
Heba Abd El-Sattar El-Nashar, Ph.D.

Assistant professor

Department of Pharmacognosy & Phytochemistry

Faculty of Pharmacy, Ain Shams University



Currently, I am assistant professor of Pharmacognosy and Phytochemistry, at Ain Shams University teaching for undergraduate as well as postgraduate courses of Pharmacognosy included in Pharmacy Bachelor and master's degree afforded by Faculty of Pharmacy, Ain Shams University. I hold my PhD in field the field of Natural Products Chemistry including isolation, structure elucidation and biological evaluation of secondary metabolites from plants. In addition, I am now working on various research plans in Natural Product Chemistry as well as Drug Discovery, in which, the main current interest is focusing on 'Plant-derived bioactive secondary metabolites'.

Current Contact Information

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ResearchGate profile:

https://www.researchgate.net/profile/Heba_El-Nashar

Scopus Profile:

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Education

Ph.D. in Pharmaceutical Sciences| June 2020

Ain Shams University - Egypt

Department of Pharmacognosy & Phytochemistry, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Thesis entitled: "Phytochemical and Biological Studies on certain plants belonging to Family Anacardiaceae".

M.Sc. in Pharmaceutical Sciences| December 2015

Ain Shams University - Egypt

Department of Pharmacognosy & Phytochemistry, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt. Thesis entitled: "Phytochemical and Biological Study of *Acrocarpus fraxinifolius* Family Fabaceae".

B.S. in Pharmaceutical Sciences| July 2011

Ain Shams University - Egypt

Major score: "Excellent with Honor" in the 6th place, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt.

Professional Experience

July 2020 to present

Assistant Professor of Phytochemistry and Pharmacognosy

Department of Pharmacognosy, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt.

- Teaching and preparing various teaching aids (presentations, exams, quizzes and handouts) and grading exams for undergraduate courses, including the following courses for the regular system as well as the credit system program:
 - Botany and Medicinal Plants
 - Pharmacognosy
 - Phytochemistry 1 (Chemistry of Natural Products I)
 - Phytochemistry 2 (Chemistry of Natural Products II)
 - Quality Control of Herbal Products.
 - Phytotherapy

- Teaching and preparing various teaching aids (presentations, exams, quizzes and handouts) and grading exams for undergraduate courses.
- The current research interests include:
the isolation of biologically significant natural products from various natural sources specially plant sources and evaluating its biological activities aiming to find a novel natural product with promising biological activities to prevent or/and cure various diseases.

▪ **Assistant Professor of Phytochemistry, Department of Pharmacognosy, Faculty of Pharmacy, Badr university in Cairo (BUC), Cairo, Egypt (Part time; from September 2020 to April 2021).**

▪ **A member in the iHub Center (Creativity, Development and Entrepreneurship) of Ain Shams University.**

January 2016 to June 2020

**Assistant Lecturer of Phytochemistry and Pharmacognosy
Department of Pharmacognosy, Faculty of Pharmacy, Ain Shams University, Cairo,
Egypt.**

- Teaching, preparing presentation and preparing various laboratory classes, helping in formation of the practical students' notes, proctoring and grading exams for the Department of Pharmacognosy, Faculty of Pharmacy, Ain Shams University including:
 - Botany and Medicinal Plants
 - Pharmacognosy
 - Phytochemistry 1 (Chemistry of Natural Products I)
 - Phytochemistry 2 (Chemistry of Natural Products II)
 - Quality Control of Herbal Products
- Conducted studies and research in the field of the chemistry of medicinal plants and Natural Products Chemistry as a Ph.D. student in the Department of Pharmacognosy, Faculty of Pharmacy, Ain Shams University.
- Research interests were included the isolation of biologically significant natural products from various plant species and evaluating its biological activities aiming to find a novel natural product with promising biological activities to prevent or/and cure various diseases.
- Completing the Ph.D. thesis entitled: "Phytochemical and Biological Studies on certain plants belonging to Family Anacardiaceae".
- Getting courses for handling and manipulating the usage of Nuclear Magnetic Resonance instrument – Bruker 400 MHZ. and how to measure different samples for 1D and 2D NMR data.
- Getting different postgraduate courses regarding spectroscopic identifications, biosynthetic pathways, and chromatography.

May 2012 to December 2015

Teaching instructor and demonstrator of Phytochemistry and Pharmacognosy Department of Pharmacognosy, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt.

- Teaching various laboratory classes and preparing, proctoring and grading exams for the Department of Pharmacognosy, Faculty of Pharmacy, Ain Shams University including:
 - Botany and Medicinal Plants
 - Pharmacognosy
 - Phytochemistry 1 (Chemistry of Natural Products I)
 - Phytochemistry 2 (Chemistry of Natural Products II)
 - Quality Control of Herbal Products
- Conducted studies and research in the field of chemistry of natural products as Masters' student and Research Assistant at the Department of Pharmacognosy, Faculty of Pharmacy, Ain Shams University.
- Areas of interest included the isolation and identification of biologically active natural products.



Research Interests - Field of Research

- **Drug discovery:** Following bioactivity through Bio-assay guided fractionation of promising natural sources.
- **Isolation and Purification** of bioactive secondary metabolites.
- **Identification and Structural Elucidation** of secondary metabolites.
- **Volatile oil isolation and identification.**

Training and Attended Workshops

Faculty Training and Management Workshop for Faculty members - Faculty and Leadership Development Program (FLDP), Ain Shams University:

- Leadership
- Using Technology as teaching aids
- How to write a scientific paper
- Leading and management of research team
- Quality control and assurance
- Research projects and Funding
- Examination systems and evaluation
- Problem solving and planning
- Internal Auditing, Quality and Accreditation
- International Publication
- Ethics of scientific research
- Effective teaching
- Search and research
- Scientific writing

Molecular Docking Workshop entitled "3rd Workshop in Computer Aided Drug Design" at Department of Pharmaceutical Chemistry, Faculty of pharmacy, Ain Shams University (2016).

Egyptian Knowledge Bank Workshop at Department of Pharmaceutical Chemistry, Faculty of pharmacy, Ain Shams University (2018).

Elsevier Workshop entitled "Promote Your Research Capabilities" at Department of Pharmacognosy, Faculty of pharmacy, Ain Shams University (2019).

Workshops on various equipment such as Light microscope, Chromatotron, Shimadzu QP-2010 GC/MS operation, Prep HPLC at Department of Pharmacognosy, Faculty of pharmacy, Ain Shams University (2019).

Webinar entitled "Copyrights and Authorship Rights in Academia" in October 2020.

Webinar entitled "EKB for Suez Canal univ.: Quality and Performance in Scientific Research PLUS Research Funding" in October 2020.

Webinar entitled "Successful Grant Application with Funding Institutional-Real Examples and Supporting Tools" in October 2020.

Professional Skills

In the field of Pharmacognosy and Phytochemistry (Teaching and Research):

- Teaching different undergraduate as well as postgraduate courses of Phytochemistry and Pharmacognosy at department of Pharmacognosy, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt.
- Skills in different chromatographic techniques for extraction, fractionation as well as purification of natural products.
- Purification of isolated natural products from different plant materials using different chromatographic methods, e.g.: Column chromatography (CC), Thin Layer Chromatography (TLC) HPLC and GC.
- Purifying secondary metabolites using semi-preparative HPLC.
- Identification and structure elucidation of secondary metabolites using UV, IR, NMR and MS spectroscopy.
- Isolation, purification as well as cultivation of associated endosymbionts from different sources as plants, marine organisms, soil, mangroves as well as sea sediments.
- Scientific article and proposal writing.
- Supervision on graduation projects of students
- Supervision on MSc students

Equipment Handling

- HPLC (Analytical and Semipreparative)
- Spectrophotometer
- Incubator
- Centrifuges
- Light microscopes
- Rotary evaporator
- Clavenger

List of Publications

Protective effect of *Acrocarpus fraxinifolius* extract against hepatic fibrosis induced by Gamma irradiation and carbon tetrachloride in albino rats

Omama E. El-Shawi, Heba A. S. El-Nashar, Sahar S. Abd El-Rahman, Omayma A. Eldahshan and Abdel Nasser B. Singab

International Journal of Radiation Biology, 2022

Chilean pepper (*Schinus polygamus*) ameliorates the adverse effects of hyperglycaemia/dyslipidaemia in high fat diet/streptozotocin-induced type 2 diabetic rat model

Eman A.R. Abdelghffar, Nada M. Mostafa, Heba A. S. El-Nashar, Omayma A. Eldahshan and Abdel Nasser B. Singab

Industrial Crops & Products, 2022

A New Xanthone Glycoside from *Mangifera indica* L.: Physicochemical Properties and In Vitro Anti-Skin Aging Activities

Heba A. S. El-Nashar, Eman M. El-labbad, Mahmood A. Al-Azzawi and Naglaa S. Ashmawy

Molecules, 2022

Laboratory findings in COVID-19 - alterations of hematological, immunological, biochemical, hormonal and other lab panels: a narrative review

Yousef Rasmi, Lucas Paulo Jacinto Saavedra, Matei-Alexandru Cozma, Heba El-Nashar, Shaza Aly, Nouran Fahmy, Omayma Eldahshan, Mohamed El-Shazly, Elena Codruța Dobrică, Hamed Kord-Varkaneh, Camelia Cristina Diaconu, and Mihnea Alexandru Găman

Journal of Mind and Medical Sciences, 2022

Synergistic effect of quercetin magnetite nanoparticles and targeted radiotherapy in treatment of breast cancer

Mostafa A Askar, Heba AS El-Nashar, Mahmood A Al-Azzawi, Sahar S Abdel Rahman & Omama E Elshawi

Breast Cancer: Basic and Clinical Research, 2022

The genus *Schinus* (Anacardiaceae): a review on phytochemicals and biological aspects

Heba A. S. El-Nashar, Nada M. Mostafa, Eman A. Abd El-Ghffar, Omayma A. Eldahshan & Abdel Nasser B. Singab

Natural product research, 2021

The Impact of Polyphenolics in The Management of Breast Cancer: Mechanistic Aspects and Recent Patents

Heba A. S. El-Nashar, Shaza H. Aly, Amirhossein Ahmadi & Mohamed El-Shazly

Recent Patent Anticancer Drug Discovery, 2021

GC/MS Analysis of Essential Oil and Enzyme Inhibitory Activities of *Syzygium cumini* (Pamposia) Grown in Egypt: Chemical Characterization and Molecular Docking Studies

Heba A. S. El-Nashar, Wagdy M. Eldehna, Sara T. Al-Rashood, Amal Alharbi, Razan O. Eskandrani and Shaza H. Aly
Molecules, 2021

Chemical Composition, Cytotoxic and Anti-arthritic Activities of Hexane Extracts of Certain *Schinus* Species

Heba A. S. El-Nashar, Nada M. Mostafa, Omayma A. Eldahshan and Abdel Nasser B. Singab
Journal of Pharmacy and Pharmacology 9, 2021

A book Chapter entitled" Plant-derived Extracts and Bioactive Compounds against Coronavirus Progression: Preventive Effects, Mechanistic Aspects, and Structures "

Heba A. S. El-Nashar, Heba A.S. El-Nashar, Ahmed E. Elissawy, Omayma A. Eldahshan and Abdel Nasser B. Singab
Coronaviruses, Springer 2021

Orange fruit (*Citrus sinensis*) Peel Extract Attenuates Chemotherapy-Induced Toxicity in Male Rats

Eman Abd El-Ghffar, Heba El-Nashar, Ameera Almohammadi and Omayma Eldahshan
Food and Function, 2021

A book Chapter entitled" Phytotherapeutics in Inflammatory Lung Diseases"

Heba A. S. El-Nashar, Nouran M. Fahmy, Mohamed El-Shazly and Omayma A. Eldahshan
Medicinal plants for lung diseases, Springer 2021

A book Chapter entitled" The Impact of Plant-Derived Essential Oils on the Human Immunodeficiency Virus (HIV)"

Heba A.S. El-Nashar, Ahmed M. Abd-Alkhalek, Omayma A. Eldahshan
Recent advances in pharmaceutical science, Akinik 2021

A new antidiabetic and anti-inflammatory biflavonoid from *Schinus polygama* (Cav.) Cabrera leaves (Accepted to be published).

Heba A.S. El-Nashar, Nada M. Mostafa, Omayma A. Eldahshan, and Abdel Nasser B. Singab
Natural Product Research, 2020

The Role of Plant-Derived Compounds in Managing Diabetes Mellitus: A Review of Literature from 2014 To 2019 (Accepted to be published).

Heba A S El-Nashar, Nada M Mostafa, Mohamed El-Shazly, Omayma A Eldahshan
Current Medicinal Chemistry, 2020

Chemical Composition, Antimicrobial and Cytotoxic Activities of Essential Oils from *Schinus polygamus* (Cav.) Cabrera Leaves and Bark Grown in Egypt.

Heba A.S. El-Nashar, Nada M. Mostafa, Mohamed A. El-Badry, Omayma A. Eldahshan, and Abdel Nasser B. Singab

Natural Product Research, 2020

[It was classified as featured article in Egyptian Knowledge Bank (EKB)]

***Schinus terebinthifolius* essential oil attenuates scopolamine-induced amnesia via cholinergic modulation and antioxidant effects in a zebrafish model**

Gabriela Dumitru, Heba A.S. El-Nashar, Nada M Mostafa, Omayma A Eldahshan, Razvan Stefan Boiangiu, Elena Todirascu-Ciornea, Lucian Hritcu, Abdel Nasser B Singab

Evidence-Based Complementary and Alternative Medicine, 2019

Agathisflavone isolated from *Schinus polygamus* (Cav.) Cabrera leaves prevents scopolamine-induced memory impairment and brain oxidative stress in zebrafish (*Danio rerio*)

Gabriela Dumitru; Heba A.S. El-Nashar; Nada M Mostafa; Omayma A Eldahshan; Razvan Stefan Boiangiu; Elena Todirascu-Ciornea; Lucian Hritcu; Abdel Nasser B Singab

Phytomedicine, 2019.

Chemical Composition, Antimicrobial and Cytotoxic Activities of Essential Oils from *Schinus terebinthifolius* Raddi Growing in Egypt

Heba A.S. El-Nashar, Nada M. Mostafa, Mohamed A. El-Badry, Omayma A. Eldahshan, and Abdel Nasser B. Singab

International J of pharmacognosy and phytochemical Research, 2019.

HPLC Standardization of The Methanolic Extract of *Acrocarpus fraxinifolius* leaves based on Gallic acid Content

Heba A.S. El-Nashar, Omayma A Eldahshan and Abdel Nasser B Singab

Archives of Pharmaceutical Sciences, 2017

GC-MS Analysis and Hepatoprotective Activity of the *n*-Hexane Extract of *Acrocarpus fraxinifolius* Leaves against paracetamol-induced hepatotoxicity in male albino rats

Eman A. Abd El-Ghffar, Heba A.S. El-Nashar, Omayma A. Eldahshan and Abdel Nasser B Singab

Pharmaceutical Biology, 2016

Phytochemical Investigation, Antitumor activity and Hepatoprotective Effect of *Acrocarpus fraxinifolius* Extract

Heba A.S. El-Nashar, Omayma A. Eldahshan, Omama E. Elshawi and Abdel Nasser B. Singab

Drug Development Research, 2017

The Tribe Caesalpinieae (Fabaceae): An Updated Review on Pharmacological aspects

Heba A.S. El-Nashar, Omayma A Eldahshan and Abdel Nasser B. Singab.

Medicinal & Aromatic Plants, 2015

Conference Participation

Isolation and characterization of Endophytic Fungi from *Syzygium cumini* leaves and Their Antimicrobial and Antioxidant Activities

Shaza H. Aly, Heba A.S. El-Nashar

Poster presented at 9th Annual International Ain Shams University Conference, Cairo, Egypt (2021).

Chemical Composition, Antibacterial and Cytotoxic Activities of *Schinus terebinthifolius* Fruits Growing in Egypt

Heba A.S Elnashar, Nada M. Mostafa, Omayma Eldahshan and Abdelnasser Singab

Poster presented at 7th Annual International Ain Shams University Conference, Cairo, Egypt (2018).

Chemical Composition and Antibacterial Activity of *Schinus polygamus* (Cav.) Cabrera Leaves Grown in Egypt

Heba A.S Elnashar, Nada M. Mostafa, Omayma Eldahshan and Abdelnasser Singab.

Poster presented at 4th FUE International Conference of Pharmaceutical sciences, Cairo, Egypt (2017)

Project Participation

Name of the project: Development of Some Natural Products as a New Potential Prophylactic Strategy to Spare Normal tissues from Radiotherapy Damage: Insights into Molecular Protective Mechanisms

Grant type: Ain shams university grants, January 2021

Investigators: Heba A.S. El-Nashar, Eman M. Mantawy, Omayma Eldahshan

Thesis supervision

Omaima Rabie, MsC: “Phytochemical and Biological Studies on Certain Callistemon species Family Myrtaceae”. Co-supervision with: Nada M Mostafa.



Personal Skills and Knowledge

- Excellent working knowledge of ChemDraw software, EndNote software and MestreNova software.
- Participating in the Quality Assurance team and Internal Auditing team in Faculty of Pharmacy, Ain Shams University.
- Involved in the Quality Assurance Unit for Accreditation in the Faculty of Pharmacy, Ain Shams University, Cairo, Egypt.
- Member of swimming training academy for 6 years.

Key Strengths:

- **Exceptional communication and interpersonal skills** - highly developed communication and interpersonal skills, working effectively with individuals on all levels. Listens attentively, assesses situations, and builds excellent rapport with teammate.
- **Demonstrated problem solving, initiative and good judgment** - possesses the ability to clearly express thoughts.
- **Team leading and Leadership skills** - Identify and effectively implement strategies and actions that meet the job needs and requirements.



Association Membership

- **Member of Egyptian Pharmacy syndicate. | 2011 till present**
- **A reviewer in 2021 International Symposium on Biomedical Engineering and Computational Biology (BECB 2021), Nanchang Hangkong University, China**



Personal Data

- **Date of Birth:** 29/12/1988
- **Place of Birth:** Cairo, Egypt
- **Nationality:** Egyptian
- **Marital Status:** Single