**CURRICULUM VITAE**

**Dr. Ajamaluddin Malik**

Associate Professor

Department of Biochemistry

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**MAJOR ACCOMPLISHMENT**

• Completed projects:

1. Titled “Elucidation of unfolding-refolding mechanism of wild type and mutants of camel eye lens protein zeta-crystallin”
2. Titled “Chaperones and Proteases in the quality control of protein misfolding disease”
3. Titled “Overexpression and purification of recombinant camel Heat Shock Protein 6”
4. Titled “Optimization of expression and purification of Camelus dromedaries glucose transporter 4 (GLUT4) in *E.coli* and its purification”

• Ongoing project:

1. Titled “Development of a protein folding biosensor to study protein misfolding diseases”

• Patented a novel fusion system for the production of therapeutic proteins.

• Patented a tripartite selection system for protein engineering.

• Identified drug-like molecule against MERS-CoV.

• Developed a novel fluorogenic assay for the quantification of aspartic proteases.

• Thorough experience in protein expression and purification.

• Good skill in protein refolding.

• Chemical mutagenesis and gene mapping of phage T4.

• Synthesis and characterization of peptides.

**EDUCATION**

• Ph.D. Biochemistry, Martin Luther University, Germany, May 2007

• M.Sc. Biotechnology, Aligarh Muslim University, India, July 1997-June 1999

• B.Sc. (Hons) Chemistry, Aligarh Muslim University, India, July 1993-June 1996

**EXPERIENCE**

**Oct 2018- Present**,Associate Professor, Department of Biochemistry, College of Science, King Saud University, Riyadh

• US patent filing on “A quick and efficient method of whey protein isolation”

• Work in progress on “the development of a cost-effective ultrasensitive universal protease assay kit”.

**Nov 2010-Oct 2018,** Assistant Professor**,** Department of Biochemistry, College of Science, King Saud University, Riyadh

• Established laboratory infrastructure for cloning, expression, purification and characterization of recombinant proteins.

• Established state-of-art techniques for biophysical characterization of recombinant proteins.

• Identified potential drug-like molecules against MERS-CoV.

• Mentored master students for the accomplishment of their research projects.

• Completed two KACST projects, two NPST projects ongoing, and one NPST project accepted.

**July 2007- Aug 2010,** HHMI research associate, University of Michigan, USA

• Developed a protein folding biosensor for measuring in vivo protein stability.

**Mar 2002–May 2007**, Ph.D. student, Martin Luther University, Germany

• Established a novel system for the production of therapeutic proteins in native state in the periplasm.

• Developed a novel fluorogenic assay based on EGFP for pepsin estimation.

• Designed a new strategy for one step efficient purification.

• In-vitro refolding of human pepsinogen.

• Expression and purification of recombinant proteins.

**Jan 2000 – Feb 2002**, Research fellow, Aligarh Muslim University, India

• Prepared intron mutants of bacteriophage T4 induced by alkylating agent and screened using white halo plaque phenotype technique.

• Mapping of the point mutation in intron by homologous recombination method.

**July 1998 – April 1999**, M.Sc. project, Aligarh Muslim University, India

• Isolation and characterization of MDR-Plasmid from *E. coli* of sewage water at Aligarh.

**May – June 1998**, Summer research assistant, All India Institute of Medical Sciences, India • Synthesis, purification and characterization of peptides.

**ACADEMIC AWARDS & HONORS**

• HHMI Research Associate, 2007-2010.

• Junior Research Fellowship from University Grant Commission. India, July 2001

• Junior Research Fellowship from Indian Council of Medical Research. India, July 2001

• National Eligibility Test for teaching in higher education. India, Dec 2000

• Studentship from D.B.T (Govt. of India) during July 1997-April 99 for academic excellence.

**TEACHING EXPERIENCE**

BCH 312 : Biochemical calculations

BCH 361: Molecular Biology

BCH 462: Biotechnology & Genetic Engineering

BCH 497 : Research and seminar

BCH 520 : Mechanisms of Enzyme Action

BCH 530 : Biochemical Methodology

BCH 580: Biochemistry of human nutrition

BCH 590 : Selected Topics in Biochemistry

BCH 699: Thesis Proposal Preparation

BCH 600 : M.Sc. Research project

BCH 602 : Advanced bioanalytical techniques

BCH 608 : Biochemical and protein engineering

BCH 700: Ph.D. thesis

**INVOLVEMENT IN COMMITTEES**

• **Graduate Studies and Scientific Research Committee**

• **Academic Accreditation Committee**

• **Research Cooperation Committee**

• Journal club

• Research and seminar evaluation committee

**POSTGRADUATE PROJECT SUPERVISION**

• Ongoing project on “Chemical Chaperones assisted refolding of anionic surfactant-induced amyloid fibrils of Myoglobin”

• Project completed on “Expression, purification and biophysical characterization of recombinant MERS-CoV main (Mpro) protease”

• Project completed on “Assessment of the effect of metal nanoparticles on the structure-function of the proteins”

• Project completed on “Structure, function and stability of glycated ζ-crystallin”

• Project completed on “Elucidation of the role of camel lens z-crystallin in the folding and stability of a-crystallin”

• Project completed on “Purification and characterization of recombinant camel ζ- crystallin”

**PATENTS**

**2.** James Bardwell, Linda Foit, **Ajamaluddin Malik**, Tobias Baumann, and Maximilian Kern “Methods and compositions for increasing biological molecule stability” (US Patent No.: US8986997 B2)

**1. Ajamaluddin Malik**, Brigitte Söhling & Rainer Rudolph (2005) - “Periplasmic production of proteins with therapeutic value by a fusion to a *E.coli* ecotin\*”-(German Patent-DE102005050732A1; publication date: 26.04.2007)

\* Title translated from German to English

**PUBLICATIONS**

**97. Ajamaluddin Malik,** Javed Masood Khan , Abdulaziz M. Al-Amri, Nojood Altwaijry, Abdullah S Alhomida, Mohammad Shamsul Ola. A common food additive (E452), hexametaphosphate, denatures the digestive enzyme trypsin. Journal of King Saud University – Science Volume 35, Issue 10, December 2023, 102968. <https://doi.org/10.1016/j.jksus.2023.102968>

**96.** **Ajamaluddin Malik,** Abdullah Alhomida, Javed Masood Khan. SDBS induces multiple catalase conformations in a dose-dependent manner. International Journal of Biological Macromolecules Volume 253, Part 8, 31 December 2023, 127606. <https://doi.org/10.1016/j.ijbiomac.2023.127606>

**95. Ajamaluddin Malik,** Javed Masood Khan, Abdulaziz M. Al-Amri, Nojood Altwaijry, Prerna Sharma, Abdullah Alhomida, and Priyankar Sen. Hexametaphosphate, a Common Food Additive, Aggregated the Hen Egg White Lysozyme. *ACS Omega* 2023, 8, 46, 44086–44092. https://[doi.org/10.1021/acsomega.3c06210](https://doi.org/10.1021/acsomega.3c06210)

**94.** Javed Masood Khan, **Ajamaluddin Malik**, Abdulaziz M. Al-Amri. Gel tracking dye “Bromophenol blue” promote amorphous aggregation in insulin. Journal of Molecular Liquids Volume 385, 1 September 2023, 122417. <https://doi.org/10.1016/j.molliq.2023.122417>

**93. Ajamaluddin Malik**, Javed Masood Khan, Abdullah S Alhomida, Mohammad Shamsul Ola. Perturbation of surfactant-induced amyloids by abolishing electrostatic interactions. Journal of Molecular Liquids Volume 385, 1 September 2023, 122440. <https://doi.org/10.1016/j.molliq.2023.122440>

**92**. **Ajamaluddin Malik**, Abdulaziz M Al-Amri, Abdullah Alhomida, Javed Masood Khan. Bovine liver catalase turns into three conformational states after exposure to an anionic surfactant. Colloids Surf B Biointerfaces. 2023 Sep;229:113481. DOI: [10.1016/j.colsurfb.2023.113481](https://doi.org/10.1016/j.colsurfb.2023.113481)

**91.** Javed Masood Khan, **Ajamaluddin Malik**, Prerna Sharma, Sadaf Fatima. Anionic surfactant causes dual conformational changes in insulin. Int J Biol Macromol . 2023 Aug 30;247:125790. DOI: [10.1016/j.ijbiomac.2023.125790](https://doi.org/10.1016/j.ijbiomac.2023.125790)

**90.** Malik Hisamuddin, Irum Rizvi, **Ajamaluddin Malik**, Faisal Nabi, Md Nadir Hassan, Syed Moasfar Ali, Javed Masood Khan, Tabish H Khan, Rizwan H Khan Characterization of pH-induced conformational changes in recombinant DENV NS2B-NS3pro. Int J Biol Macromol. 2023 Sep 11;253(Pt 3):126823. DOI: [10.1016/j.ijbiomac.2023.126823](https://doi.org/10.1016/j.ijbiomac.2023.126823)

**89.** Nasser Abdulatif Al-Shabib, Javed Masood Khan, Abdulaziz M Al-Amri, **Ajamaluddin Malik**, Fohad Mabood Husain, Prerna Sharma, Arnold Emerson, Vijay Kumar, Priyankar Sen Interaction Mechanism between α-Lactalbumin and Caffeic Acid: A Multispectroscopic and Molecular Docking Study. ACS Omega

. 2023 May 22;8(22):19853-19861. <https://doi.org/10.1021/acsomega.3c01755>

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**88.** Mateen A. Khan, Taj Mohammad, **Ajamaluddin Malik**, Md. Imtaiyaz Hassan,

Artem V. Domashevskiy. Iron response elements (IREs)-mRNA of Alzheimer's amyloid precursor protein binding to iron regulatory protein (IRP1): a combined molecular docking and spectroscopic approach. Sci Rep 2023 Mar 28;13(1):5073. <https://doi.org/10.1038/s41598-023-32073-x>

**87.** Javed Masood Khan, **Ajamaluddin Malik**, Sundus Mohammed Alresaini. Molecular mechanism of insulin aggregation in the presence of a

cationic surfactant. International Journal of Biological

 Macromolecules 230 (2023) 123370. <https://doi.org/10.1016/j.ijbiomac.2023.123370>

**86.** Mohammed J. Hakeem, Javed Masood Khan, **Ajamaluddin Malik**, Fohad Mabood Husain, Sundus Mohammed Alresaini, Aqeel Ahmad, Prawez Alam. Molecular insight into the modulation of ovalbumin fibrillation by allura

red dye at acidic pH. International Journal of Biological Macromolecules 230 (2023) 123254. <https://doi.org/10.1016/j.ijbiomac.2023.123254>

**85.** Mohammed Ali Dahhas, Hamad M. Alkahtani, **Ajamaluddin Malik**, Abdulrahman A Almehizia, Ahmed H. Bakheit, Siddique Akber Ansar, Abdullah S. AlAbdulkarim, Lamees S.Alrasheed, Mohammad A. Alsenaidy Screening and identification of potential MERS-CoV papain-like protease

(PLpro) inhibitors; Steady-state kinetic and Molecular dynamic studies. Saudi Pharmaceutical Journal 31 (2023) 228–244. <https://doi.org/10.1016/j.jsps.2022.12.007>

**84.** Sundus AlResaini, **Ajamaluddin Malik**, Mona Alonazi, Abdullah Alhomida,

Javed Masood Khan. SDS induces amorphous, amyloid-fibril, and alpha-helical structures in the myoglobin in a concentration-dependent manner. International Journal of Biological Macromolecules 231 (2023) 123237. <https://doi.org/10.1016/j.ijbiomac.2023.123237>

**83. Ajamaluddin Malik**, Javed Masood Khan, Abdullah S. Alhomida, Mohammad Shamsul Ola, Majed S. Alokail, Mohd Shahnawaz Khan,

Amal M. Alenad, Nojood Altwaijry, Nouf Omar Alafaleq, Hamza Odeibat. Agitation does not induce fibrillation in reduced hen egg-white

lysozyme at physiological temperature and pH. J Mol Recognit

. 2023 Feb 26;e3009. <https://doi.org/10.1002/jmr.3009>

**82.** Md Amiruddin Hashmi, **Ajamaluddin Malik**, Faizan Abul Qais, Masood Alam Khan, Fahad Abdulrahman Alhumaydhi, Hina Younus *An insight into the binding and inhibition of eye ζ-crystallin by the environmental toxin arsenic: implications in eye diseases*. Journal of Biomolecular Structure and Dynamics. Published online: 03 Nov 2023.<https://doi.org/10.1080/07391102.2022.2141891>

**81.** Mohammed J.Hakeem, Javed Masood Khan, **Ajamaluddin Malik**, Fohad Mabood Husain, Vivek Ambastha *Role of salts and solvents on the defibrillation of food dye “sunset yellow” induced hen egg white lysozyme amyloid fibrils* International Journal of Biological Macromolecules Volume 219, 31 October 2022, Pages 1351-1359

<https://doi.org/10.1016/j.ijbiomac.2022.08.199>

**80. Ajamaluddin Malik**, Ghada Obeid Almutairi, Javed Masood Khan, Mona Alonazi, Sundus Mohammed AlRusaini, Abdullah S. Alhomida *Non-enzymatic glycation enhances anionic surfactant induced aggregation and amyloidogenesis*.

Journal of Molecular Liquids Volume 359, 1 August 2022, 119249 <https://doi.org/10.1016/j.molliq.2022.119249>

**79. Ajamaluddin Malik,** Javed Masood Khan, Abdullah S. Alhomida, Mohammad Shamsul Ola, Mohammed Abdulkarim Alshehri, Aqeel Ahmad

Metal nanoparticles: biomedical applications and their molecular mechanisms of toxicity. Chemical Papers 2022: 17 July 2022

<https://doi.org/10.1007/s11696-022-02351-5>

**78.** Dalia I. Aldosari, **Ajamaluddin Malik**, Abdullah S. Alhomida, and Mohammad S. Ola Implications of Diabetes-Induced Altered Metabolites on Retinal Neurodegeneration **Front Neurosci. 2022; 16: 1-10.**

<https://doi.org/10.3389/fnins.2022.938029>

**77.** Javed Masood Khan, **Ajamaluddin Malik**, Fohad Mabood Husain, Mohammed Saeed Alkaltham *Molecular interaction of Sunset Yellow with whey protein: Multi-spectroscopic techniques and computational study* Journal of Molecular Liquids Volume 345, 1 January 2022, 117838 <https://doi.org/10.1016/j.molliq.2021.117838>

**76. Ajamaluddin Malik**, Javed Masood Khan, Abdullah S. Alhomida, Mohammad Shamsul Ola *Modulation of the Structure and Stability of Novel Camel Lens Alpha-Crystallin by pH and Thermal Stress* Gels 2022, 8, 273. <https://doi.org/10.3390/gels8050273>

**75.** Masood Alam Khan, **Ajamaluddin Malik**, Mohammad A. Alzohairy, Abdulmohsen M. Alruwetei, Bader Y. Alhatlani, Osamah Al Rugaie, Arif Khan *Liposome-Mediated Delivery of MERS Antigen Induces Potent Humoral and Cell-Mediated Immune Response in Mice*. Molecules 2022, 27,403. <https://doi.org/10.3390/molecules27020403>

**74.** Masood Alam Khan, **Ajamaluddin Malik**, Abdulmohsen M. Alruwetei, Mohammad A. Alzohairy, Bader Y. Alhatlani, Osamah Al Rugaie *Delivery of MERS antigen encapsulated in α-GalCer-bearing liposomes elicits stronger antigen-specific immune responses*. Journal of Drug Targeting 22 Apr 2022 Volume 30 (8): 1-10 <https://doi.org/10.1080/1061186X.2022.2066681>

**73.** Ghada Obeid Almutairi, **Ajamaluddin Malik**, Mona Alonazi, Javed Masood Khan, Abdullah S. Alhomida, Mohd Shahnawaz Khan, Amal M. Alenad, Nojood Altwaijry, Nouf Omar Alafaleq. *Expression, purification, and biophysical characterization of recombinant MERS-CoV main (Mpro) protease* International Journal of Biological Macromolecules Volume 209, Part A, 1 June 2022, Pages 984-990 <https://doi.org/10.1016/j.ijbiomac.2022.04.077>

**72.** Javed Masood Khan, **Ajamaluddin Malik**, Fohad Mabood Husain, Mohammed J. Hakeem, Abdullah S. Alhomida *Sunset Yellow Dye Induces Amorphous Aggregation in β-Lactoglobulin at Acidic pH: A Multi-Techniques Approach*. Polymers 2022, 14, 395. <https://doi.org/10.3390/polym14030395>

**71.** Mohammad Shamsul Ola, Ahmed Z. Alanazi, **Ajamaluddin Malik**, Abdul Malik, Mohammed Ahmed, Salim S. Al-Rejaie, Abdullah S. Alhomida

*Loranthus regularis Ameliorates Neurodegenerative Factors in the Diabetic Rat Retina*. Applied Sciences. 2022, 12, 2875. <https://doi.org/10.3390/app12062875>

**70. Ajamaluddin Malik**, Javed Masood Khan, Malik Hisamuddin, Abdullah S. Alhomida, Anwar Ahmed, Hamza Odeibat, Rizwan Hasan Khan, Rafat Ali, Mohammad Tarique *Taxon-specific zeta-crystallin of camel eye lens: A comparative in silico studies*. Journal of King Saud University - Science

Volume 34, Issue 4, June 2022, 101973 <https://doi.org/10.1016/j.jksus.2022.101973>

**69.** Masood Alam Khan, Arif Khan, Mohammad A. Alzohairy, Abdulmohsen M. Alruwetei, Mohammed A. Alsahli, Khaled S. Allemailem, Faris Alrumaihi, Ahmad Almatroudi, Bader Y. Alhatlani, Osamah AlRugaie, **Ajamaluddin Malik**

Encapsulation of MERS antigen into α-GalCer-bearing-liposomes elicits stronger effector and memory immune responses in immunocompetent and leukopenic mice Journal of King Saud University – Science Volume 34, Issue 5, July 2022, 102124 [doi.org/10.1016/j.jksus.2022.102124](https://doi.org/10.1016/j.jksus.2022.102124)

**68.** Md Amiruddin Hashmi, **Ajamaluddin Malik**, Abdullah Arsalan, Masood Alam Khan, Hina Younus *Elucidation of kinetic and structural properties of eye lens ζ-crystallin: an in vitro and in silico approach*. Journal of Biomolecular Structure and Dynamics. 2023 Mar;41(4):1178-1192. <https://doi.org/10.1080/07391102.2021.2017351>

**67.** Javed Masood Khan, **Ajamaluddin Malik**, Mohammad Z. Ahmed, Anwar Ahmed. *SDS modulates amyloid fibril formation and conformational change in succinyl-ConA at low pH*. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy Volume 267, Part 1, 15 February 2022, 120494 **(**<https://doi.org/10.1016/j.saa.2021.120494>)

**66.** Javed Masood Khan, **Ajamaluddin Malik**, Mohammad Z. Ahmed. *Bimolecular interaction of zwitterionic surfactant with hen egg white lysozyme (HEWL): A biophysical study* Journal of King Saud University - Science online 27 October 2021, 101674 **(**<https://doi.org/10.1016/j.jksus.2021.101674>)

**65.** **Ajamaluddin Malik**, Mohammed Abdulkarim Alshehri, Salman Freeh Alamery, Javed Masood Khan. *Impact of metal nanoparticles on the structure and function of metabolic enzymes*. International Journal of Biological Macromolecules. Volume 188, 1 October 2021, Pages 576-585 **(**<https://doi.org/10.1016/j.ijbiomac.2021.08.073>)

**64.** Sk. Md. Ali Ahsan, Shamim Mahbub, Md. Ruhul Amin, Javed Masood Khan, Md. Anamul Hoque, **Ajamaluddin Malik**, Anwar Ahmed, Mohammad Z. Ahmed, Md. Khalid Anwer. *Conductivity and cloud point studies of the interaction of lomefloxacin hydrochloride with anionic and nonionic surfactants in electrolytes solution*. Journal of Molecular Liquids Volume 342, 15 November 2021, 116953

([<https://doi.org/10.1016/j.molliq.2021.116953>](https://doi.org/10.1016/j.molliq.2020.114683%20) )

**63.** Irum Rizvi, Malik Hisamuddin, **Ajamaluddin Malik**, Rizwan Hasan Khan

*Identification of mungbean yellow mosaic India virus (MYMIV) Rep interacting partners using phage display and influence of Arabidopsis thaliana MCM3 on geminivirus DNA replication*. J Biomol Struct Dyn*.* 2021 Jun 14;1-11 (<https://doi.org/10.1080/07391102.2021.1935319>)

**62.** Khalida Nasreen, Zahoor Ahmad Parray, Anas Shamsi, Faizan Ahmad, Anwar Ahmed, **Ajamaluddin Malik**, Nasser Abobakr Lakhrm, Md. Imtaiyaz Hassan, Asimul Islam. *Crowding Milieu stabilizes apo-myoglobin against chemical-induced denaturation: Dominance of hardcore repulsions in the heme devoid protein* International Journal of Biological Macromolecules

Volume 181, 30 June 2021, Pages 552-560 (<https://doi.org/10.1016/j.ijbiomac.2021.03.089>)

**61.** Bilal Ahamad Paray, Aqeel Ahmad, Javed Masood Khan, Faisal Taufiq, Aslam Pathan, **Ajamaluddin Malik**, Mohammad Z. Ahmed. *The role of the multifunctional antimicrobial peptide melittin in gene delivery*. Drug Discovery Today Volume 26, Issue 4, April 2021, Pages 1053-1059 (<https://doi.org/10.1016/j.drudis.2021.01.004>)

**60.** Md. Anamul Hoque, Shamim Mahbub, Mohammed Delwar Hossain, Mohammed Abdullah Khan, Javed Masood Khan, **Ajamaluddin Malik**, Anwar Ahmed, Mohammad Z. Ahmed*. Influence of NaCl and temperature on the interaction between cephradine monohydrate and surfactants: Conductivity and UV–visible measurements* Journal of Molecular Liquids

Volume 328, 15 April 2021, 115418 **(**<https://doi.org/10.1016/j.molliq.2021.115418>)

**59.** Zahoor Ahmad Parray,Faizan Ahmad, Md. Imtaiyaz Hassan, Anwar Ahmed, Fahad N. Almajhdi, Ajamaluddin Malik, Tajamul Hussain, Asimul Islam. *Structural Refolding and Thermal Stability of Myoglobin in the Presence of Mixture of Crowders: Importance of Various Interactions for Protein Stabilization in Crowded Conditions*. Molecules 2021, 26(9), 2807(<https://doi.org/10.3390/molecules26092807>)

**58.** Nasser   Al-Shabib, Khan, Javed Masood Khan, **Ajamaluddin   Malik**, Md. Tabish Rehman, Fohad Husain, Mohamed AlAjmi, Osama Alghamdi. *Quinoline yellow dye stimulates whey protein fibrillation via electrostatic and hydrophobic interaction: A biophysical study* *Journal of Dairy Science*

*Volume 104, Issue 5, May 2021, Pages 5141-5151 (*<https://doi.org/10.3168/jds.2020-19766>)

**57. Ajamaluddin Malik,** Hajar Ahmed Almaharfi, Javed Masood Khan, Malik Hisamuddin, Salman Freeh Alamery, Samina Hydar Haq, Mohammad Z. Ahmed, “*Protection of ζ-crystallin by α-crystallin under thermal stress*”. International Journal of Biological Macromolecules 167 (2021) 289–298.

( [<https://doi.org/10.1016/j.ijbiomac.2020.11.183>](https://doi.org/10.1016/j.ijbiomac.2020.11.183))

**56.** Javed Masood Khan, Priyankar Sen, **Ajamaluddin Malik**, Md Tabish Rehman, Mohamed F. AlAjmi, Anwar Ahmed, Osama Hamdan Ali Alghamdi, Aqeel Ahmad, Mohammad Z Ahmed, Rizwan Hasan Khan.*”Industrially important enzyme bovine liver catalase forms reversible amyloid in the presence of 14-4-14 Gemini surfactant at physiological pH”.* Colloids and Surfaces A: Physicochemical and Engineering Aspects. Feb 2021 Volume 610, 125909. (<https://doi.org/10.1016/j.colsurfa.2020.125909>)

**55.** Javed Masood Khan, **Ajamaluddin Malik**, Md Tabish Rehman, Mohamed F. AlAjmi Mohammad Z Ahmed, Ghada Obaid Almutairi, Md. Khalid Anwer, Rizwan Hasan Khan. *“Cationic gemini surfactant stimulates amyloid fibril formation in bovine liver catalase at physiological pH. A biophysical study”.* RSC Advances, 2020, 10, 43751-43761 (<https://doi.org/10.1039/D0RA07560D>)

**54.** Ejlal Mohamed Abdullah, Samina Haq, Mohammed Asif Ahmed, Javed Masood Khan, Salman Freeh Alamery, **Ajamaluddin Malik**. *“Structural stability and solubility of glycated camel lens ζ-crystallin”.* International Journal of Biological Macromolecules September 2020,Volume 158, Pages 384-393 (<https://doi.org/10.1016/j.ijbiomac.2020.04.091>)

**53.** Arshi Islam, Mohd. Abdullah, Ayesha Tazeen, Irshad H. Naqvi, Syed Naqui Kazim,Anwar Ahmed, Salman Freeh Alamery, **Ajamaluddin Malik,** Shama Parveen. *“Circulation of dengue virus serotypes in hyperendemic region of New Delhi, India during 2011–2017”* Journal of Infection and Public Health. 2020 Nov 1;S1876-0341(20)30688-2. (DOI: [10.1016/j.jiph.2020.10.009](https://doi.org/10.1016/j.jiph.2020.10.009) )

**52.** Mohammad Rashid Khan, Mohd Shahnawaz khan, Anwar Ahmed, **Ajamaluddin Malik**, Wajhul Qamar. “*Optimization of expression and purification of mitochondrial HSP 40 (Tid1-L) chaperone: Role of mortalin and tid1 in the reactivation and amyloid inhibition of proteins”*. Saudi Journal of Biological Sciences. 2020. 27 (11), 3099-3105 (<https://doi.org/10.1016/j.sjbs.2020.09.006>)

**51.** Javed Masood Khan, **Ajamaluddin Malik**, Anwar Ahmed, Osama Hamdan Ali Alghamdi, Mukhtar Ahmed. *“SDS induces cross beta-sheet amyloid as well as alpha-helical structure in conconavalin A”.* Journal of Molecular Liquids

Volume 319, 1 December 2020, 114154 (<https://doi.org/10.1016/j.molliq.2020.114154>)

**50.** Mateen Ahmad Khan, **Ajmaluddin Malik**, Artem V Domashevski, Avdar San, Javed Masood Khan. *“Interaction of ferritin iron responsive element (IRE) mRNA with translation initiation factor eIF4F”.* Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy. 15 December 2020, Volume 243, 118776. ([doi.org/10.1016/j.saa.2020.118776](https://doi.org/10.1016/j.saa.2020.118776))

**49.** Nasser Al-Shabib, Javed Khan, **Ajamaluddin Malik**, Md Tabish Rehman, Mohamed AlAjmi, Fohad Mabood Husain, Mohammad Ahmed, Salman Alamery. *“Molecular interactions of food additive dye quinoline yellow (Qy) with alpha-lactalbumin: Spectroscopic and computational studies”.* Journal of Molecular Liquids August 2020, Volume 311, 113215. ([doi.org/10.1016/j.molliq.2020.113215](https://doi.org/10.1016/j.molliq.2020.113215))

**48.** Javed Masood Khan, Anwar Ahmed, Salman Freeh Alamery, Osama Hamdan Ali Alghamdi, Sarfuddin Azmi**, Ajamaluddin Malik.** “*Perturbation of anionic surfactant induced amyloid fibrillation by chemical chaperone: A biophysical study”*. Journal of Molecular Liquids. October 2020, Volume 315, pages 1-6 ([doi.org/10.1016/j.molliq.2020.113717](https://doi.org/10.1016/j.molliq.2020.113717))

**47.** Md. Anamul Hoque, Md. Masud Alam, Mohammed Abdullah Khan, Dileep Kumar, Javed Masood Khan, **Ajamaluddin Malik**, Mohammad Z. Ahmed, Anwar Ahamed. ***“****Interaction of metformin hydrochloride with ionic surfactants in aqueous and NaCl solution: Effect of temperatures and compositions”.* Journal of Physical Organic Chemistry. 2020; Volume 34, Issue 4 ([doi.org/10.1002/poc.4166](https://doi.org/10.1002/poc.4166))

**46.** Nasser Abdulatif Al-Shabib, Javed Masood Khan, **Ajamaluddin Malik**, Md.Tabish Rehman, Mohamed F.AlAjmi, Fohad Mabood Husain, Malik Hisamuddin, Nojood Altwaijry. *“Molecular interaction of tea catechin with bovine beta-lactoglobulin: A spectroscopic and in silico studies”.* Saudi Pharmaceutical Journal March 2020, Volume 28, Issue 3, Pages 238-245 ([doi.org/10.1016/j.jsps.2020.01.002](https://doi.org/10.1016/j.jsps.2020.01.002))

**45**. Javed Masood Khan, **Ajamaluddin Malik**, Mateen Ahmad Khan, Prerna Sharma, Priyankar Sen, “*Pre-micellar concentrations of sodium dodecylbenzene sulphonate induce amyloid-like fibril formation in myoglobin at pH 4.5”*. Colloids and Surfaces A: Physicochemical and Engineering Aspects ,  Volume: 586     Article Number: 124240   Published: FEB 5 2020 ([doi.org/10.1016/j.colsurfa.2019.124240](https://doi.org/10.1016/j.colsurfa.2019.124240))

**44.** Javed Masood Khan, **Ajamaluddin Malik**, Priyankar Sen, Aqeel Ahmad, Anwar Ahmed, Akhtar Atiya. “*Deciphering the role of premicellar and micellar concentrations of sodium dodecyl benzenesulfonate surfactant in insulin fibrillation at pH 2.0”*. International Journal of Biological Macromolecules April 2020,Volume 148, Pages 880-886 ([doi.org/10.1016/j.ijbiomac.2020.01.215](https://doi.org/10.1016/j.ijbiomac.2020.01.215))

**43**. Nasser Abdul atif Al-Shabib, Javed Masood Khan **Ajamaluddin Malik**, Md Tabish Rehman, Mohamed F.AlAjmi, Fohad Mabood Husain, Aqeel Ahmad, Priyankar Sen. “*Investigating the effect of food additive dye “tartrazine” on BLG fibrillation under in-vitro condition. A biophysical and molecular docking study”*. Journal of King Saud University – Science April 2020, Volume 32, Issue 3, Pages 2034-2040 ([doi.org/10.1016/j.jksus.2020.02.017](https://doi.org/10.1016/j.jksus.2020.02.017))

**42**. Javed Masood Khan, **Ajamaluddin Malik**, Md. T Rehman, Mohamed F AlAjmi, Salman F Alamery, Osama Hamdan A Alghamdi, Rizwan H Khan, Hamza A. M. Odeibat, Sadaf Fatima. “*Alpha-cyclodextrin turns SDS-induced amyloid fibril into native-like structure”*. Journal of Molecular Liquids Volume 289, 1 September 2019, 111090. ([doi.org/10.1016/j.molliq.2019.111090](https://doi.org/10.1016/j.molliq.2019.111090))

**41.** Javed Masood Khan, **Ajamaluddin Malik**, Anwar Ahmed, Md. Tabish Rehman, Mohamed F. AlAjmi, Rizwan Hasan Khan, Sadaf Fatima, Salman Freeh Alamery, Ejlal Mohamed Abdullah. “*Effect of cetyltrimethylammonium bromide (CTAB) on the conformation of a hen egg white lysozyme: A spectroscopic and molecular docking study”*. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy Volume 219, 5 August 2019, Pages 313-318 **(**DOI: [10.1016/j.saa.2019.04.062](https://doi.org/10.1016/j.saa.2019.04.062) )

**40.** Javed Masood Khan, Anwar Ahmed, Salman Freeh Alamery, Mohammad Abul Farah, Tajamul Hussain, Mohmmad Imran Khan, Rizwan Hasan khan, **Ajamaluddin Malik,** Sadaf Fatima, Priyankar Sen. “*Millimolar concentration of sodium dodecyl sulfate inhibit thermal aggregation in hen egg white lysozyme via increased alpha-helicity”*. Colloids and Surfaces A: Physicochemical and Engineering Aspects. Volume 572, 5 July 2019, Pages 167-173 ([doi.org/10.1016/j.colsurfa.2019.03.085](https://doi.org/10.1016/j.colsurfa.2019.03.085))

**39.** Ali S.Alqahtani, Wael M.Abdel-Mageed, Abdelaaty A.Shahat, Mohammad K.Parvez, Mohammed S.Al-Dosari, **Ajamaluddin Malik**, Maged S.Abdel-Kader’ Mansour S.Alsaid. “*Proanthocyanidins from the stem bark of Rhus tripartita ameliorate methylgloxal-induced endothelial cell apoptosis”.* Journal of Food and Drug Analysis Volume July 2019, 27, Issue 3, Pages 758-765 ([doi.org/10.1016/j.jfda.2019.02.002](https://doi.org/10.1016/j.jfda.2019.02.002))

**38.** Nasser Abdulatif Al-Shabib, Javed Masood Khan, **Ajamaluddin Malik**, Priyankar Sen. Mohammad A Alsenaidy, Fohad Mabood Husain, Abdulrahman M Alsenaidy, Rizwan Hasan Khan. Hani Choudhry, Mazin A Zamzami, Mohmmad Imran Khan, Sayed Ali Shahzad “*A quercetin-based flavanoid (rutin) reverses amyloid fibrillation in beta-lactoglobulin at pH 2.0 and 358 K”.* Spectrochim Acta A Mol Biomol Spectrosc. 2019 May 5;214:40-48.( [doi.org/10.1016/j.saa.2019.02.004](https://doi.org/10.1016/j.saa.2019.02.004))

**37.** Javed Masood Khan, **Ajamaluddin Malik**, Priyankar Sen, Anwar Ahmed, Mukhtar Ahmed, Salman Freeh Alamery, Hajar Ahmed Almaharfi, Hani Choudhry, Mohmmad Imran Khan. “*Different conformational states of hen egg white lysozyme formed by exposure to the surfactant of sodium dodecyl benzenesulfonate”*. International Journal of Biological Macromolecules*. 2019 May 1;128:54-60.(* <https://doi.org/10.1016/j.ijbiomac.2019.01.097>)

**36.** Nasser Abdulatif Al-Shabib, Javed Masood Khan, **Ajamaluddin Malik**, Priyankar Sen, Sriroopreddy Ramireddy, Sudandiradoss Chinnappan, Salman Freeh Alamery, Fohad Mabood Husain, Aqeel Ahmad, Hani Choudhry, Mohmmad Imran Khan , Sayed Ali Shahzad. “*Allura red rapidly induces amyloid-like fibril formation in hen egg white lysozyme at physiological pH”.* International Journal of Biological Macromolecules*. 2019 Apr 15;127:297-305*.(DOI: [10.1016/j.ijbiomac.2019.01.049](https://doi.org/10.1016/j.ijbiomac.2019.01.049) )

**35.** [Nasser Abdulatif Al-Shabib](http://www.sciencedirect.com/science/article/pii/S016773221632983X#!)\*, Javed Masood Khan, **Ajamaluddin Malik**, Mohammad A Alsenaidy, Md Tabish Rehman, Mohamed F. AlAjmi, Abdulrahman M Alsenaidy, [Fohad Mabood Husain](https://www.sciencedirect.com/science/article/pii/S0141813017320937#!), Rizwan Hasan Khan. “*Molecular insight into binding behavior of polyphenol (rutin) with beta lactoglobulin: Spectroscopic, molecular docking and MD simulation studies”*. Journal of Molecular Liquids, 1 November 2018, Volume 269 Pages 511-520. ([doi.org/10.1016/j.molliq.2018.07.122](https://doi.org/10.1016/j.molliq.2018.07.122))

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**31**. Mohamad Alhasan Ismael, Javed Masood Khan, **Ajamaluddin Malik**, Mohammad Alsenaidy, Syed Hidayathulla , Rizwan Hasan Khan, Priyankar Sen, Mohammad Irfan, Abdulrahman Alsenaidy. “*Unraveling the molecular mechanism of the effects of sodium dodecyl sulfate, salts, and sugars on amyloid fibril formation in camel IgG”.* Colloids Surf B Biointerfaces. 2018 Jun 19;170:430-437. (DOI: [10.1016/j.colsurfb.2018.06.035](https://doi.org/10.1016/j.colsurfb.2018.06.035) )

**30.** Hesham Saeed, Mohammad Ismaeil, Amira Embaby, Farid Shokry Ataya,

**Ajamaluddin Malik**, Manal Shalaby, Sabah El-Banna, Ahmed Abdelrahim

Mohamed Ali, Khalid Bassiouny. “*Overexpression, purification and enzymatic characterization of a recombinant Arabian camel Camelus dromedarius glucose-6-phosphate dehydrogenase”*. Protein Expression and Purification. 2018 Feb;142: 88-94.( DOI: [10.1016/j.pep.2015.09.002](https://doi.org/10.1016/j.pep.2015.09.002) )

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**24.** Anwar Ahmed, Mohammed Arshad, **Ajamaluddin Malik**, Shama Parveen, Abdulrahman M. Alsenaidy*, “Camelus dromedarius glucose transporter 4: In silico analysis, cloning, expression, purification and characterization in E. coli”.* Archives of Physiology And Biochemistry. 2017 Apr 25:1-11 (DOI: [10.1080/13813455.2017.1312460](https://doi.org/10.1080/13813455.2017.1312460) )

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**22.** Mohd Shahnawaz Khan, Nayyar Rabbani, Shams Tabrez, Islam B, **Ajamaluddin Malik**, Anwar Ahmed, Mohammad A Alsenaidy, Abdulrehman M Alsenaidy. **“**Glycation induced generation of amyloid fibril structures by glucose metabolites.” Protein & Peptide Letters. 2016 23, 892-897. (DOI: [10.2174/0929866523666160831153858](https://doi.org/10.2174/0929866523666160831153858) )

**21-** Fereniki Perperopoulou, Farid S. Ataya, Dalia Fouad, **Ajamaluddin Malik,**

Hesham Mahmoud Saeed, Nikolaos E. Labrou. *“Biochemical Characterization of the Detoxifying Enzyme Glutathione Transferase P1-1 from the Camel Camelus Dromedarius”.* Cell Biochemistry and Biophysics (2016), 74 (4): 459–472 (doi.org/10.1007/s12013-016-0761-6)

**20-** **Ajamaluddin Malik,** Mohammad Rabbani, Nayyar Rabbani, Abdulrahman M. Al-Senaidy, Mohammad A. Alsenaidy “*Expression, Purification and Properties of Redox-Sensitive Eye Lens Zeta-Crystallin of Arabian Camel*” Protein & Peptide Letters 2016, 23(6):573-80. (DOI: [10.2174/0929866523666160413140131](https://doi.org/10.2174/0929866523666160413140131) )

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**18-** **Ajamaluddin Malik.** “*Protein fusion tags for efficient expression and purification of recombinant proteins in the periplasmic space of E. coli”.* 3Biotech. (2016) 6:44 (doi: [10.1007/s13205-016-0397-7](https://dx.doi.org/10.1007/s13205-016-0397-7))

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**16-**Anwar Ahmad, **Ajamaluddin Malik**, Haseeb Jagirdar, Nayyar Rabbani, Mohd Shahnawaz Khan, , Abdulrahman M. Al-Senaidy, Mohamad A. Ismael *”Copper Induced Inactivation of Camel Liver Glutathione S-Transferase”* Biological Trace Element Research (2016) 169:69-76.( doi.org/10.1007/s12011-015-0388-2)

**15. Ajamaluddin Malik,** Abuzar Haroon, Haseeb Jagirdar, Abdulrahman M. Alsenaidy, Mohamed Elrobh, Wajahatullah Khan, Mohammed S. Alanazi, Mohammad D. Bazzi “*Spectroscopic and thermodynamic properties of recombinant heat shock protein A6 from Camelus dromedaries*” European Biophysics Journal (2015),44(1-2):17-26 (DOI: [10.1007/s00249-014-0997-2](https://doi.org/10.1007/s00249-014-0997-2) )

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**12-** Wael M. Abdel-Mageed, Soad A.H. Bayoumi,Caixia Chen, Christopher J. Vavricka, Li Li**, Ajamaluddin Malik**, Huanqin Dai, Fuhang Song, Luoqiang Wang, Jingyu Zhang, George F. Gao, Yali Lv, Lihong Liu, Xueting Liu, Hanaa M. Sayed, Lixin Zhang. “*Benzophenone C-glucosides and gallotannins from mango tree stem bark with broad-spectrum anti-viral activity*”. Bioorganic & Medicinal Chemistry. (2014) 22: 2236–2243 ([doi.org/10.1016/j.bmc.2014.02.014](https://doi.org/10.1016/j.bmc.2014.02.014))

**11- Ajamaluddin Malik**, Abdulrahman Al-Senaidy, Ewa Skrzypczak-Jankun, Jerzy Jankun “*Isolation and characterization of serum albumin from Camelus dromedarius*” Experimental and Therapeutic Medicine. (2013) 6(2): 519-524. **(**DOI: [10.3892/etm.2013.1145](https://doi.org/10.3892/etm.2013.1145) )

**10-** Mohammad D. Bazzi, Mushari Quazani, Nayyar Rabbani, **Ajamaluddin Malik,** Mohammed Al Hasan, Mohammed S. Elrobh and Abdulrahman M. Al Senaidy “*Glycated Hemoglobin in camel: Minimal correlation with blood glucose level”.* Archives of Biological Sciences (2013) 65 (3): 911-917. (DOI:[10.2298/ABS1303911B](http://dx.doi.org/10.2298/ABS1303911B))

**9-** **Ajamaluddin Malik**, Abdulrahman Al-Senaidy, Ewa Skrzypczak-Jankun, Jerzy Jankun. (2012) **“***A study of the anti-diabetic agents of camel milk*”. International Journal of Molecular Medicine. 30(3): 585-92. (doi.org/10.3892/ijmm.2012.1051)

**8-** Farid S. Ataya, Dalia Fouad, Ebtsam Al-Olayan, **Ajamaluddin Malik** (2012) “*Molecular Cloning, Characterization and Predicted Structure of a Putative Copper-Zinc SOD from the Camel, Camelus dromedaries”.* International Journal of Molecular Sciences13: 879-900 (DOI: [10.3390/ijms13010879](https://doi.org/10.3390/ijms13010879) )

**7-** Farid S. Ataya, Dalia Fouad, **Ajamaluddin Malik**, Hehsam M.Saeed (2012)

“*Molecular Cloning and 3D Structure Modeling of APEX1, DNA Base Excision Repair Enzyme from the Camel, Camelus dromedaries”* International Journal of Molecular Sciences*, 13(7): 8578-8596.(* DOI: [10.3390/ijms13078578](https://doi.org/10.3390/ijms13078578) )

**6. Ajamaluddin Malik**, Marco Jenzsch, Andreas Lubbert, Rainer Rudolph & Brigitte Söhling (2007) “*Periplasmic production of native human proinsulin as a fusion to E. coli ecotin* ” Protein Expression and Purification, 55:100-11. (DOI: [10.1016/j.pep.2007.04.006](https://doi.org/10.1016/j.pep.2007.04.006) )

**5. Ajamaluddin Malik**, Rainer Rudolph & Brigitte Söhling (2006) “*A novel fusion protein system for the production of native human pepsinogen in the bacterial periplasm*”. Protein Expression and Purification, 47: 662–671 ([doi.org/10.1016/j.pep.2006.02.018](https://doi.org/10.1016/j.pep.2006.02.018))

**4. Ajamaluddin Malik**, Rainer Rudolph & Brigitte Söhling (2005) “*Use of enhanced green fluorescent protein to determine pepsin at high sensitivity*”, Analytical Biochemistry. 340: 252-258 (DOI: [10.1016/j.ab.2005.02.022](https://doi.org/10.1016/j.ab.2005.02.022))

**3. Ajamaluddin Malik**, Asad U.Khan, and S.K.Lal. (2002) “*Chemoprotection profiles of Sodium Thiosulfate on Methyl Methane Sulfonate induced mutagenesis of bacteriophage T4”* Medical Science Monitor, 8(6): 212-220

**2.** Asad U. Khan, **Ajamaluddin Malik** and Masood Ahmad. (2001) “*A unique and self splicing intron in bacteriophage T4*” Indian Journal of Biochemistry and Biophysics, 38: 289-293.

**1. Ajamaluddin Malik**, Mohd. Afzal Khan and Asad U. Khan (2000) “*Prevalence of multiple antibiotic resistance and R-plasmid in E.coli isolates of hospital sewage of Aligarh city in India*” Indian Journal of Clinical Biochemistry, 15(2):27-32. (DOI: [10.1007/BF02883736](https://doi.org/10.1007/bf02883736) )

**EDITORIAL and PEER-REVIEW ACTIVITIES**

• Managing Editor of Saudi Journal of Biological Sciences

• Guest Editor of Saudi Journal of Biological Sciences

• Journal reviewer for *Protein Expression and Purification*

• Journal reviewer for *International Journal of Health Sciences*

• Journal reviewer for *International Journal of Biological Macromolecules*

• Journal reviewer for *Current Protein & Peptide Science*

• Book reviewer entitled “*Molecular and Therapeutic actions of Thymoquinone*”

• Editorial board member of Biotechnology and Molecular Biology Reviews

**ORAL and POSTER PRESENTATION**

**6.** “Optimization of protein folding in the cell”

Midwest Stress Response & Molecular Chaperone Meeting, Northwestern University, Evanston, USA **(Jan 17, 2009)**

**5.** “Optimization of protein folding in the cell”

FASEB summer research conferences, Vermont, USA **(July 27-Aug 1, 2008)**

**4.** “A new fusion protein system for the production of recombinant proteins in the bacterial periplasm” 19th Faltertage, Halle, Germany **(22-24 September 2006)**

**3.** “A new fusion protein system for the production of recombinant proteins in the bacterial periplasm” 5th Biotechnology symposium, Leipzig, Germany **(18-19 May 2006)**

**2.** “A new fusion protein system for the production of recombinant proteins in the bacterial periplasm” The protein engineering submit 2006, Boston, USA (**24-28 April 2006)**

**1.** “A novel fusion protein system for the production of human pepsinogen in the periplasm of *E. coli*” 18th Faltertage, Wittenberg, Germany **(7-9 April 2005)**

**TEACHING & RELATED ACTIVITIES**

**2022-present:** Mentoring PhD student research project entitled “Development of a protein folding biosensor to study protein misfolding diseases”, King Saud University, Saudi Arabia

**2020-2022:** Mentored Master student research project entitled “Chemical Chaperones assisted refolding of anionic surfactant-induced amyloid fibrils of Myoglobin”, King Saud University, Saudi Arabia

**2019-2020:** Mentored Master student research project entitled “Expression, purification and biophysical characterization of recombinant MERS-CoV main (Mpro) protease”, King Saud University, Saudi Arabia

**2018-2019:** Mentored Master student research project entitled “Assessment of the effect of metal nanoparticles on the structure-function of the proteins”, King Saud University, Saudi Arabia

**2017-2018:** Mentored Master student research project entitled “Structure, function and stability of glycated ζ-crystallin”, King Saud University, Saudi Arabia

**2016-2017:** Mentored Master student research project entitled “Elucidation of the role of camel lens alpha crystalline in the folding and stability of zeta crystallin”, King Saud University, Saudi Arabia

**2015-2016:** Mentored Master student research project entitled “Purification and characterization of recombinant camel lens zeta (ζ)- crystallin”, King Saud University, Saudi Arabia

**2014-2015:** Mentored 497 student on “Urea induced denaturation study of yeast alcohol dehydrogenase by circular dichroism”, King Saud University, Saudi Arabia

**2014-2015:** Mentored 497 student on “Urea induced conformational changes in myoglobin”, King Saud University, Saudi Arabia

**2013-2014:** Mentored 497 student on “Urea induced denaturation study of camel serum albumin by circular dichroism”, King Saud University, Saudi Arabia

**2011-2012:** Mentored 497 student on “Development of new method for the

purification of camel serum albumin”, King Saud University, Saudi Arabia

**2009-2010**: Mentored Ph.D. student on “Novel genetic selection marker for directed evolution of proteins”, University of Michigan, USA

**2007-2008** • MSc student was supervised to complete thesis. Titled “Development of a genetic selection to isolate protein mutants with improved expression and stability” University of Michigan, Ann Arbor, MI.

• Two students trained at under-graduate level.

**2002-2007** Laboratory teaching and training of B.Sc and M.Sc in Biochem & Biotech. Students for “Recombinant protein expression and purification” Martin Luther University, Germany