

Curriculum Vitae

Dr: Mohammed Musabah Mohammed Al-Hinaai

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Educational Background

- Ph.D. in Chemistry, Sultan Qaboos University, 2015.
- MSc. in Chemistry, Sultan Qaboos University, GPA 3.23, 2007.
- Bridging year (Chemistry, Sultan Qaboos University;2004-2005).
- Bachelor of Education (Major: Chemistry; Minor: Physics), Sultan Qaboos University, 1997.
- Secondary School Certificate, Science Division, Suhar secondarySchool, Suhar, Oman 1993.

Title of Ph.D. Dissertation: Development of solid-state electrochemiluminescence sensors based on immobilization of tris(2-2'-bipyridyl)Ruthenium(II) onto conducting polymers for pharmaceutical application

Supervisors: Dr. Emad Khudaish (*Sultan Qaboos University*, Oman)

Title of Master's Thesis: Flow injection chemiluminescence determination of some drugs in pharmaceutical preparations using tris(2,2'-bipyridyl)ruthenium(II)-peroxydisulfate system.

Supervisor: Professor Fakhr Eldin O. Suliman (*Sultan Qaboos University*, Oman)

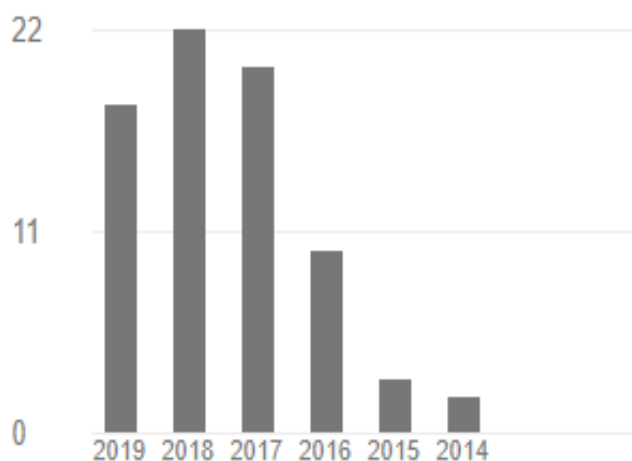
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Highlight of Research Profile:

1- Google Scholar:

(https://scholar.google.com/citations?view_op=list_works&hl=ar&user=I8J2ZkoAAAAJ)

Citation Indices	Total
Citations	75
h-index	4
i10-index	3



2- Research gate:

(https://www.researchgate.net/profile/Mohammed_Alhinaai/scores)

RG Score	17.51
Citations	89
h-index	5

3- Research Grants:

As The Principal Investigator (PI): The Research Council (TRC), Sultanate of Oman ,the research grant numbers (RC/SCI/CHEM/11/01).

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Career History

- Visitor lecturer at Oman College of Health Sciences, North AlBatinah (2016-2019) Ministry of Health, Sultanate of Oman
- Chemistry supervisor and trainer (2002-2017) Ministry of Education, Sultanate of Oman
- Worked as a senior teacher of Chemistry in a high school, (2000 – 2002) Ministry of Education, Sultanate of Oman
- Worked as a science teacher in intermediate schools for 3 years, (1997-2000).

Brief Synopsis of Research:

- In the present work, novel, efficient and stable solid-state electrochemiluminescence (ECL) sensor were developed base on immobilization of tris(2,2'bipyridine) Ruthenium(II) ($\text{Ru}(\text{bpy})_3^{2+}$) onto electropolymerized conducting polymers.
- The selected conducting polymers were electropolymerized onto GCE and used as main base materials for immobilized $\text{Ru}(\text{bpy})_3^{2+}$.
- Several approaches were investigated in order to increase the amount of $\text{Ru}(\text{bpy})_3^{2+}$ at the outer surface of modified electrode.
- The constructed surfaces were characterized by XPS, AFM, EIS and CV.
- The produced sensors were used for analysis of number of tertiary amines and TPA as model compound

Teaching and training Skills:

- Conduct training sessions and workshops for teachers.
- The Ability to Measure and Assess Staff Training Needs.
- Design papers and scientific presentations along with course materials for students and teachers.
- Supervise teachers work for government and private corporations.
- Supervise teachers in designing and preparation of laboratory work.
- Evaluate teachers in the classrooms and submit reports concerning their performance.
- Member of Americans Association of Science Teachers since 2009.
- Participate in teaching some introductory courses during my PhD study such as CHEM2101, CHEM2201 and CHEM3304.
- Teaching at Oman College of Health Sciences, North Batinah (2016-2018) Ministry of Health, Sultanate of Oman/ (Biochem, Nur102) Fall2016-2018
- Involved in supervising 5 students towards their final year projects (CHEM5000).
- Involved in teaching physical chemistry laboratory (CHEM3335) as a demonstrator.
- Have lead several seminars for undergraduates in the chemistry department.

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Other Skills:

- Design and perform experiments.
- Excellent databases used and involve in research work.
- High safety skills.
- Collect data and analyze it.
- Make required change in project plane according the obtained results.
- Write short or full reports and manuscripts.
- Develop new analytical methods based on surface materials synthesis
- Fabrication of active and robust sensors for pharmaceutical applications.
- Experts in electrochemiluminescence (ECL) technique in terms operation and controlling various experimental conditions for smooth performance.
- Interested in researches of drug delivery mechanism and renewable energy.
- Develop new teaching protocols and concepts.
- Participate actively in the social-media concerning the development of education in Oman.
- A great interest in the constructing of chemical and biochemical ECL solid-state sensors and looking forward to develop renewable energy, catalysis surface and capacitors.

Publications/Conference Papers

- **M. M. Al-Hinaai**, JA Rather, EA Khudaish, Electrochemiluminescence Quantification of Amine Functionalized Drugs at Ru (bpy) 32+/poly (4-amino-diphenylamine) Sensor Incorporated with AuNPs: Potential Analysis of Ephedrine, Journal of The Electrochemical Society (2018) 165 (11), H681-H687
- EA Khudaish, F Al-Nofli, JA Rather, **M. M. Al-Hinaai**, K Laxman, and HH Kyaw, Sensitive and selective dopamine sensor based on novel conjugated polymer decorated with gold nanoparticles, Journal of Electroanalytical Chemistry (2016) 761, 80-88
- E. A. Khudaish, **M. M. Al-Hinaai** and S. H. Al-Harthi, A solid-state sensor based on tris(2,2-bipyridyl)ruthenium(II)/poly(4-aminodiphenylamine) modified electrode: Characterization and applications, **Sensors and Actuators, B:** (2013), 185, 478-487 (**IF=3.84**)
- E. A. Khudaish, **M. M. Al-Hinaai**, S. H. Al-Harthi and K.Laxman, Electrochemical oxidation of chlorpheniramine at polytyramine film doped with ruthenium (II) complex: Measurement, kinetic and thermodynamic studies, **Electrochimica Acta** 135 (2014) 319–326 (**IF = 4.08**)
- **Alhinaai, Mohammed M.**, and Emad A. Khudaish, Electrochemiluminescence sensor based on tris(2,2'-bipyridyl)ruthenium(II)/poly(AHNSA) for chlorpheniramine maleate analysis, **LUMINESCENCE** (2014), 29, 111. (**IF = 1.67**)
- **M. M. Al-Hinaai** , E. A. Khudaish, S. H. Al-Harthi, Fabrication and Surface Characterization of Poly(4-aminodiphenylamine) Film Modified Electrode and its Application for Lead and Cadmium Determination, **SQUJS** (2014), 19(1), 43-53.

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- **M.M. Al-Hinaai**, E.A. Khudaish, S.H. Al-Harhi and F.O. Suliman, A solid-state electrochemiluminescence sensor based on Ru(bpy)₃²⁺/PAHNSA composite modified electrode: Characterization and applications, **Electrochimica Acta** 176 (2015) 179–187 (**IF = 4.08**)
- F.E. Suliman, **M.M. Al-Hinai**, S.M. Al-Kindy and S.B. Salama, chemiluminescence determination of chlorpheniramine using tris(1'10-phenanthroline)- ruthenium(II) perpxydisulphate system and sequential injection analysis., **Luminescence** (2009), 24, 2-9.
- F. E. O. Suliman, **M. M. Al-Hinai**, S. M. Z. Al-Kindy and S. B. Salama, Enhancement of the chemiluminescence of penicillamine and ephedrine after derivatization with aldehydes using tris(bipyridyl)ruthenium(II) peroxydisulfate system and its analytical application, **Talanta** (2008), 74, 1256-1264.

(A) Conferences/Presentations

- (1) The 18th International Symposium on Bioluminescence and Chemiluminescence, ISBC 2014, June 23-28, 2014, Uppsala, Sweden
 - Oral: “Electrochemiluminescence sensor based on Ru(bpy)₃²⁺/P(AHNSA) for Chlorpheniramine maleate analysis.
- (2) Pure and Applied Chemistry International Conference, January 8-10, 2014, Khon Kaen, Thailand
 - Poster: “Solid-State Sensor based on Tris(2,2’bipyridyl)ruthenium(II)/polytyramine Modified Electrode: Characterization and application for chlorpheniramine maleate electroanalysis”

(B) References

(1) **Dr. Emad Khudaish (PhD Supervisor)**

Associate Professor
Department of Chemistry
Sultan Qaboos University
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(2) **Professor Fakhr Eldin Suliman**

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