



Editorial

Dear Readers,

Greetings from Mapana Journal of Sciences

It gives immense pleasure to the editorial team of Mapana Journal of Sciences to present you with the first issue for the year 2024. Mapana Journal of Sciences (MJS) since the beginning, has advocated the cultivation of scientific temper aiding research and innovation in the vast domain of science, through pioneering research and review articles. As always, we believe that the present issue is in line with our commitment for sustaining this tradition, showcasing noteworthy articles which explore the wide arena of Science.

We open this issue, with a fascinating review from the field of Astrophysics, dealing with gamma-ray bursts (GRBs), which are strong but brief gamma-ray (GR) flashes which make them among the most luminous events in the cosmos. In this review, Pradhan et al., have discussed GRBs and their classifications, summarizing the mechanisms behind the bursts, the features seen, the after-glow, and the different models of GRBs. From the domain of theoretical Physics, Pintu Bhattacharya has given a detailed overview on the features of projectile motion in quantum calculus. In order to describe the motion of a 2-D projectile, vertical and horizontal components of velocity in terms of differential equations are presented in accordance with the exact classical expressions and the solutions were obtained in terms of the small-exponential functions. From Mathematical Sciences, Paulraj et al., have discussed about their work on correlation of altering JS-metric with dislocated metric, where they have extended JS-metric with the aid of altering distance functions and commenced the concept of Altering JS-metric space. They have examined certain properties of the Altering JS-metric spaces and have discussed the interrelation between the dislocated metric space and the Altering JS-metric space.

Vibha et al., from the field of chemistry have presented a comprehensive investigation of solvatochromism and solvation in medicinally significant sulfa drugs, emphasizing the estimation of

excited state dipole moments. Steady-state absorption and fluorescence methods were utilized to analyse the absorption and fluorescence spectra of these compounds, and further insights on the solvatochromic characteristics of the examined drug molecules were obtained using Lippert-Mataga, Reichardt's, Kamlet-Taft, and Catalan's solvent polarity approaches. From Material Sciences, Choudhari et al., reported study on enhanced nickel removal from aqueous solutions using chemically modified *tabeubea rosea* leaves powder as biosorbent, owing to its effective adsorption capacity and favorable operating conditions.

From the domain of Life Sciences, Gopika et al., have presented their study on the effect of *Simarouba glauca* leaf aqueous extract on the growth, immunological, haematological and biochemical parameters of *Oreochromis niloticus*. Various concentrations ranging from 2500mg /kg to 7500mg/kg were supplemented through diet, each with two replicates for 60 days. The results show that fish-fed dietary *Simarouba glauca*, at lower specific concentrations, can be used as a feed supplement. Jisha et al., discussed the DNA barcoding of fish Fauna using mitochondrial CO1 gene, elucidating the scope of mitochondrial CO1 gene as a useful molecular marker. In a similar study, Aswathi et al., has reported a study on molecular identification of three butterfly species, *Dysphania militaris*, *Tirumala septentrionis* and *Euploea core*, by the technique of DNA barcoding using mitochondrial CO1 gene. Robert et al., have presented a study on correlation between land use change and water quality in the wetlands of the Kuttanad region of southern India. The water pollution index (WPI) showed that the river water was very pure in the forest area, moderately polluted in the paddy fields, polluted in the urban environment and heavily polluted in the areas of SMT land use. Rajesh et al., attempted to analyze the physicochemical parameters of drinking water from different stations near the construction site of Vizhinjam port, to study the quality, during pre and post monsoon seasons.

As we are opening Volume 23 of MJS, with this issue, we extend our heartfelt appreciation to all the authors, reviewers, editorial board members, and section editors whose contributions have made this publication possible. Mapana takes pride in its significant contributions to the field of scientific research by publishing quality

and responsible scientific work which benefits human society. We wish that the multifarious spread of research contributions from different disciplines of the Sciences, in the present volume, will engage researchers and readers from across the world

Dr Manoj Balachandran

Editor