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Ausama Abd El-Raouf Abd El-Moneim Yousif Attia

Short biography

Professor Attia graduated at the Faculty of Veterinary Medicine, Cairo University. He was among the top 1% of his class. After isolating a camel pestivirus for the first time in the world, he was given the opportunity to study for a PhD in the US. He was awarded his PhD in 2002 at South Dakota State University. In the US, he did his research in the Animal Disease Research and Diagnostic Laboratory. Upon his return to Cairo University, he worked in the Department of Virology at the Faculty of Veterinary Medicine and held the position of department head for three years. He also served on the Faculty Board and the Graduate Studies Board for several years. As a career educator, he helped with formulating the Egyptian National Academic Reference Standards for the Veterinary Education. He also helped in the design and execution of several undergraduate and graduate level programs and courses. He published several papers on developing diagnostic reagents and vaccines for the control of emerging transboundary pathogens like lumpy skin disease and camelpox viruses. He helped establish the Central Biotechnology Laboratory of King Faisal University and worked as an associate professor in Al-Baha University. He served as the dean's assistant for international cooperation at the Faculty of Veterinary Medicine of Cairo University. His work involving international cooperation allowed for the creation of the China – Egypt Joint Laboratory for Control and Prevention of Animal Diseases and, allowed for agreements that facilitated generation of money and support for international master's programs development. His current research focus is on improving vaccines and vaccine-based control programs for Newcastle disease, Rift Valley fever, foot and mouth disease, avian influenza, and infectious bursal disease; including green vaccines produced in microalgae. In addition, his research group has recently unveiled the presence of Equine hepaciviruses in Egypt, a transboundary genotype of fish iridoviruses, and the viral cause of massive tilapia mortalities in Egyptian aquacultures. His work also uncovered the underlying cause behind the failure to control the 2018 outbreak of lumpy skin disease. Moreover, professor Attia has been entrusted with development of the conceptual and operational designs of the National Company for Animal Production's first and second biosafety level (BSL) 2 and 3 veterinary research and diagnostic facilities. Professor Attia also worked with the industry on several aspects of research and development, production and, quality control of vaccines including the design of an avian influenza production facility and served on the board of one government-owned company. The ideas and technologies developed by professor Attia in the field of vaccinology attracted the attention of the private sector and allowed him to cofound the research and development company Bioshield International Research and Development, Ltd. His vaccine production expertise also included working as a manager of technical operations for a large privately-owned national vaccine production company. Finally, professor Attia is recognized as a virology and vaccinology expert by the Arab Organization for Agricultural Development of the Arab League, the Egyptian General Organization of Veterinary Services, and the Food and Agriculture Organization of the United Nations.

Summary of employment history

- July 10, 2023 – September 10, 2023, **Food and Agriculture Organization of the United Nations.**
Virology-Vaccinology Consultant.
I helped review, design, and deliver a regional online training course on lumpy skin disease.
- September 2023 – Present, **Faculty of Veterinary Medicine of Cairo University.**
Undergraduate Education Board.
- February 2023 – Present **Egyptian Company for Biological and Pharmaceutical Industries (Vaccine Valley).**
Interim Manager of Technical Operations. Vaccine development and technical operations consultant.
- February 2022 – February 2023, **Egyptian Company for Biological and Pharmaceutical Industries (Vaccine Valley).**
Manager or Technical Operations. Responsible for coordination of the activities of the research and development, the quality control, and quality assurance departments with the rest of vaccine valley functional units to ensure achieving the desired production levels and product portfolio. Also responsible for development and execution of the company's strategic plan with other managers and Vaccine Valley board.
- February 2019 – May 2022, **National Company for Animal Production, National Service Projects Organization, Egyptian Military, Egypt.**
Scientific advisor. Responsible for preparation of the conceptual and operational designs of the BSL2 and BSL3 veterinary research and diagnostic facilities.
- October 2018 – Present, **Faculty of Veterinary Medicine, Cairo University, Egypt.**
Dean's Assistant for International Cooperation.
- January 2018 – December 2018, **Cairo University, Egypt.**
Cairo University Deputy Executive Director of the General Administration for International Agreements.
- October 2017 – October 2018, **Faculty of Veterinary Medicine, Cairo University, Egypt.**
Vice Dean Assistant for International Cooperation.
- August 2016 – November 2017, **Arab Organization for Agricultural Development of the Arab League.**
Virology Expert.
I designed and delivered several in-person courses on Rift Valley fever, and the use of molecular techniques for diagnosis of pathogens. These courses were delivered in Sudan and several Gulf countries.
- May 2016 – October 2018, **Faculty of Veterinary Medicine, Cairo University, Egypt.**
International Relations Coordinator.
- May 20, 2014- July 15, 2017, **Faculty of Veterinary Medicine, Cairo University.**
Department head and, graduate studies board member.

- January 20, 2014 –August 2014, **VACSERA, Cairo, Egypt.**
EgyVet board of directors.
- January 2014 – **Present**, **Faculty of Veterinary Medicine of Cairo University.**
Professor of virology.
- Sept. 2010- Aug 2012, **College of Science, Al-Baha University, KSA.**
Associate professor, department of biology.
- April 2008- September 2010, **College of Veterinary Medicine and Animal Resources**
of King Faisal University, KSA.
Assistant professor, acting director of the central biotechnology laboratory.
- October 2008 – December 2013, **Faculty of Veterinary Medicine of Cairo University.**
Associate professor of virology.
- 2003- November 2006, **VACSERA, Cairo, Egypt.**
Consultant, then CEO assistant for Development in EgyTech and EgyVet, VACSERA.
- June 2002 – October 2008, **Faculty of Veterinary Medicine, Cairo University.**
Lecturer of virology.
- 1998 – May 2002, **South Dakota State University, College of Agriculture**
and Biological Sciences. USA.
Teaching assistant and research assistant positions.
- 1992 – 2002, **Faculty of Veterinary Medicine of Cairo University.**
Demonstrator, then assistant lecturer of virology.

Education

- 1998 – 2002, **South Dakota State University, School of Agriculture and Biological Sciences, SD,**
USA.
Ph.D. Biological Sciences - Virology. GPA 3.922 (GPA was 4.0 for courses studied in the US).
- 1992 -1995, **Faculty of Veterinary Medicine, Cairo University, Egypt.**
Master's degree in veterinary virology. GPA not applicable.
- 1986 – 1992, **Faculty of Veterinary Medicine, Cairo University, Egypt.**
Bachelor of veterinary medicine. Top 1% of class (Grade: Very Good).

Relevant references:

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Major General Dr. Fayez Abaza,
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Food and Agriculture Organization of the United Nations.

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Professor Dr. Rafik Soliman,

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Professor Abdelrahman Al Ankary,

Former Interim University President, Dean

College of Veterinary Medicine and Animal Resources of King Faisal University,

Al-Hasa, Kingdom of Saudi Arabia.

Phone: 00966505920221

Email: alankari@hotmail.com

Language and communication skills

- Arabic and English (TOEFL= 667; Test of Written English= 5 of a possible 6; Paper based, 1996).
- Competent Toastmaster. Toastmasters International, USA. 2000.

Technical experience

1. Design and follow up of construction activities of BSL3 integrated research facilities.
2. Design and operation of BSL2 and BSL2+ veterinary diagnostic laboratories.
3. Design of production lines for biological products. This includes conceptual designs of production lines, material, waste and personnel flows, product details, quality control parameters and quality assurance.
4. Diagnosis of viral infections: Experience includes viruses belonging to the following families: *Flaviviridae*, *Herpesviridae*, *Poxviridae*, *Reoviridae*, *Orthomyxoviridae*, *Paramyxoviridae*, *Picornaviridae*, *Coronaviridae*, *Birnaviridae*, *Retroviridae*, *Circoviridae*, *Arteriviridae*, *Iridoviridae*, *Nodaviridae*, and *Phenuiviridae*.
5. Development of diagnostic tools: including antigens, antisera, monoclonal antibodies, and PCR assays.

6. Development of vaccines: including modified live, inactivated, and DNA vaccines.
7. Evaluation of veterinary vaccines.
8. Design and management of technical solutions and operations required for large-scale manufacture of inactivated veterinary vaccines in BSL-2+ environments.

Academic experience

[A] Teaching conventional, web-based, and web-enabled courses.

[B] Courses which I helped design, coordinate, and teach include:

- Undergraduate courses: Laboratory Biosafety, Scientific Methodology and Communication, Health Education (in Arabic), Cytology, Virology and Viral Immunology, Molecular Biology, and Molecular Signals.
- Graduate courses: Advanced General Virology (VIR 1070), Vaccinology (Courses VIR 3178, and 217), Viruses of wild animals and birds (VIR 3177), General Virology (Course 74), General Virology for the Diploma of Microbiology and, General Virology for the Diploma of Public Hygiene (VIR 4175).
- In-person and online training courses for the Food and Agriculture Organization of the United Nations, and the Arab Organization for Agricultural Development of the Arab League. These courses were designed for multinational audiences with diverse backgrounds. They were delivered in English and in Arabic. I also helped translate these courses.

[C] Teaching techniques adopted in classes: lectures, group activities, problem-solving approaches, and one-on-one needs-oriented approaches.

[D] Teaching graduate and undergraduate students from the following countries: the Arab Republic of Egypt, the United States of America, Algeria, Morocco, the Republic of the Sudan, Somalia, the Sultanate of Oman, the Kingdom of Bahrain, the State of Kuwait, the United Arab Emirates, Iraq, the State of Palestine, the Hashemite Kingdom of Jordan, the Syrian Arab Republic, Lebanon, Yemen, Mauritania, the Kingdom of Saudi Arabia, Qatar, Libya, South Sudan, Bahrain, Djibouti, and the Republic of Tunisia.

[E] Teaching talented students as a trainer in the National Research Center for Giftedness and Creativity of King Abdul-Aziz & his Companions Foundation for Giftedness & Creativity (MAWHIBA) while participating in Al-Baha University program on Biotechnology, Kingdom of Saudi Arabia.

[F] Mentorship: I helped supervise or co-supervise over 17 Master's- and PhD-level students. I also helped mentor several undergraduate students while they prepared for their graduation projects.

Awards

1. Scientific Achievement Award. Faculty of Veterinary Medicine, Cairo University. 1987.
2. Egyptian Society of Histology Scientific Achievement Award. 1987.
3. Science and Faith Society Award for Scientific Achievement. Faculty of Veterinary Medicine, Cairo University. 1987-1988-1990-1991.
4. Valedictorian. Class of 1992, Faculty of Veterinary Medicine, Cairo University.
5. Scientific Achievement Award. Cairo University. 1992.
6. Scientific Achievement Award. Veterinary Medical Syndicate. Egypt. 1992.
7. Scientific Achievement Award. Cairo University Social Club. 1993.
8. American College of Veterinary Microbiologists: Graduate Student Award for Best Poster in Viral Pathogenesis. CRWAD 1998. J. Am. Vet. Med. Assoc. 1999, Vol 214(4): 474. USA.

9. Finalist of SDSU Chapter of the Society of Sigma Xi 1999 Research Proposal Award.
10. First Place Award. District 41 Table Topics contest. Pierre, SD. Toastmasters International. 1999.
11. Best Ph. D. Paper award from the Sigma Xi honor society, 2001. SDSU, USA.
12. International publication award. Cairo University. 2013.
13. International publication award. Cairo University. 2017.

Select publication list

- Yousif, A.A. et al., 1995. Production and preliminary characterization of monoclonal antibodies to lumpy skin disease virus. *Journal of the Egyptian Association of Immunology*. Vol 2(1): 147-154.
- Saber, M.S. et al., 2000. Preparation of an inactivated lumpy skin disease virus vaccine. *Vet. Med. J. Giza*. Vol. 48(4): 633-646.
- Metwally, M.A., et al., 2003. Direct detection of variant infectious bursal disease virus in vaccinated Egyptian broiler flocks using antigen-capture ELISA. *Vet. Med. J. Giza*. Vol. 51(1): 105-119.
- Yousif, A.A., et al., 2004. Cytopathic genotype 2 bovine viral diarrhoea virus in dromedary camels. *Arab J Biotech*. 7(1): 123-140.
- Chase, C.L. et al., 2004. The Immune response to bovine viral diarrhoea virus: A constantly changing picture. *Vet Clin North Am Food Anim Pract*. 2004; 20(1): 95-114.
- Metwally, A.M., et al., 2008. Re-emergence of Very Virulent IBDV in Egypt. *IJV*. 5(1): 1-17.
- Yousif, A.A. and Iman B. Shaheed, 2008. Evidence of long-term persistence of pestivirus genotype 3 DNA plasmids in mouse tissues using in-situ hybridization: Correlation to the cellular response following DNA vaccination. *Egyptian J. Virol*. 5(2):225-270.
- Yousif, A.A. et al., 2010. Rapid non-enzymatic extraction method for isolating PCR-quality camelpox virus DNA from skin. *J Virol Methods*. 169(1):138-42.
- Atwa, M.H. et al., 2011. ZH501-VSVRI: Is it still the best choice for vaccination against rift valley fever in Egypt? *J Vaccines Vaccin*. 2:121. doi:10.4172/2157-7560.1000121
- Shakal, M.A. et al., 2011. Use of VP60 RT-PCR to overcome the limitation of haemagglutination inhibition diagnosis of rabbit viral haemorrhagic disease. *World Rabbit Sci*. Vol. 19(1): 11-20.
- Yousif, A.A. and Al-Ali, A. M., 2012. A Case of Mistaken Identity? Vaccinia virus in a live camelpox vaccine. *Biologicals*. 40: 495-498.
- Yousif, A.A., and Al-Naeem, A.A., 2012. Recovery and molecular characterization of live camelpox virus from skin 12 months after onset of clinical signs reveals possible mechanism of virus persistence in herds. *Vet Microbiol*. 159: 320–326.
- El-Bagoury G. et al., 2014. Molecular identification of RHDV Egyptian strains based on the highly variable region of VP60 gene. *BVMJ*. 26(2): 84-100.
- Metwally, Ashraf; Yousif, Ausama. 2017. "Visualization of Alternative Functional Configurations of Influenza Virus Hemagglutinin Facilitates Rapid Selection of Complementing Vaccines in Emergency Situations." *Int. J. Mol. Sci*. 18, no. 4: 766.
- Abdulla NM, Mohran KA, Haroun M, Ausama AA, Shalaby MA. 2017. Identification of Foot and Mouth Disease Virus Strains Originating from Multispecies Susceptible Animals. *J Vet Sci Med Diagn* 6:1. doi: 10.4172/2325-9590.1000222.
- Ahmed BM, Amer HA, Kissenkoetter J, El Wahed AA, Bayoumi MM, Böhlken-Fascher S, Elgamal MA, Yehia N, Yousif AA, Shalaby MA. 2020. Evaluating two approaches for using positive control in standardizing the avian influenza H5 reverse transcription recombinase

polymerase amplification assay. *Mol Cell Probes.* Apr;50:101511. doi: 10.1016/j.mcp.2020.101511. Epub 2020 Jan 15.

- Engy Taha, Mohamed Shawky, Basem Ahmed, Mohamed Moustafa, Ausama Yousif, Mohamed Abdelaziz. Emergence of viral nervous necrosis is associated with mass mortality in hatchery-reared tilapia (*Oreochromis niloticus*) in Egypt. *Aquacult Int* 28, 1811–1823 (2020). <https://doi.org/10.1007/s10499-020-00559-4>
- Refaei, Omnia Hamdy Muhammad; Yousif, Ausama Abdelraouf Abdelmoneim; Hegazy, Yamen Mohammed; Soliman, Soliman Mohammed; Salem, Sayed Ahmed Hassan; Fayed, Adel Abdel-Azim Mahmoud. Epidemiological investigation of foot-and-mouth disease outbreak in a vaccinated Egyptian dairy herd with analysis of associated risk factors. *Japanese Journal of Veterinary Research*, 68(4), 237-247 (2020). doi: 10.14943/jjvr.68.4.237.
- Kamal H. Eltom, Anna Christina Althoff, Sören Hansen, Susanne Böhlken-Fascher, Ausama Yousif, Hussein A. El-Sheikh, Ahmed A. ElWakeel, Mahmoud A. Elgamel, Hadeer. M. Mossa, Emad A. Aboul-Soud, Janika Wolff, Christian Korthase, Bernd Hoffmann, Nabawia M. Adam, Sanaa A. Abdelaziz, Mohamed A. Shalaby, Ahmed Abd El Wahed. Differentiation of Capripox Viruses by Nanopore Sequencing. *Vaccines-* 9(4), 351; <https://doi.org/10.3390/vaccines9040351> (2021).

Memberships (past and present)

1. Gamma Sigma Delta Agricultural honor society.
2. Sigma Xi honor society.
3. Egyptian Society for Virology (Board Member).
4. Canadian Society of Microbiologists.
5. Saudi Biological Society.
6. American Society of Microbiology.
7. Egyptian Association for Immunologists.
8. The Egyptian Association of Epidemiology.

End.