PROF. DR. ASAAD KHALID BRIEF CITATION



Asaad Khalid Born in Fadasi, SUDAN on January 1, 1972

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Lab. web page: http://medicalbiochem.google pages.com (under construction) Citation indices: http://scholar.google.com/citati ons?user=RYkknVsAAAAJ

Fellow of the Sudan National Academy of Science. Young Affiliate Fellow of The Academy of Science for the Developing World (TWAS). Fellow of the African Scientific Institute. Member of COST (European Cooperation in Sci. and Tech.) CMST Action CM0801.



EDUCATION:

- **Ph.D.** in **Chemistry** (Biochemistry) (April, 2003), H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, Karachi, Pakistan.
 - Thesis Title: Biochemical Studies on New Natural Inhibitors of Cholinesterases.
 - Ph.D. Supervisor: Prof. Dr. M. Iqbal Choudhary
 - *PhD Examiners*: (a) Prof. Luis Moroder (Max Planck Institute of Biochemistry, Germany), (b) Prof. C.W. Wharton (University of Birmingham, UK) and (c) Prof. Atta-ur-Rehman (Ziauddin Medical College, Pakistan).
- M.Sc. in Biochemistry (1997), University of Karachi, Karachi, Pakistan.

B.Sc. (Hons.) in **Biochemistry**, Chemistry and Physiology (1996), University of Karachi, Karachi, Pakistan.

EXPERIENCE:

Professor (Nov, 2013- present), Substance Abuse Research Center, Jazan University, P.O. Box: 114, Jazan, Saudi Arabia.

Research Professor (July, 2011- Nov. 24, 2013) Medicinal and Aromatic Plants Research Institute, National Center for Research, P.O. Box: 2404, Khartoum, Sudan.

Professor (July, 2013- Oct. 2013) Faculty of Medicine, National College for Medical and Technical Studies, Khartoum, Sudan.

Professor (Dec., 2006- Nov. 2013), Sudan Academy of Sciences, Khartoum, Sudan

Member of the Senate (Aug., 2013- present), Sudan Academy of Sciences, Khartoum, Sudan

Associate Professor (Dec., 2006- June, 2011) Medicinal and Aromatic Plants Research Institute, National Center for Research, P.O. Box: 2404, Khartoum, Sudan.

Head, Medical Biochemistry Research Unit (Jan., 2007- Nov, 24, 2013), Medicinal and Aromatic Plants Research Institute, National Center for Research, P.O. Box: 2404, Khartoum, Sudan.

Visiting Professor (Oct., 2007- June, 2013), Faculty of Pharmacy, University of Science & Technology, Omdurman, Sudan.

Visiting Professor (Jan., 2010- Nov., 2013), Department of Chemistry, Faculty of Science, University of Khartoum, Sudan.

Visiting Professor (April., 2010- June, 2013), Faculty of Pharmacy, National College for Medical and Technical Studies, Khartoum, Sudan.

Senior Research Associate (Jan., 2004- Aug., 2006), Dr. Panjwani Center for Molecular Medicine and Drug Research, International Center for Chemical Sciences, University of Karachi, Karachi-75270, Pakistan.

ACHIEVEMENTS:

Prof. Asaad is the winner of the AU-TWAS Young Scientists National Award 2011 (awarded by The African Union and The Academy of Science for the Developing World, TWAS) and the Pakistan Academy of Medical Sciences (PAMS) Junior Gold Medal Award-2005 for the best biomedical research conducted in Pakistan during 2004 and 2005 and the Distinguished Achievement Award 2005-2006. Prof. Asaad is an active researcher; he supervised 16 Ph.D. and 9 M.Sc. graduates. Currently he leads a research group of more than 10 Ph.D. and M. Sc. students working mainly on drug discovery. In 2009, the WHO has regarded his research on anti-malarial drug discovery as one of the bright ideas in Africa. He has published more than 50 research publications in leading international journals (Total citations = 1300, h-index = 22). Prof. Asaad has delivered more than 50 lectures in scientific meetings. Prof. Asaad has been teaching several courses to undergraduate and postgraduate pharmacy and science students in several Sudanese universities for more than 5 years. He has organized/instructed several international and international agencies including the European Union.

RESEARCH INTERESTS:

The research of Prof. Asaad focuses on drug discovery from medicinal plants. His target/cell-based research targets several tropical and neglected diseases including malaria, diabetes, tuberculosis, leishmaniases and trypanosomiasis. Prof. Asaad's target-based drug discovery program utilizes enzyme inhibition methods to discover drug candidates that target particular enzyme-related disease mechanisms. On the other hand, He also utilizes bioinformatics tools such as molecular docking and molecular dynamic simulation to understand molecular recognition pattern in ligand-receptor complexes. The research in Prof. Asaad's laboratory is being conducted in collaboration with many distinguished scientists from USA, Germany, Finland, Sweden, Pakistan and India.

Curriculum Vitae

PROF. DR. ASAAD KHALID MOHAMED ALI AHMED,

Substance Abuse Research Center, Jazan University, P. O. Box: 114, Jazan-111, Saudi Arabia.

Cell: +966501319782; Email: drasaad@gmail.com

EDUCATION:

Ph.D. Chemistry (Biochemistry) (April, 2003)
H.E.J. Research Institute of Chemistry,
International Center for Chemical Sciences,
University of Karachi, Karachi-75270, Pakistan.
Thesis Title: Biochemical Studies on New Natural Inhibitors of Cholinesterases.
Ph.D. Supervisor: Prof. Dr. M. Iqbal Choudhary
Ph.D. Examiners: (a) Prof. Luis Moroder (Max Planck Institute of Biochemistry,
Munich, Germany), (b) Prof. C. W. Wharton (University of Birmingham, UK) and (c)
Prof. Atta-ur-Rehman (Ziauddin Medical Collage, Karachi, Pakistan).

M.Sc. Biochemistry (Feb., 1997) Department of Biochemistry, University of Karachi, Karachi-75270, Pakistan

B.Sc. (Hons.) Biochemistry, Chemistry and Physiology (Dec., 1996) Department of Biochemistry, University of Karachi, Karachi-75270, Pakistan

EXPERIENCE:

Professor (Nov. 25, 2013- present) Substance Abuse Research Center, Jazan University, P. O. Box: 114, Jazan-111, Saudi Arabia.

Research Professor (July, 2011- Nov. 24, 2013) Medicinal and Aromatic Plants Research Institute, National Center for Research, El-Mak Nimir Street, P.O. Box: 2404, Khartoum, Sudan.

Professor (July, 2013- Oct. 2013) Faculty of Medicine, National College for Medical and Technical Studies, Khartoum, Sudan.

Professor (Dec., 2006- Nov. 2013) Sudan Academy of Sciences, Khartoum, Sudan.

Member of the Senate (Aug., 2013- present) Sudan Academy of Sciences, Khartoum, Sudan.

Head, Medical Biochemistry Research Unit (Jan., 2007- Nov. 24, 2013) Medicinal and Aromatic Plants Research Institute, National Center for Research, El-Mak Nimir Street, P.O. Box: 2404, Khartoum, Sudan.

Associate Professor (Dec., 2006- June, 2011) Medicinal and Aromatic Plants Research Institute, National Center for Research, El-Mak Nimir Street,

P.O. Box: 2404, Khartoum, Sudan.

Rapporteur of the Council of Science and Technology (Aug., 2010- March, 2013) Ministry of Science and Communications, Government of Sudan.

Rapporteur of the Council of Moringa Research (June, 2012- Nov. 2013) Ministry of Science and Communications, Government of Sudan.

Visiting Professor (Oct., 2007- June, 2013) Faculty of Pharmacy, University of Science & Technology, Omdurman, Sudan.

Visiting Professor (Jan., 2010- Nov., 2013)

Department of Chemistry, Faculty of Science, University of Khartoum, Sudan.

Visiting Professor (April, 2010- June, 2013)

Faculty of Pharmacy, National College for Medical and Technical Studies, Khartoum, Sudan.

Senior Research Associate (Jan., 2004- Aug., 2006)

Dr. Panjwani Center for Molecular Medicine and Drug Research, International Center for Chemical Sciences, University of Karachi, Karachi-75270, Pakistan.

Visiting Scientist (June, 2003 - Dec., 2003)

H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, Karachi-75270, Pakistan.

Senior Research Fellow (Oct. 1999 - April, 2003)

H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, Karachi-75270, Pakistan.

Junior Research Fellow (April, 1996 - Oct. 1999)

H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of *Karachi*, Karachi-75270, Pakistan.

TEACHING EXPERIENCE:

UNIVERSITY COURSES:

• **Professor** (July, 2013- Oct. 2013) Faculty of Medicine, National College for Medical and Technical Studies, Khartoum, Sudan.

Courses:

- Basic and Advanced Biochemistry (for medicine students)
- Other integrated courses (for medicine students)
- Drug Design and Development (for fourth year pharmacy students)
- Visiting Professor (Oct., 2007- June, 2013) at Faculty of Pharmacy, University of Science & Technology, Omdurman, Sudan.

Courses:

- o Basic and Advanced Biochemistry (for second year students)
- Pharmaceutical Biotechnology (for final/fifth year students)
- Drug Design and Development (for final/fifth year students)

Supervision: I have supervised nine graduation research projects (see page 6 for details).

• Visiting Professor (Jan., 2010- present) at Department of Chemistry, Faculty of Science, University of Khartoum, Sudan.

Courses:

- Drug Design and Development (for postgraduate master students)
- **Visiting Professor** (April, 2010- June, 3013) at Faculty of Pharmacy, National College for Medical and Technical Studies, Khartoum, Sudan.

Courses:

• Drug Design and Development (for fourth year students)

CURRICULUM DEVELOPMENT:

- Contributed in the design and development of the curriculum of the **Masters Degree program in Biotechnology**, Alahfad University for Women, Khartoum, Sudan (2012).
- Designed and developed the curriculum of **drug design course**, Faculty of Pharmacy, National College for Medical and Technical Studies, Khartoum, Sudan (2010).

- Designed and developed the syllabus of **drug design course** for post-graduate students, Department of Chemistry, Faculty of Science, University of Khartoum, Sudan (2010).
- Updated and modified the syllabus of **biochemistry course**, Faculty of Pharmacy, University of Science and Technology, Khartoum, Sudan (2007).
- Designed and developed the syllabus of the **pharmaceutical biotechnology courses**, Faculty of Pharmacy, University of Science and Technology, Khartoum, Sudan (2007).

WORKSHOPS/TRAINING COURSES:

- National workshops/training courses: I have organized, taught and/or instructed one International and five *National Training Courses on Computational Chemistry and Molecular Modeling/Drug Design*. Moreover, I have been invited to instruct and international workshop on drug design organized at the University of Jordan, Amman. (see page 10 for more details).
- Courses taught to postgraduate (M. Phil./Ph.D.) students:
 - *"Drug design and discovery"* course taught to M.Sc. Students, Department of Chemistry, Faculty of Science, University of Khartoum, Dec., 2009 –Jan., 2010.
 - *"Enzyme kinetics"*, one-week short course, International Center for Chemical and Biological Sciences, University of Karachi, Nov., 2008.
 - *"Enzyme kinetics, practical considerations",* two-week short course, H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, July, 2003.
 - "Enzyme Kinetic and enzyme inhibition kinetics", a part of Enzymology course (Chem. 707), H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, June, 2004.
- Delivered many invited lectures in national and international workshops/training courses (see the list of oral presentations).

TECHNICAL SKILLS:

- Expert in developing and performing enzyme assays, enzyme kinetics, enzyme inhibition and spectrophotometeric techniques.
- Well-trained in cell culture techniques. DNA extraction, PCR, Western blotting, various types of electrophoresis, ELISA and animal handling.
- Experienced in molecular modeling, MD simulation and docking (SYBYL, AutoDock3/4, etc.).
- Extensive experience in writing grant applications and research articles.
- Highly inquisitive, creative and resourceful.
- Excellent skills in communication and collaboration.

ACADEMIC AWARDS:

- 1. Selected as **TWAS-UNESCO Associate** in 2013 by The Academy of Science for the Developing World (TWAS).
- **2.** AU-TWAS Young Scientists National Award 2011, awarded by The African Union and The Academy of Science for the Developing World (TWAS).
- **3.** Selected as a TWAS Young Affiliate Fellow by The Academy of Science for the Developing World (TWAS) and the TWAS Regional Office for the Arab Region (TWAS-ARO).
- **4. PAMS Gold Medal Award-2005** for the best biomedical research conducted in Pakistan during 2004-2005, awarded by the Pakistan Academy of Medical Sciences (PAMS).
- **5. Distinguished Achievement Award 2005-2006** (Prof. Dr. Salimuzzaman Siddiqui shield), awarded by the Pakistan Association of Scientists and Scientific Professions (PASSP).
- 6. Visiting Foreign Scientist Fellowship: (from June, 2003 to Dec., 2003)
 Research topic: Computational Studies on Cholinesterases Inhibitors.
 Organization: International Center for Chemical Sciences, University of Karachi, Karachi, Pakistan.

- Senior Researcher Fellowship: (from Oct. 1999 to April, 2003) Research topic: Biochemical Studies on New Natural Inhibitors of Cholinesterases. Organization: H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, Karachi, Pakistan.
- Junior Researcher Fellowship: (from April, 1996 to Oct. 1999).
 Research topic: Biochemical Studies on New Natural Inhibitors of Cholinesterases.
 Organization: H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, Karachi, Pakistan.

TRAVEL GRANTS:

- 1. **Bill and Melinda Gates Foundation Global Health Travel Award** to attend the Keystone Symposium on Drug Resistance and Persistence in Tuberculosis to be held in Kampala, Uganda during May 13-18, 2012.
- 2. Supported by **The Academy of Science for the Developing World Arab Regional Office** (TWAS-ARO) to attend TWAS-ARO 7th Annual Meeting, Alexandria, Egypt, December 28-29, 2011.
- 3. Supported by **The Academy of Science for the Developing World (TWAS)** to attend TWAS 22nd General Meeting, Trieste, Italy, November 21-23, 2011.
- 4. Supported by **ANDI** and the **United Nations Economic Commission for Africa (UNECA)** to attend the 4th ANDI Stakeholders Meeting and Donor Conference, Addis Ababa, Ethiopia, October 24 27, 2011.
- 5. Fully supported by the **Kuwait Institute for Scientific Research** (**KISR**) to attend the 1st Arab-American Frontiers of Science, Engineering, and Medicine symposium, Kuwait, October 17-19, 2011.
- 6. Fully supported by the **European Cooperation in Science and Technology (COST)** to attend the 3rd Annual Meeting of the COST CM0801 action "New drugs for neglected diseases & Medicinal Chemistry in Parasitology", Modena, Italy, October 5-7, 2011.
- 7. Fully supported by the **European Cooperation in Science and Technology** (**COST**) to attend the 2nd Joint Expert Meeting among Working Groups 1/2/3/4 and MC Meeting of the COST Action CM0801, Certosa di Pontignano, Siena, Italy, May 28-30, 2010.
- 8. Fully supported by **The Academy of Science for the Developing World (TWAS)** to attend the TWAS 12th General Conference, Hyderabad, India, October 19-22, 2010.
- 9. Fully supported by **WHO/TDR** to attend the 3rd Stakeholders meeting of the African Network on Drugs and Diagnostics Innovation (ANDI), Nairobi, Kenya October 11-13, 2010.
- 10. Hosted by the **Federal State of Baden-Wuerttemberg, Germany** to participate in the Post Conference Program of the 60th Meeting of Nobel Laureates, to visit several research institutions in Baden-Württemberg estate in Germany, July 3-7, 2010.
- 11. Fully funded by the **OPEC Fund for International Development (OFID)** and **The Academy of Science for the Developing World (TWAS)** to attend the 60th Lindau Nobel Laureate Meeting, Lindau, Germany June 27-July 2, 2010.
- 12. Fully funded by **The Academy of Science for the Developing World (TWAS)** to attend TWAS/BioVisionAlexandria.NXT, Bibliotheca Alexandrina, Alexandria, Egypt, April 10-15, 2010.
- 13. Fully supported by the European Commission to attend (as an expert) the 5th MIM Pan- African Malaria Conference, and the joint EU/WHO symposium entitled "Improved Tools for the Elimination of Malaria in Africa: Research for New Drugs and Innovative Diagnostics", Nairobi, Kenya, Nov. 2-6, 2009.

- 14. Fully supported by **The Academy of Science for the Developing World (TWAS)** to attend the TWAS 11th General Conference, Durban, South Africa, October 20-23, 2009.
- 15. Bill and Melinda Gates Foundation Global Health Travel Award to attend the Keystone Symposium on Overcoming the Crisis of TB and AIDS, Arusha, Tanzania, October 20-25, 2009.
- 16. Fully supported by **WHO/TDR** to attend the 2nd Stakeholders meeting of the African Network on Drugs and Diagnostics Innovation (ANDI) and to present lecture in the Bright Ideas session of the meeting, Cape Town, South Africa, October 4-6, 2009.
- 17. European Science Foundation (ESF Research Conferences) Award to attend, deliver a lecture and to chair a session in the ESF-COST High-Level Research Conference on Natural Products Chemistry, Biology and Medicine II, Acquafredda di Maratea, Italy, August 29- September 3, 2009.
- 18. European Science Foundation (ESF Research Conferences) Award to attend the EUROPE-AFRICA Conference on Infectious Diseases from Basic to Translational Research, Cape Town, South Africa, April 4-9, 2009.
- 19. Bill and Melinda Gates Foundation Global Health Travel Award to attend the Keystone Symposium on Malaria: Immunology, Pathogenesis and Vaccine Perspectives, Alpbach, Austria, Jun 8-13, 2008.
- 20. **Travel and registration grant** to attend the 1st International Conference on Drug Design and Discovery, Dubai, UAE, February 4-7, 2008.
- 21. Sponsored by COMSTECH (OIC Standing Committee on Scientific and Technological Cooperation) under the "Young Scientist Program" to participate and to deliver a lecture on the 1st International Workshop-cum-Training Course on Molecular Medicine and Drug Research, Karachi-Islamabad, Pakistan, January,16-30 2007.

PROJECTS FUNDING:

Following agencies have financially contributed in funding our research projects:

- 1. **European Commission**, under the 7th Framework Program for Research and Technological Development, Consortium project number 603240-2, entitled, "New Medicines for Trypanosomatidic Infections"
- 2. African Network for Drugs and Diagnostics Innovation, ANDi
- 3. Islamic Educational, Scientific and Cultural Organization, ISESCO
- 4. Ministerial Standing Committee on Scientific and Technological Cooperation, COMSTECH
- 5. Ministry of Finance, Government of Sudan.
- 6. Islamic Development Bank, Saudi Arabia.
- 7. Sudan Academy of Sciences, Sudan.
- 8. Agricultural Bank of Sudan, Sudan.

RESEARCH INTERESTS:

Our research activities focus on drug discovery from medicinal plants. We are interested in both target/mechanism-based and Cell/physiology-based paradigms. Our research expands to: (1) enzymology and enzyme inhibition; (2) antioxidant discovery; (3) cell-based anti-Mtb drug discovery and (4) Molecular modeling and structural computational chemistry.

Our research heavily relies on the wealthy and virgin flora of Sudan and its unique integration with the well-established traditional medicine system in the region.

Enzymes represent more than 50% of current drug targets because of their vitality for most biological processes. Therefore, our target-based drug discovery research aim at the discovery of new enzyme-inhibiting drug hits/leads. Our ongoing research targets several infectious diseases and focus on tropical and neglected diseases including malaria, tuberculosis, leishmaniases and trypanosomiasis.

Enzymes of current interest include:

- Enoyl-ACP reductase (EC 1.3.1.9) for anti-plasmodium and anti-toxoplasma
- Trypanothione reductase (EC 1.8.1.12) for anti-Trypanosoma and anti-Leishmania
- Alanine dehydrogenase (EC 1.4.1.1) for anti- Mycobacterium tuberculosis
- β- lactamases (EC 3.5.2.6) for anti-bacteria Antibiotic resistance
- Glycogen phosphorylase-A (EC 2.4.1.1) for anti-diabetes
- Acetylcholinesterase (EC 3.1.1.7) for anti-Alzheimer's and other neurodegenerative diseases

• Butyrylcholinesterase (EC 3.1.1.8) for anti-Alzheimer's and other neurodegenerative diseases Our research utilizes *in vitro* enzyme assays, *in vitro* cell culture-based assays, molecular biology, pharmacology

and theoretical medicinal chemistry techniques. Types of studies being conducted in my laboratory encompass the following:

- development of medium throughput enzyme assays
- *in silico* and *in vitro* screening of compound libraries
- *in silico* determination of structural basis of protein-ligand molecular recognition.
- *in vitro/in vivo* antioxidant assays to discover antioxidant properties of natural compounds
- structure-activity-kinetic relationships
- pharmacological and toxicological studies on the active molecules

Moreover, some of the most widely used algorithm for molecular docking and molecular dynamic simulation studies are being used in our laboratory to understand molecular recognition pattern in ligand-receptor complexes and to design/optimize new analogues for the bioactive compounds discovered by our research group.

In 2009, the WHO has regarded our research work on anti-malarial drug discovery as one of the bright ideas in Africa. Several research publications have been published from this project while more manuscripts are currently under preparation. We are also heading toward patenting the most interesting results obtained from our ongoing research.

Our research is being conducted in collaboration with some distinguished scientists worldwide including Dr. Sean Prigge (Johns Hopkins SPH, USA), Prof. Dr. M. Iqbal Choudhary (International Center for Chemical & Biological Sciences, Pakistan), Prof. Dr. Antti Poso (University of Kuopio, Finland), Prof. Dr. Leopold Flohé (Otto-von-Guericke University, Germany), Dr. Maria Lerm (Linköping University, Sweden and Prof. Dr. Athar Ata (The University of Winnipeg, Canada). We are also working in collaborations with pharmaceutical R&D companies such as our research on anti-tuberculosis drug discovery, with AstraZeneca R&D, India.

REGISTERED POSTGRADUATE RESEARCH STUDENTS:

S.	Name of Student	Degree	Project title	University
No.				
1.	Mr. Muzzamil	Ph. D.	Target-based discovery of new alanine	Sudan Academy of
	Awad		dehydrogenase inhibiting anti-tuberculosis agents.	Sciences
2.	Ms. Rania	Ph.D.	Discovery of new inhibitors of Plasmodium	Faculty of Science,
	Mustafa Ahmed		falciparum lactate dehydrogenase activity	University of Khartoum
3.	Mr. Moatiz Hindi	M.Sc.	Biochemical Studies on New Inhibitors of Xanthine	Sudan Academy of
	Elhussien		Oxidase Enzyme	Sciences

The following students are registered under my supervision for M.Sc./ Ph.D. degrees:

GRADUATED RESEARCH STUDENTS:

The following students have graduated under my supervision:

S. N	0.	Name of Student	Degree	Thesis title	Year of graduation	University
4.		Ms. Amel	Ph.D.	Inhibition properties of medicinal plants	2018	Sudan Academy of

Asaad Khalid, Ph.D

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	Mahmoud Abd		constituents on neuraminidase enzyme		Sciences
	Rabo		isolated from viral and bacterial pneumonias		
5.	Mr. Omer A	Ph.D.	The anticancer constituents of selected	2018	Sudan Academy of
	Rahman		medicinal plants of Sudan:		Sciences
			Pharmaceutical bioactivity guided		
			fractionation approach		
6.	Dr. Omer Salah	Ph.D.	Evaluation and identification of drug hits	2017	Faculty of Science,
	Abdul Latif		from selected Sudanese medicinal plants		University of
7.	Dr. Eltorrah	Ph.D.	Discovery of natural antioxidant agents.	2017	Khartoum Sudan Academy of
7.	Dr . Eltayeb Fadul	PII.D.	Discovery of natural antioxidant agents.	2017	Sciences
8.	Dr . Nahla	Ph.D.	Discovery of enzyme-inhibiting	2017	Sudan Academy of
0.	Yousif	1 11.12.	antitrypanosomal agents from medicinal	2017	Sciences
			plants		
9.	Ms. Ghada	M.Sc.	The effect of pyridine and other organic	2016	Sudan Academy of
	Mohamed Taha		solvents on the activity and thermal stability		Sciences
			of some enzymes		
10.	Ms. Yossra	M.Sc.	Identification of new cholinesterase	2016	Faculty of Science,
	Abdelmalik M		inhibiting hits for Alzheimer's disease		University of
11	D 0 11	DI D		2016	Khartoum
11.	Dr . Salih	Ph.D.	Physiological studies to discover natural	2016	Mansoura
	Osman Mohamed		inhibitors of bacterial urease enzyme		University, Egypt
12.	Dr . Amani	Ph. D.	Mechanistic studies on new enzyme	2014	Faculty of Science,
12.	Bashir	I II. D.	inhibitors with antidiabetic potentials.	2014	University of
	Dasim		minonors with antidiabetic potentials.		Khartoum
13.	Dr . Talal	Ph. D.	Design and synthesis of potential	2014	Sudan Academy of
	Ahmed Awad		cholinesterases-inhibiting anti-Alzheimer's		Sciences
			compounds.		
14.	Dr . Nadir	Ph.D.	Discovery of anti- tuberculosis agents using	2014	Sudan Academy of
	Khalil		an innovative intramacrophage		Sciences
			mycobacterium tuberculosis culture model.		
15.	Dr . Hajir	Ph.D.	Synthesis of heterocyclic compounds from	2014	Faculty of Science,
	Ibrahim Wahbi		heterochalcones via green chemistry, and		University of
			inverse virtual screening of antimalarial and antileishmanial targets.		Khartoum
16.	Dr. Sufyan	Ph. D.	Biochemical studies on new enzyme	2013	Sudan Academy of
10.	Awadelkarim	I II. D.	inhibitors for the development of anti-	2015	Sciences
	7 Twudenkuriin		malarial agents.		Selences
17.	Dr. Gehan	Ph. D.	Chemical and biological activity of	2013	Faculty of
	Omer Hassan		secondary metabolities in some		Science,
			Sudanese medicinal plants		University of
			1		Khartoum
18.	Ms. Fatima	M. Sc.	New anti-diabetic hits with glycogen	2014	Sudan Academy of
	Elfatih		phosphorylase -inhibiting properties.		Sciences
19.	Ms. Ejlal Abdul	M.Sc.	Evaluation of Antiplasmodial Activity of	2015	Faculty of
	Razig		Selected Sudanese Medicinal Plants on the		Pharmacy,
			basis of Enoyl-ACP Reductase Inhibition		University of
20				2015	Khartoum
20.	Mr. Mohamed	M.Sc.	<i>In silico</i> design of new acetylcholinesterase	2015	Faculty of
	Saeed Hamid		inhibitors for Alzheimer's disease		Pharmacy, University of
					University of Khartoum
21.	Ms. Rehab	M.Sc.	Homology modeling of serotonin receptors	2013	Institute of
<i>2</i> 1.	Yousif M.	11.50.	(5ht2a) (5ht2c) and <i>in silico</i> investigation of	2013	Endemic Diseases,
	100511141.		(Shi2a) (Shi2e) and in suite hivesugation of		Endenne Discuses,

Asaad Khalid, Ph.D

	Idrees		the potential binding of estrogenic ligands.		University of Khartoum
22.	Ms. Mayada Murtada	M. Sc.	Discovery of natural inhibitors of β - lactamases for the management of antibiotic resistance.	2012	Sudan Academy of Sciences
23.	Mr. Eltayeb Fadul	M.Sc.	Discovery of natural antioxidant agents.	2012	Sudan Academy of Sciences
24.	Ms. Agsam Sheikh Idriss Ali	M. Sc.	Effect of natural products on the level of thyroid hormones in rats.	2011	Sudan Academy of Sciences

SUPERVISED UNDERGRADUATE PROJECTS:

I have supervised the following undergraduate (graduation) research projects at the Faculty of pharmacy, University of Science & Technology, Omdurman, Sudan:

S. No.	Name of Student	Degree/year	Project title
1.	Fatima zo Elkifl	B. Pharma. /2010	Evaluation of butyrylcholinesterase inhibition using natural products <i>in vitro</i> versus <i>in silico</i> screening
2.	Ms. Mei Hassan A. Rahman	B. Pharma. /2010	Evaluation of acetylcholinesterase inhibition using natural products <i>in vitro</i> versus <i>in silico</i> screening
3.	Ms. Linda Haider A. Rahman Ahmed	B. Pharma. /2009	Evaluation of the antioxidant properties of lycopene- containing tomato (<i>solanum lycopersicum</i>) extracts.
4.	Ms. Doaa Elfatih M. Elsadig	B. Pharma. /2009	<i>In silico</i> prediction of potential acetylcholinesterase- inhibiting drugs for the treatment of Alzheimer's disease.
5.	Mr. Amjad Elfadil Syed Mohamed	B. Pharma. /2008	<i>In silico</i> discovery of anti-radical compounds that inhibit superoixde dismutase.
6.	Mr. Ahmed M. Ahmed Elfaki	B. Pharma. /2008	<i>In silico</i> discovery of anti-oxidant compounds that inhibit xanthine oxidase.
7.	Ms. Weiam Ahmed M. Elamin	B. Pharma. /2008	Anti-malarial drug discovery: Virtual screening of chemical libraries against ACP (acyl carries protein) reductase of <i>Plasmodium falciparum</i> .
8.	Ms. Nahla A. Aziz M. Elamin	B. Pharma. /2008	Designing new antileishmanial drugs based on the inhibition of pteridine reductase.
9.	Ms. Sara Kamal Elrashid Mohamed	B. Pharma. /2008	Investigation on dihydrofolate reductase interactions with inhibitors for the development of better anticancer agents.

INTERNATIONAL COLLABORATION:

The following table shows the list of collaborative research projects currently being conducted with distinguished international scientists:

COLLABORATOR	PROJECT TITLE
Dr. Sean Prigge	Discovery of natural plasmodium falciparum and
Johns Hopkins SPH	toxoplasma gondii specific enoyl-ACP reductase
Baltimore MD	inhibitors as antimalarial and antitoxoplasmosis
<u>U. S. A.</u>	candidates.
Prof. Alan H Fairlamb	Discovery of new natural antileishmanial and
Division of Biological Chemistry and Drug	antitrypanosomal agents.
Discovery, University of Dundee, UK	
Prof. Dr. M. Iqbal Choudhary	Discovery of plasmodium falciparum specific
Dr. Panjwani Center for Molecular Medicine &	enoyl-ACP reductase inhibitors from medicinal
Drug Research, University of Karachi	plants as antimalarial candidates.
Pakistan	-

Prof. Dr. Antti Poso	Designing of new enzyme inhibitors using
Head of Department of Pharmaceutical	molecular modeling and QSAR studies
Chemistry, University of Kuopio	
FINLAND	
Prof. Dr. Leopold Flohé	Discovery of enzyme-inhibiting antitrypanosomal
Dept. of Chemistry	agents from medicinal plants
Otto-von-Guericke University,	
Magdeburg	
Germany	
Dr. Maria Lerm	Discovery of anti- tubercuolosis agents using an
Faculty of Health Sciences,	innovative intramacrophage mycobacterium
Linköping University,	tubercuolosis culture model
Sweden	
Dr. Kaveri Das	Target-based drug discovery of new alanine
AstraZeneca R & D,	dehydrogenase inhibiting anti- tubercuolosis
Bangalore,	agents.
India	
Dr. Zaheer-ul-Haq Qasmi	Theoretical investigations of mechanism of
Dr. Panjwani Center for Molecular Medicine &	cholinesterases inhibition by natural compounds
Drug Research, University of Karachi,	using molecular dynamic simulation techniques.
Pakistan	

COMPUTER SKILLS:

Highly skilled in most of the common and many of the specialized computer software, e.g. Windows and Linux OSs, MS Office, statistical analysis programs e.g. SPSS, SpectraMax Pro, Chem. Office, Chem. Draw, GraFit, docking and protein visualization programs, Internet programs, etc.

POSTGRADUATE EXAMINATION:

I have been selected as an external/internal examiner for the following postgraduate thesis:

- External Examiner for Doctoral thesis entltied, "The in vitro and in vivo evaluations of newly formulated osteoprotegerin-chitosan gel in bone regeneration", Thesis submitted to Faculty of Dentistry, **University of Malaya**, Kuala Lumpur, Malaysia (2017).
- Phytochemical Analysis, Biological Activity and Cytotoxic Effect of Selected Sudanese Medicinal Plants. Thesis submitted to Faculty of Engineering and Technology, University of Gezira for Ph.D. Degree by Ms. Hayat Osman Ali Dahawi (2009).
- Investigations of FT₄, FT₃ and TSH Hormones in Pregnant Sudanese Women in Khartoum State. Thesis submitted to Sudan Academy of Sciences for M. Sc. Degree by Mr. Adil A. A. Omer (2008).
- Evaluation of Blood Glucose and Thyroid Function among Sudanese Diabetic Patients. Thesis submitted to Sudan Academy of Sciences for M. Sc. Degree by Mrs. Majda O Abdalla (2008).

PROJECT MANAGEMENT:

- 1. **PI of NCR** team in 3 year project entitled, " New Medicines for Trypanosomatidic Infections (NMTrypI) " funded by European Union under FP7-HEALTH-2013-INNOVATION-1 program with total budget of 5.9 Million Euro
- 2. Project Coordinator (from April, 2005 April. 2011): Project entitled, "PHYTOCHEMICAL, PHARMACOLOGICAL AND TOXICOLOGICAL STUDIES ON MEDICINAL PLANTS OF SUDAN AND PAKISTAN" 130,000 US \$ research project funded by the Islamic Development Bank (IDB) under COMSTECH-IDB Joint Scheme for Strengthening of Centers of Excellence in the OIC Member Countries.

PROFESSIONAL AFFILIATIONS:

- 2014- TWAS-UNESCO Associate
- 2013- Fellow of the Sudan National Academy of Science
- 2011- Fellow of the African Scientific Institute (ASI).
- 2009- Member, COST (European Cooperation in Science and Technology) CMST Action CM0801 "New Drugs for Neglected Diseases".
- 2009 Young Affiliate Fellow of The Academy of Science for the Developing World (TWAS).
- 2007 Member of the Scientific Council of the National Center for Research, Sudan.
- 2007 Member, Sudanese Society of Natural Products.
- 1997 Member, Chemical Society of Pakistan.

LANGUAGES:

- English: Fluent in written and spoken English.
- Arabic: Mother tongue.

PARTICIPATION IN SCIENTIFIC MEETINGS:

A. ORGANIZED/INSTRUCTED SCIENTIFIC MEETING:

Since my appointment (on Dec., 2006) at the National Center for Research, I have organized, taught and/or instructed the following International and National scientific meetings:

- 1- 1st International Workshop on Computer-Aided Drug Design: invited to instruct this workshop, which was organized by the Department of Chemistry, Faculty of Science, University of Jordan Amman, Jordan during April 23-25, 2013?
- 2- First Arab-American Frontiers Symposium: selected by the US National Academies to serve as a member of the organizing committee of the first Arab-American Frontiers symposium organized by US National Academies and Kuwait Institute for Scientific Research (KISR), Kuwait, October 17-19, 2011.
- 3- 5th National Training Course on Computational Chemistry (March 13-17, 2011): organized and instructed this course in which 57 researchers and students have been trained on Molecular modeling and Docking.
- 4- 4th National Training Course on Computational Chemistry (June 26-29, 2009): organized and instructed this course which was organized in collaboration with the University of Gezira, Gezira, Sudan, twenty researchers and university teachers from University of Gezira and Affiliated Institutions have been trained on Molecular Docking and its Applications on Designing of Bioactive Molecules.
- 5- One-day International Seminar on Boosting Indigenous Research for Sustainable Development in Sudan and Third World Countries (Khartoum, August 14, 2008): organized this international seminar, which included several lectures and a round-table open discussions on the current challenges facing the scientific research in the Third World countries including Sudan and the opportunities for real sustainable development in these countries.
- 6- 1st International Workshop on Molecular Pharmacology and Immunology (August 4-13, 2008): Organized this international course, which has trained 45 researchers and university teachers from 10 Sudanese universities/research institutes on modern techniques in Molecular Pharmacology and Molecular Immunology.

Course website: http://mpiworkshop.googlepages.com.

7- 3rd National Training Course on Computational Chemistry (Aug 11-17, 2007): organized and instructed this course, which was organized in collaboration with the University of Gezira, Gezira, Sudan, thirty two researchers and university teachers from University of Gezira and Affiliated Institutions have been trained on Molecular Docking and its Applications on Designing of Bioactive Molecules.

- 8- 2nd National Training Course on Computational Chemistry (July 1-5, 2007): organized and instructed this course, which has trained 26 researchers and university teachers from 9 Sudanese universities/research institutes on Molecular Docking and its Applications on Drug Designing. Course website: http://medicalbiochem.googlepages.com.
- 9- 1st National Training Course on Computational Chemistry (Dec .19-26, 2006): organized and instructed this course, which has trained 27 researchers and university teachers from 8 Sudanese universities/research institutes on Molecular Docking and its applications on Drug Designing. Course website: http://trainingcourse1.googlepages.com.

B. ATTENDED WORKSHOPS AND TRAINING COURSES:

- 1. Participate as a trainer in the Computer-Aided Drug Design" workshop held at the University of Jordan, Amman, Jordan during April 23-25, 2013.
- 2. Delivered a lecture in the Khartoum Winter School of Bioinformatics and Statistical Genetics jointly organized by Department of Molecular Biology, Institute of Endemic Diseases, and University of Khartoum in collaboration with University of Cambridge UK in Khartoum, Sudan, January 8-12, 2012.
- 3. Participated and delivered lecture in the Multidisciplinary Scientific Workshop held in parallel with the 1st Arab-American Frontiers of Science, Engineering, and Medicine symposium, Kuwait, October, 16, 2011.
- 4. Delivered a lecture in the Khartoum Winter School of Bioinformatics and Statistical Genetics jointly organized by Department of Molecular Biology, Institute of Endemic Diseases, and University of Khartoum in collaboration with University of Cambridge UK in Khartoum, Sudan, January 8-12, 2011.
- 5. Participated in the 1st iDDi Workshop in Neglected and Orphan Diseases organized by The International Drug Discovery Institute (USA) and the University of Siena (Italy) in Siena, Italy, May 29- June 1, 2010.
- 6. Invited by the European Commission to participate as an expert in a joint EU/WHO symposium entitled "Improved Tools for the Elimination of Malaria in Africa: Research for New Drugs and Innovative Diagnostics" held in Nairobi on Nov. 6, 2009.
- 7. Participated and delivered lecture in the Khartoum Winter School of Bioinformatics and Statistical Genetics jointly organized by Department of Molecular Biology, Institute of Endemic Diseases, and University of Khartoum in collaboration with University of Cambridge UK in Khartoum, Sudan, January 4-9, 2009.
- 8. Participated and delivered lecture in the 1st National Pakistan Proteomics Society Life Sciences-HEC Workshop" Karachi, Pakistan, February3-5, 2007.
- 9. Participated and delivered lecture in the First International Workshop-Cum-Training Course on Molecular Medicine & Drug Research, Karachi-Islamabad, Jan 16-30, 2007
- 10. Participated in the one-day workshop on *Environmental Biotechnology: Past, Present and Future* organized by the Institute of Environmental Science and Engineering, National University of Sciences & Technology (NUST), Rawalpindi, Pakistan and the Michigan State University, USA Dec. 31, 2005.
- 11. Participated in the one-day workshop on *How to Write and Publish a Scientific Paper* organized by the Center for Molecular Genetics, University of Karachi, Pakistan and the University of Illinois, Chicago, USA on Dec. 9, 2005.
- 12. Participated, delivered lecture and instructed a practical session in the *Pak-China Binational Workshop on the Pharmacology and Standardization of Herbal Medicines*, Karachi, Pakistan, Oct. 22-27, 2004.
- 13. Participated and delivered lecture in the Workshop on Bioinformatics, Karachi, Pakistan, Oct. 4, 2004.
- 14. Participated in International NIBGE-COMSTECH (CPC) Workshop on Advanced Techniques in Biotechnology, Faisalabad, Pakistan, Jan. 5-17, 2004.

- 15. Participated in *Postgraduate Workshop on Application of Cell-culture Technology and Immunodiagnostics*, Karachi, Pakistan, Dec. 15-20, 2003.
- 16. Participated and delivered lecture in the SAARC-HEJ International Training Course on Bioassay and Pharmaceutical Techniques for Drug Development, Karachi, Pakistan, Oct. 10-15, 2003.
- 17. Participated in The HEJ-COMSTEC-TWAS workshop on the "Development of Medicine from Plants", Karachi, Pakistan, Sept. 8-13, 2003.
- 18. Participated in the *HEJRIC-TOKTEN Workshop on Immunoassay for Detction of Biomolecules*, Karachi, Pakistan, March 13, 2000.
- 19. Participated in the HEJRIC-TOKTEN Workshop on Cellular and Molecular Mechanism of Programmed Cell Death (Apoptosis), Karachi, Pakistan, Feb. 28-March 4, 2000.
- 20. Participated in H.E.J.-COMSATS International Workshop on The Use of Spectroscopic Techniques in the Structural Organic Chemistry, Karachi, Feb. 14-21, 2000.
- 21. Participated and instructed a practical session in the *International Workshop on The Technology for Product Development from Medicinal Plants*, Karachi, Pakistan, Jan. 21-27, 2000.
- 22. Participated and delivered lecture in the Second National Workshop on The Use of Bioassay Techniques for the New Drug Development, Karachi, Pakistan, Aug. 26-28, 1999.
- 23. Participated in the *International Workshop on University-Industry Interaction* jointly organized by COSTECH and ISESCO, Karachi, Pakistan, Sep.12-13, 1997.
- 24. Participated, delivered lecture and member of organizing committee of the *Workshop on The Use of Bioassay Techniques for the New Drug Development*, Karachi, Pakistan, July 8, 1997.

C. ATTENDED CONFERENCES, SEMINARS AND SYMPOSIA:

- Participated, delivered an invited lecture and chaired session in the 1st Mediterranean Symposium on Medicinal and Aromatic Plants (MESMAP-2013), Gazimagosa, The Northern Cyprus, April 17-20, 2013.
- 2. Participated, delivered lecture, chaired session and juried the poster session in the 5th International Conference on Drug Discovery & Therapy, Dubai, UAE, Feb. 18-21, 2013.
- 3. Participated and delivered a lecture in the 4th International Symposium-Cum-Training Course on Molecular Medicine and Drug Research, Karachi, Pakistan, Jan. 7 10, 2013.
- 4. Participated and delivered a lecture in the Conference of Arab expatriate scientists "when Arab minds integrate" headquarters of the Arab League, Cairo, Egypt, Dec. 19-20, 2012.
- Participated in the TWAS 12th General Conference and 23rd General Meeting, Tianjin, China, Sept. 18-21, 2012.
- 6. Participated in the Keystone Symposium: E1, Drug Resistance and Persistence in Tuberculosis, Kampala, Uganda, May 13-18, 2012.
- 7. Participated and presented a keynote lecture at the International Conference of Young Chemists, Jordan, Amman, April 8-10, 2012.
- 8. Participated in the TWAS/BVA.NXT 2012 and the BioVision Alexandria 2012, Alexandria, Egypt, April 21-25, 2012
- Participated in The Academy of Science for the Developing World Arab Regional Office (TWAS-ARO) 7th Annual Meeting "Water, Nuclear and Renewable Energy: Challenges versus Opportunities", Alexandria, Egypt, Dec. 28-29, 2011.
- 10. Participated in TWAS 22nd General Meeting, Trieste, Italy, Nov. 21-23, 2011.
- 11. Participated and delivered a lecture in the 4th ANDI Stakeholders Meeting and Donor Conference, Addis Ababa, Ethiopia, Oct. 24 27, 2011.
- 12. Participated and organized a session in the 1st Arab-American Frontiers of Science, Engineering, and Medicine symposium, Kuwait, Oct. 17-19, 2011.
- 13. Participated and delivered a lecture the 3rd Annual Meeting of the COST CM0801 action "New drugs for neglected diseases & Medicinal Chemistry in Parasitology", Modena, Italy, Oct. 5-7, 2011.
- 14. Participated (as an observer) in the 17th Annual German-American Kavli Frontiers of Science Symposium, Irvine, California, USA, April 8-11, 2011.

- 15. Participated and delivered a lecture in the 12th International Symposium on Natural Products Chemistry (ISNPC-12), Karachi, Pakistan, Nov. 22 25, 2010.
- 16. Participated in the TWAS 21st General Meeting, Hyderabad, India, Oct. 19-22, 2010.
- 17. Participated in the 3rd Stakeholders meeting of the African Network on Drugs and Diagnostics Innovation (ANDI) organized by WHO/TDR, United Nations Office, Nairobi, Kenya, Oct. 11-13, 2010.
- 18. Participated and delivered an invited lecture in the 11th Eurasia Conference on Chemical Sciences (EuAsC2S-11) held at the Dead Sea-Jordan, during Oct. 6-10, 2010.
- 19. Participated (upon selection) in the 60th Lindau Nobel Laureate Meeting, Lindau, Germany June 27-July 2, 2010.
- 20. Participate and delivered a lecture in the 2nd Joint Expert Meeting among Working Groups 1/2/3/4 and MC Meeting of the COST (European Cooperation in Science and Technology) Action CM0801, Siena, Italy, May 28-30, 2010.
- 21. Participated as a Rapporteur to the 1st preparatory meeting for the Arab Encyclopedia of Life (AEOL), Bibliotheca Alexandrina, Alexandria, Egypt, April 13, 2010.
- 22. Participated in BioVisionAlexandria 2010, Alexandria, Egypt, April 12-15, 2010.
- 23. Participated in TWAS/BVA.NXT 2010, Alexandria, Egypt, April 10-11, 2010.
- 24. Participated in The 5th MIM Pan-African Malaria Conference, Nairobi, Kenya, Nov. 2-6, 2009.
- 25. Participated in the Keystone Symposium on Overcoming the Crisis of TB and AIDS organized by Bill and Melinda Gates Foundation, Arusha, Tanzania, Oct. 20-25, 2009.
- 26. Participated, delivered lecture and got inducted (as a young affiliate fellow) in the Third-World Academy of Sciences (TWAS) 11th General Conference, Durban, South Africa, Oct. 19-23, 2009.
- 27. Participated and delivered lecture in the Bright Ideas session of the 2nd Stakeholders meeting of the African Network on Drugs and Diagnostics Innovation (ANDI) organized by WHO/TDR, Cape Town, South Africa, Oct. 4-6, 2009.
- 28. Participated, chaired a session and delivered lecture in the ESF-COST High-Level Research Conference on Natural Products Chemistry, Biology and Medicine II, organized by European Science Foundation (ESF) and European Cooperation in Science and Technology (COST), Acquafredda di Maratea, Italy, August 29- Sep. 3, 2009.
- 29. Participated and presented poster in the EUROPE-AFRICA Conference on Infectious Diseases from Basic to Translational Research, organized by European Science Foundation (ESF Research Conferences) Cape Town, South Africa, April 4-9, 2009.
- 30. Participated and delivered lecture in the 11th International Symposium on Natural Product Chemistry, Karachi, Pakistan, Oct. 29-Nov. 01, 2008.
- 31. Participated in the Keystone Symposia E3 Malaria: Immunology, Pathogenesis and Vaccine Perspectives, Alpbach, Austria, Jun 8-13, 2008.
- 32. Participated, Co-chaired a session and delivered lecture in the 1st International Conference on Drug Design and Discovery, Dubai, UAE, Feb. 4-7, 2008.
- 33. Participated and Co-chaired a session on the 8th Scientific Conference on Endemic and Emerging Diseases: New Trends in Diagnosis and Control, Khartoum, Sudan Aug. 21- 23, 2007.
- 34. Participated and delivered lecture in the 1st International Symposium and Workshop-cum-Training Course on Molecular Medicine and Drug Research Islamabad, Pakistan, Jan.16-30 2007.
- 35. Participated and delivered lecture in the 9th International Symposium on Protein Structure Function Relationship, Karachi, Pakistan, Jan. 11-14, 2007
- 36. Participated and delivered lecture in the 10th International Symposium on Natural Product Chemistry, Karachi, Pakistan, Jan. 6-9, 2006.
- 37. Participated and delivered lecture in the 18th FAOBMB International Symposium, Lahore, Pakistan, Nov. 20-23, 2005.
- 38. Participated and delivered lecture in the AFASSA Symposium on Natural Product Chemistry, Karachi, Pakistan, July 25-27, 2005.
- 39. Participated and delivered lecture in the 8th Biennial National Conference of PSBMB (Pakistan Society for Biochemistry and Molecular Biology), Karachi, Pakistan, March 7-9, 2005.

- 40. Participated and delivered lecture in the 8th International Symposium on Protein Structure Function Relationship, Karachi, Pakistan, Jan. 7-10, 2005.
- 41. Participated in the 9th International Symposium on Natural Product Chemistry, Karachi, Pakistan, Jan. 10-13, 2004.
- 42. Participated in Seminar on "Vaccine Development, Production and Utilization in Developing Countries: Issues, Prospects and Implications for Pakistan", Karachi, Pakistan, Aug. 8-10, 2003.
- 43. Participated in Bangladesh-Pakistan Binational Seminar on Natural Products Chemistry, Karachi, Pakistan, Sep. 24-26, 2002.
- 44. Participated in the 7th Euroasia Conference on Chemical Sciences, Karachi, Pakistan, March 9-12, 2002.
- 45. Participated and delivered lecture in the 6th National Conference on Biochemistry and Molecular Biology, Khairpur, Pakistan, Feb. 15-17, 2001.
- 46. Participated in the 8th International Symposium on Natural Product Chemistry, Karachi, Pakistan, Jan. 18-21, 2000.
- 47. Participated in the 6th International Symposium on Protein Structure-Function Relationship, Karachi, Pakistan, Feb. 5-7, 1999.
- 48. Participated and delivered lecture and poster in the 9th National Chemistry Conference, Karachi, Pakistan, Dec. 4-6, 1998.
- 49. Participated in the 7th International Symposium on Natural Product Chemistry, Karachi, Pakistan, from Dec. 28, 1997 to Jan. 1, 1998.
- 50. Participated in the 5th International Symposium on Protein Structure-Function Relationship, Karachi, Pakistan, in Jan 6-9, 1997.

LIST OF PUBLICATIONS

Δ	A. PEER-REVIEWED RESEARCH PUBLICATIONS:						
Total	citations = 1211, h-index: 22 (Google Scholar citation index)						
Year	Publications	Impact Factor	Published in				
	Published, Accepted and Submitted Publications						
1.	Eltayeb Fadul, Arsalan Nizamani, Saima Rasheed, Achyut Adhikari, Sammer Yousuf, Shahida Berzin, Nezhun Gören, M. Iqbal Choudhary, and Khalid A (2018) Identification of Antioxidant and anti-glycation activity of New Geigerianoloid and other natural compounds from Geigeria alata (DC), Oliv & Hiern; <i>Natural Product Research</i> (corresponding author, acccepted).	1.9	England				
2.	Hassan A Alhazmi, Waquar Ahsan, Ibraheem M. Attafi, Khalid A , Siddig I Abdelwahab, Mohammad Al Bratty, Shahnaz Sultana (2018) Elemental Profiling of Smokeless Tobacco Samples using Inductively Coupled Plasma-Mass Spectrometry (ICP-MS), and Assessment of their Health Hazards, <i>Pharmacog Magazine</i> (accepted).	1.52	INDIA				
3. 8102	Khalid A , Hassan A. Alhazmi, Ashraf N. Abdalla, Waquar Ahsan, Shahnaz Sultana, Mohammad Al Bratty (2018) Cytotoxicity Evaluation of Smokeless Tobacco Samples of Jazan Region of Saudi Arabia as Promoter of Cancer Cell Proliferation, <i>Toxicological & Environmental Chemistry</i> (corresponding author, submitted for publication).		UK				
4.	Ghada M. Taha, Sahar Abdalla, Yossra Abdelmalik, Christina Y Ishak, and Khalid A (2018) ; Structural Properties of Acetylcholinesterase in Pyridine as Co-solvent; <i>South African Journal of Chemistry</i> (corresponding author, submitted for publication).		South Africa				
5.	Mohammed S. Alawi, Talal A. Awad, Magdi A. Mohamed, Khalid A , Esraa M.O. Ismail, Fatima A., Sehrish Naz, Zaheer UL-Haq, (2018) Discovery of New Xanthones as Acetylcholine Esterase Inhibitors: an Integrative <i>In silico</i> and <i>In vitro</i> Approach, <i>Molecular Simulation</i> (submitted for publication)		UK				
6.	(submitted for publication). Hassan A. Alhazmi, Khalid A , Shahnaz Sultana, Siddig Ibrahim Abdelwahab, Waquar Ahsan, Ibraheem M. Attafi, Mohammad Al Bratty (2018) GC-MS and Chemometric Analysis of Different Twenty-One Smokeless Tobacco (shammah) Samples of Jazan Region of Saudi Arabia, South African J of Chemistry (submitted for publication).	-	South Africa				
7. 7016	Abdelwahab, SI., Hassan, A.F., Mariod, A.A., Al-Sheraji, S.H., Namrima, P., Taha, M.M.E., Ismail, A. Khalid A (2016) Catha edulis Forsk. (khat): Antioxidative activities and chemical diversities using HPLC-DAD-MS/MS analysis of some Ethiopian and Yemenis varieties; Ciência e Técnica Vitivinícola, Vol. 30 (10) 299-323	0.702	Portugal				
2015 .8	El-Ameen NM, Taha MM, Abdelwahab SI, Khalid A , Elfatih F, Kamel MA, (2015); Anti-diabetic Properties of Thymoquinone is unassociated with Glycogen Phosphorylase Inhibition; Pharmacognosy J., 7(6) 406-410	1.201	India				

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9.	Gihan O. M. EL hassan, Achyut Adhikari, Omer M. Abdalla, Ahmed Shukrulla, Khalid A , M. Iqbal Choudhary, M. A. Mesaik and Sakina Yagi, (2015) Chemical constituents of Euphorbia polyacantha Boiss. and their immunomodulatory properties, Rec. Nat. Prod. 9 (1), 146-152, 2015.	-	Turkey
10.	Al-Aboudi, A., Al-Qawasmeh, R.A., Shahwan, A., Mahmood, U., Khalid , A. , Ul-Haq, Z;, (2015) In-silico identification of the binding mode of synthesized adamantyl derivatives inside cholinesterase enzymes; <i>Acta Pharmacol Sin</i> . 2015: 1–8.	2.5	China
11.	Mohammed, S.O., ElShahaby, O.A., Hafez, E.E., Khalid, A. , Ahmed, E., (2014); Characterization and Purification of Urease Enzyme from New Proteus Mirabilis Strain; <i>Journal of Advanced Scientific Research</i> 5(4).	-	India
12.	Dirar, A.I., Mohamed, M.A., Ismail, E.M.O., Khalid, H.S., Elfatih, F., Khalid , A., (2014) <i>In Silico</i> Molecular Docking of Di-(2-Ethylhexyl) Phthalate and 13-Hexyloxacyclotridec-10-En-2-One Identified In Ambrosia Maritima L. (ASTERACEAE); <i>World Journal of Pharmaceutical Research</i> ; 3(10):08-16.	-	Bulgaria
13.	Dirar, A.I., Mohamed, M.A., Khalid, H.S., Osman, B., Fadul, E., Khalid , A. (2014) <i>In Vitro</i> Antioxidant Activity and Phytochemical Profile of Three Antitumor Medicinal Plants Grown in Sudan; <i>World Journal of Pharmaceutical Research</i> ; 3(9):136-142.	-	Bulgaria
14.	Abuzeid, N., Kalsum, S., Koshy, R.J., Larsson, M., Glader, M., Andersson, H., Raffetseder, J., Pienaar, E., Eklund, D., Alhassan, M.S., AlGadir, H.A., Koko, W.S., Schön, T., Mesaik, M.A., Abdalla, O.M., Khalid, A. , Lerm, M., (2014) Antimycobacterial activity of selected medicinal plants traditionally used in Sudan to treat infectious diseases. <i>J</i> <i>Ethnopharmacol.</i> 2014 Nov 18;157:134-9.	2.94	Ireland
15.	Gihan, O.M. ELhassan, Achyut Adhikari, Omer M. Abdalla, Ahmed Shukrulla, Khalid, A. , M. Iqbal Choudhary, Mohammed A. Mesaik, Sakina Yagi (2014) Chemical Constituents of Euphorbia Polyacantha Boiss. and their Immunomodulatory Properties; <i>Records of Natural Products</i> , 9(1):146-152	1.02	Turkey
16.	Wahbi HI, Ishak CI, Khalid, A. , Adlan T; (2014); Inverse Virtual Screening of Some New Pyrazolo-[1,5-a]pyrimidine ; 4,6-Dihetarylpyrimidin-2-amine and Ethyl 2-oxo-4,6-di(hetar-2-yl)cyclohex-3-encarboxylate Heterocyclic Compounds From 1,3-Dihetaryl-2-propen-1-one <i>Int. J. Pharm. Phytopharmacol. Res.</i> 4 (1): 13-19	0.852	India
17.	Hilmi Y1, Abushama MF, Abdalgadir H, Khalid, A. , Khalid H. (2014); A study of antioxidant activity, enzymatic inhibition and in vitro toxicity of selected traditional Sudanese plants with anti-diabetic potential. <i>BMC Complement Altern Med.</i> 7;14:149.	1.88	UK
18.	Yousif, R. and Khalid, A. (2013) Comparative Modeling of Serotonin Receptors 5ht2a and 5ht2c and In-silico Investigation of their Potential as off-target to Ethinylestradiol, <i>J. Pharm. Drug. Deliv. Res.</i> (Accepted).	-	USA
19.	Elnour, M.A., Elegamy, A.A., Koko, W.A., Khalid, A., Fadul, E. (2013) Antioxidant Activity and Cytotoxicity of some Sudanese Medicinal Plants, <i>Int. J. Adv. Ind. Eng.</i> 1 , 20-23 (Epub, March, 2013).	-	USA

20.	Elhassan, G. O. M., Adhikari, A., Yousof, S., Rahman, M.H., Khalid, A., Omer, H., Fun, H. K., Choudhary, M. I., Yagi, S.(2012) Phytochemistry and Antiglycation Activity of <i>Aloe sinkatana Reynolds</i> , <i>Phytochemistry</i> <i>Lett.</i> 5 , 725–728 (Epub Aug 27, 2012).	1.222	England
210 21.	Akhtar, M., Anis, I., Ali, Z., Mustafa, S. A., Khan, A., Khalid, A. , Shah, M. R., Galal, M., Khan, I. A. and Choudhary, M. I. (2012): Methylenebissantin: a rare methylene-bridged bisflavonoid from <i>Dodonaea viscosa</i> which inhibits the <i>Plasmodium falciparum</i> enoyl-ACP reductase. <i>Bioorg. Med. Chem. Lett.</i> 22 610–612 (Epub 28 Oct, 2011).	2.661	USA
22. Ξ	Choudhary, M. I., and Gilani, A. H. (2011). Identification of antiplatelet and acetylcholinesterase inhibitory constituents in betel nut. <i>Journal of</i> <i>Chinese Integrative Medicine</i> . 9 (6) 619-625 (Jun. 2011).	0.961	China
107 23.	Bankeu, J. J. K., Khayala, R., Lenta, B. N., Noungoué, D. T., Ngouela, S. A., Mustafa, S. A., Khalid, A. , et al. (2011) Isoflavone Dimers and Other Bioactive Constituents from the Figs of Ficus mucuso. <i>J Nat. Prod.</i> 74 (6), 1370–1378 (May 2011).	3.159	USA
24. 0107	Bankeu, J. J. K., Mustafa, S. A., Gojayev, A. S., Lenta, B. D., Noungoué, D. T., Ngouela, S. A., Khalid, A. , et al. (2010): Ceramide and Cerebroside from the Stem Bark of Ficus mucuso (Moraceae), Chem. Pharm. Bull. 58 (12) 1661-1665 (Dec., 2010).	1.698	Japan
\$ 25.	Sultana, N. and Khalid, A. (2010): Phytochemical and enzyme inhibitory studies on indigenous medicinal plant <i>Rhazya stricta</i> . <i>Nat. Prod. Res.</i> 24 (4):305-14 (<i>March, 2010</i>).	0.782	UK
26. 6007	Al-Aboudi, A., Odeh, H., Khalid, A. , Naz, Q., Choudhary, M. I. and Atta-ur-Rahman (2009): Butyrylcholinesterase inhibitory activity of testosterone and some of its metabolites, <i>J. Enzym. Inhib. Med. Chem</i> , 24 (2):553-558 (April 2009)	1.667	UK
27.	Ghayur, M. N., Gilani, A. H., Ahmed, T., Khalid , A. , Nawaz, S. A., Agbedahunsi, J. M., Choudhary, M. I., and Houghton, P. J. (2008): Muscarinic, Ca ⁺⁺ antagonist and specific butyrylcholinesterase inhibitory activity of dried ginger extract might explain its use in dementia, <i>J.</i> <i>Pharma. Pharmaco.</i> 60 : 1375–1383.	1.718	UK
8007 8007	Nawaz, S.A., Umbreen, S., Khalid , A., Ansari, F. L., Atta-ur-Rahman, Choudhary, M. I.(2008): Structural insight into the inhibition of acetylcholinesterase by 2, 3, 4, 5-tetrahydro-1, 5-benzothiazepines, <i>J.</i> <i>Enzym. Inhib. Med. Chem</i> . 23 (2): 206–212 (April, 2008).	1.667	UK
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34.	Gilani, A. H., Ghayur, M. N., Khalid , A. , Zaheer-ul-Haq, Choudhary, M. I. and Atta-ur-Rahman, Presence of Antispasmodic, Antidiarrhoeal, Antisecretory, and Acetylcholinesterase, Inhibitory Constituents in <i>Sarcococca saligna</i> , <i>Planta Med.</i> 71 (2), 120–125 (Feb., 2005).	1.628	Germany
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40.	Zaheer-ul-Haq, Wellenzohn, B., Tonmunphean, S., Khalid , A., Choudhary, M. I. and Rode, B. M., 3D-QSAR Studies on Natural Acetylcholinesterase Inhibitors of <i>Sarcococca saligna</i> by Comparative Molecular Field Analysis (CoMFA). <i>Bioorg. Med. Chem. Lett.</i> , 13 (24), 4375–4380 (Dec., 2003).	2.182	USA
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43.	Kalauni, S. K., Choudhary, M. I., Khalid , A. , Manandhar, M. D., Shaheen, F., Atta-ur-Rahman, and Gewali, M. B., New Cholinesterase Inhibiting Steroidal Alkaloids from the Leaves of <i>Sarcococca coriacea</i> of Nepalese Origin. <i>Chem. Pharm. Bull. (Tokyo)</i> , 50 (11), 1423-1426 (Nov., 2002).	1.133	Japan
44. 2002	Atta-ur-Rahman, Akhtar, M. N., Choudhary, M. I., Tsudda, Y., Sener, B., Khalid , A., and Parvez, M., New Steroidal Alkaloids from <i>Fritillaria imperialis</i> and their Cholinesterase Inhibiting Activities. <i>Chem. Pharm. Bull.</i> (<i>Tokyo</i>), 50 (8), 1013-1016 (Aug., 2002).	1.133	Japan
45.	Atta-ur-Rahman, Zaheer-ul-Haq, Khalid , A. Anjum, S. Khan, M. R. and Choudhary M. I., Pregnane-type Steroidal Alkaloids of <i>Sarcococca</i> <i>saligna</i> : A New class of Cholinesterases Inhibitors. <i>Helv. Chim. Acta</i> , 85 (2), 678-688 (Feb., 2002).	1.949	Switzerland
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47.	Atta-ur-Rahman, Parveen, S., Khalid , A., Farooq A. and Choudhary, M. I., Acetyl and Butyrylcholinesterase-Inhibiting Triterpenoidal Alkaloids From <i>Buxus papillosa</i> . <i>Phytochemistry</i> , 58 (6), 963-968 (Nov., 2001).	1.296	England
48.	Kalauni, S. K., Choudhary, M. I., Manandhar, M. D., Atta-ur-Rahman, Gewali M. B. and Khalid, A. , Steroidal Alkaloids from the Leaves of <i>Sarcococca coriacea</i> of Nepalese Origin. <i>J Nat. Prod.</i> , 64 (6), 842-844 (Jun., 2001).	1.737	USA
0007 0007	Atta-ur-Rahman, Fatima, N., Akhtar, F., Choudhary M. I. and Khalid, A. , New Norditerpenoid Alkaloids from <i>Aconitum falconeri</i> . J. Nat. Prod., 63 (10), 1393-1395 (Oct., 2000).	1.878	USA
50.	Atta-ur-Rahman, Parveen, S., Khalid , A., Farooq A., Ayatollahi S. A. M. and Choudhary, M. I., Acetylcholinesterase Inhibiting Triterpenoidal Alkaloids From <i>Buxus hyrcana</i> . <i>Heterocycles</i> , 49 (1), 481-488 (Dec., 1998).	0.831	Japan

Manuscripts Under Preparation

- **51.** El Sayed H. El Ashry, Mohammed R. Amera, Yeldez El Kilanyd, Salih Osman Mohammed1, El Shobaky Ahmed , **Asaad Khalid** and Omar A ElShahaby; Urease inhibitor activity of Regioselectivity of the alkylation of benzimidazole 2-thione
- **52.** Sufyan Awadelkarim, **Asaad Khalid**, Nida Ambreen, Khalid M. Khan, Talal A. Awad, M. A. Mesaik, Omer Elhag, M. Galal, Sean T. Prigge, and M. Iqbal Choudhary; (2018) New plasmodium falciparum Enoyl-ACP Reductase Inhibiting Coumarin Derivatives

- **53. Khalid A,** M. Nabeel Ghayur, M. Ahmed Mesaik, Surya K. Kalauni, Atta-ur-Rahman, Anwar H. Gilani , Mangala D. Manandhar, Mohan B. Gewali, and M. Iqbal Choudhary (2018) Sarcorucinine-D: a neurotrophic, non-competitive cholinesterases inhibitor that blocks calcium channels
- **54.** Talal A. Awad, Fatima Alfatih, Amani Bashir, Jukka Leppänen, Antti Poso and **Khalid A** (2018); In vitro and in silico evaluation of Chalcones as new glycogen phosphorylase inhibitors.
- **55. Khalid, A.,** Zaheer-ul-Haq, Khan W., Azim, M. K., Azizuddin, Atta-ur-Rahman, Choudhary, M. I. (2012): Experimental and Theoretical Investigations of Mechanisms on Cholinesterases Inhibition by Natural Coumarins.
- **56.** Mustafa, S. A. A., Adnan, T. A. A., Ambreen, N., Galal, M., Khan, K. M., Abdullah, O. M., Mesaik, M. A., Choudhary, M. I., Prigge, S. T., and **Khalid**, **A.**, (2012): Structural Studies on the Inhibition of PfENR Enzyme by Coumarin Derivatives.

Notes:

1- ISO journal abbreviations are used.

2- For the current year, the latest impact factor of the journal is used.

B. PROCEEDINGS OF SCIENTIFIC MEETINGS:

57. Khalid, A., Azim, M. K., Parveen, S., Atta-ur-Rahman, Choudhary, M. I., (2005): Molecular Recognition in Acetylcholinesterase-Inhibitor Complex, *Proceedings of the 8th International Symposium on Protein Structure Function Relationship*.

C. LECTURES/ORAL PRESENTATIONS:

- "Discovery of TB drugs from medicinal plants: The Road to El Dorado" invited lecture delivered in the 1st Mediterranean Symposium on Medicinal and Aromatic Plants (MESMAP-2013), Gazimagosa, The Northern Cyprus, April 17-20, 2013.
- Gazimagosa, The Northern Cyprus, April 17-20, 2013.
 "DISCOVERY OF DRUG HITS FROM MEDICINAL PLANTS: An efficient strategy for fighting neglected diseases" lecture delivered in the 4th International Symposium-Cum-Training Course on Molecular Medicine and Drug Research, Karachi, Pakistan, January 7 10, 2013.
 - **3.** "Natural Product Research in the Arab World: Challenges and Opportunities" invited lecture delivered in the Conference of Arab expatriate scientists "when Arab minds integrate" headquarters of the Arab League, Cairo, Egypt, Dec. 19-20, 2012.
 - 4. "Discovery of drug hits from medicinal plants: an efficient strategy for fighting neglected diseases" keynote lecture presented in the International Conference of Young Chemists, Jordan, Amman, April 8-10, 2012.
 - 5. "Discovery of drug hits from medicinal plants: an efficient strategy for fighting neglected diseases" lecture delivered in the 3rd Annual Meeting of the COST CM0801 action "New drugs for neglected diseases & Medicinal Chemistry in Parasitology", Modena, Italy, October 5-7, 2011.
- "Discovery of anti-malarial and anti-TB drug hits from medicinal plants" lecture delivered in the 4th ANDI Stakeholders Meeting and Donor Conference, Addis Ababa, Ethiopia, October 24 27, 2011.
- 7. "Discovery of specific enzyme-inhibiting hits from natural sources: an efficient strategy for fighting neglected diseases" lecture delivered in the 12th International Symposium on Natural Products Chemistry (ISNPC-12), Karachi, Pakistan, November 22 25, 2010.

- 8. "Discovery of specific enzyme-inhibiting hits from natural sources: an efficient strategy for fighting neglected diseases" invited lecture delivered at AstraZeneca India Pvt Ltd, Bangalore, India on October 25, 2010.
- **9.** "Discovery of specific enzyme-inhibiting hits from natural sources: an efficient strategy for fighting neglected diseases" invited lecture delivered in the 11th Eurasia Conference on Chemical Sciences (EuAsC2S-11), Dead Sea-Jordan, during October 6-10, 2010.
- **10.** "Discovery of natural specific enzyme inhibitors for the treatment of neglected diseases" lecture delivered in the 2nd Joint Expert Meeting among Working Groups 1/2/3/4 and MC Meeting of the COST (European Cooperation in Science and Technology) Action CM0801, Certosa di Pontignano, Siena, Italy, May 28-30, 2010.
- **11.** "Discovery of specific enzyme-Inhibiting natural product for the treatment of malaria and other neglected diseases" lecture delivered in the Third-World Academy of Sciences (TWAS) 11th General Conference, Durban, South Africa, October 19-23, 2009.
- 12. "Discovery of Specific Plasmodium falciparum Enoyl-ACP Reductase and Dihydrofolate Reductase Inhibitors from Sudanese Medicinal Plants as Antimalarial Candidates" lecture delivered in the Bright Ideas session of the 2nd Stakeholders meeting of the African Network on Drugs and Diagnostics Innovation (ANDI), Cape Town, South Africa, October 4-6, 2009.
- **13.** "Discovery of specific Plasmodium falciparum enoyl-ACP reductase inhibitors as antimalarial candidates" lecture delivered in the ESF-COST High-Level Research Conference on Natural Products Chemistry, Biology and Medicine II, Acquafredda di Maratea, Italy, August 29-September 3, 2009.
- 14. "Applications of Enzyme Inhibition Studies in Drug Discovery" lecture delivered in New Trends in Sciences and Technology to Enhance Sustainable Development in Africa (a meeting organized by the Sudanese Humboldtians Association and Sponsored by Alexander von Humboldt Foundation) Khartoum, Sudan, Nov. 23-26, 2008.
- **15.** "Applications of experimental and theoretical enzyme inhibition studies in drug discovery" lecture delivered in the 11th International Symposium on Natural Product Chemistry, Karachi, Pakistan, Oct. 29-Nov. 01, 2008.
- **16.** "Enzyme Inhibiting Drugs: the Momentum of Natural Products" lecture delivered in the 1st International Workshop on Molecular Pharmacology and Immunology, Khartoum, Sudan, August 4-13, 2008.
- **17.** "From molecular recognition to drug design: Applications of theoretical and experimental enzyme studies" lecture delivered in the 1st International Conference on Drug Design and Discovery, Dubai, UAE, February 4-7, 2008.
- **18.** "Natural Enzyme Inhibitors: Development of Enzyme inhibitors as potential drugs" an invited lecture delivered in the Institute of Environmental Research, Khartoum, Sudan, April 16, 2007.
- **19.** "Protein-ligand Interactions from Molecular Recognition to Drug Design: Applications of experimental enzyme kinetics and theoretical computational chemistry" lecture delivered in the 1st National Pakistan Proteomics Society Life Sciences- HEC Workshop" Karachi, Pakistan, February, 3-5 2007.
- **20.** "Development of enzyme inhibitors as molecular-based medicines" lecture delivered in the 1st International Symposium and Workshop-cum-Training Course on Molecular Medicine and Drug Research Islamabad, Pakistan, January,16-30 2007.

- **21.** "Searching for new natural enzyme inhibiting drug candidates: The story of a fight against neurodegenerative disorders" lecture delivered in the 1st International Symposium and Workshopcum-Training Course on Molecular Medicine and Drug Research, Karachi, Pakistan, January,16-30 2007.
- **22.** "Protein ligand interactions: How far can we see? The case of cholinesterase inhibition by natural coumarins" lecture delivered in the 9th International Symposium on Protein Structure Function Relationship, Karachi, Pakistan, January 11-14, 2007.
- **23.** "Searching for New Natural Enzyme Inhibiting Drug Candidates: The story of our fight against neurodegenerative disorders" invited lecture delivered at the University of Gezira, Wad Madani, Sudan, Dec. 5, 2006.
- **24.** "New Natural Quinoline and Steroidal Alkaloid Cholinesterases Inhibitors: Interesting Leads for the Treatment of Alzheimer's Disease" lecture delivered in the 10th International Symposium on Natural Product Chemistry, Karachi, Pakistan, Jan. 6-9, 2006.
- **25.** "Searching for Alzheimer's Disease Treatment: Structural Proteomic and Biochemical Studies on Natural Cholinestrases Inhibitor" lecture delivered in the 18th FAOBMB International Symposium, Lahore, Pakistan, November 20-23, 2005.
- **26.** "Biochemical and Structural Proteomic Studies on Natural noncompetitive cholinesterases inhibitors" lecture delivered in the AFASSA Symposium on Natural Product Chemistry, Karachi, Pakistan, July 25-27, 2005.
- 27. "Comparative study on structural basis of acetylcholinesterase and butyrylcholinesterase inhibition" lecture delivered in the 8th Biennial National Conference of PSBMB (Pakistan Society for Biochemistry and Molecular Biology), Karachi, Pakistan, March 7-9, 2005.
- **28.** "Studies on Molecular Recognition in Acetylcholinesterase-Inhibitor Complex" lecture delivered in the 8th International Symposium on Protein Structure Function Relationship, Karachi, Pakistan, January 7-10, 2005.
- **29.** "Enzyme Inhibition: Important Theoretical and Practical Considerations" invited lecture delivered in the *Pak-China Binational Workshop on the Pharmacology and Standardization of Herbal Medicines*, International Center for Chemical Sciences, H.E.J. Research Institute of Chemistry, University of Karachi, Pakistan, October 22-27, 2004.
- **30.** "Application of computer modeling in molecular recognition phenomenon" invited lecture delivered in the *Workshop on Bioinformatics* Organized by Dr. Panjwani Center for Molecular Medicine and Drug Research, International Center for Chemical Sciences, University of Karachi, Pakistan, October 4, 2004.
- **31.** "Molecular Docking: An Important Tool for Drug Development" invited lecture delivered in the *SAARC-HEJ International Training Course on Bioassay and Pharmaceutical Techniques for Drug Development*, H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, Pakistan, Oct. 10-15, 2003.
- **32.** "Cholinesterase Inhibition: New Potential Natural Candidates for the Treatment of Alzheimer's Disease" invited talk (online PowerPoint presentation), Herbal Medicine and Medicinal Plants Interest Group, American Society for Pharmacology and Experimental Therapeutics (ASPET), *http://www.aspet.org/public/interest_groups/herbal_medicinal_plant/Cholinesterase_alzheimer.pps*
- **33.** "Cholinesterases Inhibition: New Potential Natural Candidates for the Treatment of Alzheimer's Disease" lecture delivered in the *6th National Conference on Biochemistry and Molecular Biology*, Shah Abdul Latif University, Khairpur, Sindh, Pakistan, Feb. 15-17, 2001.

- 34. "Kinetic Studies on Acetylcholinesterase Inhibition" practical session instructed in the *International Workshop on the Technology for Product Development From Medicinal Plants*, H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, Karachi, Pakistan, Jan. 21-27, 2000.
- **35.** "Enzyme Inhibition: An Exciting tool for Drug Discovery" lecture delivered in the *Second National Workshop on the Use of Bioassay Techniques for the New Drug Development*, H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, Karachi, Pakistan, Aug. 26-28, 1999.
- **36.** "Potent New Natural Inhibitors for Acetylcholinesterase" lecture delivered in the 9th National Chemistry Conference, Department of Chemistry, University of Karachi, Karachi, Pakistan, Dec. 4-6, 1998.
- **37.** "Enzyme Inhibition: Theoretical Considerations" lecture delivered in the *National Workshop on the Use of Bioassay Techniques for the New Drug Development*, H.E.J. Research Institute of Chemistry, International Center for Chemical Sciences, University of Karachi, Karachi, Pakistan, July 8, 1997.