

Nourtan Abdeltawab

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Educational Background

Doctor of Philosophy (PhD)

University of Tennessee Health Science Center, Memphis, Tennessee, USA

May 2010 – GPA 3.78/4.0

Dissertation title: “Systems biology approach to identifying host interactive pathways modulating the severity of streptococcal sepsis”

Bachelor of Pharmacy (B. Pharm. Sc.)

Faculty of Pharmacy, Cairo University, Cairo, Egypt

May 2002 – Excellent with Honors (See Honors and Awards)

Top 1% - Ranked Top 4th among 1800 students – scoring 88.82%

High School Diploma

Education Home School (Dar El Tarbiah School), Cairo, Egypt

May 1997 – Scored 97% in the nationwide qualifying exam (+4% high level for a total of 101%)

Professional Experience – Positions and Employment History

Assistant Professor

Dept. of Microbiology and Immunology, Faculty of Pharmacy, Cairo University, Cairo, Egypt

October 2017 – Present

Adjunct Assistant Professor

School of Pharmacy, New Giza University, Cairo, Egypt

September 2019 – September 2020

Lecturer

Dept. of Microbiology and Immunology, Faculty of Pharmacy, Cairo University, Cairo, Egypt

October 2011 – October 2017

Postdoctoral Fellow

Dept. of Molecular Genetics, Biochemistry and Microbiology, College of Medicine, University of Cincinnati, Cincinnati, Ohio, USA

July 2010 – August 2012

Graduate Research Assistant – Researcher, Veterans Affairs (VA) Medical Center

Dept. of Molecular Sciences, University of Tennessee HSC, Memphis, Tennessee, USA

August 2004 – May 2010

Graduate Teaching Assistant

Dept. of Microbiology and Immunology, Faculty of Pharmacy, Cairo University, Cairo, Egypt

September 2002 – August 2004

Fellowships

L’Oréal-UNESCO For Women in Science **International Rising Talent award** 2015

L’Oréal-UNESCO For Women in Science Levant and Egypt fellowship award 2014

Honors and Awards

Cairo University Encouragement Award (Junior Faculty Incentive Award)	2018
Cairo University Excellence in International Publication awards	2015, 2016, 2017, 2018
Better Egypt Summit, Amwal Al Ghad Top 50 women performing in Egypt and influencing society	2016
L'Oréal-UNESCO For Women in Science International Rising Talent award	2015
L'Oréal-UNESCO For Women in Science Levant and Egypt fellowship award	2014
American Society of Microbiology (ASM Student Award), ASM general meeting, Orlando, Florida	2006
Dean's award for top 5 distinguished honor students , Faculty of Pharmacy, Cairo University	2002
Amoun pharmaceuticals' award for top 5 distinguished honor pharmacy students	2002
Chemical Industries Development award for top 5 distinguished honor pharmacy students	2002
Arab Drug and Chemical Industries award for top 10 honor pharmacy students	2002

Professional Experience – Teaching Experience

October 2011 till present.

Undergraduate Courses:

- 3rd year, **Basic Microbiology and Immunology** (402), General Program, Faculty of Pharmacy Cairo University 2012/2013, 2015/2016, 2016/2017, 2017/2018, 2018/2019, 2019/2020, and 2020/2021 with the adjunct use of e-learning via Classroom online interface.
- 3rd level, **Pathophysiology** (MD507), Clinical Pharmacy Program, Faculty of Pharmacy Cairo University, 2014/2015, 2015/2016, 2016/2017, 2017/2018, 2019/2020, and 2020/2021 with the adjunct use of e-learning via Classroom online interface and Blackboard CU.
- 3rd level **Pathology** (MD608), Clinical Pharmacy Program, Faculty of Pharmacy, Cairo University 2017/2018, 2018/2019, 2019/2020, and 2020/2021 with adjunct use of e-learning via Classroom online interface.
- 3rd level, **Quality Control of Herbal Drugs** (PG606), Clinical Pharmacy Program Faculty of Pharmacy Cairo University 2014/2015, 2015/2016, 2018/2019, 2019/2020, and 2020/2021.
- 3rd level, **Pharmaceutical Biotechnology** (PM703), Clinical Pharmacy Program, Faculty of Pharmacy Cairo University 2014/2015, 2015/2016 and 2016/2017
- 3rd level, **Pharmaceutical Microbiology** (PM704), Clinical Pharmacy Program, Faculty of Pharmacy Cairo University 2014/2015.
- 2nd year, **Pathology and Parasitology** (401), General Program, Faculty of Pharmacy Cairo University, website: <https://sites.google.com/site/pathopara401>
- Course coordinator of undergraduate 3rd year, **Immunology** (PMB373), Faculty of Pharmacy, Ahrum Canadian University (ACU) 2014/2015.

Postgraduate Courses:

- Postgraduate Masters Program, Basic **Immunology** (2402), Faculty of Pharmacy Cairo University. Website: <https://sites.google.com/site/immuno2402> Course coordinator and main instructor from 2011 to present, incorporating active, cooperative learning and learning by research strategies for enhancing learning experiences.
- Postgraduate Genomics and Bioinformatics Diploma, course coordinator of **Systems Biology** (Micro 1421), Faculty of Pharmacy, Cairo University, 2017/2018, 2018/2019, and 2020/2021
- Postgraduate Genomics and Bioinformatics Diploma, course coordinator of **Pharmacogenomics** (Micro 1428), Faculty of Pharmacy, Cairo University, 2017/2018, 2018/2019, and 2020/2021
- Postgraduate Genomics and Bioinformatics Diploma, course coordinator of **Human Genetics and Gene Therapy** (Micro 1422), Faculty of Pharmacy, Cairo University, 2017/2018, 2018/2019, and 2020/2021
- Postgraduate Genomics and Bioinformatics Diploma, course coordinator of **Bioethics** (Micro 1425), Faculty of Pharmacy, Cairo University, 2017/2018, 2018/2019, and 2020/2021
- Postgraduate Microbiology and Immunology Diploma, **Diagnostic Virology and Mycology** (1403), Faculty of Pharmacy Cairo University, Course coordinator 2013 till 2017 website: <https://sites.google.com/site/virologymycology>, including practical sessions.

- Postgraduate Biotechnology Diploma, and Drug Design diploma **Bioinformatics** (1416), Faculty of Pharmacy Cairo University from 2015 till present.
- Postgraduate Clinical Chemistry diploma, **Systems Biology and Pharmacogenomics** (MCP2), Faculty of Postgraduate For Advanced Science, Beni-Suef University 2014/2015

Professional Experience – Research Experience

As Assistant and Associate Professor at Dept. of Microbiology and Immunology, Faculty of Pharmacy, Cairo University, Cairo, Egypt

-Research project on **pharmacogenetics of hepatitis C virus new therapy in Egyptian population**. Research was awarded **L'Oréal-UNESCO For Women in Science fellowship** award and **L'Oréal-UNESCO For Women in Science International Rising Talent award**.

-Designed and analyzed **genome-wide association studies (GWAS)** with multiple collaborators studying differential host response to various diseases. These collaborations resulted in mapping quantitative trait loci (QTLs) associated with differential response to a number of diseases and stimuli including:

- Colonization **Shiga toxin** with Dr. Angela Melton-Celsa and Dr. Lisa Russo from Uniformed Services University of the Health Sciences, Bethesda, MD (published manuscript)
- **Ebolavirus** infection with Dr. Elizabeth Zumbrun from U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID), Fort Detrick, Maryland (published manuscript)

-Immunological aspect of **hepatitis viral infections**, mentoring and supervising doctoral student Mr. Khaled Rakha on differential Th1/Th2 immune response in HCV exposed individuals (published manuscript) and master's student Mrs. Samira Eid on HCV co-infection with Schistosomiasis and interferon levels in chronic HCV patients (published manuscript).

-Co-advisor on multiple projects on **vaccines** enhancements, these projects include:

- Ms. Assmaa Gohar on formulating a combined vaccine for prevention of traveler's diarrhea and diarrhea in infants in Egypt. (Published manuscript)
- Ms. Randa Hamed Ali on immunological and efficacy studies on a new combination between *Haemophilus influenzae* and *Neisseria meningitides* conjugate vaccine. (Published manuscript)
- Ms. Nourhan Hassan on comparative study on the effect of different adjuvants on the immunogenicity of hepatitis B vaccine. (Published manuscript)

- Mentoring as co-advisor on doctoral students' theses:

- Mr. Mohamed Taleb research on antimicrobial effects of Mediterranean essential oils on acne-causing microbes (published manuscript).
- Ms. Assmaa Gohar formulation of combined HPV and Rubella vaccine for women health (published manuscript)
- Ms. Sarah El-Sayed study of herbal preparation on gut microbiota in irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD) animal models (manuscript submitted).
- Ms. Islam Kamal on biodegradation of dyes in industrial wastewater (manuscript preparation).

-Co-advisor on research identifying the **effect of stress and multi-drug resistance** in both gram positive and negative bacteria.

- Studying the effect of metal ions on multi-drug resistance and biofilm of *Staphylococcus aureus* (*S. aureus*), and multi-drug resistant *S. aureus* (MRSA) clinical isolates in Egypt. This project is conducted by Ms. Youmna Abdurrahman working on effect of zinc and Mr. Mark Medhat, working on effect of nickel on *S. aureus* biofilm formation. (two theses defended, ASM conference posters, manuscripts in preparation)
- Mr. Assem Mohamed studies virulence factors and multi-drug resistance in *Serratia marcescens* clinical and environmental isolates in Egypt. (Thesis defended, manuscript in preparation).

-Co-advisor on preclinical studies on possible use of mesenchymal stem cells as an adjunct therapy in rheumatoid arthritis (published manuscript), systemic lupus erythematosus (SLE) and osteomyelitis in long-bone fracture (manuscripts in preparation).

- Co-advisor on a study on the effect of STW 5 (herbal preparation) on selected bacteria of the gut (Ms. Shimaa Attia) and cigarette smoking on metabolism of xenobiotic by selected oral bacteria (Ms. Hams Moussa) (ASM poster presentation, thesis defended and manuscript in preparation).

Professional Experience – Research Experience – continued

As Postdoctoral Researcher at Dept. of Molecular Genetics, Biochemistry and Microbiology, College of Medicine, University of Cincinnati, Cincinnati, Ohio, USA

-Employed systems biology approach to elucidate mechanisms of differential host response to group A streptococcal (GAS) sepsis. Performed systems genetics and genome-wide transcriptional studies in Advanced Recombinant Inbred (ARI) BXD strains exhibiting differential susceptibility to GAS sepsis. Also, I identified biomarkers that reflect differences in disease severity and progression among these strains.

-Performed studies towards elucidating the role and mechanism of prostaglandin E2 in modulating host differential susceptibility to severe GAS sepsis in collaboration with Dr. David Aronoff at University of Michigan, Ann Arbor, MI.

As Graduate Researcher at Dept. of Molecular Sciences, University of Tennessee Health Science Center, Memphis, Tennessee, USA

Dissertation title: Systems biology approach to identifying host interactive pathways modulating the severity of streptococcal sepsis.

Advisor: Malak Y. Kotb – Committee: Linda M. Hendershot, Tony N. Marion, David R. Nelson, Robert W. Williams.

-Worked towards identifying host immune pathways modulating differential susceptibility to streptococcal sepsis. This was done by applying a systems genetics approach, performing genome-wide association studies (GWAS) and linking phenotypic variation in host responses to variations in genotypes.

-Standardized a mouse model of streptococcal sepsis using advanced recombinant inbred (ARI) panel of BXD mouse strains (published manuscript). These are a genetically diverse reference population that we used to mimic the genetic diversity of human population.

-Mapped quantitative trait loci (QTLs) associated with differential host response to sepsis and parsed them into network of pathways (published manuscript).

-Part of teams in my mentor's laboratory as part of several high-throughput collaborations including:

-High-throughput genome-wide transcriptional profiling of mouse spleen across BXD and common inbred mouse strains, completed project was deposited in Gene Network online platform February 2010. URL: http://www.genenetwork.org/dbdoc/UTHSC_SPL_RMA_1210.html

-High-throughput genome-wide transcriptional profiling CEPH panel (Centre d'Etude du Polymorphisme Humain). Completed project was deposited in Gene Network online platform September 2009. URL: http://www.genenetwork.org/dbdoc/UT_CEPH_RankInv0909.html

-Designed, implemented and analyzed multiple collaborative genome-wide association studies (GWAS) to map quantitative trait loci (QTLs) associated with differential response to a number of infectious diseases including the following mouse models projects:

- Tularemia
- Streptococcus pneumonia
- Ectromelia and Vaccinia viruses

-Standardized several procedures in the laboratory and wrote Standard Operating Procedures (SOP).

Professional Experience – Community Service Activities

- Invited panelist at the **Arab Network of Women in Science and Technology (ANWST)**

Alexandria, Egypt – December 2020

"المرأة العربية في العلوم: حاضرة ومشاركة"

- Invited speaker at the UNESCO **Opening Ceremony International Year of the Periodic Table of Chemical Elements (IYPT)**, Paris, France, January 2019 – session: “Young scientists from regions of the World (StandUp4Periodic Table)” *Talk title: “Trace Elements in Host-Pathogen Interactions: A Tale of Two Bacteria and Two Elements”*

-**Director of international relations bureau (IRB)**, delivery of a 3 hours workshop on “**Pharmacy Students Way to study in Europe: Erasmus in a nutshell**” November 2018 in collaboration with Pharmacy Career Center, Faculty Pharmacy, Cairo University.

- **TEDx Cairo Women** (November 2017) invited speaker, talk title “**A medicine that fits you**” علاج على مفاصك TED conference format talk for public on pharmacogenetics and precision medicine.

- Invited participant at the **International Conference on Women Leaders in Science, Technology and Engineering (WLSTE+10)**

Kuwait – October 2017

Hosted by the Kuwait Foundation for Advancement of Science (KFAS), in collaboration with the American Association for Advancement of Science (AAAS) and Department of State (DOS).

- **Organization committee of the International Scientific Conference of Faculty of Pharmacy, Cairo University, Cairo Egypt**

6th (April 2015): “2020 Vision for Pharmacy in Egypt”

7th (April 2016): “Translational Research in Pharmacy: from Bench to Market”

9th (April 2018): “Towards Globally recognized Egyptian Pharmaceutical Ingredients- A National Priority”

- As the director of international relations bureau (IRB) organized “**The main animal models for the current neuropsychiatric disorders**” **part of Erasmus + KA1 funding** – Cairo University October 2016.

-As the director of international relations bureau (IRB) designed and organized the **International Day at Faculty of Pharmacy Cairo University** April 2014 and April 2016 – Attendees were from different nationalities and institutes in Egypt – The event was highly rated by participants and faculty members. The international day was highlighted in the faculty newsletter and awarded a certificate of appreciation by the dean of faculty of pharmacy, Cairo University.

-Organized and held a three days workshop on “**Pharmacogenomics**” – Workshop drew revenue for Faculty of Pharmacy Biotechnology Center (BTC – 009). Attendees from different universities and institutes in Egypt highly rated the workshop. Dates: February 2014, September 2014, May 2015, February 2016, February 2017, and July 2018. Workshop website: <https://eliademy.com/catalog/catalog/product/view/sku/4ced5d0cfb>

- Invited speaker for a 3 hours session on **Cancer immunology** August 2016 hosted by Scita-team, an academy based on innovative teaching and scientific research approaches, as part of their Oncopedia Program sponsored by Baheya Cancer center, National Cancer Institute, Cairo University, and Manuscript Edit scientific publisher at National Center for Clinical and Environmental Toxicology, Egypt.

- Invited speaker for a full-day session on **Cancer immunology** hosted by Faculty of Medicine Student Association (FMSA) dedicated sessions on Cancer research inspired by Cancer research UK theme “a race for life” February 2016

- Co-organized “**International One-Day Symposium of Department of Microbiology and Immunology**” April 2014 at Faculty of Pharmacy, Cairo University. Scientists from United States, Canada, Australia, United Kingdom, Mexico, Brazil, Colombia and Argentina gave presentations about their research for postgraduate students of the department and selected invited audience. The symposium was highly rated by attendee.

-Organized and held **departmental journal club** 2014/2015 for postgraduate students as part of their required hours for obtaining masters or doctoral degrees. Created and maintained FOPCU Departmental Journal Club Website (<https://sites.google.com/a/pharma.cu.edu.eg/microjournalclub/>)

-Served as **department coordinator at the performance appraisal and quality assurance unit (PAPQ)** at faculty of Pharmacy Cairo University (2013–2016). My duties included implementing standard operating procedures in both teaching and research labs of the department of microbiology and immunology.

- Organized and held a three days workshop on “**systems biology approaches and its applications**” – This workshop drew revenue for Faculty of Pharmacy Biotechnology Center (BTC) 2011 and 2012 – Attendees were from different universities and institutes in Egypt – This workshop was highly rated by attendees.

Memberships and Professional Affiliations

The International Society for Systems Biology (ISSB)	2012 – Present
The Egyptian Society of Genetics (ESG)	2012 – Present
American Association of Pharmaceutical Scientists (AAPS)	2012 – 2013
Egyptian Society for American Universities Alumni (ESAUA)	2010 – Present
University of Cincinnati Postdoctoral Fellow Association (UCPDFA)	2010 – 2013
National Postdoctoral Association (NPDA)	2010 – Present
Greater Cincinnati Chapter of AWIS (GC-AWIS)	2010 – 2013
Association For Women in Science (AWIS)	2010 – Present
International Society for computational biology (ISCB)	2005 – 2006
American Society of Microbiology (ASM)	2002 – Present

Volunteer Academic Services – Peer Review and Editorial Services

Reviewer for British Council and Central Department of Missions Newton Mosharafa PhD program.	2019–present 2018–present
Jury Member of the L’Oreal UNESCO For Women In Science (FWIS) Egypt Award	
Executive director of International Relations, Faculty of Pharmacy, Cairo University	2014 – present
Anti-harassment task force coordinator, Faculty of Pharmacy, Cairo University	2015 – 2016
Assistant to the Director of Biotechnology Center, Faculty of Pharmacy, Cairo University	2015 – 2016
Judge at University of Cincinnati Science and Engineering Expo	2011 and 2012
President of International Student Association (ISA) of University of Tennessee HSC	2006 – 2008
Member of the Association of Friends of the National Cancer Institute (AFNCI), Cairo, Egypt	2000 – 2004

Reviewer:

PLOS ONE, Genes, BMC Research Note, Frontiers in Genetics, Medical Sciences, Medicines, OMICS: A Journal of Integrative Biology, Scientific Reports, European Journal of Pharmaceutics and Biopharmaceutics, Journal of Advanced Research, Clinical, Cosmetic and Investigational Dermatology, Frontiers in Neuroscience, Medicine, Microbial Pathogenesis, Oxidative Medicine and Cellular Longevity, and Egyptian Journal of Genetics and Cytology.

Academic Editor: Medicine (LWW - Wolters Kluwer) (Infectious Diseases Section).

Associate Editor: Frontiers in Neuroscience (Frontiers) (Neurogenomics section).

Assistant Technical Editor: Egyptian Journal of Genetics and Cytology (Egyptian society of Genetics)

Languages

Arabic	Native language
English	Bilingual proficiency
French	Elementary to limited working proficiency

Software Skills

- Fully Proficient -GraphPad Prism (Statistical analysis and visualization)
-DataDesk (Statistical analysis package)
-Gene Network platform (Linkage analysis)
- PharmGKB (Pharmacogenomics knowledge database)
- Intermediate -Cytoscape (Gene-expression and Pathway analysis)
-FileMaker Pro (Relational database platform)
-Genespring (Gene expression analysis)
-Tableau (Visualization and statistical analysis)

Special Training (selected last 3 years)

Training Session	Date	Organization
التحليل الإحصائي في التجارب الحيوية (العمليات العملية)	April 2020	دورات مركز تنمية قدرات أعضاء هيئة التدريس FLDC
التفكير الناقد	April 2020	دورات مركز تنمية قدرات أعضاء هيئة التدريس FLDC
المقررات الإلكترونية التفاعلية	October 2020	دورات مركز تنمية قدرات أعضاء هيئة التدريس FLDC
الاتجاهات الحديثة في التدريس	October 2020	دورات مركز تنمية قدرات أعضاء هيئة التدريس FLDC
“Infection Control” workshop	April 2019	Biotechnology Center, Faculty of Pharmacy, Cairo University
“Metagenomics” workshop	Dec 2018	Oklahoma State University and Faculty of Pharmacy Genomics Center, at Faculty of Pharmacy, Cairo University
ASM “Grant Writing” Online Course	Fall 2018	American Society for Microbiology (ASM), Education Department, Washington, DC USA.
“Open Access Week @ AUC: Knowledge Production in Egypt and the Global South”	Nov 2018	The American University in Cairo, AUC, Cairo, Egypt
“SciVal: A tool for evidence-based research planning” Workshop	Oct 2018	Elsevier – Cairo University
“Indexing your journal in Scopus”	July 2018	Academy of Scientific Research and Technology (ASRT), Egypt
ASM “Scientific Writing and Publishing” Online Course	Jan – April 2018	American Society for Microbiology (ASM), Education Department, Washington, DC USA.

"Work Smarter, Not Harder: Time Management for Personal & Professional Productivity"	September 2017	University of California, Irvine on Coursera by Margaret Meloni, MBA, PMP
"Conference German-Egyptian Network for Innovation and Development (GENID)"	February 2017	Alexander von Humboldt Foundation Workshop for Postdoctoral Researchers, Intercontinental Cairo CityStars, Egypt
"Building research capacity towards assessing success-factors in building ethical cross-sectoral healthcare management partnerships within business, government and NGOs"	November 2016	"Giving voice to values" – British Council – Newton Trilateral (United Kingdom-Egypt-South Africa) Workshop for Early Career Researchers, Stellenbosch, South Africa
"Self Marketing"	July 2016	German Academic Exchange Service Cairo Office, DAAD, Cairo, Egypt
"Scholarly collaborations"	July 2016	German Academic Exchange Service Cairo Office, DAAD, Cairo, Egypt
Digital Pedagogy Lab Cairo	March 2016	Center for Learning and Teaching ,The American University in Cairo (AUC), Egypt

International Conferences Oral and Poster Presentations (selected last 3 years)

Arab Network of Women in Science and Technology (ANWST)

Alexandria, Egypt – December 2020

"المرأة العربية في العلوم: حاضرة ومشاركة"

4th International PHARMA conference, Helwan University

Cairo, Egypt – November 2020

5th International Conference of Genetic Engineering & Its Applications

Hurghada, Egypt – October 2019

Talk title: "Exploring xenobiotic-microbiota interactions"

ASM Microbe 2019

San Francisco, CA – June 2019

Poster presentations: Y. A. Ramadan , N. F. Abdeltawab , G. R. Abdellatif, M. A. Ramadan "Effect of Selected Natural Products on Biofilm Formation by *Klebsiella pneumonia* Clinical Isolates" and

Y. A. El Hakim , N. F. Abdeltawab , A. E. Ali , and A-D. M. S. Hosny "Effect of Zinc Limitation on Pathogenic Behavior of *Staphylococcus aureus*"

3rd Annual Arab International Pharmacy Conference (AIPC)

Cairo, Egypt – March 2019

Talk title: "Pharmacogenetics a step towards precision medicine"

UNESCO Opening Ceremony International Year of the Periodic Table of Chemical Elements (IYPT)

Paris, France – January 2019

Invited speaker for "Young scientists from regions of the World (StandUp4Periodic Table)"

Talk title: "Trace Elements in Host-Pathogen Interactions: A Tale of Two Bacteria and Two Elements"

ASM Microbe 2018

Atlanta, GA – June 2018

Poster presentation: H. A. Ahmed, R. Wasfi, N. F. Abdeltawab, S. A. Megahed. "Effect of Cigarette Smoking on Metabolism of Anthracene As An Example of Xenobiotics by Selected Oral Bacterial isolates"

Digestive Disease Week

Chicago, IL – May 2017

Poster presentation: M.T. Khayyal, N.F. Abdeltawab, S. El-Sayed, B. Vinson, H. Abdel-Aziz. "Effect of the Herbal Preparation, STW5, on the Microbiome in an Experimental Model of Functional Dyspepsia"

German Egyptian Network for Innovation and Development (GENID) meeting Alexander von Humboldt Foundation

Cairo, Egypt – February 2017

Poster presentation: "Pharmacogenetics of HCV new therapy in Egypt"

Trilateral British Council Researcher Links: Building research capacity towards assessing success-factors in building ethical cross-sectoral healthcare management partnerships within business, government and NGOs (Giving Voice to Value (GVV))

Cape town, South Africa – November 2016

Poster presentation: "From Systems Biology to Precision Medicine"

The 4th International Conference of Genetic Engineering & Its Application

"New Trends in Genetic Engineering & Biotechnology: Application of Genetic Engineering in Medical and Pharmaceutical Field Genomics, Proteomics and Bioinformatics"

Sharm El-Sheikh, Egypt – October 2016

Invited Speaker: "Systems Biology Approaches in Infectious Diseases"

13th Annual National Conference for Biochemistry and Molecular Biology

Cairo, Egypt – March 2016

Invited speaker: "Systems Biology Approaches in Infectious Diseases"

17th International Congress on Infectious Diseases (ICID)

Hyderabad, India – March 2016

Poster presentations:

- Eid, S. Z. A., et al. "Correlation of Interferon-gamma and Interleukin-28B levels in patients with chronic hepatitis C viral infection with or without Schistosoma mansoni coinfection." International Journal of Infectious Diseases 45 (2016): 427.p

- Abdeltawab, N. F., et al. "Development of Safe, Effective and Immunogenic Vaccine Candidate for Diarrheagenic Escherichia coli Main Pathotypes in Mouse Model." International Journal of Infectious Diseases 45 (2016): 419.

Publications

Peer-reviewed Articles

Radwan NH, Nasr M, Ishak RA, **Abdeltawab NF**, Awad GA. Chitosan-calcium phosphate composite scaffolds for control of post-operative osteomyelitis: Fabrication, characterization, and in vitro–in vivo evaluation. *Carbohydrate Polymers*. 2020 September; 244. doi: <https://doi.org/10.1016/j.carbpol.2020.116482>.

- Shamma, RN, Salah Ad-din I, and **Abdeltawab NF**. Dapsone- gel as a novel platform for acne treatment: In vitro evaluation and In vivo performance and histopathological studies in acne infected mice. *Journal of Drug Delivery Science and Technology* 2019, 54. doi: 10.1016/j.jddst.2019.101238
- Haikal SM, **Abdeltawab NF**, Rashed LA, Abdel-Galil TI, Elmalt HA, and Amin MA. Combination therapy of mesenchymal stromal cells and interleukin 4 attenuates rheumatoid arthritis in collagen-induced murine model. *Cells* 2019, 8(8),823. /doi.org/10.3390/cells8080823
- Gohar A, **Abdeltawab NF**, Shehata N, Amin MA. Preclinical study of safety and immunogenicity of combined rubella and human papillomavirus vaccines: Towards enhancing vaccination uptake rates in developing countries. *Papillomavirus Research* 2019 Jun 8;8:100172. doi: 10.1016/j.pvr.2019.100172.
- Taleb MH, **Abdeltawab NF**, Shamma RN, Abdelgayed SS, Mohamed SS, Farag MA, Ramadan MA. Origanum vulgare L. Essential Oil as a Potential Anti-Acne Topical Nanoemulsion-In Vitro and In Vivo Study. *Molecules*. 2018 Aug 28;23(9). pii:E2164. doi: 10.3390/molecules23092164.
- El-Boghdady NA, **Abdeltawab NF**, and Nooh MN. Resveratrol and Montelukast Alleviate Paraquat-Induced Hepatic Injury in Mice: Modulation of Oxidative Stress, Inflammation, and Apoptosis. *Oxidative Medicine and Cellular Longevity*. 2017, 2017, article ID Article ID 9396425, 9 pages. doi.org/10.1155/2017/9396425
- Eid SAZ, **Abdeltawab NF**, Melek S, and Amin MA. *Schistosoma mansoni* Co-infection with Hepatitis C Virus is Associated with Increased Interleukin-28B Plasma Levels in Patients in Egyptian Population. *Journal of the Egyptian Society of Parasitology*. 2017, 45 (2): 363–374
- Ali R, **Abdeltawab NF**, Hady O, and Amin M. Synergistic Effect of Co-administration of *Haemophilus influenzae* and *Neisseria meningitidis* Vaccines on Immune Responses to Meningitis in Mouse Model. *Egyptian Journal of Biomedical Sciences*. March 2017, 51:1–11
- Rafik M, Hosny A, Abdel-El-Hady W, Ragab D, Rakha K, and **Abdeltawab NF**. Multifactorial Analysis of Virus-Host Interactions Modulating Th1/Th2 Cytokine Profiles: Pilot Study in Treatment Naïve Egyptian Chronic Hepatitis C Patients. *New Egyptian Journal of Microbiology*. September 2016, 45: 166–176
- Gohar A, **Abdeltawab NF**, Fahmy A, Amin MA. Development of safe, effective and immunogenic vaccine candidate for diarrheagenic *Escherichia coli* main pathotypes in a mouse model. *BMC Research Notes*. 2016, 9:80 doi: 10.1186/s13104-016-1891-z
- Abdelallah N, **Abdeltawab NF**, Boseila AA, Amin MA. Chitosan and Sodium Alginate Combinations are Alternative, Efficient and Safe Natural Adjuvant Systems for Hepatitis B Vaccine in Mouse Model. *Evidence-Based Complementary and Alternative Medicine*. 2016, vol. 2016, Article ID 7659684, 8 pages, 2016. doi:10.1155/2016/7659684
- Russo LM, **Abdeltawab NF**, O'Brien AD, Kotb M, Melton-Celsa AR. Mapping of genetic loci that modulate differential colonization by *Escherichia coli* O157:H7 TUV86-2 in advanced recombinant inbred BXD mice. *BMC Genomics*. 2015, 16:947. doi:10.1186/s12864-015-2127-7.

Zumbrun, EE, **Abdeltawab, NF**, Bloomfield, HA, Chance, TB, Nichols, DK, Harrison, PE, Kotb, M, and Nalca, A. Development of a Murine Model for Aerosolized Ebola virus Infection Using a Panel of Recombinant Inbred Mice. *Viruses*. 2012, 4(12), 3468-3493

Kansal, R.G., Datta, V, Aziz, R.K., **Abdeltawab, N.F.**, Rowe, S, and Kotb, M. Dissection of the Molecular Basis for Hypervirulence of an In Vivo-Selected Phenotype of the Widely Disseminated MIT1 Strain of Group A Streptococcus Bacteria. *Journal of Infectious Diseases*. 2010 Mar 15; 201(6): 855-65

Abdeltawab, N.F., Aziz, R.K., Kansal, R.K., Rowe, S., Su, Y., Gardner, L.A., Brannen, C., Nooh, M., Attia, R., Abdelsamed, H., Taylor, W., Lu L, Williams R.W., and Kotb M. An Unbiased Systems Genetics Approach to Mapping Genetic Loci Modulating Susceptibility to Severe Streptococcal Sepsis. *PLoS Pathogens*. 2008 4(4): e1000042

Kotb M, **Abdeltawab N**, Aziz R, Rowe S, Williams RW, and Lu L. Unbiased forward genetics and systems biology approaches to understanding how gene-environment interactions work to predict susceptibility and outcomes of infections. *Novartis Found Symp*. 2008; 293:156-65; discussion 165-7, 181-3

Aziz, R.K., Kansal, R, **Abdeltawab, N.F.**, Rowe, S.L., Su, Y, Carrigan, D, Nooh, M.M., Attia, R.R., Brannen, C., Gardner, L.A., Lu L, Williams R.W., and Kotb M. Susceptibility to severe Streptococcal sepsis: use of a large set of isogenic mouse lines to study genetic and environmental factors. *Genes and Immunity*. 2007 8(5): 404–415

Books and Book Chapters

Abdeltawab, N.F. (2011). Systems Biology Approaches in Infectious Diseases: Host Pathways Modulating Differential Response to Invasive Group A Streptococcal Sepsis. Saarbrücken, Germany: LAP LAMBERT Academic Publishing GmbH & Co. KG.

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