Dr. Hatem Soliman Curriculum Vitae

Name: **Hatem** Mohamed Toughan **Soliman**

Birth date: 01.08.1971

Place of Birth: Sohag, Egypt

Nationality: Egyptian

Affiliation: Department of Aquatic Animal Medicine & Managements, Faculty of Veterinary Medicine, University of Assiut, 71515 Assiut, Egypt

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Education:

2020 - : Professor of Aquatic Animal Medicine and Managements, Faculty of Veterinary Medicine - Assiut University - Assiut, Egypt.

2016-2020: Assistant Professor - University of Veterinary Medicine, Vienna, Austria.

2014-2016: Associate Professor - Fac. Vet. Med. - Assiut University, Assiut, Egypt.

2012-2014: Lecturer at Fac. Vet. Med. Assiut University, Assiut, Egypt.

2009-2012: post-Doctoral fellow at Vienna University of Veterinary Medicine, Austria.

2007-2009: post-Doctoral fellow at Faculty of Veterinary Medicine, LMU, Germany.

2001-2005: PhD studies at Faculty of Veterinary Medicine, LMU, Munich, Germany.

2005-2006: Researcher at Veterinary Serum and Vaccine Research Institute, Cairo, Egypt.

1999-2001: Researcher Ass. - Veterinary Serum and Vaccine Research Institute - Cairo, Egypt.

1995-1998: Ass. Researcher - Veterinary Serum and Vaccine Research Institute - Cairo, Egypt.

Degrees:

1993: Bachelor of Veterinary Medical Sciences, Faculty of Veterinary Medicine, **Assiut University**, **Assiut, Egypt**. (Very good)

1999: Master's degree in Diseases of Birds and Rabbits, Faculty of Veterinary Medicine, **Cairo University**, **Cairo, Egypt**.

2005: PhD degree in Veterinary Medicine, Faculty of Veterinary Medicine, **Ludwig-Maximilians-University**, **Munich, Germany**

"Construction of cDNA Library from the Triactinomyxon spores of *Myxobolus cerebralis*, the causative agent of salmonid Whirling Diseases"
http://edoc.ub.uni-muenchen.de/3981/1/Soliman_Hatem_Mohamed_Toughan.pdf

Experiences:

- Diagnosis of fish diseases
- Fish microbiology
- Fish molecular biology:
    - DNA/RNA purification
    - PCR, nested PCR, Real-time PCR, Loop mediated isothermal amplification (LAMP), Recombinase polymerase amplification (RPA).
    - Cloning, EST, In vivo-induced antigen technology (IVIAT), In Situ hybridization
    - Restriction analyses, cDNA library construction and screening.
    - Gene expression
    - RNA interference (RNAi) application in fish Medicine
    - CRISPR-Cas application in fish Medicine
    - Proteomics; SDS-PAGE, Western blot.
- Preparation and follow-up of laboratory and animal studies on various infectious viral, bacterial, and parasitic agents of fish.
- Expert in acquisition of external funding for scientific projects

Scientific achievements

- ***h*- index (Scopus)**: **21**
- **Total no. of international publications (Scopus): 62**
- **Citations (Scopus): 1183**
- **Scopus ID:** 12795216800
- **Google scholar ID** T0AAAAJ

Awards

- The State Encouragement Prize in Agricultural Sciences 2015 - Egypt
- First Class Medal of Distinction in Veterinary Medicine Sciences 2017 - Egypt.

Book chapters:

1. **Book title:** Veterinary Infection Biology: Molecular Diagnostics and High-Throughput Strategies.

Book Editors: Mónica V**.** Cunha & João Inácio,

Publisher: Springer Science & Business Media, New York, USA.

ISBN: 978-1-4939-2003-7

Date of Publishing: 2015

Web site of the book: https://link.springer.com/book/10.1007/978-1-4939-2004-4

Contributions: Chapters 12 & 19

- **Chapter 12: Hatem Soliman,** Mona Saleh and Mansour El-Matbouli: ***"Detection of Fish Pathogens by Loop-Mediated Isothermal Amplification (LAMP) Technique".***
- **Chapter 19:** Mona Saleh**, Hatem Soliman,** and Mansour El-Matbouli: ***"Gold nanoparticles as a potential tool for diagnosis of Fish diseases".***

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2. **Book title:** Climate Change and Infectious Fish Diseases

Book Editors: Patrick T.K. Woo, Jo-Ann Leong, Kurt Buchmann

Publisher: CABI, Wallingford, Oxford shire, England, UK

ISNB: 978-1-7892-4327-7

Publishing date: September 2020

Web site of the book: https://www.cabi.org/bookshop/book/9781789243277/

Contributions:

Chapter 7: Hatem Soliman and Mansour El-Matbouli: ***"Herpesvirosis (Koi Herpesvirus)"***

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3. **Book title:** Fundamentals of Aquatic Veterinary Medicine

Book Editors: Laura Urdes, Christopher Walster, Julius Tepper

Publisher: Wily, the Atrium, Southern Gate, West Sussex PO198SQ, United Kingdom

Publishing date: December 2021

ISNB: 978-1-119-61270-4

Website of the book: https://www.wiley.com/en-cn/Fundamentals+of+Aquatic+Veterinary+Medicine-p-9781119612704

Contributions:

- **Chapter 4:** ***"Pathology of Aquatic Animal Diseases"***
  Wes Baumgartner, Acacia Alcivar- Warren, Farah Gonul AYDIN, Kelly Bateman, Morag Clinton, Padraig Duignan, Mansour El-Matbouli, Maria J. Forzan, Leo Foyle, **Hatem Soliman**, Gregory Lewbart, Richmond Loh, and Nicole Marie Nemeth**.**

- **Chapter 6:** ***"Diagnostics and Treatment of Aquatic Animal Diseases".***
  Richmond Loh,, James E. Bogan, Jr, Mansour El-Matbouli, **Soliman Hatem,** Jack Kottwitz, Nicholas Saint-Erne, Mona Saleh and Vasile Vulpe:

Editorial activities

- **Invited reviewer for the following international journals:**

– Fish & shellfish immunology	(Impact factor: **4.58**)
– Journal of Dermatological Science	(Impact factor: **4.56**)
– Aquaculture	(Impact factor: **4.24**)
– Microbial Pathogenesis	(Impact factor: **3.73**)
– Gene	(Impact factor: **3.68**)
– Veterinary Microbiology	(Impact factor: **3.29**)
– Journal of Fish Diseases	(Impact factor: **2.76**)
– BMC Veterinary Research	(Impact factor: **2.74**)
– Virology Journal	(Impact factor: **2.1**)
– Journal of Virological Methods	(Impact factor: **2.0**)
– Diseases of Aquatic Organisms	(Impact factor: **1.8**)

Research proposals

A. Principle Investigator to the following project:

Project title: RNA interference (RNAi) as a potential control for spring viraemia of carp virus in cultured carp and tilapia fish

Funding agency: Science & Technology Development Fund (STDF)

Project duration: June 2014- September 2016

Granted fund: **1 999 600** Egyptian pounds.

B. Co-Applicant in the following projects:

1. **Project title**: RNAi to control SVC&CyHV-3 infection of cyprinid fish.

   Funding agency: The Austrian Science Fund, FWF project (P 23550)

   Project duration: 01.10.2011- 30.09.2013

   Granted fund: 152 838. 00€

2. **Project title**: In vivo-induced antigen technology of *Aeromonas salmonicida*

   Funding agency: The Austrian Science Fund, FWF project (P 23850)

   Project duration: 01.04.2012- 31.03.2015

   Granted fund: 232 407. 00€

C. Managed the following projects:

Project title: Research of improved fish nutrition and fish health in upland aquaculture system in Yen Chau, Son La Province, Vietnam

Funding agency: German Research Foundation, DFG Project (SFB 564)

Project duration: 01.07.2009- 30.06.2012

Granted fund: 162 226. 00€

Project title: Gene expression and function of *Tetracapsuloides bryosalmonae*

Funding agency: The Austrian Science Fund, FWF project **(**P 22770)

Project duration: 01.05.2011- 30.04.2014

Granted fund: 227 335. 00€

Dr. Hatem Soliman - list of publications

1. **Soliman H.,** Geisslar K., El-Matbouli M. **(2003):** SDS-PAGE and western blot analysis of triactinomyxon spores of *Myxobolus cerebralis*, the cause of whirling disease in salmonid fish. ***Journal of fish Diseases*** **26**, 621-625.

2. El-Matbouli M., **Soliman H**. **(2005)**: Rapid diagnosis of *Tetracapsuloides bryosalmonae*, the causative agent of proliferative kidney disease (PKD) in salmonid fish by a novel DNA amplification method, loop-mediated isothermal amplification (LAMP). ***Parasitology Research*** **96**, 277-284.

3. El-Matbouli M., **Soliman H**. **(2005):** Development of a rapid assay for diagnosis of whirling disease in fish and oligochaetes using Loop-mediated isothermal amplification. ***Journal of fish diseases*** **28**, 549-557

4. **Soliman H.,** El-Matbouli M. **(2005):** An Inexpensive and Rapid Diagnostic method of the Koi Herpesvirus (KHV) Infection by a Loop-Mediated Isothermal Amplification Method. ***Virology Journal*** **2**:83.

5. El-Matbouli M., **Soliman H.** **(2006)**: Construction and screening of cDNA Library from the Triactinomyxon spores of *Myxobolus cerebralis*, the causative agent of salmonid Whirling Diseases. ***Parasitology*** **132:** 467-477.

6. **Soliman H.,** El-Matbouli M. **(2006):** Reverse transcription loop mediated isothermal amplification (RT-LAMP) for rapid detection of viral hemorrhagic septicaemia virus (VHS). ***Veterinary Microbiology*** **114:** 205-213.

7. El-Matbouli M., **Soliman H.** **(2006):** Molecular diagnostic methods for detection of *Thelohania contejeani* (Microsporidia), the causative agent of porcelain disease in crayfish. ***Diseases of Aquatic Organisms*** **69**: 205-211.

8. Alaa El-Kholy**, Hatem Soliman,** Adel Abdel Rahman **(2007):** Molecular typing of a new foot and mouth disease virus in Egypt. ***Veterinary Record*** **160,** 695-697.

9. Alaa A. El-Kholy**, Hatem M. T. Soliman,** Noha A. Helmy, Adel O. Abdel Rahman **(2007):** Genetic identification of the foot-and-mouth disease virus caused 2006 outbreak in Egypt. ***The Arab Journal of Biotechnology*** **10,** 193-206.

10. El-Matbouli M., Rucker U**, Soliman H (2007):** Detection of Cyprinid herpesvirus-3(CyHV-3) DNA in infected fish tissues by nested Polymerase Chain Reaction. ***Diseases of Aquatic Organisms*** **78,** 23-28.

11. Knowles NJ, Wadsworth J, Reid SM, Swabey KG, El-Kholy AA, Abd El-Rahman AO, **Soliman HM**, Ebert K, Ferris NP, Hutchings GH, Statham RJ, King DP, Paton DJ **(2007)**: Foot-and-Mouth Disease Virus Serotype A in Egypt. ***Emerging Infectious Diseases*** **13,** 1593-1596.

12. El-Matbouli M, Saleh M, **Soliman H (2007):** Detection of Cyprinid herpesvirus type 3 in goldfish cohabitating with CyHV-3-infected koi carp (*Cyprinius carpio koi*). ***Veterinary Record*** **161,** 792-793.

13. Saleh M., **Soliman H.,** El-Matbouli M. **(2008):** Loop mediated isothermal amplification (LAMP) for rapid detection of *Renibacterium salmoninarum*, the causative agent of bacterial kidney disease. ***Diseases of Aquatic Organisms*** **81,** 143-151

14. Saleh M., **Soliman H.,** El-Matbouli M. **(2008):** Loop-mediated isothermal amplification as an emerging technology for detection of *Yersinia ruckeri* the causative agent of enteric red mouth disease in fish**.** ***BMC Veterinary Research*** **4,**31

15. El-Kholy A.A., **Soliman H.M.T.,** Abdelrahman K.A. **(2008)**: Polymerase chain reaction for rapid diagnosis of a recent lumpy skin disease virus incursion to Egypt. ***The Arab Journal of Biotechnology*** **11,** 293-302.

16. El-Matbouli M., Mattes M., **Soliman H. (2009):** Susceptibility of whirling disease (WD) resistance and WD susceptible strains of rainbow trout *Oncorhynchus mykiss* to *Tetracapsuloides bryosalmonae, Yersinia ruckeri* and viral hemorrhagic septicemia virus. ***Aquaculture*** **288**, 299-304.

17. **Soliman H.,** Midtlyng P., El-Matbouli M. **(2009):** Sensitive and rapid detection of infectious pancreatic necrosis virus by reverse transcription loop mediated isothermal amplification. ***Journal of Virological Methods*** **158**, 77-83.

18. **Soliman H., El-Matbouli M. (2009):** Immunocapture and direct binding loop mediated isothermal amplification simplify molecular diagnosis of Cyprinid herpesvirus-3. ***Journal of Virological Methods*** **162,** 91-95.

19. Vanessa Isabel Carmen Severin**, Hatem Soliman,** Mansour El-Matbouli **(2010):** Expression of immune-regulatory genes; Arginase-2 and inducible nitric oxide synthase (iNOS) in two rainbow trout (*Oncorhynchus mykiss*) strains following exposure to Myxobolus cerebralis. ***Parasitology Research*** **106,** 325-334.

20. **Soliman H.,** El-Matbouli M. **(2010):** Loop mediated isothermal amplification combined with nucleic acid lateral flow strip for diagnosis of Cyprinid herpes virus-3. ***Molecular and Cellular Probes*** **24,** 38-43.

21. Mahmoud M., Abdelrahman K., **Soliman H. (2010):** Molecular and virological studies on contagious pustular dermatitis isolates from Egyptian sheep and goats. ***Research in Veterinary Science*** **89,** 290-294.

22. El-Matbouli M., **Soliman H. (2011):** Transmission of Cyprinid herpesvirus-3 (CyHV-3) from goldfish to naïve common carp by cohabitation. ***Research in Veterinary Science*** **90,** 536-539.

23. Mona Saleh, **Hatem Soliman,** Olga Haenen, Mansour El-Matbouli **(2011):** Antibody coated gold-nanoparticles immunoassay for direct detection of *Aeromonas salmonicida* in fish tissues. ***Journal of Fish Diseases*** **34,** 845-852**.**

24. Melanie Keilwerth, Ilina Bühler, Rudolf Hoffmann, **Hatem Soliman,** Mansour El-Matbouli **(2012):** Einschlusskörperchenkrankheit der Riesenschlangen (Inclusion Body Disease, IBD) – eine hämatologische, histologische und

elektronenmikroskopische Studie zur Diagnosefindung. ***Berliner und Münchener Tierärztliche Wochenschrift*** **125,** 10–16.

25. Mona Saleh**, Hatem Soliman,** Oskar Schachner, Mansour El-Matbouli **(2012):** Direct Detection of Unamplified Spring Viraemia of Carp Virus RNA Using Unmodified Gold Nanoparticles. ***Diseases of Aquatic Organisms*** **100,** 3-10

26. Supamattaya K., Phromkunthong W., Suanyuk N., **Soliman H.,** El-Matbouli M. **(2012):** Spironucleosis in Cultured Red Tilapia (a hybrid of *Oreochromis niloticus* x *O. mossambicus* and *O. aureus*). ***Veterinary Record*** **171,** 274**.**

27. Mona Saleh**, Hatem Soliman,** Henning Sørum, Aud Kari Fauske, Mansour El-Matbouli **(2012):** A novel gold nanoparticles-based assay for rapid detection of *Melissococcus plutonius*, the causative agent of European foulbrood. ***Veterinary Record*** **171,** 400**.**

28. Gokhlesh Kumar, Ahmed Abd-Elfattah, **Hatem Soliman,** Mansour El-Matbouli **(2013):** Establishment of medium for laboratory cultivation and maintenance of *Fredericella sultana* for *in vivo* experiments with *Tetracapsuloides bryosalmonae* (Myxozoa). ***Journal of Fish Diseases*** **36**, 81-88.

29. Kumar G, Mayrhofer R, **Hatem Soliman,** El-Matbouli M**. (2013):** Novel Chlamydiales associated with epitheliocystis in grass carp (*Ctenopharyngodon idella*). ***Veterinary Record*** **172**, 47-47.

30. Naraid Suanyuk, Suchanya Mankhakhet**, Hatem Soliman,** Mona Saleh, Mansour El-Matbouli **(2013):** *Euclinostomum heterostomum* infection in guppies *Poecilia reticulata* cultured in southern Thailand**.** ***Diseases of Aquatic Organisms*** **104,** 121-127**.**

31. Michael Gotesman**, Hatem Soliman,** Mansour El-Matbouli **(2013):** Antibody screening identifies 78 putative host proteins involved in Cyprinid herpesvirus-3 infection or propagation in common carp (*Cyprinus carpio*)**. *Journal of Fish Diseases*** **36,** 721-733.

32. El-Kholy A. A., Rady D. I., Abdou E. R., Elseafy M. M., Abdelrahman K. A., **Soliman H. (2013):** Construction, Characterization and Immunogenicity of a Glycoprotein E Negative Bovine Herpesvirus-1.1 Egyptian Strain "Abu-Hammad". ***Journal of Virological Methods*** **194,** 74-81

33. Ahmed Abd-Elfattah, Inês Fontes, Gokhlesh Kumar**, Hatem Soliman,** Hanna Hartikainen, Beth Okamura, Mansour El-Matbouli **(2014):** Vertical transmission of the cryptic stages of *Tetracapsuloides bryosalmonae* (Myxozoa), the causative agent of Proliferative kidney (PKD) disease through *Fredericella Sultana* Statoblast. ***Parasitology*** **141,** 482-490.

34. Mansour El-Matbouli, Mona Saleh, **Hatem Soliman (2014):** Biosecurity risks associated with epizootic ulcerative syndrome and iridovirus in ornamental fishes imported into European Union. ***Veterinary Record*** **174,** 303.

35. Alaa El-Kholy, Khaled Abdelrahman**,** **Hatem Soliman (2014):** Rapid detection of BoHV-1 genomic DNA by loop-mediated isothermal amplification assay**.** ***Journal of Virological Methods*** **204,** 81-85.

36. Michael Gotesman**,** **Hatem Soliman,** Robert Besch, Mansour El-Matbouli **(2014):** In Vitro inhibition of Cyprinid Herpes virus-3 replication by RNAi. ***Journal of Virological Methods*** **206,** 63-66.

37. Ahmed Abd-Elfattah, Gokhlesh Kumar, **Hatem Soliman,** Mansour El-Matbouli **(2014):** Persistence of *Tetracapsuloides bryosalmonae* (Myxozoa) in chronically infected brown trout *Salmo trutta*. ***Diseases of Aquatic Organisms*** **111,** 41-49.

38. Michael Gotesman, Ahmed Abd-Elfattah, Julia Kattlun**,** **Hatem Soliman,** Mansour El-Matbouli **(2014):** Investigating the interactions of CyHV-3 with host proteins in goldfish *Carassius auratus*. ***Journal of Fish Diseases*** **37,** 835-841.

39. Oskar Schachner, **Hatem Soliman,** Michael Straif, Franz Schilcher, Mansour El-Matbouli **(2014):** Isolation and characterization of a novel reovirus from white bream *Blicca bjoerkna*. ***Diseases of Aquatic Organisms*** **112,** 131-138.

40. Simon Menanteau-Ledouble, **Hatem Soliman**, Gokhlesh Kumar, Mansour El-Matbouli **(2014):** Use of in vivo induced antigen technology to identify genes from *Aeromonas salmonicida* subsp. *salmonicida* that are specifically expressed during infection of the rainbow trout *Oncorhynchus mykiss*. ***BMC Veterinary Research*** **10,** 298

41. Michael Gotesman**,** **Hatem Soliman,** Julia Kattlun, Mansour El-Matbouli **(2015):** Inhibition of spring viraemia of carp Virus replication in an *Epithelioma Papulosum Cyprini* cell line by RNAi. ***Journal of Fish Diseases*****. 38,** 197-207**.**

42. Abdel-Azeem S. Abdel-Baki**,** **Hatem Soliman,** Mona Saleh, Saleh Al- Quraishy, Mansour El-Matbouli **(2015):** *Ortholinea saudii* sp. nov. (Myxosporea: Ortholineidae) in the kidney of the marine fish *Siganus rivulatus* (Teleostei) from Red Sea, Saudi Arabia. ***Diseases of Aquatic Organisms*** **113,** 25-32**.**

43. Eva Lewisch**,** **Hatem Soliman,** Peter Schmidt, Mansour El-Matbouli **(2015):** Morphological and molecular characterization of Thelohanellus hoffmanni sp. nov. (Myxozoa) infecting gold fish Carassius auratus auratus. ***Diseases of Aquatic Organisms*** **115,** 37-46.

44. Kattlun J., Menanteau-Ledouble S., Gotesman M., Abd-Elfattah A., Way K., **Soliman H.,** Bergmann S., El-Matbouli M. **(2016):** Immunogenic potential of a membrane protein encoded by the viral gene located at ORF 81 of Cyprinid Herpes-virus-3. ***Wiener Tieraerztliche Monatsshrift*** **-103,** 3-12

45. **Hatem Soliman**, Gokhlesh Kumar, Mansour El-Matbouli **(2018):** *Tetracapsuloides bryosalmonae* persists in brown trout *Salmo trutta* for five years post-exposure. ***Diseases of Aquatic Organisms*** **127,** 151-156.

46. **Hatem Soliman**, Mansour El-Matbouli **(2018):** Rapid detection and differentiation of carp edema virus and cyprinid herpes virus – 3 in koi and common carp. ***Journal of Fish Diseases*** **41,** 761 - 772

47. **Hatem Soliman**, Gokhlesh Kumar, Mansour El-Matbouli **(2018):** Recombinase polymerase amplification assay combined with a lateral flow dipstick for rapid detection of Tetracapsuloides bryosalmonae, the causative agent of proliferative kidney disease in salmonids. ***Parasites & Vectors*** **11**: 234.

48. Eva Lewisch, T. Frank**,** **Hatem Soliman,** Oskr Schachner, Friedl Adina Mansour El-Matbouli **(2018):** First Confirmation of Salmonid Alphavirus Infection in Arctic Char (*Salvelinus alpinus*) and in Austria. ***Diseases of Aquatic Organisms*** **130,** 71-76.

49. Alexander Haselmeyer, Norbert Nowotny, Heinz Heistinger, Jolanta Kolodziejek, Johann Homola, Katharina Nöbauer, Ebrahim Razzazi-Fazeli, **Hatem Soliman,** Mansour El-Matbouli, Karin Zitterl-Eglseer **(2018):** *Melissa officinalis L*. extract and its main phenolic compound rosmarinic acid as phytoprophylactic feed additives against koi herpesvirus infection in a pilot study. ***Wiener Tierärztliche Monatsschrift*** **105,** 175-183

50. Muhammed Majeed, **Hatem Soliman,** Gokhlesh Kumar, Mansour El-Matbouli, Mona Saleh **(2018):** Editing the genome of *Aphanomyces invadans* using CRISPR/Cas9. ***Parasites & Vectors*** **11:**554.

51. Ahmed Elsheshtawy, Nader Yehia, Maged Elkemary**,** **Hatem Soliman (2019):** Direct detection of unamplified *Aeromonas hydrophila* DNA in clinical fish samples using goldnanoparticle probe-based assay**.** ***Aquaculture*** **500,** 451-457

52. Alamira Marzouk Fouad**,** **Hatem Soliman,** Ebtsam S. H. Abdallah, Sherif Ibrahim, Mansour El-Matbouli, Ahmad A. Elkamel **(2019):** In-vitro inhibition of spring viremia of carp virus replication by RNA interference targeting the RNA-dependent RNA polymerase gene. ***Journal of Virological Methods*** **263,** 14-19**.**

53. Hassan Ashfaq**,** **Hatem Soliman,** Mona Saleh, Mansour El-Matbouli **(2019):** CD4: a vital player in teleost fish immune system. ***Veterinary Research*** **50:**1

54. Ahmed Elsheshtawy, Nader Yehia, Maged Elkemary**,** **Hatem Soliman (2019):** Investigation of Nile tilapia summer mortality in Kafr El-Sheikh Governorate, Egypt. ***Genetics of Aquatic Organisms*** **3,** 17-25.

55. **Hatem Soliman,** Eva Lewisch, Mansour El-Matbouli **(2019):** Identification of new genogroups in Austrian carp edema virus isolates. ***Diseases of Aquatic Organisms*** **136, 193-197**

56. **Hatem Soliman (2019):** In-Vivo replication of cyprinid Herpesvirus-3 in Goldfish. ***Assiut Veterinary Medical Journal*** **65, 162**.

57. Hassan Ashfaq, Mansour El-Matbouli, **Hatem Soliman (2020**): Identification and molecular characterization of CD4 genes in brown trout (S*almo trutta*). ***Developmental and Comparative Immunology*** 107, 103663

58. Schachner O, Dinhopl N, Friedl A**,** **Soliman H,** El-Matbouli M **(2020):** Advanced vacuolation indicates propagation of various s*almonid alphavirus* type 2 isolates in *Acholeplasma*-infected BF-2 cells. ***Diseases of Aquatic Organisms*** 139, 189 – 197.

59. Saleh M, Friedl A, Srivastava M, **Soliman H**, Secombes C, El-Matbouli M **(2020):** STAT3 / SOCS3 axis contributes to the outcome of salmonid whirling disease. ***PLoS ONE*** **15** (6): **e0234479**.

60. Hassan Ashfaq, **Hatem Soliman,** Sabine Fajmann, Veronika Sexl, Mansour El-Matbouli, Mona Saleh **(2021**): Kinetics of CD4-1+ Lymphocytes in Brown Trout after exposure to Viral Hemorrhagic Septicemia Virus (VHSV). **Journal of Fish Diseases** 44, 1553- 1562.

61. Alamira Marzouk Fouad**,** Ahmad A. Elkamel, Sherif Ibrahim, Mansour El-Matbouli, **Hatem Soliman,** Ebtsam S. H. Abdallah **(2022):** Control of spring viremia of carp in common carp using RNA interference. **Aquaculture** 559 – 738417.

62. Reza Ghanei-Motlagh, Mark D. Fast, David Groman, Gokhlesh Kumar, **Hatem Soliman**, Mansour El-Matbouli, Mona Saleh **(2023)**: Description, molecular identification, and pathological lesions of *Huffmanela persicus* sp. nov. (Nematoda: Trichosomoididae: Huffmanelinae) from the daggertooth pike conger *Muraenesox cinereus*. **Parasites & Vectors** 16: 182