Eesha R. Rangani

Los Angeles, CA | +1 619 315 9068 | eesha_rangani@yahoo.com/rangani@usc.edu |
linkedin.com/in/eesha-rangani-71b3b4101

EDUCATION:

University of Southern California – PhD Marine Biology   **Present – May 2028**

Selected coursework: Global Climate Negotiations, Bioinformatics

UCSD – Scripps Institute of Oceanography – MSc Marine Biology   **June 2023**

Selected coursework: Biological Oceanography, Physical Oceanography, Marine Chemistry, Deep Sea Biology

Anglia Ruskin University – BSc Marine Biology with Biodiversity and Conservation   **2020**

Selected course work: Biogeography, GIS and Spatial Ecology, Population Ecology and Wildlife Management, Biological Oceanography, Biomeasurement, Wildlife and Conservation

Undergraduate projected: The effects of metal pollution on tardigrades in correspondence to their evolutional and biogeographic history

Honours and awards: First class in Marine Biology with Biodiversity and Conservation (Hons)

Greenwood High International School - International Baccalaureate   **2017**

Selected coursework: Biology HL, Chemistry HL, Psychology SL, and Math SL

Harvard Summer School   **2015**

Selected course work: ASTR S-8 Space Exploration and Astrobiology: Planets, Moons, Stars, and the Search for life in the Cosmos

RESEARCH INTERESTS:

I am currently a PhD student in the Schwartzman lab, where I study the evolution of multicellularity in microbes. My research focuses on understanding the phenotypic and genotypic precursors of multicellularity as well as the trade-offs associated with this process. I am also interested in exploring the evolution and adaptation of microbes in extreme environments. Prior to this, I obtained my master's degree in marine biology from the Scripps Institution of Oceanography, where my research was focused on deep sea invertebrates. Apart from my scientific interests, I am passionate about climate policy and advocacy. I am broadly interested in ocean policy and conservation, BBNJ, and plastic pollution. I believe that there is a significant need for policy to account for the trade-offs of the green energy transition, such as the mining of valuable minerals required to build this system. In addition to this, I am passionate about advocating for voices in the global south, recognizing the disregard for not only marginalized people but also the science produced in this region.

RESEARCH EXPERIENCE:

Graduate Student | Greg Rouse Lab, Scripps Oceanography   **Sep 2021 to June 2023**

Project is focused on delineating the phylogenetic position of Nereidid worms from chemosynthetic habitats. Nereididae has ~700 named species, but only three have been named from chemosynthetic-based habitats; the vent-based Nereis sandersi (Galápagos Rift) and Nereis piscesae (Juan de Fuca); and Neanthes shinkai from an Atlantic whalefall. New nereidid samples were collected from the East Pacific Rise (EPR) and Galápagos Rift (vents), Costa Rica (seeps), Gulf of California (seeps and vents), off California (seeps and whalefalls), off Oregon (seeps), and from the North Fiji and Lau Basins (vents). CO1 and mitogenome data was used to identify new species and determine their phylogenetic position.

Data Base and Inventory Assistant   **Nov 2021 to December 2021**

Worked in the Rouse's lab organising the inventory and data base of samples collected from various expeditions.

Scientific Intern | Gili Shark Conservation, Gili Air, Bali, Indonesia   **Jul 2018 to Aug 2018**

During this internship, I was able to obtain my Open-Water PADI qualification and carry out five open-water dives. In addition to obtaining this qualification, I spent most of my time understanding and learning the various threats imposed on the marine environment. The Gili island reefs were dominated by black-tip reef sharks and other Chondrichthyes. As an intern and The Gili Shark Conservation, my research focused on these animals. I participated in survey dives focused on these sharks and other reef inhabitants. Furthermore, I enhanced my knowledge on the threats to sharks, particularly how the fishing industry and plastic pollution affects their population.

Intern | Big Tech Labs, Bangalore, India   **Jun 2017 to Jul 2017**

As an Intern at Big-tech labs, I learned the basics of diagnostic and PCR techniques. This lab focused on developing tools essential for Portable Real-time PCR machines. I focused mainly on understanding the process of PCR and the buffers used during this process. Additionally, here I had a first-hand opportunity to gain pipetting skills and learning how to work with level – 3 biosafety cabinets. Throughout my internship, I was able to enhance my knowledge of genetic and diagnostic research in addition to gaining a variety of practical skills.

SELECTED CONFRENCE PRESENTATIONS AND TALKS:

SICB 2023 – Poster Presentation – Systematics of Deep-Sea Nereididae (Annelida) from Vents, Seeps & Whalefalls

Observer at COP27, Sharm-el-Sheik. Worked closely with the Ocean Pavilion and Deep Ocean Stewardship Initiative organising & facilitating events.

Teaching experience

Teaching Assistant (TA) – BIMM 146 Genome diversity and function   **Sep 2022 to June 2023**

Teaching Assistant (TA) – SIO 3 Life in the Ocean   **Jul 2022 to Aug 2022**

Instructional Assistant (IA) – BIMM 121 Microbiology lab   **March to June 2022**

Teaching Assistant (TA) – SIO1 The Planets   **Jan 2022 to March 2022**

Peer Assistant Leader (PAL) | Anglia Ruskin University, Cambridge, UK   **Jan 2020 to March 2020**

- Lead teaching assistant for courses focused on phylogenetics, biodiversity, and microbiology.

- Facilitated labs; wrote, administered, and discussed quizzes, lectures, and exam material.

Volunteer experience:

Visitor Engagement Volunteer and Database Management Volunteer |

Museum of Zoology, Cambridge, UK   **Jan 2019 to March 2020**

This role involved communicating with a variety of audiences to provide detailed information about the Museum's collection. My responsibility included museum security and aiding museum staff around the gallery. I also ensured the smooth-running of special interactive events designed for visitors. I was given the opportunity to work with the museum curator to manage and update the museum's database with accurate images and labels of the specimens available at the museum.

Key Skills and Achievements:

Bioinformatics: Sequence assembly & analysis, Mitogenome assembly & analysis, Phylogenetic analyses, R & R studio, Shell (zsh,bash), Linux/Unix, RaxML, QGIS, PHYLIP Package, MVSP.

Laboratory skills: DNA extraction, PCRs & Gel Electrophoresis, PCR Optimization, NGS library preparation, Microbiology, Lab Safety & Waste Disposal.

Other Skills: Radiotracking, Museum - Object handling and Collection's care, PADI Open water Diver

Languages: English, Hindi, Sanskrit, Kannada