

DR. SAIMA RASHEED Ph. D.

CURRENT APPOINTMENT:

Assistant Professor at the Dr. Panjwani Center for Molecular Medicine and Drug Research, ICCBS, University of Karachi (w.e.f. Oct., 2018 to date).

PERSONAL INFORMATIONS:

Name: Saima Rasheed
Citizenship: Pakistani
Language skills: Fluent in English, Punjabi and Urdu
Address: Structural Biology laboratory
(X-Ray Crystallography)
Lab. # 110, TWC, ICCBS,
University of Karachi, Karachi, Pakistan
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**PROFESSIONAL OBJECTIVE:**

To extend the edges of knowledge and research associated with intellectual development in Chemistry and Biochemistry.

MAJOR RESEARCH ACTIVITIES:

My projects on macromolecular crystallography includes, isolation, crystallization, structural and functional analysis of Pant Lectins, Calmodulin in complex with selected metal ions, and pharmaceutically important protein from Ginger Rhizomes, etc.

My research lies at the interface of chemistry and biology. Isolation of natural compounds and chemical synthesis plays an increasingly significant role in the advancement of life sciences. My research program aims to advance this important paradigm. We undertook an advantage from *in-house* library of natural and synthetic compounds to explore the molecules with new functions. I'm working on evaluation of Antiglycation Effects of Natural and Synthetic Compounds. My work comprises of the identification of natural and synthetic compounds on the anti-diabetic effects (*in-vitro* as well as *in-vivo*) and their structure-activity relationship study. During my research, I earned valuable experience in *in-vitro* and *in-vivo* enzyme inhibition, hepatoprotective, antioxidant studies, biochemical assays development and designing.

AWARDS AND HONORS:

- **Travel Grant to attend A HERCULES school @ SESAME, Allan, Jordan, 26th Oct., to 7th Nov., 2019.**

Selected for travel grant to attend the two-weeks school on the techniques of synchrotron radiation and applications in the fields of Materials Science, Cultural Heritage, Physics, Chemistry, Biology and Biomedicine, Structural Biology and Environment.

- **Post-Doctoral Fellow (November, 2018 to January, 2019)**

Training and Exchange Programme offered by SESAME - Sweden, at MAX IV Laboratory, Lund University, Lund Sweden

- **OPEN-SESAME Training and Networking Program for Science Managers and Administrators**

Selected from Pakistan for OPEN-SESAME Training and Networking Program for Science Managers and Administrators going to be held from 7-10 May 2018 at the Cyprus Institute (CyI) in Nicosia, Cyprus, and later from 8-11 October 2018 in Izmir, Turkey.

- **Travel grant for 15th SESAME Users' Meeting, 18-19 December 2017**

Selected for Travel grant to participate in the 15th SESAME Users' Meeting, held in Amman-Jordan, 18-19 December 2017

- **IAEA-SESAME Fellowship Award for postdoctoral studies, Oct, 2016- Oct., 2017:**

On the basis of scientific achievements as young scientist, and upon the recommendation of Government of Pakistan (Pakistan Atomic Energy Commission), International Atomic Energy Commission granted me “**IAEA-SESAME Fellowship Award**”, to carryout postdoctoral studies in University of Hamburg, Hamburg, Germany.

International Atomic Energy Agency (IAEA) and SESAME offered only 10 fellowships in August, 2015 for young scientists from the SESAME members to develop skills in well-established synchrotron radiation laboratories around the world. It is honor for me that I have been selected from Pakistan, to get advance scientific training.

- **Travel grant from IUCr, 13th - 20th September, 2014:**

Selected for Travel grant from “**International Union of Crystallography (IUCr)**” and “**University of Hamburg, Hamburg, Germany**” to attend “**15th INTERNATIONAL CONFERENCE ON THE CRYSTALLIZATION OF BIOLOGICAL MACROMOLECULES (ICCBM15) (CONFERENCE AND PRE-CONFERENCE WORKSHOP**” in Hamburg, Germany).

➤ **64th LINDAU NOBEL LAUREATE MEETING, 29th June - 4th July, 2014:**

Selected as a young Scientist to participate in “64th LINDAU NOBEL LAUREATE MEETING (Physiology and Medicine)” in Lindau, Germany.

➤ **BIOVISION.NEXT-2013, March 24-26, 2013:**

I was among 75 young scientists of the world, who were selected on the basis of scientific excellence, mobility, and involvement in civil society to participate in **BIOVISION.NEXT-2013 FELLOWSHIP PROGRAMME** organized by **BIOVISION - The World Life Sciences Forum, Lyon, France.**

➤ **Merit Scholarship for Ph. D. Studies awarded by Higher Education Commission (HEC), Pakistan:**

Indigenous Scholarship from **Higher Education commission of Pakistan for Ph.D. studies** (from 2010 to 2013).

➤ **NOVARTIS LOCAL BIOCAMP (1-2 July, 2011):**

Selected to participate in “NOVARTIS LOCAL BIOCAMP” organized by NOVARTIS PAKISTAN.

➤ **TALENTED RESEARCHERS EXCHANGE PROGRAMME (December, 2010):**

Selected to participate in workshop under “TALENTED RESEARCHERS EXCHANGE PROGRAMME” organized by **BRITISH COUNCIL** and **HEIGHER EDUCATION COMMISSION PAKISTAN.**

ACADEMIC QULAIIFICATIONS:

<p><i>Post-doctorate Trainings</i> (Protein Chemistry; Structural Biology, X-Ray Crystallography)</p>	<p>1. MAX IV-SESAME Fellow BioMAX, MAX IV Laboratory, Lund University, Lund Sweden November, 2018 to January, 2019 <u>Research Title:</u> Fragment Screening Project: Crystallization of human carbonic anhydrase-II with small ligands.</p>
	<p>2. IAEA-SESAME Fellow Laboratory for Structural Biology of Infection and Inflammation, DESY, Build. 22a Notkestr. 85, 22603 Hamburg, Germany October, 2016 to October, 2017 <u>Research Title:</u> Isolation, crystallizations, structural and functional analysis of medicinally important proteins by X-Ray crystallography applying synchrotron radiation and associated techniques.</p>

<i>Ph.D. (Chemistry/ Bio-Organic Chemistry)</i>	H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi, Karachi-75270, Pakistan. <i>Research Title:</i> Study of Antiglycating Agents of Natural and Synthetic Origin. <i>Overall CGPA in M. Phil. Courses:</i> 4.0/4.0 <i>Overall CGPA in Ph.D. Courses:</i> 3.87/4.0
<i>M.Sc. (Chemistry/ Organic Chemistry)</i>	<i>Department of Chemistry, University of Karachi,</i> <i>Thesis Title:</i> Interaction studies of Cephalosporin with Non-Steroidal Anti-Inflammatory Drugs. <i>Division:</i> 1 st <i>GPA:</i> 3.5 / 4.0
B.Sc. (Biological Sciences)	University of Karachi, <i>Major subjects:</i> Chemistry, Zoology, Botany <i>Division:</i> 1 st

OTHER EXAMS & CERTIFICATE COURSES:

1. *Introduction to X-Ray Crystallography (5th April to 4th May, 2016):*

(A⁺ grade, Stand 3rd)

Held at H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi, Conducted by **Dr. Masood Pervez (University of Calgary, Alberta, Canada)**.

2. *X-Ray Crystallography- Single Crystal Structure Determination of Small Molecules (26th October to 8th December, 2015):*

(A⁺ grade, Stand 1st)

Held at H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi, Conducted by **Dr. Masood Pervez (University of Calgary, Alberta, Canada)**.

3. *Basic Concepts and Applications of X-Rays Diffraction Techniques (24 Aug. to 2nd Sep., 2015)*
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Held at H. E. J. Research Institute of Chemistry, I.C.C.B.S., University of Karachi.

4. *Single Crystal X-ray Diffraction Technique-Basic Principales (2015) :*

Held at H. E. J. Research Institute of Chemistry, I.C.C.B.S., University of Karachi.

5. *The Human Care and Use of Laboratory Animals (2013):*

Completed the training from H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi.

6. *GRE Subject International* (Prescribe by ETS, USA,) in Chemistry (April, 2010)

7. *Covalent Modifications of DNA as a Target for Small Molecules* (March, 2011):

(Grade A⁺)

Held at H. E. J. Research Institute of Chemistry, ICCBS, University of Karachi, conducted by **Dr. Martin Schnermann**

8. *Course on X-Ray Crystallography* (August 2008):

(Grade A)

Held at H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi, Conducted by **Dr. Masood Pervez (University of Calgary, Alberta, Canada)**

9. *Modern Concepts in NMR Spectroscopy* (February, 2007):

(Grade A)

Held at H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi, Conducted by **Prof. Dr. Daniel D. Trfficante.**

10. *Survey of Mass Spectrometry* (February, 2010):

(Grade A)

Held at H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi, Conducted by **Prof. Dr. David Smith (Department of Chemistry, University of Nebraska, Lincoln, Nebraska, U. S. A).**

COMPUTER SKILLS:

Operating Systems: MSDOS, Windows 95/98/2000, Windows XP, LINUX.

Scientific Applications: Softmaxpro, EZFIT, GraFit, GRFIT-PRISUM, WINGX, ORTEP, SHELX, COOT, XDS, PYMOL, CCP4i.

Office Applications: Microsoft PowerPoint, Access, Excel, Word

RESEARCH EXPERIENCE & PROFESSIONAL INTERESTS:

Assistant Professor (November, 2018 to date)

Assistant Professor at the Dr. Panjwani Center for Molecular Medicine and Drug Research, ICCBS, University of Karachi. Working in the field of macromolecular crystallography, and supervising three M.Phil. Students.

Research Officer (Since October, 2017 to October, 2018)

Working in my mother institute, to establish the laboratory of macromolecular crystallography. Involved in teaching activities by taking courses of MS and Ph.D. level. Designing new courses related to macromolecular crystallography, and training young researchers in this field to enhance their scientific skills.

Post-doctoral Fellow (Since October, 2016 to October, 2017)

I have completed post-doctoral training under prestigious IAEA-SESAME Fellowship programme in the field of crystallization of bio-molecules and their structural and functional analysis by X-Ray crystallography using synchrotron radiation at PETRA III, DESY, Hamburg. My projects included:

1. Isolation, crystallization, structural and functional analysis of ML-I Lectins from *Viscum album*.
2. Crystallization, structural and functional analysis Calmodulin in complex with selected metal ions, and
3. Isolation, crystallization, structural and functional analysis of a Protein with Pharmaceutical Importance from Ginger rhizomes.
4. Crystallization of Jack bean Urease with different ligands.

Research Officer/Postdoctoral Fellow (Since May, 2013 to October, 2016)

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

Worked as research officer and Lab incharge in Enzyme inhibition Laboratory at H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences (ICCBS), University of Karachi, co-supervising the research of M. Phil and Ph.D. students on following activities:

- Anti-glycation studies (*In-vitro* and *in-vivo*)
- Urease inhibition studies
- Alpha-glucosidase inhibition studies
- Xanthine Oxidase inhibition studies
- Tyrosinase Inhibition studies
- Phosphodiesterase inhibition studies
- Carbonic Anhydrase inhibition studies
- Antioxidant studies (*In-vitro* and *in-vivo*)

2006-2013: Over 7 years of research experience as a research fellow of chemistry, particularly in the field of:

- Protein Glycation and Antiglycation
- Enzyme Inhibition studies

- Anti-oxidant studies

Interested in innovatively combining the following fields of interest in teaching and research missions:

- Chemistry (Especially Organic Chemistry)
- Biochemistry (specially the depths of Proteins, Peptides, Enzymes and Diabetes)
- Distance education, e-learning
- Education for peace, democracy, and social reforms

SCIENTIFIC ACHIEVEMENTS:

A) PATENTS:

Our research group filed following two patents on my credit:

1) Heterocyclic Schiff's Bases as Novel and New Antiglycation Agents.

Saud Resayes, Ismail Warad, M. Iqbal Choudhary, Atia-tul-Wahab and **Saima Rasheed**, US Patent, 2013, No. 00000600162.

2) Anti-Glycation Properties of Oxindole Derivatives.

M. Iqbal Choudhary, **Saima Rasheed**, Nessar Ahmed, Khalid M. Khan, Momin Khan, Atta-ur-Rehman, Atia-tul-Wahab, US Patent, 2013, **U. S. Patent Serial No. 13/954, 648**

B) RESEARCH PUBLICATOINS

Cumulative Impact Factor: 75; Citations: 889; h-index; 16

1) Synthesis of bis-Schiff Bases of Isatins and their Antiglycation Activity

Khalid Mohammed Khan, Momin Khan, Muhammad Ali, Muhammad Taha, **Saima Rasheed**, Shahnaz Perveen and M. Iqbal Choudhary, *Bioorganic & Medicinal Chemistry*, 17, 7795-7801, **2009**.

2) Cyclopeptide Alkaloids of *Ziziphus oxyphylla* Edgw as Novel Inhibitors of α -Glucosidase Enzyme and Protein Glycation

M. Iqbal Choudhary, Achyut Adhikari, **Saima Rasheed**, Bishnu P. Marasini, Nusrat Hussain, Waqar Ahmad Kaleem, Atta-ur-Rahman, *Phytochemistry Letters*, 4, 404–406, **2011**.

3) Canarene: A Triterpenoid with a Unique Carbon Skeleton from *Canarium schweinfurthii*

Ramsay S. T. Kamdem, Pascal Wafo, Sammer Yousuf, Zulfiqar Ali, Achyut Adhikari, **Saima Rasheed**, Ikhlal A. Khan, Bonaventure T. Ngadjui, Hoong-Kun Fun, and M. Iqbal Choudhary, *Organic Letters*, 13 (20), 5492–5495, **2011**.

4) Diorganotin (IV) Derivative of 2-Thiophene Acetic Acid: Characterizations and Biological Activities of {[n-Bu₂SnO₂C-CH₂-C₄H₃S]₂O}₂

Abdelkader Ettouhami, Abderrahman Yahyi, Abdellah El Mejdoubi, Brahim El Bali, Sadia Siddiq, Sagufta Noureen, Bishnu P. Marasini, Ajmal Khan, *Saima Rasheed*, M. Iqbal Choudhary, *Medicinal Chemistry Research*, 21 (11), 3607-3614, **2012**.

5) New Antiglycation and Enzyme Inhibitors from *Parmotrema Cooperi*

M. Iqbal Choudhary, Meher Ali, Atia-tul-Wahab, Ajmal Khan, *Saima Rasheed*, Sajjan Lal Shyaula (Shrestha) and Atta-ur-Rahman, *Science China Chemistry*, 54 (12), 1926–1931, **2011**.

6) Two New Halocuprates Complexes [CuII (1, 4, 8, 11-tetraazacyclotetradecane)] [CuICl₃] and [H₄ (1, 4, 8, 11-tetraazacyclotetradecane)] [Cu₂ICl₆]: Synthesis, Characterizations and Biological Studies

Mohammed Lachkar, Ilham Halime, Abdoulillah Bezgour, Brahim El Bali, Michal Dusek, Karla Fejfarova, Sadia Siddiq, Bishnu P. Marasini, Shagufta Noreen, Ajmal Khan, *Saima Rasheed*, M. Iqbal Choudhary, *Medicinal Chemistry Research*, 21, 4290–4300, **2012**.

7) Xanthones Inhibitors of α -glucosidase and Glycation from *Garcinia nobilis*

Hugues Fouotsa, Alain Meli Lannang, Celine Djama Mbazona, *Saima Rasheed*, Bishnu P. Marasini, Zulfiqar Ali, Krishna Prasad Devkota, Augustin Ephrem Kengfack, Farzana Shaheen, Muhammad Iqbal Choudhary, Norbert Sewald, *Phytochemistry Letters*, 5 (2), 236–239, **2012**.

8) Synthesis of Benzoxazoles Derivatives: Antiglycation activity

Khalid Mohammed Khan, Aneela Karim, Nida Ambreen, Sumayya Saied, *Saima Rasheed*, Shahnaz Perveen, and Mohammad Iqbal Choudhary, *Journal of Pharmacy Research*, 5 (1), 664-665, **2012**.

9) Metronidazole Esters: A New Class of Antiglycation Agents

Aurang Zeb, Imran Malik, *Saima Rasheed*, M Iqbal Choudhary, Fatima Z Basha, *Medicinal Chemistry*, 8 (5), 846-852, **2012**.

10) Oxindole Derivatives: Synthesis and Antiglycation Activity

Khalid Mohammed Khan, Momin Khan, Nida Ambreen, Muhammad Taha, Fazal Rahim, *Saima Rasheed*, Sumayya Saied, Humaira Shafi, Shahnaz Perveen and M. Iqbal Choudhary, *Medicinal Chemistry*, 9(5), 681-688, **2013**.

11) Acylhydrazide Schiff Bases: Synthesis and Antiglycation Activity

Khalid Mohammed Khan, Muhammad Taha, Fazal Rahim, Muhammad Imran Fakhri, Waqas Jamil, Momin Khan, *Saima Rasheed*, Aneela Karim, Shahnaz Perveen, and Mohammad Iqbal Choudhary, *Journal of The Chemical Society of Pakistan*, 35(3), 929-937, **2013**.

12) Synthesis of 4-Methoxybenzoylhydrazones and Evaluation of their Antiglycation Activity

Muhammad Taha, Humera Naz, *Saima Rasheed*, Nor Hadiani Ismail, Aqilah Abd Rahman, Sammer Yousuf, and Muhammad Iqbal Choudhary, *Molecules*, 19, 1286-1301, 2014.

13) Structure-based Design, Synthesis and Biological Evaluation of β -glucuronidase Inhibitors

Khalid M. Khan, Nida Ambreen, Muhammad Taha, Sobia A. Halim, Zaheer-ul-Haq, Shagufta Naureen, *Saima Rasheed*, Shahnaz Perveen, Sajjad Ali, Mohammad Iqbal Choudhary, *Journal of Computer-Aided Molecular Design*, 28(5), 577-585, 2014.

14) Comparative Anti-glycation and α -Glucosidase Inhibitory Studies of Metabolite, 9 β ,12 β -Dihydroxy-9 β ,10 α -pregna-4,6-diene-3,20-dione with Dydrogesterone

Azizuddin, *Saima Rasheed*, Suad Naheed and Muhammad Iqbal Choudhary, *Journal of the Chemical Society of Pakistan*, 36 (3), 488-490, 2014.

15) Benzothiazole Derivatives: Novel Inhibitors of Methylglyoxal Mediated Glycation of Proteins In Vitro

Sanaullah Abbasi, Salma Mirza, *Saima Rasheed*, Shafqat Hussain, Jalaluddin A.J. Khan, Khalid Mohammed Khan, Shahnaz Perveen and M. Iqbal Choudhary, *Medicinal Chemistry*, 10(8), 824-35, 2014.

16) Antiglycation Activity of Quinoline Derivatives- A New Therapeutic Class for the Management of Type 2 Diabetes

Bilquees Bano, Sanaullah Abbasi, Jalaluddin A. J. Khan, Shafqat Hussain, *Saima Rasheed*, Shahnaz Perveen, Khalid Mohammed Khan and M. Iqbal Choudhary, *Medicinal Chemistry*, 11(1), 60-8, 2014.

17) Comparative anti-glycation and α -glucosidase inhibition studies of microbial transformed compounds of dydrogesterone

Azizuddin, *Saima Rasheed*, Shaista Naz, Suad Naheed, and Muhammad Iqbal Choudhary, *Pakistan Journal of Pharmaceutical Sciences*, 28 (2), 521-523, 2015.

18) In Vitro Antioxidant and Antiglycation Studies on African Mistletoe (*T. bangwensis*) and Ring Worm Plant (*S. alata*) from Nigeria

Kingsley C. Patrick-Iwuanyanwu, Sajjad Ali, Muhammad Iqbal Choudhary, Muhammad Ismail, *Saima Rasheed*, *Journal of Biodiversity and Environmental Sciences*, 6(1), 378-386, 2015.

19) Synthesis, Biological Activity and Theoretical Study of Some Isatin, and their Metal Complexes

Fatma Kandemirli, *Saima Rasheed*, Yusuf Akkaya, Can Dogan Vurdu and M. Iqbal Choudhary, *Journal of Chemical and Pharmaceutical Research*, 7(3), 44-55, 2015.

- 20) Discovery of New Inhibitors of Urease Enzyme: A Study Using STD-NMR Spectroscopy**
 Jalaluddin A. J. Awllia, Ayesha Sara, Atia-tul-Wahab, Maryam AL-Ghamdi, *Saima Rasheed*, Etimad Huwait and M Iqbal Choudhary, *Letters in Drug Design & Discovery*, 12 (10), 819-827, **2015**.
- 21) 2-Arylquinazolin-4(3H)-ones: A New Class of α -Glucosidase Inhibitors**
 Kulsoom Javaid, Syed Muhammad Saad, *Saima Rasheed*, Syed Tarique Moin, Naima Syed, Itrat Fatima, Uzma Salar, Khalid Mohammed Khan, Shahnaz Perveen, M. Iqbal Choudhary, *Bioorganic & Medicinal Chemistry*, 23 (23), 7417–7421. **2015**.
- 22) Flavonoids as Natural Inhibitors of Jack Bean Urease Enzyme**
 Jalaluddin A. J. Awllia, Maryam AL-Ghamdi, Etimad Huwait, Sumaira Javaid, Atia-tul-Wahab, *Saima Rasheed*, and M. Iqbal Choudhary, *Letters in Drug Design & Discovery*, 13(3): 243-249., **2015**.
- 23) Dihydropyrano [2,3-c] pyrazole: Novel *In-Vitro* Inhibitors of Yeast α -Glucosidase**
 Hamdy Kashtoh, Munira Taj Muhammad, Jalaluddin J.A. Khan, *Saima Rasheed*, Ajmal Khan, Shahnaz Perveen, Kulsoom Javaid, Atia-tul-Wahab, Khalid Mohammed Khan, M. Iqbal Choudhary, *Bioorganic Chemistry*, 65, 61-72, **2016**.
- 24. Antiurease, Antiphosphodiesterase and Antiglycation Studies of Pd(II) Complexes with Monodentate Hydrazides**
 Qurrat-ul-Ain, *Saima Rasheed*, Mohammad Mahroof-Tahir, Uzma Ashiq, Rifat Ara Jamal, Sumaira Khurshid and Sana Mustafa, *Journal of the Chemical Society of Pakistan*, 38 (5), 864-881, **2016**.
- 25. *In-Vitro* Dual Inhibition of Protein glycation, and oxidation by some Arabian Plants**
 Maqsood A. Siddiqui, *Saima Rasheed*, Quaiser Saquib, Abdulaziz A. Al-Khedhairy, Mansour S. Al-Said, Javed Musarrat and Muhammad Iqbal Choudhary, *BMC Complementary and Alternative Medicine*, 16, 276-286, **2016**.
- 26. Drug repurposing: *In-vitro* anti-glycation properties of 18 common drugs**
Saima Rasheed, Sara S. Sánchez, Sammer Yousuf, Stella M. Honoré, and M. Iqbal Choudhary, **2018**, PLoS ONE, 1-9
- 27. Bioactive chemical constituents of *Duboscia macrocarpa* Bocq., and X-ray diffraction study of 11 β , 12 β -epoxyfriedours-14-en-3 α -ol**
 Ramsay S.T. Kamdem, Pascal Wafo, Amadou Dawe, Dieu Ne Dort Nganteng, Umeokoli Blessing Ogechukwu, *Saima Rasheed*, Omeje E. Ogechukwu, Gamall Makhoulfi, Zulfiqar Ali, Ikhlas A. Khan, Muhammad Iqbal Choudhary, Christoph Janiak, Peter Proksch, **2018**, *Fitoterapia*, 125, 65–71.

28. Isolation and initial structural characterization of a 27 kDa protein from *Zingiber officinale*

Saima Rasheed, Malik Shoaib Ahmad, Sven Falke, M. Iqbal Choudhary, and Christian Betzel, *Journal of Molecular Structure*, 1156, 330-335, **2018**

29. Crystallization and Structure Analysis of Mistletoe Lectin I (ML-I) from *Viscum album* in complex with 4-N-furfurylcytosine at 2.85 Å Resolution

Malik Shoaib Ahmad, *Saima Rasheed*, Sven Falke, Beenish, M. Iqbal Choudhary, and Christian Betzel, *Medicinal Chemistry*, 14 (8), 754-763, **2018**

30. Anti-glycating and anti-oxidant compounds from traditionally used anti-diabetic plant *Geigeria alata*(DC) Oliv. & Hiern.

Eltayeb Fadul, Arsalan Nizamani, *Saima Rasheed*, Achyut Adhikari, Sammer Yousuf, Shahida Parveen, Nezhun Gören, Hassan A. Alhazmi, M. Iqbal Choudhary, and Asaad Khalid, *Natural Product Research*, 1-9, **2019**

31. In vitro antiglycation and antioxidant properties of benzophenone thiosemicarbazones.

Abbasi, S., *Rasheed*, S., Khan, J. A., Saad, S. M., Khan, K. M., & Choudhary, M. I. *Pakistan Journal of Pharmaceutical Sciences*, 2020, 33(3), 1147-1153

32. Isolation of Antidiabetic Withanolides from *Withania coagulans* Dunal and Their In Vitro and In Silico Validation.

33. Maher, S., Choudhary, M.I., Saleem, F., *Rasheed*, S., Waheed I, Halim, S.A., Azeem, M., Abdullah, I.B., Froeyen, M., Mirza, M.U., Ahmad, S. *Biology*. 9(8), 197, 2020

34. New Isolate from *Salvinia molesta* with Antioxidant and Urease Inhibitory Activity,

N. Naheed, S. Maher, F. Saleem, A. Khan, A. Wadood, *S. Rasheed*, M. I. Choudhary, M. Froeyen, I. Abdullah, M. U. Mirza, J. F. Trant, S. Ahmad, *Drug Development Research*, 1–13, **2021**.

35. Isolation of Secondary Metabolites from *Syzygium aromaticum* Linn. (cloves), and Evaluation of their Biological Activities

Z. Kiran, H. N. Khan, S. Rasheed, S. Begum, M. I. Choudhary, Sara, Z. Bano, B. S. Siddiqui, S. Fayyaz, E. Iqbal, T. Hussain, M. Lateef, Atta-ur-Rahman, *Natural Product Research*, (2020). Accepted.

36. Anti-Glycation, and Antioxidative Properties of *Illicium verum* Hook. f. In-vitro and in a Diabetic Rat Model

H. N. Khan, *S. Rasheed**, M. I. Choudhary, N. Ahmed, and A. Adem, *PlosOne*. (2021, Submitted).

C) PROJECTS

Research project won from “ICCBS Institutional Research Funding for Research Officers” as PI, entitled, “Structural Analysis of Carbonic Anhydrase II: A Model for Protein–Ligand Binding Studies” (Project No: 2209-2018).

Worked as Part-time research officer on following projects:

1. Bio-prospection of Arabian Medicinal Plants for Antiglycation Agents for Developing of a Novel Molecular Therapeutic Approach for Diabetes, funded by King Saud University, Saudi Arabia.
2. Discovery of New Inhibitors of Urease Enzyme- An Approach towards the Molecular Treatment of Peptic Ulcer, Urolithiasis and other Complications, funded by King AbdulAziz University, Saudi Arabia.
3. Pak-Argentinean Cooperation for the Discovery of New Potent Natural Antiglycation Agents for the Management of Late Diabetic Complication, funded by the Ministry of Science and Technology, Pakistan.

Member of organizing committee in Workshops and Conferences:

Actively participate as a member of organizing committee in the following workshops and conferences:

- Participated as “RESOURCE PERSON” in the 4th International Workshop on X-Ray Crystallography in Structural Biology, organized by The Islamia University of Bahawalpur, Bahawalpur, Pakistan, February 25-27, 2020.
- Member of organizing committee for the conference entitled, “5th Science and Technology Exchange Program (STEP-5) on Health Challenges of Communicable and Non-Communicable Diseases”, February 27 - March 02, 2019, University of Karachi, Pakistan.
- Member of organizing committee for the conference entitled, “7th International Symposium-cum-Training Course on Molecular Medicine and Drug Research (MMDR-7)”, November 04 - 07, 2019, University of Karachi, Pakistan.
- 14th International Symposium on Natural Product Chemistry (ISNPC-14) (November 6 – 8, 2018), at the International Center for Chemical and Biological Science, University of Karachi.
- 2nd International Symposium on Natural Products for the Future (ISNPF-2)”, (November 4 – 6, 2018) at the International Center for Chemical and Biological Science, University of Karachi.
- 3rd International Workshop on X-Ray Crystallography in Structural Biology (October 8-10, 2018), at the International Center for Chemical and Biological Science, University of Karachi.
- 6th International Symposium MMDR6 (November 6-9, 2017), at the International Center for Chemical and Biological Science, University of Karachi.
- 5th International Symposium MMDR5 (January 12-15, 2015), at the International Center for

Chemical and Biological Science, University of Karachi.

- International Workshop on Modern Spectroscopic Techniques (December 1-3, 2014)", at the International Center for Chemical and Biological Science, University of Karachi.
- IYCr South Asia Summit Meeting on Vistas in Structural Chemistry (28-30 April, 2014, Karachi, Pakistan), at the International Center for Chemical and Biological Science, University of Karachi.

INTERNATIONAL WORKSHOPS/ SEMINARS:

20th -21st April, 2015 Workshop on Physics and Technology of Synchrotron (Synchrotron radiation Users Meeting, Organized by National Center for Physics (NCP), Islamabad, Pakistan

13th - 20th Sep., 2014 15th International Conference on the Crystallization of Biological Macromolecules (ICCBM15), "Conference and Pre-Conference Workshop" organized by University of Hamburg, Hamburg, Germany.

July, 2014 64th Lindau Nobel Laureate Meeting (Physiology and Medicine)" in Lindau, Germany.

Posters Presentation

- Discovery of Antiglycation Agents and α -Glucosidase Inhibitors: An Efficient Strategy for the Molecular Treatment of Diabetes

Saima Rasheed and M. Iqbal Choudhary

August-2013 International Conference on Applications of Molecular Biology in Medicine and Agriculture", organized by Quaid-I-Azam University, Islamabad, Pakistan.

Posters Presentation

- Discovery of Antiglycation Agents: An Efficient Strategy for the Molecular Treatment of Diabetes,
Saima Rasheed and M. Iqbal Choudhary

August-2013 International Workshop on Bioinformatics Tool in Structural Biology, Dr. Panjwani Center for Molecular Medicine and Drug Research, International Center for Chemical and Biological Science, University of Karachi.

March, 2013 BIOVISION 2013(March 24-26, 2013) - The World Life Sciences Forum, at Lyon-France

Sept., 2012 13th International Symposium on Natural product Chemistry (ISNPC-13), H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Science, University of Karachi.

Posters because of my research efforts in 13th ISNPC:

- i. **Discovery of Anti-Glycation Agents: An Approach towards the Molecular Treatment of Diabetes**,
Saima Rasheed, M. Iqbal Choudhary, Suad Naheed, Bishnu P.

Marasini, and Rizwana Malik

- ii. ***Cyclopeptide alkaloids of Ziziphus oxyphylla Edgw as Novel Inhibitors of α -glucosidase Enzyme and Protein Glycation***
Achyut Adhikari, **Saima Rasheed**, Bishnu P. Marasini, M. Iqbal Choudhary
- iii. ***Metronidazole esters: a new class of antiglycation agents***
Aurang Zeb, farhana Batool, **Saima Rasheed**, M Iqbal Choudhary, Fatima Z Basha
- iv. ***Molecular treatment of Pancreatitis-Discovery of Novel α -Chymotrypsin Inhibitors***
Bishnu P. Marasini, M. Iqbal Choudhary, Uzma Mahmood, Rizwana Malik, Suad Naheed, Saima **Rasheed**, Ajmal Khan, Muhammad Saleem, Zaheer-ul-Haq, Khalid M. Khan and Atta-ur-Rahman
- v. ***Mechanistics Studies on New Inhibitors of carbonic Anhydrase-II***,
Muhammad Saleem, M. Iqbal Choudhary, **Saima Rasheed**, Ajmal Khan, Bishnu Marasini, sadia Saddiq and Atta-ur-Rahman

- March, 2011** 9th International & 21st National Chemistry Conference, organized by Department of Chemistry and H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi.
- January, 2011** 3rd International Symposium-cum-Training Corse on Molecular Medicine and Drug Research, organized by Dr. Panjwani Center for Molecular Medicine and Drug Research, International Center for Chemical and Biological Sciences, University of Karachi.
- June, 2010** PABIC Workshop/Launching of ISSA BRIEF 41, Tribute to the Father of Green Revolution, Nobel Prize Laureate Prof. Dr. Norman Borlaug, H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi.
- October, 2009** PABIC Workshop, Creating Awareness about the role of Biotechnology in Sustainable national development, H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University of Karachi.
- July, 2009** CME workshop on "New Trends in Lab. Investigations & diagnosis: Genomics and Proteomics", Liaquat National Hospital & Medical College, Karachi.
- October, 2008** 11th International Symposium on Natural product Chemistry, H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Science, University of Karachi.
- November, 2006** Emerging Global Scenario, Survival of Muslim Youth in the Realm of Violence & Mental health of Children, Adolescent and Adults. Institute of Clinical Psychology, University of Karachi.