<u>CURRICULUM VITAE</u>

Prof. Manal Moustafa Abdel- Rahman
Professor of Genetic Engineering and Biotechnology

I- PERSONAL INFORMATION:

Family name: Abdel-Rahman
Name : Manal Moustafa Abdel-Rahman
Address: 30 Omar Zafan st. , Al-Ebrahimia , Alexandria
Telephone: 035917728 (home) - 01009529776 (mobil)
Nationality: Egyptian
Date of birth: January,20th 1972
Place of birth: Alexandria, Egypt,
Marital status: Married
E-mai manal_moustafa2000@yahoo.com
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II- EMPLOYMENT:

- Research Assistant at the Agricultural Genetic Engineering Research Institute - Agricultural Research Center 1994-1995.
- Research Assistant at the Sugar Crops Research Institute, Agricultural Research Center, 1995-1997
- Genetics Demonstrator, Department of Plant Pathology, Faculty of Agriculture, Damanhour, Alexandria University, 1997-1998
- Assistant Lecturer of Genetics, Department of Plant Pathology, Faculty of Agriculture, Damanhour, Alexandria University, 1998-2004.
- Lecturer of Genetics, Department of Plant Pathology, Faculty of Agriculture, Damanhour, Alexandria University, 2004-2011.
- Visiting Researcher, Department of Crop Science, College of Agriculture and Environmental Sciences, University of Illinois, 2007-2009.

- Assistant Professor of Genetics, Department of Plant Pathology, Faculty of Agriculture, Damanhour University, 2011-2017
- Professor of Genetics, Department of Plant Pathology, Faculty of Agriculture, Damanhour University, 2017 - until now

III- EDUCATION:

1- B.Sc.,(Genetic), Faculty of Agriculture, Alexandria university (1993) Excellent with honor.

3- M.Sc., (Genetic), Faculty of Agriculture, Alexandria University (1997) under title Biochemical and Genetical Studies on Sugar Beet.

4- Ph.D. (Genetics) Faculty of Agriculture (Damanhour branch), Alexandria University (2004) under title Genetical Studies on Olive.

5- TOT Diploma from Notting Hill University – UK 2023

6- IIOE Digital Education and Teaching Program from 3/11/2022 to 16/1/2023

7- Training program from the Egyptian Foundation for Development, Training and Consulting (ETDC) (30 teaching hours) (Leadership Preparation) 2021

8- Digital Transformation Certificate from the Supreme Council of Universities 11/2022.

IV- Administrative activity:

- Acting Vice President for Graduate Studies and Research from 2024-2025
- Executive Director of the Development Project Management Unit from 2021 to 2024
- Head of Plant Pathology Department from 2014-2024
- Director of the Quality Assurance Unit at the college for the academic year 2017/2018 and the academic year 2018/2019
- Member of the Director of the Projects Unit at the University 2019-2021
- Biotechnology Program Coordinator – a distinguished program in English for undergraduate students since 2020 until now.

V- Application activity

- Member of the project of producing genetically modified sugar cane resistant to cane mosaic virus - NARP projects - Sugar Crops Research Institute - Agricultural Research Center 1993-1995.

- Member of the project to establish an agricultural pollution diploma funded by HEEPF - Faculty of Agriculture - Alexandria University, Damanhour branch 2005-2007
- Member of the Genetic Engineering Atom Improvement Project, University of Illinois, 2007-2009
- Principal investigator of the project to purchase the Particle Biolistic Bombardment and its accessories, funded by the Education and Technological Development Fund 2011
- Principal investigator of the Master's Scholarship Project funded by the Academy of Scientific Research 2013
- Responsible for the gene transfer agreement between the University of Illinois - USA and Damanhour University 2013-2018.
- Member of the project of improvement and production of super males of Nile tilapia in cooperation with the Institute of Genetic Engineering and Biotechnology - University of Sadat City 2013-2017.
- Principal Investigator of the project to produce Egyptian corn resistant to biotic and abiotic stress funded by the Ministry of International Cooperation 2018-2019
- Principal investigator of the laboratory project for the detection of genetically engineered plants and qualifying it for international accreditation 2018-2020

• Principal Investigator of the project of producing Egyptian potatoes resistant to brown rot disease using genetic engineering methods, funded by the Academy of Scientific Research (Strategy Programs) 2020-2022.

VI- Training Courses

- Based on a training course in the genetic engineering and biotechnology laboratory entitled A course in plant tissue culture for students of the fourth level of plant protection disciplines - plant pathology - horticulture3 /11-24/11/2015
- Based on a training course in the genetic engineering and biotechnology laboratory entitled Course in plant technology applications for the assistant Staff in the Department of Horticulture 8/3-5/4/2015

- Based on a training course in the genetic engineering and biotechnology laboratory entitled A course in plant tissue culture for students of the fourth level of plant protection department - plant pathology - horticulture 4/10-25/10/2016
- Based on a training course in the genetic engineering and biotechnology laboratory entitled A course in plant tissue culture for students of the fourth level of plant protection department - plant pathology - horticulture 1/3-10/4/2017
- Based on a training course in the genetic engineering and biotechnology laboratory entitled a course in DNA extraction 2/8-13/8/2015
- Based on a training course in the genetic engineering and biotechnology laboratory entitled Course in PCR 6/4-24/4/2017
- Based on five training courses in the genetic engineering and biotechnology laboratory entitled PCR (1/11-30/12/2017) for students of the fourth level of plant protection department - plant pathology - animal and poultry production.
- Based on three training courses in the genetic engineering and biotechnology laboratory entitled Plant Technology and methods of gene transfer for the Assistant Body in the Department of Plant Pathology and Horticulture
- Blended e-learning skills course 11-12/7/2018
- Based on a training course in the Genetic Engineering and Biotechnology Laboratory entitled Plant Tissue Culture for Fourth Level Students (Plant Pathology - Plant Protection) (26/1/2020- 15/2/2020)
- e-TOT training program at Senghor University (40 teaching hours) 7-11/7/2019
- Training of Trainers Workshop TOT from the National Center for E-Learning at the Center for Electronic and Knowledge Services 29-30/11/2020
- Attending a workshop on the use of electron microscopy in nanotechnology applications 20/4/2022
- Attend a workshop on ICP-MS and its uses in nanotechnology applications 3/5/2023

VII- Laboratory Experience

- High experience in plant tissue culture technique
- High experience in DNA extraction from plant and animal tissues
- Experience in the work of the thermal circulation device PCR and the DNA extraction, enzymes and protein Electrophoresis

• Attending a workshop on the latest Bio-Rad devices Cairo 2011.
• Training course in laboratory safety at the University of Illinois, USA, 2008.
• Training course in professional ethics at the University of Illinois, USA, 2008.
• Training course on how to take pictures by Stereomicroscope at the University of Illinois, USA, 2008.
• Attending a workshop on biosafety, biosecurity, Cairo, 2007.
• Attend courses at the American Cultural Center.
• Attend training courses in computer programs word, windows, HTML, Java, front page, fundamental of the internet
• Use of Stereomicroscope
• Plasmid separation and purification of miniprep & maxi prep
• PCR & Southern, Northern and western blotting
• Gene expression using RT-PCR
• Gene transfer by Particle bombardment
• Study of chromosomal abnormalities in plants and animals

MEMBER SHIP:

1. Syndicate of Agriculture Works.
2. Egyptian society of genetics and cytogenetic
3. Egyptian society of experimental botany

VIII- **Teaching activities**

 # Undergraduate Teaching

1- Participate in the supervision and teaching of the practical part of the following courses:-

• Plant morphology and anatomy
• Plant Taxonomy
• Principles of Genetics
• Population Genetics
• Microbial Genetics
• The use of biotechnology in the control of insects and plant diseases.

2- Participation in teaching in post-bachelor's courses

• Fundamentals of Genetics
• Population Genetics Advanced
• Mutations and their use
• Microbial genetics
• The use of biotechnology in the control of plant insects and diseases

• Biotechnology in animal and fish production.

3-Teaching theoretical courses in other colleges for the undergraduate stage
• Plant tissue culture from 2015 until now for students of the third and fourth levels (plant - microchemistry) at the Faculty of Science - Damanhour University
• Biotechnology for students of the fourth level (biology) Faculty of Education - Damanhour University.

4-Teaching courses at the Faculty of Agriculture for the postgraduate stage
• Cell biology
• Mutation genetics
• Ecological genetics
• Foundations of Genetic Engineering Technique
• Advanced molecular genetics
• Advanced biochemical genetics
• Advanced population genetics
• Advanced quantative genetics
• Nucleic acid chemistry
• Radiation genetics
• Human genetics
• Genetic behavior in animals
• Genetic criteria in animal husbandry
• Use of biotechnology in the field of plant pathology

5- Teaching courses at the Faculty of Science for the postgraduate stage
• Plant tissue culture
• Bioinformatics
• Cell biology
• Methods of writing research projects

6- Teaching courses for the biotechnology program

- Genetic Engineering and its using in plant improvement
- Gene Transfer methods
- Introduction to Nanotechnology
- Advanced Cellular Technology

7- Other activities related to the teaching process

• Participate in the work of written, practical and oral exams

• Head of the first level control for the academic year 2014/2015, the academic year 2015/2016, the academic year 2016/2017, the academic year 2017/2018 and the academic year 2018/2019
• Participation in the development of the college regulations for the undergraduate and postgraduate stages
• Setting a new regulation (biotechnology program) to increase the college's resources in English with expenses taught from the third level of the academic year 2020-2021 until now

Participation in Scientific Supervision Committees:

First: - Master's degree at the Faculty of Agriculture - Damanhour University

1- For the student / Karim Mohamed Beltagy (Genetics) from 2014-2017

2- For the student / Mai Mohammed Namir (poultry production) as of 2013-2017

3- For the student / Aida Ibrahim Ragab (flowers and decorations) as of 2016

Second: - Master's degree at the Faculty of Agriculture Shatby - Alexandria University

1- For the student / Wafa Mohammed Abdullah (Genetics) as of 2014-2019

2- For the student / Dalia Mohamed Riad (Genetics) from 2014-2019

3- For the student Richma (Comoros) (genetics) as of 2022

Third: - Master's degree at the Faculty of Agriculture - Saba Pasha - Alexandria University

1-For the student / Heba Mahmoud Abdel Hamid (Genetics) as of 2010-2014

2- For the student / Rand Shaaban Mohammed (Genetics) as of 2010-2014

Fourth: - PhD at the Faculty of Agriculture - Damanhour University

1- For the student / Ibrahim Ahmed Adss (Genetics) as of 2007-2012

2- PhD for the student / Shokry Ramadan Attia (Genetics from 2008 to 2014

3- For the student / Walid Shaaban Habashi (poultry production) as of 2013-2018
4- For the student / Nancy Abdel Salam Abu Alou (Genetics) as of 2013-2018
5- For the student / Hala Ahmed Fouad (poultry production) as of 2018
6- For the student / Mai Mohammed Namir (poultry production) as of 2018
7- For the student / Karim Mohamed Beltagy (Genetics) as of 2018

Fifth: - PhD at the Faculty of Agriculture - Saba Pasha - Alexandria University
1- Supervising the doctoral thesis of the student / Heba Mahmoud Abdel Hamid (Genetics) as of 2017

Sixth: - PhD at the Faculty of Agriculture - Shatby - Alexandria University
1- Supervising the doctoral thesis of the student / Alaa Abdul Motelb Muhammad (poultry production) as of 2018
2- Supervising the doctoral thesis of the student / Safaa Abdullah Mohamed Ali (Sudan) (poultry production) as of 2019

Seventh: - PhD at the Faculty of Science - Damanhour University
1- Supervising the doctoral thesis of the student / Iman Muhammad Al-Dibawi (Botany) as of 2015
2- Supervising the doctoral thesis of the student / Shaima Samir El-Sherbiny (Genetics) as of 2020

Eighth: - Participation in committees to judge messages
1- Participation in the judging committee presented by the student / Heba Mahmoud Abdel Hamid (Master of Genetics) Faculty of Agriculture Saba Basha - Alexandria University 2014
2- Participation in the judging committee presented by the student / Randa Shaaban Mohamed (Master of Genetics) Faculty of Agriculture Saba Basha - Alexandria University 2014
3- Participation in the judging committee presented by the student / Asmaa Magdy Ahmed (Master of Genetics) Institute of Genetic Engineering and Biotechnology - University of Sadat City 2016
4- Participation in the judging committee presented by the student / Hosni Dahi Abdel Rahim Mohamed (PhD in genetics) entitled

Bioinformatics Study on Egyptian Patients with Chronic Hepatitis C - Institute of Genetic Engineering and Biotechnology - University of Sadat City 2016

5- Participation in the judging committee presented by the student / Ali Mohamed Mustafa Mohamed (Master of Botany) Faculty of Science - Damanhour University 2017

6- Participation in the judging committee presented by the student / Wafaa Mohamed Abdullah (Master of Genetics) Faculty of Agriculture Shatby - Alexandria University 2017

Participation in the judging committee presented by the student / Dalia Mohamed Riad (Master of Genetics) Faculty of Agriculture Shatby - Alexandria University 2018

8- Participation in the judging committee presented by the student / Nihal Muhammad Ibrahim Salam (PhD in genetics) entitled Determination of differences in the addition or removal of methyl groups to cytosine nucleotides in the corn genome under water stress conditions 2019 - Faculty of Agriculture Shatby - Alexandria University.

9- Participation in the judging committee presented by the student / Iman Muhammad Al-Debawi (Department of Botany and Microbiology) - Faculty of Science - Damanhour University 2020

10- Participation in the judging committee presented by the student / Hala Ahmed Fouad (poultry production) - Faculty of Agriculture - Damanhour University

11- Participation in the judging committee presented by the student / Mai Muhammad Namir (poultry production - Faculty of Agriculture - Damanhour University 2023

12- Participation in the judging committee presented by the student / Safaa Abdullah Mohamed Ali (State of Sudan) - Poultry Production - Faculty of Agriculture (Shatby) - Alexandria University

Ninth:- Scientific Conferences:

1- International Conference on Science and Agriculture at Arish University 2010

2- Biovision International Conference held at the Bibliotheca Alexandrina 2012

3- The International Conference Biovision, which was held at the Bibliotheca Alexandrina in 2014, and participated in a poster

4- The International Biovision Conference, which was held at the Bibliotheca Alexandrina 2016 and participated in a poster

5- International Conference on Water Scarcity Bibliotheca Alexandrina 2016

6- The First International Conference on Genetics, which was held in the conference hall - Alexandria University 2016 and was participating in a research
7- The International Biovision Conference held at the Bibliotheca Alexandrina 2018
8- The International Conference on Biology and Environment, which was held in Indonesia 2015, and 2 research papers were participated in
9- The Second International Conference on Genetic Engineering and Biotechnology on Biotechnology and Artificial Intelligence Towards Sustainable Development - University of Sadat City 25-26/12/2019

Tenth:- Published Research internationally

https://scholar.google.com/citations?hl=en&user=dcLnZboAAAAJ
https://orcid.org/0000-0003-0141-1568
https://www.scopus.com/authid/detail.uri?authorId=57185126900

1- Shimaa El-Sherbini, Mona El-Hadry, **Abdel-Rahman M.M** Production of Transgenic Potato (Solanum tuberosum) Cultivars Resistant to Bacterial Wilt Disease Caused by Ralstonia solanacearum using Particle Bombardment Biochemistry and Cell Biology (2023) Canadian Science Publishing.
2- Walid Habashy, Kwaku Adomako, **Abdel-Rahman M.M** Molecular Characterization of the NRAMP1 Gene and Blood Parameters of Sinai and Lohman Brown Chickens in Egypt Journal of World's Poultry Research (2023) 13: 206-215.
3- Heba Krosh, H El-Wakil, A Khaled, **Abdel-Rahman M.M** Reducing the Percentage of Lignin using Genetic Engineering Techniques in Jatropha curcas L. Plant Biochemistry and Cell Biology (2023) Canadian Science Publishing.
4- Waleed S. El-Tahawy and **Abdel-Rahman M.M** Molecular, Sequencing and Bioinformatics of Insulin- like Growth Factor 1(IGF-1) Gene and Transforming Growth Factor β2 Gene Associations with Growth Traits in Three Strains of Chicken Animal Science – preprint (2020)
5- Waleed S. El-Tahawy and **Abdel-Rahman M.M** Molecular breeding of three genes associations with egg production traits in three strains of Chicken Journal of world's Poultry Research (2020) 10, 605-614.
6- Karim Mohamed Beltagy, **Abdel-Rahman M.M**, Hanaa Mahdy Abouzied, Samia Ahmed Madkour Enhance maize (Zea mays L.) tolerance to abiotic stress through the genetic transformation with anthranilate synthase (ASA2 Gene) using particle bombardment American Journal of Bioscience and Bioengineering (2019) 7 : 28-33.

7- **Abdel-Rahman M.M** and Mousa E. I. Effects of down regulation of lignin content in maize Zea mays L. plants expressing C4H3 gene in the antisense orientation. Biofuels H- index 37 Q2(2016) , ISSN: 1759-7269 (print) 1759-7277 journal homepage: http:// www.tandfonline.com/ loi/tbfu20

8- Abdel-Rahman M.M Bayoumi S.R. and Barakat M.N., Identification of molecular markers linked to Fusarium ear rot genes in maize plants Zea mays L. Biotechnology & Biotechnological Equipment H- index 29 Q3(2016) issn:1310-2818 .1314-3530

9-Abdel-Rahman M.M El-Faramawy A.M., Mousa I. E., Identification of Differentially Expressed Genes Induced by Poly Ethylene Glycol in Maize (Zea mays L.) Callus Quality Improvement. Asian Journal of Microbiology, Biotechnology and Enviromental Science (2016)

10-Abdel-Rahman M.M Genetic modification of lignin to improve biofuel production from maize Zea mays L. using particle bombardment. International Conference on Biological, Civil and Environmental Engineering (BCEE- 2015) Bali Indonesia.

11- Abdel-Rahman M.M Improvement the production of maize Zea mays L. crop by using particle bombardment. International Conference on Biological, Civil and Environmental Engineering (BCEE- 2015) Bali Indonesia.

12- Lygin A., **Abdel-Rahman M.M** Ulanov A. Lozovaya V. and Widholm J.M. Polyethylene glycol treatment promotes metabolic events associated with maize callus morphogenic competence . phytochemistry H- index 169 Q1 (2012) 82: 40-55.

13- Abdel-Rahman M.M and Widholm J.M., Maize tissue culture plant regeneration ability can be improved by polyethylene glycol treatment. *In vitro* Cell Dev. Biol, -Plant H- index 68 Q2(2010) Vol. 46, No. 6, 509-515.

Eleventh published research locally:-

1- Heba Krosh, Hossam El-Wakil, Ahmed Khaled, **Abdel-Rahman M.M** Modification of Lignin Polymers with COMT Anti-Sense Gene in the Jatropha curcas L. by Green Biotechnology Tools. Alexandria Science Exchange Journal (2024) 45 :95-106.

2- Shimaa El-Sherbini, Mona El-Hadary, **Abdel-Rahman M.M** Impact of PEG combined with 2, 4-Dichlorophenoxyacetic Acid on Improving Vitality and Friability of the Induced Callus in Spunta and Cara Potato Cultivars Delta Journal of Science, (2024) 48 :1-12.

3- Mai Muhammad Numair, Waleed Salah Eltahawy, **Abdel-Rahman M.M**, Alaa Mohamed El-Raffa Genetic improvements for productive performance of white japanese quail under selection program Journal of Agricultural and Environmental Sciences (2023) 22: 285-308

4- Nabil E Saber, **Abdel-Rahman M.M**, Mona EM Mabrouk, Emanan MM Eldebawy, Ghada SM Ismail Silicon alleviates cadmium toxicity in Triticum aestivum L. plants by modulating antioxidants, nutrient uptake, and gene expression. Egyptian Journal of Botany(2022) 62:2, 319-336.

5- Amira Osman, Aida IR El-Kadafy, Eman Sewedan, Manee Moubarak, **Abdel-Rahman M.M** The effect of polyethylene glycol (PEG) on calluses of sweet basil (Ocimum basilicum L.) Scientific Journal of Flowers and Ornamental Plants (2020) 7: 447-459.

6- Abdel-Rahman M.M, Ragab N.M., Mousa I.E., Over expression of defense mechanism genes in transgenic maize enhances increasing in tryptophan level.. The Egyptian Journal for Experimental biology (ESEB) (2017).

7- Bayoumi S., **Abdel-Rahman M.M** Milad S., Barakat M. Genetic analysis of resistance to Fusarium ear rot in two maize populations. Journal of Agricultural and Environmental Science (2013) vol.12 (3) 104-126.

8- Hamza H.A., Hafez E.E., **Abdel-Rahman M.M** ,Madkour S.A., Heikal H.A. and Adss E.A. RAPD analysis of some local Ralostonia solanacearum isolates and study the relationship between polygalacturonase activity and infection of different Potato cultivars. Minufia Journal Agriculture Research (2011) 6: 1611-1625.

9- Abdel-Rahman M.M ,Mousa E. I., Kim K. and Widholm J.M., Maize lignin content modification for biofuels production. The Egyptian Journal for Experimental biology (ESEB) (2011). Vol. 7 (1) 59-66.

10- Abdel-Rahman M.M A.E. Abdel-Hamid and M.A. Abdel- Rassoul. Cytogenetic effects of Malathion insecticide on Japanese quail (Coturnix japonica) Minufiya J. Agric. Res. (2011) Vol. 36 No. 3,565-573.
11-Abdel-Rahman M.M Maize transformation with feedback-insensitive anthranilate synthase gene by particle bombardment of immature embryo.

Journal of the advanced in agricultural researches Faculty of Agricultural (Saba Basha) Alexandria University (2010). Vol. 15, No. 4, 1205-1222.

12-Abdel-Rahman M.M Plastid transformation in Zea mays L. The 12 th International Conference of Agronomy, El-Arish, Egypt, (2010).20-22 September

13-Abdel-Rahman M.M and Widholm J.M., Transformation of two plasmids into maize callus using particle bombardment. Journal Environmental Agriculture Science, Faculty of Agriculture Damanhour branch, Alexandria University. (2009) Vol.8 (2) August.

14-Mousa E. I., **Abdel-Rahman M.M**., El- Rakshy. N. E. The impacts of treatment with Biofilm on the filter back wash water quality of water treatment plant and bioconversion of heavy metal. The 2sc international conference for Genetic Engineering and Biotechnology (2006) Sharm-Elshik , 23-26 Nov.

15-Sharaf M.A, Ouf A.A. and **Abdel-Rahman M.M**., In vitro selection of drought tolerant Sugarcane (variety GT54-C9) Journal of Agriculture Sciences (1995) volume 20 No. (5) May