

ABID ALI KHAN



Department of Biosciences, COMSATS Institute of Information Technology, Tarlai Kalan,
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CURRENT POSITION

ASSISTANT PROFESSOR

Department of Biosciences, COMSATS Institute of Information Technology, Islamabad,
Pakistan

DOCTORATE

Ph.D. Molecular Biology & Biomedicine (NanoBiotechnology) (2009-2012)

APTO CUM LAUDE (Passed with Excellence)

University of Basque Country, San Sebastian-Donostia, SPAIN.

Ph.D. Project Title: ***Tobacco Mosaic Virus (TMV) as a nanoscaffold for inorganic assemblies***

Aim: ***To exploit TMV as a bionanoscaffold (nanocarrier) for targeted drug delivery with combined hyperthermia against human ovarian cancer***

(Ph.D. was a part of the EU (FP7) project “MAGNIFYCO” (www.magnifyco.eu)

EDUCATION

1. *Master of Science in Biology (Molecular Biology & Microbiology) (2006-2008)*

University of Gothenburg/Chalmers University of Technology, Gothenburg, Sweden.

MSc Degree Project: Role of TOR in *Saachromyces* as an energy sensor.

2. *Bachelor of Biotechnology (2002-2006)*

University of Peshawar, KPK, Pakistan.

BS Degree Project: Homology modeling of Ring Necked Pheasant hemoglobin.

WORK (TEACHING & RESEARCH) EXPERIENCE

1. Assistant Professor (12/2012 – continued)

Department of Biosciences, COMSATS Institute of Information Technology, Park Road, Islamabad,
Pakistan

2. UTM Postdoctoral Research Fellow (10/2013-09/2014)

Institute of Bioproduct Development, Universiti Teknologi Malaysia, Skudai (Johor Bahru), Malaysia

3. Predoctoral Research Scientist (06/2009-08/2012)

(Self Assembly Group) CIC nanoGUNE Consolider, Nanoscience Research Centre,
Donostia-San Sebastián, Spain

4. Research Assistant (01/2009-03/2009)

(Neutze Group) Department of Biochemistry, University of Gothenburg, Sweden

5. Lecturer (03/2008-06/2008)

Department of Biotechnology, Sarhad University of Science & Information Technology,
Peshawar, Pakistan

Projects as PI

1. The Living Nano-Magnets
Project Awarded by COMSATS IIT, Islamabad
Total Budget Approved: 1,870 USD
Duration: April 2016 – March 2018 (2 years)
2. Antimicrobial Magic Nano-Bullets against Multidrug Resistant (MDR) Microbial Pathogens of Livestock
Project Concept Paper Shortlisted and Invited Detailed Project under Review at PARC
Total Budget Requested: 26,000 USD
Duration: January 2018 – December 2020

PUBLICATIONS/PRESENTATIONS

1. Wu, Z., Zierold, R., Mueller, A., Ruff, E.S., Ma, C., **Khan, A.A.**, Geiger, Knez, M., Nielsch, K., Bittner, A., Wege, C. and Krill, C. E. *Preparation and magnetoviscosity of nanotube ferrofluids by viral scaffolding and ALD on porous templates*. **Phys. Stat. Solid. B**, 10:2412-2423 (2010).
2. Eber, F.J., Degenhard, S., Eiben, S., **Khan, A.A.**, Wege, C. and Bittner, A.M. *Preparation of complexes of Tobacco mosaic virus and magnetic nanoparticles and investigation of their behavior in an oscillating magnetic field*. **Nanonewsletter (nanoresearch)**, 26:23-28 (2012)
3. **Khan, A.A.**, Fox, E.K., Gorzny, M., Nikulina, E., Brougham, D.F., Wege, C. and Bittner, A.M. *pH control of the electrostatic binding of nanoparticles on Tobacco Mosaic Virus*. **Langmuir**, 29, 2094-2098 (2013).
4. Bigall, N.C., Wilhelm, C., Beoutis, M.L., Hernandez, M.G., **Khan, A.A.**, Giannini, C., Ferrer, A.F., Mezzenga, R., Garcia, M.A., Gazeau, F., Bittner, A.M., Manna, L. and Pellegrino, T. *Colloidal Assemblies in a Polymer Shell – A Novel Type of Magnetic Nanobeads for Theranostic Applications*. **Chem. Mater.**, 25(7), 1055-1062 (2013).
5. Bigall, N.C., Dilella, E., Dorf, D., Marie-Lys B., Pugliese, G., Wilhelm, C., Gazeau, F., **Khan, A.A.**, Bittner, A.M., Garcia, M.A., Garcia-Hernandez, M., Manna, L. and Pellegrino, T. *Hollow Iron Oxide Nanoparticles in Polymer Nanobeads as MRI Contrast Agents*. **J. Phy. Chem. C.**, 119(11), 6246-6253 (2015)
6. Abu Bakar, H.M., Sarmidi, M.R., Kai, C.K., **Khan, A.A.**, Hasniza, B.Z.H. and Yaakob, H. *Metabolomics – The Complementary Field in Systems Biology: A Review on Obesity and Type 2 Diabetes*. **Mol. Biosyst.**, 11, 1742-1774 (2015)
7. Noor, M.N., **Khan, A.A.**, Hasham, R., Talib, A., Sarmidi, M.R., Aziz, R., and Aziz, A.A. *Solid lipid particles as delivery vehicles for virgin coconut oil*. **IET Nanobiotech.**, 10(4), 195-199 (2016)
8. Shah, S.S., **Khan, A.A.**, Espinosa, A., Garcia, M.A., Nuansing, W., Ungureanu, M., Heddle, J.G., Chuvilin, A., Wege, C. and Bittner, A.M. *Virus-templated near-amorphous iron oxide nanotubes*. **Langmuir** 32(23), 5899-5908 (2016)
9. **Khan, A.A.**, Omer, K.A., Talib, A., Javed, M.A. and Sarmidi, M.R. *Green Tropical Phytoextracts – Promising Anticancer Alternative*. **Braz. Arch. Bio. Tech.** Vol.59: e16160062, January-December 2016
10. Bostan, N., Naeem, M., Mustafa, I., **Khan, A.A.**, Haider, W., Asif, S., Khan, M.R., Ahmed, R., Afzal, S.S., Ali, M.S. and Ahmed, H. *Impact of health care risk factors on seroprevalence of Hepatitis B and C viruses from rural areas of Northern Punjab (Sargodha District), Pakistan*. **Trop. Biomed.** 33(4): 599-607 (2016)
11. Talib, A., **Khan, A.A.**, Jilani, G. and Ahmed H. *The Nano-Magnetic Dancing of Bacteria Hand-in-Hand with Oxygen*. **Braz. Arch. Bio. Tech.** Vol.60: e17160769, January-December 2017
12. Ahmed, H., Ali, S., Afzal, M.S., **Khan, A.A.**, Raza, H., Shah, Z.N. and Simsek, S. *Echinococcosis is a Neglected Tropical Disease: A concerning issue for future research in Pakistan?* **Infect. Dis. Prev.** 6:90-94 (2017)

13. Talib, A., Bokhari, H., Syed, H., Ahmed, H. Jilani, H. and **Khan, A.A.** *Respiring Cellular Nano-Magnets. Mater. Sci. Engg. C.* 80:526-531(2017)
14. Rashid, A., Gondal, M.A., **Khan, A.A.**, Ali, A., Khan, M.A., Rafiullah, Ahmed, S., Wazir, I., Sajjad, S.A.S. and Khan, S. *Molecular and serological study of caprine and ovine brucellosis in district Peshawar. J. Ent. Zool. Stud.* 5(6):1436-1440 (2017)
15. Javed, F., Khanzadi, N.M., Ali, M., Irshad, U.H., Khan, A.A, Zaib, A. and Manzoor, S. *Zika Virus: What we need to know? ACCEPTED/In Press. DOI: 10.1002/jobm.201700398 (J. Bas. Microbio.)*
16. Mehmood, A., Talib, A., Jadoon, Z.K., Khan, G. and **Khan, A.A.** *Novel Route of Synthesis for Nanofunctionalized Silver Nanoparticles. SUBMITTED/Under Review (IET Nanobiotech.)*
17. Ejaz, A., Talib, A., Adnan, F., Badshah, M., Sarmidi, M.R. and **Khan, A.A.** *Niosomes Entrapped Virgin Coconut Oil (VCO) as an Antimicrobial Agent against Multidrug Resistant (MDR) S. aureus. SUBMITTED (IEEE Trans. Nanotech.)*
18. Talib, A., Adnan, F., Badshah, M. and **Khan, A.A.** *Molecular Identification and Phylogenetic Analysis of a Novel Magnetotactic Rod. SUBMITTED (Gene)*
19. **Khan, A.A.** Saleem, W., Sadiq, I., Chaudhri, A.K., Habib, H., Yasmin, T., Muhammad, I., Bokhari, S.H. *Proteomics and Atomic Force Microscopy of Outer Membrane Vesicles: An Approach towards Acellular Vaccine against Diarrheagenic Pathotypes of Escherichia coli. SUBMITTED (Pak. J. Pharm. Sci.)*
20. **Khan, A.A.**, Talib, A., Obaidullah and Tariq, A. Isolation and Characterization of Arsenic Resistant Bacteria from Pakistan. **SUBMITTED (Annal. Microbiol.)**
21. Talib, A., Ali, W., Habibullah, Aasim, M., Badshah, M., Adnan, F. and **Khan, A.A.** *Green Cu Nanoparticles against Multiple Drug Resistant Bacterial Isolates. SUBMITTED (Micro. Nano. Lett.)*

TECHNICAL SKILLS

Electron Microscopy (SEM, TEM, STEM)
 Magnetometry/SQUID/VSM
 Gel Electrophoresis (DNA/Protein)
 Cancer/Mammalian Cell Culture/Assays
 Genetic Engineering (Bacteria/Yeast)
 Bioinformatics Databases/Softwares
 CD Spectrometry
 UV-Vis Spectroscopy

Dynamic Light Scattering/Zeta Potential
 Wet Chemistry (Organic/inorganic NPs Synthesis)
 Western/Northern/Southern Blotting
 Microbiology Lab Techniques
 Homology (Comparative) Modelling
 Micromanipulation of Yeast Spores
 Confocal Microscopy
 HPLC, TLC, Column Chromatography

REFERENCES

1. Alexander Bittner,
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 Self Assembly,
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 Group Leader,
 Molecular Biotechnology,
 Department of Chem. & Biological Engg.,
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3. Mohamed Roji Sarmidi
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