Curriculum Vitae

Aziz Awaad Aziz Mohamed

Contacts

Permanent Address: Sohag University, Faculty of Science, Department of Zoology, Sohag, Egypt.

Birthday: January 10th 1977 (46 years)

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Contacts (Japan): Fax: (+81) 045-924-5275, Tel: (+81) 045-924-5225, Mobile: (+81) 07012947003

Education

February, 19th 2008 – April, 2012:	**Ph.D.,** the University of Tokushima, Graduate School of Medical Sciences, Department of Anatomy and Cell Biology, Tokushima, Japan.
October, 2001 - October, 2003:	**M.Sc.,** Sohag University, Faculty of Science, Department of Zoology, Sohag, Egypt.
September, 1995 - May, 1999:	**B.Sc.,** Sohag University, Faculty of Science, Department of Zoology, Sohag, Egypt.

Employment and postdoctoral fellowship

January 2024-till now	**Professor:** Sohag University, Faculty of Science, Department of Zoology, Sohag, Egypt.
April 2023-till now	**Research Scientist:** Innovation Center of NanoMedicine (iCONM), Kawasaki Institute of Industrial Promotion, Kawasaki City, Japan
January 2023-March 31st 2023	**Researcher:** Laboratory for Chemistry and Life Science, Tokyo Institute of Technology, Tokyo, Japan
July 2022-January 2023	**Egyptian postdoctoral fellow:** Laboratory for Chemistry and Life Science, Tokyo Institute of Technology, Tokyo, Japan
February 2022-Janouaty 2025	**Visiting researcher:** Innovation Center of NanoMedicine (iCONM), Kawasaki Institute of Industrial Promotion, Kawasaki City, Japan
September 2021-July 2022	**JSPS postdoctoral fellow:** Laboratory for Chemistry and Life Science, Tokyo Institute of Technology, Tokyo, Japan

January 2019 – till now	**Associate professor:** Sohag University, Faculty of Science, Department of Zoology, Sohag, Egypt.
November 2018- March 31st 2019	**Special researcher:** Laboratory for Chemistry and Life Science, Tokyo Institute of Technology, Tokyo, Japan
May, 2017- March 31st 2019	**Visiting researcher:** Innovation Center of NanoMedicine (iCONM), Kawasaki Institute of Industrial Promotion, Kawasaki City, Japan
November, 2016- Oct. 2018	**JSPS postdoctoral fellow:** Laboratory for Chemistry and Life Science, Tokyo Institute of Technology, Tokyo, Japan
January, 2015 – July 2015	**Postdoctoral researcher:** the University of Tokushima, Graduate school of Medical Sciences, Department of Anatomy and Cell Biology, Tokushima, Japan.
January,2013 – March 2013	**Postdoctoral researcher:** the University of Tokushima, Graduate school of Medical Sciences, Department of Anatomy and Cell Biology, Tokushima, Japan.
July, 2012 – November, 2018:	**Lecturer:** Sohag University, Faculty of Science, Department of Zoology, Sohag, Egypt.
February, 2008 – April, 2012:	**Ph.D. Student:** the University of Tokushima, Graduate school of Medical Sciences, Department of Anatomy and Cell Biology, Tokushima, Japan.
December, 2003 - June, 2012:	**Assistant Lecturer:** Sohag University, Faculty of Science, Department of Zoology, Sohag, Egypt.
March, 2000 - October, 2003:	**Demonstrator:** Sohag University, Faculty of Science, Department of Zoology, Sohag, Egypt.

Teaching Experience

University courses prepared and taught by applicant

University/Institution	Course title	Language of instruction
Sohag University, Faculty of Pharmacy	**Cell Biology** for 1st year undergraduate students	English
The University of Tokushima, Anatomy and Cell biology Department, School of Medical Science, Japan	**Practice of Human Histology** for the 2nd grade under graduate students	English
Sohag University, Faculty of Science, Department of Zoology	**Histochemistry** for BSc undergraduate students	English
Sohag University, Faculty of Science, Department of Zoology	**Immunohistochemistry** for BSc undergraduate students	English
Sohag University, Faculty of Science, Department of Zoology	**Animal Histology** for 3rd year undergraduate students	English
Sohag University, Faculty of Science, Department of Zoology	**Comparative Anatomy** for BSc undergraduate students	English
Sohag University, Faculty of Science, Department of Zoology	**Animal Histopathology** for postgraduate students	English

Sohag University, Faculty of Science	**Cellular and Molecular Biology** for postgraduate students	English
Sohag University, Faculty of Science, Department of Zoology	**Micro-technique** 3rd year undergraduate students	English
Sohag University, Faculty of Science, Department of Zoology	**Animal Taxonomy** 2nd year undergraduate students	English
Sohag University, Faculty of Science, Department of Zoology	**Parasitology and Immunology** 3rd year undergraduate students	English
Sohag University, Faculty of Science, Department of Zoology	**Genetics and Cell Biology** 3rd year undergraduate students	English
Sohag University, Faculty of Science, Department of Zoology	**Fish Biology** 4th year undergraduate students	English
Sohag University, Faculty of Science, Department of Zoology	**Human Physiology** 4th year undergraduate students	English

Course Development:

Skills and techniques obtained during my study and working in Japan, the university of Tokushima, school of medicine as well as through personal communications with Japanese professors and other scientists from other different countries helped me to develop and promote my teaching and educational skills as well as courses.
The main development and promotion include teaching updated knowledge from the most recent published papers from high standard international journals, explaining to the students the reason(s) for teaching a particular course and what are the relations with other courses of Zoology and Biology.
Initiating the student's talent for research (in particular, during their graduation projects), informing the students not only the phenomenon or the discovery but also how the scientists were thinking, what was the environment during their achievements and how did they reach to their findings.

Main Research Interests

Anti-aging drug delivery: Using new and smart technology, anti-aging drugs such as rapamycin, metformin and statins were modified with new polymer for effective drug delivery and effective therapeutic effects in cancer and senescent cells.
Polymer chemistry: Synthesis of polyzwitterion-coated nanomaterials for specific tumor targeting. Developing new drug delivery systems with pH-responsive for effective tumor targeting.
Immunogenicity: The interaction of drug delivery-based polymers, such as lipid nanoparticles and polymeric micelles and different types of polymers with immune systems was investigated for detoxification of drug delivery systems and mechanism understanding.
Nanoparticles conjugates: Gold nanoparticles coating with fluorescent polyethylene glycol polyzwitterions. SiRNA, fluoresce probes and antibodies.
Drug delivery systems development: Cellular biodistribution and immune responses of nano-drug delivery systems. Development of theranostic nano-drug delivery systems, Anatomy and cell biology. Development of polymer coated nanomaterials for effective tumor accumulation.
Tumor cell specific targeting: Nanomaterials functionalization with specific legend to tumor cells as well as fluorescence probes for tumor cell imaging and therapy.
Nanomedicine: Nanoparticles and their applications in medicine such as in vivo imaging.
Nanobiology: Nanoparticles for cell membrane imaging and cell function investigation.
Gastrointestinal tract immunotoxicity: Histopathology, Biochemistry and Histochemistry and Peyer's patches immunology using nanoparticles.
Nanotoxicity: Investigation of nanoparticles toxicity on the maternal and embryonic tissues as well as the immune responses of some immune cells against nanoparticles. Additionally, nanopraticles detoxification using natural products was investigated.
Histochemistry: Investigation several types of carbohydrates in some representative of tetrapoda tissues.

Natural product toxicity: Investigation of some natural products extracted from some marine molluscan species on the immune cells in the liver and spleen.

Skills and Experience

Polymer chemistry: preparation and characterization of different types of betaine polymers conjugated with different molecules and agents for drug delivery system development, immunogenicity, tumor therapy and imaging. Polymeric micelles and lipid nanoparticles preparation and characterization using different types of polymers.
Nanotechnology and drug delivery systems development: Preparation and functionalization of nanoparticles, microparticles such as gold nanoparticles, quantum dots, organosilica particles, titanium dioxide, iron oxide nanoparticles. Characterization of nanoparticles using electron microscopy, flow cytometer, and DLS (dynamic light scattering) tools, and Image pro plus, Q capture software).
Histology and Histochemistry: Histochemical, immunohistochemical and cytochemical, histopathological techniques. Preparation of the tissues and cells for fluorescence and electron microscopy. Semi-quantitative analysis of the histological findings using software.
Ultra-structure: preparation and investigation of the tissues and cells under the transmission and scanning electron microscope.
Biochemistry: Proteins analysis, Gel electrophoresis, and Western blotting preparation and analysis using biochemical tools. Automatic western blot using JESS, ELISPOT and ELISA assays for immune responses detection.
Imaging: Skills to use fluorescence, transmission and scanning electron microscopy and in vivo fluorescence imaging systems such as IVIS and fluorescence multipurpose zoom microscope, lazier scanning microscope, BZ1 fluorescence microscope. Good experience using the nanozoomer digital pathology (NDP) microscopy. In addition, a good skill to use the flow cytometry, X-ray computed tomography.
Toxicology: preparation tissues for toxicities analysis investigation using different techniques and tools, including immunostaining, MTT assay, CCK assay, ELISA assay, ELISPOT and surface plasmon resonance (SPR assay). Additionally, TUNEL assay kit, apoptosis assay kit as well as ROS measurement for polymers toxicities assay.

Tools Skills

Good experience to use the following tools:

- TEM, SEM, EDX-TEM, Zeta sizer and DLS for nanomaterials analysis
- ICP-MS element detection in the tissues
- ELISPOT readers
- Water and organic GPC for polymer MW analysis
- LSM, BZ1 ect…. confocal fluorescence microscopy
- TGA, for analysis of the nanomaterials surface coating
- 1HNMR, for new chemical structure and proton shift analysis
- IVIS for in vivo imaging
- Spectrofluorometer, Nanodropper,
- In vitro cell culture unit for in vitro studies

Computer Skills

I have an excellent experience in using Windows and Macintosh computers.

Software	Application
Microsoft Office (Word, PowerPoint and Excel)	Word processor, spread sheet and data presentation.

Internet Explorer and MSN Messenger	Internet searching and receiving and sending Emails.
Statistical analysis software (Image pro plus, image Q, ImageJ and zeiss zen blue image analysis)	Using different statistical methods for evaluation the nanoparticles size, cells numbers and fluorescence signal density.
Acrobat Reader and Adobe Acrobat Professional	Creation of PDF file and editing, receiving and sending PDF manuscripts, papers and reprints.
Adobe Photoshop	For editing photos and panel preparation for publishing.
EndNote	For searching, loading and write references.
Microsoft FrontPage	For designing the websites.
Recover My Files and Recover XP	For recovering lost and formatted data.
Delta NMR software	Chemical structure analysis
ChemDraw	Reaction scheme, new compound analysis
Prism	Quantitative data Analysis

Postgraduates Supervision

Title of theses or dissertation	Degree	Student	Status	University/Institution
Studies on the role of electromagnetic field in the treatment and/or protection against cancer in animal models.	MSc	*Moshira Fouad*	Graduated 2018	Sohag University, Faculty of Science, Department of Zoology
Protective role of melatonin and thymoquninone on lithium chloride induced toxicity in the nervous system and other organs of male albino rats.	MSc	*Mohamed Mostafa*	Graduated 2019	Sohag University, Faculty of Science, Department of Zoology
Histochemical studies on the toxicity of magnetic nanoparticles after intra-testicular injection in albino rats.	MSc	*Doaa Hosny*	Graduated 2017	Sohag University, Faculty of Science, Department of Zoology
Comparative microanatomical studies on the gastrointestinal tract in tetrapod representatives.	MSc	*Ahmed Rushdy*	Graduated 2022	Sohag University, Faculty of Science, Department of Zoology
Possible Therapeutic Effects of Gold Nanoparticles on the Histological Changes of Meloxicam on Liver of Adult Male Albino Rats.	PhD	*Mai Nashat*	Graduated 2022	Sohag University, Faculty of Medicine, Department of Histology
Histological and Histochemical studies on the expression pattern changes of cyclooxygenase enzyme in some organs of albino mice treated by some conventional anti-inflammatory drugs.	PhD	*Mohamed Abdella*	-	Sohag University, Faculty of Science, Department of Zoology
Histological and Immunohistochemical Study about the Effect of polyethylene glycol (PEG) on Liver and Kidney of Male Mice and Possible Protective Effect of the Echinacea Purpurea.	PhD	*Amal M*	-	Sohag University, Faculty of Medicine, Department of Histology

The abnormalities produced by iron oxide nanoparticles in some organs of mammalian as well as avian representatives: comparative histopathological study.	PhD	*Ahmed Rushdy*	-	Sohag University, Faculty of Science, Department of Zoology
Histological and histopathological changes induced by melanin extracted from Sepia pharaonis' ink on some organs of pigmented and albino mice and the role of glutathione.	MSc	*Basma Abdel-Naser*	-	Sohag University, Faculty of Science, Department of Zoology
Histological and histopathological changes induced by skin acid secretion extracted from sea slug Berthellina citrina on different tissues in mammalian and amphibian representatives: comparative Histochemical study.	MSc	*Salam Alaa*	-	Sohag University, Faculty of Science, Department of Zoology

University Activities

Administration duties:

- Member of the international Society of Applied Chemistry & Community Development
- Member of Zoology Department Council.
- Member of a committee responsible for checking the new instruments come to the department.
- Member of the committee responsible for reception to the public visitors of the department.
- Member of the department quality assurance unit.
- Member of the department chemicals committee.
- Member of the scientific level development committee of the department.
- Member of the department seminars committee.
- Member of the annual report preparation committee of the department.
- Member of the scientific journey committee of the department.
- Member of the Animal House supervision committee

Students related duties:

- Supervision on the undergraduate and postgraduate practical courses.
- Preparation of materials required for laboratory sessions.
- Preparing, controlling and evaluating oral, practical and theoretical exams.

Languages

Language proficiency	Reading			**Writing**			**Conversation**		
	Excellent	**Good**	**Average**	**Excellent**	**Good**	**Average**	**Excellent**	**Good**	**Average**
Arabic	√			√			√		

English	√	√	√
Japanese	√	√	√

Publications list

1- **Aziz Awaad**, Salma El-Saraf, Alaa Y. Moustafa. Comparative Histopathological Abnormalities Induced by Berthellina Citrina Acid Secretion in Some Organs of Toad and Mice and the Role of Vitamin E. Sohag J. Sci. 2024, 9(3), 308-324. https://sjsci.journals.ekb.eg/article_350828.html

2- Mohammed, SA; Abdel Aziz, HO; **Awaad, A**; Mohamed SM. Gold Nanoparticles Alleviate Meloxicam Induced Toxicity in Adult Male Rat Spleen through Activation of Autophagy: Histological and Immunohistochemical Study. **J. Medical Histology.** DOI: 10.21608/JMH.2023.179541.1110. https://jmh.journals.ekb.eg/article_280722.html

3- Abdel Aziz, HO; Nashat, M; **Awaad, A**; Mohammed, SA. Gold Nanoparticles Down-Regulate Alpha Fetoprotein Expression Induced by Meloxicam Hepatotoxicity in Adult Male Albino Rats: Histological and Immunohistochemical Study. **J. Microscopy and Ultrastructure** ():, March 22, 2023. | DOI: 10.4103/jmau.jmau_109_22. https://journals.lww.com/jmcu/Abstract/9000/Gold_Nanoparticles_Down_Regulate_Alpha_Fetoprotein.99996.aspx

4- **Awaad A**, Rushdy A, Adly MA. Localization of alpha 2,6-linked sialic acid residues in gastrointestinal tract compartments of some tetrapod's representatives: Comparative histochemical study. **Acta Histochemica** 125 (2023) 152055. https://doi.org/10.1016/j.acthis.2023.152055

5- Abu-Dief AM, Alsehli M, **Awaad A**. The bioreaction and immune responses of PEG-coated silica NPs and the role of the surface density coating after oral administration into mice. **Appl Nanosci** 13, 5563–5578 (2023)**.** https://link.springer.com/article/10.1007/s13204-023-02770-0

6- **Awaad A,** Elkady EF, El-Mahdy SM. Time-dependent biodistribution profiles and reaction of polyethylene glycol-coated iron oxide nanoclusters in the spleen after intravenous injection in the male mice. **Acta Histochemica** 124 (2022) 151907. https://doi.org/10.1016/j.acthis.2022.151907

7- **Awaad A**, Takemoto H, Iizuka M, Ogi K, Mochida Y, Ranneh AH, Toyoda M, Matsui M, Nomoto T, Honda Y, Hayashi K, Tomoda K, Ohtake T, Miura Y, Nishiyama N. Changeable net charge on nanoparticles facilitates intratumor accumulation and penetration. **J Control Release.** 2022 May 1;346:392-404. https://pubmed.ncbi.nlm.nih.gov/35461967/

8- **Awaad A**, Rushdy A, Adly MA. Comparative microanatomical and histochemical biodistribution profiles of different types of mucins in the intestinal mucosa of some tetrapod representatives. **J Mol Histol.** 2022 Apr;53(2):449-472. https://pubmed.ncbi.nlm.nih.gov/35249181/

9- Abu-Dief AM, Alsehli M, **Awaad A**. A higher dose of PEGylated gold nanoparticles reduces the accelerated blood clearance phenomenon effect and induces spleen B lymphocytes in albino mice. **Histochem Cell Biol.** 2022 Jun;157(6):641-656. https://pubmed.ncbi.nlm.nih.gov/35157114/

10- **Awaad A**, Rushdy A, Adly MA. Comparative microanatomical and histochemical biodistribution profiles of different types of mucins in oesophageal gastric tract mucosa of some tetrapod representative. **Histochem Cell Biol.** 2022 January 5th, 157(2), 217–238. https://pubmed.ncbi.nlm.nih.gov/34984523/

11- **Awaad, A**., Abdel Aziz, H.O. Iron biodistribution profile changes in the rat spleen after administration of high-fat diet or iron supplementation and the role of curcumin. **J Mol Histol** 2021 Aug;52(4):751-766. https://pubmed.ncbi.nlm.nih.gov/34050395/

12- **Awaad A** and Nakamura M. Size-dependent biodistribution of thiol-organosilica nanoparticles and F4/80 protein expression in the genital tract of female mice after intravaginal administration. **Histochemistry Cell Biology** (2021) 155(6), 683–698. https://doi.org/10.1007/s00418-021-01974-1

13- **Awaad A**. The biodistribution of melanomacrophages and reactivity of PEG or amine-functionalized iron oxide nanoclusters in the liver and spleen of Egyptian toad after intraperitoneal or oral injections: Histochemical study. **Acta Histochemica**, 2020; 122(7); 151629. https://doi.org/10.1016/j.acthis.2020.151629

14- Mohamed F. El-Sayed, Sary Kh. Abd El-ghaffar, **Awaad A** and Mohamed M. Mahmoud. Protective Effects of Melatonin and Thymoquinone on Hematological Parameters, Hepatic and Renal Activities against Lithium-Chloride Toxicity in Male Albino Rats. **J. Pharm. Appl. Chem.** 5, No. 1, 45-51 (2019). http://www.naturalspublishing.com/Article.asp?ArtcID=19750

15- Mohamed A. Adly, **Aziz Awaad**, Medhat A. Abd ellatef, Moshira M Foad. Possible therapeutic effects of extremely low-frequently electromagnetic field and Broccoli extract in the treatment of PHZ-induced colon cancer in the rats. **Ass. Uni. Bull. Environment. Res.** 2019, 22(2), 35-42. https://auber.journals.ekb.eg/article_99878.html

16- Ranneh AH, Takemoto H, Sakuma S, **Awaad A**, Nomoto T, Mochida Y, Matsui M, Tomoda K, Naito M, Nishiyama N. An Ethylenediamine-based Switch to Render the Polyzwitterion Cationic at Tumorous pH for Effective Tumor Accumulation of Coated Nanomaterials. **Angew Chem Int Ed Engl**. 2018 Apr 23;57(18):5057-5061. https://pubmed.ncbi.nlm.nih.gov/29512262/

17- **Awaad A**, Adly MA & Hosny D. Spleen immunotoxicities induced by intratesticular injection of magnetic nanoparticles and the role of Echinacea purpurea extract: a histological and immunohistochemical study. **Journal of Histotechnology,** May, 2018 (41)3; 94-110. https://doi.org/10.1080/01478885.2018.1472857

18- **Awaad A**, Adly MA & Hosny D. Insulin-like 3 expression and fibrosis induction after intra-testicular injection of magnetic nanoparticles in rat testis and the ameliorative role of Echinacea purpurea extract. **Biotechnic & Histochemistry** 2018, 93(2): 118–132.
https://pubmed.ncbi.nlm.nih.gov/29430971/

19- **Awaad A**, Adly MA & Hosny D. Histological and histopathological studies on the protective role of Echinacea purpurea extract after intra-testicular injection of magnetic nanoparticles in male albino rats. **Journal of Histotechnology**, 2017; 40(4):100–114.
https://www.tandfonline.com/doi/abs/10.1080/01478885.2017.1369210

20- **Awaad A** and Alaa Y. Moustafa. Immunotoxicity of acid secretion produced by Berthellina citrina (Mollusca: Heterobranchia) in mice spleen: Histological and Immunohistochemical study. **Acta Histochemica**118 (2016), 596–605. https://www.ncbi.nlm.nih.gov/pubmed/27378377

21- Alaa Y. Moustafa and **Awaad A**. Comparative histopathological and histochemical abnormalities induced by the posterior salivary gland and ink sac extracts of *Octopus vulgaris* into mice. The **Journal of Basic & Applied Zoology** (2016) 74, 23–36.
http://www.sciencedirect.com/science/article/pii/S2090989616300042

22- **Awaad A**. Lectin histochemistry shows the comparative biosynthesis and cellular biodistribution of alpha L-fucose residues in some tissues of tetrapoda representatives. **Acta Histochemica** 118 (2016), 46–55. https://www.ncbi.nlm.nih.gov/pubmed/26613632

23- **Awaad A**, Seleem AA. Histochemical changes in neonatal liver caused by vaginal instillation of magnetic nanoparticles in pregnant mice. **Biotech Histochem.** 2016 Jan;91(1):48-62. https://www.ncbi.nlm.nih.gov/pubmed/26555774

24- **Awaad A.** Histopathological and immunological changes induced by magnetite nanoparticles in the spleen, liver and genital tract of mice following intravaginal instillation. **The Journal of Basic & Applied Zoology**, 23 March 2015 (71C); 32-47.
http://www.sciencedirect.com/science/article/pii/S2090989615000302

25- **Awaad A**. Biodistribution and functional reactivity of some immune cells in peyer's patches, cecal patches and spleen of albino mice after treatment with the nanoparticles. **Egyptian Journal of Zoology**, 62: 27 - 48 (December, 2014). https://platform.almanhal.com/Files/2/59187

26- Abel Aziz HO, **Awaad A**. Titanium dioxide (TiO2) nanoparticles induced apoptosis of splenocytes in adult male albino rat and the protective role of Milk thistle seeds extract. **Int. J. of Adv. Res.**, September 2014, 2(9): 732-746. http://www.journalijar.com/article/2791/titanium-dioxide-tio2-nanoparticles-induced-apoptosis-of-splenocytes-in-adult-male-albino-rat-and-the-protective-role-of-milk-thistle-seeds-extract/

27- Nakamura M, Miyamoto K, Hayashi K, **Awaad A**, Ochiai M, Ishimura K. Time-lapse fluorescence imaging and quantitative single cell and endosomal analysis of peritoneal macrophages using fluorescent organosilica nanoparticles. **Nanomedicine**. 9(2); 274–283, Feb, 2013. https://www.ncbi.nlm.nih.gov/pubmed/22698808

28- Nakamura M, **Awaad A**, Hayashi K,; OCHIAI K, Ishimura K. Thiol-organosilica particles internally functionalized with propidium iodide as a multicolor fluorescence and x-ray computed tomography probe and application for non-invasive functional gastrointestinal tract imaging. **Chem. Mater**. 24(19); 3772–3779, Sep, 2012. http://pubs.acs.org/doi/abs/10.1021/cm3023677

29- **Awaad A**, Nakamura M, Ishimura K. Imaging of size-dependent uptake and identification of novel pathways in mouse peyer's patches using fluorescent organosilica particles. **Nanomedicine.** 8(5):627-36, Jul, 2012. https://www.ncbi.nlm.nih.gov/pubmed/21889475

30- **Awaad A,** Nakamura M, Ishimura K. Histochemical and biochemical analysis of size-dependent nanoimmunoresponse in mouse Peyer's patches using fluorescent organosilica particles. **Int J Nanomedicine.** 7; 1423-1439, Mar, 2012. https://www.ncbi.nlm.nih.gov/pubmed/22619503

Projects under publications

1- **Awaad A**, Mohamed A. Adly, Medhat A. Abd ellatef, Moshira M Foad. Comparative expression of P53 and survivin proteins in phenylhydrazine-induced colon cancer of rats and the role of electromagnetic field and broccoli extract. Under publication (Current Science)

2- **Awaad A**, Nakamura M, Ishimura K. Histochemical and biochemical analysis indicating nanoimmunoresponses in mouse Peyer's patches and adjacent villi using thio-organosilica particles: Size and time-dependent study. (Under preparation for publication).

Research Funds and Grants

Name	Amount	Year	purpose	University/Facility
Japan Society for the Promotion of Science (JSPS), KAKENHI start up	¥ 2,860,000 for two years	2023/2024	Research and Development	Innovation Center of NanoMedicine (iCONM), Kawasaki Institute of Industrial Promotion, Kawasaki City, Japan
CHANGE Research Promotion Organisation	¥3,000,000 for three years	2023-2025	Research and Development	Innovation Center of NanoMedicine (iCONM), Kawasaki Institute of Industrial Promotion, Kawasaki City, Japan
Japan Society for the Promotion of Science (JSPS)	¥ 150,000 for ten months	Sep. 2021-July, 2022	Research and Development	Tokyo Institute of Technology, Tokyo, Japan

Japan Society for the Promotion of Science (JSPS)	¥3,000,000 for two years	Oct. 2016-Sep. 2018	Research and Development	Tokyo Institute of Technology, Tokyo, Japan

Conference and Presentations

1- The 38th Annual Meeting of the Japan Society of Drug Delivery systems, From July 29th to July 30th 2022, Japan. https://procomu.jp/dds2022/index.html

2- Hiroyasu Takemoto, Aziz Awaad, Ranneh Hackam, Takahiro Nomoto, Makoto Matsui, Yutaka Miura, Nobuhiro Nishiyama. "Development of polyzwitterion that responds to tumorous pH for effective delivery of nanomaterials to the deeper site in the tumor tissue" ACS Spring 2020 National Meeting & Expo, March 22-26, 2020.

3- Hiroyasu Takemoto, Aziz Awaad, Takahiro Nomoto, Makoto Matsui, Nobuhiro Nishiyama. Development of Tumor pH-Responsive Polymer Betaine and Deployment of Nanoparticles for Cancer Delivery, The 35th Annual Meeting of the DDS Society of Japan, Japan, July 2019.

4- Hiroyasu Takemoto, Aziz Awaad, Abdul-Hackam Ranneh, Takahiro Nomoto, Makoto Matsui, Yutaka Miura, Nobuhiro Nishiyama The development of polyzwitterion that responds to tumorous pH and its application for the coated nanoparticles. The 68th Symposium on Macromolecules Bunkyo Campus, Fukui University, Japan, September 25 -27, 2019. https://main.spsj.or.jp/tohron/68tohron/en/presentation.html#top

5- The fourth annual Science day, Faculty of Science, Sohag University held in Sohag University, Sohag, Egypt on March 5th 2019.

6- The third annual Science day, Faculty of Science, Sohag University held in Sohag University, Sohag, Egypt on April, 2018.

7- The 5th COINS Symposium, Shaping a dream, In-body-hospitals. December, 14th, 2018, Kawasaki city, Kanagawa, Japan.

8- The 11th Annual Symposium on Nanobiotechnology 2017 held in the period from February 27 (Mon) – 28 (Tues), 2017 in Kawasaki city, Kanagawa, Japan.

9- The second annual Science day, Faculty of Science, Sohag University held in Sohag University, Sohag, Egypt on April 19, 2017.

10- The 3rd International Conference on Biomaterials Science in Tokyo (ICBS2016) from November 28 (Mon) – 30 (Wed), 2016, Tokyo, Japan.

11- The first annual Science day, Faculty of Science, Sohag University held in Sohag University, Sohag, Egypt on April 20, 2016.

12- Takafumi K, Nakamura M, Hayashi K, **Awaad A**, Motoko H, Hiroshi N, Ishimura K. Quantitative single cell analysis of macrophages using fluorescent organosilica nanoparticles surface-modified with polyethylene glycol; as poster presenter at the 11th US-Japan Symposium on Drug Delivery Systems, Maui, Hawaii, USA, Dec. 2011.

13- **Awaad A**, Nakamura M, Ishimura K. Imaging of size dependent uptake and identification of novel pathway in mouse Peyer's patches using fluorescent organosilica particles, as poster presenter at the 11th US-Japan Symposium on Drug Delivery Systems, Maui, Hawaii, USA, Dec. 2011.

Books & Chapters

1- **Awaad A**, Nakamura M, Ishimura K. Peyer's patches nanoimmunoresponse using organosilica particles: Histochemical study of the size-dependent uptake and nanoimmunoresponse in Peyer's patches using organosilica particles. LAP LAMBERT Academic Publishing GmbH & Co. KG. Saarland; Germany 2012.

Awards and Scholarships

1- Short term postdoctoral fellowship to do research in Japan funded from Egyptian Government, Ministry of Higher Education and Research, Cairo, 2021.

2- Invitational Fellowships for Research in Japan (FY2021, (Long-term)), from Japan Society for the Promotion of Science (JSPS), 2020.

3- Tejima Seiichi Memorial Research Award 2018, Tokyo institute of Technology, Tokyo, Japan for the published research "Ethylenediamine-based betaine structure switches the neutral net charge of polyzwitterion into cationic at tumorous pH for effective tumor accumulation of the coated nanomaterials. Angew Chem Int Ed Engl. 2018, 57(18), 5057 –506"

4- Internship of Bilateral Exchange of professional (WAP) 2017, provided from German Academic Exchange Service (DAAD), for 3 months at Friedrich-Schiller University, Jena, Germany.

5- Postdoctoral Fellowship for Overseas Researchers (Standard) from Japan Society for the Promotion of Science (JSPS) to do research for 2 years, 2016.

6- Publication Competition Award for the published paper "Thiol-organosilica particles internally functionalized with propidium iodide as a multicolor fluorescence and x-ray computed tomography probe and application for non-invasive functional gastrointestinal tract imaging. Chem. *Mater*. 24(19); 3772–3779, Sep, 2012" from MISR ELKHAIR Foundation, Egypt, Cairo, 2014.

7- Short term postdoctoral fellowship to do research in Japan funded from Egyptian Government, Ministry of Higher Education and Research, Cairo, 2014.

8- Chinese Academy of Sciences (CAS)- the world academy of sciences (TWAS) Postdoctoral Fellowship Award to do research for 1 year. Beijing, China, 2012.

9- Five months postdoctoral scholarship from National Scholarship Program from the Slovak Republic for the support of Mobility of researchers. Bratislava, the Slovak Republic, 2012.

10- Two months scholarship for research in the University of Tokushima funded from Fujii-Ohtsuka Foundation, Japan, Tokyo, 2012.

11- Publication Competition Award for the published paper "Imaging of size-dependent uptake and identification of novel pathways in mouse Peyer's patches using fluorescent organosilica particles. Nanomedicine: Nanotechnology, Biology,

and Medicine, 8 (2012) 627–636", 2012 Journal impact factor: 7.28." from MISR ELKHAIR Foundation, Egypt, Cairo, 2012.

12- Four years scholarship to obtain the Doctorate from the University of Tokushima, Japan, funded by the Egyptian Government, Ministry of Higher Education and Research, Cairo, 2008.

Ph.D. Thesis

1- Subject: Histochemical studies of the size-dependent distribution and nanoimmunoresponse in mouse Peyer's patches using fluorescent organosilica particles. Achieved by: **Awaad A**. Supervised by: Nakamura M, Ishimura K. April, 2012, The University of Tokushima, Tokushima, Japan. (http://srv2.eulc.edu.eg/eulc_v5/Libraries/Thesis/BrowseThesisPages.aspx?fn=PublicDrawThesis&BibID=11777305)

M.Sc. Thesis

2- Subject: Histological, histopathological and ultrastructural studies on the small intestine and liver of domestic chicken, "gallus gallus domesticus" (phasianidae) infected with some helminthes. Achieved by: **Awaad A**. Supervised by: Nasr A N, El-damarany M, Adly MA. October, 2003, Sohag University, Sohag, Egypt. (http://srv2.eulc.edu.eg/eulc_v5/Libraries/Thesis/BrowseThesisPages.aspx?fn=ThesisPicBody&BibID=9578961&TotalNoOfRecord=284&PageNo=14&PageDirection=Next)

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