C.V

Personal Data

- **Name:** Abdelazeem Moahammed Abdelazeem Algammal.
- **Date of birth:** 1/ 2/ 1983.
- **Place of birth:** Monofiya Governorate, Egypt.
- **Nationality**: Egyptian**.**
- **Material status:** Married.
- **Address:** (5) Darb Hagag El-kabeer Street, Sers El Lyann, Monofiya, Egypt.
- **Mobile: (+2) 01207666729 - (+2) 01010667290**

- Email and Scientific Profiles Links:

- abdelazeem.algammal@vet.suez.edu.eg
- abdelazeem.algammal@gmail.com
- https://www.scopus.com/authid/detail.uri?authorId=55953589200
- https://www.researchgate.net/profile/Abdelazeem_Algammal
- https://scholar.google.com.eg/citations?user=Oi8npWQAAAAJ&hl=en
- https://publons.com/researcher/1298154/abdelazeem-mohamed-algammal/publications/

Profession:

- Professor Doctor and Head of Department of Bacteriology, Immunology and Mycology. Faculty of Veterinary Medicine, Suez Canal University. Egypt.

Educational Data:

- **B.Sc. of veterinary medicine (2004),** Faculty of Veterinary Medicine, Suez Canal University, Egypt.
- **Master degree in Microbiology** "Bacteriology, Immunology and Mycology" - (Characterization of microorganisms causing subclinical bovine mastitis), **(2008).**
- **PhD. in Microbiology** "Bacteriology, Immunology and Mycology". (Molecular typing of exotoxins genes in *S.aureus* isolates) **(2011).**

Experience:

- **Head of Department of Bacteriology, Immunology and Mycology.** Faculty of Veterinary Medicine, Suez Canal University (2/9/ 2021– until now).
- **Professor Doctor of Bacteriology, Immunology and Mycology.** Faculty of Veterinary Medicine, Suez Canal University (25/8/ 2021).
- **Associate Professor of Bacteriology, Immunology and Mycology.** Faculty of Veterinary Medicine, Suez Canal University (10/8/ 2016 – 24/8/ 2021).
- **Lecturer** at Department of Bacteriology, Immunology and Mycology, Faculty of Veterinary Medicine, Suez Canal University (from 31/7/2011 until 1/08/ 2016).
- **Assistant lecturer** at Department of Bacteriology, Immunology and Mycology, Faculty of Veterinary Medicine, Suez Canal University (from 8/5/2008 until 31/7/2011).
- **Demonstrator** at Department of Bacteriology, Immunology and Mycology, Faculty of Veterinary Medicine, Suez Canal University (from 5/1/2005 until 8/5/2008).

-International Editorial Board Membership:

1-Associate Editor at Frontiers in Microbiology (impact factor: 6.06):

(Section: Infectious Agents and Disease):

https://www.frontiersin.org/journals/microbiology/sections/infectious-agents-and-disease/editors

(Section: Antimicrobial Resistance and Chemotherapy)

https://www.frontiersin.org/journals/microbiology/sections/antimicrobials-resistance-and-chemotherapy#editorial-board

2-Associate Editor at BMC Microbiology Journal (BMC Series, Springer Nature) (impact factor: 4.46):

https://bmcmicrobiol.biomedcentral.com/about/editorial-board

3- Editor at Bioengineered, Taylor and Francis Group (impact factor: 6.83).

https://www.tandfonline.com/action/journalInformation?show=editorialBoard&journalCode=kbie20

4- Associate Editor at BMC Infectious Diseases (BMC Series, Springer Nature) (impact factor: 3.66):

https://bmcinfectdis.biomedcentral.com/about/editorial-board

5-Review Editor at Frontiers in Immunology (impact factor: 8.78):

(Section: Molecular Innate Immunity)

https://www.frontiersin.org/journals/immunology/sections/molecular-innate-immunity#editorial-board

6- Associate Editor at Frontiers in Bacteriology:

(Section: One Health in Bacteriology)

https://www.frontiersin.org/journals/bacteriology/editors

7-Academic Editor at The Microbe (Elsevier):

https://www.sciencedirect.com/journal/the-microbe/about/editorial-board

8-Associate Editor at BMC Research Notes (BMC Series, Springer Nature):

https://bmcresnotes.biomedcentral.com/about/editorial-board

9-Guest Editor at Frontiers of Bioscience-Landmark (impact factor: 3.11).

https://www.imrpress.com/journal/FBL/special_issues/1326788435239141378

-Scientific reviewer at the following international journals:

https://www.webofscience.com/wos/author/record/1689542?state=%7B%7D

1. **Microbiome (Impact Factor: 16.83).**
2. **Gut Microbes (Impact Factor: 9.43).**
3. **Frontiers in Microbiology (impact factor: 6.064).**
4. **Frontiers in Immunology (impact factor: 8.78).**
5. **Food Research International (impact factor: 7.42).**
6. **Bioengineered (impact factor: 6.83).**
7. **Frontiers in Cellular and Infection Microbiology (impact factor: 6.07).**
8. **Microorganisms (Impact factor: 4.9).**
9. **Current Medicinal Chemistry (impact factor: 4.74).**
10. **BMC Genomics (Impact factor: 4.55).**
11. **World Journal of Microbiology and Biotechnology (Impact factor: 4.1).**
12. **Cell Cycle (Impact factor: 4.3).**
13. **Phytotherapy Research (impact factor: 6.38).**
14. **Journal of Immunology Research (impact factor 4.49).**
15. **Immunologic Research (impact factor 4.5).**
16. **Toxins (impact factor 5.07).**
17. **Biomedicines (impact factor 4.75).**

18.Scientific Reports (Nature) (impact factor 4.99).

19.Molecules (impact factor 4.92).

20.Infection and Drug Resistance (impact factor 4.17).

21.Journal of Applied Microbiology (impact factor 4.05).

22.BMC Microbiology (impact factor 4.465).

23.Frontiers in Veterinary Science (impact factor: 3.47).

24.Molecular Biology Reports (impact factor: 2.74).

25.Environmental Science and Pollution Research (impact factor: 5.19).

26. Infection, Genetics and Evolution (impact factor: 4.39).

27. BMC Infectious Diseases (impact factor: 3.66).

28. Disease Markers (impact factor: 3.46).

29.Brazilian Journal of Infectious Diseases (impact factor: 3.25).

30. PloS One (impact factor: 3.75).

31. Mini-Reviews in Medicinal Chemistry (impact factor: 3.73).

32.Water (impact factor: 3.53)

33. Letters in Applied Microbiology (impact factor 2.81).

34.Canadian Journal of Infectious Diseases and Medical Microbiology (IF: 2.58).

35. Science Progress (impact factor: 1.51).

36. Iranian Journal of Basic Medical Sciences (impact factor: 2.53).

37. MEDICAL SCIENCE MONITOR (impact factor: 3.38).

38. Journal of Apicultural Research (impact factor: 2.4).

39. Aquaculture International (impact factor: 2.95).

40. Aquaculture Research (impact factor: 2.18)

41.Journal of Animal Physiology and Animal Nutrition (impact factor: 2.7).

42. Medicine (Elsevier) (impact factor: 1. 8).

43.Veterinary Medicine and Science (impact factor: 1. 77).

44. Medical Principles and Practice (impact factor: 2.1).

45. Iranian Journal of Veterinary Research (impact factor: 1.22).

46. Turkish Journal of Fisheries and Aquatic Sciences (impact factor: 1.42).

47. Journal of Biological Research-Thessaloniki (impact factor: 2.57).

48. Journal of Infection in Developing Countries (impact factor: 2.55).

49.International Journal of Veterinary Science and Medicine.

50.Veterinary World.

51.Environmental Health Insights.

52.Gene Reports.

53.Anti-Infective Agents.

54.Journal of Biological Research (Italy).

55. American Journal of Animal and Veterinary Sciences.

56. American journal of Infectious Diseases.

57. F1000Reasearch.

-Awards and International Ranking:

1-Stanford University (California, USA) Ranking of the World Scientists: "World's Top 2% Scientists" 2022:

-I have been listed in the Stanford University (California, USA) Ranking of the World Scientists: "World's Top 2% Scientists". The most influential 2% scientists in the world in their scientific career in 2022. October 2023 data-update. Published in Plos Biology 2023.

https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6

2-Stanford University (California, USA) Ranking of the World Scientists: "World's Top 2% Scientists" 2021:

-I have been listed in the Stanford University (California, USA) Ranking of the World Scientists: "World's Top 2% Scientists". The most influential 2% scientists in the world in their scientific career in 2021. September 2022 data-update. Published in Plos Biology 2022.

https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/4

3- Best Applied Research Award at Suez Canal University (2021):

Sivaramasamy Elayaraja, Mahmoud Mabrok, Abdelazeem Algammal *et al.* Potential influence of jaggery-based biofloc technology at different C: N ratios on water quality, growth performance, innate immunity, immune-related genes expression profiles, and disease resistance against *Aeromonas hydrophila* in Nile tilapia (*Oreochromis niloticus*). Fish and Shellfish Immunology **2020**, 9. https://doi.org/10.1016/j.fsi.2020.09.023.

-International Scientific Society Membership:

1. **A Global Outreach-Contributing Member of The American Society for Microbiology:**
   https://myasm.asm.org/eweb/DynamicPage.aspx?webcode=FullIndInfo
2. **A member of The Microbiology Society: (The largest learned microbiological society in Europe):**
   https://microbiologysociety.org/login/mi-society.html
3. **A member of Applied Microbiology International: (Formerly named: The Society for Applied Microbiology "SFAM").**
   https://www.the-microbiologist.com/my-profile
4. **A member of The British Society for Antimicrobial Chemotherapy (UK):**
   https://bsac.org.uk/

-Training Courses:

1-One Health Training Program at Duke University, NC, USA:

-A trainee at the One Health Training Program at Duke University, NC, USA (16 May-8 June 2019), completing 9 credit hours of graduate-level coursework. The program involves 23 days of intensive training at Duke University, for a total of 9 semester hours of credit.

-The training included lectures, tutorials, field experiences, laboratory exercises, public health demonstrations, and written examinations with the goal of introducing students to the One Health approach to infectious disease problem solving. Training is directed at 1) Introducing the concept of One Health problem solving which combines public health, veterinary health, and environmental health training 2) Strengthening global surveillance and 3) Considering interventions to reduce infectious disease public health threats.

-The course work involves training in One Health, epidemiology, and virology (particularly influenza), as well as achieving better collaborations between US governmental agencies and various ministries of health or agriculture.

2-Collaborative Institutional Training Initiative (CITI) Program, Duke Health Institute, Duke University, NC, USA:

https://www.citiprogram.org/members/index.cfm?pageID=181&institutionID=0#view

1-Biomedical Research with GCP- Basic/Refresher (30-Mar-2019):

1- The CITI Good Clinical Practice Course for Clinical Trials Involving Drugs and Devices (ID: 1350) 30-Mar-2019 3/3 (100%)
2- Overview of New Drug Development (ID: 1351) 30-Mar-2019 5/5 (100%).
3- Overview of ICH GCP (ID: 1352) 30-Mar-2019 4/4 (100%).
4- ICH - Comparison between ICH GCP E6 and U.S. FDA Regulations (ID: 1354) 30-Mar-2019 5/5 (100%).
5- Conducting Investigator-Initiated Studies According to FDA Regulations and GCP (ID: 1355) 30-Mar-2019 3/3 (100%).
6- Investigator Obligations in FDA-Regulated Research (ID: 1356) 30-Mar-2019 5/5 (100%).
7- Managing Investigational Agents According to GCP Requirements (ID: 1357) 30-Mar-2019 5/5 (100%).
8- Overview of U.S. FDA Regulations for Medical Devices (ID: 1358) 30-Mar-2019 3/3 (100%)
9- Informed Consent in Clinical Trials of Drugs, Biologics, and Devices (ID: 1359) 30-Mar-2019 4/4 (100%).
10- Detecting and Evaluating Adverse Events (ID: 1360) 30-Mar-2019 4/4 (100%).
11- Reporting Serious Adverse Events (ID: 1361) 30-Mar-2019 4/4 (100%).
12- Audits and Inspections of Clinical Trials (ID: 1363) 30-Mar-2019 5/5 (100%).
13- Monitoring of Clinical Trials by Industry Sponsors (ID: 1362) 30-Mar-2019 5/5 (100%).
14- Completing the CITI GCP Course (ID: 1364) 30-Mar-2019.

2-Biomedical Research with GCP- Basic/Refresher (28-Jan-2022):

1- GCP Refresher - International Council for Harmonisation (ICH): GCP Requirements (ID: 16779) 28-Jan-2022 5/5 (100%)

2- GCP Refresher - Conducting Clinical Investigations of Devices (ID: 17205) 28-Jan-2022 4/4 (100%)

3- GCP Refresher - Review of U.S. FDA Regulations for Investigational Devices (ID: 17206) 28-Jan-2022 3/3 (100%)

4- GCP Refresher - Investigator's Responsibilities and GCP (ID: 16780) 28-Jan-2022 5/5 (100%)

5- GCP Refresher - Informed Consent (ID: 16781) 28-Jan-2022 5/5 (100%)

6- GCP Refresher - Additional GCP Standards for International Clinical Investigations of Devices (ID: 17207) 28-Jan-2022 4/4 (100%)

7- GCP Refresher - Informed Consent and Exceptions to the Requirement for Obtaining Consent for Clinical Investigations of Devices (ID: 17208) 28-Jan-2022 4/4 (100%)

8- GCP Refresher - Safety Management (ID: 16782) 28-Jan-2022 5/5 (100%)

9- GCP Refresher - Investigational Product (Drug) Management (ID: 16783) 28-Jan-2022 5/5 (100%)

10- GCP Refresher - Oversight of Clinical Investigations of Devices (ID: 17209) 28-Jan-2022 4/4 (100%)

11- GCP Refresher - Reporting Requirements for Clinical Investigations of Devices (ID: 17210) 28-Jan-2022 3/3(100%)

12- GCP Refresher - Audits, Inspection, and Monitoring of Research Studies (ID: 16784) 28-Jan-2022 5/5 (100%)

13- GCP Refresher - Sponsor Responsibilities and GCP (ID: 16785) 28-Jan-2022 5/5 (100%)

3-Biomedical Research: CITI Good Clinical Practice Course (28-Jan-2022) (100%).

4-Biomedical Research: Vulnerable Subjects- Research Involving Prisoners (28-Jan-2022) (100%).

5-Biomedical Research: Vulnerable Subjects - Research Involving Children (30-Jan-2022) (100%).

6-Biomedical Research: Vulnerable Subjects - Research Involving Pregnant Women, Fetuses, and Neonates (30-Jan-2022) (100%).

3-Training course in The American University in Cairo (AUC):

"Research Methods and their applications in guiding and evaluating policies and programs". At the Social Research Center of The American University in Cairo. (21 February- 19 May, 2016).

4-Training of Entrepreneurship Trainers (TET):

-A certified Entrepreneurship trainer from the International Labor Organization.

-Know About Business (KAB) PROFESSORS COURSE. Conducted by The International Labor Organization (ILO), held from (31May – 15 June 2012) at Cairo University with net training hours of 100.

5-Web of Science Academy Training Courses:

1. **An Introduction to Ethical Publishing Behavior (4-5-2022).**
2. **An Introduction to Peer Review (3-5-2022).**
3. **Reviewing in the Sciences (3-5-2022).**
4. **Good Citation Behaviour (3-5-2022).**
5. **Reviewing in the Humanities (2-5-2022).**

-List of conferences, Workshops, Online webinars, and Seminars:

1-Online poster presentation during the Animal Health Symposium that was held at the University of Porto Matosinhos, Portugal. On the 23rd of July 2021 (Online meeting). A2S | Animal Health and Aquaculture team. CIIMAR; Interdisciplinary Centre of Marine and Environmental Research of the University of Porto Matosinhos, Portugal.

Entitled: "Multidrug resistance traits, virulence determinants, pathogenicity, and antibiotic-resistance genes of Emerging MDR-*Pseudomonas aeruginosa* in *Oreochromis niloticus* and *Clarias gariepinus*".

2--Online Poster presentation at ICASAB 2020 22th International Conference on Aquaculture Systems and Aquatic Biodiversity, Barcelona, Spain during May 22-23, 2020. Entitled; "Cloning and Analysis of Nile Tilapia Toll-like receptors Type-3 mRNA"

3-The 8th young researchers Conference at Suez Canal University (3-4 April 2021): Participated as a scientific reviewer.

4- Let's Break the Chain of COVID-19 Infection at Mohammed Bin Rashid University of Medicine and Health sciences (10/4/2020).

5-Proteomics Technology for top Notch Research Target (Suez Canal University, Online Webinar, 25/6/2020).

6-Husbandry, Handling, and Basic Techniques in Laboratory Animals (5 modules online webinars/90 min each, twice/ week from 29 June -20 July 2020), Faculty of Veterinary Medicine, Suez Canal University, Egypt.

7-Stem Cell Therapy for Diabetes: Reality vs. Hope and Hype (Suez Canal University, Online Webinar, 25/7/2020).

8-The safety and quality of the sacrifice (Suez Canal University, Online Webinar, 27/7/2020).

9-The 2nd students Scientific Conference of the faculty of veterinary medicine, Suez Canal University (2015).

10-Participated in the workshop that held at Leadership Development Institute (in Alexandria 4/7- 9/7/2014) , including:

A-The most important higher education issues

B-Professional and ethical work of the University Charter

C-Ways and mechanisms of the development of student activities

11-The 8th international scientific conference of the faculty of veterinary medicine, Suez Canal University (27- 30 NOVEMBER 2014).

12-The 1st students Scientific Conference of the faculty of veterinary medicine, Suez Canal University (14 April 2014).

13-The 1st young researchers Conference at Suez Canal University (6-7 March 2013). (participated with an oral presentation entitled:

(PCR based detection of genes encoding virulence determinants in *S. aureus* strains isolated from bovine milk).

14-Participated in workshop held at Animal Research Center, entitled (Correlation between safety and biosafety). (2/2/2010).

15-Participated in symposium held at Biotechnology Research Center, Suez Canal University that entitled (Epigenetics: You are what you eat), given by Prof. Amy Lossie, Burdo University, USA. (8 / 3/ 2009).

16-The Conference held at Biotechnology Research Center, Suez Canal University that entitled (the new in the field of Biotechnology and genetic Engineering) (14 April 2008).

17- Participated in training course entitled (PCR and its different applications), held at Central Laboratory for Aquaculture Research in EL-Abbasa (26 - 28/2/2006).

-Capacity Development Courses of Staff -Members:

1. **University teacher preparation program :(1- Effective teaching, 2-The use of technology in teaching, 3-Micro-teaching): the 1st on my training group. (11– 22/6/2006).**
2. **Research Methodology (6– 9/8/2006).**
3. **Thinking skills (10– 12/6/2007).**
4. **Quality standards in the teaching process (27/7- 29/7/2010).**
5. **Academic Management (21- 23/12/2010).**
6. **Effective communication skills (17- 19/4/2011).**
7. **Recent trends in teaching (19- 20/4/2011).**
8. **Examinations systems and students evaluation (26- 28/4/2011).**
9. **The credit hour system (4- 5/10/2015).**
10. **Strategic Planning (7- 8/10/2015).**
11. **Organizing scientific conferences (19- 20/10/2015).**
12. **International Scientific Publications (21- 22/10/2015).**

13. Time and meetings Management (17- 18/11/2015).

14. The research team management (17- 18/11/2015).

15. E-Learning Management Systems (21- 22/5/2020).

16. Competitive Research Projects (24-25/6/2020).

17. Plagiarism checker and avoidance (4-5/7/2020).

18. Endnote (17-18/8/2020).

19. Question banks and Electronic correction (22-23/8/2020).

20. Responsible conduct in scientific research (22-24/10/2020).

ICTP Training:

1. **Graphics-Adobe Photoshop** (April 2009)
2. **2D Animation-Macromedia flash** (April 2009)
3. **Dream weaver** (April 2009)

-The University of Birmingham journal, UK, has highlighted one of my manuscripts as one of the best in scientific research:

https://mailchi.mp/52ae5aba8709/bactivac-newsletter-issue-10-may-2020?e=589ec18764

Algammal, A.M.; Mohamed, M.F.; Tawfiek, B.A.; Hozzein, W.N.; El Kazzaz, W.M.; Mabrok, M. Molecular Typing, Antibiogram and PCR-RFLP Based Detection of *Aeromonas hydrophila* Complex Isolated from *Oreochromis niloticus*. *Pathogens* 2020, *9*, 238.

-List of International publications (indexed in Scopus and PubMed):

1. **Algammal, A.M., El-Tarabili, R.M., Abd El-Ghany, W.A. et a**l. Resistance profiles, virulence and antimicrobial resistance genes of XDR S. Enteritidis and S. Typhimurium. AMB Express 13, 110 (2023). https://doi.org/10.1186/s13568-023-01615-x

2. **Behzadi P, Kim C-H, Pawlak EA and Algammal A** (2023) Editorial: The innate and adaptive immune system in human urinary system. Frontiers in Immunology 14:1294869. doi: 10.3389/fimmu.2023.1294869

3. **Algammal AM, Eidaroos NH, Alfifi KJ, *et al***. *opr*L Gene Sequencing, Resistance Patterns, Virulence Genes, Quorum Sensing and Antibiotic Resistance Genes of XDR *Pseudomonas aeruginosa* Isolated from Broiler Chickens. Infection and Drug Resistance. 2023; 16: 853-867. https://doi.org/10.2147/IDR.S401473

4. **Algammal A, Hetta HF, Mabrok M and Behzadi P**. Editorial: Emerging multidrug-resistant bacterial pathogens "superbugs": A rising public health threat. *Frontiers in Microbiology*. 2023; 14:1135614. doi: 10.3389/fmicb.2023.1135614

5. **Mamdouh Y. Elgendy, Shimaa E. Ali, Wafaa T. Abbas, Abdelazeem M. Algammal, Mohamed Abdelsalam**. The role of marine pollution on the emergence of fish bacterial diseases. Chemosphere, 2023, 344:140366, https://doi.org/10.1016/j.chemosphere.2023.140366.

6. **Algammal, A.M.; Ibrahim, R.A.; Alfifi, K.J. *et al***. A First Report of Molecular Typing, Virulence Traits, and Phenotypic and Genotypic Resistance Patterns of Newly Emerging XDR and MDR *Aeromonas veronii* in *Mugil seheli*. *Pathogens* **2022**, *11*, 1262. https://doi.org/10.3390/pathogens11111262

7. **Abd El-Ghany WA, Algammal AM, Hetta HF, Elbestawy AR**. Gallibacterium anatis infection in poultry: a comprehensive review. Trop Anim Health Prod. 2023 Oct 27; 55 (6):383. doi: 10.1007/s11250-023-03796-w.

8. **Mohammed SA, Hetta HF, Zahran AM, Tolba MEM, Attia RAH, Behnsawy HM, Algammal AM *et al*.** T cell subsets, regulatory T, regulatory B cells and proinflammatory cytokine profile in *Schistosoma haematobium* associated bladder cancer: First report from Upper Egypt. PLoS Neglected Tropical Diseases. 2023, 17(4): e0011258. https://doi.org/10.1371/journal.pntd.0011258

9. **Ramadan H, Al-Ashmawy M, Soliman AM, Elbediwi M, Sabeq I, Yousef M, Algammal AM, Hiott LM, Berrang ME, Frye JG and Jackson CR**. Whole-genome sequencing of *Listeria innocua* recovered from retail milk and dairy products in Egypt. *Frontiers in Microbiology*. 2023, 14:1160244. doi: 10.3389/fmicb.2023.1160244

10. **Tran, KB, Lang JJ, Compton K, Xu R, Acheson AR, Henrikson HJ, Algammal AM, *et al*.** The global burden of cancer attributable to risk factors, 2010–19: a systematic analysis for the Global Burden of Disease Study 2019. **The Lancet**. 2022; 400 (10352), 563-591. https://doi.org/10.1016/S0140-6736(22)01438-6

11. **Kyu HH, Vongpradith A, Sirota SB, Novotney A, Algammal AM, *et al***. Age–sex differences in the global burden of lower respiratory infections and risk factors, 1990–2019: results from the Global Burden of Disease Study 2019. **The Lancet Infectious Diseases**. 2022 Aug 11. https://doi.org/10.1016/S1473-3099(22)00510-2

12. **Algammal AM, Hashem MEA, Alfifi KJ, *et al***. Sequence Analysis, Antibiogram Profile, Virulence and Antibiotic Resistance Genes of XDR and MDR

Gallibacterium anatis Isolated from Layer Chickens in Egypt. Infection and Drug Resistance, 2022;15: 4321-4334. https://doi.org/10.2147/IDR.S377797

13. **Shafiq M, Zeng M, Permana B, Bilal H, Huang J, Yao F, Algammal AM.** Coexistence of *bla*NDM−5 and *tet*(X4) in international high-risk *Escherichia coli* clone ST648 of human origin in China. Frontiers in Microbiology. 2022, 13:1031688. doi:10.3389/fmicb.2022.1031688

14. **Maryam S, Ul Haq I, Yahya G, Ul Haq M, Algammal AM, Saber S and Cavalu S.** COVID-19 surveillance in wastewater: An epidemiological tool for the monitoring of SARS-CoV-2. Frontiers in Cellular and Infection Microbiology. 2023, 12:978643. doi: 10.3389/fcimb.2022.978643

15. **Aziz, S.N., Al-Kadmy, I.M., Rheima, A.M., Algammal, A.M.** *et al.* Binary CuO\CoO nanoparticles inhibit biofilm formation and reduce the expression of *papC* and *fimH* genes in multidrug-resistant *Klebsiella oxytoca*. *Molecular Biology Reports* (2023). https://doi.org/10.1007/s11033-023-08447-9

16. **Sayad, R., Abdelsabour, H. A., Farhat, S. M., Omer, N. G., Ahmed, M. M., Elsayh, I. K., Algammal, A.M. & Hetta, H. F.** Applications of nanotechnology in the fight against coronavirus disease 2019. Reviews and Research in Medical Microbiology. 2023, 10-1097.

17. **Mabrok M, Algammal AM, Sivaramasamy E, Hetta HF, Atwah B, Alghamdi S, Fawzy A, Avendaño- Herrera R and Rodkhum C.** Tenacibaculosis caused by Tenacibaculum maritimum: Updated knowledge of this marine bacterial fish pathogen. Frontiers in Cellular and Infection Microbiology. 2023, 12:1068000. doi: 10.3389/fcimb.2022.1068000

18. **Algammal AM, Alfifi KJ, Mabrok M, *et al*.** Newly Emerging MDR *B. cereus* in *Mugil seheli* as the First Report Commonly Harbor *nhe*, *hbl*, *cyt*K, and *pc-plc*

Virulence Genes and *bla*1, *bla*2, *tet*A, and *erm*A Resistance Genes. Infection and Drug Resistance. 2022; 15: 2167-2185. Doi: 10.2147/IDR.S365254.

19. **Al-Kadmy, I. M., Aziz, S. N., Suhail, A., Abid, S. A., Naji, E. N., Al-Kadmy, Z., Algammal, A. M. *et al***. Enhancing the anti-biofilm activity of novel keratinase isolated from Acinetobacter baumannii using Reduced Graphene oxide: A way to recycle feather waste pollution. *Cleaner Waste Systems*. 2023, *5*, 100087

20. **Badawy B, Elafify M, Farag AMM, Moustafa SM, Sayed-Ahmed MZ, Moawad AA, Algammal AM, Ramadan H, Eltholth M.** Ecological Distribution of Virulent Multidrug-Resistant *Staphylococcus aureus* in Livestock, Environment, and Dairy Products. *Antibiotics*. 2022; 11(11):1651. https://doi.org/10.3390/antibiotics11111651

21. **Algammal, A.M., El-Tarabili, R.M., Alfifi, K.J., *et al.*** Virulence determinant and antimicrobial resistance traits of Emerging MDR Shiga toxigenic *E. coli* in diarrheic dogs. *AMB Expr*ess 12, 34 (2022). https://doi.org/10.1186/s13568-022-01371-4

22. **Algammal, Abdelazeem M., Mahmoud Mabrok, Mahmoud Ezzat, Khyreyah J. Alfifi, Aboelkheir M. Esawy, Nehal Elmasry, and Reham M. El-Tarabili.** Prevalence, antimicrobial resistance (AMR) pattern, virulence determinant and AMR genes of emerging multi-drug resistant *Edwardsiella tarda* in Nile tilapia and African catfish. Aquaculture (2022): 737643. https://doi.org/10.1016/j.aquaculture.2021.737643

23. **Farghly Youssif, Marwa M. Abdelrady, Ahmed Atef Thabet, Mohamed A. Abdelhamed, Mohamed Omar A. Gad, Ahmed Mohmmed Abu-Elfatth, Ghada Mohamed Saied, Islam Goda, Abdelazeem M. Algammal.** COVID-19 associated mucormycosis in Assiut University Hospitals: a multidisciplinary

dilemma. *Scientific Reports* 12, 10494 (2022). https://doi.org/10.1038/s41598-022-13443-3

24. **Elbehiry, A., Marzouk, E., Aldubaib, M., Algammal, A.M., *et al.*** *Pseudomonas* species prevalence, protein analysis, and antibiotic resistance: an evolving public health challenge. *AMB Express* 12, 53 (2022**). https://doi.org/10.1186/s13568-022-01390-1**

25. **Algammal, A.M., Hashem, H.R., Al-otaibi, A.S., *et al*.** Emerging MDR-*Mycobacterium avium* subsp. *avium* in house-reared domestic birds as the first report in Egypt. *BMC Microbiology* **21**, 237 (2021). https://doi.org/10.1186/s12866-021-02287-y

26. **Abdelazeem M. Algammal , Hany R. Hashem, Khyreyah J. Alfifi, *et al*.** *atp*D gene sequencing, multidrug resistance traits, virulence-determinants, and antimicrobial resistance genes of emerging XDR and MDR-*Proteus mirabilis*. *Scientific Reports* **11**, 9476 (2021). https://doi.org/10.1038/s41598-021-88861-w.

27. **Algammal, A.M., Elsayed, M.E., Hashem, H.R., *et al*.** Molecular and HPLC-based approaches for detection of aflatoxin B_1 and ochratoxin A released from toxigenic *Aspergillus* species in processed meat. *BMC Microbiology* **21,** 82 (2021). https://doi.org/10.1186/s12866-021-02144-y

28. **Hetta, H.F., Al-Kadmy, I.M.S., Khazaal, S.S., Algammal, A.M.** Antibiofilm and antivirulence potential of silver nanoparticles against multidrug-resistant *Acinetobacter baumannii*. *Scientific Reports* **11,** 10751 (2021). https://doi.org/10.1038/s41598-021-90208-4

29. **Batiha, Gaber El-Saber, Diaa E. Hussein, Abdelazeem M. Algammal *et al*.** Application of Natural Antimicrobials in Food Preservation: Recent Views. *Food Control* (2021): 108066. https://doi.org/10.1016/j.foodcont.2021.108066

30. **Algammal, A.M., Hetta, H.F., Batiha, G.E., *et al*.** Virulence-determinants and antibiotic-resistance genes of MDR-*E. coli* isolated from secondary infections

following FMD-outbreak in cattle. *Scientific Reports* **10,** 19779 (2020). https://doi.org/10.1038/s41598-020-75914-9

31. **Algammal, A.M., Mabrok, M., Sivaramasamy, E., *et al.*** Emerging MDR-*Pseudomonas aeruginosa* in fish commonly harbor *opr*L and *tox*A virulence genes and bla_{TEM}, bla_{CTX-M}, and *tet*A antibiotic-resistance genes. *Scientific Reports* **10,** 15961 (2020). https://doi.org/10.1038/s41598-020-72264-4.
32. **Algammal A, Hetta HF, Elkelish A, Alkhalifah D, Hozzein W, Batiha G, El Nahhas N, Mabrok M**. Methicillin-Resistant *Staphylococcus aureus* (MRSA): One Health Perspective Approach to the Bacterium Epidemiology, Virulence Factors, Antibiotic-Resistance, and Zoonotic Impact. Infect Drug Resist. 2020;13: 3255-3265. https://doi.org/10.2147/IDR.S272733 .
33. **Batiha GE-S, Alqarni M, Awad DAB, Algammal AM, *et al***. Dairy-Derived and Egg White Proteins in Enhancing Immune System Against COVID-19. *Frontiers in Nutrition*. 2021; 8:629440. https://doi.org/10.3389/fnut.2021.629440
34. **Koneru G, Batiha GES, Algammal AM, Mabrok M, *et al***. BCG Vaccine-Induced Trained Immunity and COVID-19: Protective or Bystander?. *Infect Drug Resist*. 2021; 14:1169-1184. https://doi.org/10.2147/IDR.S300162
35. **H.F. Hetta, K. Muhammad, A.M. Algammal, *et al*.** Mapping the effect of drugs on ACE2 as a novel target site for COVID-19 therapy. European Review for Medical and Pharmacological Sciences**.** 2021; 25 (10): 3923-3932. https://doi.org/10.26355/eurrev_202105_25963
36. **Gaber El-Saber Batiha, Marwa A. Zayed, Aya A. Awad1, Hazem M. Shaheen, Suleiman Mustapha , Oscar Herrera-Calderon, Jorge Pamplona Pagnossa, Abdelazeem M. Algammal, *et at***. Management of SARS-CoV-2 Infection: Key Focus in Macrolides Efficacy for COVID-19. Frontiers in Medicine **8**, 642313 (2021). https://doi.org/10.3389/fmed.2021.642313
37. **Algammal, A.M.; El-Kholy, A.W.; Riad, E.M.; Mohamed, H.E.; Elhaig, M.M.; Yousef, S.A.A.; Hozzein, W.N.; Ghobashy, M.O.I.** Genes Encoding the

Virulence and the Antimicrobial Resistance in Enterotoxigenic and Shiga-Toxigenic *E. coli* Isolated from Diarrheic Calves. Toxins 2020, 12, 383. https://doi.org/10.3390/toxins12060383

38. **Algammal, Abdelazeem M., Mahmoud E. El-Sayed, Fatma M. Youssef, Shefaa A. Saad, Mahmoud M. Elhaig, Gaber E. Batiha, Wael N. Hozzein, and Madeha OI Ghobashy** "Prevalence, the antibiogram and the frequency of virulence genes of the most predominant bacterial pathogens incriminated in calf pneumonia." *AMB Express* 10, no. 1 (2020): 1-8.
39. **Abolghait, Said Kamal, Aml Gamal Fathi, Fatma Mohamed Youssef and Abdelazeem Mohamed Algammal** "Methicillin-resistant Staphylococcus aureus (MRSA) isolated from chicken meat and giblets often produces staphylococcal enterotoxin B (SEB) in non-refrigerated raw chicken livers." *International Journal of Food Microbiology* (2020): 108669.
40. **Algammal AM, Enany ME, El-Tarabili RM, Ghobashy MG, Helmy YA (2020)** Prevalence, Antimicrobial Resistance Profiles, Virulence and Enterotoxins-Determinant Genes of MRSA Isolated from Subclinical Bovine Mastitis in Egypt. Pathogens 9, 362:1-11.
41. **Algammal, A.M., Mohamed, M.F., Tawfiek, B.A., Hozzein, W.N., El Kazzaz, W.M., Mabrok, M.** Molecular Typing, Antibiogram and PCR-RFLP Based Detection of *Aeromonas hydrophila* Complex Isolated from *Oreochromis niloticus*. *Pathogens* **2020**, *9*, 238.
42. **Makharita RR, El-kholy I, Hetta HF, Abdelaziz MH, Hagagy FI, Ahmed AA, Algammal AM**. Antibiogram and Genetic Characterization of Carbapenem-Resistant Gram-Negative Pathogens Incriminated in Healthcare-Associated Infections. Infection and Drug Resistance. 2020; 13: 3991-4002. https://doi.org/10.2147/IDR.S276975
43. **Hetta HF, Meshaal AK, Algammal AM, Yahia R, Makharita RR, Marraiki N, Shah MA, Hassan HAM, Batiha GES**. In-vitro Antimicrobial Activity of

Essential Oils and Spices Powder of some Medicinal Plants against *Bacillus* Species Isolated from Raw and Processed Meat. Infect Drug Resist. 2020;13:4367-4378. https://doi.org/10.2147/IDR.S277295

44. **Sivaramasamy Elayaraja, Mahmoud Mabrok, Abdelazeem Algammal, Elayaraja Sabitha, Mayavan Veeramuthu Rajeswari, Kamil Zágoršek, Zhangying Ye, Songming Zhu, Channarong Rodkhum.** Potential influence of jaggery-based biofloc technology at different C:N ratios on water quality, growth performance, innate immunity, immune-related genes expression profiles, and disease resistance against *Aeromonas hydrophila* in Nile tilapia (*Oreochromis niloticus*). Fish & Shellfish Immunology **2020**, 9. https://doi.org/10.1016/j.fsi.2020.09.023.
45. **Kareem SM, Al-kadmy IMS, Kazaal SS, Mohammed Ali AN, Aziz SN, Makharita RR, Algammal AM, Al-Rejaie S, Behl T, Batiha GES, El-Mokhtar MA, Hetta HF**. Detection of gyrA and parC Mutations and Prevalence of Plasmid-Mediated Quinolone Resistance Genes in Klebsiella pneumoniae. *Infect Drug Resist*. 2021;14:555-563. https://doi.org/10.2147/IDR.S275852.
46. **Abouelmaatti , R. R., A. M. Algammal, W. M. K. Elfeil, N. M. Elshaffy, X. Li, J. Ma, M. Fawzy, A. Wahdan, R. El-Tarabili, I. Shabana:** Genetic characterization, cloning, and expression of Toll-like Receptor 1 mRNA Nile tilapia (*Oreochromis niloticus*). Vet. arhiv **2020,** *90*, 185-196. Doi:10.24099/vet.arhiv.0563.
47. **Batiha, G.-S.; Beshbishy, A.M.; Mulla, Z.S.; Ikram, M.; El-Hack, M.E.A.; Taha, A.E.; Algammal, A.M.; Elewa, Y.H.A.** The Pharmacological Activity, Biochemical Properties, and Pharmacokinetics of the Major Natural Polyphenolic Flavonoid: Quercetin. *Foods* **2020**, *9*, 374.
48. **Enany, M.E., Algammal, A.M., Nasef, S.A., *et al*.** The occurrence of the multidrug resistance (MDR) and the prevalence of virulence genes and QACs

resistance genes in *E. coli* isolated from environmental and avian sources. AMB Expr 9, 192 (2019) https://doi.org/10.1186/s13568-019-0920-4 https://link.springer.com/article/10.1186%2Fs13568-019-0920-4

49. **Abdelazeem M. Algammal, Ali Wahdan, Mahmoud M. Elhaig (2019):** Potential efficiency of conventional and advanced approaches used to detect Mycobacterium bovis in cattle. Microbial Pathogenesis 134 (2019) 103574:1-5. https://doi.org/10.1016/j.micpath.2019.103574.
50. **Eid HM, Algammal AM, Elfeil WK, Youssef FM, Harb SM, Abd-Allah EM (2019):** Prevalence, molecular typing, and antimicrobial resistance of bacterial pathogens isolated from ducks, Veterinary World, 12(5): 677-683.
51. **Mahmoud E. EL-Sayed, Abdelazeem M. Algammal, Mohamed E. Aboel-Atta, Mahmoud Mabrok, and Aml M. Emam (2019):**Pathogenicity, genetic typing, and antibiotic sensitivity of Vibrio alginolyticus isolated from Oreochromis niloticus and Tilapia zillii; Revue de Medecine Veterinaire; 170, 4-6, 80-86.
52. **Mohamed E. Enany, Abdelazeem M. Algammal, Amr M. Hanora, Gehan I. Shagar, Wael K. Elfeil and Noha M. Elshaffy (2018):** Molecular typing and evaluation of Sidr honey inhibitory effect on virulence genes of MRSA strains isolated from catfish in Egypt; Pakistan journal of pharmaceutical science; 31(5): 1865-1870.
53. **Elfeil, W. M., Algammal, A. M., Abouelmaatti, R. R., Gerdouh, A. and Abdeldaim, M. (2016):** Molecular characterization and analysis of TLR-1 in rabbit tissues. Central European Journal of Immunology; 41 (3): 236-242. DOI: 10.5114/ceji.2016.63121.
54. **Hamza I. Eid; Abdelazeem M. Algammal; Soad A. Nasef; Wael K. Elfeil and Ghada.H. Mansour (2016):** Genetic variation among Avian Pathogenic *E. coli* strains isolated from broiler Chickens. Asian journal of Animal and Veterinary Advances. DOI: 10.3923/ajava.2016.

55. **Abouelmaatti, R. R., Algammal, A. M., LI, X., MA, J., Abdelnaby, E. A. and Elfeil, W. M. (2013):** Cloning and analysis of Nile tilapia Toll-like receptors type-3 mRNA: Centr. Eur. J. Immunol; 38 (3): 277-282. DOI: https://doi.org/10.5114/ceji.2013.3774020 .

List of publications (Local and international):

1. **Enany M.E, EL-Attar A.A., Khafagy A.A.R. and Algammal A.M. (2007):** Bacterial and Mycotic causes of subclinical bovine mastitis: Suez Canal Veterinary Medicine Journal.XII (2): 107-114.
2. **Enany, M.E, Khafagy, A.A.R. and Algammal, A.M. (2011):** Characterization of *S.aureus* isolated from subclinical bovine mastitis: Zagazig Veterinary Journal, 39(1): 144-150.
3. **Enany, M.E, Khafagy, A.A.R. and Algammal, A.M. (2011):** PCR based detection of genes encoding virulence determinants in *S.aureus* strains isolated from bovine milk: Zagazig Veterinary Journal, 39(2): 71-78.
4. **Enany M. E.; Soumaya A. E.; Algammal A. M. and Nasrallah S. A. (2012):**Fingerprinting of multidrug resistant *Salmonella* spp isolated from human , cattle and environment in the Suez canal area by using RAPD-PCR technique: Suez Canal Veterinary Medicine Journal, XVII(1) : 45-55.
5. **Enany M. E.; Soumaya A. E.; Algammal A. M. and Nasrallah S. A. (2012):**Resistance to B-lactame and detection of plasmid encoded CMY2 like cephalosporinase from human and veterinary Salmonella isolates: Suez Canal Veterinary Medicine Journal, XVII(1): 33-43.
6. **Khafagy A.A.R.; .Mona A A.;Thabet I.I; Algammal A. M. and Elmattary N. A. (2012):**Characterization, antimicrobial resistance and PCR detection of *E.coli* isolated from quails in north Sinai Governorate: Egyptian Journal of food safety; 1 (1) :15-22.
7. **Khafagy, A.A.R.; NASR, E.A. ; Algammal, A.M. and Dandash, A.Y. (2012):**Enzyme linked immunosorbent assay, using PPD and ST-CF Antigens, And Nested PCR For detection of Mycobacterosis in cattle: Zagazig Veterinary Journal ; 40(6):123-129.
8. **Khafagy, A.A.R.; NASR, E.A. ; Algammal, A.M. and Dandash, A.Y. (2012):**Prevalence of *M.bovis* isolated from bovine tuberculosis; Zagazig Veterinary Journal ; 40(6):92-98.
9. **Shabana, I.I, Algammal A.M. and Suzuki H. (2013):** Molecular typing of the enteroaggregative *E.coli* heat-stable enterotoxin 1 gene (EAST1) in E. coli strains isolated from

human and calves with diarrhea: Global Animal Science Journal *(ISSN-2314-6796*): 1(1): 1128-1138.

10. **Metwally M.T.; Khafagy A.A.R. ; Eid H.I. and Algammal A.M. (2013):** Studies on the Immunostimulatory Effect of Propolis in Diarrheic Buffalo Calves: Journal of Advanced Veterinary Research. 3: 114-117.
11. **Abouelmaatti, R. R., Algammal, A. M., LI, X., MA, J., Abdelnaby, E. A. and Elfeil, W. M. (2013):** Cloning and analysis of Nile tilapia Toll-like receptors type-3 mRNA: Centr. Eur. J. Immunol; 38 (3): 277-282. DOI: https://doi.org/10.5114/ceji.2013.37740
12. **Enany, M.E.; Younes, S.; Algammal, A. M. and ELdieb, H.A. (2013):** Phenotypic and genotypic characterization of *S.aureus* isolated from clinical and subclinical bovine mastitis: Suez Canal Veterinary Medicine Journal, XVII(1) ::139-147.
13. **Enany, M. E.; Younes, S.; Algammal, A. M.; Salem, M. and ELdieb, H.A. (2013):**Prevalence of coagulase (coa) gene and mec A gene of *S.aureus* isolated from bovine clinical mastitis: Suez Canal Veterinary Medicine Journal, XVII(1) :149-157.
14. **Enany, ME Shalaby, AM Shabanaa II, Algammal A.M and Hassan, ME (2013):**Characterization of *Aeromonas hydrophila* complex isolated from foods of animal origin: Suez Canal Veterinary Medicine Journal, XVII(2) :165-175.
15. **Enany, M.E.; Abdelwanis, S.A.; Algammal,A.M. and Abo Eillil, S.A. (2013):** Phenotypic and genotypic characterization of methicillin resistant *S.aureus* (MRSA) isolated from broiler chickens of traditional poultry slaughter shops in Ismailia Province: Suez Canal Veterinary Medicine Journal, XVII(2):189-199.
16. **Khafagy A.A.R.; Hamza M.I.; Algammal A.M. and Reham M.T (2014):** Effects of some immune stimulants on Catfish immune response against *Aeromonas hydrophila*: Global Animal Science Journal - GASJ 1 (4): 94-100.
17. **Enany, M.E.; Algammal, A.M.; Hanora, A.M; Shagar, G.I and ElShaffy, N.M. (2015):** Sidr honey inhibitory effect on virulence genes of MRSA strains from animal and human origin **.** Suez Canal Veterinary Medicine Journal, XX (2): 23-30, 2015.
18. **Abdelazeem Mohamed Algammal and Wael Mohamed Elfeil (2015):**PCR based detection of Alpha toxin gene in *Clostridium perfringens* strains isolated from diseased broiler chickens. BENHA VETERINARY MEDICAL JOURNAL, 29(2): 333-338.
19. **Abdelazeem M. Algammal (2016):** Molecular Characterization and Antibiotic Susceptibility of *Corynebacterium pseudotuberculosis* isolated from Sheep and Goats Suffering from Caseous Lymphadenitis. Zagazig Veterinary Journal. 44 (1): 1-8, 2016.

20. **Enany, M., Algammal, A., Helal, E., Soliman, M. (2016):** Molecular Typing of MRSA Strains Isolated from Processed Fish in Port-Said Governorate. Suez Canal Veterinary Medicine Journal. SCVMJ, 21(1), 51-57. doi: 10.21608/scvmj.2016.62750

21. **Hamza I. Eid; Abdelazeem M. Algammal; Soad A. Nasef; Wael K. Elfeil and Ghada.H. Mansour (2016):** Genetic variation among Avian Pathogenic *E. coli* strains isolated from broiler Chickens. Asian journal of Animal and Veterinary Advances. **DOI: 10.3923/ajava.2016.**
22. **Elfeil, W. M., Algammal, A. M., Abouelmaatti, R. R., Gerdouh, A. and Abdeldaim, M. (2016):** Molecular characterization and analysis of TLR-1 in rabbit tissues**.** Central European Journal of Immunology; 41 (3): 236-242. DOI: 10.5114/ceji.2016.63121.
23. **Enany, M.E. ; Algammal, A.M.; Soliman, R.T; El-Sissi, A.F. and Hebashy A.A.(2017):** Evaluation of Echinacea immunomodulatory effect on the immune response of broiler chickens, Suez Canal Veterinary Medicine Journal; XXII (1)2017: 119-133.
24. **Enany, M.E.; Algammal, A.M.; Solimane, R.T; El-Sissi, A.F. and Hebashy A.A.(2017):** Evaluation of Lactoferrin immunomodulatory effect on the immune response of broiler chickens, Suez Canal Veterinary Medicine Journal; XXII (1)2017: 135-146.
25. **Mahmoud E. Elsayed, Abdelazeem M. Algammal, Eman M.El-Diasty, Reham R. Abouelmaatti and Sarah M. Abbas (2018)**: Prevalence of *Aspergillus* spp and *Penicillium* spp in Basterma and Sausage with special reference to Ochratoxin. Global Animal Science Journal, 6(2), 24–30. http://doi.org/10.5281/zenodo.1477056.
26. **Mahmoud E. Elsayed, Abdelazeem M. Algammal, Eman M.El-Diasty, Reham R. Abouelmaatti and Sarah M. Abbas (2018)**: Prevalence of *Aspergillus* spp and Aflatoxins in luncheon, minced meat and sausage. Global Animal Science Journal, 6(2), 17–23. http://doi.org/10.5281/zenodo.1476984.
27. **Mahmoud E. Elsayed, Abdelazeem M. Algammal, Fatma M Youssef, and Shefaa A. Saad (2018):** Prevalence of *S.aureus* and *P. aeruginosa* strains isolated from pneumonic calves. Global Animal Science Journal, 6(1), 11–15. http://doi.org/10.5281/zenodo.1236857.
28. **Enany, M. E., Algammal, A. M., Shagar, G. I., Hanora, A. M., Elfeil, W. K., and Elshaffy, N. M. (2018):** Molecular typing and evaluation of Sidr honey inhibitory effect on virulence genes of MRSA strains isolated from catfish in Egypt. Pakistan journal of pharmaceutical sciences, 31(5): 1865-1870.
29. **Mahmoud E. EL-Sayed, Abdelazeem M. Algammal, Mohamed E. Aboel-Atta, Mahmoud Mabrok, and Aml M. Emam (2019):**Pathogenicity, genetic typing, and antibiotic sensitivity of

Vibrio alginolyticus isolated from *Oreochromis niloticus* and *Tilapia zillii*; Revue de Medecine Veterinaire; 170, 4-6, 80-86.

30. **Eid HM, Algammal AM, Elfeil WK, Youssef FM, Harb SM, Abd-Allah EM (2019)**: Prevalence, molecular typing, and antimicrobial resistance of bacterial pathogens isolated from ducks, Veterinary World, 12(5): 677-683.
31. **Abdelazeem M. Algammal, Ali Wahdan, Mahmoud M. Elhaig (2019):** Potential efficiency of conventional and advanced approaches used to detect *Mycobacterium bovis* in cattle. Microbial Pathogenesis 134 (2019) 103574:1-5. https://doi.org/10.1016/j.micpath.2019.103574.
32. **Enany, M.E., Algammal, A.M., Nasef, S.A. *et al.*** The occurrence of the multidrug resistance (MDR) and the prevalence of virulence genes and QACs resistance genes in *E. coli* isolated from environmental and avian sources. *AMB Expr* **9,** 192 (2019) https://doi.org/10.1186/s13568-019-0920-4, https://link.springer.com/article/10.1186%2Fs13568-019-0920-4
33. **Abouelmaatti , R. R., A. M. Algammal, W. M. K. Elfeil, N. M. Elshaffy, X. Li, J. Ma, M. Fawzy, A. Wahdan, R. El-Tarabili, I. Shabana:** Genetic characterization, cloning, and expression of Toll-like Receptor 1 mRNA Nile tilapia (*Oreochromis niloticus*). Vet. arhiv 2020, *90*, 185-196. Doi:10.24099/vet.arhiv.0563.
34. **Algammal, A.M.; Mohamed, M.F.; Tawfiek, B.A.; Hozzein, W.N.; El Kazzaz, W.M.; Mabrok, M.** Molecular Typing, Antibiogram and PCR-RFLP Based Detection of Aeromonas hydrophila Complex Isolated from Oreochromis niloticus. Pathogens 2020, 9, 238.
35. **Batiha, G.-S.; Beshbishy, A.M.; Mulla, Z.S.; Ikram, M.; El-Hack, M.E.A.; Taha, A.E.; Algammal, A.M.; Elewa, Y.H.A.** The Pharmacological Activity, Biochemical Properties, and Pharmacokinetics of the Major Natural Polyphenolic Flavonoid: Quercetin. Foods 2020, 9, 374.
36. **Algammal AM, Enany ME, El-Tarabili RM, Ghobashy MG, Helmy YA (2020)** Prevalence, Antimicrobial Resistance Profiles, Virulence and Enterotoxins-Determinant Genes of MRSA Isolated from Subclinical Bovine Mastitis in Egypt. Pathogens 9, 362:1-11.
37. **Algammal, Abdelazeem M., Mahmoud E. El-Sayed, Fatma M. Youssef, Shefaa A. Saad, Mahmoud M. Elhaig, Gaber E. Batiha, Wael N. Hozzein, and Madeha OI Ghobashy** "Prevalence, the antibiogram and the frequency of virulence genes of the most predominant bacterial pathogens incriminated in calf pneumonia." *AMB Express* 10, no. 1 (2020): 1-8.
38. **Abolghait, Said Kamal, Aml Gamal Fathi, Fatma Mohamed Youssef and Abdelazeem Mohamed Algammal** "Methicillin-resistant Staphylococcus aureus (MRSA) isolated from chicken meat and giblets often produces staphylococcal enterotoxin B (SEB) in non-refrigerated raw chicken livers." *International Journal of Food Microbiology* (2020): 108669.

39. **Algammal, A.M.; El-Kholy, A.W.; Riad, E.M.; Mohamed, H.E.; Elhaig, M.M.; Yousef, S.A.A.; Hozzein, W.N.; Ghobashy, M.O.I.** Genes Encoding the Virulence and the Antimicrobial Resistance in Enterotoxigenic and Shiga-Toxigenic *E. coli* Isolated from Diarrheic Calves. Toxins 2020, 12, 383. https://doi.org/10.3390/toxins12060383

40. **Sivaramasamy Elayaraja, Mahmoud Mabrok, Abdelazeem Algammal, Elayaraja Sabitha, Mayavan Veeramuthu Rajeswari, Kamil Zágoršek, Zhangying Ye, Songming Zhu, Channarong Rodkhum.** Potential influence of jaggery-based biofloc technology at different C:N ratios on water quality, growth performance, innate immunity, immune-related genes expression profiles, and disease resistance against *Aeromonas hydrophila* in Nile tilapia (*Oreochromis niloticus*). Fish & Shellfish Immunology 2020, 9. https://doi.org/10.1016/j.fsi.2020.09.023.

41. **Algammal A, Hetta HF, Elkelish A, Alkhalifah D, Hozzein W, Batiha G, El Nahhas N, Mabrok M**. Methicillin-Resistant *Staphylococcus aureus* (MRSA): One Health Perspective Approach to the Bacterium Epidemiology, Virulence Factors, Antibiotic-Resistance, and Zoonotic Impact. Infect Drug Resist. 2020; 13: 3255-3265. https://doi.org/10.2147/IDR.S272733.

42. **Algammal, A.M., Mabrok, M., Sivaramasamy, E. et al**. Emerging MDR-*Pseudomonas aeruginosa* in fish commonly harbor oprL and toxA virulence genes and blaTEM, blaCTX-M, and tetA antibiotic-resistance genes. *Scientific Reports* 10, 15961 (2020). https://doi.org/10.1038/s41598-020-72264-4

43. **Makharita RR, El-kholy I, Hetta HF, Abdelaziz MH, Hagagy FI, Ahmed AA, Algammal AM**. Antibiogram and Genetic Characterization of Carbapenem-Resistant Gram-Negative Pathogens Incriminated in Healthcare-Associated Infections. Infect Drug Resist. 2020;13:3991-4002. https://doi.org/10.2147/IDR.S276975

44. **Hetta HF, Meshaal AK, Algammal AM, Yahia R, Makharita RR, Marraiki N, Shah MA, Hassan HAM, Batiha GES**. In-vitro Antimicrobial Activity of Essential Oils and Spices Powder of some Medicinal Plants Against Bacillus Species Isolated from Raw and Processed Meat. Infect Drug Resist. 2020;13:4367-4378. https://doi.org/10.2147/IDR.S277295

45. **Algammal, A.M., Hetta, H.F., Batiha, G.E.** et al. Virulence-determinants and antibiotic-resistance genes of MDR-*E. coli* isolated from secondary infections following FMD-outbreak in cattle. *Scientific Reports* 10, 19779 (2020). https://doi.org/10.1038/s41598-020-75914-9

46. **Kareem SM, Al-kadmy IMS, Kazaal SS, Mohammed Ali AN, Aziz SN, Makharita RR, Algammal AM, Al-Rejaie S, Behl T, Batiha GES, El-Mokhtar MA, Hetta HF**. Detection of gyrA and parC Mutations and Prevalence of Plasmid-Mediated Quinolone Resistance Genes in Klebsiella pneumoniae. *Infect Drug Resist*. 2021;14:555-563 https://doi.org/10.2147/IDR.S275852.

47. **H.F. Hetta, K. Muhammad, A.M. Algammal, et al.** Mapping the effect of drugs on ACE2 as a novel target site for COVID-19 therapy. European Review for Medical and Pharmacological Sciences. 2021; 25 (10): 3923-3932. https://doi.org/10.26355/eurrev_202105_25963

48. **Algammal, A.M., Elsayed, M.E., Hashem, H.R. *et al***. Molecular and HPLC-based approaches for detection of aflatoxin B_1 and ochratoxin A released from toxigenic *Aspergillus* species in processed meat. *BMC Microbiology* **21,** 82 (2021). https://doi.org/10.1186/s12866-021-02144-y

49. Koneru G, Batiha GES, **Algammal AM**, Mabrok M et al. BCG Vaccine-Induced Trained Immunity and COVID-19: Protective or Bystander?. Infect Drug Resist. 2021; 14:1169-1184. https://doi.org/10.2147/IDR.S300162

50. **Gaber El-Saber Batiha, Marwa A. Zayed, Aya A. Awad1, Hazem M. Shaheen, Suleiman Mustapha , Oscar Herrera-Calderon, Jorge Pamplona Pagnossa, Abdelazeem M. Algammal *et at***. Management of SARS-CoV-2 Infection: Key Focus in Macrolides Efficacy for COVID-19. Frontiers in Medicine **8**, 642313 (2021). https://doi.org/10.3389/fmed.2021.642313

51. **Batiha, Gaber El-Saber, Diaa E. Hussein, Abdelazeem M. Algammal *et al***. Application of Natural Antimicrobials in Food Preservation: Recent Views. *Food Control* (2021): 108066. https://doi.org/10.1016/j.foodcont.2021.108066

52. **Abdelazeem M. Algammal , Hany R. Hashem, Khyreyah J. Alfifi, *et al***. *atp*D gene sequencing, multidrug resistance traits, virulence‐determinants, and antimicrobial resistance genes of emerging XDR and MDR-*Proteus mirabilis*. *Scientific Reports* **11**, 9476 (2021). https://doi.org/10.1038/s41598-021-88861-w.

53. **Hetta, H.F., Al-Kadmy, I.M.S., Khazaal, S.S. Algammal, A.M.** Antibiofilm and antivirulence potential of silver nanoparticles against multidrug-resistant *Acinetobacter baumannii*. *Scientific Reports* **11,** 10751 (2021). https://doi.org/10.1038/s41598-021-90208-4

54. **Batiha GE-S, Alqarni M, Awad DAB, Algammal AM, *et al***. Dairy-Derived and Egg White Proteins in Enhancing Immune System Against COVID-19. *Frontiers in Nutrition.* 2021; 8:629440. https://doi.org/10.3389/fnut.2021.629440

55. **Algammal, A.M., Hashem, H.R., Al-otaibi, A.S. *et al***. Emerging MDR-*Mycobacterium avium* subsp. *avium* in house-reared domestic birds as the first report in Egypt. *BMC Microbiology* **21**, 237 (2021). https://doi.org/10.1186/s12866-021-02287-y

56. **Algammal, Abdelazeem M., Mahmoud Mabrok, Mahmoud Ezzat, Khyreyah J. Alfifi, Aboelkheir M. Esawy, Nehal Elmasry, and Reham M. El-Tarabili.** Prevalence, antimicrobial resistance (AMR) pattern, virulence determinant and AMR genes of emerging multi-drug resistant *Edwardsiella tarda* in Nile tilapia and African catfish. *Aquaculture* (2022): 737643. https://doi.org/10.1016/j.aquaculture.2021.737643

57. **Algammal, A.M., El-Tarabili, R.M., Alfifi, K.J. et al**. Virulence determinant and antimicrobial resistance traits of Emerging MDR Shiga toxigenic *E. coli* in diarrheic dogs. AMB Express 12, 34 (2022). https://doi.org/10.1186/s13568-022-01371-4

58. **Algammal AM, Alfifi KJ, Mabrok M *et al*.** Newly Emerging MDR *B. cereus* in *Mugil seheli* as the First Report Commonly Harbor *nhe*, *hbl*, *cyt*K, and *pc-plc* Virulence Genes and *bla*1, *bla*2, *tet*A, and *erm*A Resistance Genes. Infection and Drug Resistance. 2022; 15: 2167-2185. Doi: 10.2147/IDR.S365254.

59. **Elbehiry, A., Marzouk, E., Aldubaib, M., Algammal, A.M. *et al.*** *Pseudomonas* species prevalence, protein analysis, and antibiotic resistance: an evolving public health challenge. *AMB Express* 12, 53 (2022). https://doi.org/10.1186/s13568-022-01390-1

60. **Farghly Youssif, Marwa M. Abdelrady, Ahmed Atef Thabet, Mohamed A. Abdelhamed, Mohamed Omar A. Gad, Ahmed Mohmmed Abu-Elfatth, Ghada Mohamed Saied, Islam Goda, Abdelazeem M. Algammal**. COVID-19 associated mucormycosis in Assiut University Hospitals: a multidisciplinary dilemma. *Scientific Reports* 12, 10494 (2022). https://doi.org/10.1038/s41598-022-13443-3

61. **Algammal AM, Hashem MEA, Alfifi KJ *et al***. Sequence Analysis, Antibiogram Profile, Virulence and Antibiotic Resistance Genes of XDR and MDR *Gallibacterium anatis* Isolated from Layer Chickens in Egypt. Infection and Drug Resistance, 2022;15: 4321-4334. https://doi.org/10.2147/IDR.S377797

62. **Kyu HH, Vongpradith A, Sirota SB, Novotney A, Algammal AM, *et al***. Age–sex differences in the global burden of lower respiratory infections and risk factors, 1990–2019: results from the Global Burden of Disease Study 2019. **The Lancet Infectious Diseases**. 2022 Aug 11. https://doi.org/10.1016/S1473-3099(22)00510-2

63. **Tran, KB, Lang JJ, Compton K, Xu R, Acheson AR, Henrikson HJ, Algammal AM, *et al*.** The global burden of cancer attributable to risk factors, 2010–19: a systematic analysis for the Global Burden of Disease Study 2019. **The Lancet**. 2022; 400 (10352), 563-591. https://doi.org/10.1016/S0140-6736(22)01438-6

64. **Shafiq M, Zeng M, Permana B, Bilal H, Huang J, Yao F, Algammal AM.** Coexistence of *bla*NDM−5 and *tet*(X4) in international high-risk *Escherichia coli* clone ST648 of human origin in China. Frontiers in Microbiology. 2022, 13:1031688. doi:10.3389/fmicb.2022.1031688

65. **Algammal, A.M.; Ibrahim, R.A.; Alfifi, K.J. *et al*.** A First Report of Molecular Typing, Virulence Traits, and Phenotypic and Genotypic Resistance Patterns of Newly Emerging XDR and MDR *Aeromonas veronii* in *Mugil seheli*. Pathogens 2022, 11, 1262. https://doi.org/10.3390/pathogens11111262

66. **Badawy B, Elafify M, Farag AMM, Moustafa SM, Sayed-Ahmed MZ, Moawad AA, Algammal AM, Ramadan H, Eltholth M.** Ecological Distribution of Virulent Multidrug-Resistant *Staphylococcus aureus* in Livestock, Environment, and Dairy Products. *Antibiotics*. 2022; 11(11):1651. https://doi.org/10.3390/antibiotics11111651

67. **Mabrok M, Algammal AM, Sivaramasamy E, Hetta HF, Atwah B, Alghamdi S, Fawzy A, Avendaño- Herrera R and Rodkhum C**. Tenacibaculosis caused by Tenacibaculum maritimum: Updated knowledge of this marine bacterial fish pathogen. Frontiers in Cellular and Infection Microbiology. 2023, 12:1068000. doi: 10.3389/fcimb.2022.1068000

68. **Maryam S, Ul Haq I, Yahya G, Ul Haq M, Algammal AM, Saber S and Cavalu S**. COVID-19 surveillance in wastewater: An epidemiological tool for the monitoring of SARS-CoV-2. Frontiers in Cellular and Infection Microbiology. 2023, 12:978643. doi: 10.3389/fcimb.2022.978643

69. **Sayad, R., Abdelsabour, H. A., Farhat, S. M., Omer, N. G., Ahmed, M. M., Elsayh, I. K., Algammal, A.M. & Hetta, H. F**. Applications of nanotechnology in the fight against coronavirus disease 2019. Reviews and Research in Medical Microbiology. 2023, 10-1097.

70. **Algammal A, Hetta HF, Mabrok M and Behzadi P**. Editorial: Emerging multidrug-resistant bacterial pathogens "superbugs": A rising public health threat. Frontiers in Microbiology. 2023; 14:1135614. doi: 10.3389/fmicb.2023.1135614

71. **Algammal AM, Eidaroos NH, Alfifi KJ, et al**. *opr*L Gene Sequencing, Resistance Patterns, Virulence Genes, Quorum Sensing and Antibiotic Resistance Genes of XDR *Pseudomonas aeruginosa* Isolated from Broiler Chickens. Infection and Drug Resistance. 2023; 16: 853-867. https://doi.org/10.2147/IDR.S401473

72. **Mohammed SA, Hetta HF, Zahran AM, Tolba MEM, Attia RAH, Behnsawy HM, Algammal AM *et al*.** T cell subsets, regulatory T, regulatory B cells and proinflammatory cytokine profile in *Schistosoma haematobium* associated bladder cancer: First report from Upper Egypt. PLoS Neglected Tropical Diseases. 2023, 17(4): e0011258. https://doi.org/10.1371/journal.pntd.0011258

73. **Ramadan H, Al-Ashmawy M, Soliman AM, Elbediwi M, Sabeq I, Yousef M, Algammal AM, Hiott LM, Berrang ME, Frye JG and Jackson CR**. Whole-genome sequencing of

Listeria innocua recovered from retail milk and dairy products in Egypt. *Frontiers in Microbiology*. 2023, 14:1160244. doi: 10.3389/fmicb.2023.1160244

74. **Al-Kadmy, I. M., Aziz, S. N., Suhail, A., Abid, S. A., Naji, E. N., Al-Kadmy, Z., Algammal, A. M. *et al***. Enhancing the anti-biofilm activity of novel keratinase isolated from Acinetobacter baumannii using Reduced Graphene oxide: A way to recycle feather waste pollution. *Cleaner Waste Systems*. 2023, *5*, 100087

75. **Aziz, S.N., Al-Kadmy, I.M., Rheima, A.M., Algammal, A.M.** *et al.* Binary CuO\CoO nanoparticles inhibit biofilm formation and reduce the expression of *papC* and *fimH* genes in multidrug-resistant *Klebsiella oxytoca*. *Molecular Biology Reports* (2023). https://doi.org/10.1007/s11033-023-08447-9

76. **Behzadi P, Kim C-H, Pawlak EA and Algammal A** (2023) Editorial: The innate and adaptive immune system in human urinary system. Frontiers in Immunology 14:1294869. doi: 10.3389/fimmu.2023.1294869

77. **Mamdouh Y. Elgendy, Shimaa E. Ali, Wafaa T. Abbas, Abdelazeem M. Algammal, Mohamed Abdelsalam**. The role of marine pollution on the emergence of fish bacterial diseases. Chemosphere, 2023, 344:140366, https://doi.org/10.1016/j.chemosphere.2023.140366.

78. **Algammal, A.M., El-Tarabili, R.M., Abd El-Ghany, W.A. et a**l. Resistance profiles, virulence and antimicrobial resistance genes of XDR S. Enteritidis and S. Typhimurium. AMB Express 13, 110 (2023). https://doi.org/10.1186/s13568-023-01615-x

79. **Abd El-Ghany WA, Algammal AM, Hetta HF, Elbestawy AR**. *Gallibacterium anatis* infection in poultry: a comprehensive review. Trop Anim Health Prod. 2023 Oct 27; 55 (6):383. doi: 10.1007/s11250-023-03796-w.