

Professor Naveed Ahmed Khan

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PhD, University of Hull, UK

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BSc, Zakariya University, Pakistan



Teaching:

Over 13 years of teaching experience. Developed and taught seven undergraduate and three postgraduate courses at the Universities of London, Nottingham, AKU and Sunway.

Research Interests:

I maintain a broad interest in all aspects of infectious diseases. Using genomics and proteomics tools, my work has been focused on pathogen virulence determinants and host factors that contribute to microbial infections, with an eye to identify potential targets for therapeutic interventions. In addition, my recent work has been focused on the identification of antimicrobials from species living in polluted environments. My work on “animals living in polluted environments could be rich stores of new antibiotics” gained worldwide media attention. Several documentaries were made and shown on leading news channels, websites and leading peer-reviewed journals. Google search of “Naveed Khan and Cockroaches” yields more than 50,000 web pages on this topic.

Representative Publications (out of >160 publications):

1. Aqeel, Y., Siddiqui, R., Anwar, A., Shah, M. R., **Khan, N. A. (2016)**. Gold nanoparticle conjugation enhanced anti-Acanthamoebic effects of chlorhexidine gluconate. *Antimicrobial Agents and Chemotherapy* 60(3): 1283 – 1288.
2. Yousuf, F. A., Rafiq, S., Siddiqui, R., **Khan, N. A. (2016)**. The role of genomic islands in *Escherichia coli* K1 interactions with intestinal and kidney epithelial cells. *Microbial Pathogenesis* 93: 145 – 151.
3. Aqeel, Y., Siddiqui, R., Anwar, A., Shah, M. R., Khoja, S., **Khan, N. A. (2015)**. Photochemotherapeutic strategy against *Acanthamoeba* infections. *Antimicrobial Agents and Chemotherapy* 59(6): 3031 – 3041.
4. Baig, A. M., **Khan, N. A. (2015)**. Tackling infection owing to brain-eating amoeba. *Acta Tropica* 142: 86 – 88.
5. Qureshi, H., Hamid, S. S., Ali, S. S., Anwar, J., Siddiqui, A. A., **Khan, N. A. (2015)**. Cytotoxic effects of aflatoxin B1 on human brain microvascular endothelial cells of the blood-brain barrier. *Medical Mycology* 53: 409 – 416.
6. Lakhundi, S., Siddiqui, R., **Khan, N. A. (2015)**. Cellulose degradation: a therapeutic strategy in the improved treatment of *Acanthamoeba* infections. *Parasites and Vectors* 8: 23.
7. Siddiqui, R., **Khan, N. A. (2014)**. Primary amoebic meningoencephalitis caused by *Naegleria fowleri*: an old enemy presenting new challenges. *PLoS NTD* 8(8): e3017.
8. **Khan, N. A., Siddiqui, R. (2014)**. Predator versus Aliens: Bacteria interactions with *Acanthamoeba*. *Parasitology* 141: 869 – 874.
9. Siddiqui, R., **Khan, N. A. (2014)**. War on terror cells: novel infection control strategies in our fight against “superbugs”. *Pathogens and Global Health* 108(1): 4-10.

10. Baig, A. M., **Khan, N. A. (2014)**. Novel chemotherapeutic strategies in the management of primary amoebic meningoencephalitis due to *Naegleria fowleri*. *CNS Neuroscience and Therapeutics* 20(3): 289 – 290.
11. Iqbal, J., Siddiqui, R., **Khan, N. A. (2014)**. *Acanthamoeba* and bacteria produce antimicrobials to target their counterpart. *Parasites and Vectors* 7: 56.
12. Yousuf, F. A., Siddiqui, R., **Khan, N. A. (2013)**. *Acanthamoeba castellanii* is a potential environmental host for *Enterobacter aerogenes* and *Aeromonas hydrophila*. *Parasites and Vectors* 6: 169.
13. Baig, A. M., Iqbal, J., **Khan, N. A. (2013)**. *In vitro* efficacy of clinically available drugs against growth and viability of *Acanthamoeba castellanii* keratitis isolate belonging to the T4 genotype. *Antimicrobial Agents and Chemotherapy* 57(8): 3561 – 3567.
14. Siddiqui, R., Aqeel, Y., **Khan, N. A. (2013)**. Killing the dead: Chemotherapeutic strategies against free-living cyst-forming protists (*Acanthamoeba* sp. and *Balamuthia mandrillaris*). *Journal of Eukaryotic Microbiology* 60: 291 – 297.
15. Lee, S., Siddiqui, R., **Khan, N. A. (2012)**. Animals living in polluted environments possess antimicrobials to target infectious agents. *Pathogens and Global Health* 106: 218 – 223.
16. Siddiqui, R., Beattie, R., **Khan, N. A. (2012)**. The role of the twin-arginine translocation pathway in *Escherichia coli* K1 pathogenicity in the African migratory locust, *Locusta migratoria*. *FEMS Immunology and Medical Microbiology* 64: 162 – 168.
17. Siddiqui, R., Dudley, R., **Khan, N. A. (2012)**. *Acanthamoeba* differentiation: a two-faced drama of Dr Jekyll and Mr Hyde. *Parasitology* 139: 826 – 834.
18. Siddiqui, R., Mortazavi, P., Pleass, R., and **Khan, N. A. (2011)**. Non-vertebrate models to study parasite invasion of the central nervous system. *Trends in Parasitology* 27(1): 5 – 10.
19. Mortazavi, P., Keisary, E., Loh, L. N., Jung, S. Y., and **Khan, N. A. (2011)**. Possible roles of phospholipase A2 in the biological activities of *Acanthamoeba*. *Protist* 162: 168 – 176.
20. Lee, S., Atkins, H., Duce, I., and **Khan, N. A. (2011)**. Cockroach and Locust: Physicians' answer to infectious diseases. *International Journal of Antimicrobial Agents* 37(3): 279 – 280.
21. Siddiqui, R., Emes, R., Elsheikha, H., and **Khan, N. A. (2011)**. Area 51: How do *Acanthamoeba* invade the central nervous system? *Trends in Parasitology* 27(5): 185 – 189.
22. Siddiqui, R., **Khan, N. A. (2011)**. Rigorous ablution is a potential risk factor to fatal brain infection in developing countries. *Journal of Infection* 63(6): 487 – 488.
23. Osman, K., and **Khan, N. A. (2010)**. A novel model to screen antimicrobial compounds *in vivo*. *International Journal of Antimicrobial Agents* 36(3): 288 – 90.
24. Elsheikha, H., and **Khan, N. A. (2010)**. Protozoa traversal of the blood-brain barrier to invade the central nervous system. *FEMS Microbiology Reviews* 34: 532 – 553.
25. **Khan, N. A.**, Siddiqui, R., Elsheikha, H. (2010). Enemy within: strategies to kill “superbugs” in hospitals. *International Journal of Antimicrobial Agents* 36(3): 291.
26. **Khan, N. A.**, and Siddiqui, R. (2009). *Acanthamoeba* affects the integrity of the human brain microvascular endothelial cells and degrades the tight junction proteins. *International Journal for Parasitology* 39: 1611 – 1616.
27. Matin, A., Siddiqui, R., Jayasekera, S., and **Khan, N. A. (2008)**. Increasing importance of *Balamuthia mandrillaris*. *Clinical Microbiology Reviews* 21(3): 435 – 448.
28. **Khan, N. A.**, Osman, K., Goldsworthy, G. (2008). Lysates of *Locusta migratoria* brain exhibit potent broad spectrum antibacterial activity. *Journal of Antimicrobial Chemotherapy* 62(3): 634 – 635.
29. **Khan, N. A.**, Kim, Y., Shin, S., and Kim, K. S. (2007). FimH-mediated *Escherichia coli* K1 invasion of human brain microvascular endothelial cells. *Cellular Microbiology* 9(1): 169 – 178.

30. **Khan, N. A.,** Di Cello, Stins, M., and Kim, K. S. (2007). Gp120-mediated cytotoxicity of human brain microvascular endothelial cells is dependent on p38 mitogen-activated protein kinase activation. *Journal of NeuroVirology* 13: 242 – 251.
31. Siddiqui, R., Matin, A., Warhurst, D., Stins, M., and **Khan, N. A.** (2007). Effect of antimicrobial compounds on *Balamuthia mandrillaris* encystment and human brain microvascular endothelial cell cytotoxicity. *Antimicrobial Agents and Chemotherapy* 51: 4471 – 4473.
32. **Khan, N. A.,** and Goldsworthy, G. (2007). Novel model to study virulence determinants of *Escherichia coli* K1. *Infection and Immunity* 75: 5735 – 5739.
33. **Khan, N. A.** (2006). *Acanthamoeba*: biology and increasing importance in human health. *FEMS Microbiology Reviews* 30: 564 – 595.
34. Sissons, J., Kim, K. S., Stins, M., Jayasekera, S., Alsam, S., and **Khan, N. A.** (2005). *Acanthamoeba* induces host cell death via a phosphatidylinositol 3-kinase (PI3K)-dependent mechanism. *Infection and Immunity*, 73: 2704-2708.
35. **Khan, N. A.,** Di Cello, F, Nath, A. and Kim, K. S. (2003). HIV-1 Tat-mediated cytotoxicity of human brain microvascular endothelial cells. *Journal of Neurovirology*. 9(6): 584-593.
36. **Khan, N. A.,** Wang, Y., Kim, K. J., Woong, J., Wass, C. A. and Kim, K. S. (2002). Role of cytotoxic necrotizing factor-1 in *Escherichia coli* K1 invasion into the central nervous system. *Journal of Biological Chemistry*, 277(18):15607-15612.
37. **Khan, N.A.,** Greenman, J., Topping, K.P., Hough, V.C., Temple, G.S. and Paget, T.A. (2000). Isolation of *Acanthamoeba* specific antibodies from bacterial phage display library. *Journal of Clinical Microbiology*, 38(6):2374-2377.