



# Ahmed Atef Ahmed Ali

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## Qualifications

- Tenured Research Fellow (**Assistant Professor**) & **Group Leader**
- **Ph.D.** Molecular & cell biology (**First Excellence Academic Performance** award)
- **M.Pharm.** Microbiology & Immunology, **B.Pharm. Hons**, Pharmacy
- More than **16 years** of postgraduate research & academic teaching experience
- Research **Group Leader** and **Projects Manager**
- Registered **Pharmacist**
- Registered **Clinical Specialist of Microbiology and Immunology**
- Professional in writing **grant proposals** (three proposals were accepted in Taiwan)
- Expert in problem solving, data analysis & creating experimental methodologies
- Highly skilled in initiating and maintaining collaborating projects (local & international collaborations)
- Advanced the pharmaceutical industry by my research (contact lens solutions)

## Research fields highlights

Cancer & Molecular cell biology, Drug formulation & delivery systems, Animal models, Neuroscience, Stem cells (Mesenchymal & iPSC), Medical & biological imaging, Microfluidics, Drug discovery, Microbiology & Immunology

## Work history

Dates December 2017 – September 2019

Occupation or position held **Tenured** Research Fellow (**Assistant Professor** rank) & **Group Leader** (full time)

- Main activities and responsibilities
- Established a research group and constructed a laboratory from the scratch for my research (negotiated to acquire a decent working bench, recruited research personnel and graduate students, prepared an office for my group, and purchased equipment and reagents for research)
  - Acted as a **Principal Investigator** and **Lead Scientist** for two research projects
  - Attained a research grant funding of **1,000,000** NTD for my group
  - Initiated and coordinated international research collaborations with groups from **Canada, Egypt, and Taiwan**, and published several papers in reputable journals
  - Represented my group and university in international conferences in **USA, Egypt, and Taiwan**
  - Delivered lectures and training courses to undergraduate and postgraduate students and supervised the researchers and postgraduate students through their research
  - Produced manuscripts for publication, and coached other researchers to prepare, design, and write scientific papers
  - Acquired two international **patents** for my novel drug-loaded nanoparticles
  - Specialized in drug formulation & delivery systems (nanoparticles, liposomes, emulsions, ... etc.), molecular diagnostic imaging, stem cells & translational medicine

Name and address of employer TMU Neuroscience Research Center, College of Medicine, Taipei Medical University, Taiwan

Dates January 2017 – December 2017

Occupation or position held **Post-doctoral** associate (full time)

- Main activities and responsibilities
- Introduced novel drug delivery and biomedical imaging approaches for cancer research to my institute
  - Guided the researchers and postgraduate students by presenting lectures & training courses to them
  - Constructed research grant proposals to support our research group
  - Presented our novel research findings in international conferences & symposiums
  - Planned and constructed manuscripts for publication and handled the whole publication processes
  - Acted as the **Laboratory Manager** and handled the administrative work of our research group

Name and address of employer Translational Imaging Research Center, Taipei Medical University, Taiwan

Dates September 2011 – December 2016

Occupation or position held **PhD Researcher** (full time)

Main activities and responsibilities

- Achieved the fabrication of novel drug-loaded nanoparticle formulations for **theranostic** applications
- Explored the modes of action of novel anticancer compounds and their cellular signalling pathways
- Delivered seminars and training courses to fellow researchers and students
- Developed and wrote research grant proposals for our research group
- Initiated research collaboration with other groups in **United Kingdom** (peptide chemistry) and Taiwan
- Wrote and prepared manuscripts for publication and addressed the reviewers' comments

Name and address of employer National Defense Medical Center and Institute of Molecular Biology, Academia Sinica, Taiwan

Dates September 2003 – August 2011

Occupation or position held **Tenure-Track Senior Assistant Lecturer and Laboratory Manager** (full time)

Main activities and responsibilities

- Set the standards and goals of the courses of our newly established department to achieve maximum skills and knowledge development for the students with minimum load on the teaching staff
- Developed the syllabuses and taught the practical sessions of the **credit courses** of Pharmaceutical Microbiology and Biotechnology, Diagnostic Microbiology, Medical Microbiology, Basic Microbiology, and General Microbiology for Dentistry
- Trained and guided researchers of our department through their postgraduate research, and aided three of them to complete their **M.Sc. degrees**
- **Lead** and coached the teaching assistants for the educational and research tasks
- Prepared and held the **practical exams** of the undergraduate students
- Handled the administrative work of our department and administered its **accreditation** process
- Supervised trips of undergraduate students to other cities (I achieved the balance between preventing any problems from happening, monitoring the safety of students, and letting them enjoy their trips)

Name and address of employer Microbiology & Immunology Department, Faculty of Pharmacy, Misr International University, Egypt

## Education

Title of qualification awarded **Ph.D.** degree of Molecular & Cell Biology program of Academia Sinica (MCB)

(Top 25 **World's Most Innovative Research Institutions**; REUTERS rankings 2015)

Principal subjects covered Thesis title: "Formulation of smart cancer-targeted theranostic nanoparticles, molecular targets identification and biological evaluation of small-molecule drugs"

Name of university/research institute Graduate Institute of Life Sciences, National Defense Medical Center with Institute of Molecular Biology, Academia Sinica

Title of qualification awarded **Master of Pharmaceutical Sciences** degree

Principal subjects covered Microbiology & Immunology, thesis title: "A study of the microbial quality, preservation and safety of some ophthalmic pharmaceutical and cosmetic preparations"

Name of university/research institute Faculty of Pharmacy, Cairo University under the Supreme Council of Higher Education and Research

Title of qualification awarded **Bachelor of Pharmaceutical Sciences with Honors** degree

Principal subjects covered Pharmaceutics, Microbiology, Immunology, Biotechnology, Pharmaceutical Chemistry, Herbal Medicine, Organic Chemistry, Analytical Chemistry

Name of university/research institute Faculty of Pharmacy, Cairo University under the Supreme Council of Higher Education and Research

## Awards & prizes

- Received the prestigious "**First Excellence Academic Performance**" award for cumulative academic achievements among Academia Sinica and National Defense Medical Center PhD graduates, 2017
- Received the "**Ph.D. Research Thesis Award**" among graduates of National Defense Medical Center, Academia Sinica, National Health Research Institutes (NHRI), 2017
- Selected as the "**Outstanding Graduate Student of 2016**" of the international TIGP Program
- Awarded the "**TIGP Student Conference Travel Grant**" from Academia Sinica; Sep-Dec 2016
- Awarded the "**International Conference Travel Grant**" from MOST, Taiwan; May 2016
- Received "**Financial subsidization for students for short-term study abroad**" from NDMC; 2016
- "**Shield of Excellence**" award for scientific achievements from Egyptian Pharmacist Syndicate; 2010
- "**Academic Award Achievement**" from Misr International University for research achievements; 2010
- "**Outstanding and Commendable Performance**" award from Misr International University; 2008

- Invited conference talks (international)**
- “Molecular Modeling in Drug Discovery: A shortcut to Identify Molecular Targets and Bioavailability of Biological Lead Compounds”, invited talk (Keynote Speaker) at the First International Conference on Molecular Modeling and Spectroscopy (ICMMS1), National Research Centre, Cairo, Egypt, 2019.
  - “Biomarker Probes for MRI: Can We Determine the Distribution of Uptaken Drugs in tumors and Predict Response to Therapy?”, invited talk at the XXI Symposium Neuroradiologicum – The World Congress of Neuroradiology, Taipei, 2018.
  - “Smart multifunctional Erlotinib Loaded SPION as A biomarker for treatment response Prediction of Metastatic Cancers”, invited talk at the International Conference and Expo on Pharmaceuticals & NDDS Pharmacology Studies, Philadelphia, USA, 2017.
  - “Formulation of smart anticancer drug-loaded nanoparticles for magnetic resonance imaging applications – TMU experience”, invited talk at the 2017 International Biomedical Interface Symposium, hosted by Tokyo University of Science.
  - “A facile and effective strategy to identify molecular targets of drugs and biological lead compounds”, selected by the organizing committee for invited talk at the 15<sup>th</sup> International Meeting of the Consortium for Globalization of Chinese Medicine, hosted by Academia Sinica

- International scientific collaborations**
- Lead and managed a collaboration project between my group at Taipei Medical University, **Taiwan**, University of Calgary, **Canada**, and Heliopolis University, **Egypt**. (One paper related to mesoporous silica nanoparticles in brain regeneration and cancers was published as a conclusion).
  - Collaborated with a research group at the Schulich School of Engineering, University of Calgary, **Canada**, to train their research personnel and perform research on nanoparticles synthesis for oil recovery, emulsions and microfluidics
  - Lead a collaboration project between the National Defense Medical Center, **Taiwan** and the University of East Anglia, **United Kingdom** (performed research on peptide synthesis and modification for anticancer applications during Aug-Sep 2014 at University of East Anglia).

## Personal skills

Mother tongue	Arabic		Understanding				Speaking		Writing	
Other languages			Listening	Reading	Spoken interaction	Spoken production				
<a href="#">European language levels (CEFR)</a>										
<b>English*</b>	<a href="#">C2</a>	Proficient user	<a href="#">C2</a>	Proficient user	<a href="#">C2</a>	Proficient user	<a href="#">C2</a>	Proficient user	<a href="#">C2</a>	Proficient user
<b>French</b>	<a href="#">B1</a>	Basic user	<a href="#">B1</a>	Basic user	<a href="#">A2</a>	Basic user	<a href="#">A2</a>	Basic user	<a href="#">A2</a>	Basic user

\* International English Language Testing System (**IELTS**) score: (Listening: **9**, Reading: **9**, Writing: **7.5**, Speaking: **8**, Overall: **8.5**)

- Organisational skills**
- **Leadership:**
    - Research group leader and principal investigator at Taipei Medical University
    - Laboratory and working bench manager at Taipei Medical University
    - Elected as the Graduate students Association Representative of the MCB program of Academia Sinica for two cycles
    - Research group leader of the Microbiology & Immunology dept., Misr Inter. Univ.
    - Ex-head of the International Service Committee of Rotaract Heliopolis El-Golf Club
  - **Reliability:**
    - Handling the purchases of devices, chemicals and reagents for my group
    - Exams preparation for the undergraduates
    - Training of the junior teaching assistants

- Technical skills**
- Expert in: “pharmaceutics, synthesis of liposomes and magnetic nanoparticles, microfluidics, cell culture techniques, reprogramming fibroblasts into pluripotent stem cells, differentiating stem cells into different cell types, medical and biological imaging, cell viability assays, cell permeability assays, migration and invasion assays, Western blotting, polymerase chain reaction (PCR), reporter gene assays, Transmission Electron Microscopy (TEM), confocal microscopy, fluorescence microscopy, flow cytometry, molecular docking, chemical synthesis of small molecules, synthesis and modification of peptides, HPLC, spectroscopy, elemental analyses, tumor animal models, stereotaxic surgeries of small laboratory animals, immunohistochemical procedures, basic microscopy, microbiological cultures, microbial sensitivity assays, and clinical and diagnostic microbiological assays”

## List of publications

1. [Ahmed Ali AA \\*](#), Rami Ahmad Shahrer, Kai-Yun Chen. [Efficient labeling of mesenchymal stem cells for high sensitivity long-term MRI monitoring in live mice brains](#). *Int. J. Nanomed.* 2020.
2. Mendiratta S, Hussein M, Nasser HA, [Ahmed Ali AA \\*](#). [Multidisciplinary role of Mesoporous Silica Nanoparticles in Brain Regeneration and Cancers: From Crossing Blood Brain Barrier to Treatment](#). *Part Part Syst Charact.* 2019.
3. Shahrer RA, [Ahmed Ali AA](#), Wu CC, Chiang YH, Chen KY. [Enhanced Homing of Mesenchymal Stem Cells Overexpressing Fibroblast Growth Factor 21 to Injury Site in a Mouse Model of Traumatic Brain Injury](#). *Int J Mol Sci*, 2019.
4. Hsu FT, Liu HS, [Ahmed Ali AA](#), Tsai PH, Kao YC, Lu CF, Huang HS, Chen CY. [Assessing the selective therapeutic efficacy of superparamagnetic erlotinib nanoparticles in lung cancer by using quantitative magnetic resonance imaging and a nuclear factor kappa-B reporter gene system](#). *Nanomedicine*, 2018.
5. Fann LY, Chen Y, Chu DC, Weng SJ, Chu HC, Wu AT, Lee JF, [Ahmed Ali AA](#), Chen TC, Huang HS, Ma KH. [Identification and preclinical evaluation of the small molecule, NSC745887, for treating glioblastomas via suppressing DcR3-associated signaling pathways](#). *Oncotarget*, 2017.
6. Chen HL, Hsu FT, Kao YJ, Liu HS, Huang WZ, Lu CF, Tsai PH, [Ahmed Ali AA](#), Lee GA, Chen RJ, Chen CY. [Identification of epidermal growth factor receptor-positive glioblastoma using lipid-encapsulated targeted superparamagnetic iron oxide nanoparticles in vitro](#). *J Nanobiotechnology*, 2017.
7. [Ahmed Ali AA](#), Hsu FT, Hsieh CL, Shiau CY, Chiang CH, Wei ZH, Chen CY, Huang HS. [Erlotinib-Conjugated Iron Oxide Nanoparticles as a Smart Cancer-Targeted Theranostic Probe for MRI](#). *Scientific Reports*, 2016.
8. [Ahmed Ali AA](#), Lee YR, Chen TC, Chen CL, Lee CC, Shiau CY, Chiang CH, Huang HS. [Novel Anthra\[1,2-c\]\[1,2,5\]Thiadiazole-6,11-Diones as Promising Anticancer Lead Compounds: Biological Evaluation, Characterization & Molecular Targets Determination](#). *PLOS ONE*, 2016.
9. Chen CL; Lee CC; Liu FL; Chen TC; [Ahmed Ali AA](#); Chang DM; Huang HS. [Design, synthesis and SARs of novel salicylanilides as potent inhibitors of RANKL-induced osteoclastogenesis and bone resorption](#). *Eur J Med Chem*, 2016.
10. Lee CC; Liu FL; Chen CL; Chen TC; Liu FC; [Ahmed Ali AA](#); Chang DM; Huang HS. [Novel inhibitors of RANKL-induced osteoclastogenesis: Design, synthesis, and biological evaluation of 6-\(2,4-difluorophenyl\)-3-phenyl-2H-benzo\[e\]\[1,3\]oxazine-2,4\(3H\)-diones](#). *Bioorg Med Chem*, 2015.
11. Chen CL, Chen TC, Lee CC, Shih LC, Lin CY, Hsieh YY, [Ahmed Ali AA](#), Huang HS. [Synthesis and evaluation of new 3-substituted-4-chloro-thioxanthone derivatives as potent anti-breast cancer agents](#). *Arab J Chem*, 2015.
12. Lee YR; Chen, TC; Lee CC; Chen CL; [Ahmed Ali AA](#); Tikhomirov A; Guh JH; Yu DS; Huang HS. [Ring fusion strategy for synthesis and lead optimization of sulfur-substituted anthra\[1,2-c\]\[1,2,5\]thiadiazole-6,11-diones as promising scaffold of antitumor agents](#). *Eur J Med Chem*, 2015.
13. Chen CL; Liu FL; Lee CC; Chen TC; [Ahmed Ali AA](#); Sytwu HK; Chang DM; Huang HS. [Modified salicylanilide and 3-phenyl-2H-benzo\[e\]\[1,3\]oxazine-2,4\(3H\)-dione derivatives as novel inhibitors of osteoclast differentiation and bone resorption](#). *J Med Chem*, 2014.
14. Chen CL; Liu FL; Lee CC; Chen TC; Chang WW; Guh JH; [Ahmed Ali AA](#); Chang DM; Huang HS. [Ring Fusion Strategy for the Synthesis of Anthra\[2,3-d\]oxazole-2-thione-5,10-dione Homologues as DNA Topoisomerase Inhibitors and as Antitumor Agents](#). *Eur J Med Chem*. 2014.
15. "Formulation of smart cancer-targeted theranostic nanoparticles, molecular targets identification and biological evaluation of small-molecule drugs" A thesis submitted to Molecular and Cell Biology Program, Taiwan International Graduate Program of National Defense Medical Center and Academia Sinica in partial fulfillment of the requirements for the Degree of philosophy in Molecular and Cell Biology.
16. "A study of the microbial quality, preservation and safety of some ophthalmic pharmaceutical and cosmetic preparations" A thesis submitted to Faculty of Pharmacy, Cairo University in partial fulfillment of the requirements for the Degree of Master of Pharmaceutical Sciences in Microbiology and Immunology.

## List of patents

1. [Dextran magnetic iron nanoparticle, preparation method and use thereof for cancer comprising a dextran layer, a magnetic iron nanoparticle and an active drug, and useful for the treatment of cancer and for imaging](#). Inventors: HUANG HSU-SHAN; CHEN CHENG-YU; [ALI AHMED ATEF AHMED](#); HSU FEI-TING. Bibliographic data: TW201821061 (A) – 2018-06-16
2. [葡聚糖磁性铁奈米颗粒、制备及在治疗癌症与造影的用途](#). Inventors: CHEN CHENG-YU; [ALI AHMED ATEF AHMED](#); HSU FEI-TING; HUANG HSU-SHAN. Bibliographic data: WO2018098705A1