

## Nehal M. S. M. Ibrahim, PhD

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Egyptian, born on 18/10/1982  
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### Education

- 2009-2012** **PhD**, Chemistry-Biology-Health, Paul Sabatier University (Toulouse III), Toulouse, France, Very Honorable with Jury Congratulations.
- July 2009** **Master's Degree**, Chemistry for Living, Paul Sabatier University (Toulouse III), Toulouse, France, Good, Major of the specialty.
- May 2004** **B.Sc. in Pharmaceutical Sciences**, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt, Excellent with great honors, rank 11/474.

### Professional Experience

- 2/2016 - present** **Lecturer**, Department of Pharmacognosy, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt.
- 2/2011** **Assistant Lecturer**, Department of Pharmacognosy, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt.
- 2011-2012** **Supervision** of two Master-1 students, PHARMA-DEV Laboratory, Toulouse III University, France under the title:  
Analysis of polysphorin derivative by HPLC-UV-Visible-Fluorescence.  
Analysis of two antiplasmodial compounds, 6-(4-chlorophenyl)-7H-[1,3]dioxolo[4,5-f]indol-7-one-5 oxide and artemisinin by HPLC-UV-visible-Fluorescence and HPLC-MS.
- 2009-2012** **Doctorate**, PHARMA-DEV Laboratory Toulouse III University, France, subject: Application of nanotechnologies to the improvement of the antimalarial properties of natural substances and synthetic compounds.
- 2008-2009** **Master-2 Research**, PHARMA-DEV Laboratory, subject: Alkaloids of *Androya decaryi* H. Perrier (Scrophulariaceae): isolation, structural identification and evaluation of their antiplasmodial activity.
- 2005 (6 months)** **Teaching assistant**, Department of Pharmacognosy, Faculty of Pharmacy, Ain Shams University.

### Technical Skills

#### Pharmacognosy and Phytochemistry:

- Extraction, isolation and characterization of natural products by various chromatographic and spectroscopic techniques (GC/MS, LC/MS, MS<sup>n</sup>, UV-Visible, IR, NMR, XRD)
- Microscopic botanical analysis
- Metabolite profiling and chemometric analysis of plant extracts
- GC/MS & LC/MS based metabolomics
- Analysis and bioassay of essential oils

**Pharmaceutical Technology et nanotechnology:** Preparation and characterization of nanoparticles (Nab-Tech™, NanoEDGE™, TEM, XRPD, Differential Scanning Calorimetry, Photon Correlation Spectroscopy) and preformulation studies in drug development.

**Pharmacokinetics:** Analysis of drug/protein interactions by different spectroscopic methods.

**Computer Skills:** Office, ChemDraw, ISISDraw, Topspin, Xcalibur, The Unscrambler, AMDIS, MassLynx, WinSCP, Cytoscape.

**Language Skills:** English (fluent, TOEIC 955), French (fluent), Arabic (mother tongue).

## Teaching Experience

### Undergraduate courses:

Participating in teaching and writing theoretical and practical notes of regular, Drug Design, Pharm D and Pharm D clinical programs undergraduate courses at the Department of Pharmacognosy, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt:

- Medicinal plants (introduction to medicinal plants, leaf, flower, bark and wood, herbs).
- Pharmacognosy (seeds, fruits, subterranean organs, unorganized drugs and optimum nutrition, marine drugs).
- Medical botany (leaf, flower, bark and wood).
- Pharmacognosy I (seeds, fruits and subterranean).
- Pharmacognosy II (herbs, unorganized drugs and optimum nutrition).
- Phytochemistry I (glycosides, tannins, bitter principles, carbohydrates and chromatography).
- Phytochemistry II (essential oils and alkaloids).
- Phytotherapy and quality control of herbal products.

### Postgraduate courses:

Participating in teaching MSc and PhD courses at the Department of Pharmacognosy, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt:

- Chemotaxonomy of natural drugs and the biosynthesis of their metabolites.
- Plant toxicity and drug interaction.

## Students Activities

- Supervising the graduation project of Level 5 Drug Design Program students at Faculty of Pharmacy, Ain Shams University, Cairo, Egypt (2019/2020) under the title of **Valorizing the role of Nano-nutraceuticals in CNS disorders**.
- Supervising the graduation project of Level 5 Drug Design Program students at Faculty of Pharmacy, Ain Shams University, Cairo, Egypt (2018/2019) under the title of **Plant extracts to multidrug-resistant bacteria: “Stop cross talking!”**.
- Organizer of the First Year Students Activity (2016/2017): **The healing comes from nature** at Faculty of Pharmacy, Ain Shams University, Cairo, Egypt.

## Other Activities

- Member of the Pharmacognosy Department Council, Faculty of Pharmacy, Ain Shams University since 2016/2017 till present.
- Pharmacognosy Department Council secretary (2020/2021).
- Member of Faculty of Pharmacy, Ain Shams University Committees:
  - Member of the Faculty Instruments and Laboratories Committee (2016/2017).
  - Member of the Faculty Education and Student Affairs Committee (2017/2018).
  - Member of the Faculty Libraries Committee (2018/2019).
  - Member of the Faculty Postgraduate Affairs Committee (2019/2020 and 2020/2021).
  - Member of the Organizing Committee of the 2<sup>nd</sup> International Conference of Faculty of Pharmacy, Ain Shams University, Cairo, Egypt (2018).
- Member of preparatory year Exam Administration Committee (2015/2016 second semester).
- Member of 2<sup>nd</sup> year Exam Administration Committee (2017/2018).
- Member of 1<sup>st</sup> year Exam Administration Committee since 2018/2019 till present.
- Head of Maintenance Committee at the Pharmacognosy Department, Faculty of Pharmacy, Ain Shams University since 2018/2019 till present.
- Sharing in preparing the Faculty of Pharmacy, Ain Shams University to get the accreditation for the second time (2017).

## Association Membership

Egyptian Syndicate of Pharmacists.

## Thesis Supervision

### **Yosra El Khodary**

"A chemometric study on certain *Albizia* species (Fabaceae) using spectroscopic and chromatographic techniques"

Co-supervision with:

Prof. Dr. Sherweit H. El-Ahmady

Assoc. Prof. Iriny M. Ayoub

### **Khadiga Amr Shawkat**

"Comparative study of the bioactive metabolites of *Morus* species roots cultivated in Egypt and the associated endophytic fungi"

Co-supervision with:

Prof. Dr. Abdel Nasser B. Singab

Dr. Ahmed M. Essam

### **Alaa Anwar Abdelfattah**

"Investigation of the Associated Endosymbiotic Fungi within certain Medicinal Plants"

Co-supervision with:

Prof. Dr. Sherweit H. El-Ahmady

Dr. Mohamed said El Naggar

**Mayar Ahmed Moustafa**

"Comparative study of Different Organs of *Kigelia Pinnata* (Lam.) and Screening of their Biological Activity"

Co-supervision with:

Assoc. Prof. Haidy Abdel Moniem Gad

Assoc. Prof. Mouchira Aly Choucry

**Christeen Fahim Roshdy**

"Phytochemical and Biological Studies on *Becium grandiflorum* Family Lamiaceae"

Co-supervision with:

Prof. Dr. Rola M. Labib

Assoc. Prof. Noha F. Swilam

**Neamtullah Wael Abbas**

"Phytochemical and Anticancer Screening of Certain Plants belonging to family Apocynaceae and family Cactaceae growing in Egypt"

Co-supervision with:

Prof. Dr. Abdel Nasser B. Singab

Dr. Ahmed M. Essam

**Shaimaa Gamal Hussein**

"Phytochemical and Biological Studies on *Ginkgo biloba*, Family Ginkgoaceae, Cultivated in Egypt"

Co-supervision with:

Assoc. Prof. Iriny M. Ayoub

Assoc. Prof. Ahmed A. Ashour

**Nesma Khaled Nagy**

"Phytochemical and Biological Studies on Certain *Tabebuia* Species, Family Bignoniaceae"

Co-supervision with:

Prof. Dr. Sherweit H. El-Ahmady

Assoc. Prof. Fadia Salah Youssef

**Aya Nour Eldeen**

"Phytochemical and biological studies on *Crateva magna* (Capparaceae) and its associated endophytes"

Co-supervision with:

Prof. Dr. Abdel Nasser B. Singab

Assoc. Prof. Dr. Rola M. Milad

Dr. Iriny M. Ayoub

**Sara Mohamed Hossam Gabr**

"Comparative Chemical and Biological Profiling of Essential Oils of Certain Plants from Family Rutaceae"

Co-supervision with:

Prof. Dr. Abdel Nasser B. Singab

Prof. Dr. Sherweit H. El-Ahmady

Dr. Mohamed said El Naggar

Dr. Mohamed Nabil

### Participation and/or Attendance in Conferences

- 12<sup>th</sup> Symposium ICSN, From Organic Synthesis to Biological Chemistry, Gif-sur-Yvette, France, 11 & 12 June 2009
- 11<sup>th</sup> International Chemistry Conference and exhibition in Africa. Luxor, Egypt, 20-23 November 2010.
- 9<sup>th</sup> Francophone Congress on separative sciences and coupling (SEP 2011), Toulouse, France, 23-25 March 2011
- 1<sup>st</sup> International Conference of Nanotechnology, Biotechnology and Spectroscopy. Cairo, Egypt, 1-3 March 2012.
- 7<sup>th</sup> Annual Ain Shams University International Conference, 2-5 April, 2018, Cairo, Egypt.
- 2<sup>nd</sup> International Conference of Faculty of Pharmacy, Ain Shams University (2<sup>nd</sup> ICPASU), Cairo, Egypt, 13-15 November, 2018.
- 6<sup>th</sup> International Euro-Mediterranean Conference of Life Sciences, Pharma and BioMedicine (BioNat-6), Cairo, Egypt, 1-2 April, 2019
- 8<sup>th</sup> Annual Ain Shams University International Conference, 3 April, 2019, Cairo, Egypt.
- 9<sup>th</sup> Annual Ain Shams University International Conference, 6-8 April, 2021, Cairo, Egypt.

### Academic Awards

Second Best Poster Award, 6<sup>th</sup> International Euro-Mediterranean Conference of Life Sciences, Pharma and BioMedicine (BioNat-6), Cairo, Egypt, 1-2 April, 2019

### Workshops

- The First Joint Egyptian-Italian Workshop on Innovative Scientific Research, National Research Centre, Giza, Egypt, 4 & 5 February 2019.
- E-Learning Design for University Teaching and Learning, Faculty of Engineering, Al-Azhar University, Qena, Egypt, 23 June 2020
- Electronic Learning System; Moodle, Ain Shams University, Cairo, Egypt, 6 & 7 October 2020.
- Smart Solutions for Analysis & Green Extraction Technology, Peak Scientific Instruments-CAMAG, 22 April 2021.
- The recent advanced techniques of HPTLC & HPTLC PRO, Peak Scientific Instruments-CAMAG, 22 April 2021.
- Increasing Your Acceptance by Medline, Nature Research Academies & Egyptian Knowledge Bank, 19 May 2021.
- Successful Pre-submission Publishing Strategies, Nature Research Academies & Egyptian Knowledge Bank, 27 May 2021.

### Training Courses

- Personal assessment and professional project, Research and Higher Education Center (PRES), Toulouse, France, 16 December 2009.

- Communication - public speaking, Research and Higher Education Center (PRES), Toulouse, France, 17 & 18 December 2009.
- Meeting conduct, Research and Higher Education Center (PRES), Toulouse, France, 14 April 2010.
- Successful integration and thesis promotion, Research and Higher Education Center (PRES), Toulouse, France, 14 & 15 June 2011.
- Scientific publications and bibliometrics, Research and Higher Education Center (PRES), Toulouse, France, 7 February 2012
- Construct and create your resume, Research and Higher Education Center (PRES), Toulouse, France, 27 March 2012.
- Research team management, Training and Development Center (TDC), Ain Shams University, 18 & 19 October 2015.
- Effective presentation skills, Training and Development Center (TDC), Ain Shams University, 20 & 21 October 2015.
- Time management and meetings, Training and Development Center (TDC), Ain Shams University, 25 & 26 October 2015.
- Scientific conferences organization, Training and Development Center (TDC), Ain Shams University, 27 & 28 October 2015.
- International publishing of scientific research, Training and Development Center (TDC), Ain Shams University, 10 & 11 November 2015.
- Fulfillment of the postgraduate standard, Quality Assurance and Accreditation Center, Ain Shams University, 8 & 9 July 2020.
- Preparing Question Bank for Medical Sector, Measurement and Assessment Center, Ministry of Higher Education and Scientific Research, 9 May 2021.
- Applications of Microsoft Office 365, Training and Development Center (TDC), Ain Shams University, 29 & 30 June 2021.
- Advanced skills of PowerPoint presentation, Training and Development Center (TDC), Ain Shams University, 6 & 7 July 2021.
- Biostatistics, Training and Development Center (TDC), Ain Shams University, 8 & 9 July 2021.
- Critical Thinking, Training and Development Center (TDC), Ain Shams University, 15 & 16 July 2021.
- Egyptian Knowledge Bank, Training and Development Center (TDC), Ain Shams University, 12 & 13 August 2021

## Scientific Production

1 international patent, 15 research articles, 2 oral communications, 6 posters:

### Patent and Publications

1. **Ibrahim, N.**, Ibrahim, H., Kim, S., Nallet, J. P., & Nepveu, F. (2010). Interactions between antimalarial indolone-N-oxide derivatives and human serum albumin. *Biomacromolecules*, 11(12), 3341-3351.

2. Le Lamer, A. C., **Ibrahim, N.**, Manjary, F., Mallet-Ladeira, S., Girardi, C., Valentin, A., Fabre, N. & Moulis, C. (2013). Macrocyclic spermidine alkaloids from *Androya decaryi* L. Perrier. *Molecules*, 18(4), 3962-3971.
3. Nepveu, F., Ibrahim, H., **Ibrahim, N.** (2014). Use of nanoparticles for the production of injectable, water-soluble anti-malarial compositions. *PCT Int. Appl.*, WO 2014188131 A1 20141127
4. **Ibrahim, N.**, Ibrahim, H., Dormoi, J., Briolant, S., Pradines, B., Moreno, A., Mazier, D., Legrand, P. & Nepveu, F. (2014). Albumin-bound nanoparticles of practically water-insoluble antimalarial lead greatly enhance its efficacy. *International journal of pharmaceutics*, 464(1-2), 214-224.
5. Mohamed, N. Z., Abd-Alla, H. I., Aly, H. F., Mantawy, M., **Ibrahim, N.**, & Hassan, S. A. (2014). CCl<sub>4</sub>-induced hepatonephrotoxicity: protective effect of nutraceuticals on inflammatory factors and antioxidative status in rat. *J. Appl. Pharm. Sci*, 4(02), 87-100.
6. **Ibrahim, N.**, Ibrahim, H., Sabater, A. M., Mazier, D., Valentin, A., & Nepveu, F. (2015). Artemisinin nanoformulation suitable for intravenous injection: preparation, characterization and antimalarial activities. *International journal of pharmaceutics*, 495(2), 671-679.
7. El Souda, S. S., **Ibrahim, N.**, Perio, P., Ibrahim, H., Pigasse-Hénocq, C., Roques, C., & Nepveu, F. (2015). Powerful antioxidant and pro-oxidant properties of *Cassia roxburghii* DC. leaves cultivated in Egypt in relation to their anti-infectious activities. *Journal of Herbs, Spices & Medicinal Plants*, 21(4), 410-425.
8. Rakotoarivelo, N., **Ibrahim, N.**, Ibrahim, H., Cabou, C., Vivas, L., Thompson, E., Nallet, J. P., Nepveu, F., Valentin, A. Antimalarial activity of 2-Aryl-3H-indol-3-one formulated in albumin-based nanosuspensions. *Jacobs J. Med. Chem.*, 2016, 2, 006.
9. Abdel-Razik, A. F., Nassar, M. I., Elshamy, A. I., Kubacy, T. M., Hegazy, M. E. F., **Ibrahim, N.**, Le Lamer, A. C. & Farrag, A. R. H. (2016). A new cytotoxic ceramide from *Heteroxenia ghardaqensis* and protective effect of chloroform extract against cadmium toxicity in rats. *Arabian Journal of Chemistry*, 9(5), 649-655.
10. **Ibrahim, N.**, & Moussa, A. Y. (2020). Comparative metabolite profiling of *Callistemon macropunctatus* and *Callistemon subulatus* volatiles from different geographical origins. *Industrial Crops and Products*, 147, 112222.
11. **Ibrahim, N.**, & Moussa, A. Y. (2021). A comparative volatilomic characterization of Florence fennel from different locations: antiviral prospects. *Food & Function*, 12(4), 1498-1515.
12. El-Ahmady, S., **Ibrahim, N.**, Farag, N., & Gabr, S. (2021). Apiaceae Plants Growing in the East: Centuries of Healing Traditions and Culture. In *Ethnopharmacology of Wild Plants* (pp. 246-300). CRC Press.
13. El Khodary, Y. A., Ayoub, I. M., El-Ahmady, S. H., & **Ibrahim, N.** (2021). Molecular and phytochemical variability among genus *Albizia*: a phylogenetic prospect for future breeding. *Molecular Biology Reports*, 48(3), 2619-2628.
14. Ahmed, L. I., **Ibrahim, N.**, Abdel-Salam, A. B., & Fahim, K. M. (2021). Potential application of ginger, clove and thyme essential oils to improve soft cheese microbial safety and sensory characteristics. *Food Bioscience*, 101177.



15. **Ibrahim, N.**, Taleb, M., Heiss, A. G., Kropf, M., & Farag, M. A. (2021). GC-MS based metabolites profiling of nutrients and anti-nutrients in 10 *Lathyrus* seed genotypes: a prospect for phyto-equivalency and chemotaxonomy. Food Bioscience, 101183.
16. Sakr, M., **Ibrahim, N.**, Ali, S., Alzahaby, N., Omar, A., Khairy, W., Zohdy, B., Qassem, O. & Saleh, S. (2021). Identification of potential quorum quenching compounds in *Brassica oleracea* var. *capitata* against MDR *Pseudomonas aeruginosa* and *Escherichia coli* clinical isolates. Archives of Pharmaceutical Sciences Ain Shams University, 5(1), 128-142.

### Oral Communications:

1. **Ibrahim, N.**, Spectroscopic investigation of the interaction of antimalarial indolone-*N*-oxide derivatives with human serum albumin. The 11<sup>th</sup> International Chemistry Conference and exhibition in Africa. Luxor, Egypt, 20-23 November 2010
2. **Ibrahim, N.**, Dormoi, J., Briolant, S., Nepveu, F., Strong enhancement of antimalarial activity of indolone-*N*-oxides by biodegradable polymer-bound nanoparticles. 1<sup>st</sup> International Conference of Nanotechnology, Biotechnology and Spectroscopy. Cairo, Egypt, 1-3 March 2012

### Posters:

1. **Ibrahim, N.**, Le Lamer, A. C., Manjary, F., Rakotonanhary, S., Maurel, S., Fabre, N., Moulis, C., Two macrocyclic spermidine alkaloids from *Androya decaryi* H. Perrier, an antimalarial Scrophulariaceae from Madagascar. Poster presented at the XII<sup>th</sup> Symposium ICSN, From Organic Synthesis to Biological Chemistry, Gif-sur-Yvette, France, 11-12 June 2009
2. **Ibrahim, N.**, Ibrahim, H., Kim, S., Nallet, J. P., Nepveu, F., Interactions between indolone-*N*-oxide derivatives and human serum albumin. Poster presented at SEP 2011-9<sup>th</sup> Francophone Congress on separative sciences and coupling, Toulouse, France, 23-25 March 2011
3. El Khodary, Y. A., **Sabry, N. M.**, Ayoub, I. M., El-Ahmady, S. H., Ultraviolet spectroscopy coupled with chemometrics as a chemotaxonomic tool to discriminate between various *Albizia* species cultivated in Egypt. Poster presented at the 2<sup>nd</sup> International conference of Faculty of Pharmacy, Ain Shams University (2<sup>nd</sup> ICPASU), Cairo, Egypt, 13-15 November, 2018
4. Moussa, A. Y., **Ibrahim, N.**, Comparative GC-MS profiling of *Callistemon* species growing in Egypt and Australia and their potential cytotoxic effect on HepG2 cells. Poster presented at the 6<sup>th</sup> International Euro-Mediterranean Conference of Life Sciences, Pharma and BioMedicine (BioNat-6), Cairo, Egypt, 1-2 April, 2019
5. Omar, A., Khairy, W., Wael, B., Alattar, S., Sakr, M., **Ibrahim, N.**, Deif, S., Cabbage: a weapon against multidrug resistant pathogens. Poster presented at the 8<sup>th</sup> Annual ASU International Conference, Cairo, Egypt, 3 April 2019
6. Ali, S., Alzahaby, N., Nagy, N., Hesham, L., Deif, S., **Ibrahim, N.**, Sakr, M., The antimicrobial activity of some herbal extracts against multidrug resistant *Escherichia coli*. Poster presented at the 8<sup>th</sup> Annual ASU International Conference, Cairo, Egypt, 3 April 2019.