

Aftab Ahmed, Ph.D.

Associate Professor Research/Core Lab Manager
Chapman University School of Pharmacy
Harry and Diane Rinker Health Science Campus
Irvine, California
E-mail: ahmed@chapman.edu

Summary:

Protein biochemist with experience in both academia and biotech industries. Skills and expertise in protein purification and characterization. Excellent team worker with strong organizational and management skills.

Citizenship: USA

Education:

- Ph.D. Protein Chemistry, Max-Planck Institute of Biochemistry, Munich - 1989 Germany / HEJ Research Institute of Chemistry, University of Karachi, Karachi, Pakistan.
- M.Sc. Biochemistry, University of Karachi, Karachi, Pakistan.-1979
- B.Sc. (Hons) Biochemistry, University of Karachi, Karachi, Pakistan -1978

Expertise:

- Skills in modern analytical techniques in protein purification and characterization (tissue culture & bioassay, 2D-PAGE electrophoresis, chromatography, HPLC/FPLC, peptide synthesis, protein sequencing, ESI-TOF LC/MS, SELDI-TOF ProteinChip MS System and Imaging systems.
- Budget planning and vendor contracts and staffing.
- Laboratory management and staff development training.
- Supervised and trained summer interns both in academia and biotech industries.
- Teaching graduate level course in proteomics technology.

Professional Experience:

**Associate Professor Research/
Manger Core Laboratory**

Starting from January 2015

- Responsible for the operation and management of the Research Core Laboratory to support teaching and research support mission of CUSP.
- Selection of research instrument to support on-going and future research needs in proteomics, genomics and pharmaceutical sciences.
- Responsible for purchasing and installation of facility equipments.
- Responsible to provide training and supervision of core facility users.
- Teaching Pharm.D./ MSPS graduate courses.
- Research Supervisor graduate student in MSPS, CUSP

Assistant Professor Research April 2008 - Present
Coordinator, RI-INBRE Centralized Core Facility June 2003- Present
Biomedical & Pharmaceutical Sciences, College of Pharmacy,
University of Rhode Island, Kingston, Rhode Island

- Responsible for the operation and management of the RI-INBRE Research Core Facility equipped with state-of-the art equipments for proteomics, genomics and pharmaceutical sciences.
- Involved in purchasing and installation of facility equipments.
- Providing training and supervision of core facility users.
- Teaching undergraduate and graduate courses.
- Mentor summer interns in proteomics.
- Member MS/PhD thesis committee.

Staff Scientist – Protein Chemistry R&D June 1998-February 2002
Organogenesis, Inc., Canton, Massachusetts

- Served as a group leader involved in managing and supervision of protein purification and characterization laboratory.
- Initiated, directed and executed research and development that is critical to corporate strategies.
- Employed cell culture based bioassay, analytical and preparative chromatography, FPLC, RP-HPLC, N-terminal protein sequencing and MALDI-TOF MS analysis.
- Provided research and technical support in protein analysis to other R&D groups, process development and manufacturing.
- Supervised research associates, technicians and college summer interns.

Protein Chemist - Protein Chemistry R&D September 1996-May 1998
CytoTherapeutics Inc. Lincoln, Rhode Island

- Managed protein sequencing laboratory and provided support to other R&D groups in protein purification and sequencing.
- Worked on the discovery project in the isolation, purification and characterization of novel protein factor for the treatment of neurological disorders.
- Produced condition medium from cell culture for the isolation of protein factor of interest and performed cell culture based bioassay.
- Used SDS-PAGE, IEF, protein purification based on size, ion exchange, hydrophobicity and affinity chromatography on FPLC and RP-HPLC.
- Coordinated interdepartmental activities and research effort to scientific literature and conferences.

Protein Chemist, April 1995-August 1996
Harbor UCLA Medical Center, Torrance, California

- Worked on the solid phase peptide synthesis, purification and characterization of hormone of the pituitary gland and other growth factors.
- Independently used ABI 433 peptide synthesizer with Fmoc chemistry.
- Synthetic peptides purified by RP-HPLC and characterized by SDS-PAGE, Amino acid analysis and protein sequencing using ABI 477A- sequencing system.

Director, Sequencing & Synthesis Core Facility March 1993-March 1995
University of California, Irvine, California

- Established and directed the DNA/protein Core facility.
- Managed day-to-day operation of ABI-477 protein sequencer, ABI-430A peptide synthesizer, ABI 392 DNA synthesizer and protein and peptide purification by RP-HPLC.
- Involved in providing the training, instruction, technical support to staff and students.
- Managed instrument service, facility supplies, chemicals and finances.

Postgraduate Researcher September 1992-February 1993
Dept. of Molecular Biology & Biochemistry
University of California, Irvine, California

- Worked on the purification of the genetic variants of human fibrinogen.
- Employed various electrophoresis, size, ion-exchange chromatography, HPLC, protein modification, chemical and enzymatic digestion & peptide fingerprinting.
- Operated and analyzed sequence data using ABI 477A and Hewlett Packard HP-1000 protein sequencers.
- Taught and supervised undergraduate research students in protein biochemistry.

Postdoctoral Fellow September 1989-August 1992
Lab. Of Molecular Virology & Carcinogenesis, National Cancer Institute,
Frederick, Maryland

- Isolated and purified retroviral proteins from bovine leukemia virus (BLV) and human T-Cell leukemia virus (HTLV-1).
- Performed electrophoresis, RP-HPLC, immuno-affinity chromatography, westernblotting, ELISA, autoradiography, enzymatic and chemical cleavage, amino acid analysis and amino acid sequencing.

Postdoctoral Fellow, Dept. of Protein chemistry May 1988-August 1989
Max-Planck Institute of Biochemistry, Munich, Germany

- Established the complete primary structure of hemoglobin from various carnivores.
- Employed electrophoresis, size exclusion, ion-exchange chromatography, HPLC, peptide fingerprinting, amino acid composition, and sequencing of protein chains and peptides by liquid phase and non-commercial gas phase sequencer.

Doctoral Fellow, Dept. of Protein Chemistry September 1985-September 1987
Max-Planck Institute of Biochemistry, Munich, Germany

- Established the primary structure of abnormal human hemoglobin variants and carnivore hemoglobin from jaguar and leopard for Ph.D. thesis.

- Isolated and purified three abnormal human hemoglobin variants from Germany and Pakistan by electrophoresis screening of over 4000 blood samples.
- Used ion-exchange chromatography, RP-HPLC, peptide fingerprinting, amino acid analysis, and amino acid sequencing.

Awards & Honors:

- Adjunct Faculty, Panjwani Center for Molecular Medicine & Drug Research, International Center for Chemical & Biological Sciences, University of Karachi, Pakistan.
- Selected as German DAAD program, Research Ambassador for academic year 2012-2014, to promote bilateral education and research between Germany and USA.
- Visiting Faculty, under President Program for Qualified Pakistani (PPQP) National Talent Pool Program, Govt. of Pakistan – 2013.
Institution served: National center for Proteomics, University of Karachi, Pakistan
- Visiting Faculty, under President Program for Qualified Pakistani (PPQP) National Talent Pool Program, Govt. of Pakistan – 2012
(i) National Institute for Biology and Genetic Engineering, Faisalabad, Pakistan
(ii) HEJ Research Institute of Chemistry, University of Karachi, Pakistan.
- Visiting Faculty, under National Talent Pool Program, Govt. of Pakistan – 2009
Institution served: HEJ Research Institute of Chemistry, University of Karachi, Pakistan
- Max-Planck Society Postdoctoral Fellowship - 1988
- German Academic Exchange Service, Ph.D. Research Fellowship - 1985
- Fellowship for Regional Course in Biochemical Separation Methods - 1983
University of Colombo, Colombo, Sri Lanka
- German language course, Mannheim, Germany – 1985

Served as a member of graduate examination committee of following students:

1. Bharat Madhavan - MS BMS, University of Rhode Island, USA - 2007
Jacqueline Kocab MS, BMS, University of Rhode Island, USA – 2008
2. Padmanie C. Seneviratne, Ph.D. University of Rhode Island, USA -2011
3. Sreekanth Suravajjala, Ph.D. University of Rhode Island, USA - 2012
4. Sravanthi Vadlamannati, Ph.D. Chemistry, University of Rhode Island -2013
5. Wendy Liu, Ph.D. Chemistry, University of Rhode Island -2012
6. Pratik Sheth, Ph.D. Biomed & Pharm. Sciences, University of Rhode Island - 2013
7. Elain Foun, MS. Chemistry, University of Rhode Island – 2013

Served as a member of graduate comprehensive examination committee of following students:

1. P. K. Pampati, Ph.D. Chemistry, University of Rhode Island-2009
2. P. Seneviratne, Ph.D. Chemistry, University of Rhode Island-2009

Served as a foreign reviewer for Ph.D. thesis of following students from Pakistan

1. Farhat Amin, Ph.D., University of Peshawar, Pakistan – 2009
2. Naeem Aamir, Ph.D., Islamia University of Bhawalpur, Pakistan-2010

Served as mentor summer research for following students:

1. Linh Souphanthavong – Biology, University of Rhode Island, USA - 2007
2. Simon Schroeder - Pharmacy, University of Braunschweig, Germany -2007
3. Asita Brandmuller - Pharmacy, University of Braunschweig, Germany – 2008
4. Humera Faraz – HEJ Res. Inst. of Chem. University of Karachi, Pakistan – 2011
5. Hilary Friedman –SURP-2011, Pharmacy, University of Rhode Island, USA- 2011
6. Soliel Doman – SURP 2012, Community College of Rhode Island, USA – 2012
7. Ana Ortez Sandoval SURP 2013, Community College of Rhode Island -2013

Reviewer Assignments:

- Journal of Protein Chemistry
- Electrophoresis
- Protein & Peptide Letters
- African Journal of Biotechnology
- Journal of Biotechnology

Invited Speaker & Workshop Resource Person:

- Workshop: National Workshop on Classical Protein Chemistry, Dr. Panjwani Center for Molecular Medicine and Drug Research, University of Karachi, Pakistan - 2014
- Workshops: (i) Proteomics in a Nutshell. (ii) Conventional & Advance Chromatographic Methods for protein Purification, National center for Proteomics, University of Karachi, Pakistan – 2013
- Workshop on Tools in Structural Biology, International Center for Chemical Biological Sciences (ICCBS), University of Karachi, Pakistan – 2013
- University of Agriculture Faisalabad, Pakistan- 2012
- MDLC Workshop, PCMD, HEJ Research Institute of Chemistry, University of Karachi, Pakistan- 2012
- Bryant University, Smithfield, Rhode Island, USA -2012
- Brown University, Providence, Rhode Island, USA – 2011
- Rhode Island College, Providence, Rhode Island, USA - 2011
- H.E.J. Research Institute of Chemistry, University of Karachi, Pakistan - 2009
- Agriculture University, Tandojam, Pakistan – 2009
- Workshop on 2D Electrophoresis in Proteomics, National Center for Proteomics, University of Karachi, Pakistan - 2009

Poster Presentations:

Perry, T., K. Andrews., A. Sadaf., A. Wahab., M.I. Choudhary and A. Ahmed. Amino Acid Sequence of a 25kD Water Soluble Protein from Ginger Root (*Zingiber officinale*). RI-INBRE SURP Meeting, August 1, 2014, Kingston, Rhode Island.

Sandoval, A.H., S. Surti, F. Hashmi, A. Wahab, M.I. Choudhary, and A. Ahmed. Isolation and Purification of Water Soluble Proteins from Ginger Root (*Zingiber officinale*). RI-INBRE SURP Meeting, August 2, 2013, Kingston, Rhode Island.

Doman, S., H. Faraz, M.I. Choudhary and A. Ahmed. Purification and Partial Characterization of Snake Leaf-Nosed Viper (*Eristicophis macmahonii*) Hemoglobin RI-INBRE SURP Meeting, July 30, 2012, Kingston, Rhode Island.

Yao, L., S. Kuznetsov, B. Healy-Rossi, A. Ahmed, D. Engelman, Y.K. Reshetnyak, O.A. Andreev. Targeted Delivery of Gold Nanoparticles to Tumors. July 28, 2011.

Friedman, H., H. Faraz, M.I. Choudhary and A. Ahmed. Amino Acid Sequence of Snake Hemoglobin β II Chain from Sindhi Krait (*Bungarus sindanus sindanus*). RI-INBRE SURP Meeting, July 29, 2011, Kingston, Rhode Island.

Schroeder, S., H. Zhang, H., E.S. Yeung, L. Jaensch, C. Zabel, A. Ahmed, and H. Waetzig. Protein detection using gel electrophoresis: Precision and sensitivity. DPhG Symposium, October 10-11, 2008, Bonn, Germany.

Schroeder, S., H. Waetzig, and A. Ahmed. Comparison of Coomassie-Stained Protein Gels Detection by Infrared, Fluorescence and Visible light Densitometry. ABRF Annual Meeting, February 9-12, 2008, Salt Lake City, Utah.

Madhavan, B., A. Ahmed, L. Xiaoning, D. Sens, and Z. A. Shaikh. Changes in Protein Levels in Rat Kidney Tubular Epithelial Cells Exposed to Cadmium. Society Of Toxicology, North-East Chapter Meeting October 26, 2007. Groton, Connecticut.

Souphanthavong, S, N. Nous, and A. Ahmed. Toxicoproteomics of Cadmium: Multi-dimensional strategies for analysis of rat liver proteins. RI-INBRE SURP Meeting, August 11, 2006. Kingston, Rhode Island.

Fengting, L., A. Ahmed, and B. Cho. Electrophoretic Mobility Shift Assay on the Formation of Klenow Fragment exo-/fluoroaminofluorene-modified Template-primer Complexes using IRDye-700-labeled Oligodeoxynucleotides 230TH ACS Fall Meeting, August 28-Sept 1, 2005, Washington, D.C.

Ahmed, A., P. Kandola, G. Ziada, and N.L. Parenteau. Fractionation of proteins and peptides from human keratinocyte conditioned medium by FPLC and HPLC. 21st International Symposium on the Separation of Proteins, Peptides & Polynucleotides, November 2001, Delray Beach, Florida, USA

Pouyani, T., V. Ronford, E. Doherty, J. Gaffney, A. Ahmed, P. Scott, C. Dodd, R. Gallo and N. Parenteau. Maturation in culture of an In Vitro produced human dermal matrix. Society of Investigative Dermatology, May 2001, Washington. DC, USA.

Ahmed, A., P. Kandola, G. Ziada, and N.L. Parenteau. Purification and N-terminal amino acid sequence of proteins from human keratinocyte conditioned medium. 14th. Annual Symposium of the Protein Society, August 5-9, 2000, Los Angeles, California, USA

Ronfard, V., T. Pouyani, T. Bachrach, K. Billiar, A. Ahmed, J. Laning, and N.L. Parenteau. "De novo matrix production and regulation by human fibroblast in vitro. The First Symposium of the International Society of Matrix Biology, June 14-17, 2000, Philadelphia, Pennsylvania, USA.

Govignon, E J, M. Murphy, J. Potzka, J. Crews, K. Biliar, A. Ahmed and V. Ronford. Development of a serum-free human cell derived extracellular matrix. 10th Annual Meeting of the European Tissue Repair Society. May 24-27, 2000, Brussels. Belgium.

Kamal D. P., A.G. Gulwadi, P. Stabila, P. Ferland, A. Ahmed, L. Xu, H. Zhao, S. Bruhn, B. Frydel, B. Devaux, M.R. Hoane, M.D. Lindner, H. Phillips and W. Tao. Neuroprotection by recombinant neurturin (NTN) delivered by encapsulated genetically engineered fibroblast cell. Society for Neuroscience 1998, Los Angeles, California, USA.

Publications:

Waheed, H., H. Friedman, S.F. Moin, A. Ahmed. 2014. The primary structure of α A and β I chains of hemoglobin from snake Sindhi krait (*Bungarus sindanus sindanus*) (Submitted Protein J.)

Atta, A., A. Amber, Z. Hashim, A. Ahmed, and S. Zarina. 2014. Lactate Dehydrogenase like crystalline: A potential protective shield for Indian spiny- tailed lizard (*Uromastix hardwickii*) lens against environmental stress. Protein J.33:128-134.

Guo, L., I. Panderi, D.D. Yan, K. Szulak, Y. Li, Y. Chen, H. Ma, D.B. Niesen, N. Seeram, A. Ahmed, B. Yan, D. Pantazatos and W. Lu. 2013. A comparative study of hollow copper sulfide nanoparticles and hollow gold nanospheres on degradability and toxicity. ACS Nano 7(10): 8780-8793.

Kalkunte, S., S. Neubeck, W. E. Norris, S. Cheng, S. Kostadinov, D.V. Hoang, A. Ahmed, F. Von Eggeling, Z. Shaikh, J. F. Padbury, G. Berg, U. Markert and S. Sharma. 2013. Transthyretin Is Dysregulated in Preeclampsia, and its native form prevents the onset of disease in a preclinical Mouse model. The American J. Pathology 183(5): 1425-1436.

Yao, L., S. J. Daniels, A. Moshnikova, S. Kunznetsov, A. Ahmed, D.M. Engelman, Y.K. Reshetnyak, and O.A. Andreev. 2013. pHLIP peptide targets nanogold particles to tumors. PNAS, 110 (2) 465-470.

Musharraf, S.G., S. Muhammad, A. J. Siddiqui, N. Haq, and A. Ahmed. 2012.

Quantitative analysis of some important metals and metalloids in tobacco products by inductively coupled plasma-mass spectrometry (ICP-MS). *Journal Chemistry Central Journal* 6 (1), 56-68.

Schroeder, S., H. Waetzig, and A. Ahmed. 2009. Comparison of sensitivity of Odyssey Infrared Scanner and various other scanners (Application Note, Li-COR Inc. <http://biosupport.licor.com.support>)

Schroeder, S., A. Brandmueller, Xi. Deng, A. Ahmed, and H. Waetzig 2009. Improving precision in gel electrophoresis by stepwisely decreasing variance components. *J. Pharmaceuti. & Biomed. Analysis* 50, 320-327.

Li Liya, L .S. Adams, S. Chen, C. Killian, A. Ahmed, and N.P. Seeram 2009. *Eugenia jambolana* Lam. Bery extract inhibits growth and induces apoptosis of human breast cancer but not non-tumorigenic breast cells. *J. Agric. Food. Chem* 57, 826-831.

Pabla, Dimple, F. Akhlaghi, A. Ahmed, and H. Zia. 2008. Development and validation of an inductively coupled plasma mass spectrometry method for quantification of levothyroxine in dissolution studies. *Rapid Commun. Mass Spectrom.* 22: 993-996.

Ahmed, A., P. Kandola, G. Ziada, and N. Parenteau .2001. Purification and partial amino acid sequence of proteins from human epidermal keratinocyte conditioned medium. *J. Protein Chem.*, 20: 273 – 278.

Adachi, Y., T.D. Copeland, C. Takahshi, T. Nosaka, A. Ahmed, S. Oroszlan, and M. Hatanaka. 1992. Phosphorylation of the Rex protein of human T-Cell leukemia virus type 1. *J. Biol. Chem.* 267: 21977-21981.

Ahmed, A., M. Jahan, and G. Braunitzer. 1992. Carnivora: The primary structure of the major hemoglobin component from adult European lynx (*Lynx lynx*, Felidae) *J. Protein Chem.*, 11: 39-43.

Jahan, M., A. Ahmed, F. Trillmich, and G. Braunitzer. 1991. Carnivora: The complete primary structure of the marine carnivora Galapagos fur seal (*Arctocephalus galapagoensis*, Otariidae) hemoglobins. *J. Protein Chem.*, 10: 257-263.

Ahmed, A., M. Jahan, G. Braunitzer. 1990. Carnivora: The primary structure hemoglobin from adult coati (*Nasua nasua*, procyonidae) *J. Protein Chem.*, 9: 23-29.

Ahmed, A., M. Jahan, G. Braunitzer. 1990. The amino acid sequence of the adult European mink (*Mustela lutreola*, Mustelidae) hemoglobins. *Z. Naturforsch.* 45c: 223-228.

Ahmed, A., M. Jahan, G. Braunitzer, H. Pechlaner. 1989. Carnivora: The amino acid sequence of the adult European polecat (*Mustela putorius*, Mustelidae) hemoglobin. *Z. Naturforsch.* 44b: 817-824.

Ahmed, A., M. Jahan, G. Braunitzer, C. Edelbluth, and W. Herold. 1989. Hemoglobin Andrew-Minneapolis b144(HC1 Lys/Asn) in a German family from Berlin. *Hemoglobin*. 13: 189-192.

Jahan, M., A. Ahmed, G. Braunitzer, and R. Goeltenboth. 1989. The amino acid sequence of the adult Sumatran tiger (*Panthera tigris*, Carnivora) hemoglobins. *Biol. Chem. Hoppe-Seyler*. 370: 27-33.

Ahmed, A., A. Abbasi, G. Braunitzer, and Z.H. Zaidi. 1988. A case of Hb-E b-thalassemia in a Pakistani family. *J. Pak. Med. Assoc.* 38: 301-303.

Ahmed, A., M. Jahan, G. Braunitzer, and R. Goeltenboth. 1987. Carnivora: The primary structure of the major and minor hemoglobin components of adult north Persian leopard (*Panthera pardus sexicolor*). *Z. Naturforsch.* 43b: 1341-1346

Jahan, M., A. Ahmed, G. Braunitzer, Z.H. Zaidi, and R. Goeltenboth. 1987. Carnivora: The primary structure of adult lion (*panthera leo*) hemoglobins. *Z. Naturforsch.* 42b: 1465-1470.

Ahmed, A., M. Jahan, Z.H. Zaidi, G. Braunitzer, and R. Goeltenboth. 1987. The primary structure of hemoglobins of the adult jaguar (*Panthera onco*, Carnivora). *Biol. Chem. Hoppe-Seyler* 368: 1385-1390.

Ahmed, A., S. Naqvi, S., S. Ehasanullah, and Z.H. Zaidi. 1986. Abnormal hemoglobin Hb- Karachi. An a-chain abnormality at position 5 Ala/Pro. *J. Pak. Med. Assoc.* 36: 206-208.

Naqvi, S., A. Ahmed, and Z.H. Zaidi. 1986. Hemoglobinopathies in Pakistan. In: *New Trends in Natural Product Chemistry*, (Atta-ur- Rahman and P.W. Le Quesne, eds.), Elsevier Science Publisher B.V., Amsterdam, Vol. 26: pp. 651-660