

Brief Curriculum Vitae: Manish Biyani

From a capital city of Rajasthan-India, Manish was the first from the region to secure prestigious MEXT scholarship form Japanese Ministry of Science and Technology for 5-years Master and Doctoral course in Japan. After his double graduation degree in Science (1993) and Pharmacy (1997) from University of Rajasthan in India, Manish came to Japan and received his Master of Engineering (2001) and PhD in Biological Science (2004) from Saitama University.



Acquiring higher education in Japan, Dr Manish Biyani built a career in the field of Biotechnology and was invited as Research Scientist to join two major national projects of JST (Japan Science and Technology), CREATE and CREST, for 10 years from 2004 to 2013, where Dr Biyani used nanobio-device tools to develop high-speed molecular evolution reactor for screening novel and highly-functional bio-molecules and bio-drugs. Dr Biyani also appointed as staff (Assistant Professor) in the Department of Bioengineering at The University of Tokyo from 2009-2013. In 2014, Dr Biyani is invited to join Hokuriku Life Science Cluster (HLSC) project as Research Associate Professor in JAIST (Japan Advanced Institute of Science and Technology).

Along the way, Dr Biyani built and headed many new startups and platforms for India Japan collaboration as founding director of Biyani Group of Colleges and Biyani BioSolutions Pvt Ltd, in Jaipur. Over the two decades of his stay in Japan, Dr Biyani also involved to promote scientific interaction and research/student exchange between India (Biyani Group of Colleges) and various institutes in Japan includes Saitama University, Akita Prefectural University, JAIST, Kyushu University.

Dr Biyani has pursued a career in basic research in biotechnology and its extended application in various fields including medicine and Healthcare. His major areas of research interest include Molecular Evolutionary Engineering, Low-cost molecular diagnostics, Bio-drug discovery, DNA-based nano architecture, Functional Proteomics and Biosensors.

Dr Biyani is the recipient of numerous prestigious awards including JB OUP award from International Union of Biochemistry and Molecular Biology, The photopolymer science and technology award from Photopolymer society Japan, MEXT scholarship award from Japanese Ministry of Science & Technology. He also served as editorial board member of Austin Journal of Biosensors & Bioelectronics and as ad hoc reviewer in many scientific journals including Biophysical Journal, Analytical Biochemistry, Electrophoresis, Biopolymer, Nucleic Acids Research, Biosensors Bioelectronics,

Dr Biyani has co-authored 11 patents and about 35 peer-reviewed journal papers. He also edited 2 books, 4 book chapters, delivered about 35 invited talks worldwide and participated in about 90 international conferences.

Brief Curriculum Vitae: Manish Biyani

Affiliation & Contact:

- ✧ Research Asso. Professor, Japan Advanced Institute of Science and Technology
School of Materials Science, 1-1 Asahidai, Nomi, Ishikawa, JAPAN
Tel: +81-761-51-1591 E-mail: biyani@jaist.ac.jp;
- ✧ Co-founder and Research Director, Biyani Group of Colleges
Sector 3, Vidhyadhar Nagar, Jaipur, INDIA
Tel: +91-141-2338591 Email: director@biyanicolleges.org
- ✧ Founder and CEO, Biyani BioSolutions Pvt Ltd.
Jaipur, INDIA. Tel: +91-141-2589951 Email: drmanishbiyani@gmail.com
- ✧ Vice President, Jaipur Rural Health & Development Trust.
Gram Champapura, Jaipur, INDIA. Email: biyanijp@yahoo.co.in

Research Interest:

Molecular Evolutionary Engineering, Biosensor, Bio-drug discovery, Nano-bio-medical device, Microarray, Proteomics, Aptamer, Molecular diagnostics, DNA-based nano architecture.

Education & Professional Career:

1998 - 2004	M.E. and Ph.D., Saitama University, Japan
2004 - 2007	Research Scientist (Invited), CREATE/JST Project, Japan
2006 - present	Research Director, Biyani Group of College, India
2008 - 2013	Research Scientist (Invited), CREST/JST Project, Japan
2009 - 2013	Res Asst. Professor, The University of Tokyo, Japan
2009 - present	Executive board member, Indian Scientist Association in Japan, Japan
2012 - present	Vice president, Jaipur Rural Health and Development Trust, India
2014 - present	Research Asso. Professor (Invited), JAIST, Japan
2015 - present	Director & CEO, Biyani Biosolution Pvt Ltd., India

Representative Major Research Publications:

1. ***Sci Rep* 2016**, 6:26257 A bulk sub-femtoliter in vitro compartmentalization system using super-fine electrosprays.
2. ***Biosens Bioelectron* 2016**, 84:120. PEP-on-DEP: A competitive peptide-based disposable electrochemical aptasensor for renin diagnostics.
3. ***Microarrays* 2015**, 4. Microintaglio printing for soft lithography-based in situ microarrays.
4. ***Biosens Bioelectron* 2015**, 67:115. Temperature-controlled microintaglio printing for high-resolution micropatterning of RNA molecules

Brief Curriculum Vitae: Manish Biyani

5. *J Biochem* **2015**, 157:113. Detection of ultra-low levels of DNA changes by drinking water: epidemiologically important finding.
6. *Appl. Phys. Express* **2013**, 6;087001. Microintaglio printing of in situ synthesized proteins enables rapid printing of high-density protein microarrays directly from DNA microarrays.
7. *Anal Biochem.* **2011**:409,105. Gel shift selection of translation enhancer sequences using mRNA display.
8. *ACS Comb Sci* **2011**:13,478. One-pot preparation of mRNA/cDNA display by a novel and versatile puromycin-linker DNA.
9. *Nucleic Acids Res.* **2009**:37,e108. cDNA display: a novel screening method for functional disulfide-rich peptides by solid-phase synthesis and stabilization of mRNA-protein fusions.
10. *Nucleic Acids Res.* **2006**:34,e140. Solid-phase translation and RNA-protein fusion: a novel approach for folding quality control and direct immobilization of protein using anchored mRNA.
11. *Gene* **2005**:364,130. Structural characterization of ultra-stable higher-ordered aggregates generated by novel guanine-rich DNA sequences.
12. *J Biochem* **2005**:138,363. Single-strand conformation polymorphism at the oligodeoxyribonucleotide level: An insight into solution structural dynamics of DNAs by gel electrophoresis and molecular dynamics simulations.
13. *Electrophoresis* **2003**:24,628. Sequence-specific and non-specific mobilities of single-stranded oligonucleotides observed by changing the borate buffer concentration.
14. *Electrophoresis* **2001**:22,23. Hundredfold productivity of genome analysis by introduction of microtemperature-gradient gel electrophoresis.

Recognitions:

- ✧ Recognized as a potential inventor of next-generation technologies in Japan and worldwide for pioneering total 9 international patents in Life Sciences. Two of patent technologies were recognized to develop and establish industry-academia R&D alliance: (i) Nikon Corp. and The University of Tokyo and (ii) Lifetech Co. Ltd and Saitama University.
- ✧ Recognized as peer-reviewer and editorial committee board members in high-impact Scientific International Journals including Biophysical Journal (HighWire Press, since 2005), Analytical Biochemistry (Academic Press, since 2005), Electrophoresis (Wiley Press, since 2005), Biopolymer (Wiley Press, since 2007), Nucleic Acids Res. (Oxford Press, since 2008), Chemistry Letters (CSJ Press, since 2008), Japanese Journal of Applied Physics (since 2009).
- ✧ Received several prestigious awards of exceptional value including JB OUP Prize from IUBMB International Union of Biochemistry and Molecular Biology Society (June 2006, Japan); Genetics Congress award from International Genetics Federation (July 2003, Australia);

Brief Curriculum Vitae: Manish Biyani

Outstanding academic award and gold medal from Pharmacy medical association of Rajasthan (July 1998, India).

- ✧ Recipient of several scholarship awards including 5 years prestigious MEXT (Monbukagakusho) award from Ministry of Education, Government of Japan (1998-2003); Bursary award from International Genetics Federation (2003), Fellowship award from Department of Science and Technology, Government of India (2008).
- ✧ Published 30+ major research articles in the peer reviewed high-impact International Scientific Journals and recognized as an invited chair/speaker in 60+ international/national scientific meetings worldwide during last 10 years of research career.
- ✧ Honored by Glen Research Corporation, USA by highlighting one of key scientific finding as technology of the month in Glen Research Literature (Oct 2006).
- ✧ Honored by Elsevier Publication by highlighted one of key scientific finding on the Front cover page of Analytical Biochemistry (issue 409, 2011).
- ✧ Pioneered a conceptual technique of miniaturized version of Gel Electrophoresis (μ GE, Micro Gel Electrophoresis; μ TGGE, Micro Temperature Gradient Gel Electrophoresis; mmTGGE, multi micro Temperature Gradient Gel Electrophoresis) that was recognized to develop Industry-Academia R&D alliance between TAITEC Corp. and Saitama University.
- ✧ Pioneered a conceptual technique of high-density DNA-to-Protein microarray chip for molecular diagnostics that was recognized to develop Industry-Academia R&D alliance between Nikon Corp. and University of Tokyo.
- ✧ Appointed as a chair/chief committee member of India-Japan annual symposium (since 2006).
- ✧ Appointed as a President and Executive member of ISAJ (Indian Scientist Association in Japan) to promote scientific interaction and research networks between India and Japan (since 2009).
- ✧ Founder of Women's College in Rajasthan, India to develop research-based interdisciplinary curriculum for providing an optimal blend of knowledge and professional skill in young minds.
- ✧ Founder of bridging bilateral relationship in the areas of Science & Technology between India and Japan by establishing interdisciplinary collaboration and resource/technology exchange agreement with various Universities (Saitama University, University of Tokyo, Akita Prefectural University, Toyo University), Institutes (Brain Science Institutes, Kazusa DNA research institute) and Industries (Nikon instrumental, BioDevice Technology, MicroEmission, Life Tech.) in Japan.