

RHEA SARMA

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EDUCATION

University of Illinois at Urbana Champaign, IL, USA
MS in Kinesiology

(August 2021- Present)

Vellore Institute of Technology(VIT), Vellore, Tamil Nadu, India

(July 2016 - June 2020)

Completed B.Tech in Biotechnology with a CGPA of 8.56/10

Relevant Coursework: Biochemistry, Microbiology, Food Process Technology, Food Biotechnology, Food Nutrition Health, Industrial Enzymology, Industrial Biotechnology, Immunology, Molecular Biology

LAB-SKILLS

Product Development, SDS-PAGE, DNA extraction, Electrophoresis, immunodiffusion, Microbiology plating methods

RESEARCH EXPERIENCE

Body Composition and Nutritional Neuroscience Laboratory

(August 2021- Present)

PI: Naiman Khan, Ph.D., R.D

Research Interest: Nutrition literacy, cognition and eating habits, dietary intervention

TEACHING EXPERIENCE

Graduate Teaching Assistant

Biomechanics of Human Movement Lab (KIN 355)

(August 2021- Present)

INDUSTRIAL EXPERIENCE

Microbiology lab, Regional Geoscience Laboratory (RGL), ONGC, Navi Mumbai, India

(May 2019)

Summer Intern

Comparative Study

- Performed experimental tests to evaluate important parameters like turbidity, compatibility, and thermal stability of common biocides samples (Aldehyde, amine, NANA) from different manufacturers.

Performance Testing

- Conducted quality tests to assess the efficiency of the biocide samples on sulfate-reducing bacteria and general aerobic bacteria.

Comprehensive review

- Prepared a comprehensive report on concepts in petroleum technology and production mechanismstages. Detailed out the experimental methodologies for controlling the growth of petroleum microbes present in oil field production waters.

ACADEMIC PROJECTS

Studying the physicochemical properties of plant milk-based chocolates

(Spring 2020)

Capstone Project, under the guidance of Dr. C. Ramalingam

Conducted experimental research to develop seven plant milk chocolate samples by blending almond, oat, and coconut milk in different ratios. Performed physicochemical tests to analyze the phenolic content and antioxidant activity on the prepared samples.

Degradation and bio-waste management of cigarette butts

(Spring 2020)

Environmental Biotechnology Course Project, under the guidance of Dr. Mythili S

Conceptualized an idea on a potential solution for the disposal of cigarette butts. Presented a review on microencapsulation technique that incorporated cellulose acetate-degrading enzymes extracted from Bacillus sp. strain S2055.

Virtual Immuno-sensor strip prototype to detect Aflatoxin M1 in milk

(Fall 2019)

TARP (Technical Answers to real-life problems) Course Project, under the guidance of Dr. Karthikeyan S

Presented a prototype idea on the immuno-sensor strip to detect aflatoxin M1 in milk qualitatively and quantitatively.

Biodegradable Plastic from potato and beetroot starch

(Fall 2019)

Food Process Technology Course Project, under the guidance of Dr. C. Ramalingam

Developed bioplastic from potato and beetroot. Conducted experiments to study their shelf life, malleability, and tensile strength.

Extraction of bioactive compounds from *Albicia amara* and analysis of its therapeutic effects (Spring 2018)
Pharmaceutical Biotechnology Course Project, under the guidance of Dr. Sivakumar A

Carried out experiments on *Albicia amara* leaves to extract bioactive compounds through hot-cold extraction and thin-layer chromatography. Conducted preliminary testing to elucidate its anti-inflammatory and antioxidant properties.

Effect of Bromelain on different food samples (Fall 2017)
Industrial Enzymology Course Project, under the guidance of Dr. Shanthi C

Extracted bromelain enzyme from pineapple and evaluated its proteolytic activity on whey protein, crushed Pulses, all-purpose flour, and wheat flour.

PUBLICATIONS

Book Chapter on Child Appetite (Issued in March 2020)

Published in Springer Nature's Food Science, Technology and Nutrition for Babies and Children, under the superior guidance of Dr. C. Ramalingam

DOI: 10.1007/978-3-030-35997-3_9

Research Paper on Study and Design of Portable Antimicrobial Water Filter (Issued in September 2017)

Published in- Asian Journal of Pharmaceutical and Clinical Research, under the remarkable guidance of Dr. Suneetha V

DOI: 10.22159/ajpcr.2017.v10i9.19925

WORKSHOPS AND CONFERENCES

Student Delegate at Bioprocessing India Conference 2019 (December 2019)

Council of Scientific & Industrial Research- Central Food Technological Research Institute (CSIR-CFTRI), Mysore, Karnataka, India

Participated in Value Addition in Fruits and Vegetables workshop (October 2019)

Indian Institute of Food Process Technology (IIFPT), Tanjore, Tamil Nadu, India

- Hands-on experience in preparing jam, candies, pickles, and their storage process
- Gained knowledge on cold press technology and the canning process used in making juices. Understood the working of several types of equipment in the food industry like freeze drier, extrusion machine, rotary driers, etc.

Student Delegate and College representative (October 2018)

International Union of Food Science and Technology (IUFost) 2018, Navi Mumbai, India

TECHNICAL EVENTS

Participated in Bio-inspired Design Fest 2019 (BIDFest 2019) Make-a-thon event held at Vellore Institute of Technology, Tamil Nadu (March 2018)

- Presented a promising solar cell prototype with superior solar cell efficiency. Suggested a hemispherical solar cell design inspired by the concept of Photonic Crystals in butterflies, beetles, and Hornet Wasp.

Participated in AIChE-SBE chapter's event Health-a-thon 2018 held at Vellore Institute of Technology, Tamil Nadu (October 2018)

- Conceptualized an idea for a website for efficient hospital management and workflow optimization built on Health Information Technology(HIT)

EXTRACURRICULAR

- **Finance head** at IEEE-SPS (Signal Processing Society) College chapter (2019)
- **Volunteered** for several humanitarian services through Leo Club, VIT (July 2017 - March 2018)
- **Cultural Coordinator** at Riviera Cultural Fest, VIT (2017- 2019)
- **Human Resource Management Associate** at a startup named SelectDine (May 2018 - August 2019)
- **Campus Ambassador Intern and Journalist** at a startup named Spotle.ai (September 2018 - December 2018)

- **Marketing and Sales Intern** at online learning platform named The Climber
- **Event Volunteer** at TEDx VIT

(March 2018 - April 2018)

(October 2016)

HOBBIES

- Trained in Bharatanatyam and Indian Classical Music
- **A creative writer** at Website- www.embraceit4.WordPress.com

