



NORTHERN TECHNICAL UNIVERSITY/TECHNICAL INSTITUTE MOSUL

DEPARTMENT Of Animal Production Techniques

Personal Information

Full name	Dr. Fawwaz Fadhil Ali
Scientific Title	Lecturer
Position	Head of department
Department	Animal production
Division	Animal health
E-mail	fawwaz@ntu.edu.iq

Academic Certificates

University	Certificate	Date of Certificate	Specialization	Country
Mosul	B.Sc.	2002	Veterinary Medicine and Surgery	Iraq
	Postgraduate diploma			
Mosul	M.Sc.	2005	Veterinary Microbiology	Iraq
Sheffield	Ph.D.	2016	Molecular Biology / Microbiology	United Kingdom

Academic Experience

Undergraduate Study	<p>I have recognized as an Associate Fellow of the Higher Education Academy / UK (AFHEA). under the University Learning and Teaching Professional Recognition Scheme and have attended the following STA workshops:</p> <p>Research Supervision, Small Group Teaching: Seminar Facilitation, Large Group Teaching: Lecturing, Assessment & Feedback, Academic Culture: Transitions & Expectations, Teaching: Design & Delivery, Small Group Teaching: Laboratory Demonstration, Large Group Teaching: Problem Solving and Digital Possibilities: Integrating Technology to</p>
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	<p>Support Learning. January to March 2016 (half day for each workshop). I have supervised 3rd and 4th year undergraduate project students throughout my PhD.</p> <p>☐ Lecturer, 02/2006 to 02/2012, Northern Technical University – Mosul / Iraq. This involved teaching introductory and upper level courses in <i>Microbiology, animal diseases, poultry diseases and animal health (clinical and laboratory)</i> for 1st and 2nd year undergraduate students, developing and delivering lectures to undergraduate students, developing course syllabi, homework, assignments and handouts, preparing and grading midterm and final examinations, Supervising and evaluating students laboratory work.</p>
Postgraduate Study	

Scientific Activities and Papers

Published Papers	7	5
Conferences and Workshops	28+	22
Scientific Committees and others	Biochemical Society (since 2015). British Society of immunology (since 2014). Society for General Microbiology (since 2014). Iraqi Veterinary Medical Association (since 2002).	

Research and Scientific Interests

<p>Research activity:</p> <p>PhD (2012-2016), Molecular Biology and Biotechnology, University of Sheffield</p> <p>My PhD project involved investigating the role of tetraspanin proteins in <i>Salmonella</i> infection. Tetraspanins are a family of transmembrane proteins that are broadly expressed on different cells and tissues in multi-cellular organisms. Recently, tetraspanins have been shown to be involved in adhesion and invasion of mammalian cells by a range of pathogenic bacteria. In particular, I sought to develop cell line models to investigate the contribution of tetraspanins to macrophage and epithelial cell infection by <i>S. Typhimurium</i>. Using specific antibodies, recombinant proteins and knock-out/knock-down cells, I demonstrated that tetraspanins are involved in the initial stages of infection of macrophages, but not epithelial cells. This may open the possibilities for new therapeutic approaches to infections caused by this important pathogen. Research methodology used included mammalian and bacterial cell culture, immunofluorescence microscopy (including confocal) and flow cytometry. In particular, I developed a flow cytometry method for the rapid assessment of infection of mammalian cells. In addition, I used a variety of molecular biology and biochemical techniques during my PhD (plasmid purification, PCR, cloning, transfection, RNA microarray analysis, production and purification of recombinant protein, Western blotting).</p> <p>MSc project (2003-2005), My MSc project was in the field of clinical veterinary virology and concerned research on the avian infectious bronchitis virus (IBV) that</p>

infect poultry and cause high mortality and economic loss. The project involved sample collection and preparation of virus from infected poultry, and diagnosis using ELISA and other serological methods. Viral isolation and pathogenesis experiments were carried out using egg embryo injection (chorioallantoic cavity and intravenous route), primary tissue culture (using cells obtained from chicken embryo kidney and chick kidney) and lab animals (baby mice and chicks). Histopathology diagnosis was carried out on naturally and experimentally infected animals and attempts were made to establish a chicken tracheal ring organ culture system to observe the loss of cilia (deciliation) of tracheal epithelium upon infection. Two papers were published from this work in national scientific journal and conferences. 2

Undergraduate project (2002), My undergraduate project aimed to use a plant extract from *Solanum nigrum* L (black nightshade) as an alternative therapeutic agent to treat infections with hydatid cysts (the larval stage of the *Echinococcus granulosus* or dog tapeworm parasite). The effect of this extract on larvae was compared with traditional medicine *in vitro* and *in vivo*. For *in vivo* analysis, treated larva were injected into the peritoneal cavity of mice and the development of secondary hydatid cysts and inflammation at the site of infection were monitored by histopathology. Interestingly, the extract affected larval viability and survival, but was less effective than the traditional reagent used to treat this disease (Albendazol). This work has been published in local scientific journal.