

## Curriculum vitae

### **Dr. Javed Hussain Niazi K. M.**

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## Personal Details

Date of Birth: 01/11/1974  
Nationality: India  
Passport No.: E1525722  
Türkçe Kimlik No.: 99808249728  
Marital status: Married, (one child)

## Academics

**1996 April – 2003 Feb:** Ph.D. Biochemistry - Gulbarga University, India. **Advisor:** Prof. T. B. Karegoudar

**1994 March – 1996 April:** M.Sc. Biochemistry (1996) - Gulbarga University, India.

**1991 June – 1994 March:** B.Sc. (Chemistry) (1994) - Gulbarga University, India

## Professional Experience

**2009 Apr–till now:** Visiting Faculty, Faculty of Engineering & Natural Sciences, Sabancı University, Orhanli, Tuzla 34956, Istanbul

**2008 Sep–2009 Mar:** Research Professor, Biosensors & Biomolecular Technology, Dept. of Biotechnology, Korea University, Seoul, Rep. of Korea

**2007 Sep–2008 Sep:** Postdoctoral Research Associate, Biosensors & Biomolecular Technology, Dept. of Biotechnology, Korea University, Seoul, Rep. of Korea

**2005 Apr–2007 Sep:** Visiting Scientist Korea Institute of Science and Technology (KIST), Cheongryangny, Seoul 130-650, Rep. of Korea.

**2004 Mar–2005 Apr:** Postdoctoral Researcher, Gwangju Institute of Science & Technology (GIST), 1 Oryong-dong, Buk gu, Gwangju 500 712, Rep. of Korea.

**2003 Feb–2004 Feb:** DBT-Postdoctoral Fellow, Nuclear Agriculture & Biotechnology Division (NA&BTD) Bhabha Atomic Research Centre (BARC), Trombay, Mumbai-85. *A national level PDF program sponsored by Dept. of Biotechnology, Govt. of India, Ministry of Science and Technology (DBT-PDF program).*

## Research Grants

**2011 Apr–2013 Mar:** TÜBİTAK 1001 (project no. 110E287) on “In-vitro selection of ssDNA aptamers and their use for the development of label-free aptamer based biosensors for cancer diagnosis”. Total budget- 339,285 TL (equivalent to US \$226,190)

**2003 Feb–2004 Feb:** DBT-PDF program, Govt. of India, Ministry of Science and Technology. Total budget- Rs. 250,000 (\$5500)

## Patents

1. Man Bock Gu, **Javed H. Niazi**, Yeon Seok Kim, Yoon Jin Kim, Su Jin Lee "DNA aptamer binding to Oxytetracycline with specificity and production method" [International Patent No. WO2009/041776 \(Dec. 2, 2009\)](#). [[link 1](#)] [[link 2](#)]. WIPO link-<http://www.wipo.int/pctdb/en/wo.jsp?WO=2009041776>
2. Man Bock Gu, **Javed H. Niazi**, and Lee Su Jin. "Twenty one single-stranded DNA aptamers having high affinity to tetracycline and it's analogues with high specificity and production method thereof". Publication No. [KR20090103100 \(A\)](#) (pending).
3. Man Bock Gu, Jeong Choon Bok, and **Javed H. Niazi**. 45 Single-stranded DNA aptamers having high affinity to diclofeanc with high specificity and the development method. Korea Patent No. 10-2009-0048759 (pending). [European Patent office link](#)

## Publications [[Pubmed](#)] [[RSS Feed](#)]

1. Kim, Y.S., **Niazi, J.H.**, Chae, Y.J., Go, U., M.B. Gu (2011) Aptamers-in-liposome for selective and multiplexed capturing of small organic compounds. **Macromolecular Rapid Communications**, DOI: 10.1002/macp.201100001 ([Accepted](#))
2. Qureshi, A., Gurbuz, Y. and **Niazi, J.H.**\*(2011) Probing chemical induced cellular stress by non-Faradaic electrochemical impedance spectroscopy using *Escherichia coli* capacitive biochip. **Analyst**, DOI:10.1039/c1an15202e [[PDF](#)] [Supplementary] ([In press](#)) \*This article has been featured in [Royal Society of Chemistry blogs- Click here](#)
3. **Niazi, J. H.**, Sang B. I., Kim, Y.S. and Gu, M.B. (2011) Global gene response in *Saccharomyces cerevisiae* exposed to silver nanoparticles. **Applied Biochemistry & Biotechnology**. [[PDF](#)] [Supplementary] ([In press](#))
4. Qureshi, A., Gurbuz, Y., Kallempudi, S. and **Niazi, J.H.** (2010) Label-free RNA aptamer based capacitive biosensor for the detection of C-reactive protein. **Physical Chemistry Chemical Physics** 12, 9176-9182. [[PDF](#)]
5. \*Qureshi, A., \***Niazi, J.H.**, Kallempudi, S. and Gurbuz, Y. (2010) Label-free capacitive biosensor for sensitive detection of multiple biomarkers using gold interdigitated capacitor arrays. **Biosensors & Bioelectronics** 25, 2318-2323. [[PDF](#)] \*These authors equally contributed
6. Kim, Y.J., Kim, Y.S., **Niazi, J.H.** and Gu, M.B. (2010) Electrochemical aptasensor for tetracycline detection. **Bioprocess & Biosystems Engineering** 33, 31-37. [[PDF-file](#)]
7. Quershi, A., Gurbuz, Y., **Niazi, J.H.** (2010) Label-free detection of cardiac biomarker using aptamer based capacitive biosensor. **Procedia Engineering** 5, 828-83 [[PDF](#)]
8. Ahn, J.M., Hwang, E.T., Youn, C.H., Banu, D.L., Kim, B.C., **Niazi, J.H.** and Gu, M.B. (2009) Prediction and classification of the modes of genotoxic actions using bacterial biosensors specific for DNA damages. **Biosensors & Bioelectronics** 25, 767-772. [[PDF-file](#)]
9. \*Joeng, C.B., \***Niazi, J.H.**, Lee, S.J. and Gu, M.B. (2009) ssDNA aptamers that recognize diclofenac and 2-anilinophenylacetic acid. **Bioorganic & Medicinal Chemistry** 17, 5380-5387. \*Equally contributed. [[PDF-file](#)]
10. Kim, Y.S., **Niazi, J.H.** and Gu, M.B. (2009) Specific detection of oxytetracycline using DNA aptamer immobilized interdigitated array electrode chip. **Analytica Chimica Acta** 634, 250-254. [[PDF-file](#)]
11. **Niazi, J.H.**, Kim, B.C., Ahn, J.M. and Gu, M.B. (2008) A novel bioluminescent bacterial biosensor using the highly-specific oxidative stress-inducible *pgi* gene. **Biosensors & Bioelectronics** 24, 670-675. [[PDF-file](#)]

12. **Niazi, J.H.**, Lee, S.J. and Gu, M.B. (2008) Single stranded DNA aptamers specific for antibiotics tetracyclines. **Bioorganic & Medicinal Chemistry** 16, 7245-7253. [[PDF-file](#)]
13. Lee, S.J., Youn, B.S., Park, J.W., **Niazi, J.H.**, Kim, Y.S., Gu, M.B. (2008) A ssDNA aptamer-based SPR biosensor for the detection of RBP4 for the early diagnosis of type 2 diabetes. **Analytical Chemistry** 80, 2867-2873. [[PDF-file](#)]
14. **Niazi, J.H.**, Lee, S.J., Kim, Y.S. and Gu, M.B. (2008) ssDNA aptamers that selectively bind oxytetracycline. **Bioorganic & Medicinal Chemistry** 16, 1254-1261. [[PDF-file](#)]
15. **Niazi, J.H.**, Kim, B.C. and Gu, M.B. (2007) Characterization of superoxide-stress sensing recombinant *Escherichia coli* constructed using promoters for genes *zwf* and *fpr* fused to *lux* operon. **Applied Microbiology & Biotechnology** 74, 1276-1283. [[PDF-file](#)]
16. Patil, N.K., Sharanagouda, U., **Niazi, J.H.**, Karegoudar, T.B. (2004) Stable degradation of catechol by *Pseudomonas* sp. strain NGK1 encapsulated in alginate and polyurethane foam. **Indian Journal of Biotechnology** 3, 568-572.
17. **Niazi, J.H.**, Shinde, M. and Karegoudar, T.B. (2003) Degradation of dimethylphthalate by a *Bacillus* sp. **Research Journal of Environmental Chemistry** 7, 57-61.
18. Patil, N.K., Sharanagouda, **Niazi, J.H.**, Kim, C.K and Karegoudar, T.B. (2003) Degradation of salicylic acid by free and immobilized cells of *Pseudomonas* sp. strain NGK1. **Journal of Microbiology & Biotechnology** 13, 29-34. [[PDF-file](#)]
19. **Niazi, J.H.**, Prasad, D.T. and Karegoudar, T.B. (2001) Initial degradation of dimethylphthalate by esterases from *Bacillus* species. **FEMS Microbiology Letters** 196, 201-205. [[PDF-file](#)]
20. **Niazi, J.H.** and Karegoudar, T.B. (2001) Degradation of dimethylphthalate by free and immobilized cells of *Bacillus* sp. in calcium alginate and polyurethane foam. **Journal of Environmental Science & Health A36**, 1134-1144. [[PDF-file](#)]

### Book Chapter

21. **Niazi, J.H.** and Gu, M.B. (2009) Toxicity of metallic nanoparticles in microorganisms-a review. In: Atmospheric and Biological Environmental Monitoring. Kim, Y.J.; Platt, U.; Gu, M.B.; Iwahashi, H. (Eds.) Springer-verlag, Heidelberg, Germany. pp. 193-206 DOI: [10.1007/978-1-4020-9674-7](https://doi.org/10.1007/978-1-4020-9674-7) [[PDF](#)]

### Proceedings abstracts

1. Ahn, J.M., Hwang, E., Kim, B.C., **Niazi, J.H.** and Man Bock Gu (2009) Prediction and classification of the modes of genotoxic actions using bacterial biosensors and cell array chip. **Journal of Bioscience and Bioengineering** 108, 1, S94-S95. [[PDF](#)]
2. Qureshi, A., \***Niazi, J.H.**, Kallempudi, S. and Gurbuz, Y. (2010) Label-free capacitive biosensor for detection of a panel of disease biomarkers using microelectrode arrays. May 25-29, 2010. **Glasgow, Scotland, UK.**
3. Lee, S.J.<sup>\*</sup>, **Niazi, J.H.**<sup>\*</sup> and Gu, M.B. Colorimetric detection of antibiotics using ssDNA aptamer conjugated gold nanoparticles. YABEC 2008. The 14<sup>th</sup> Symposium of young asian biochemical engineers' community. Nov. 19-Dec. 1, 2008, **Tokyo, Japan**(Contributed equally)
4. (a) Lee, S.J., Youn, B.S., Park, J.W., **Niazi, J.H.**, Kim, Y.S. and Gu, M.B. ssDNA aptamer-based SPR biosensor for the detection of RBP4 for the early diagnosis of type 2 diabetes. Bichip 2008, June 12~13, 2008, **Daejeon, Rep. of Korea.**

5. (b) Kim, Y.S., Niazi, J.H. and Gu, M.B. Label-free detection of oxytetracycline using aptamer immobilized gold interdigitate array (IDA) electrode chip. Bichip 2008, June 12~13, 2008, **Daejon, Rep. of Korea.**
6. Lee, S.J., **Niazi J.H.**, Kim, Y.S., and Gu, M.B. ssDNA aptamer-based SPR biosensor for early diagnosis of type 2 diabetes by RBP4 detection.
7. **Niazi, J.H.**, Kim, Y.S., Lee, S.J., and Gu, M.B. Single strand DNA aptamers that specifically bind tetracycline group of antibiotics.
8. **Niazi, J.H.**, Gu, M.B. Hwang, J.E., Sang, B.I., and Yi, J.Y. Whole genome transcription profile of *Saccharomyces cerevisiae* in response to silver nanoparticles. The Korean Chemical Engineering conference, April 23-25, 2008, **Jeju-island, South Korea.**
9. (a) **Niazi, J.H.**, Hong, J.E., Pham, C.H., Sang, B.I., Yi, J.H., and Gu, M.B. Global gene response to silver-nanoparticles in yeast by DNA-microarray. The 7<sup>th</sup> International Symposium on Advanced Environmental Monitoring, Feb. 25-28, 2008, **Honolulu, Hawaii, USA.**
10. (b) Pham, C.H., Hong, J.E., **Niazi, J.H.**, Sang, B.I. and Gu, M.B. Nanoparticle Toxicity in Japanese medaka: a comparative study between Ag-NP and Gold colloid by using cDNA microarray. The 7<sup>th</sup> International Symposium on Advanced Environmental Monitoring, Feb. 25-28, 2008, **Honolulu, Hawaii, USA.**
11. (c) **Niazi, J.H.**, Lee, S.J., Kim, Y.S. and Gu, M.B. DNA Biosensor using ssDNA aptamer for oxytetracycline detection in drinking water. Feb. 25-28, 2008, **Honolulu, Hawaii, USA.**
12. (a) **Niazi, J.H.**, Kim, B.C., Ahn, J.M. and Gu, M.B. Characterization of a new oxidative stress responsive *pgi* promoter element of *Escherichia coli*.
13. (b) **Niazi, J.H.**, Hong, J.E., Pham, C.H., Sang, B.I. and Gu, M.B. Global gene response in yeast cells exposed to silver nanoparticles using DNA microarray.
14. (c) **Niazi, J.H.**, Lee, S.J., Kim, Y.S. and Gu, M.B. Development of ssDNA aptamers that bind selectively to oxytetracycline for screening and detection. The 2<sup>nd</sup> Korea-Singapore international conference on bioscience and biotechnology, Nov. 12-13, 2007, **Seoul, Korea**
15. **Niazi, J.H.**, Ahn, J.M., Kim, B.C. and Gu, M.B. Superoxide-stress sensing recombinant *Escherichia coli* constructed using promoters for genes *zwf* and *fpr* fused to *lux* operon. Environmental Science & Technology Conference, Nov. 1, 2007, **Chuncheon, South Korea.**
16. **Niazi, J.H.**, Ahn, J.M., Kim, B.C. and Gu, M.B. Construction and characterization of oxidative-stress specific recombinant bioluminescent bacteria using *zwf* and *fpr* promoters. 2007 International meeting of the federation of Korean Microbiological Societies. October 11-12, **Seoul, Korea**
17. **Niazi J.H.**, Hwang E.T, Sang B.I. and Gu, M.B. Toxicity assays of phthalate compounds using toxicity specific signature bacterial sensors. Annual Meeting of Korean Society for Biotechnology and Bioengineering, 2007.10.18-19, **Daegu, Korea**
18. **Niazi, J.H.**, Lee S.J., Kim Y.S., Gu M.B., Single strand DNA aptamers for screening and detection of oxytetracycline. Biochip 2007, 2007.10.4-5, **Seoul, Korea.**

19. **Niazi, J.H.**, Hong, J.E., Pham, C.H., Sang, B.I., Gu M.B. Whole genome transcription profile of yeast exposed to Ag-nanoparticles. Omics to Industry, 2007.09.13-14, **Seoul, Korea**.
20. Ahn, J.M., **Niazi, J.H.**, Youn, C.H., Kim, B.C. and Gu, M.B. Development of whole-cell based biosensor using DNA microarray. The environmental toxicology conference, **Seoul, Korea**. 2006. 05.
21. **Niazi J.H**, Lee S.M, Sang B.I., Anaerobic biodegradation of benzene, toluene, ethylbenzene and xylene (BTEX) and changes in microbial community by TRFLP analysis. Annual Meeting of Korean Society for Biotechnology and Bioengineering, 2006.04.26-04.28, **Seoul, Korea**
22. **Niazi, J.H.**, J.H. Lee, S.M. Lee, M.B. Gu, B.I. Sang, Anaerobic Bi-(2-ethylhexyl) phthalate degradation and toxicity assays using toxicity specific bacterial sensors. The 6th International Symposium on Advanced Environmental Monitoring, 2006. 6.27-30, **Heidelberg, Germany**.
23. **Niazi, J.H.**, Lee, S.M., Lee, J.H., Gu, M.B. and Sang, B.I. Behavior of microbial community during anaerobic di-(2-ethylhexyl) phthalate degradation and toxicity analysis. International Meeting of the Federation of Korean Microbiological Societies, Seoul, South Korea, Oct. 19-20, 2006.
24. Lee, J.H., C.H. Youn, B.C. Kim, R.J. Mitchell, **J.H. Niazi**, M.B. Gu, Development of a bioluminescent bacterial cell array chip (OxiTox chip) for measuring oxidative stresses and toxicity. The ninth world congress on biosensors, 2006. 5.10-12, **Toronto, Canada**.
25. Lee, J.H., **J.H. Niazi**, B.I. Sang, M.B. Gu, Application of cell array chip biosensors for toxicity monitoring of degradation byproducts and evaluation of biodegradation processes. The ninth world congress on biosensors, 2006. 5.10-12, **Toronto, Canada**.
26. Lee, J.H., C.H.Youn, B.C.Kim, R.J.Mitchell, **J.H. Niazi**, M.B.Gu, A bioluminescent bacterial cell array chip for measuring oxidative stresses and toxicity. The 6th International Symposium on Advanced Environmental Monitoring, 2006. 6.27-30, **Heidelberg, Germany**.
27. Lee, S.M., **J.H. Niazi**, M.B. Gu, B.I. Sang, Comparison of microbial communities during anaerobic di-(2-ethylhexyl) phthalate degradation under different electron accepting conditions. The 6th International Symposium on Advanced Environmental Monitoring, 2006. 6.27-30, **Heidelberg, Germany**.
28. Lee, S.M., **J.H. Niazi**, M.B. Gu, B.I. Sang, Effects of electron acceptors on microbial communities during anaerobic BTEX and MTBE degradation. The 6th International Symposium on Advanced Environmental Monitoring, 2006. 6.27-30, **Heidelberg, Germany**.
29. Lee, J.H., C.H. Youn, B.C. Kim, R.J. Mitchell, **J.H. Niazi**, M.B. Gu, Bioluminescent bacterial cell array chips (OxiTox chip) for measuring oxidative stresses and toxicity. The 10th International symposium on the genetics of industrial microorganisms, 2006.6.24-28, **Praque, Czech Republic**.
30. Lee, J.H., **J.H. Niazi**, B.I. Sang, M.B. Gu, Analysis of DEHP [Di-(2-EthylHexyl)-Phthalate] biodegradation byproducts using a bacterial cell array chip. The 3rd international workshop on biochips and environmental monitoring, 2006. 8.17-18, **Osaka, Japan**.
31. **Niazi, J.H.**, S.M. Lee, B.I. Sang, Anaerobic Di-(2-ethylhexyl) phthalate degradation by soil mixed microbial cultures under different electron accepting conditions, 2006. 07. International Symposium on Environmental Biotechnology, **Seoul, Rep. of Korea**.
32. **Niazi, J.H.**, Lee, S.M., Lee, J.H., Gu, M.B., Sang, B.I., Assay and toxicity evaluation of DEHP and its catabolic intermediates in a simulated natural environment by whole-cell array chip composed of toxicity specific signature-bacterial sensors. Annual Meeting and international conference on toxicogenomics-2005, 2005. 10.30-11.1, **Seoul, Korea**

33. Lee, J.H., C.H. Youn, B.C. Kim, **J.H. Niazi**, M.B. Gu, OxiTox-cell array chip: Functional cell array chip for oxidative stress monitoring. 05 KU-AIST Joint Symposium on Stress signalling and monitoring, 2005.12.5, **Seoul, Korea**
34. Gu, M.B., J.H. Lee, C.H. Youn, B.C. Kim, **J.H. Niazi**, A Cell Biochip for Oxidative Toxicity Analysis. 11th Symposium of Young Asia Biochemical Engineering Community, 2005.10.24-26, **Beijing, China**
35. Lee, J.H., C.H. Youn, **J.H. Niazi**, R.J. Mitchell, B.C. Kim, M.B. Gu, Bioluminescent cell array biosensors for water toxicity analysis. The 2nd IWA conference on instrumentation, control and automation, 2005.5.29-6.2, **Busan, Korea**
36. Lee, J.H., C.H. Youn, **J.H. Niazi**, R.J. Mitchell, B.C. Kim, M.B. Gu, Bioluminescent cell array biosensors for water toxicity analysis. The 2nd IWA conference on instrumentation, control and automation, 2005.5.29-6.2, **Busan, Korea**
37. **Niazi J.H.** and T.B. Karegoudar, "Microbial degradation of diethylphthalate (DEP) by PUF immobilized *Bacillus* cells in continuous reactor. Proceedings of Current Biotechnology and Bioengineering (XIV) 2004. 4.16-17, **Daegu, South Korea**.
38. **Niazi J.H.** and Karegoudar, T.B. entitled "Isolation and Characterization of Phthalate Esterase from *Bacillus* sp." in 70<sup>th</sup> Annual Meeting of Society of Biological Chemists, Osmania University, **Hyderabad**, Dec. 2001.
39. **Niazi J.H.** and Karegoudar, T.B. Degradation of Dimethylphthalate by a *Bacillus* species in the National Symposium on Environmental Issues- The 21<sup>st</sup> Century, Organized by National Environmental Science Academy at Gulbarga University, **Gulbarga**, Dec. 12-15, 1998.

### **Teaching Experience**

1. **Courses taught (Fall 2009 & 2010)**, Sabanci University, Orhanli, Tuzla, Istanbul
2. **Research Professor (2005-2009)** Korea University, Seoul, S. Korea.
3. **Guest Lecturer (June 2000 to May 2002)** Postgraduate Department of Biotechnology, Gulbarga University, Gulbarga, India.
4. **Visiting Lecturer (June 1999 to May 2000)** Undergraduate Dept. of Biotechnology, Luqman College of Science, Gulbarga 585 106, India
5. **Teaching Assistant (July 1996- May 1999)** Postgraduate Department of Biochemistry, Gulbarga University, India

### **Awards / Honors**

1. **Third Rank** in M.Sc., Department of Biochemistry, Gulbarga University (1996)
2. Awarded **Merit Fellowship** during Ph.D. by Gulbarga University, Gulbarga for the period of three years from 1996-1999.
3. Awarded **Young Scientist** by National Environmental Science Academy (NESA), India (December 1998).
4. Awarded **DBT-Postdoctoral Research Project** (National level competitive) sponsored by Govt. of India, Dept. of Biotechnology, Ministry of Science & Technology (2002-2003)