

## **Profile (Biodata)**

**A. Name - Dr. Ajay Kumar Manhar**

**B. Department - Industrial Microbiology**

**C. Date of Joining in the Present Job - 07th Aug**

**2018**

**D. Mode of Appointment - Recruitment Through CGPSC Examination**

**E. Present Post held - Assistant Professor**



***F. Educational Qualification.***  
***(Degrees/Diplomas/Certificates/Courses)***

**Graduation:-**

B.Sc (Biotechnology) - 2008 - Bangalore University.

**Post Graduation:-**

M.Sc. (Applied Microbiology)- 2010 - Vellore Institute of Technology.

Ph.D. (Molecular Biology & Biotechnology)- 2017- Tezpur University.

**ACADEMIC ACHIEVEMENTS**

State Level Eligibility Test conducted by N.E. REGION- 2012.

Indian Council of Agricultural Research NET-2013 (ICAR NET)

Indian Council of Agricultural Research NET-2014 (ICAR NET)

***G. Additional Post/ Charges/Membership/ Committees held in the Institution/University/other University***

***Membership in the present institute–***

- *Carrier Counselling & Placement Committee*
- *IQAC Committee*
- *NAAC Steering Committee*
- *Skill development Cell*
- *Alumni Committee*

***Membership in other institute/Univeristy***

- Subject expert in Board of Studies (Dept. of Microbiology), GOVT. VISHWANATH YADAV TAMASKAR PG AUTONOMOUS COLLEGE, DURG (C.G.), 2019-2020

***H. Membership Post/ Post held in other Organisation/ Academic, Cultural, Social/ Religious Bodies.***

<i>Employer</i>	<i>Post held</i>	<i>From</i>	<i>To</i>
<i>Tezpur University</i>	<i>Junior Research Fellow</i>	<i>01-04-2011</i>	<i>31-03-2013</i>
<i>Tezpur University</i>	<i>Senior Research Fellow</i>	<i>01-04-2013</i>	<i>31-03-2016</i>
<i>Biotechnology Industry Research Assistance Council( A Govt. of India Enterprise)</i>	<i>Technical Officer</i>	<i>18<sup>th</sup> May, 2017</i>	<i>03<sup>rd</sup> Aug 2018</i>

## ***I. Teacher's Progression after appointment.***

- **Participation in orientation /Refresher/other training Programmes .(Chronically)**

### **Orientation Course**

10th June-29th June 2019- HRDC- UGC Guru Ghasidas University

### **Faculty Development Programme**

1. Participated in one week Faculty Development programme (2<sup>nd</sup>-7<sup>th</sup> Nov 2020) organized by Mizoram University on Exploring academic and Investigative Dimensions in food Research.

2. Participated in 10 days Faculty Development program organized by HEMCHAND YADAV UNIVERSITY, DURG (C.G.) & GOVT. VISHWANATH YADAV TAMASKAR PG AUTONOMOUS COLLEGE, DURG (C.G.) on the theme “ ONLINE EDUCATION : BOON FOR UPLIFTMENT OF HIGHER EDUCATION INSTITUTES” from 22nd July 2020 to 31st July 2020.

3. Participated in Two Weeks (24<sup>th</sup> Feb 2021-10<sup>th</sup> March 2021) Online Faculty Development programme organized by Chhattisgarh Industrial and Technical Consultancy Centre [CITCON] Raipur (C.G) under the sponsorship of Department of Science and Technology (DST).

4. Participated in one week (5th June 2021-11<sup>th</sup> June 2021) Online Faculty Development programme on Modules of Self Development organized by Indira Gandhi Govt. Arts and Commerce PG College, Vaishali Nagar, Bhilai (C.G)

● **Participation in Workshop/Seminars/Conference.(Year wise)**

<b>Date/Year</b>	<b>Title of the Seminar/workshop</b>	<b>Organised by</b>	<b>Participate d/Resource Person/Paper Presented</b>
2011	Protein 3D Structure Modelling	Tezpur University	Participated
2012	Workshop on Tools of Proteomics	GE Healthcare and Tezpur University	Participated
2012	Workshop on Advances in Applied Microbiology and Bioprocess Enginnering with special reference to Petroleum Biotechnology	ONGC and Tezpur University	Participated
2013	Workshop on Statistical analysis of Biological Data	ISI, Kolkata and Assam University, Silchar	Participated
2014	Workshop SodhGanga and Anti-Plagiarism Software	Tezpur University, Assam	Participated
2018	Workshop on Enhancing Assertiveness and Positive Attitude	All India Management Association(AIMA)	Participated
2018	Nature Research Funder Academy Workshop	DBT and BIRAC, New Delhi	Participated
11 <sup>th</sup> Nov 2020	Recent Trends and Advances in Food Processing	Mizoram University, Aizawl (India)	Participated

29 <sup>th</sup> Oct 2020	Reinventing Food Engineering to achieve global food security	Mizoram University	Participated
11-12th September 2020	INTERNATIONAL WEBINAR  Analytical Instrumentation on Bio Chemical Studies and Research	Gulf Bio Analytical Group of Companies, Dubai and St. Thomas College, Bhilai, Chhattisgarh	Participated
16 <sup>th</sup> Aug 2020	Online Quiz Competition, “COVID-19 AWARENESS QUIZ COMPETITION	Government Mata Karma Girls College, Mahasamund	Participated
9 <sup>th</sup> August 2020	ONE DAY MULTIDISCIPLINARY NATIONAL E-WORKSHOP  ON ONLINE LEARNING MANAGEMENT SYSTEM AND GOOGLE FORMS	Govt. Naveen College, Hasoud	Participated
1st August 2020	International Webinar on “COVID-19 In Perspective”	D.K. D. College, Dergaon, Assam in association with the Zoological Society of Assam (ZSA),	Participated
31 July 2020	INTERNATIONAL WEBINAR on “Epidemiological and Immunological Aspects of COVID- 19	St.Thomas College, Bhilai, Chhattisgarh	Participated
31st July 2020	National Webinar on Emerging Trends of Techno Skills in Education	St.Thomas College, Bhilai, Chhattisgarh	Participated
31st July, 2020	An Introduction to Science Careers &  Exploring a Career in Research Management	IndiaBioscience	Participated
29 July 2020	Foe or friend COVID-19 The 21 <sup>st</sup> Century Pandemic Virus and what is so special about it?	Royal Global University, Guwahati	Participated

27th and 28th July, 2020	International Webinar 2020 on “Food Safety Policies and Regulation	Assam Agricultural University in  collaboration with the National Agricultural Higher Education Project (NAHEP),	Participated
22nd, 23rd and 24th July, 2020	Workshop on Stress Management under the pandemic of Covid-19	GOVT. DIGVIJAY PG AUTONOMOUS COLLEGE,  RAJNANDGAON, CHHATTISGARH	Participated
23rd July 2020	INTERNATIONAL WEBINAR on Your Attitude Defines Your Altitude”	Indira Gandhi Govt. Arts & Commerce PG College Vaishali Nagar,  Bhilai (C.G.)	Participated
17th July 2020.	International webinar on ”Challenges Before Research During Covid 19“	Committee for  Promotion of Research Activities (COPRA), St. Thomas College, Bhilai, Chhattisgarh	Participated
17th July 2020	National webinar on Initiatives for strengthening Teachers Leadership Effectiveness	Govt. E.V. P.G. College Korba, C.G	Participated
11 <sup>th</sup> July 2020	National webinar on employability in Microbiology and Bioinformatics	Atal Bihari Vajpayee Vishwavidyalaya, Bilaspur (C.G)	Participated
30th June 2020	Pandemic Covid-19 and Environment- An analysis	Indira Gandhi Govt. Arts & Commerce PG College Vaishali Nagar,  Bhilai (C.G.)	Participated
30th June 2020	National Webinar on Lifestyle Disease and Covid-19: Possible risks, precautions and management during the pandemic	St.Thomas College, Bhilai,  Chhattisgarh	Participated
29th June 2020	National Webinar on “IMPACT OF COVID – 19 ON HIGHER EDUCATION”	Acharya Panth Shri Grindh Muni Naam Saheb  Govt. P.G. College, Kawardha, Dist-	Participated

		Kabirdham (C.G.)	
29 <sup>th</sup> June 2020	Impact of Lockdown due to COVID-19 on Forest and Environment in India	Department of Forestry, Government Kaktiya PG College, Jagdalpur (Bastar)	Participated
21 <sup>st</sup> June 2020	International Day yoga	INO, Surya Foundation, Supported by Ministry of Ayush	Participated
27th June 2020	MICROBIOME - PERCEPTIONS AND PERSPECTIVES	Biotechnika Info Labs Pvt Ltd	Participated
19-21th, June 2020	Online Quiz “Microbes in Human Welfare	GOVT. V.Y.T. PG. AUTONOMOUS COLLEGE, DURG (C.G.)	Participated
08 <sup>th</sup> Oct 2020	Road Safety Awareness Webinar	Honda Motorcycle & Scooter India Pvt. Ltd	Participated
03/5/2021 to 09/5/2021	National Workshop On Intellectual Property Rights	Department of Biotechnology and Internal Quality Assurance Cell, Govt. V.Y.T. PG. Autonomous College, Durg in collaboration with Coordination Cell of Chhattisgarh Council of Science & Technology, Raipur, C.G.	Participated
2021	10 days online workshop on Seven Criteria’s of New NAAC Accreditation, Health hygiene and Legal Awareness Program	Hemchand Yadav Vishwavidyalaya, Durg (C.G)	Participated
2021	National Webinar on Green Energy and Sustainable Development	Indira Gandhi Govt. Arts & Commerce PG College Vaishali Nagar, Bhilai (C.G.)	Participated
2021	National Webinar on Impact of Covid-19 on current status of	Govt. Nehru PG College, Dongargarh (C.G)	Participated



	Biodiversity and Environment		
2021	National workshop on Research Methodology	Govt. V.Y.T. PG. Autonomous College, Durg in collaboration with	Participated
28th May 2021	Covid 19-Vaccination Awareness Programme	Indira Gandhi Government Arts & Commerce PG College, Vaishali Nagar, Bhilai	Resource Person

- **Seminar/Workshop/training programs/any other program organized by self as convener/other member of the committee**

*Organized a Webinar through placement cell on Career Opportunities in BFSI sectors on 22nd March 2021 at Indira Gandhi Government Arts & Commerce PG College, Vaishali Nagar, Bhilai in association with NIIT Limited.*

*Executive committee member of National Webinar on Green Energy and Sustainable Development (10<sup>th</sup> May-15<sup>th</sup> May 2021) organized by Indira Gandhi Govt. Arts & Commerce PG College Vaishali Nagar, Bhilai (C.G.)*

*Co-convener in one day(12<sup>th</sup> June 2021) National webinar on IPR: Patenting in India, organized by Department of Industrial Microbiology and Placement Cell.*

*Working Committee in one week (5th June 2021-11th June 2021) Online Faculty Development programme on Modules of Self Development organized by Indira Gandhi Govt. Arts and Commerce PG College, Vaishali Nagar, Bhilai (C.G)*

*Organized a talk on Virtual Training Programme for NCC Cadets (20<sup>th</sup> May 2021) in association with placement cell*

*Organized a talk on Valor and Glory-Indian Army (Recruitment Process (21<sup>st</sup> May 2021) in association with placement cell*

*Organized a talk on Sky is not the limit- Dream with Air Force (22<sup>nd</sup> May 2021) in association with placement cell*

• **Publication in the form of Research Paper/Articles/abstracts/Poems/Books.(Yearwise)**

### **2013**

Removing antinutrients from rapeseed press-cake and their benevolent role in waste cooking oil-derived biodiesel: conjoining the valorization of two disparate industrial wastes. M Das Purkayastha, S Das, **AK Manhar**, D Deka, M Mandal, CL Mahanta. Journal of agricultural and food chemistry 61 (45), 10746-10756.

### **2014**

Biocompatible carboxymethylcellulose-g-poly(acrylic acid)/OMMT nanocomposite hydrogel for in vitro release of vitamin B 12. M Boruah, P Gogoi, **AK Manhar**, M Khannam, M Mandal, SK Dolui. RSC advances 4 (83), 43865-43873.

Antioxidative, hemocompatible, fluorescent carbon nanodots from an “End-of-Pipe” agricultural waste: exploring its new horizon in the food-packaging domain. M Das Purkayastha, **AK Manhar**, VK Das, A Borah, M Mandal, AJ Thakur, CL Mahanta. Journal of agricultural and food chemistry 62 (20), 4509-4520.

Green silver nanoparticles: enhanced antimicrobial and antibiofilm activity with effects on DNA replication and cell cytotoxicity. K Gupta, S Barua, SN Hazarika, **AK Manhar**, D Nath, N Karak, ND Namsa, R Mukhopadhyay, VC Kalia, M Mandal. RSC Advances 4 (95), 52845-52855

Preparation and characterization of zinc oxide and nanoclay reinforced crosslinked starch/jute green nanocomposites. M Iman, **AK Manhar**, M Mandal, TK Maji. RSC Advances 4 (64), 33826-33839

Industrial waste-derived nanoparticles and microspheres can be potent antimicrobial and functional ingredients M Das Purkayastha, **AK Manhar**, M Mandal, CL Mahanta. Journal of Applied Chemistry 2014.

## 2015

Cloning and extracellular expression of a raw starch digesting  $\alpha$ -amylase (Blamy-I) and its application in bioethanol production from a non-conventional source of starch. JK Roy, **AK Manhar**, D Nath, M Mandal, AK Mukherjee. Journal of basic microbiology 55 (11), 1287-1298.

Evaluation of antioxidant and antibacterial activity of various aspect ratio gold (Au) nanorods. S Sharma, **AK Manhar**, PJ Bora, SK Dolui, M Mandal. Adv Mater Lett 6, 235-241.

In vitro evaluation of cellulolytic *Bacillus amyloliquefaciens* AMS1 isolated from traditional fermented soybean (Churpi) as an animal probiotic. **AK Manhar**, D Saikia, Y Bashir, RK Mech, D Nath, BK Konwar, M Mandal. Research in veterinary science 99, 149-156.

Phytosynthesized iron nanoparticles: effects on fermentative hydrogen production by *Enterobacter cloacae* DH-89. D Nath, **AK Manhar**, K Gupta, D Saikia, SK Das, M Mandal. Bulletin of Materials Science 38 (6), 1533-1538

## 2016

Cellulolytic potential of probiotic *Bacillus Subtilis* AMS6 isolated from traditional fermented soybean (Churpi): An in-vitro study with regards to application as an animal feed. **AK Manhar**, Y Bashir, D Saikia, D Nath, K Gupta, BK Konwar, R Kumar, ND Namsa, M Mandal. Microbiological research 186, 62-70.

Effect of maleylation on physicochemical and functional properties of rapeseed protein isolate. MD Purkayastha, AK Borah, S Saha, **AK Manhar**, M Mandal, CL Mahanta. Journal of food science and technology 53 (4), 1784-1797.

Assessment of goat milk-derived potential probiotic *L. lactis* AMD17 and its application for preparation of dahi using honey. **AK Manhar**, D Saikia, A Borah, AS Das, K Gupta, R Roy, CL Mahanta, R Mukhopadhyay, M Mandal. Annals of Microbiology 66 (3), 1217-1228

### **BOOK CHAPTER**

Nanotechnological applications in food packaging, sensors and bioactive delivery systems. MD Purkayastha, **AK Manhar**. Nanoscience in Food and Agriculture 2, 59-128.

## 2018

Hypocholesterolemic activity of indigenous probiotic isolate *Saccharomyces cerevisiae* ARDMC1 in a rat model. D Saikia, **AK Manhar**, B Deka, R Roy, K Gupta, ND Namsa, P Chattopadhyay, R Doley, M Mandal. journal of food and drug analysis 26 (1), 154-162

## 2019

Inhibition of *Staphylococcus aureus* and *Pseudomonas aeruginosa* Biofilm and Virulence by Active Fraction of *Syzygium cumini* (L.) Skeels Leaf Extract: In-Vitro K Gupta, SP Singh, **AK Manhar**, D Saikia, ND Namsa, BK Konwar, M Mandal. Indian journal of microbiology 59 (1), 13-21.

**2020**

**BOOK CHAPTER**

Dark Fermentative Hydrogen Production from Lignocellulosic Agro-waste by a Newly Isolated Bacteria *Staphylococcus Epidermidis* B-6. P Mazumder, D Nath, **AK Manhar**, K Gupta, D Saikia, M Mandal. Resilience, Response, and Risk in Water Systems, 381-395.

- **Research Minor/Major Projects/guided/done by self**

*Title of Ph.D. Thesis submitted by self: Characterization and application of some potential probiotics isolated from milk and traditional fermented foods (Doi and Churpi) of Assam and Arunachal Pradesh, India.*

- **Guest Lecture organized by self/department or as member of committee**

***Guest Lectures organized by the department***

A guest lecture was delivered by Dr. Meenakshi Bharadwaj on 18th Jan 2019 on the topic “Fungi and its Characteristics” at the Department of Industrial Microbiology, Govt. P.G. College, Vaishali Nagar.

A online Guest Lecture was delivered by Dr. Rahul Kumar (Post Doctoral Researcher) from National Institute of Plant Genome Research (NIPGR), New Delhi on 07th Dec 2020 on the topic “Molecular Cloning and its application” at the Department of Industrial Microbiology, Govt. P.G. College, Vaishali Nagar.

## ***J. Extra Curricular Progression.***

### ***a. Recognition /Prize/honour/participation /outside insititutions/membership.(Year-wise)***

Participated in the Exhibition on Swachh Bharat from 07<sup>th</sup> to 10<sup>th</sup> May, 2018 at the Department of Science & Technology, Technology Bhavan during Swachhta Pakhwada (1<sup>st</sup> may-15<sup>th</sup> May 2018).

## ***K. Social Actives done by self/Participated in institution and outside institution.***

- *Actively participate in the social activities conducted by the NCC and NSS of the college.*
- *Covid Awareness Programme through webinar/seminar/Discussion.*
- *Swachh Bharat Activity*
- *Road Safety week*
- *Yoga day*
- *Tree Plantation*

## ***L. Innovative Work done in the institutions.***

- *Use of modern teaching methods like*
  1. *Audio-Visual Display*
- *Class seminar by UG students*
- *Group Discussion*
- *Industrial Visit/Training Program for students*
- *Guest Lecture-Invited & arranged in the department*