
RACHNA JADHAV

+91 7021574959

scientist.rachna@gmail.com

Mumbai, India.

<https://www.linkedin.com/in/rachna-jadhav-70751823b/>

EDUCATION

DY Patil deemed to be university, Navi Mumbai, India
MS Food Science & Technology

June 2017– May 2019
Grade: A+, 3.51 GPA

G.N. Khalsa college, University of Mumbai, Mumbai, India
BS Biotechnology (Chemistry, Physics Minor, Biotechnology Major)

June 2014- May 2017
Grade: B+, 3.09 GPA

University of Mumbai, Mumbai, India
PG Diploma in Biopharmaceuticals, National Facility for Biopharmaceuticals

June 2014 – May 2017

SKILLS SUMMARY

- **Microbiology:** Research in producing microbial consortia, Bacterial isolation, staining, plating methods, identification, Antibiotic susceptibility assays, MIC, microscopy, and quality control techniques.
- **Molecular biology :** Eukaryotic & Prokaryotic DNA isolation, PCR, cloning *in vitro*, expression in vector, restriction digestion, and transformation.
- **Cell culture** (Caco-2, C6, fibroblast cells) : Isolation, maintenance of cells, passaging, trypsinization, cytotoxicity assays.
- **Neurobiology :** Animal handling (*Caenorhabditis elegans*), and pharyngeal pumping assay.
- **Immunology :** Cell seeding, Flow cytometry, Immunochromatography, and ELISA.
- **Science communication and Scientific writing :** Research, Review paper writing, Scientific communication.

CERTIFICATIONS

- Current trends in brain development and behavior (Indian National Science Academy), Mumbai, India. (January 2021)
- Case studies related to Human nutrition - Ruia college, Mumbai, India. (May 2020)
- Advance outcome pathways – Alternatives to animal models in science, NFB, Mumbai, India. (December 2019)
- Updates in Automation and Clinical Chemistry at Thyrocare technologies limited, Navi Mumbai, India (January 2017)
- Basic techniques in Microbial Biotechnology at G.N. Khalsa College, Mumbai, India. (June 2015)

EXPERIENCE

Konark fixtures, Konark group PVT LTD

Mumbai, India

Research and development associate (Microbiology, Nutraceuticals)

May, 2022 - Present

- Engineering microorganisms for biological degradation of textile industry waste water from Raymond, Siyaram, etc.
- Research work for conducting novel microbial mutation techniques to obtain a microbial consortia
- Formulating consortia of microbes for producing cost-effective bioremedial solution for Sewage treatment plants
- Production of cordycepin using several methods in controlled laboratory conditions
- Production of saffron using hydroponics.

SpiceHealth PVT LTD

Mumbai, India

Scientific Officer

Feb, 2021 – Feb, 2022

- Worked on RT PCR and rapid antigen testing of SARS-COV-2.
- Troubleshooted, generated protocols, and supervised molecular technicians.
- Analysis and reporting of PCR results.
- Traveled PAN India for camps to communicate and coordinate with hospitals and ICMR for reporting results.
- Screened samples for whole genome sequencing and reported to the National Institute of Virology.
- Laboratory microbial quality control, machine calibration testing, maintenance, and NABL audit documentation.

Suburban Diagnostics

Mumbai, India

Technical Officer

May, 2020 – Oct, 2020

- Diagnosis of SARS-CoV-2, HIV, H1N1, Dengue, Malaria, Chikungunya, Leptospira, HPV, Meningitis, HBV, HCV, HIV, HLA, TB, CMV, *Clostridium difficile*, by processing patient samples.
- Performed DNA/RNA extraction, Q-PCR, RT PCR, viral load, genotype, and drug resistance.
- Analyzed and reported results of infectious bacterial and viral diseases.
- Laboratory microbial quality control testing.

National council of Science Museums

Mumbai, India

Science communicator

Dec, 2019 – Feb, 2020

- Created awareness in the general public about Antimicrobial resistance worldwide due to 'Superbugs' at the traveling exhibition in collaboration with the Government of India and Government of London.

INTERNSHIP

Amul Private LTD

Palghar, India

Technical intern

May 2018 to June 2018

- Worked in the QC and QA department with a team of 5, handled microbiological experiments for shelf life quality testing, assessed packaging, and conducted quality control checks of dairy products such as cream, buttermilk, and milk.

PROJECTS

- Antipsychotic activity and cytotoxicity of *Juglans regia* shells on *Caenorhabditis elegans in vivo* and glial cells, fibroblasts *in vitro*.
St. Xavier's college, Mumbai, India. November 2018 - May 2019
Role - Primary contribution to the research idea and experiments using Soxhlet extraction studies, Pharyngeal pumping assay, and cell culture techniques.
Team size - Individual, under the guidance of 1 Supervisor.
- Nutraceutical potential and antioxidant benefits of bioactive components extracted from local dry fruit waste - *Juglans regia*.
St. Xavier's college, Mumbai, India. November 2018 - May 2019
Role - Identification of the bioactive components extracted from *Juglans regia* shells using soxhlet extraction and biochemical assays.
Team size - Individual, under the guidance of 1 Supervisor.
- Cytotoxicity evaluation of herbal extract on Caco-2 cell line.
National facility for Biopharmaceuticals, Mumbai, India. July 2018 - September 2018
Role - Revival and growth of cells in laboratory conditions and passaging to study cytotoxic effect of a Herbal extract.
Team size - Duo, under the guidance of 1 PhD candidate and 1 Principal investigator.
- Fortification and proximate analysis of fiber based flour and its protein estimation for Protein energy malnutrition (PME) worldwide.
G.N. Khalsa college, Mumbai, India. January 2017 - March 2017
Role - Worked on fortification and proximate analysis of fiber based flour to estimate its protein content with an aim to find a solution to fight Protein Energy Malnutrition (PME) worldwide.
Team size - Duo, 1 classmate and 1 Supervisor.

PUBLICATIONS

Research and review papers

- Neuroprotective activities and repair mechanisms of *Ginkgo biloba* extract EGB 761 on neurodegenerative disorders and central nervous system injuries. - Review Paper [Submitted - May 2020]
- Nutraceutical potential and antipsychotic activity of local dry fruits waste - *Juglans regia*. - European Journal of Medicinal plants (ScienceDomain International). [Research paper published as first author - September 2019.] [ISSN : 2231-0894] (<https://www.journalejmp.com/index.php/EJMP/article/view/30149>)

Book publication

- *Juglandaceae* Family – Role of Bioactive Components and Secondary Metabolite in Ancient and Modern Therapeutic Applications. (Plant Secondary Metabolites for Human Health) [Book chapter Published as first author - July 2020]

ACHIEVEMENTS/CO-CURRICULAR/EXTRACURRICULAR/HOBBIES

- Blog writer: <https://scientistrachna.wixsite.com/resilientresearcher> **January 2019 - Present**
- Young researcher Award 2021 for research work in Neuroscience - Indian Scholars, INSC, India. **September 2021**
- Extraordinary dedication & commitment in India's fight against COVID-19
by HIMEDIA and Microbiology society, India. **December 2020**
- Best innovation and poster award - 2nd Prize in National level poster presentation competition, SRIJNA, Mumbai, India –
Poster presentation on research work in Neuroscience **February 2020**
- Scholarship fee waiver in MSc in Food science and Technology - Part 2. **May 2018**
- Attended seminar on 102nd Session of Indian Science Congress, Kalina University, Mumbai, India. **January 2015**

LEADERSHIP AND COMMUNITY INVOLVEMENT

- Fostering stray animals at Animal welfare shelters. BHUMI NGO, Mumbai, India. **September 2019 - December 2020**
- Tree plantation at government schools. BHUMI NGO, Mumbai, India. **September 2019 - December 2020**
- Beach clean-up drive post festivities, BHUMI NGO, Mumbai, India. **September 2019 - December 2020**
- Freelance teaching of underprivileged kids at Government schools. Mumbai, India. **September 2019 - December 2020**

LANGUAGES KNOWN

- English (proficient), Marathi (native), and Hindi (competent), Spanish (beginner level)