

## Dr. Med. Vet. Mohamed Ibrahim Shaalan



Nationality: Egyptian Birth date: 03/07/1988 Marital status: Married

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### CURRENT POSITIONS

**Postdoctoral researcher** at the Slovak academy of sciences

**February 2023- currently**

**Assistant professor** at the faculty of veterinary medicine, Cairo University, Egypt

**March 2023 – currently**

### PREVIOUS POSITIONS

**Lecturer** at the faculty of veterinary medicine, Cairo University, Egypt

**Dec 2017 – March 2023**

**Postdoctoral fellow** at the University of veterinary medicine, Vienna, Austria

**May 2021- October 2021**

**Postdoctoral fellow** at the IRS-UN, INSERM, Nantes, France

**June 2019- November 2019**

**Postdoctoral fellow** at the institute of veterinary medical research, Budapest, Hungary

**Oct 2018- Jan 2019**

**Assistant lecturer** at the faculty of veterinary medicine, Cairo University **Feb 2014- Dec 2017**

**Demonstrator** at the faculty of veterinary medicine, Cairo University **Apr 2011- Feb 2014**

### EDUCATION

**University of veterinary medicine, Vienna**

**2015- 2017**

Doctoral degree in veterinary medicine, October 2017

Thesis entitled "Role of nanoparticles in fish diseases pathogenesis" Grade: Very good (1), Pass with distinction

**Faculty of veterinary medicine, Cairo University**

**2005 – 2014**

M.V.Sc. in veterinary pathology, January 2014.

Thesis entitled "pathological studies on the toxic effects of silver nanoparticles in rats"

B.Sc. in veterinary medical sciences, May 2010

Grade: Very good with distinction (80.28%)

## LABORATORY SKILLS

Histopathological techniques (tissue processing, staining, IHC, slides interpretation)  
Imaging techniques using light, fluorescent and electron microscopy  
Tissue culture and toxicological assays (MTT)  
Microbiological techniques including culturing of bacteria and antibiotic sensitivity test  
Molecular biology techniques (DNA extraction, PCR, gel electrophoresis, qPCR)  
Metallic nanoparticles synthesis and characterization

## MEMBERSHIPS

Member in the Egyptian Veterinary Medical Association for Pathology and Clinical Pathology  
Member in the Scientific Research Group in Egypt (SRGE)  
Member in the European association of fish pathologist (EAFP)  
Member in the national committee of oceanography and fisheries, Egypt  
JSPS HOPE fellow

## AWARDS

**Cairo University Encouragement award** **September 2018**

Honorary prize in recognition of excellent scientific merit

**EAFP student Award** **June 2017**

Waiving of the registration fees for the 18<sup>th</sup> international conference of diseases of fish and shellfish, Belfast, UK

**JCP Educational Trust Travel Bursary** **June 2016, June 2017**

Travel award from the journal of comparative pathology to participate in the combined ESVP-ECVP meeting (2016) in Bologna, Italy and the 18th international conference of diseases of fish and shellfish (2017) in Belfast, UK

**IATP Charles Capen Trainee Award** **September 2016**

Awarded from the international academy of toxicologic pathology in recognition of demonstrated achievements in the field of toxicologic pathology

## TEACHING EXPERIENCE

**Teaching Veterinary pathology courses** **April 2011- Present**

Teaching and mentoring of the courses (General Pathology, Systematic Pathology and Special Pathology)  
For 3<sup>rd</sup> and 4<sup>th</sup> grade veterinary students and postgraduate students in the faculty of Veterinary Medicine, Cairo University, Egypt

## Publications list

[H-index = 12, citations =591 (SCOPUS)]

### A) Publications in peer-reviewed journals:

- 1- Hamdy, M. E., El-Deeb, A. H., Hagag, N. M., Shahein, M. A., Liyanage, N. P., **Shaalán, M.**, & Hussein, H. A. (2023). SARS-CoV-2 infection of companion animals in Egypt and its risk of spillover. *Veterinary Medicine and Science*, 9(1), 13-24.
- 2- Mahboub, H. H., Shahin, K., Mahmoud, S. M., Altohamy, D. E., Husseiny, W. A., Mansour, D. A., **Shaalán, M.** & Rahman, A. N. A. (2022). Silica nanoparticles are novel aqueous additive mitigating heavy metals toxicity and improving the health of African catfish, *Clarias gariepinus*. *Aquatic Toxicology*, 249, 106238.
- 3- El-Saied, M., El-Mahdy, M. M., Bayoumi, M., Soliman, R. A., Elsayed, M. F., Sakr, E. E. D., ... & **Shaalán, M.** (2022). Pathogenicity and vaccine efficacy of two virulent infectious laryngotracheitis virus strains in Egypt. *BMC Veterinary Research*, 18(1), 358.
- 4- Saleh, M., Essawy, E., **Shaalán, M.**, Osman, S., Ahmed, F., El-Matbouli, M. (2022). Therapeutic Intervention with Dietary Chitosan Nanoparticles Alleviates Pathological and Molecular Systemic Inflammatory Responses of Rainbow trout against Enteric Redmouth Disease. *Marine drugs*, accepted.
- 5- Tabaa, M. M. E., Fattah, A. M. K., **Shaalán, M.**, Rashad, E., & El Mahdy, N. A. (2022). Dapagliflozin mitigates ovalbumin-prompted airway inflammatory-oxidative successions and associated bronchospasm in a rat model of allergic asthma. *Expert Opinion on Therapeutic Targets*, 26(5), 487-506.
- 6- Tabaa, M. M. E., Aboalazm, H. M., **Shaalán, M.**, & Khedr, N. F. (2022). Silymarin constrains diacetyl-prompted oxidative stress and neuroinflammation in rats: involvements of Dyn/GDNF and MAPK signaling pathway. *Inflammopharmacology*, 30(3), 961-980.
- 7- Elgendy, M. Y., **Shaalán, M.**, Abdelsalam, M., Eissa, A. E., El-Adawy, M. M., & Seida, A. A. (2022). Antibacterial activity of silver nanoparticles against antibiotic-resistant *Aeromonas veronii* infections in Nile tilapia, *Oreochromis niloticus* (L.), in vitro and in vivo assay. *Aquaculture Research*, 53(3), 901-920.
- 8- Ahdy, A. M., Ahmed, B. M., Elgamal, M. A., **Shaalán, M.**, Farag, I. M., Mahfouz, E. R., et al. (2022). Detection of Equid Alpha herpesvirus 1 from Arabian Horses with different clinical presentations between 2016-2019 in Egypt. *Journal of Equine Veterinary Science*, 114, 103960.
- 9- Al-Mokaddem, A.K, Abdel-moneam. D.A., Ibrahim, R.A., Saleh, M., **Shaalán, M\*** (2022). Molecular identification, histopathological analysis and immunohistochemical characterization of non-pigmented *Aeromonas salmonicida* subsp. *salmonicida* in *Mugil carinatus* (Valenciennes, 1836), *Aquaculture reports*, accepted.
- 10- Manar M. Farouk, Amal EL-Molla, Fayez A. Salib, Yousef A. Soliman, **Mohamed Shaalan** (2022). Therapeutic potential of Bulgarian Propolis against antibiotic-resistant *Salmonella* species, *the Thai journal of veterinary medicine*, 52(1), 83-96

- 11- Mahdy, O.A.\*, Abdelsalam, M., Abdel- Maogood, S.Z., **Shaalán, M.**, Salem, M.A (2022) First genetic confirmation of Clinostomidae metacercariae infecting Oreochromis niloticus in Egypt, *Aquaculture research*, 53(1), 199-207.
- 12- Heba M Salem, Elshaimaa Ismael and **Mohamed Shaalan\*** (2021) Evaluation of the Effects of Silver Nanoparticles Against Experimentally Induced Necrotic Enteritis in Broiler Chickens, *International Journal of Nanomedicine*, 16, 6783-6796
- 13- Abdel-Ghany, W., **Shaalán, M.\***, Salem, H.M. (2021) Nanoparticles applications in poultry production: An updated review, *World's poultry science journal*, 77(4).
- 14- El-Saied, M., El-Mahdy, M., Sakr, E.E, Bastami, M., **Shaalán, M.\*** (2021). Anatomopathological, ultrastructural, immunohistochemical and molecular characterization of infectious laryngotracheitis outbreaks in poultry farms in Egypt (2018–2020), *Brazilian journal of veterinary pathology*, 14(2), 88-98
- 15- Mahdy, O.A\*, Abdel- Maogood, S.Z., Abdelsalam, M., **Shaalán, M.**, Abdelrahman, H.A, Salem. M.A. (2021) Epidemiological study of fish- borne zoonotic trematodes infecting Nile tilapia with first molecular characterization of two heterophyid flukes, *Aquaculture research*, 52(9), 4475-4488.
- 16- Abu-Elala, N.M\*, **Shaalán, M.**, Ali, S.E, Younis, N.A (2021) Immune responses and protective efficacy of diet supplementation with selenium nanoparticles against cadmium toxicity in *Oreochromis niloticus* *Aquaculture research*, 52 (8), 3677-3686. <https://doi.org/10.1111/are.15212>
- 17- Abuowarda, M.\*, AbuBakr, H.O, Ismael, E., **Shaalán, M.**, Mohamed, M.A, Aljuaydi, S.H. (2021) Epidemiological and genetic characteristics of asymptomatic canine leishmaniasis and implications for human Leishmania infections in Egypt. *Zoonoses and public health*, 68 (5), 413-430. doi:10.1111/zph.12824
- 18- Abdel-moneam. D.A., Ibrahim, R.A., Nashaat, M., **Shaalán, M\***. (2021) Multifactorial Causes of Mass Mortality in Oreochromis niloticus in Kafr El-Sheikh, Egypt. *Bulletin of the European association of fish pathologists*, 41(1), 6-16
- 19- Eliwa, M., Mahran, K.M.A\*, Mousa, W.A, Hagag, N., **Shaalán, M.I**, Bashandy, M.M (2021) Ovine Theileriosis: Clinical, Pathological and Molecular Investigations. *Adv. Anim. Vet. Sci.* 9(4), 462-472 [Http://dx.doi.org/10.17582/journal.aavs/2021/9.4.462.472](http://dx.doi.org/10.17582/journal.aavs/2021/9.4.462.472)
- 20- El-Adawy, M.M., Eissa, A.E.\*, **Shaalán, M.**, Younis, N., Ismail, M.M., Abdelsalam, M. (2021) Green synthesis and physical properties of Gum Arabic-silver nanoparticles and its antibacterial efficacy against fish bacterial pathogens. *Aquaculture research*, 52(3), 1247-1254
- 21- Lang, C.\*, Mission, E.G., Fuaad, A.A.A, **Shaalán, M.** (2021) Nanoparticle tools to improve and advance precision practices in the Agrifoods Sector towards sustainability - A review. *Journal of cleaner production*, 293, 126063.
- 22- Farouk, M. M.\*, El-Molla, A., Salib, F. A., Soliman, Y. A., **Shaalán, M.** (2020). The role of silver nanoparticles in a treatment approach for multidrug-resistant salmonella species isolates. *International Journal of Nanomedicine*, 15, 6993.
- 23- **Shaalán, M.\***, Sellyei, B., El-Matbouli, M., Székely, C. (2020). Efficacy of silver nanoparticles to control flavobacteriosis caused by *Flavobacterium johnsoniae* in common carp *Cyprinus carpio*. *Diseases of aquatic organisms*, 137(3), 175-183.

- 24- **Shaalán, M.**, El-Mahdy, M., Theiner, S., Dinhopl, N., El-Matbouli, M.\*, & Saleh, M. (2018). Silver nanoparticles: Their role as antibacterial agent against *Aeromonas salmonicida* subsp. *salmonicida* in rainbow trout (*Oncorhynchus mykiss*). *Research in veterinary science*, 119, 196-204.
- 25- **Shaalán, M.**, El-Mahdy, M., Saleh, M., El-Matbouli, M.\* (2018). Aquaculture in Egypt: insights on the current trends and future perspectives for sustainable development. *Reviews in Fisheries Science & Aquaculture*, 26(1), 99-110.
- 26- **Shaalán, M. I.**, El-Mahdy, M. M., Theiner, S., El-Matbouli, M.\*, Saleh, M. (2017). In vitro assessment of the antimicrobial activity of silver and zinc oxide nanoparticles against fish pathogens. *Acta Veterinaria Scandinavica*, 59(1), 1-11.
- 27- Abdelsalam, M., Elgendy, M. Y., **Shaalán, M.\***, Moustafa, M., Fujino, M. (2017). Rapid identification of pathogenic streptococci isolated from moribund red tilapia (*Oreochromis* spp.). *Acta Veterinaria Hungarica*, 65(1), 50-59.
- 28- **Shaalán, M.**, Saleh, M., El-Mahdy, M., El-Matbouli, M.\* (2016). Recent progress in applications of nanoparticles in fish medicine: a review. *Nanomedicine: Nanotechnology, Biology and Medicine*, 12(3), 701-710.
- 29- El Mahdy, M. M., Eldin, T. A. S., Aly, H. S., Mohammed, F. F.\*, **Shaalán, M. I.** (2015). Evaluation of hepatotoxic and genotoxic potential of silver nanoparticles in albino rats. *Experimental and toxicologic pathology*, 67(1), 21-29.

## **(B) Conference proceedings**

- 1- Sayed, G.I, Hassanien, A.E., **Shaalán M.I** "**Particle Swarm Optimization and K-Means Algorithm for Chromosomes Extraction from Metaphase Images**", Proceedings of the International Conference on Advanced Intelligent Systems and Informatics 2017, 331-341.Springer International Publishing (2018)
- 2- Adl, A., Shaheed I., **Shaalán, M.I**, Al-Mokaddem, A.K, Hassanien, A.E. "**Digital Pathological Services Capability Framework**", Advanced Machine Learning Technologies and Applications.109 118.Springer International Publishing (2014)

## **(C) Oral conference presentations:**

- 1- **Shaalán M.. Silver nanoparticles: Could they serve as the next antibacterials in fish medicine?**. The 10th HOPE meeting for Nobel laureates, (2018), Yokohama, Japan.
- 2- **Shaalán, M.**, El-Mahdy, M., El-Matbouli, M., Saleh, M. "**Antibacterial Activity of Silver Nanoparticles Against *Aeromonas salmonicida* in Rainbow Trout**" the 18th International Conference on Diseases of Fish and Shellfish, (2017), Belfast, UK.
- 3- **Shaalán, M.**, El-Mahdy, M., Saleh, M., El-Matbouli, M. "**Nanoparticles as a promising antipathogen in fish medicine**" the 16th Joint meeting of the German, Austrian and Swiss branches of the European association of fish pathologists (EAFP), (2016), Graz, Austria.
- 4- **Shaalán, M.** "**Overview on silver nanoparticles: Applications versus toxicity**", the 24th congress of Egyptian society of animal reproduction and fertility, February (2014), Hurghada, Egypt.

## **(D) Posters:**

- 1- **Shaalán, M.**, El-Mahdy, M., El-Matbouli, M., Saleh, M. “**Silver nanoparticles: Assessment of bactericidal activity against *Aeromonas salmonicida* and *in vitro* cytotoxicity using the MTT assay in three different fish cell lines**”, European Society of Toxicologic Pathology meeting (2016), Barcelona, Spain.
- 2- **Shaalán, M.**, El-Mahdy, M., El-Matbouli, M., Saleh, M “**Zinc oxide nanoparticles as a novel tool to combat *Yersinia ruckeri* and *Aphanomyces invadans***”, The combined European Society of Veterinary Pathology- European College of Veterinary Pathologists meeting (2016), Bologna, Italy. Abstract is published in journal of comparative pathology, DOI: 10.1016/j.jcpa.2016.11.056
- 3- Ali, M.A.S, **Shaalán, M.I.**, Hassanien, A.E, Kim, T-H. “**A Simple Approach for Segmentation and Removal of Interphase Cells from Chromosome Images**”, COMCOMS (2015), Hanoi, Vietnam
- 4- **Shaalán, M.I.**, El-Mahdy, M.M, Mohammed, F.F, Salah El-Din T.A. “**Pathological and clinicopathological studies on I/P injection of silver nanoparticles in rats**”. The 2nd international conference on animal and dairy sciences (2014), Hyderabad, India. Abstract is published in journal of veterinary science & technology, DOI: 10.4172/2157-7579.S1.007
- 5- Moftah, H, **Ibrahim, M.**, Hassanien, A.E, Schaefer, G. “**Mammary Gland Tumor Detection in Cats using Ant Colony Optimisation**”, Recent advances in computer vision and pattern recognition (RACVPR2013) In Conjunction with ACPR2013, November 5th, (2013), Okinawa, Japan.

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