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Dr. Feroz Khan

Designation : **Associate Professor**

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Qualification : M.Sc., Ph.D.

Area of Specialization : Molecular Biology, Biochemistry, Bioinformatics

Academic qualification:

Ph.D (Biotech), University of Pune, Pune, India Topic “*Purification and characterization of a lectin from fungus Fusarium sp. LR 11 having complex sugar specificity*” (Sep 2001-Feb 2007)

M.Sc. (Botany) Vikram University, Ujjain, MP, India (July 1998 – June 2000)

B.Sc. (Biology) Vikram University, Ujjain, MP, India (July 1995 – June 1997)

Employment History:

1. Dr. DY Patil Biotechnology and Bioinformatics Institute, Pune, India; Associate Professor, (Apr, 2012-present). Teaching- Molecular biology, Research: Discovering thermophilic proteases via bioinformatics approach.
2. University of California, San Francisco, USA; Postdoctoral Researcher, (Feb 2010- Dec 2011). Research: Understanding tooth enamel development in the lab. of Dr Stefan Habelitz. Postdoctoral Researcher,
3. University of Tokyo, Tokyo, Japan, Postdoctoral Researcher (Nov 2007- Jan 2010) Research- Discovery of novel restriction enzyme using bioinformatics in the lab of Prof Ichizo Kobayashi
4. Chang-Gung University, Tao-Yuan, Taiwan; Postdoctoral Researcher (July 2007-Nov-2007) Interaction of lectins in the supervision of Prof. A.M. Wu
5. Rajiv Gandhi Institute of IT and Biotech-nology, Bharti Vidyapeeth (A deemed University), Pune, India , Visiting Lecturer (Oct 2006- March 2007), Teaching- Biophysics and Biochemistry.
6. National Chemical Laboratory, Pune, India, Research Scholar (Sep 2001- Sep 2006); Research: Characterization of lectin for PhD program in the supervision of Dr. MI Khan

Honors, achievements and awards:

- Appreciated by ‘**The University of California, San Francisco, USA**’ for the excellent contribution as a postdoctoral researcher in dental research in 2010-2011.
- **JSPS (Japanese Society for the Promotion of Science), Japan** full term post-doc research fellowship awarded From Nov-2007 to Nov-2009.
- Life-time alumni and member of **JSPS (Japanese Society for the Promotion of Science), Japan**
- **Senior Research Fellowship** awarded from CSIR (Council of Scientific and Industrial Research, Govt of India), India, From 2003 to 2006
- **Junior Research Fellowship** awarded from CSIR (Council of Scientific and Industrial Research, Govt of India), India From 2001 to 2003
- **CSIR-UGC, NET (National Eligibility Test)** June 2000 qualified, conducted by CSIR-UGC, India
- **CSIR-UGC, NET (National Eligibility Test)** Dec 2000, qualified with a **rank in top 20%** conducted by CSIR-UGC, India

Publications (International, Peer Reviewed):

1. **Khan, F.**, Yoshikaju, F., Kawai, M., Kaminska, K., Ken, I., Bujnicki, J., and Kobayshi, I., (2010) “A putative mobile genetic element carrying a novel type IIF restriction-modification system (PluTI)” *Nucleic Acid Research* **38:9**, 3019-3030 [[Pubmed](#)] [[PDF](#)] (Impact Factor: **8.03**) (Citations: 9)
2. Martinez-Avila O., Wu S., Kim S.J., Horst J., Chen Y., **Khan F.**, Sali A., Habelitz S. (2012). Self-assembly of Filamentous Amelogenin Requires Calcium and Phosphate: From Dimers via Nanoribbons to Fibrils: *Biomacromolecules*. **13:11**, 3494-3502 [[Pubmed](#)] [[PDF](#)] (Impact Factor **5.48**) (Citation 1)
3. **Khan F.**, Liu H., Reyes A. Witkowska H.E., Wu L., Li Z., and Habelitz S. (2012). The proteolytic processing of amelogenin by enamel matrix metalloproteinase (MMP-20) is controlled by mineral ions. *Biochimica et Biophysica Acta* **1830:3**, 2600-2607, [[Pubmed](#)] [[PDF](#)] (Impact Factor: **5.00**) (Citation 1).
4. **Khan, F.**, Ahmad, A. and Khan, M.I. (Jan, 2007) “Chemical, thermal and pH induced equilibrium unfolding studies of *Fusarium solani* lectin” *IUBMB Life* : **59:1**, 34-43. [[PubMed](#)] [[PDF](#)] (Impact Factor: **3.51**) (Citation: 6) [[PDF](#)]
5. **Khan, F.**, Ahmad, A. and Khan, M.I. (Jan, 2007) “Purification and characterization of a lectin from endophytic fungus *Fusarium solani* having complex sugar specificity” *Archives of Biochemistry and Biophysics* : **457:2**, 243-251. [[PubMed](#)] [[PDF](#)] (Impact Factor: **2.93**) (Citation: **32**)

6. **Khan, F.**, Ahmad, A. and Khan, M.I. (2007) "Interaction of *Fusarium solani* lectin with mono and oligosaccharides: A fluorimetric study". *Photochemistry and Photobiology* : **83**, 966-970. [\[PubMed\]](#) [\[PDF\]](#) (Impact Factor: **2.41**) (Citation: 8)
7. **Khan, F.**, Ahmad, A. and Khan, M.I. (2010) "Steady state and time resolved fluorescence quenching and chemical modification studies of a lectin from endophytic fungus *Fusarium solani*. *Journal of Fluorescence*, **20:1**, 305-313. [\[PubMed\]](#) [\[PDF\]](#) (Impact Factor: **2.11**) (Citation: 6)
8. **Khan F**, Wu Li and Habelitz S. (2012) Biophysical characterization of synthetic amelogenin C-terminal peptides. *European Journal of Oral Sciences*. **120:2**, 113-122. [\[PubMed\]](#) [\[PDF\]](#) (Impact Factor: **1.88**) (Citation: 3).
9. Martinez-Avila O., Wu S., Cheng, Y., Lee R., **Khan F.**, and Habelitz S. (2011) Self-assembly of amelogenin proteins at the water-oil interface. *European Journal of Oral Sciences* **119**, 75-82 [\[PubMed\]](#) [\[PDF\]](#) (Impact Factor: **1.88**) (Citation: NA).
10. Uskokovic V., **Khan, F.**, Liu H., Witkowska H.E., Wu Li., Li Z., and Habelitz S. (2011) Proteolytic Hydrolysis of Amelogenin by Matrix Metalloprotease-20 Accelerated Mineralization *in vitro*. *Archives of Oral Biology* **56**, 1548-1559 [\[PubMed\]](#) [\[PDF\]](#) (Impact Factor: **1.65**) (Citation: 4).
11. **Khan F***, and Khan M.I. (2011), "The mushroom lectins show three types of conserved domain in a bioinformatics analysis. *American Journal of Biochemistry and Molecular Biology* **1:4**, 375-388. (*Corresponding author) [\[PDF\]](#) (Impact Factor: NA, New Journal) (Citation: NA).
12. **Khan F***, and Kobayashi I. (2011) "Routes of DNA Cleavage by Type II Restriction Enzymes" *American Journal of Biochemistry and Molecular Biology* **1:1**, 20-29 (*Corresponding author) [\[PDF\]](#) (Impact Factor: New Journal) (Citation: NA).
13. **Khan F***, and Khan M.I. (2011), "Fungal Lectins: Current Molecular and Biochemical Perspectives" *International Journal of Biological Chemistry*, **5:1**, 1-20 [\[PDF\]](#) (*Corresponding author) (Impact Factor: New Journal) (Citation: 4).
14. **Khan, F.**, Gaikwad S.M. and Khan, M.I. (2009) "Entropy driven binding of *O*-glycan and glycoproteins to *Artocarpus hirsuta* lectin: An SPR study" *Asian Journal of Biochemistry*, **4:4**, 106-116 [\[PDF\]](#) (Impact Factor: New Journal) (Citation: 1).
15. **Khan F** (2013), Proteases in leather and detergent industries, *Innovative Research in Chemistry*, **1:1**, 1-3 [\[PDF\]](#)
16. **Khan F** (2012), Structure prediction of a putative restriction endonuclease (AbaSORF13P) from *Acinetobacter baumannii* SDF, *International Journal of Innovative Biological Research*, **1:1**, 1-8 [\[PDF\]](#)
17. **Khan F**, Kumar A (2012), Prediction of a novel putative restriction endonuclease from

Chelativorans sp. BNC1, *Journal of Preliminary Research*, **1:1**, 1-8. [\[PDF\]](#)

18. Kumar A, **Khan F**, Rao M (2012), Biochemical Characterization of a Novel Aspartic Protease from *Plutella xylostella*, Diamondback moth (Lepidoptera: Plutellidae) Midgut: Inactivation by an Aspartic Protease Inhibitor, *International Journal of Innovative Biological Research*, **1:1**, 9-19 [\[PDF\]](#)
19. **Khan F**, Liu H., Witkowska H.E., and Habelitz S. (2012) Effect of minerals at various pH on amelogenin processing via MMP-20. (Manuscript in preparation).

Presentations/Proceedings:

- 1 **Khan, F.** Habelitz, S. Study of C-terminal products of Amelogenin (rh174) produced by MMP20 cleavage. 89th meeting of IADR (International Association for Dental Research), San Diego, CA, USA, 16-19 March, 2011,
- 2 **Khan, F.**, Yoshikaju, F., Kawai, M., Kaminska, K., Ken, I., Bujnicki, J., Kobayshi, I., “A Mobile Genetic Element of a Novel Type Carrying a Type IIF Restriction-modification System (PluTI)”, The 32nd Annual Meeting of the Molecular Biology Society of Japan, Yokohama, Japan, Dec 9-12, 2009
- 3 Bhayawant, S.S., Thakur, A.K., Kumar, S.A., **Khan, F.**, Deshpande, U.D., Gaikwad, S.M. and Khan, “Chickpea (*Cicer arietinum*) lectin: a lectin with complex sugar specificity.” M.I., XVII International Symposium on Glycoconjugates, IISc, Bangalore, India Jan 12- 16, 2003
- 4 **Khan, F.**, Ahmad, A., Krishnasastri, M.V. and Khan, M.I., “Lectin from endophytic fungus *Fusarium* sp. LR 11” National Science Day, National Chemical Laboratory, Pune-8. 2004.

Invited Lectures

1. Topic: Importance and use of restriction enzymes. Place: Iwata Minami High School, Shizuoka, Japan, Date: 10 Dec, 2008.

Research Grants obtained

Grant-In-Aid for Scientific Research from “Japan Society for the Promotion of Science” (JSPS) No. 19.07420, Total Amount Yen 1000,000 for two years starting Nov 2007 to Nov 2009.