ANAMIKA BAGCHI

CF-331 Flat No. 4A, Salt Lake, Kolkata-700064

9311713297• bagchianamika.929@gmail.com

ACADEMIC QUALIFICATION

Bachelor in Technology in Food Technology, August 2011
West Bengal University of Technology
Kolkata, India
GPA: 8.62/10.00

RELATED COURSEWORK

Food Microbiology
Food Microbiology (Lab)
Food Chemistry
Pathogenic Microbiology

Unit Operations of Chemical Engineering Statistical Methods in Research Statistical Methods in Research (Lab)

Advanced Food Analysis Food Toxicology
Food Proteins
Biochemistry & Nutrition

RESEARCH INTERESTS

- Molecular and Cellular Microbiology
- Microbial Genomics
- Metagenomics
- Metabolomics
- Bacteriology
- Virology

TEACHING EXPERIENCE

Teaching Assistant for FDST 806
Food Microbiology Laboratory, Fall 2014
  o Assigned to prepare teaching materials.
  o Assigned to grade laboratory notebooks.

PROFESSIONAL EXPERIENCE

BrightCHAMPS Tech Private Limited, May 19th,2022- August 3rd, 2022

- Teaching young kids programming online on a one-on-one basis.
    o Scratch
    o Thunkable
    o Python Programming
    o Code.org
- Conducting parent-teacher meetings as needed to guide the student.
- Teaching the concepts related to programming so that the student is able to re-learn the concepts with the completion of tasks.

Biotechnology Patent Analyst Trainee
Indian Institute of Patent and Trademark, New Delhi

- Learning about Patents, Copyright and Trademarks.
- Familiarising with the concept of Prior Art search, patentability search, patent forms
- Patent Searching from various databases such as USPTO, EPO,IPO, Scopus, Google Patent
- Introduction to US and Indian Patent Law, Patent Filling and Application procedure in India

Graduate Research Associate
August, 2019- August, 2020, August 2021- February 2022
The Ohio State University, Columbus, Ohio

- Learning about Food Science and Technology and Metabolomics.
- In-depth knowledge of subjects such as Food Microbiology, Biochemistry, Food Quality Assurance, and Statistical Analysis.
- Possess Food Analytical Skills encompassing general microbiology, quality control, basic & advanced wet-bench techniques, solid phase extraction and gravimetric analysis.
- Excellence in planning and organizing day-to-day research activities and resolving procedural problems as appropriate to the timely completion of research objectives.

Part-Time Student Worker
September 2017- February 2018
UNL Nebraska Center for Virology, Lincoln, NE

- Responsible for cloning the genome of PRRSV (approximately 15.5 Kb) into a plasmid. • Performing cDNA synthesis from the viral RNA and then consecutive PCR amplification of the viral genome.
- Performing Gel Electrophoresis followed by DNA extraction and purification.
- Gaining experience with mammalian cell culture and transfection with recombinant plasmid.
- Gaining experience in Plasmid design and extraction methods using midi preps.
- Gaining hands-on experience with the construction of plasmid or viral vectors.
- Gaining knowledge of virology techniques.
- Closely following established procedures and repeating the same.
- Retaining research laboratory notebook, detailing daily research

Part-Time Technician, December 2016-August 2017
UNL Water Science Laboratory, Lincoln, NE

- Operating and performing validation studies on Seal AQ2 Autoanalyzer for nutrient and other colourimetric methods of water samples for ammonia, nitrate, phosphorus and other water quality parameters.
- Assisting technical staff in analytical testing of water, wastewater and sediments.
- Prepare standards or standard curves to perform quantitative analyses.
- Preparing and reporting final results for interpretation.
- Inventorying consumables in the lab and updating the database.
- Perform other duties and special projects as assigned.

Graduate Research Assistant, August 2016-December 2016
UNL Department of Food Science and Technology, Lincoln, NE

- Assisted in new product development using different techniques.
- Assisted clients in analyzing the functionality of new products developed using the Texture Analyzer.
- Developed procedure for synthesizing high-pressure processed milk samples to be used as an encapsulant for probiotic cultures.
- Investigated the stability of spray-dried probiotic powder using sample dilutions and enumerations as per the designed protocol.

- Prepared media according to documentation using proper handling procedures and aseptic technique.
- Maintained a clean and safe laboratory environment.
- Maintained the inventory levels and stock supplies.

Part-Time Technician, April 2016-August 2016
UNL Water Science Laboratory, Lincoln, NE

- Assisted the laboratory staff in the conduction and analysis of tests to produce reliable and precise data to support scientific investigations.
- Washed and maintained glassware and laboratory equipment.
- Assisted the staff through pre-analytical preparation of solutions, buffers and reagents.
- Maintained and supervised the chemical inventory and ensured it is well stocked and resourced.
- Calibrated instruments and analyzed samples for pharmaceutical compounds including antibiotics and other drugs.
- Analyzed samples for total solids, total dissolved solids, total suspended solids, volatile suspended solids, pH, conductivity and turbidity.

Research Technician III, June 2015-December 2015
UNL Center for Brain, Biology and Behavior and Nebraska Athletic Performance Laboratory, Lincoln, NE

- Conducted ELISA on salivary samples for analyzing biomarkers to produce reliable and precise data to support scientific investigations.
- Assisted in organizing 'Spit Camp', while providing laboratory demonstration with sample handling.
- Maintained accurate and timely record of test results.
- Applied standard quality control procedures to assure the accuracy of test results.
- Operated, calibrated and performed routine maintenance on specialized equipment.
- Maintained supply inventory and organized and centralized files and records.
- Prepared solutions, reagents, media or stains for prescribed tests.

Student Worker, November 2014-August 2015
UNL Internet & Interactive Media, Lincoln, NE

- Designed Web-Pages using CSS & HTML5
- Developed web pages using UNL Content Management System.
- Accomplished transfer of old websites into new improvised UNLCMS websites.
- Debugged web pages with the removal of errors.

Graduate Research Assistant, August 2013-October 2014
UNL Applied Food Safety Laboratory, Department of Food Science and Technology, Lincoln, NE

- Conducted experiments as a primary data generator for projects while completing assignments as per requirement.
- Designed experiments for extension projects and ensured the team completed tasks.
- Designed a webpage for the University of Nebraska-Lincoln Food Safety webpage for FSMA (Food Safety Modernization Act) Tools.
- Completed a short project which compares the effectiveness of high-pressure processing on turkey meat samples inoculated with *Clostridium perfringens* and *Listeria monocytogenes*.
- Completed a short project on determining the effect of sodium nitrite from synthetic (sodium nitrite; SN) or natural (vegetable source; VP) sources on *Clostridium perfringens* spore germination and outgrowth in turkey breast meat exposed to exponential cooling (9, 12, 15, 18 and 21 h).
- Examined a study as a project lead which evaluates the microbiological aspect of chicken samples in a chicken processing plant.

- Assisted in the determination of D-Values of *Salmonella* species on low moisture food such as black pepper and egg white powder.
- Assisted in the determination of D-Values of *E. coli* O157: H7 in lean and fat beef products. • Handled potentially infectious microorganisms under BSL2 conditions.
- Performed product testing which includes basic chemical, physical and microbiological tests such as Moisture, Water Activity, Yeast/Mold, Aerobic Plate Counts, Total Coliforms, Enterobacteriaceae, *E. coli*
- Collected and prepared samples for internal testing.
- Helped in synthesizing data for different researchers.
- Conducted interpretation of observations and drafted short reports to the supervisor.
- Supervised and mentored interns by organizing responsibilities, designing and coordinating experiments and training them in laboratory techniques and procedures.

Assistant System Engineer, June 2012 – April 2013
Tata Consultancy Services Ltd., Kolkata, India

- Worked as a Software developer with Acuity Team that is designed to provide online solutions to McGraw Hill Education customers for the creation of test assessments, assigning them to students, taking tests, scoring and report generation.
- Application Development in Java/J2EE, using tools such as Eclipse IDE.
- Frontend Development of Application using knowledge in HTML, JavaScript, JQuery, Ajax, and JSP.
- Backend Development of Application using the knowledge of PL/SQL, while using tools such as PL/SQL Developer.
- Interact with both backend and frontend to implement a solution.
- Testing of Application developed and logging of defects using tools such as JTrac, a TCS internal defect logging application.
- Resolving defects and completion of tasks assigned at a daily basis.

Assistant System Engineer Trainee, Dec 2011 - March 2012
Tata Consultancy Services Ltd., Trivandrum, India

- Designed software for Online Telecom Store Inventory, which was based on a sample case study, where online solutions were provided to customers for acquiring a mobile connection which granted access privileges depending upon the login.
- Covered all aspects of software lifecycle Phases-Requirements Analysis, Design, Coding, Unit Testing and System Testing.
- Maintenance of Online Telecom Store Inventory, a sample case study.
- Application Development in Java/J2EE and SQL, using tools such as Eclipse IDE and SQL.
- Creation of Test-cases using the internal TCS Smart Test Manager tool, and mapping them according to the requirements.
- Functionality and Load testing of the application developed, using tools such as Mercury Quick Test Professional and HP LoadRunner respectively.
- Defect logging using internal TCS tools such as BugZilla and TCS Smart Test Manager.
- Resolving logged defects and completion of assigned tasks.
- Implemented change requests in other respective modules of the application.

ACADEMIC PROJECTS

- **Extraction of Curcumin** under the guidance of Dr Debabrata Bera, Department of Food Technology, Techno India, Salt Lake, Kolkata, (2010-2011).
- o Completed final year project work by determining the extraction percentage of curcumin from turmeric powder using food-grade solvents such as ethanol, water, and pet-ether.
- o Investigated parameters which are solid: solvent ratio, time, temperature, particle size, solvents used in pure form and in solvents in mixture form.

- Used extracted curcumin for product development mainly in producing cakes with different ratios of curcumin.
- Performed moisture analysis using **Bidwell Sterling** apparatus.
- Quantitative determination of curcumin using spectrophotometric analysis.
- Performed qualitative analysis of curcumin against *E. coli*.

INTERNSHIP

- **Intelligent Sensing and Packaging of Foods for Enhancement of Shelf Life: Concepts and Applications**

Literature survey under the guidance of Dr Paramita Bhattacharjee, Food Technology and Biochemical Engineering Department, Jadavpur University, Kolkata (June-July 2010)

- **Solvent Extraction of Active Constituents from Clove Buds**

Under the guidance of Dr Paramita Bhattacharjee, Food Technology and Biochemical Engineering Department, Jadavpur University, Kolkata (June-July 2010)

- Used instruments such as a BOD incubator shaker, Spectrophotometer, and Rotary vacuum evaporator.
- Carried out Physicochemical Quantitative analysis of the extract and qualitative analysis for eugenol and commented upon the better extraction capacity of the solvents used.

PUBLICATION

- Anamika Bagchi, "Extraction of Curcumin". *IOSR Journal of Environmental Science, Toxicology and Food Technology (IOSR-JESTFT) ISSN: 2319-2402, ISBN: 2319-2399. Volume 1, Issue 3 (Sep-Oct. 2012), PP 01-16*. DOI:-10.9790/2402-0130116 http://www.iosrjournals.org/iosr jestft/papers/vol1-issue3/A0130116.pdf
- Anamika Bagchi," Intelligent Sensing and Packaging of Foods for Enhancement of Shelf Life: Concepts and Applications". *International Journal of Scientific & Engineering Research, Volume 3, Issue 10, October-2012 ISSN 2229-5518.* http://www.ijser.org/onlineResearchPaperViewer.aspx?Intelligent-Sensing-and-Packaging-of Foods-for-Enhancement-of-Shelf-life-Concepts-and-Applications.pdf
- Anamika Bagchi," Microbial source tracking of faecal microorganisms using metabolomics", I*nternational Journal for Research Trends and Innovation - IJRTI (ISSN: 2456-3315), Volume 7, Issue 8, August-2022, PP 524 - 525,* http://www.ijrti.org/viewpaperforall.php?paper=IJRTI2208087

SKILLS

Instrumentation skills:
- Spectrophotometer EL 808
- Rotary Vacuum Evaporator
- BOD Incubator Shaker
- Micropipettes

- Freeze dryer
- Elution devices
- Vacuum packaging machine
- Bactron Anaerobic Chamber
- BAX PCR system

- Buchi Mini Spray Dryer
- Janus Automated Workstation
- Particle Size Analyzer
- Rapid-Vap N2 sample concentrator
- Seal AQ2 Auto analyzer
- Ultrasonicator
- Water Activity meter
- Burrell wrist action shaker

- Gravimetric analysis techniques

Software Skills
- Core Java, C, C++, SQL,PL/SQL, RDBMS,HTML,CSS,Javascript(Ajax,JSON,Jquery Framework), Python,SAS,Tableau.
- Load Runner, Mercury Quick Test Professional
- HP Quality Center, UNL Content Management System
- Research Paper Database: Scopus, Google Scholar

Food analytical skills:
- General microbiology and quality control
- Basic and advanced wet-bench techniques
- Solid phase extraction techniques

PRESENTATION

- Anamika Bagchi, George Cavender, and Curtis Weller, "Survivability of probiotic ingredients as influenced by the high-pressure processing of dairy proteins acting as an encapsulating material". IFT17 in Las Vegas, NV, June 25 - 28, 2017.
- Anamika Bagchi and Curtis Weller, "Effect of High Pressure Processing Treatment on the Encapsulation Functionality of Skim Milk for Use in the Production of Probiotic Ingredient". University of Nebraska-Lincoln Spring Research Fair, Nebraska City Union, April 5, 2017

CERTIFICATES & AWARDS

- Completed an online training on "**Introduction to Genetic Engineering**" via Udemy(Certificate no:UC-2fdc044d-412b-4e0b-b7c1-bc72c09f9435)
- Currently enrolled in Post Graduate Certificate Program in Data Science and Machine Learning by IIT ROORKEE and TSW.
- Currently enrolled in the Full Stack Java Developer program by Simplilearn.
- Received training on hands-on online workshop on "**Introduction to Genomics and NGS Analysis**" by IBAB, Bangalore, 22-24th April 2021.
- Received a course certificate from Coursera taught by John Hopkins University on "**Introduction to Genomic Technologies**", April 2021.
- Received a certificate on '**Data Science and Machine Learning** conducted by Shaastra, IIT Madras, online workshop, 2021
- Received a certificate of participation in "Laboratory Diagnosis of Emerging Viral Diseases" conducted by Regional Virus Research and Diagnostic Laboratory, ICMR-NICED at Kolkata from 17th -19th July, 2019.
- Received a certificate on "**Advanced Computer Aided Drug Discovery**" from Biotecnika and Schrodinger for an online workshop, in 2019.
- Received a certificate on 'What is Data Science' from Coursera,2019
- Received a 'Certificate of Merit' in recognition of being a finalist in the Food Engineering Division Graduate Student Research Paper Poster Competition at IFT17.
- Received a 'Certificate of Merit' in recognition of being a finalist in the Education, Extension & Outreach Graduate Student Technical Writing Competition at IFT17.
- Received David H. & Annie E. Larrick Student Travel Funds for attending the Institute of Food Technologist 2017 conference in Las Vegas, Nevada (June 24th-28th,2017).
- Participated in the "**Mass Spectrometry-based Proteomics Workshop**" organized by UNL Center for Biotechnology (May 9-10th, 2016).

- Attended a Training on "HTML, JavaScript, AJAX" organized by Acuity Team at TCS Kolkata, Salt Lake (6th August-11th August 2012).
- Attended a Training on "PL/SQL Programming-Basic Concepts" organized by Acuity Team at TCS Kolkata, Salt Lake (5th June-6th July 2012).
- Attended a Training on "C# Programming-Basic Concepts" organized by the Learning and Development Team at TCS Kolkata, Salt Lake (23rd April-18th May 2012).
- Received a Certificate for completing the program on "Testing of Quality Parameter of Packaged Drinking Water" organized under the TIFAC program at Techno India, Salt Lake (January18th-22nd, 2011).
- Received a Certificate for successful completion of the "Internal Auditor Course for ISO 22000:2005" organized by TUV SUD SOUTH ASIA PVT. LTD at Hotel Senator, Kolkata (January 14th-15th, 2011).
- Received certification from the Department of Food Technology and Biochemical Engineering, Jadavpur University on successful completion of **Academic Summer training** on "Intelligent Sensing and Packaging of Foods for Enhancement of Shelf Life: Concepts and Applications" and "Solvent Extraction of Active Constituents from Clove Buds". (June 2010-July 2010).
- Attended the seminar on "Food Safety and Quality Control", organized by the Bureau of Indian Standards in collaboration with the Department of Food Technology, Techno India, Salt Lake, Kolkata (2009).
- Attended the seminar on "Herbal Foods & Its Prospects", organized by TIFAC-CORE, in collaboration with the Department of Food Technology, Techno India, Salt Lake, Kolkata (March 2010).
- Attended the seminar on "Role of Budding Food Technologists in development of Food Industries in India", organized by TIFAC-CORE, in collaboration with the Department of Food Technology, Techno India, Salt Lake, Kolkata (2009).
- Attended the seminar on "Food Safety and Quality Control", organized by the Bureau of Indian Standards in collaboration with the Department of Food Technology, Techno India, Salt Lake, Kolkata (2009).
- Attended a seminar on "Industry Institute and Partnership", organized by the Bureau of Indian Standards in collaboration with the Department of Food Technology, Techno India, Salt Lake, Kolkata (2009).
- Attended a seminar on "Role of Food Technologists in Harmonizing Industrial Functions", organized by the Bureau of Indian Standards in collaboration with the Department of Food Technology, Techno India, Salt Lake, Kolkata (2009).
- Received a 'Certificate of Participation' from Goethe-Institut, Max Mueller Bhavan, Kolkata on completion of Beginners level course in the **German Language**. (July 2008-August 2008).

VOLUNTEER EXPERIENCE

Volunteer English Language/Basic Literacy Tutor, July 2017- February 2018
Lincoln Literacy, Lincoln, NE

- Help adults to learn to read, write and/or speak the English language in a comfortable, one-to-one learning environment.
- Meet regularly and punctually with adult learners in the scheduled weekly meeting time as needed.
- Prepare each lesson to meet the learner's goal and needs.
- Informing the program coordinator of any problems or changes.

Cat Caregiver, July 2017- August 2017
The Cat House, Lincoln, NE

- Perform daily cleaning of cat rooms and quarantine areas according to The Cat House policies and procedures.
- Ensure that all cats and kittens are cared for regarding food, water, litter boxes, exercise and

appropriate living conditions.
- Monitor the health of the cats and report any possible illnesses or injuries to the medical staff.
- Assist in maintaining overall shelter cleaning standards.
- Carry out other duties as assigned by the team leader or volunteer coordinator.

Student Monitor, June 24th- June 28th, 2017; July16th-July19th, 2016
Institute of Food Technologists, Las Vegas, Nevada: Chicago, Illinois

- Accepting assignments as provided by the team leader.
- Provide assistance with sessions/speaker-ready room.