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الاسم: زهراء سالم محسن الكرعوي

دكتوراه في الكيمياء الحياتية الفيزيائية في ٢٠١٧ – جامعة سسكس البريطانية

أستاذ مساعد في ٢٠١٣

مدرس في ٢٠٠٦

ماجستير في الكيمياء الحياتية في ١٩٩٨- الجامعة المستنصرية

بكالوريوس في الكيمياء في ١٩٩١ – الجامعة المستنصرية

العنوان الوظيفي الحالي: قسم الكيمياء، كلية العلوم، الجامعة المستنصرية

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العضوية في الاتحادات والهيئات والمؤسسات والوحدات العلمية

خارج العراق	داخل العراق	المنصب	اسم الجمعية او الوحدة
انكلترا		عضوة	أصدقاء الديلينشيا Dementia Friends
انكلترا		زميل	الاكاديميه البريطانيه للتعليم العالي Higher Education Academy
	بغداد	عضوة	نقابة الاكاديمين العراقية
	بغداد	عضوة	رابطة أساتذة البايوكمستري
انكلترا		عضوة	هيئة التحكيم في مجلة Royal Society of Chemistry-Nanoscale
انكلترا		عضوة	هيئة التحكيم في مجلة Journal of nanobiotechnology
	جامعة بغداد بغداد	عضوة	مركز دراسات المرأة
دنمارك		عضوة	Danish society for Biochemistry and structural biology
السويد		عضو ناشر	موقع التواصل العلمي " اطلس العلم" Atlas of Science
	كلية العلوم، الجامعة المستنصرية بغداد	عضوة	وحدة ابن سينا للتعليم والموقع الالكتروني

Personal Data

Name: Zahraa Salim Al-Garawi

Gender: female

Date of birth: 1969

Current address: 2nd Etefia , Sec. 409 , St.36 , h. 13, Baghdad- Iraq.

Alternative address: 17324, Barnhill Ave, Cerritos 90703, CA-USA

Email: amyloid2015@icloud.com, z.mohsin@uomustansiriyah.edu.iq

Academic achievements and Qualifications: (starting from the most recent degree)

- PhD in Biophysics, Structural biology, Nanomaterial- University of Sussex, Brighton- United Kingdom (Sep 2017) supervised by Louise C. Serpell.

Thesis title: Biophysical-Biochemical structural basis of self-assembly peptides, for nanobiotechnological applications

- Assist prof in Biochemistry, 30-03-2013
- Teacher in Biochemistry, 01-10-2006
- Master in Biochemistry, enzymology- Mustansiriyah University, Baghdad-Iraq (Mar 1998)

Thesis title: *Reactivation studies of inhibited soluble acetylcholinesterase from rabbit brain and gastrointestinal system.*

- Bachelorise in Chemistry Science - Mustansiriyah University, Baghdad-Iraq (Sep 1991)

Experiences: (starting from the most recent position)

- *Mustansiriyah University, Chemistry Dep. Baghdad- Iraq, 5th Oct 2017 until now*

-Biochemistry Lab supervisor for undergraduates, 3rd year.

-Teaching basic biochemistry for undergraduates, 3rd year.

-Teaching physical biochemistry (Biophysics) and Nanomaterials for postgraduates.

- *University of Sussex, Brighton-UK, Feb 2015 until 2017*

-Administrator of structural biology module for 1st and 2nd year of medicinal chemistry and neurosciences students.

-Supervised project students in Biophysics at the University of Sussex.

- Employed by the student system and records office at the university of Sussex as an invigilator from May 2016- June 2017.

- *Mustansiriyah University, Chemistry Dep, 9th Oct 2009 – 1st Oct 2012:*

Chemistry department co-chair: manage the undergraduate students and the professors matters, schedules ,..etc.

- *Mustansiriyah University, Chemistry Dep., March 1997– Jun 2009:*

Teaching Clinical Biochemistry analysis and basic biochemistry for senior and junior undergraduate students.

- *University of Bagdad- Iraq, Sep 1999 - March 2001:*

Teaching Assistance: teaching Clinical Biochemistry analysis for senior and junior undergraduate students at College of Pharmacy, and sophomore students in College of Al-Kindy Medicine in.

- *University of Al-Nahreen , Baghdad – Iraq , Sep 1999 – July 2001 :*

Teaching Assistance : teaching sophomore students in at College of Science in Biochemistry .

Conferences and meetings:

- The 2nd international conference on engineering, medicine and applied sciences (ICEMAS 2), *Erbil, Iraq*, 21- 22 Oct **2019**.
- The 2nd scientific symposium for postgraduates, *Chemistry Department, Mustansiriyah University*, 7-8 May **2019**.
- The sixth annual scaltic stat wide conference: developing 21st century skills through effective learning plan, *South of California, USA*, 20th January **2019**.
- The 1st international conference on safety and security of the scientific applications, *Baghdad-Iraq*, 26-27 Sep **2018**.
- The 2nd meeting of the British Biophysical Society held at the *University of Southampton – UK*, 11-13th July **2018**
- Poster presentation in Chemistry and Biology of Peptides in” *Gordon Research Conference seminar and conference*”, *Ventura, Los-Angeles* in 10-11th Feb and 11-16th Feb **2018**.

- Poster and oral presentation in The 6th conference of *College of Science-University of Kerbala*, “*Renewable Energy and Its Applications*”, in 21-22nd Feb **2018**.
- Oral presentation at "*the 3rd international conference on bioinspired and biobased chemistry and materials*" in Nice, France on Oct 16-19th **2016**.
- Presented in The annual PhD meeting in “*the University of South California-Los Angeles*”, **2016**.
- Poster presentation at “*CD/LD summer school in the University of Warwick, UK*, on 11-13th July **2016**.
- Oral presentation of catalytic peptides (a PhD subject) at “The annual Biochemistry and biomedicine research symposium at *the University of Sussex-UK*” on 14th Dec **2015**
- Poster Presentation at the conference “*Nanopeptide 2015: peptide & Protein Based Material & Technologies*” in University of Strathclyde, Glasgow, on March 2nd-4th **2015**.
- Poster presentation of another subject of PHD study (silica templating) at the conference "Beyond the Molecule, The EPSRC Directed Assembly Network” in *Birmingham, UK* on Sep 23rd-25th Sep **2014**.
- Oral presentation in a PhD subject (Peptides template silica) at “*Cambridge Summer School, Directed assembly network, Cambridge, UK* on July 7th- 11th July **2014**.
- Attended most of Women in Science meetings in *University of Sussex –UK* from 2014-2017.

Publications

1. Zahraa S. Al-Garawi (**2019**) Zinc metal ion affected the structural stability of amyloid-like nanofibrils, the 1st international conference on safety and security of the scientific applications, Baghdad-Iraq, Al-Mustansiriyah Journal of Science, 29(3), p 50-62. <http://mjs.uomustansiriyah.edu.iq/ojs1/index.php/MJS/article/view/622/pdf> <<http://mjs.uomustansiriyah.edu.iq/ojs1/index.php/MJS/article/view/622>>.
2. Robin Axel Ruiz-Zamora, Simon Guillaum e, Youssra K. Al-Hilaly, Zahraa Al-Garawi, Francisco Javier Rodr iguez-Alvarez, Guadalupe Zavala-Padilla, Julio I. P erez-Carre on, Sandra L. Rodr iguez-Ambriz, Guillermo A. Herrera, Baltazar Becerril-Luj an, Adri an Ochoa-Leyva, Jorge Melendez-Zajgla, Louise Serpell & Luis del Pozo-Yauner (**2019**) The CDR1 and Other Regions of Immunoglobulin Light Chains are Hot Spots for Amyloid Aggregation, *Scientific Reports*, 9:3123. (Impact factor 4.1) factor. <https://www.nature.com/articles/s41598-019-39781-3>
3. Andrew J. Christofferson, Zahraa S. Al-Garawi, Nevena Todorova, Jack Turner, Mark Del Borgo, Louise C. Serpell, Marie-Isabel Aguilar, and Irene Yarovsky (2018) Identifying the

coiled-coil triple helix structure of β -peptide nanofibers at atomic resolution, *ACS-Nano*, just accepted manuscript.

DOI:10.1021/acsnano.8b03131, <https://pubs.acs.org/doi/pdf/10.1021/acsnano.8b03131> , (impact factor= 13.709).

4. د. زهراء سالم الكرعوي (اعداد وتاليف) و د. منى صباح الجابري (٢٠١٨) فهم خطوات التأليف والنشر: كيفية الاعداد للنشر في المجلات والكتب الرصينة: للباحث والطالب ، دار كيندل للنشر- الامازون.

<https://www.amazon.co.uk/dp/B07H6TJKVZ>

5. Zahraa S. Al-Garawi and Louise C. Serpell (2018) Designed amyloidogenic peptides with catalytic activity in *New trends in nanotechnology, material and environmental science*” editors: Jiajun Zhu ,Anjun Jin and Dan Zhu, AV AkademikerVerlag, Germany, p 34-37.

<https://www.akademikerverlag.de/catalog/details//store/de/book/978-620-2-21118-5/new-trends-in-nanotechnology,-material-and-environmental-sciences>.

6. Falah S. Al-Fartusie , Hassanain K. Al-Bairmani , Zahraa S. Al-Garawi and Ahmed H. Yousif (2018) Evaluation of some trace elements and antioxidants in Major depressive disorder patients: A case control study, *Biological Trace Elements Research*, <https://link.springer.com/article/10.1007/s12011-018-1507-7>, p 1-8, (Impact factor=2.361)

7. Zahraa S. Al-Garawi, Bennett McIntosh, David Neill-Hall, Abu-Bakar Hatimy, Steve M. Sweet, Mark C. Bagley and Louise C. Serpell (2017) The amyloid architecture provides a scaffold for enzyme-like catalysts, *RSC-Nanoscale*, 9(30), p.10773-1078.

<http://pubs.rsc.org/en/content/articlelanding/2017/nr/c7nr02675g#!divAbstract> , (Impact Factor= 7.377)

8. Zahraa S. Al-Garawi. Jack Turner, Mark P. Del-Borgo, Marie-Isabel Aguilar and Louise C. Serpell (2017) Structural studies of self-assembled *N*-acetylated β -peptides, *RSC*. In preparation.

9. Al-Garawi ZS, Morris KL, Marshall KE, Eichler J, Serpell LC.(2017)The diversity and utility of amyloid fibrils formed by short amyloidogenic peptides. *Interface Focus* 7(6) : 20170027, (Impact Factor 3.67).

<https://www.ncbi.nlm.nih.gov/pubmed/29147557>

10. Zahraa S. Al-Garawi, et al (2016) Chemically and Thermally Stable Silica Nanowires with a β -Sheet Peptide Core for Bionanotechnology, *Journal of Nanobiotechnology*, 14(79), p. 1-9 (Impact factor: 4.26), UK. Scopus Source ID= 16088.

<https://jnanobiotechnology.biomedcentral.com/articles/10.1186/s12951-016-0231-8>

11. Zahraa S. Al-Garawi (2016) Toxoplasmosis and Luteinizing Hormone in Women with and without Recurrent Abortion in Baghdad, *J Bacteriol Parasitol*, 7(5), p. 2155-9597. (Impact factor: 2.5), USA

<https://pdfs.semanticscholar.org/0f8e/98247fe4788504c618249e2b5b920eb51b8a.pdf>
12. Zahraa S. Al-Garawi, Julian C Thorpe, Louise C Serpell (2015) Silica Nanowires Templated by Amyloid-like Fibrils, *Angewandte. Chemi. Int. Ed.* 2015, 54, 1 – 6. (Impact factor 11.99), Wiley online Library
<http://onlinelibrary.wiley.com/doi/10.1002/anie.201508415/full>
13. Zahraa S. Al-Garawi, et al (2015) The Impact Role of Using Dental Amalgam "Silver" Fillings on The Cholinergic and Endogenous Adrenergic Activity; *Int J Pharm Bio Sci* 2015 April; 6(2): (B), p.804 -813. (Impact factor: 2.5), USA. Scopus Source ID= 20600195619 http://www.ijpbs.net/cms/php/upload/4268_pdf.pdf.
14. Zahraa S. Al-Garawi, et al (2014) Fructose, Glucose and Uric Acid Levels in Sera of Iraqi Women with Diabetes Mellitus; *Research Journal of Pharmaceutical, Biological and Chemical Sciences*, 5(3) p. 656-661. (Impact factor: 0.25), India. Scopus source ID= 19700188422

[https://www.rjpbcs.com/pdf/2014_5\(3\)/\[74\].pdf](https://www.rjpbcs.com/pdf/2014_5(3)/[74].pdf)
15. Zahraa S. Al-Garawi (2014) A Study of Liver Ability to Protein Synthesis and Its Affection on Liver Cells in Iraqi Elderly Men, *Amarabac-MAG (American Arabic Academy of Science and Technology* , 5(12), p.37-46, USA (USA).
<http://platform.almanhal.com/Reader/Article/71438>
16. Zahraa S. Al-Garawi (2013) Sodium and Potassium Ions Levels in Cirrhosis and Chronic Liver Disease of Iraqi Patients; *International journal of Science and Technology investigations*; vol 2(13), p.88-91 (France).
<https://www.scribd.com/document/158667130/Sodium-and-Potassium-Ions-Levels-in-Cirrhosis-and-Chronic-Liver-Disease-of-Iraqi-Patients>.
17. Zahraa S. Al-Garawi, Fallah S. Al-Fartusie, Haider B. Al-Mandlawi, Namark K (2012) A Study Case on the Impact of Prolonged Exposure to Cell Phone Radiation, among Iraqi Students, on RBC- AChE Activity, *j Biochem. Anal Biochem*; vol. 1(6), (USA).
<https://www.omicsonline.org/peer-reviewed/a-study-case-on-the-impact-of-prolonged-exposure-to-cell-phone-radiation-among-iraqi-students-on-rbc-ache-activity-9101.html>
18. Zahraa S. Al-Garawi, Fallah S. Al-Fartusie, Hassnein K. Al-Bermani (2012) Is Hyperglycemia or toxoplasmosis the suspect of spontaneous abortion in neonates in Baghdad Women?, *journal of Basic and Applied Chemistry*; vol 2(6),
<https://pdfs.semanticscholar.org/fb33/fb7e38be2ba8caf18994c1e9847173675600.pdf>

19. Zahraa S. Al-Garawi, et al. (2012) Synthesis and characterization of *Shiff* base ligand from Glycein and Tyrosin amino acid and studying their effect on Acid Phosphatase activity (*InVitro*); E-journal of Chemistry; vol9(2). (India).
[Synthesis and Characterization of New Amino Acid-Schiff... - Hindawi](#)
20. Zahraa S. Al-Garawi, et.al (2009) Study of total protein and protein profile in patients with breast, ovary and uterus cancer, College of Educational J of Diyala University; vol 39, p.88-911. <http://humanmag.uodiyala.edu.iq/uploads/pdf/aadad/2009/a39/8.pdf>
21. Zahraa S. Al-Garawi, et.al (2010) Blood gases analysis in preschool children with acute pneumonia and airway obstruction; College of Educational J of Al-Mustasyria University; vol. 3 (1). <https://iasj.net/iasj?func=article&aId=36238>
22. Zahraa S. Al-Garawi (2009) Cigarette smoking and the accompanied alterations in lipid profile in a group of students in Al-Mustansyria university; National J. of Chemistry; vol. 35(1). http://repository.uobabylon.edu.iq/journal_view.aspx?dpp=1374
23. Zahraa S. Al-Garawi (2005) Alkaline phosphatase as a prognostic tool in duodenal ulcer and colorectal cancer; Al-Mustansiryra J. of Science; vol. 16(1), p.30-42. <https://iasj.net/iasj?func=article&aId=92237>
24. Zahraa S. Al-Garawi (2005) Effect of cigarette smoking on hemoglobin level; Al-Mustansiryra J. of Science; vol. 16 (2), p.72-85.
25. Zahraa S. Al-Garawi (2006) Estimation of Creatine Kinase Activity in colorectal cancer, polyps, and ulcerative colitis patients; Al-Mustansiryra J. of Science; vol. 17(1). <https://www.iasj.net/iasj?func=article&aId=68257>
26. Zahraa S. Al-Garawi (1999) In vitro reactivation of soluble Acetyl Cholinesterase extracted from rabbit brain and gastrointestinal system;
27. Zahraa S. Al-Garawi (1999) In vivo affect of Eserine sulphate and Molsidomine on Acetyl Cholinesterase of Rabbit Brain and Gastrointestinal system; Al-Mustansiryra J. of Science; vol. 10 (3) , p. 49 -54.
28. Three practical Biochemistry handbooks for undergraduates, 4th and 3rd year, in 2002, 2004, 2005, 2009 and 2018.

Membership in professional societies or associations

1. A Member in the American Chemical Society (ACS), since 2019.
2. A Member in the Royal Society of Chemistry (MRSC), since 2018.
3. A Member in the British Biophysics Society, since August 2019.

4. A Member in Vitae (Realizing the potential of researchers-*Vitae*) since 5th July 2018.
5. A member in referee committee of Royal Society of Chemistry (RCS) - *Nanoscale* journal, since 26th June 2018.
6. Member in the “ The study center of Academic Women-Baghdad”, since Dec 2017.
7. Associate fellow in the British Higher Education Academy-UK, since 1st Dec 2016.
8. Member of examination Council of Chemistry Dep., Mustansiriyah Univ.: involved in administering and managing the final exams for the undergraduate students; responsible for reviewing the student’s overall grades, from Dec. 2003 – June 2005, and June 2009- June 2013.
9. Member of Al-Noor Society for Women-Baghdad: Non-Government Organization involved in proving the scientific, economic, healthy, social, financial, cultural and political levels for Iraqi’s women , since 2007 .

Scientific activities

1. A supervisor of postgraduate projects on “controlled drug release, drug delivery system” using nano particles.
2. A member in the scientific committee of the 2nd ICEMASE Arbeel-Iraq, Oct 21st 2019.
3. A member in the preparation committee of the 2nd Scientific Symposium for postgraduates, 2-8th May 2019.
4. Rewarded Bahar-Aloom`s prize in 28th April 2018 for the best PhD thesis in Iraq since 2016.
5. Associate fellow of British Higher Education Academy, 2016 and up to date.
6. A collaborator with Jutta Eichler (Department of Chemistry and Pharmacy, University of Erlangen-Nurnberg, Erlangen, Germany) through a research work with Louise C. Serpell-Biochemistry Dep., School of Life Sciences, University of Sussex-UK.
7. Employed by Student Systems and Records Office in the University of Sussex-UK from 2016 up to 2017.
8. Head of the Al-Aloom lab. For Clinical Analysis: A scientific lab. Introducing the clinical biochemistry analysis for the professors, graduate and undergraduate students of the Mustansyria University 2007- 2008.
9. The course management of qualifying course in Diagnostic Analysis for Ministry of Youth and Sport employer, held in 2008.

Field of interest of proposed research for the fellowship

- 1) study the ability of amino acids to form nano structures for nano applications
- 2) study the effect of suprastructures tube to organize the neuro transmittance enzymes functions.
- 3) study and learning how plants' extracts affect the immune and neurons system as an antioxidant. The antioxidants lead to reduce the disorders and disabilities of the immune defense system and its neurons transferring ability from and to the neurons cells.
- 4) encapsulation and release of nanoparticles



Dr. Zahraa S. Al-Garawi

Assist Prof in Biochemistry,

PhD in Biophysics, Structural biology, nanomaterial, Biochemistry Department, University of Sussex-UK

Employer in: Chemistry Department, College of Science, Mustansiriyah University, Baghdad-Iraq