Curriculum Vitae

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EDUCATION:

Ph.D. (Biochemistry /Molecular Biology) Temple University, Philadelphia, Pa. USA 1983.
M.Sc. (Biochemistry) Ain Shams University, Cairo, Egypt, 1976.
B.Sc. (Biochemistry) Ain Shams University, Cairo, Egypt, 1971.

POSITIONS:

1997-Current: Professor, Department of Biochemistry, Faculty of Science, Ain Shams University (Cairo, Egypt).
2013-2021: Research Director, Biogeometry Energy Systems, Montreal, Quebec Canada
1997-2013: Director, **A**in **S**hams **U**niversity **Gen**etic Engineering Research Services Unit (**ASUGEN**).
2007-2011: Chairman, Department of Biochemistry, Faculty of Science, Ain Shams University**.**
2003-2005: Consultant, Egypt National Vaccine & Serum Institute (VACSERA)
1992-1997: Assistant Professor, Department of Biochemistry, Faculty of Science, Ain Shams University.
1983-1992: Lecturer, Department of Biochemistry, Faculty of Science, Ain Shams University.
1989-1990: Research Assistant Professor, Department of Microbiology, School of Medicine, State University of New York (Buffalo, NY, USA).
1988-1989: Research Fellow, Liver Research Center, Albert Einstein College of Medicine (New York, NY, USA).
1984-1988: Consultant**,** Department of Biochemistry, United States Naval American Medical Research Unit (NARMU-3; Cairo, Egypt).
1985-1987: Senior Investigator, Rapid Diagnostic Unit, Research and Training Center on Vectors of Diseases, Ain Shams University.
1983-1983: Postdoctoral Research Associate, Department of Molecular, Cellular & Developmental Biology, University of Colorado (Boulder, CO, USA).
1977-1982: Research Assistant, Department of Chemistry, Temple University (Philadelphia, PA, USA).
1971-1976: Instructor, Department of Biochemistry, Faculty of Science. Ain Shams University.

APPOINTMENTS:

- Member & Board Secretary, Special committee for Biotechnology and Genetics (Planning Committees for University Education Sectors, Supreme Council of Universities, Egypt).
- Interim steering committee, The New Partnership for Africa's Development (NEPAD) North Africa Biosciences Network.
- Genetic Engineering & Biotechnology Sector Committee, Supreme Council of Universities, Egypt.

- Basic Sciences Research Council and Secretary General Interdisciplinary Sciences Branch, Academy of Scientific Research and Technology, Egypt.
- Chairman Strategies Committee for Human Resource Development, Genetic Engineering Committee, National Council for Education, Scientific Research and Technology, Egypt.
- Egypt Cabinet Biotechnology Board.
- Board of Ain Shams Center for Genetic Engineering and Biotechnology.
- Board of Ain Shams University Medical Research Center.
- Board of Center for Scientific Studies & Consultation, Faculty of Science, Ain Shams Univ.
- UNESCO Task Group for Modernization of Basic Biology Curriculum in Arab Universities.
- Selection committees for the United States, Fulbright scholars' program.
- National award committees for Egypt state prizes in science and technology.

APPRECIATION AWARD:

Ain Shams University Appreciation Award, 2022.

Grant Reviewer:

- Egypt Supreme Council of Universities:
  -Science & Technology Development Fund (STDF)
  -Foreign Relation Coordination Unit Projects
- Egypt Academy of Scientific Research and Technology:
  -Genetic Engineering and Biotechnology Medical Program.
  -Pharmaceutical Research Division Projects
  -US/Egypt Joint Science and Technology Program.
- USAID/AERI Institutional Linkage Project.
- National Research Center Institutional Projects.
- Theodore Bilharz Research Institute Internal Projects.

MAJOR GRANT AWARDS:

1990-1998 **:** United States Agency for International Development (USAID)/Egyptian Ministry of Health(MOH) Schistosomiasis Research Project (SRP) grant 0106 "Towards the Development of a Vaccine for Schistosomiasis".

1994-1998 **:** World Health Organization Schistosome Genome Project grant 940348.

1996-1998 **:** Ministry of International Cooperation, grant for Hepatitis C study.

2004-2008 **:** Academy of Scientific Research and Technology, "DNA Vaccines for Schistosomiasis."

2011-2013 : Ain Shams University, Hepatitis C epitope mapping research grant

SOCIETY MEMBERSHIPS:

American Chemical Society, Sigma Xi, Egyptian Biochemical Society, American Society of Tropical Medicine and Hygiene, Egyptian Society of Clinical Chemistry.

MAIN RESEARCH AND TECHNOLOGY INTERESTS:

Schistosomiasis vaccine development, Viral hepatitis diagnosis and therapy, Protein expression, Protein biosynthesis, Gene regulation, DNA vaccines, Genome research, effects of radiation on biological systems.

PUBLICATIONS:

A GTPase Reaction Accompanying the Rejection of Leu-tRNA2 by UUU-Programmed Ribosomes. Thompson, R.C., Dix, D.B., Gerson, R.B. and **Karim, A.M**.
J. Biol. Chem. 256, 81-86 (1981).

Effect of Mg^{2+} Concentration, Polyamines, Streptomycin, and Mutations in Ribosomal Proteins on the Accuracy of the Two-step Selection of Aminoacyl-tRNAs in Protein Biosynthesis.Thompson, R.C., Dix, D.B., Gerson, R.B. and **Karim, A.M.**
J. Biol. Chem. 256, 6676-6681 (1981).

The Accuracy of Protein Biosynthesis is Limited by its Speed. High Fidelity Selection by Ribosomes of Aminoacyl-tRNA Ternary Complexes Containing GTPγS. Thompson, R.C. and **Karim, A.M.**
Proc. Nat. Acad. Sci. U.S.A. 79,4922-4926(1982).

Guanosine 5`-O-(3-thiotriphosphate) as an Analog of GTP in Protein Biosynthesis. The Effects of Temperature and Polycations on the Accuracy of Initial Recognition of aminoacyl-tRNA Ternary Complexes by Ribosomes. **Karim, A.M.,** and Thompson, R.C.
J. Biol Chem. 261,3238-3243 (1986).

The Reaction of Ribosomes with Elongation Factor Tu.GTP Complexes: Aminoacyl-tRNA- independent Reactions in the Elongation Cycle Determine the Accuracy of Protein Synthesis . Thompson, R.C., Dix, D.B. and **Karim, A.M.**
J. Biol. Chem. 261, 4868-4874 (1986).

The Antihyperlipidemic Effects of Massive Doses of Vitamin B_6 Plus Pyridoxal Phosphate (PLP) in Rats. Shoukry, S., **Karim, A**., Ali, F.T., Rizk, S.S. and Mahmoud, M.
Arab J. of Lab. Med. 15, 371- 382, (1989).

Antihyperlipidemic Effect of Clofibrate Boosted with Vitamin B_6 + PLP. **Karim, A.,** Maharem, T.M., Mahmoud, M. and Shoukry, S.
Indian J. Applied and Pure Biol. 5 25-31 (1990).

Rapid Detection of Enterotoxigenic Escherichia coli Plasmid Sequences by Dot Hybridization using Biotinylated Probes. **Karim, A.M**.
Egypt J. Med. Sci. 11, 481-486 (1990).

Schizodeme and Zymodeme Characterization of Leishmania in the Investigation of a Focus of Infantile Visceral Leishmaniasis in Alexandria - Egypt. **Karim, A.M.,** Osman, A.M., Al-Gauhari, A.I. and Shehata, M.G.
Egypt. J. Med. Sci. 11, 487 - 496 (1990).

Lipid Metabolism in Rats Fed on Megadoses of Vitamin B_6 and Boosted with Pyridoxal-5-phosphate. Maharem, T.M., **Karim, A.M.,** Shoukry, G.M. and Shoukry,S.
Egypt J. Pharm. Sci. 32, 405-413 (1991).

Schistosoma mansoni: Characterization of the Gene Encoding Sm23, an Integral Membrane Protein. Lee, K.W, Shalaby, K.A., Medhat, A.M., Shi, H., Yang, Q., **Karim, A.M.** and LoVerde, P. T.
Experimental Parasitology. 80, 155-158 (1995).

Schistosoma mansoni: Characterization of p50, an immunophilin. Osman, A., Kiang, D., LoVerde, P. T., and **Karim, A.M.**
Experimental Parasitology. 80, 550-559 (1995).

Cloning of the Gene for Phosphoglycerate Kinase from *Schistosoma mansoni* and Characterization of its Gene Product. Lee, K.W., Shalaby, K.A., Thakur, A., Medhat, A.M., **Karim, A.M.,** and LoVerde, P.T.
Molecular and Biochemical Parasitology. 71, 221-231 (1995).

Anthropometric, Genetic and Biochemical Studies in Childhood Obesity. El-Sawy, M., **Karim, A.M.**, Abdallah, N.M. and Shehata, S.
Medical J. Cairo University. 63, 327-341 (1995).

Immune response to *Schistosoma mansoni* Phosphoglycerate Kinase During Natural and Experimental Infection. Identification of a Schistosome-Specific B-cell Epitope. Lee, K.W., Thakur, A., **Karim, A.M**. and LoVerde P.T.
Infection and Immunity. 63, 4307-4311 (1995).

Cloning of the Gene Encoding *Schistosoma mansoni* p50, an Immunophilin. Kiang, D., **Karim, A.M.** and LoVerde, P.T.
Gene. 170, 137-140 (1996).

Identification and Characterization of *Schistosoma mansoni* p17.7, a Cyclophilin. Kiang, D., El Ghazalie, N.E., Medhat, A.M., Abdel-Fattah, M., **Karim, A.M.** and LoVerde, P.T.
Molecular and Biochemical Parasitology. 76, 73-82 (1996).

Synteny Mapping in River Buffalo. El Nahas, S.M., Oraby H.A., de Hondt, H.A., Medhat, A.M., Zahran, M.M., Mahfouz, E.R. and **Karim, A.M.**
Mammalian Genome. 7, 831-834 (1996).

Reduced Effects of L-Carnitine on Glucose and Fatty Acid Metabolism in Myocytes Isolated From Diabetic Rats. Abdel-aleem, S., **Karim, A.M.**, Zarouk,W.A., Taylor, D.A., El-Awady, M.K. and Lowe, J.E.
Hormone and metabolic research 29, 430-435 (1997).

Chlamydia Trachomatis Infection in Pelvic Inflammatory Disease (PID) Prevalence and Comparative Methodology. Shaarawy, M., Mallah,S.Y.El., **Karim, A.M.**, Hindy,O.W. Clinical Laboratory, 44, 285-290 (1998).

The Pprimary Structure of *Schistosoma mansoni* Ribosomal Protein L37a. Ragaa, M.M., Mohamed, M.M., Shalaby, K.A. and **Karim, A.M**.
Egypt. J. Biochemistry. 16,38-43 (1998).

Cloning and Characterization *of Schistosoma mansoni F*ructose- 1,6-Biphosphate Aldolase Isoenzyme. EL-Dabaa, E., Mei, H., El-Sayed, A., **Karim, A. M.,** El-desoky, H. M., Fahim, F. A., LoVerde, P. T. and Saber, M. A.
J. Parasitology, 84,954- 960 (1998).

Characterization of Sm20.8, a Member of a Family of Schistosome Tegumental Antigens. Mohamed, M. M., Shalaby, K. A., LoVerde, P. T. and **Karim, A.M.**
Molecular and Biochemical Parasitology, 96, 15-25 (1998).

Helminth Genome Analysis: The Current Status of the Filarial and Schistosome Genome Projects. Williams, S.A, Johnston, D.A., Aslett, M., Bierwert, L., Blaxter, M.L., Daub, J., Foster, J., Ganatra, M., Guiliano, D., Haynes, S., Jayaraman, K., Kamal, I.H., Kannan, K., Laney, S.J., Li, W., Lizotte-Waniewski, M., Lu, W., Raghavan, N., Ramzy, R.M.R., Rao, R.V., Saunders, L., Scott, A.L., Slatko, B., Supali, T., Ware, J., Azevedo, V., Brindley, P., Correa De Oliviera, G., Feng, Z., Franco, G.R., Hirai, H., **Karim, A**., LoVerde, P.T., McManus, D., Merrick, J., Pierce, R., Rabelo, E., Rollinson, D., Saber, M. and Williams, D.L.
Parasitology, 118 Suppl.(1999).

Schistosoma mansoni Myosin Heavy Chain: Characterization of an Immunoreactive Fragment with Vaccine Potential. Mohamed, M.R., Shalaby, K.A., Abdallah, N.M., LoVerde, P.T. and **Karim, A.M.**
The New Egypt. J. Medicine. 22,297-303 (2000).

Hepatitis C Virus Infection in Children with Hematological Diseases: Risk Factors and Reliability of Diagnostic Assays, Khalifa,A.S., El-Sayed,M.H., Moustafa,A.O., Mohamed,M.M., Rady, M.S., Salama, I.I. and **Karim, A.M**.
Egypt. J. Paediatr. 19, 293-308(2002).

Cloning and Expression of Sm13, a *Schistosoma mansoni* Tegumental Membrane Antigen. Shaaban, A. M., Mohamed, M. M., Ibrahim, H. M., Abdallah, M. S. and **Karim, A. M.** Egypt. J. Biochemistry. 20,111-120 (2002).

Vaccine Candidate Antigen Sm20.8: Immunological Studies by Peripheral Blood Mononuclear Cells from Patients with Schistosomiasis. Khalifa, K.E., Fouad, S.A., Mohamed, M.M., Moustafa, M.I., Kamal, K.A., **Karim, A.M**., and EL- Missiry, A.
Egypt. J. Immunol. 9,111-121 (2002).

Cloning and Characterization of a *Schistosoma mansoni* 1H and 30S Clones as Two Tegumental Vaccine Candidate Antigens. Shabaan, A.M., Mohamed, M.M, Abdallah, M.S., Ibrahim, H.M. and **Karim,A.M.**
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Analysis of *Schistosoma mansoni* Genes using the Expressed Sequence Tag Approach. Shabaan, A.M., Mohamed, M.M, Abdallah, M.S., Ibrahim, H.M. and **Karim,A.M.**
Acta Biochimica Polonica 50 259-268 (2003).

Severe Liver Disease is Caused by HBV Rather Than HCV in Children with Hematological Malignancies. EL-Sayed, M.H., Mohamed, M.M, **Karim, A**, Maina, A., Oliveri,F., Brunetto, M.R. and Bonino, F.
Hematology J. 4, 321-327 (2003).

Cellular and Humoral Immune Responses to Recombinant Smp17.7 *Schistosoma mansoni* Antigen. Al-Sherbiny, M.M., Galal, I.F., **Karim, A.M**., Ashour, A.A. and Saad, A.M.
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Lamivudine Facilitates Optimal Chemotherapy in Hepatitis B Virus Infected Children with Hematological Malignancies: a Preliminary Report. El-Sayed, M.H., Shanab,G., **Karim, A**., El- tawil, A., Roopram,P., Black, A. and Dixon, J.S.,
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High Prevalence of an Unusual HCV Subtype in A population of Polytransfused Patients. EI-Sayed, M.H., **Karim, A.M**., EI-Tawil, M.M ,and Sablon, E.
J.Clinical Virology, 36 (suppl 2), $210 (2006)

Molecular Analysis of SMN1 and NAIP genes in Egyptian Patients with Spinal Muscular Atrophy. Essawy, M.L., Shanab, G.M.L., Al-Ettriby, G.M.M. El-Haronui, A.A., and **Karim, A. M.**
Bratisl Lek Listy 108, 133-137 (2007).

Cloning and Characterization of a cDNA fragment Encoding a *Schistosoma mansoni* Actin-Binding protein (Smfilamin). Mohamed, M.R., Shalaby, K. A., LoVerde, P.T., Abdallah, N.M. and **Karim, A.M.**
Parasitology Research, 102, 1035-1042 (2008).

Methylenetetrahydrofolate Reductase Gene Polymorphisms and the Risk of Colorectal Carcinoma in a Sample of Egyptian individuals. El Awady, M.K., **Karim, A.M.**, Hanna, L.S., El Husseiny, L.A., El Sahar, M., Abdel Menem, H.A. and Meguid, N.A.
Cancer Biomarkers, 5, 233-240(2009).

The Effect of *Ginkgo biloba* Extract on 3-Nitropropionic acid-induced Neurotoxicity in Rats. Mahdy, H.M., Tadros, M.G., Mohamed. M.R., **Karim,A.M**. and Khalifa, A.E.
Neurochemistry International 59, 770–778 (2011).

FHIT Gene and Flanking Region on Chromosome 3p are Subjected to Extensive Allelic Loss in Egyptian Breast Cancer Patients. Ismail. H.M.S., Medhat, A.M., **Karim, A.M**. and Zakhary, N.I.
Molecular Carcinogenesis, 50, 625–634 (2011).

Multiple Patterns of FHIT Gene Homozygous Deletion in Egyptian Breast Cancer patients. Ismail. H.M.S., Medhat, A.M., **Karim, A.M**. and Zakhary, N.I.
Intl. J. Breast Cancer, 2011, Article ID 325947, 9 pages (2011).

Clinical and molecular findings in eight Egyptian patients with suspected mitochondrial disorders and optic atrophy. Al-Ettriby,G.M.M., Effat,L.K., El_Bassyouni,H.T., Zaki,M.S., Shanab,G. and **Karim, A.M.**
Egypt J Med Hum Genet, 14, 37-47 *(*2013).

Screening seven common mitochondrial mutations in 28 Egyptian patients with suspected mitochondrial disease. Al-Ettriby,G.M.M., Effat,L.K., El_Bassyouni,H.T., Zaki,M.S., Shanab,G. and **Karim, A.M**.
Middle East Journal of Medical Genetics, 2, 28-37 *(*2013).

Protective and Anti-Pathology Effects of Sm Fructose-1,6 Biphosphate-based DNA Vaccine Against *Schistosoma mansoni* by Changing Route of Injection. Saber,M., Diab, T., Hammam, O., **Karim, A**., Medhat,A.,Khela.M. and El-Dabaa, E.
Korean J. Parasitology, 51, 155-163 (2013).

First Insights into the Metagenome of Egyptian Mummies using Next Generation Sequencing. Khairat, R., Ball, M, Chang, C.-C.H., Bianucci, R., Nerlich, A.G., Trautmann, M., Ismail, S., Shanab, G.M.L., **Karim, A.M.,** Gad, Y.Z. and Pusch, C.M.
J. Applied Genetics 54, 309-325 (2013).

Puerarin ameliorates 3-nitropropionic acid-induced neurotoxicity in rats: possible neuromodulation and antioxidant mechanisms. Mahdy, H.M., Mohamed, M.R., Emam, M.A., **Karim, A.M.,** Abdel-Naim, A.B. and Khalifa, A.E.
Neurochem. Res.39, 321-332 (2014).

The anti-apoptotic and anti-inflammatory properties of puerarin attenuate 3-nitropropionic-acid induced neurotoxicity in rats. Mahdy, H.M., Mohamed, M.R., Emam, M.A., **Karim, A.M.,** Abdel-Naim, A. and Khalifa, A.E.
Canadian J. Physiol. and Pharmacol. 92, 252-258 (2014).

Expression and Immune Recognition of Polypeptides Derived from Hepatitis C Virus Structural Proteins. Halim, A.S.A. Mohamed, M.R., Hamid, F. F.A. and **Karim, A.M.**
Indian J. Pathol. and Microbiol. Microbiol 62, 43 (2019).

Development of an Efficient *in vivo* Cell Based Assay System for Monitoring Hepatitis C Virus Genotype 4a NS3/4A Protease Activity. Naguib, M.M., Mohamed, M.R., Ali, M.A.M. and **Karim, A.M**.
Indian J. Pathol. and Microbiol.62, 391 (2019).