

CURRICULUM VITAE (3-2021)

PERSONAL DATA:

Name : Rehab Mahmoud Hafez Mahmoud Abdel-Rahman

Marital status : Married to Dr. Ahmed Sayed Fouad,
Assistant Professor in Genetics,
Cytology and Genetics Division,
Botany and Microbiology Department,
Faculty of Science, Cairo University,

Profession : Assistant Professor in Genetics,
Cytology and Genetics Division

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Mobile : (+2) 01006763263 (+2) 01203770993

Faculty official site: : scholar.cu.edu.eg/drrehabhafez

Other site : <https://scholar.google.com/citations?user=JY8tT0UAAAAJ>
: https://www.researchgate.net/profile/Rehab_Hafez
: <https://publons.com/researcher/2994983/rehab-hafez/>
: <https://www.scopus.com/authid/detail.uri?authorId=57194338632>

ORCID : <http://orcid.org/0000-0003-0528-288X>

Web of Science : S-3950-2019

Researcher ID

LANGUAGES:

- Arabic (Mother Tongue)
- English (Excellent spoken, read & written, National TOEFL in 2000)

- French (Very good spoken, read & written)

COMPUTER SKILLS:

11 June - 13 July 2006: Basic IT Skills and Internet course (100 hours), Computers and Information Technology, Scientific Computation Center, Cairo University.

- Very Good experience in computer common programs: Microsoft Office (Word, Excel and Power Point) and Photoshop.
- Good experience in many computer programs for statistical analysis (eg: SPSS).
- Good experience in performing e-learning courses.

EDUCATIONAL BACKGROUND:

B.Sc., 1996 (Botany; Very Good), Faculty of Science, Cairo University.

M.Sc., Jun, 2006 (Botany; Cytology and Genetics), Faculty of Science, Cairo University, Egypt.

Titled: Production of *solanum elaeagnifolium* alkaloids 'in vitro' using plant tissue culture techniques.

Ph.D., January, 2013 (Botany, Cytology and Genetics), Faculty of Science, Cairo University, Egypt.

Titled: Improvement of fungal disease resistance in potato using Defensin gene and *in vitro* selection.

SCIENTIFIC TRAINING COURSES ATTENDED:

| | | |
|-----------------|-------------|--|
| March | 1998 | Modern Methods in Plant Molecular Biology and Biochemistry, provided by Plant Cell & Tissue Culture Department, Genetic Engineering and Biotechnology Division, National Research Center and Agricultural Analysis unit, Faculty of Agriculture, Cairo University. |
| April | 2004 | Microanalysis and New Technology, Micro Analytical Center, Faculty of Science, Cairo University. |
| November | 2006 | Molecular Biology Training Course, Development of Molecular Biology Courses Project, Higher Education Enhancement Project |

Fund (HEEPF), Faculty of Science, Cairo University.

- February 2014** Molecular Genetics Approaches: Principles and Applications, Molecular Biology Lab, Research Park (CURP), Faculty of Agriculture, Cairo University.
- September 2014** Gene Expression Analysis on Large Scale Using Microarray and Real Time PCR Techniques, Molecular Biology Lab, Research Park (CURP), Faculty of Agriculture, Cairo University.
- April 2017** Biostatistics and Bioinformatics Workshop, Botany Department, Faculty of science, Tanta University.

WORKSHOPS in FACULTY and LEADERSHIP DEVELOPMENT CENTER (FLDC):

| | | |
|------------------|-------------|---|
| July | 2006 | Thinking Skills |
| August | 2006 | New Trends in Teaching |
| May | 2009 | Quality Standards in Teaching |
| December | 2009 | Research Ethics |
| May | 2010 | International Scientific Publications |
| February | 2011 | Student Evaluation |
| June | 2011 | Effective Presentation |
| January | 2012 | Communication Skills |
| January | 2013 | Competing for Research Funds |
| January | 2013 | The Credit Hour Systems |
| May | 2013 | Conference Organization |
| September | 2013 | University Code of Ethics |
| January | 2014 | Legal and Financial Aspects in University Environment |
| June | 2014 | Managing Research Teams |
| April | 2015 | Effective Teaching Skills |

| | | |
|----------------|-------------|---|
| March | 2017 | Statistical Analysis of Bio-Experiments |
| June | 2019 | Interactive Courses |
| June | 2020 | Critical Thinking |
| January | 2021 | Ways to prevent administrative corruption |

Training Courses at the Quality Assurance Unit, Faculty of Science - Cairo University:

November 2018 The Leader's Industry and Leadership Styles - Ibn Sina
Hall - Faculty of Science - Cairo University

Training Courses at Cairo University Center to ensure the quality of education:

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|-----------------|-------------|--|
| January | 2017 | Training in academic advising - Cairo University Centre for Quality Assurance of Education |
| March | 2017 | Internal Auditing based for Quality Management Systems According to Requirements of ISO 9001/20015 certification- Cairo University Centre for Quality Assurance of Education |
| March | 2017 | Specification of the examination paper and the formulation of the examination questions - Cairo University Centre for Quality Assurance of Education |
| March | 2017 | Preparing the specifications of the exam questions (blue print) - Cairo University Centre for Quality Assurance of Education |
| March | 2017 | Measurement criteria for practical exams- Cairo University Centre for Quality Assurance of Education |
| December | 2017 | Prepare feedback questionnaires- Cairo University Centre for Quality Assurance of Education |

| | | |
|-----------------|-------------|--|
| December | 2018 | Prepare e-learning course- Cairo University Centre for Quality Assurance of Education |
| December | 2018 | Statistical Analyses - Cairo University Centre for Quality Assurance of Education |

Training Courses in ISO:

| | | |
|-----------------|-------------|--|
| November | 2015 | Training in Key Performance Indicators- Ebn Sinai Hall, Faculty of Science, Cairo University. |
| November | 2015 | Training in statistical methods- Ebn Sinai Hall, Faculty of Science, Cairo University. |
| February | 2016 | Training in the principals of ISO 9001/2008 certification- Ebn Sinai Hall, Faculty of Science, Cairo University. |
| Mars | 2017 | Preparation of internal auditing |
| Mars | 2017 | Training in the principals of ISO 9001/20015 certification - Ebn Sinai Hall, Faculty of Science, Cairo University. |

Other workshops:

| | | |
|----------------|-------------|---|
| Mars | 2008 | Workshop on How to write proposal provided by Central Lab, Ebn Sinai Hall, Faculty of Science, Cairo University. |
| January | 2011 | Training in course report and program provided by the Quality Assurance and Accreditation Center, Ebn Sinai Hall, Faculty of Science, Cairo University. |

FIELDS OF INTERST:

Genetics, Cytology, Plant Tissue Culture, Transformation, Molecular Biology, Mutations, Bioinformatics, Phytoremediation, Bio-Nanotechnology

OCCUPATIONS HISTORY:

Demonstrator (1/1997- 6/2006) - Botany Department - Faculty of Science - Cairo University.

Assistant Lecturer (6/2006 -1/2013) - Botany Department - Faculty of Science - Cairo University.

Lecturer (1/2013 -6/2020) - Botany and Microbiology Department - Faculty of Science -
Cairo University.

Assistant Professor (6/2020 till now) - Botany and Microbiology Department - Faculty
of Science - Cairo University.

TEACHING EXPERIENCES:

For Undergraduate Students:

- **Botany Courses:**

Lectures and practical: Genetics (B252), Molecular Biology (B483) and
Applications of Molecular Biology (B484).

Practical only: Anatomy, Morphology, Physiology, Systematic, Ecology,
Archegoniate, Cell Biology, Phycology.

- **Microbiology courses:**

Practical only: General Microbiology, Environmental Microbiology, Mycology,
Biotechnology, Microbial enzymes, Virology, Biodiversity, Biological Control
and Plant Pathology.

- **Biotechnology courses:**

Practical only: Cell Biology (BtBio111)

Lectures and practical: Genetics (BtBio211), Plant biotechnology (BtBio412) and
Genetic Engineering in plants (Biobi 112).

Courses for postgraduate students:

Applied Microbiology Diplomat (Practical only): Virology, Phycology and
Environmental microbiology.

Publication:

As abstract in conferences:

Mahmoud M. Saker, Salwa A. Abdel-Maksoud and **Rehab M. Hafez** (2006). *In vitro*
production of solasodine and diosgenin from hairy root cultures of *Solanum*
elaeagnifolium, In: 1st International Egyptian-Jordanian conference, p. 160 (abstract)

Mahmoud M. Saker, Salwa A. Abdel-Maksoud and **Rehab M. Hafez** (2006). Elicitation of solasodine and diosgenin accumulation in callus cultures of *Solanum elaeagnifolium* by *Aspergillus niger* culture filtrate, In: 1st International Egyptian-Jordanian conference, p. 161 (abstract)

Salwa A. Abdel-Maksoud, **Rehab M. Hafez**, Mahmoud M. Saker and Mohamed K. El-Bahr (2006). Effect of chemical additives on the production of steroidal alkaloids in callus cultures of *Solanum elaeagnifolium*, In: 1st International Egyptian-Jordanian conference, p. 156 (abstract)

Rehab M. Hafez, Salwa A. Abdel-Maksoud, Mahmoud M. Saker and El-Husseiny Youssef (2006). Effect of salt and osmotic stresses on steroidal alkaloids content of *Solanum elaeagnifolium* callus cultures, In: 1st International Egyptian-Jordanian conference, p. 157 (abstract)

Mahmoud M. Sakr, Amany H. A. Abo ELLil, Tarek A. A. Moussa, **Rehab M. H. Abdel-Rahman** (2009). Development of Efficient regeneration System for Potato Transformation, In: 3rd International conference of Genetic Engineering and Biotechnology Research Division (abstract).

Tarek A. A. Moussa, Mahmoud M.M. Saker, Nahed Z.M. Heikal, Amany H. A. Abo ELLil, **Rehab M. H. Abdel-Rahman** (2010). Efficient transformation system for fungal disease resistance in potato, In: 1st International Biotechnology Innovation Conference, p. 51 (abstract).

As accession in gene bank:

| | | | | |
|----------|----------|----------|----------|----------|
| MH899447 | MH899448 | MH899449 | MH899450 | MH899451 |
| MH899452 | MH899453 | MH899454 | MK040533 | MK055336 |

In scientific journals:

Mahmoud M. Saker, Tarek A. A. Moussa, Nahed Z. Heikal, Amany H. A. Abo ELLil and **Rehab M. H. Abdel-Rahman** (2012): Selection of an efficient *in vitro* micropropagation and regeneration system for potato (*Solanum tuberosum* L.) cultivar Désirée . African Journal of Biotechnology 11(98): 16388-16404.

- Hafez R.M.**, Abdel-Rahman T.M. and Naguib R.M. (2017): A review on uric acid in plants and microorganisms: Biological applications and genetics, *Journal of Advanced Research* 8:475-486.
- Fouad, A.S. and **Hafez, R.M.** (2018): Comparative study on the effect of silver ions and silver nanoparticles on cell division and cdc2 kinase gene expression in *Allium cepa* root tips. *Biologia Plantarum* 62(1): 166-172.
- Shanab, S.M.M.; **Hafez, R.M.**; Fouad, A.S. (2018): A review on algae and plants as potential source of Arachidonic acid. *Journal of Advanced Research* 11:3-13
- Fouad, A.S. and **Hafez, R.M.** (2018) Effect of cobalt nanoparticles and cobalt ions on alkaloids production and expression of CrMPK3 gene in *Catharanthus roseus* suspension cultures. *Cellular and Molecular Biology* 64(12):62-69.
- Fouad, AS; **Hafez, RM**, Hamdy, R (2019): Authentication of *Cordia dentate* Poir. Growing in Egypt using ISSR and DNA barcoding. *Bioscience Research* 16(2): 1474-1484.
- Fouad, A.S. and **Hafez, R.M.** (2019): In silico characterization of CDKB1 and its coding gene in some *Oryza* species. *Bioscience Research* 16(2):1679-1690.
- Fouad, AS; **Hafez, RM**, Hosni, H (2019): Authentication of Three Endemic Species Caryophyllaceae from Sinai Peninsula Using DNA Barcoding. *Egyptian J of Botany* 59(2):483-491
- Rehab M. Hafez**, Abdallah A.Y. Mohammed, Abd El-Rahman M. Abd El-Naby, Ali E. A. Tolba, Eslam Y.M. Khalifa, Hamed M. Hamed, Mohammed M. K. Abdullah, Mohammed M. F. Ahmed, Mohammed S. Hekal, Dalia H. A. Ali (2019): Changes in the profiling of fatty acids of *Glycine max* L. (soybean) callus after mutagen treatments. *Egyptian J of Botany* 59(3): 1-18.
- Ahmed S. Fouad and **Rehab M. Hafez** (2019): Molecular modeling and in silico characterization of a pathogenesis-related protein-10 (PR10) and its coding genes in some *Oryza* species. *Baghdad Science Journal* 16(4) supplement: 993-1002.
- Hafez, R.M.** and Fouad, A.S. (2020): Mitigation of Genotoxic and Cytotoxic Effects of Silver Nanoparticles on Onion Root Tips using some Antioxidant Scavengers *Egyptian J of Botany* 60(1): 133-145.

Fouad, A.S. and **Hafez, R.M.** (2020): Effects of cobalt ions and cobalt nanoparticles on transient expression of *gus* gene in *catharanthus roseus* suspension cultures. Journal Of Radiation Research And Applied Sciences <https://doi.org/10.1080/16878507.2020.1847386>.

Hafez, R.M.; Adel-Rahman, TM; Abed, NN; Mostafa, EE; Atef, A. (2020). Purification and characterization of the virulent factor lipase extracted from *Candida catenulate*. Plant Archives 20(2):7069-7079.

Aya A. Mostafa, **Rehab M. Hafez**, Ahmad K. Hegazy, Azza M. Abd-El Fattah, Nermen H. Mohamed, Yasser M. Mustafa, Adil A. Gobouri and Ehab Azab (2021): Variations of Structural and Functional Traits of *Azolla pinnata* R.Br. in Response to Crude Oil Pollution in Arid Regions. Sustainability13, 2142. <https://doi.org/10.3390/su13042142>

REVIEWING ONLINE:

- Journal of Advanced Research (Elsevier, IF 5.045). **(one paper)**
- Journal of Radiation Research and Applied Sciences (Taylor and Francis, IF 2.9). **(two papers)**
- Cellular and Molecular biology (IF 1.463) **(two papers)**
- Baghdad Science Journal (Scopus). **(ten papers)**
- Pharmacognosy Journal (Scopus). **(two papers)**
- Botanical Research and Application **(one paper)**
- Biomass Conversion and Biorefinery (IF 2.602) **(one paper)**

THESES SUPERVISION:

1. **MSc Thesis** (2016) in Microbiology, Botany and Microbiology Department, Faculty of science, Cairo University. Award: 1/2021
2. **MSc Thesis** (since 2016) in Cytology and Genetics, Botany and Microbiology Department, Faculty of science, Cairo University. Award:
3. **MSc thesis** (since 2018) in Biotechnology, Chemistry Department Faculty of science, Cairo University. Award:

4. **PhD thesis** (since 2018) in Biotechnology, Faculty of science, Cairo University.

Award:

MEMBERSHIP OF SCIENTIFIC SOCIETIES:

1. Member in the Egyptian Botanical Society, Egypt
2. Member in the Egyptian Society of Experimental Biology, Egypt.

STUDENTS' GRADUATION PROJECTS:

- **Project of B.Sc. Biotechnology Students** (2017-2018), titled: Profiling the fatty acids of *Glycine max* L. (soybean) callus after mutagen treatment(s), Biotechnology/Bimolecular Chemistry Program, Chemistry Department Faculty of science, Cairo University.
- **Examination of the students' graduation projects** belongs to October University for Modern Sciences and Arts (MSA), academic years: 2017-2018, 2018-2019.
- **Examination of the students' graduation projects** belongs to Biotechnology/Bimolecular Chemistry Program, Chemistry Department Faculty of science, Cairo University, academic years: 2018-2019.
- **Examination of the students** scientific research at the first creativity and innovation forum for undergraduate students and graduates of the Faculty of Science in Ibn Sina Hall - Faculty of Science - Cairo University on 4 and 5 September 2019.
- **Referee of student's research** in the 4th Medical Integrated Students Research Conference, Department of Community, Environment and Occupational Medicine, Ein Sham University, Egypt, February 2019.

CONFERENCES' ATTENDANCE:

December 2006 : Participation in the 1st International Egyptian-Jordanian Conference under the theme of "Biotechnology and sustainable development: Current Status and Future Scenarios", National Research Center, Cairo, Egypt

November 2009 : Participation in the 3rd International conference of Genetic

Engineering and Biotechnology Research Division under the theme of "Biotechnology For Better Life", National Research Center, Cairo, Egypt

November 2010 : Participation in the 1st International Biotechnology Innovation Conference (IBIC-Egypt 2010), Faculty of Science, Cairo University, Cairo, Egypt

April 2011 : Attendance in the 7th Annual International Conference of Egyptian Society of Experimental Biology (ESEB-Egypt 2011), Faculty of Science, Cairo University, Cairo, Egypt

July 2011 : Attendance of the 2nd International Workshop on Industrial Biotechnology, Conference Center, Cairo University

April 2016 : Attendance in the 1st International Conference of Genetic Engineering and Biotechnology: Integrative Science and Biotechnology, Genetic Engineering and Biotechnology Research Institute (GEBRI), University of Sadat City, Sharm El Sheikh, Egypt

WEBINAR SESSIONS:

June 2020 : Scheduled Zoom meeting Topic: "Biodiversity and Climate Change: An Intimate Dynamic Relationship" performed by Prof. Wafaa Amer, organized by Dr. P. Tresina Soris, V.O. Chidambaram College, Thoothukudi, India

July 2020 : Scheduled Zoom meeting Topic: "Plant Molecular Systematics" Performed by Prof. Abdel Fattah Badr, organized by Plant Pathology Department- Faculty of Agriculture, El-Muthanna University- Iraq.

July 2020 : Webinar on "Current issues emerging over environment and education" organized by Department of Botany, St. Joseph's College (Autonomous), Tiruchirappalli-620002, Tamil Nadu, India.

Feb 2021 : Impact of climate change on Biodiversity. Organized by the scientific forum on Taxonomy and Genetics, Egypt.

Feb 2021 : Global trends for biodiversity utilization to overcome the food and

medicine insecurity. Organized by the scientific forum on Taxonomy and Genetics, Egypt.

Feb 2021 : Assessing the spatial extent of Sea grass Meadows in Bahrain Marine Area using Remote sensing and GIS. Organized by the scientific forum on Taxonomy and Genetics, Egypt.

AWARDS

2010 : Certificate of Appreciation being the best assistant lecturer in Cairo University

June 2011 : Certificate of Appreciation for outstanding performance from the Botany Department, Faculty of Science, Cairo University.

April 2016 : Certificate of Appreciation for outstanding efforts in enriching the figures of the graduates in 2016, Faculty of Science, Cairo University.

OTHER ACTIVITIES:

I- Botany and Microbiology Department:

2009 : Performing poster and flier for Botany Department about its history and sections

2012 : Performing flier for Botany Department about the pioneer and elites of our Departments and the different work facilities of our graduates

2012-2013 : Member of Control of Botany Department (all levels)

Since 2013 : Member in some Committees in Botany and Microbiology Department (as Library, Computer, Printing committee, Arrangement of representing lockers, Stores of chemicals and glassweres....)

Since 2013 : Performing Course specifications and Annual course reports for my undergraduate courses

2013-2015 : Member in the Postgraduates Tables Committee (Diploma, MSc, PhD) in Botany Department

2014-2016 : Responsible of Quality Assurance Unit for Postgrades

affairs in Botany Department, Faculty of Science, Cairo University: performing the courses' specification and reports of the postgraduate program in each term.

- 2016-2017,** : Responsible of Questionnaires in Quality Assurance Unit of
2018-2020 Botany and Microbiology Department
- Since 2018** : Member of the Student Affairs Committee of the Board of
Directors of the Chemistry/Microbiology Program
- Since 2018** : Member of the Staff Affairs Committee of the Board of
Directors of the Chemistry/Microbiology Program
- 2019** : Work as general academic adviser for
Chemistry/Microbiology students of the Faculty of Science
- Since 2020** : Performing Course specifications and Annual course
reports for my postgraduate courses

II. Faculty of Science- Cairo University:

- 2013-2019** : Performing Course specifications and Annual course
reports for my undergraduate courses in Biotechnology
Program
- 2014-2018** : Member in Control of Examinations of Biotechnology
Program Students (third and fourth grades)
- 2015-2020** : Director of Questionnaires Unit, Quality Assurance Unit,
Faculty of Science, Cairo University
- 2016** : Contribute to organizing graduation prom
- 2016-2019** : Contributing to the internal audit work of the Faculty of
Science - Cairo University according to the requirements of
the international standard: ISO9001: 2015
- Since 2018** : Member in Central Control of Examinations in the Faculty
- 2018** : Organizing (with other colleagues) 'The first international
cultural day of the Faculty of Science' مهرجان الوافدين الاول
لكليه العلوم"
- 2018-2020** : Consultant of the Social Committee for Students Welfare in
the Faculty

Since 2020 : President of foreign students committee

III. Cairo University:

2018 : A member of a committee formed by the Vice Dean for Community Service and Environmental Development according to the decision takes by the President of Cairo University No. 1377 for the year 2018 to prepare a technical report on the Plant Biotechnology Research Laboratories (CU-PBRL) at Faculty of Agriculture-Cairo University.