



I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at Department of Sciences for Food, Nutrition and the Environment

Scientist-in-charge: Dr. LUCIA CAVALCA

[Name and surname] ABHIJIT MANNA

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	MANNA
Name	ABHIJIT
Date of birth	[10,09, 1985]

PRESENT OCCUPATION

Appointment	Structure
CNRS, UMR 7156, University of Strasbourg	Advanced Postdoctoral Scientist

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree (BSc)	Microbiology	University of Burdwan	2009
Specialization	Microbiology	University of Burdwan	
PhD	Microbiology	Madurai Kamaraj University	2018
Master (MSc)	Microbiology	University of Burdwan	2011
Degree of medical specialization	No	No	No
Degree of European specialization	No	No	No



Other	No	No	No
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REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City
No	No	No

FOREIGN LANGUAGES

Languages	level of knowledge
English	Fluent
French	Beginning
Bengali	Mother tongue
Hindi	Fluent

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2019	CNRS, University of Strasbourg Postdoctoral fellowship, France
2019	Best young researcher award, Annamalai University, India
2018	CSIR, Postdoctoral Research Associate fellowship, India
2018	'Johnnie Castro Montealegre Travel Award' from NSA of USA and FUCOBI of Ecuador
2015	UGC-doctoral fellowship, India
2013	DBT-IPLS doctoral fellowship, India
2013	Graduate Aptitude Test in Engineering, MHRD India

TRAINING OR RESEARCH ACTIVITY

Under the supervision of Dr. Amutha Chinnaiyah, I have completed doctoral studies and obtained a Ph.D. in Microbiology from Madurai Kamaraj University, India in 2018. The focus of my doctoral research was to find out an eco-friendly approach to detoxify endocrine-disrupting chemicals like BPA and their successive detection of toxicity and presence in the environment. To work on this topic, I have learned and used techniques like microbial characterization, identification, protein purification, gene cloning, and expression, ELISA, cytotoxicity, histopathology, nanotechnology, and biosensor development. Subsequently I have developed an interest after learning analysis and handling apparatus like FPLC, HPLC, ITC, ESI-MS, FT-IR, XRD, DSC, TGA, fluorescence microscopy and SEM. My doctoral research was the beginning where I became immensely interested not only in microbiology but on interdisciplinary science



too.

Due to my interest in microbiology and interdisciplinary science immediately after completion of my doctoral research, I have started my post Ph.D. work with Dr. N.R Kamini (in CSIR-CLRI, India) on novel nanoparticle synthesis using purified protein as a scaffold for drug delivery and nonenzymatic detoxification of chromium (Cr VI). In this period of study, I have learned a couple of new techniques like fermentation technology, biomineralization, and adsorption kinetics. Subsequently I have learned and utilized many microscopic techniques like fluorescence microscopy, AFM, FE-SEM, and HR-TEM. In my view, microscopy is not just for visualization but it can give realistic thinking about a problem and it was another interesting thing I have learned.

In my current position as a postdoctoral fellow (in CNRS, UMR 7156, University of Strasbourg) under the supervision of Professor. Stéphane Vuilleumier I am working on the discovery of dehalogenase enzyme using microfluidics. This project is the blend of various research fields like microbial ecology, genomics, proteomics, and microfluidics and it is one the greatest opportunity for me to learn more interesting fundamental microbial techniques and understand the technology about how microfluidics work. This project has given me an opportunity to learn microbial dehalogenation, anaerobic cultures, enzyme kinetics, and developed a new direction of thinking as well as interest on microfluidics.

My research career is like a gradual increment of interest in microbiology and interdisciplinary research starting from Ph.D. to my current position and it becomes my passion, on the other hand, microfluidics is another technology that I have first time encountered and understand the utility in current research field.

PROJECT ACTIVITY

Year	Project
2013-18 (Doctoral project)	Effect on commercial fish species due to endocrine disrupting chemicals and its bioremediation using enzyme nanoparticle conjugates.
2018-19 (Postdoctoral project)	Degradation of insoluble polymers applying immobilized laccase and non enzymatic detoxification of chromium VI using dead biomass of fungus (fermentation waste).
2019-current (Postdoctoral project)	Discovery of dehalogenase enzymes.

PATENTS

Patent: NO

CONGRESSES AND SEMINARS



Date	Title	Place
20-22 February, 2019	Green process for chromium (VI) bioremediation using the dead biomass of <i>Leotrametes flavida</i>	International Conference on Recent Innovations in Biosustainability and Environmental Research, TamilNadu, India
18-22 March, 2018	Laccase-silica nanoparticle conjugates can efficiently reduce the early maturation risk due to Bisphenol-A in female <i>Oreochromis mossambicus</i> and its toxic load from the contaminated effluent.	National Shell fisheries Association conference, Seattle, USA
16-17 February, 2017	Laccase-silica nanoparticle and its application on contaminated effluent.	National Conference on Bioresources: Conservation, Utilization and Future Prospects(NCBCUFP),Tamil Nadu, India
11-12 August, 2016	Application of enzymes in Bioremediation	9 th NABS National Conference on New Biological Research: Opportunities and Challenges for Sustainable Development, Madurai, India, 2016

PUBLICATIONS

Books: No
Articles published: 8
Non-enzymatic reduction of Cr (VI) and its effective biosorption using heat-inactivated biomass: a fermentation waste material, Manna A, Antony G, S, Baskaran S, Puhazhendi P, Ramchary A, Niraikulam A, Ramudu K, A, (Chennai), (2020) <i>Journal of Hazardous Materials (Elsevier)</i>, 392, 122257.
Designing of New Optical Immunosensor based on 2-amino-4-(anthracen-9-yl)-7-hydroxy-4H-chromene-3-carbonitrile (AHC) for Detection of <i>Aeromonas Hydrophila</i> in the Organs of <i>Oreochromis mossambicus</i> Fingerlings", Ellairaja, S, Shenbagavalli, K, Manna, A, Amutha, C, Vairathevar, V. (Madurai), (2019) <i>ACS Omega (ACS)</i>, 4, 4814
Efficient cadmium removal using edible fungus and its quantitative fluorimetric estimation using [(Z) - 2-(4H-1, 2,4-triazol-4-yl) imino methylphenol], Manna, A, Ellairaja, S, Amutha, C, Vairathevar, V. (Madurai), (2018) <i>ACS Omega (ACS)</i>, 3, 6250
Early maturation & necrotic liver in the fingerling stage of <i>Oreochromis mossambicus</i> due to BPA can cause an ecological imbalance, Manna, A and Amutha, C. (Madurai), (2018), <i>RSC Advances (RSC)</i>, 8, 12894.
Laccase-silica nanoparticle conjugates can efficiently reduce the early maturation risk due to BPA in female <i>Oreochromis mossambicus</i> and its toxic load from the contaminated effluent. Manna, A and Amutha, C. (Madurai), (2017) <i>Environmental Science: Nano. (RSC)</i> 4, 1553
Comparative bioremediation of BPA, industrial dyes and cadmium using <i>Trametes versicolor</i> and <i>Bacillus subtilis</i> 1133. Manna, A and Amutha, C. (Madurai), (2017) <i>Journal of Pure and Applied Microbiology (Oriental Scientific Pub. Co.)</i>, 11, 464



The *in vivo* estrogenic modulatory effect of bisphenol-A (BPA) on *Oreochromis mossambicus* and prevention of early maturation of ovary by conjugates of intracellular laccase and silica nanoparticles. **Manna, A**, Geetha, S, T, Tamilzhalagan S, Amutha, C. (Madurai), (2016) *RSC Advances (RSC)*. 6, 101560

Isolation and comparison of laccase producers, determination of optimal condition for growth, laccase production and identification of best strain among screened isolates, Amutha, C and **Manna, A.** (Madurai), (2015) *Journal of Bioremediation and Biodegradation (Omics)*, 6, 4

Articles in reviews

Colorimetric Detection and Bio-Magnification of Bisphenol A in Fish Organs and Water Sources using 3',6'-bis(diethylamino)-2-((3,4,5-trimethyl benzylidene) amino) spiro [isoindoline -1,9'-xanthen]-3-one (BTSIXO)-Fe³⁺ion Conjugate, Ellairaja Sundaram; **Abhijit Manna**; Karthika Lakshmi Servarayan; vasantha V S pandian, *Food Chemistry (Elsevier)* October, (Madurai) 2020

Congress proceedings:

No

OTHER INFORMATION

No

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Place and date: Strasbourg, 12/11/2020

SIGNATURE

Abhijit Manna
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