellowship in Chemistry- University of Cape Town, 2015.

“Potentiometric and Spectroscopic Studies on Copper Peptide Complexes as Anti-Inflammatory Drugs”

Doctor of Philosophy (PhD), 2015.

Thesis: *“Development of Copper Peptide Complexes as Anti-Inflammatory Drugs”*. University of Cape Town, Cape Town-South Africa.

Master of Science (M.Sc.), 2006.

Thesis: *“Synthesis, Physical Characterization and Biological Activity of some Amino acid Schiff Base Complexes”*. Benghazi University, Benghazi-Libya.

Bachelor of Science (B.Sc.), (2000)

Benghazi University, Benghazi- Libya.

Work Experience:

Assistant Professor (2019)

Chemistry Department Science Faculty University of Benghazi.

Lecturer (2007- 2010).

Department of Chemistry, Omar Al-Mukhtar University, Libya.

Chemistry Teacher (2001 - 2006).

The chemistry department, Libya Center for Gifted Students, Benghazi-Libya.

Undergraduate level courses taught:

General Chemistry.

Transition metal chemistry and Coordination chemistry (Electronic spectra).

Graduate Research Co-supervisor

Sana Abdal-hamed Ali MS.c 2019
Copper(II) Chelating Agents for Alleviation of Inflammation Associated with Rheumatoid Arthritis.

Khadijah Dauda PhD, 2015-2018

Supervisor: Professor Graham Jackson
Metal complexes of Anti-Tubercular (TB) drugs.

Giselle Vicatos MS.c & PhD 2014-2019

Supervisor: Professor Graham Jackson
In Vitro Studies of Dermal Absorbed Cu(II) Tripeptide Complexes as Potential Anti-Inflammatory Drugs.

Laa-iqa Rylands Hons 2014-2015

Supervisor: Professor Graham Jackson
Formation Constants for Glycinate-Nickel(II) Complexes.

Daniyyel Varsijous Hons 2013-2014

Supervisor: Professor Graham Jackson
Potentiometric investigation of copper based anti-inflammatory drugs.

Instruments

Potentiometric Titration.
Uv-Visible, IR and NMR Spectroscopy.
Microwave Plasma-Atomic Emission Spectrometer (MP-AES).

Biological Activity

Microbiology Bacterial Culture. 2004-2006

Botany department, Faculty of Science, Benghazi University.

Supervisor: Professor S. F. Ben-Gewereif

Dermal Absorption.

2013-2018

Chemistry Department, University of Cape Town

Supervisor: Professor Graham Jackson

Memberships in Professional Societies

Member of Libyan Chemical Society.

Member of South African Chemical Institute.

Member of Health & Safety Committee in Chemistry Department, University of Cape Town.

Publications:

1-"N-Salicylidene-amino acid to Complexes of Divalent Transition Metal Ions from the Cysteine", *Journal of Sebha University, Pure and applied science*, 5 (1), 16-25(2006).

<http://ecc.isc.gov.ir/showJournal/25029/27048/508020>

2-"Preparation and physical characterization of some Schiff base ligands derived from Salicylaldehyde and Tyrosine with divalent metal ions", *The Egyptian Science Magazine*, 2 (4), 83-87 (2005).

- 3-" **Chelation Behaviour and Biological Activity of Divalent Metal Ions towards Schiff Base derived from Salicylaldehyde and Histidine**" *Basic Science and its application Journal, Science Faculty, Garyounis University*, **1** (1), 196-209(2006).
- 4-" **Preparation, physical characterization and antibacterial activity of Schiff base chelates derived from Salicylaldehyde and Tryptophane**", *Jerash for researches and studies*,**11**(1), 45-52 (2006, accepted for publication 2007).
- 5-"**Amino Acid Schiff base Complexes of Mn(II), Co(II), Ni(II), Cu(II) and Cd(II)Transition Metal Ions**", *Egypt J. Anal. Chem.*, **16**, 16-23 (2007).
- 6-"**Complexation behaviour of Ni(II) and Cu(II) ions towards Schiff base derived from Salicylaldehyde and aniline**", *journal of Science and its applications*, **2** (1), 278-287 (2007).
- 7-"**Chemical behavior of the Schiff base towards divalent transition metal ions**", *Journal of Sebha University, Pure and applied science*, **7**(1), 34-39 (2008).
<http://ecc.isc.gov.ir/showJournal/25029/37269/614185>
- 8-"**Coordination Behavior and Antibacterial Activity of Schiff Bases Derived from 4-dimethylaminobenzaldehyde with Glycine and L-Asparagine toward Ni (II) and Rh (III) Ions**", *Chapter 20*(228-237), **10th** International Chemistry Conference in Africa (10ICCA) 18/21/2007. Benghazi-Libya.
- 9-"**Preparation and Antibacterial Activity of Mixed Ligand Complexes of Co(II), Ni(II), Cu(II) and Cd(II) Derived from 1-Phenylazo-2-Naphthol and Salicylaldehyde**", *E-Journal of Chemistry*, vol. 8, no. 1, pp. 43-48, 2011. doi:10.1155/2011/519273.
- 10-" **Synthesis and Antibacterial Activities of Some Schiff Bases**", *E-Journal of Chemistry*, vol. 8, no. 1, pp. 212216, 2011. doi:10.1155/2011/258340.
- 11- "**Synthesis and Addition Reactions of Didehydropeptides**" The 14th Arab Chemistry Conference & Exhibition (ACC-14) 31 March -21 Feb. 2008 Tripoli-Libya.
- 12-"**Preparation and Antibacterial Activities of Some Schiff Bases**" The 14th Arab Chemistry Conference & Exhibition (ACC-14) 31 March -21 Feb. 2008 Tripoli-Libya.
- 13-"**Synthesis and Characterization of Mixed Ligand Complexes Derived from 1-Phenylazo-2Naphthol and Benzoi**" The 14th Arab Chemistry Conference & Exhibition (ACC-14) 31 March 21 Feb. 2008 Tripoli-Libya.
- 14-"**The cytotoxicity of garlic-related disulfides and thiosulfonates in WHCO1 oesophageal cancer cells is dependent on S-thiolation and not production of ROS**" *Biochimica et Biophysica Acta (BBA)-General Subjects* 1860(7)2016. doi/10.1016/j.bbagen.2016.03.032.
- 15-"**Formation and Spectral Properties of Metal Ion Complexes of Tripeptides**" *Inorganica Chimica Acta* 453 (2016) 29–38. doi/10.1016/j.ica.2016.07.043

- 16-“Solution equilibria and the X-ray structure of Cu(II) complexation with 3-amino-N-(pyridin-2-ylmethyl)propanamide, a pseudo-mimic of human serum albumin” *Dalton Trans*,45(2016), 17010-17019. DOI: 10.1039/c6dt02974d.
- 17-“*In vitro* Studies of Dermally Absorbed Cu(II) Tripeptide Complexes as Potentia Anti-inflammatory Drugs” *Polyhedron* 123 (2017) 23–32. doi/10.1016/j.poly.2016.10.048
- 18- “Potentiometric and spectroscopic studies of the complex formation between copper(II) and Gly-Leu-Phe or Sar-Leu-Phe tripeptides” *Polyhedron* 170 (2019) 553–563. doi/10.1016/j.poly.2019.06.011
- 19-“Stability, Solution Structure and X-ray Crystallography of a Cu(II) Diamide Complex” *Inorganica Chimica Acta* 498 (2019) 119132. doi.org/10.1016/j.ica.2019.119132
- 20-“Immobilised of 4-(Dimethylamino)benzaldehyde (DABD) as an optical reflectance sensor for copper(II)” *Journal of Applied Chemistry (IOSR-JAC)* 12(10) (2019) 49-53. doi.org/10.9790/5736-1210014953
- 21-“Preparation and Antibacterial Activity of Mixed-Ligand Complexes of Some Divalent Transition Metal Ions” *The Libyan Conference on Chemistry and Its Applications, LCCA 1:1(2019)41- 47.*
- 22-“Synthesis and Characterization of Cr(III) & Fe(II) Bis(2-Methoxybenzylidene)Biphenyl-4,4'-Diamine Complexes” *Open Journal of Inorganic Chemistry*, 10 (2020) 06-14. doi.org/10.4236/ojic.2020.101002
- 23-“Preparation and Spectral Studies of Cr(III), Fe(II) Chelates of Schiff bases Derived from Benzidine and 2-Nitrobenzaldehyde” *Journal of Applied Chemistry (IOSR-JAC)* 13(3) (2020) 29-35. doi.org/10.9790/5736-1303022935
- 24-“Speciation, Structure and Assessment of Quantum Mechanical Analysis for Copper (II) Tripeptides Complexes” under Publication 2020.

Conferences:

- 2nd Symposium of Science (1-2/6/2005), Garyounis University, Benghazi-Libya.
- 7th Conference of Analytical Chemistry (21-24/1/2006), Cairo University, Egypt.
- 3rd Symposium of Science (3-4/6/2006), Garyounis University, Benghazi-Libya.
- 4th Symposium of Science (12/6/2007), Garyounis University, Benghazi-Libya.
- 10th International Chemistry Conference in Africa (10ICCA) 18/21/2007. Benghazi-Libya.
- 14th Arab Chemistry Conference and Exhibition (ACC-14) (2008), Tripoli -Libya
- 1st International Conference in Pharmaceutical Sciences (22-24/12/2009), Omar Al-mukhtar University, Al-Baida-Libya.
- 41st National Convention of the South African Chemical institute (SACI)(01-06th/12/2013)East London.
- 41st International Conference on Coordination Chemistry (ICCC-41) (21st -25th July 2014) in Singapore.
- International Conference on Pure and Applied Chemistry (ICPAC 2014)(23rd - 27th June 2014) in Mauritius.

13th International Symposium on Applied Bioinorganic Chemistry (ISABC13) (12 - 15 June 2015) NUI Galway, Galway, Ireland.

South African Chemical Institute (SACI-24th/10/2016) Young Chemists Symposium at Stellenbosch University.

10th Anniversary of Protein & Peptide Conference (PepCon 2017) 22-24 March 2017, Fukuoka, Japan.

2nd Libyan Conference on Chemistry and Its Applications (LCCA 09-11 May 2017) Benghazi, Libya. Inorganic Conference 2017 and Carman Physical Chemistry Symposium of the South African Chemical Institute, Western Cape from 25th – 29th June 2017.

World Congress on Plasma Science & Technology (WCPST 2018) hosted in Stockholm, Sweden during 04 – 07 November 2018.

24th Egyptian Conference in Chemistry 11-14 December 2018, Marsa Alam, Egypt.

3rd Libyan Conference on Chemistry and Its Applications (LCCA 07-09 Sep 2019) Benghazi, Libya

3rd Libyan Conference on Medical and Pharmaceutical Sciences (3rd LCMPS 2019) Tripoli –Libya.