Mohamed Bayoumi Fahmy Hawash

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Objective

- Seeking a PhD scholarship in the field of Molecular Parasitology

Personal Information

- **Nationality :** Egyptian
- **Date of Birth :** 24th May 1988
- **Gender**: Male

Education

- **Graduate Studies :**

- University: Copenhagen University
- Discipline: Master in Parasitology (September 2014)
- Accumulative Grade: 10.7/12 **- Thesis Grade**: 12/12

- **Undergraduate Studies :**

- University: Cairo University
- Discipline: Bachelor of Chemistry/Zoology (June 2009)
- Accumulative Grade: Excellent with Honor (85.97%)

Publications, Presentations and Posters

Publications

- Meekums, H., Hawash M. B. F., Sparks, A., Oviedo Y., Sandoval C., Chico, M. E., Stothard, J. R., Cooper, P. J., Nejsum, P., Betson, M. "A genetic analysis of *Trichuris trichiura* and *Trichuris suis* from Ecuador" Parasites and Vectors (*Accepted*)

Manuscripts

- Hawash, M.B.F., Andersen, L. O., Gasser, R. B., Rune, C. Nejsum, P. " Mitochondrial genome analyses suggest multiple *Trichuris* species in primates and pigs in different geographical regions" (*submitted*)
- Hawash, M.B.F, Al-Jaburi, A., Hansen, T. V., Xie, L., Betson, M., Ketzis, J., Willingham A.L., Thamsborg, S. M., Nejsum, P. "Whipworms in humans and pigs: Origins and demography" (*drafted*)
- Al-Jaburi, A., Hawash, M. B. F., Thamsborg, S. M., Nejsum, P. "Molecular phylogeny of human and pig whipworms using the mitochondrial *cox*1 gene with emphasize on mitochondrial pseudogenes (numts) as a source of contamination" (In preparation)
- Hawash, M.B.F., Andersen, L. O., Betson, M., Nejsum, P. " Multiple [haplotypic] mitochondrial genomes identified among pig and human derived *Ascaris*" (In preparation)

Posters

- Hawash, M.B.F., Gautam, S., Thamsborg, S.M., Nejsum, P. (2014). "Molecular typing of *Trichuris* spp. recovered from pigs, baboons and humans." Joint Spring Symposium of the Danish Society for Parasitology, Danish Society for Tropical Medicine and International Health, The Faculty of Life Sciences, University of Copenhagen, Denmark, March 28.
- Sparks, A.M., Meekums, H., Oviedo, G., Sandoval, C., Hawash, M.B.F., Nejsum, P., Betson, M., Cooper, P.J., Stothard, J.R. (2014) "Investigating the zoonotic potential of *Ascaris* and *Trichuris* in Ecuador." The Spring Meeting, 52nd British Society for Parasitology, Cambridge University, UK, April 6-9.

Experience

- Teaching Experience:

  I helped in teaching the practical sections of the following courses in the Faculty of Science at Cairo University:
  - General Zoology (Z101, Z102)
  - Immunology for second year students (Z241)
  - Parasitology and Protozoa Biology for third year students (Z321)
- Research Experience
- Master thesis project (45 ECTS point) titled "Population genetic and phylogenetic studies on *Trichuris* spp. recovered from pigs, humans and baboons in different geographical regions". The aim of this project is to analyze different populations of *Trichuris* recovered from baboons, humans and pigs using mitochondrial markers to study the demographic history of the different populations around the globe by coalescent analysis. Moreover, I sequenced the whole mitochondrial genome of *Trichuris* recovered from the different hosts by Next Generation Sequencing to investigate the evolutionary relationship between them.
  Supervisor: Associate Prof. Peter Nejsum (Copenhagen University)

- Research project of (15 ECTS) titled "Genotyping *Trichuris* species recovered from human and baboons in different geographical regions". I typed human isolates of the *Trichuris* from Uganda and baboon *Trichuris* from USA and Denmark by RFLP-PCR on ITS-2 and beta-tubulin molecular markers. I also performed partial sequencing of nad1 gene for phylogenetic analysis.
  Supervisor: Associate Prof. Peter Nejsum (Copenhagen University)

- Research project titled "Demonstration of heavy metal stress on the biochemical activities of *Oreochromis niloticus* (Nile Tilapia)". I measured the concentration of the glycogen content in the liver of Nile Bolti fish due to exposure to the high concentration of mercury with emphasis to antioxidant enzymes expression as biomarkers for the pollution (Catalase and Glutathione peroxidase).
  Supervisor: Prof. Abdel-Rahman Bashtar (Cairo University)

- Research Project for “Hepatitis B paleo viruses in the avian and reptile ancestors”. Currently enrolled for this project with the aim is to screen the full avian and reptile genomes for endogenous viral elements (EVEs) of Hepatitis B viruses (HBV) to reconstruct the deep evolutionary history of HBV in amniotes.
  Supervisor: Anders J. Hansen (Centre for GeoGenetics, Natural History Museum of Denmark)

- Research project titled "Anthelmintic properties of Cinnamon (*Cinammomum* sp.) and Chicory (*Cichorium intybus*) on *Ascaris suum* larval migration". I assessed the anthelmintic properties of different concentrations of chicory and cinnamon using larval migration inhibition assay (LMIA) and calculated EC50 for both extracts.
  Supervisor: Dr. Andrew Richard Williams (Copenhagen University)

Techniques and skills

- **Parasitological Methods**: conventional egg counting and identification procedures (Kato-Katz, McMaster, and Sedimentation methodologies), larvae identification (Baermann) and Larval Migration Inhibition Assay.
- **Immunological Methods**: haemagglutination assay
- **Molecular Biology Methods**: DNA extraction, PCR (Polymerase Chain Reaction), long range PCR, Gradient PCR, PCR-RFLP, gel electrophoresis, cell culture.
- **Bioinformatics**:
  General: primer and degenerate PCR primer design, DNA sequence alignment, restriction enzyme mapping in DNA sequence.
  Phylogenetics: phylogeny trees (Character, Distance and Bayesian trees) and networks (split and reticulate networks).
  Population genetics: coalescent simulations, Analysis of Molecular Variance (AMOVA), mismatch distribution curves and neutrality tests.
  Genomics: genome assembly and gene annotation.
- Holding a personal license issued by the Federation of European Laboratory Animal Associations (FELASA) to perform basic animal experiments (FELASA accreditation No 006/03/1208).

Employment and Membership

- Teaching Assistant at the Division of Parasitology and Immunology in Faculty of Science, Cairo University from April 2011 till July 2012.
- Member in the Danish Society of Parasitology.

Awards, Honors and Scholarships

- Award of excellence in the undergraduate level in three consecutive years 2007, 2008 and 2009 which is giving due to earning an excellent grad as a total grad in the whole year.
- Danish-State Scholarship for Master Degree of Parasitology in Copenhagen University from the period of September, 2012 till July 2014

Standardized Tests

- GRE (Graduate Record Examination)
  Quantitative 730 (69% below) Verbal 660(93% below) Analytical writing 2.5 (6%below)
- TOEFL Test (Internet Based TOEFL)
  Reading 28/30 Listening 28/30 Writing 22/30 Speaking 22/30 Total 100/120

Extracurricular activities

- Participation in a governmental initiative for documentation of the rare fish species in the Red Sea at Cultural and Natural Heritage Documentation Center (CultNat Center).
- Attendance workshops in the Faculty and Leadership Development Center at Cairo University in Communication Skills

References

Associate Prof. Peter Nejsum
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Copenhagen University, Denmark
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