

CURRICULUM VITAE

Name : _Amany Abdel-Ghaffar Mahmoud

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Qualifications

PhD. (1996):- Doctor of Philosophy in Biochemistry - Faculty of Science, Biochemistry Department, Ain Shams University

Thesis “Biochemical Studies of Some Parameter Controlling Cataract Formation among Egyptians”

MSc. (1991) –Master degree in Biochemistry- Faculty of Science, Biochemistry Department, Ain Shams University

Thesis “Influence of Malnutrition on Lens Proteins and Amino Acids”

BSc. (1983) Bachelor of Science- Faculty of Science, Biochemistry Department, Ain Shams University

EMPLOYMENT RECORD

Researcher Professor of Biochemistry in Biochemistry Department- Research Institute of Ophthalmology from 2008 till present

- **Assistant Researcher Professor of Biochemistry** in Biochemistry Department- Research Institute of Ophthalmology from 2002 – 2008
- **Researcher of Biochemistry** in Biochemistry Department- Research Institute of Ophthalmology from 1996 – 2002
- **Assistant Researcher of Biochemistry** in Biochemistry Department- Research Institute of Ophthalmology from 1991 - 1996
- **Specialist of Biochemistry** in Biochemistry Department- Research Institute of Ophthalmology from 1987 - 1991

Membership

- Syndicate of Scientific Professions.
- Egyptian Society of Biochemistry & molecular biology, Cairo, Egypt
- Egyptian Society of Toxicology.
- Arab Society for Medical Research.

Fields of Interest

- Biochemistry of the eye (Protein of the lens and amino acids).
- Separation of lens protein (SDS and, Cellophane electrophoresis).
- Agarose Gel electrophoresis.
- Column chromatography.
- Western Blot
- Nano-Formulations of drugs

Scientific experience and activities

- Participated in the education courses in biochemistry in postgraduate lectures, faculty of Science, Fayoum University
- Participated in the education courses in Biochemistry Department- Research Institute of Ophthalmology about proteins of the lens.

Thesis Supervised

- **PhD student: Nadia Samy Ahmad**
"The relationship between micronutrients and retinal diseases"
Faculty of Home Economics- El Monofya University, 2001
- **M.Sc. student: Azza Abdel Nabi Ibrahim Issawi**
"Biochemical Studies on the effect of supplementary food on Experimental diabetic cataract"
Faculty of Science, Biochemistry Department- Beni Suef University.2007
- **M.Sc. student: Wael Ahmad Mohamed Ibrahim**
"The effect of chemical chaperones in alleviating the diabetic ocular complications :(An experimental study)"
Faculty of Science, Biochemistry Department - Fayoum University. 2009
- **M.Sc. student: Marwa Saad Aly**
"The role of different amino acids as potential preventive agents for cataract formation: (an experimental study)"
Faculty of Science, Biochemistry Department - Fayoum University .2010-2011.
- **M.Sc. student: Marwa Saad Embaby Radwan**
"Study the effect of coenzyme Q10 on the structural changes of lens crystallins in models of experimental cataract: A potential target to prevent or delay the cataractogenesis"
Faculty of Science, Biochemistry Department- Fayoum University .2010-2011.
- **M.Sc. student: Shima Hamady Gadalla**
"Role of Autophagy activation in a diabetic rat model with insulin resistance"
Faculty of Science- Biochemistry Department- Ain shams University-2012
- **M.Sc. student: Rawda Galal Mohamed Yassin**
"Evaluation of Ursodeoxycholic acid (UDCA) as a potential anticataractogenic agent in diabetic rat model"
Faculty of Science- Biochemistry Department- Ain shams University-2015
- **PhD student: Wael Ahmed Mohamed Ibrahim**
"Using stress related biomarkers for the assessment of aquatic environment pollution"
Faculty of Science, Biochemistry Department - Fayoum University- 2015
- **M.Sc. student: Hadeer Rashad Mohamed Abdalla**
"Biochemical study on the effect of flavonoid Naringenin in the modulation of diabetic ocular complications.
Faculty of Science, Biochemistry Department - Fayoum University-2020

Workshops

Principals of molecular biology	Medical research center Faculty of Medicine-Ain Shams University	4-18/5/2000
Internet	Research Institute of Statistical study	7-31/12/2003
Biochemistry and its relationship to eye disease	Research Institute of ophthalmology	1-16/6/2003
Excel 2000	Research Institute of Statistical study	9-16/10/2003
Principals of molecular biology and nucleic acids	Fac. of Agriculture Cairo University	2-10/2/2005
New in toxicology and treatment of addiction	Cairo University	21/1/2006.
Genetic educational program	Genetic Dep.-Research Institute of ophthalmology	22-25/1/2006
Biological methods for the development of chemical protective drugs for cancer	National Research Center	26-27/2/2006

"Basics of molecular biology techniques and their applications	On the sidelines of the Seventh Conference of Biochemistry and Molecular Biology	5-7/3/2006
Stem cell workshop	Biochemistry dep. Faculty of Medicine Cairo University	27/4/2009
Infection with viruses and methods of treatment in the eye	Research Institute of ophthalmology	2-4/2/2009
Basic knowledge of Molecular Biology	Research Institute of ophthalmology	6-22/5/2012
Molecular Biology training course" PCR& Electrophoresis	Biochemistry dep. Faculty of Medicine Cairo University	4/6/2012
Stem cell workshop	Biochemistry dep. Faculty of Medicine Cairo University	6/6/2012
"Clinical Research Methodology Workshop" by Nature Research Academics	Theodore Bilharz Research Institute	25/9/2019
Research Quality & Performance" by Clarivate Analyticas	Research Institute of ophthalmology	15/10/2019
Research Funding & Collaboration by Clarivate Analyticas	Research Institute of ophthalmology	5/11/2019
Effective Academic Writing" by Nature Research Academics	Research Institute of ophthalmology	27/11/2019
Nano Drug Delivery Systems : Formulation and characterization	Nawah Scientific	3-4/2/2021

Projects

Principal Investigator of the project	Chemical and Pharmacological chaperones: A potential therapeutic strategy for diabetic ocular complications.
CO- Principal Investigator of the project	Potential Treatment of Diabetic Retinopathy with Angiotensin II Inhibitors in Relation to the VEGF-Ang-Tie2 System of Angiogenic Factors: an experimental study.
Participation in the project	Evaluation of In-Situ Hydro-gel as a Topical Ocular Drug Delivery System for Controlling Experimentally Induced Models of Diseases of the Anterior Segment

Conferences

The annual conference of the Egyptian Society of Laboratory Medicine	Cairo-1998- 1999 –2000-2004-2006
The International Conference of the African Union of Societies of Biochemistry and Molecular Biology	Cairo 2000
The annual conference of the Egyptian Society of Cataract and Corneal Diseases	Cairo 2001- 2005 - 2006
The Eighth International Conference of Laboratory Pediatrics	Cairo 2001
The Ethics and Social Responsibility Conference in Science and Technology	Alexandrina 2002
The Fifth International Conference of the Egyptian Medical Association for the Treatment of Toxicology and Environmental Diseases.	Cairo 2006
The First International Conference on Cancer Prevention	National Research Center February 20-22, 2006
The seventh scientific meeting of the Egyptian Society of Vitreous and Retinal Diseases.	April 6, 2006.
The twenty-first scientific conference of the Egyptian Society of Toxicology, entitled "Environmental factors and the influence of genes,"	Girls' College, Ain Shams University, from April 12-13, 2006.
The Sixth National Conference on Biochemistry and Molecular Biology and their	Egyptian International Center for Agriculture October 3-5 2004
The Seventh National Conference of Biochemistry and Molecular Biology	Cairo 2006
Annual conference of the Egyptian Society of Biochemistry and Molecular Biology.	Cairo 2002-2006-2007-2009-2012-2014-2016
The First International Conference, Division of Human Genetics and Genomic Research,	National Research Center, from 8-10 November 2010
The third scientific conference of the Department of Chemical Pathology of the Faculty of Medicine, Kasr Al-Aini, entitled Genetic & Tissue Engineering,	Cairo 2011
International conference of Arabic Foundation for Molecular Genetic and Stem Cell Technology	Cairo 2013
2 nd International conference of the Arab Society of Therapeutic Nutrition and Complementary Medicine	Cairo 2016
International Conference of the Research Institute of Ophthalmology (RIO)	Cairo 2016- 2018- 2019 -2020

List of Publications:

1. Hager Emam Amer; **Amany Abdel-Ghaffar Mahmoud** and Fawzi Amin El-Shobaki: "Molecular Changes in Lens Crystallin of Rats Treated With Monosodium Glutamate". *Med. J. Cairo Univ.* 67 (4): 369 - 380 (1999)
2. **Amany Abdel-Ghaffar Mahmoud**; Hager Emam Amer; Zeinab Abd El-Aal Saleh and Fawzi Amin El-Shobaki.: "Molecular Characters of Lens Crystallins of Rats Fed on Aflatoxin -Contaminated Diet". *The Egyptian Journal of Biochemistry* 18 (1): 87 - 101 (2000)
3. Fawzi A. El-Shobaki; Mohamed M. Abd El-Fattah; Gilane M. Sabry; **Amany A. Mahmoud** and Margeret A. Aziz."Study of the Antioxidant Defense System in Blood, Lens and Retina of Alloxan - Diabetic Rats". *The Egyptian Journal of Biochemistry* 18 (2): 93-109 (2000)
4. **Amany Abdel-Ghaffar Mahmoud**; Hala M. Ghanem; Manar F. Omran and M. A. El-Ahdal."The Effect of Argon Laser Radiation in the Protein Oxidation of Rat Lens as a Response to Oxidative Stress". *Bull. Egypt. Soc. Physiol. Sci.* 20 (2): 301 - 319 (2000)
5. **Amany Abdel-Ghaffar Mahmoud**." Mechanism of Selenite Cataract and Its Prevention by Vitamin E". *Cataract and Cornea* vol. 7: 40 - 46 (2001)
6. Hala M. Ghanem; Manar F. Omran; **Amany Abd El-Ghaffar Mahmoud** and Mahmoud A. El Ahdal."The Relationship between Prostatic Polyamines and Nucleic Acid Levels after Argon Laser Irradiation in Rats". *AlAzhar Medical J.* 30 (3): 395 - 403 (2001)
7. AmanyH. Galal; **Amany Abd El-Ghaffar Mahmoud** and Amr Azzab:"Genetic and Biochemical Aspects of Retinitis Pigmentosa Among Egyptians". *Ain Shams Medical Journal* 52 (1, 2 & 3): 61 - 79 (2001).
8. **Amany Abdel-Ghaffar Mahmoud**; Margeret A. Aziz and Fawzi A. El-Shobaki. "Biochemical Changes Associating Cadmium Toxicity and Possible Occurrence of Lens Opacity". *Bull. Egypt. Soc. Physiol. Sci* 21 (1) 272 - 294 (2001)
9. Mona H. Abou El-Ela; Rokaya M. El-Sayed; Dina H. El-Sawy and **Amany Abdel-Ghaffar Mahmoud** : "Serum Thrombopoietin Levels in Pediatric Patients With Portal Hypertension". *Journal of Arab Child* 12 (5): 651 - 669 (2001).
10. Eawzi A. El-Shobaki; MohamedM. Abd El-Fattah; Gilane M. Sabry **Amany Abdel-Ghaffar Mahmoud** & Margeret A. Aziz: "The Protective role of Vitamin E against Oxidative Stress in Alloxan Diabetic Rats and Its Relation to Structural Changes in Lens Crystallin. *The Egyptian Journal of Biochemistry* 19 (1) (2001).
11. **Amany Abd El-Ghaffar Mahmoud**; Atef Mohamed Mahmoud and Mohamed Khaled."Level of Non-Esterified Fatty Acids in Human Aqueous Humor and its Possible Cataractagenic Effect. *Bull. Egypt. Soc. Physiol. Sci.* 21 (1):338-354 (2001).
12. Manar F. Omran, **Amany Abdel Ghaffar Mahmoud**, Hala M.Ghanem and M.A. El-Ahda : "Alteration in

Nuclear Ploidy and Antioxidant Defense System in Rat tissues Exposed to Low Intensity Laser Irradiation “.Ain Shams Medical Journal Vol. 53 No.10, 11, & 12: 1143-1157 (2002).

13. **Amany Abdel-Ghaffar Mahmoud**, Ghada Ghanem El-Hossary and Atef M.Mahmoud : “Evaluation of Calcium Channel Blocker as Potential Anticataractogenic Agent in Diabetic Rats”. Bull. Egypt. Soc. Physiol. Sci., 23(1): 179-196 (2003).
14. **Amany Abdel-Ghaffar Mahmoud**; Lekaa, A. Moemen; Rawia Abd El hakim Mohamed and Fatma, G. Metwally.- “Excimer Laser Photorefractive Keratectomy and Apoptosis”. Bull. Egypt. Soc. Physiol. Sci., 23(1) 44- 75 (2003).
15. Mahmoud, S.S. and **Amany Abd El-Ghaffar Mahmoud** : “Effect of Excimer Laser (Arf, 193 nm) on Aqueous Humor during Photorefractive Keratectomy: Biophysical and Biochemical Study”. ISOTOPE & RAD. RES., 36, (1): 15-165 (2004).
16. Amira A. Abdel Azeem, M.D.; **Amany A. Mahmoud**; Kareema A. Rizk, and Boshra M. A. El Bayoumi, “Taurine Level and Field Changes in Different Hereditary Types of Retinitis Pigmentosa.” Med. J. Cairo Univ., Vol., 73, No.2, (Suppl.) June: 165-172, (2005).
17. Ghada G. El-Hossary, Amany El-Shazly, Iman M.A. Zaki, Karima A. Rizk, M.D.; and **Amany A. Mahmoud**. “Combination of a Cyclooxygenase Inhibitor and a Nitric Oxide Synthase Inhibitor in the Treatment of Experimental Uveitis”. Med. J. Cairo Univ., Vol., 73, No.4, December: 829-837, (2005).
18. Dina H. El Sawy, Azza El Hamshary, Nora El Said Badawi and **Amany A. Mahmoud**. “Levels of Serum-Soluble Fas in Patients with Juvenile Rheumatoid Arthritis and Systemic Lupus Erythematosus”. Kasr El Aini Medical Journal Vol., 11, No. 5, July: 127-134(2005).
19. **Amany Abdel-Ghaffar Mahmoud** and Atef Mohamed Mahmoud: “The Potential Cataracto-Static Ability of Green Tea Leaf Extract in Selenite-Induced Cataract of Rats. [The Egyptian Journal of Biochemistry and Molecular Biology, proceeding of the 7th National conference of Biochemistry and Molecular Biology 5-7 March \(2006\).](#)”
20. Amany El-Shazly; Ghada G. El-Hossary, **Amany Abdel -Ghaffar Mahmoud**, Kareem A. Rizk, and Atef Mohamed Mahmoud: ‘Potential Prophylactic Role of Nitric Oxide Synthase Inhibitor on Experimentally Induced Cataract in Rats”. Med. J. Cairo Univ., Vol., 74, No.1, March: 29-36, (2006).
21. Mona A. Abdel Hamid, Iman A. Fahmy and **Amany Abdel- Ghaffar Mahmoud** : ‘Role of Oxidative Stress Makers in Open Angle Glaucoma”. Bull. Egypt. Soc. Physiol. Sci., 25(1): 117- 126 (2005).
22. Dina H. El Sawy, Hala A. Gaafar and **Amany A. Mahmoud**. “Urinary Trehalase as an early Indicator of Renal Proximal Tubular Damage in some Renal Diseases of Children”. Kasr El Aini Medical Journal Vol., 12, No. 1, January: 125- 132 (2006).
23. Dina H. El Sawy, and **Amany A. Mahmoud**: “ Role of Lipid Peroxidation and Protein Glycation in Non Diabetic Pediatric Nephrotic Syndrome”. Med. J. Cairo Univ., Vol., 74, No.1, March: 113-116, (2006).
24. **Amany A. Mahmoud**, Sawsan H. Karam, Mosaad A. Abdel-Wahhab. “Chromium-picolinate induced ocular changes: Protective role of ascorbic acid”. [Toxicology Volume 226, No, \(2-3\), 21 September 143- 151 \(2006\).](#)
25. **Amany Abdel- Ghaffar Mahmoud**, Margeret A. Aziz, Atef Mohamed Mahmoud and Al-BalkiniS.M: “ Nitric oxide Levels and Lipid per-oxidation in Plasma of Patients with Age-related cataract”. MEJO accepted 23 -8- (2006).
26. Taurine as Anticataractogenic Agent in Galactose-Feeding Rats. Atef Mohamed Mahmoud, **Amany Abdel-Ghaffar Mahmoud** and Margeret A. Aziz. *The Egyptian Journal of Biochemistry*, 24:2(2006).
27. Hala, M. Ghanem, **Amany Abdel Ghaffar Mahmoud** and M.Hesham Mahfouz: “The Influence of Arsenic Toxicity in the Implication of the Methionine and its Metabolites in the Egyptian Subjects”. Ain Shams Medical Journal accepted at 3-5-2006.

28. **Amany Abdel-Ghaffar Mahmoud**; Eman Abd El –Azeem; Atef Mohamed Mahmoud, Rawhia A Khalifa: “ Association of serum α -lipoic acid and cataract patients. *The Egyptian Journal of Biochemistry*, 25, (1):25-36 (2007).
29. **Amany Abdel-Ghaffar Mahmoud**; Amira A. Abdel Azeem; Amany H. Galal and Boshra M. A. El Bayoumi : ‘Selected predictors of apoptosis in retinitis pigmentosa’. *The Egyptian Journal of Biochemistry*, 26, (2):119-134 (2008)
30. **Amany Abdel- Ghaffar Mahmoud** and Kareem Rizk: “Evaluation of homocysteine and plasminogen activator inhibitor-1 changes in age related macular degeneration. *Bull. Egypt. Soc. Physiol. Sci.* 28 (1):253-264(2008).
31. **Amany Abdel-Ghaffar Mahmoud**, Hala M. Ghanem and, Nevine S. Darwish: “Effect of chromium picolinate on biochemical and histopathological alterations in rats”. *The Egyptian Journal of Biochemistry*, 27, (1), (2009)
32. Amira A. Abdel Azeem; **Amany Abdel- Ghaffar Mahmoud**; **Mostafa M Salaheldine**; and **khalda Amr**: Implication of Glutathione S-transferase M1 and T1 polymorphisms in the development of senile cataract among Egyptians [Bratisl Lek Listy](#). 110(11):678-83. (2009).
33. M.Hesham Mahfouz, **Amany Abdel-Ghaffar**, Mona A Mohamed, Hala, M. Ghanem: Effects of L- carnitine and cinnamon extract treatment on lens crystallins of rats fed high fructose diet. [American Journal of Biochemistry and Biotechnology](#). 7(2): 63-69, (2011).
34. **Bassem M. Raafat**; **Ahmed Saleh**; **Medhat W. Shafaa**; **Mahmoud Khedr** and **Amany Abdel-Ghaffar**: *Ginkgo biloba* and *Angelica archangelica* bring back an impartial hepatic apoptotic to anti-apoptotic proteins ratio after exposure of Technetium ^{99m}Tc). [Toxicology and Industrial Health](#) 2012 Jan 31. [Epub ahead of print]
35. **Amany Abdel-Ghaffar** , Amany H. Elshazly , Laila H. Elshazly , Abdelnaby E. Essawy and Marwa S. Hassan. (2014): L-carnosine eye drops ameliorates lens proteins conformational changes and opacification induced by Na selenite: An experimental study in rats. *Review of Research*, vol 3 Issue. 8: 1-10.
36. Sawsan H. Karam, Anisa S. Mohamed, Sahar M. Mansour , Heba I. Issa, **Amany Abdel Ghaffar** , Atef M. Mahmoud and Seham Abdel Dayem (2014) :- Impact of curcumin on nicotine-induced lung change: Histopathological, Biochemical and immunological studies. *Indian Streams Research Journal* vol. 4 Issue-2 : 1-8
37. -Sawsan H. Karam, Laila K. Hanafy, Sahar M. Mansour, Olfat A. Hassanin, **Amany Abdel Ghaffar** and Atef M. Mahmoud (2014);- The cataractogenic effect of nicotine and the possible protective role of curcumin. *Review of Research* Vol. 3 | Issue. 12 : 1-9.
38. Fatma G Metwally, Sawsan H Karam, Elham M Elshazli, **Amany Abdel-Ghaffar**, Atef M Mahmoud and Margeret A Aziz (2015): Protective effect of curcumin on nicotine – induced toxicity of liver and kidney in rats. *Review of Research*, volume 4, Issue. 5, Feb.
39. Soha M Hamdy, Amany A Shaban, **Amany Abdel-Ghaffar** Mahmoud, Nahed S Gad, and Wael A Ibrahim (2016): Caspase-12 as a biomarker of aquatic pollution in *Oreochromis niloticus*. *J of Oceanogr Mar Res* vol 4, Issue 2: 2-6.
40. Mahmoud H. Khedr, Medhat W. Shafaa, **Amany Abdel-Ghaffar** and Ahmed Saleh. (2018): Radioprotective efficacy of *Ginkgo biloba* and *Angelica archangelica* extract against technetium-99m-sestamibi induced oxidative stress and lens injury in rats. *Int J Radiat Biol* 2018 Jan; 94(1):37-44 <https://doi.org/10.1080/09553002.2018.1407463>
41. **Amany Abdel-Ghaffar** , Hala M. Ghanem, Emad K. Ahmed, Olfat A. Hassanin, and Rawda G. Mohamed. : Ursodeoxycholic acid suppresses the formation of fructose/streptozotocin-induced diabetic cataract in rats. *Fundamental & Clinical Pharmacology* 32 (2018) 627-640. <https://doi.org/10.1111/fcp.12385>.
42. Shaimaa H. Gadallah, Hala M. Ghanem, **Amany Abdel-Ghaffar**, Fatma G. Metwaly, Laila K. Hanafy & Emad K. Ahmed (2019): 4-Phenylbutyric acid and rapamycin improved diabetic status in high fat diet/streptozotocin-induced type 2 diabetes through activation of autophagy. *Archives of Physiology and Biochemistry* 2019 Jun 19; 1-10. <https://doi.org/10.1080/13813455.2019.1628069>

43. Amel Ibrahim Othman, **Amany Abdel-Ghaffar** and Atef Mohamed Mahmoud.(2019): Ketorolac- and warfarin-induced renal toxicity: ultrastructural and biochemical study. *The Journal of Basic and Applied Zoology* (2019) 80:36 <https://doi.org/10.1186/s41936-019-0106-2>.
44. **Amany Abdel-Ghaffar**, Ghada G. Elhossary, Atef M. Mahmoud¹, Amany H. M. Elshazly , Olfat A. Hassanin, Anisa Saleh, Sahar M. Mansour, Fatma G. Metwally, Laila K. Hanafy, Sawsan H. Karam, Hager E. Amer, Nadia A. Samy and Ahmed Mostafa Ata.(2019): Potential prophylactic effect of chemical chaperones for alleviation of endoplasmic reticulum stress in experimental diabetic cataract.. *Bulletin of the National Research Centre* (2019) 43:71 <https://doi.org/10.1186/s42269-019-0089-7>.
45. **Amany Abdel-Ghaffar**, Ghada G. Elhossary, Atef M. Mahmoud, Amany H. M. Elshazly, Olfat A. Hassanin, Anisa Saleh, Sahar M. Mansour, Fatma G. Metwally, Laila K Hanafy, Sawsan H. Karam, Neveen Darweesh & Ahmed Mostafa Ata (2021): Effects of 4-phenylbutyric acid on the development of diabetic retinopathy in diabetic rats: regulation of endoplasmic reticulum stress oxidative activation. *ARCHIVES OF PHYSIOLOGY AND BIOCHEMISTRY* Published online: **02 Mar 2021**. <https://doi.org/10.1080/13813455.2021.1888302>.