PERSONAL INFORMATION

Motamed Ali, BSC, MSC DVM, Ph.D

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PROFESSIONAL SUMMARY I am an expert in immunopharmacology with expertise in host-pathogen interactions and innate immune modulation by intracellular pathogens, with over 20 years of research and teaching experience in infection biology, therapeutic intervention, and host-pathogen interactions. My interdisciplinary research integrates molecular immunology, virology, neuroinflammation, and natural product pharmacology to investigate immune modulation and therapeutic discovery. My research journey spans animal modeling, molecular laboratory techniques, cell culture, imaging tools, and behavioral profiling to identify compounds and mechanisms that enhance immune function. I have also held various leadership and administrative roles, including serving as Dean of a veterinary college, associate dean and department head for about seven years.

At the University of Calgary, I led preclinical studies demonstrating how avian coronaviruses exploit the COX-2/PGE2 inflammatory pathway to impair host defense. Using cell culture, tracheal organ cultures and targeted immune assays, I identified novel therapeutic targets, including prostaglandin receptors and JAK-STAT modulators, that hold promise for host-directed antiviral interventions.

At the National Research Center for Protozoan Diseases in Japan (OIE reference Lab), I investigated how chronic *Toxoplasma gondii* infection contributes to depression-like behaviors and cognitive dysfunction. I revealed that IFN- γ -driven IDO activation disrupts serotonin metabolism and alters brain circuitry, uncovering a novel link between neuroinflammation and infection-induced psychiatric outcomes.

At Gifu University, I explored how natural bioactive compounds—including capsaicin, *Calotropis procera*, and *Agaricus blazei*—regulate immune responses. My studies uncovered TRPV1-independent pathways through which these agents suppress fever and inhibit IFN- γ -induced antigen presentation, highlighting their therapeutic potential as anti-inflammatory and immunomodulatory agents.

EDUCATION

- **PhD** Assiut University, (Egypt) and Gifu University (Yanagido, Gifu, Japan, Ph.D. student at Takewaki Lab (2004-2006), Joint supervision, awarded December 2006
- MSc Assiut University, Asyut, Egypt, December, 1999
- **DVM** Assiut University, Asyut, Egypt, (Residency, Summer 1993-1995)
- **BSc** Assiut University, Asyut, Egypt, August, 1995

WORK & RESEARCH EXPERIENCE

July 2022- presentResearch Assistant at Faculty Veterinary Medicine, University of Calgary, CanadaDr. Careem's Laboratory projects: I conducted advanced research in avian respiratory viral
immunology, demonstrating that selective inhibition of the COX-2/PGE2 axis effectively
reduces infectious bronchitis virus replication and necroptosis in avian cell and tracheal
organ culture models, offering novel therapeutic insights.

March 2016 – June 2022 Department Head, Vice Dean & Dean of Faculty of Veterinary Medicine, Sohag University, Egypt.

	DEPARTMENT ADMINISTRATIVE SERVICE: Runing the affairs of Animal Husbandry Department
	FACULTY ADMINISTRATIVE SERVICE:
	Committee Member of Faculty Council (2018-2022)
	Acting Chair of veterinary medical diagnostic and therapeutic campaigns (2016-2021) UNIVERSITY ADMINISTRATIVE SERVICE: Committee Member of University Council (2018- 2022)
	PROFESSIONAL ASSOCIATION & OTHER CONTRIBUTIONS
	Member of Sohag Governorate Regional Committee for Agriculture and Veterinary Medicine (2018-2020)
	Acting Chair of IATUP of Sohag University (2019-2022) Member of Sohag University Environmental and Community Services Council (2016-2019) Member of Sohag University Central laboratory for Genetic and Genetic Engineering (2019-2022)
July 2015– Jan 2016	Acting Chair for Food inspection committee of Sohag University restaurant (2018-2019) Acting Co-Chair for laboratory Animal Facility (2020-2022) Qinghai University, Xining, China
July 2012- Jan 2015	National selected High-End Expert, three thousand Talent Plan, at Qinghai Academy of Veterinary Medicine and agriculture. At the Center of Biomedicine and Infectious Diseases, Foot rot vaccine project, I mentored one Master's and one Ph.D. students, trained them on the isolation of protozoan parasites and purification of field strains of <i>Sphaerophorus necrophorus</i> associated with foot rot in sheep.
July 2009– July 2012	Postdoctoral Researcher at Host Defense Research Unit of NRCPD, Obihiro University, Japan, At Nishikawa Y, Lab Project. I explored how <i>Toxoplasma gondii</i> induces depression- and fear- related behaviors in mice through neuroinflammation and serotonin depletion and showed that targeting the IDO pathway can reverse these effects. Faculty of Veterinary Medicine Sohag University
March 2008– Jan 2009	Lecturer at department of Veterinary Hygiene, Zoonosis and Husbandry Acting Co-Chair in veterinary medical diagnostic and therapeutic campaigns (2009-2012) Faculty of Veterinary Medicine, Assiut University
·	Lecturer at department of Veterinary Hygiene, Zoonosis and Husbandry
March 2007– March 2008	United Graduate School of Veterinary Medicine, Gifu University, Japan
August 2004 Marsh 2007	Postdoctoral research at United Graduate School of Veterinary Medicine, Gifu University Japan, In Takewaki T. Laboratory, I explored the immunomodulatory and therapeutic effects of plant and fungal extracts— <i>Calotropis procera, Aloe vera,</i> and <i>Agaricus blazei</i> — demonstrating their potential in enhancing immune responses, mitigating inflammation, and managing disease in veterinary species.
August 2004–March 2007	Ph.D. student at United Graduate School of Veterinary Medicine, Gifu University Japan, Takewaki T. Laboratory: During my Ph.D., I discovered that capsaicin reduces LPS-induced fever and hypothermia in chickens via TRPV1-independent pathways, revealing novel mechanisms of thermoregulation and inflammation control in avian species.
July 1997– July 2008	Faculty of Veterinary Medicine, Assiut University
Ian 1996- July 1997	Teaching assistant at department of Veterinary Hygiene, Zoonosis and Husbandry Participation in veterinary medical diagnostic and therapeutic campaigns (1997-2008). Military Service at Modern Dairy Cattle Farm, Food Safety Sector
Juli 1990 July 1997	Training on handling Diagnosis treatment of dairy cattle
Awards	Awarded 2020 Scientific Excellence, Sohag University, Egypt Awarded 2018, 2 nd leading role in Environmental Services, Sohag University, Egypt Awarded 2018, Highest Citation in the Faculty of Vet. Medicine, Sohag University, Egypt Awarded 2012, Sohag University Prize for Promotion of Sciences, in Veterinary and Agricultural Sector, Sohag University, Egypt
	Awarded 2008, Best Oral Presentation, Egyptian Society of Cattle Disease Conference, Assiut University, Egypt.

	Awarded 2002, Best Master thesis, 6 th October University, Cairo, Egypt. Awarded 1997, Best student Review article, Egyptian Society of Cattle Diseases Society, Assiut University, Egypt.
Funding	Joint Supervision Scholarship, Japan, Executive Fellow, funded by the Egyptian Government, Aug 2004 – Dec 2006 Total: \$36,000 CAD, Awarded for collaborative doctoral research in Japan under international academic partnership. Postdoctoral Fellowship, Japan, Fellow, funded by the Japanese Government, Mar 2007 – Mar 2008 Total: \$18,000 CAD, Conducted advanced research in molecular pharmacology and host-pathogen interactions. Personal Research Grant, USA, Co-Principal Investigator, Joint Research Grant with University of Illinois, 2009 Total: \$9,000 USD, Supported collaborative research in comparative immunopharmacology. Educational Development Project, Egypt, Executive Manager, Funded by the Ministry of Higher Education, 2010 – 2012, Development of Student Assessment System, Sohag University, Faculty of Veterinary Medicine. Postdoctoral Fellowship, Japan, Fellow, funded by the Japanese Government, Sept 2012 – Jan 2015 Total: \$54,000 CAD, Focused on pharmacogenomic responses in veterinary species.
	 Expert Appointment, China, Foreign Expert, Three-Thousand Talent Program (SOFEA) Aug 2015 – Jan 2016 Total: \$30,000 CAD, Invited as an international expert for veterinary education and research development. Educational Enhancement Project, Egypt, Executive Manager, Funded by the Ministry of Higher Education, 2018 – 2020, Development and Enhancement of Educational System, Sohag University, Faculty of Veterinary Medicine.
	Postdoctoral Fellowship , <i>Egypt</i> , Fellow , funded by the Egyptian Government Jul 2022 – Jan 2023 Total: \$15,000 CAD , Research in host immune responses to viral pathogens.
	 Postdoctoral Fellowship, Canada, Fellow, funded by the Canadian Government Feb 2023 – Jun 2024 Total: \$45,000 CAD, Conducted research in veterinary virology and pharmacological immune modulation, University of Calgary. July 2024 – July 2025 Total: \$45,000 CAD, Research Assistant, Conducted research in veterinary virology and pharmacological immune modulation, University of Calgary
MOLECULAR TECHNIQUES	
Skill Category	Details

Skill Category	Details
Molecular Techniques	High-Performance Liquid Chromatography (HPLC)
	ELISA, Immunofluorescence, Immunostaining
	siRNA design (knockdown), RT-PCR & Real-time qPCR
	Confocal Microscopy, Primer Design, Western Blotting
	Viral infection (in vitro and in vivo)
	Protein, RNA, DNA Isolation; Plasmid Transfection
Animal Handling	Mice & Rats – Oral gavage, SC, IM, IV injections, euthanasia
	Chickens – SC, IM, ID, IV injections, euthanasia, vaccination
	Small Ruminants – Oral, SC, IM, ID, IV (training & therapy)
	Large Ruminants – Oral, SC, IM, ID, IV (training & therapy)
Cell Culture	Primary Culture Isolation, Purification, Identification
	Immortalization, Passaging, Maintenance
	Egg Inoculation, Cryopreservation
	Stem Cell Culture Media Prep (human, murine, bovine)

Plaque Assay in MDCK, Viral & Parasite Quantification Handled: Influenza, IBV, ILTV, T. gondii, N. caninum
Cattle – Calving (~30), Rumenotomy (3), Cesarean (4)
Buffalo – Rumenotomy (2), Cesarean (2)
Sheep – Lambing (~40)
Equine – Foaling (~10)
Military Service – Bovine AI, ~500 parturitions, 400 heifers synchronization
MOE – Molecular modeling, visualization, docking
Imaris – 3D imaging, slicing, time-lapse (Calgary)
GraphPad Prism – Statistical computing
SPSS – Statistical analysis

SUPERVISION AND MENTORSHIP OF GRADUATE STUDENTS

Student Name	Degree	Thesis Title	Role	Institution	Status	Year
Akeel Faizal	M.Sc.	Interaction between bacteriophages that target Shiga toxin producing <i>Escherichia coli</i> and murine macrophages	Research Mentor	University of Calgary	Completed	2025
Sohaila G. Fahmy	Ph.D	Effect of treatment with Dexamethasone on the Behavioral and Pathophysiological Profile of Pregnant Rats	Main Supervisor	Sohag University	Completed	2025
Seham Abd-allatif,.,	Ph.D	Effects of resistance exercise on fibromyalgia: a signaling pathway on mitochondrial functions.	Co- Supervisor	Sohag University	Completed	2024
Gehad N. Seddik	Ph.D	Effect of Garlic Extract on Immune Response in Broiler Chickens	Main Supervisor	Sohag University	Completed	2024
Mary AShokry,	Ph.D	Effect of Selenium Nanoparticles on Diabetes Mellitus in Male Wistar Rats	Main Supervisor	Sohag University	Completed	2024
Ahmed H. Khalil	Ph.D.	Pharmacokinetics of Meloxicam in Waterfowl	Co- Supervisor	Sohag University	Completed	2020
Gehad N. Seddik	M.Sc.	Role of Curcumin in LPS-Induced Neuroinflammation in Mice	Main Supervisor	Sohag University	Completed	2019
Monir, D.,	Ph.D.	Effect of forced exercise on rotenone model of Parkinson's disease in male Wistar rats.	Main Supervisor	Sohag University	Completed	2019
Fereig, R.,	Ph.D	Immunization and vaccination of <i>Toxoplasma gondii</i> and <i>Neospora caninum</i> in mice.	Research Mentor	Obihiro University	Completed	2018
lbrahim F Rehan	Ph.D	Glycomics approaches in livestock management, particularly the discovery of novel biomarkers indicating environmental stress in dairy cows.	Research Mentor	Hokkaido University	Completed	2017
Mahmoud . Zidan	M.Sc.	Role of Curcumin in LPS-Induced Neuroinflammation in Mice	Co- Supervisor	Sohag University	Ongoing	2024– Present

TEACHING AND RESEARCH EXPERIENCE

Years	Position	Subjects / Courses Taught	Level/Number	Institution
1998-2004	Teaching/Research Assistant	Various forms of medicines, composition & their routes of administration in different animals, Veterinary Hygiene, Poisonous Plants, Pollution (Air, Water, Soil), Zoonoses	Undergraduate ≃ 50 students	Faculty of Veterinary Medicine, Assiut University
2004–2008	Research Assistant (Ph.D. Studies)	Host-pathogen interactions (No formal teaching)	Undergraduate $\simeq 10$ students	Gifu University / Japan
2008–2012	Lecturer	Various forms of medicines, composition & their routes of administration in different animals, Neuroethology	Undergraduate $\simeq 50$ to 100 students	Faculty of Veterinary Medicine, Sohag University
2012-2015	Postdoctoral Fellow	Research (No formal teaching)	Graduate ≃ 2 to 3	NRCPD, Obihiru University, Japan
2015-2016	High-End Expert (National Selected)	Research, (No formal teaching)	Research only Environmental pollution, Veterinary pathogens, Foot rot in lambs Graduate $\simeq 2$	Qinghai Academy of Veterinary Medicine and Agriculture, China
2016–2022	Professor	Various forms of medicines, composition & their routes of administration in different animals, Animal Behavior, Animal Neuroethology Genetics, Animal Production	Undergraduate ≃ 100 to 150 & Graduate ≃ 5to 10	Faculty of Veterinary Medicine, Sohag University
2016-2022	Trainer (ToT),	Grant Writing, Research Ethics, Student Assessment & Evaluation Systems	Faculty Training $\simeq 50$ to 100	Faculty Leadership Development Center (Sohag University)

COURSE DEVELOPMENT

Course Title	Level	Student	Number of	Year(s)
		Grade/Level	Students/years	
Animal and Poultry Ethology	Undergraduate	2 nd d Year	From 50 - 350	2009-2010-
				2015-2022
Practical Animal Husbandry	Undergraduate	2nd Year	From 50 - 350	2009-2010-
				2015-2022
Veterinary Genetics and Genetic	Undergraduate	First Year	From 50 - 350	2017-2018
Engineering				
Veterinary Genetics and Genetic	Undergraduate	First Year	From 50 - 350	2017-2018
Engineering	-			

Advanced Experimental Animal Behavior	Postgraduate	MSc/PhD	5	2015-2019
Behavior and Management of Different	Postgraduate	MSc/PhD	7	2016-2021
Goat, Camel, Pig, Rabbit, Dog, Cat, and				
Poultry)				

Link at Sohag University website: https://staffsites.sohag-univ.edu.eg/cv/701?p=cv

STUDENT AND PEER EVALUATION SUMMARY

Course Title	Level	Evaluation Type	Score / Rating	Year (s)
Animal and Poultry Ethology	Undergraduate	Student Evaluation	4.6 / 5	2010–2015, 2022
Practical Animal Husbandry	Undergraduate	Student Evaluation	4.5 / 5	2010–2015, 2022
Veterinary Genetics and Genetic Engineering	Undergraduate	Student Evaluation	4.7 / 5	2017-2018
Advanced Experimental Animal Behavior	Postgraduate	Student Evaluation	4.8 / 5	2015-2019
Behavior and Management of Different Animal Species	Postgraduate	Peer Review	Highly effective	2016-2021

PEER-REVIEWED PUBLICATIONS

- 1. Abd-allatif, S., Monir, D., **Mahmoud, M.E,** Mahmoud, A., Mahrous, S., & Ahmed, H. (2025). Effects of resistance exercise on fibromyalgia: a signaling pathway on mitochondrial functions. Sohag Medical Journal, 29(1.), 87-94. doi: 10.21608/smj.2025.350539.1524
- Mahmoud, M. E., Tingley, D., Faizal, A., Ghaffar, A., Azhar, M., Salman, D., Isham, I. M., & Abdul-Careem, M. F. (2025). Cyclooxygenase-2/Prostaglandin E2 pathway facilitates infectious bronchitis virus-induced necroptosis in chicken macrophages, a caspase-independent cell death. *Viruses, 17*(4), 503. https://doi.org/10.3390/v17040503
- Ali, A., Rahimi, R., Mahmoud, M. E., Shalaby, A. A., Gallardo, R. A., & Abdul-Careem, M. F. (2025). Genetic and phenotypic investigations of viral subpopulations detected in different tissues of laying hens following infectious bronchitis virus infection. *Viruses, 17*, 527. https://doi.org/10.3390/v17040527
- 4. Fahmy, S., Al-Amgad, Z., Abdallah, R., Rehan, I., Mahmoud, F., & **Mahmoud, M. E.** (2025). Effect of sustained dexamethasone treatment on anxiety and depression-related behaviors in pregnant rats. Sohag Journal of Sciences, 10(1), 137–143. https://doi.org/10.21608/sjsci.2025.338539.1236
- Mahmoud, M. E., & Abdul-Careem, M. F. (2024). Cyclooxygenase-2/prostaglandin E2 pathway orchestrates the replication of infectious bronchitis virus in chicken tracheal explants. *Microbiology Spectrum*, 0, e00407-24. https://doi.org/10.1128/spectrum.00407-24
- Herath Mudiyanselage, H., Ali, A., Mahmoud, M. E., Farooq, M., Isham, I. M., Ghaffar, A., Jovel, J., Gomis, S. M., Niu, D., & Abdul-Careem, M. F. (2025). Delmarva (DMV1639) infectious bronchitis virus infection alters the microbiome of gastrointestinal and respiratory tracts of broiler chickens. *Virology, 604*, 110428. https://doi.org/10.1016/j.virol.2025.110428

- 7. **Mahmoud, M. E.,** Farooq, M., Isham, I. M., et al. (2024). Cyclooxygenase-2/prostaglandin E2 pathway regulates infectious bronchitis virus replication in avian macrophages. Journal of General Virology, 105(1), Article e001949. https://doi.org/10.1099/jgv.0.001949
- 8. Abd-Elsalam, R. M., Najimudeen, S. M., **Mahmoud, M. E.**, et al. (2024). Differential impact of Massachusetts, Canadian 4/91, and California (Cal) 1737 genotypes of infectious bronchitis virus infection on lymphoid organs of chickens. *Viruses, 16*(3), 326.
- Hassan, M. S. H., Ali, A., Mahmoud, M. E., Altakrouni, D., Najimudeen, S. M., & Abdul-Careem, M. F. (2024). Protection of laying chickens against the Canadian DMV/1639 infectious bronchitis virus infection through priming with heterologous live vaccine and boosting with heterologous or homologous inactivated vaccine. Virus Research, 339, 199281.
- Atef Shokry, M., abdelhamid, A., Hassan, A., Mohamed, S., & Mahmoud, M.E. (2024). The New Era of Selenium Nanoparticles in Medicine. *Sohag Medical Journal*, *28*(3.), 17-16. doi: 10.21608/smj.2024.299284.1483
- Isham, I. M., Abd-Elsalam, R. M., Mahmoud, M. E., Najimudeen, S. M., Ranaweera, H. A., Ali, A., Hassan, M. S. H., Cork, S. C., Gupta, A., & Abdul-Careem, M. F. (2023). Comparison of infectious bronchitis virus (IBV) pathogenesis and host responses in young male and female chickens. Viruses, 15(12), 2285. https://doi.org/10.3390/v15122285
- Isham, I. M., Hassan, M. S. H., Abd-Elsalam, R. M., Ranaweera, H. A., Mahmoud, M. E., Najimudeen, S. M., Ghaffar, A., Cork, S. C., Gupta, A., & Abdul-Careem, M. F. (2023). Impact of maternal antibodies on infectious bronchitis virus (IBV) infection in primary and secondary lymphoid organs of chickens. Vaccines (Basel), 11(7), 1216. https://doi.org/10.3390/vaccines11071216
- Salman, D., Sivakumar, T., Otgonsuren, D., Mahmoud, M. E., Elmahallawy, E. K., Khalphallah, A., Kounour, A. M. E. Y., Bayomi, S. A., Igarashi, M., & Yokoyama, N. (2022). Molecular survey of Babesia, Theileria, Trypanosoma, and Anaplasma infections in camels (Camelus dromedaries) in Egypt. Parasitology International, 90, 102618. https://doi.org/10.1016/j.parint.2022.102618
- Salman, D., Mahmoud, M. E., Pumidonming, W., Mairamkul, T., Oohashi, E., & Igarashi, M. (2020). Characterization of a spontaneous cyst-forming strain of Toxoplasma gondii isolated from Tokachi subprefecture in Japan. Parasitology International, 102199. https://doi.org/10.1016/j.parint.2020.102199
- 15. Mahmoud, A. M., Elalaf, H. M., Shaaban, W. M., & **Mahmoud, M. E.** (2020). Possible effects of erythropoietin on diabetic rats. Sohag Medical Journal, 24(1), Article 2020.
- Farrag, O. S., Salman, D., Ali, F. A., Sayed, A. S., Mahmoud, M. E., & Abd-El Raheem, A. A. (2020). Impact of continuous treatment with propylthiouracil on renal and hepatic functions in rabbits. Journal of Applied Veterinary Sciences, 5(2), March 30, 2020.
- 17. Monir, D. M., Ahmed, O. G., **Mahmoud, M. E.,** & Abdelhamid, A. A. (2020). Behavioral evaluation of rotenone model of Parkinson's disease in Wistar rats. Sohag Medical Journal, Article 2020.
- Rehan, I. F., Mahmoud, M. E., Salman, D., Elnagar, A., Salman, S., et al. (2020). Sialylated N-glycan profile during acute and chronic infections with Toxoplasma gondii in mice. Scientific Reports, 10, 3809.
- 19. Monir, D., **Mahmoud, M. E.,** Galal, O., Rehan, I. F., & Abdelrahman, A. (2020). Forced exercise activates the Nrf2 pathway in the striatum and ameliorates motor and behavioral manifestations of Parkinson's

disease in rotenone-treated rats. Behavioral and Brain Functions, 16(1), 9. https://doi.org/10.1186/s12993-020-00159-0

- 20. El-Sayed, A. M., **Mahmoud, M. E.,** & Mohamed, S. A. (2021). Hygienic and sanitary condition of environment and meat surfaces in the restaurant of Sohag University Hospital. SVU-International Journal of Veterinary Sciences, 4(3), 1–11.
- Hegab, D. Monir, Ahmed, O., Mahmoud, M., & Abdelhamid, A. (2020). Behavioral Evaluation of rotenone model of Parkinson's disease in male Wistar rats. *Sohag Medical Journal*, 24(2), 8-14. doi: 10.21608/smj.2020.21596.1089
- Seddik, G., Aboughaba, A., Mahmoud, F., & Mahmoud, M. E. (2019). A comparative study on biochemical parameters for mature California and Chinchilla rabbits in Sohag Governorate. Journal of Applied Veterinary Sciences, 4(1), 43–47.
- Mahmoud, M. E., Rehan, I. F., El-Dowy, K., et al. (2019). Identification of serum N-glycoproteins as a biological correlate underlying chronic stress response in mice. Molecular Biology Reports, 46(3), 2733–2748. https://doi.org/10.1007/s11033-019-04702-z
- 24. **Mahmoud, M. E.,** Fereig, R., & Nishikawa, Y. (2017). Involvement of host defense mechanisms against Toxoplasma gondii infection in anhedonic and despair-like behaviors in mice. Infection and Immunity, 85(4), e00914-16. https://doi.org/10.1128/IAI.00914-16
- 25. Fereig, R. M., Kuroda, Y., Terkawi, M. A., **Mahmoud, M. E.,** et al. (2017). Immunization with Toxoplasma gondii peroxiredoxin 1 induces protective immunity against toxoplasmosis in mice. PLoS ONE, 12(4), e0176324. https://doi.org/10.1371/journal.pone.0176324
- Rizk, M. A., Mahmoud, M. E., et al. (2017). Comparative therapeutic effect of steroidal and nonsteroidal anti-inflammatory drugs on pro-inflammatory cytokine production in water buffalo calves (Bubalus bubalis) naturally infected with bronchopneumonia: A randomized clinical trial. Tropical Animal Health and Production. https://doi.org/10.1007/s11250-017-1383-8
- 27. Mahmoud, M. E. (2017). An ethogram: A new approach to quantify the severity of diseases in animals and poultry. Approaches in Poultry, Dairy & Veterinary Sciences, 3(1), Editorial.
- 28. **Mahmoud, M. E.** (2017). The ethogram: Quantifying the behavioral picture and justifying the severity of diseases. Journal of Dairy and Veterinary Sciences, 3(5).
- Mahmoud, M. E., Ihara, F., Fereig, R. M., Nishimura, M., & Nishikawa, Y. (2016). Induction of depression-related behaviors by reactivation of chronic Toxoplasma gondii infection in mice. Behavioural Brain Research, 298, 125–133. https://doi.org/10.1016/j.bbr.2015.10.029
- Ihara, F., Nishimura, M., Muroi, Y., Mahmoud, M. E., et al. (2016). Toxoplasma gondii infection in mice impairs long-term fear memory consolidation through dysfunction of the cortex and amygdala. Infection and Immunity, 84(10), 2861–2870. https://doi.org/10.1128/IAI.00394-16
- Mahmoud, M. E., Ui, F., Salman, D., et al. (2015). Mechanisms of interferon-beta-induced inhibition of Toxoplasma gondii growth in murine macrophages and embryonic fibroblasts: Role of immunityrelated GTPase M1. Cell Microbiology. https://doi.org/10.1111/cmi.12423
- 58. Mahmoud, F. A., & **Mahmoud, M. E**. (2016). Effect of probiotic supplementation and high stocking density on behavior and welfare indices of broilers. Global Veterinaria, 16(3), 298–313.

- 32. **Mahmoud, M. E.,** Mahmoud, F. A., & Ahmed, A. E. (2016). Impacts of self- and cross-sucking on cattle health and performance. Veterinary World, 9(9), 922–928. https://doi.org/10.14202/vetworld.2016.922-928
- 33. **Mahmoud, M. E.,** & Nishikawa, N. (2016). Behavioral alterations induced by Toxoplasma gondii during different stages of infection in mice. Journal of Applied Veterinary Sciences, 1(1), 01–06.
- 34. **Mahmoud, F. A.,** Ghareeb, K. M., Hassan, E. K., & Mahmoud, M. E. (2016). Impact of a probiotic (PROBAC Plus[®]) supplementation on behaviors and biochemical parameters of broiler chicken exposed to heat stress. *Global Veterinaria*, *16*(6), 579–589.
- 35. **Mahmoud, M. E.,** & Mahmoud, F. A. (2015). Desensitization of nociceptive and serotonergic thermoregulatory responses by capsaicin in chicken: Role of capsaicin-sensitive subtype-1 vanilloid receptor-independent mechanisms. *Global Veterinaria*, *15*(1), 10–18.
- Mahmoud, M. E., & Salman, D. (2015). Low body condition scoring as a detrimental factor to reproductive performance and behavior in dairy cattle and Seidi buffaloes. *Assiut Veterinary Medical Journal*, 61(145), 112–118.
- 37. El-Hawari, S. F., Elrashidy, M. H., & **Mahmoud, M. E.** (2015). Complications of horn overgrowth in sheep and goats with special reference to their clinical behavior and surgical management. *Assiut Veterinary Medical Journal*, *61*(145), 112–118.
- El-Mahmoudy, A., Mahmoud, M. E., Fararh, K., Draid, M., El-Magdoub, A., & Awidat, S. (2012). Sulphadimidine suppresses major histocompatibility complex (MHC) expression in broiler chicken. British Journal of Pharmacology and Toxicology, 3, 135–139.
- Mahmoud, M. E., Hesham, A., Ahmed, Y., et al. (2010). Inhibition of melanogenesis by the extract from Agaricus blazei without affecting iNOS gene expression. World Journal of Microbiology and Biotechnology, 26, 2029–2035. https://doi.org/10.1007/s11274-010-0387-6
- Mahmoud, M. E., Nikami, H., Shiina, T., et al. (2010). Capsaicin inhibits IFN-γ-induced MHC class II expression by suppressing transcription of class II transactivator gene in murine peritoneal macrophages. *International Immunopharmacology*, *10*, 86–90. https://doi.org/10.1016/j.intimp.2009.10.017
- 41. Abou-Elnaga, A. F., Rehan, I. F., Thompson, R. R., Abou-Ismail, U. A., & **Mahmoud, M. E. (**2019). The effects of group versus single housing on home cage behaviour in two strains of laboratory mice. *Slovenian Veterinary Research*, *56*(22), 39–49.
- 42. **Mahmoud, M. E.,** & Hassanein, K. (2012). Prevention of tri-nitrobenzene of sulfonic acid-induced colitis by using extract of *Aloe vera* in chicken. *World Veterinary Journal, 5*, 469–476.
- El-Mahmoudy, A., Mahmoud, M. E., Fararh, K., Draid, M., El-Magdoub, A., & Awidat, S. (2012). Sulphadimidine suppresses major histocompatibility complex (MHC) expression in broiler chicken. *British Journal of Pharmacology and Toxicology*, *3*, 135–139.
- 44. **Mahmoud, M. E.,** Dosoky, R. M., & Ahmed, M. M. (2011). Effect of the colour of feeders and drinkers on development of some maintenance behaviors in newly hatched chicken. *Assiut University Bulletin for Environmental Research*, 2(14), 1–11.
- Mahmoud, M. E., Dosoky, R. M., & Ahmed, M. M. (2011). Assessment of fear level in commercial broiler chicken strains when exposed to human contact. *Assiut Veterinary Medical Journal*, 57(130), 1– 11.

- 46. **Mahmoud, M. E.,** Dosoky, R. M., & Ahmed, M. M. (2011). Field studies of welfare status in four strains of commercial broiler chickens kept under intensive rearing conditions. *Assiut Veterinary Medical Journal*, *57*(130), 12–21.
- 47. **Mahmoud, M. E.,** Dosoky, R. M., Ahmed, M. M., & Takewaki, T. (2011). Estimation of sensible heat loss in capsaicin-desensitized chicken after exposure to disruption of thermal homeostasis. *Assiut University Bulletin for Environmental Research*, *2*(14), 57–68.
- 48. Aref, N.-E. M., & **Mahmoud, M. E.** (2011). Therapeutic effect of vitamin C in endotoxin-induced metabolic acidosis and oxidative stress in lambs. *Assiut Veterinary Medical Journal*, *57*(129), 170–184.
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Book Chapter

 Isham, I. M., Abd-Elsalam, R. M., Mahmoud, M. E., et al. (2023). Comparison of infectious bronchitis virus (IBV) pathogenesis and host responses in young male and female chickens. In C.-Y. Wang (Ed.), *Recent Advances of Avian Viruses Research* (pp. 186–206). Springer. https://doi.org/10.3390/books978-3-7258-3347-4

Manuscripts Under Preparation

- 52. Assessment of microbial diversity and antimicrobial resistance in manure of cages and floor system in apparently healthy flock in Alberta, Canada.
- 53. Pathogenesis and mechanisms of replication of two distinct strains of influenza A viruses in avian tracheal culture. Intended for submission to *Journal of General Virology* (ASM). (in preparation).
- 54. The regulation of infectious bronchitis virus replication by micro-RNA *in vivo* and *ex vivo*. Intended for submission to *Virology* (MDPI) (in preparation).
- 55. The impact of Probiotic supplementation on infectious bronchitis virus infection and the gut-lung axis microbiome in vaccinated and non-vaccinated broiler chicken. Intended for submission to *Journal of Virology* (ASM) (in preparation).
- 56. Effect of infectious bronchitis virus on B-lymphocyte infection and depletion in the bursa of Fabricius of chickens. Intended for submission to *Viruses* (MDPI) (in preparation).
- 57. Virome analysis of broiler chicken oropharyngeal and cloacal samples, and environmental samples from farms in Alberta, Canada. Intended for submission to *Virology* (MDPI) (in preparation).

Conference Presentations and Abstracts

- Mahmoud, M. E., Tingley, D., Faizal, A., Azhar, M., Isham, I. M., & Abdul-Careem, M. F. (2025). Modulation of inflammatory cell death in infectious bronchitis virus-infected chicken macrophages via the COX-2/PGE2 pathway. Presented at the Western Poultry Disease Conference (WPDC), Calgary, AB.
- 60. Isham, I. M., Mahmoud, M. E., Abd-Elsalam, R. M., Najimudeen, S. M., Ranaweera, H. A., Ali, A., Hassan, M. S. H., Cork, S. C., Gupta, A., & Abdul-Careem, M. F. (2025). Comparison of infectious bronchitis virus (IBV) pathogenesis and host responses in young male and female chickens. 74th Western Poultry Disease Conference, April 6–9, Calgary, AB, Canada.
- Mahmoud, M. E., Ali, A., Farooq, M., Isham, I. M., Suhail, S. M., Mudiyanselage, H. H., & Abdul-Careem, M. F. (2024). Anti-inflammatory drugs targeting cyclooxygenase and prostaglandin significantly suppress infectious bronchitis virus replication in chicken trachea: Insights from an in vitro culture model. *Canadian Poultry Research Forum*, May 28–30.
- 62. Faizal, A., **Mahmoud, M. E.,** & Niu, D. (2024). *Shiga toxin-producing Escherichia coli* (STEC) phages enhance innate immune functions of macrophages. *73rd Annual Conference of the Canadian Society of Microbiologists*, London, June 23–26.
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- 68. **Mahmoud, M. E.** (2020). Behavioral alterations by toxoplasmosis in man and animals. *Leon University*, León, Spain, February 27.
- 69. **Mahmoud, M. E.,** Salman, D., Abdel-Hafez, A., & Hussein, A. (2018). Surveillance of animal health condition and diseases in different localities of Sohag Governorate. *3rd Scientific Congress of Young Researchers*, Sohag University, March.
- 70. Mahmoud, M. E. (2019). Zero-waste economy: Sohag University as a model for its management. 1st Congress of Southern Upper Egypt Universities, Luxor, March 11–13.
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