

---Short Communication

RESEARCH IN BIOLOGY: NEED OF THE HOUR**A Jaffar Hussain and M Jayaprakashvel**

Department of Marine Biotechnology
Academy of Maritime Education and Training (AMET)
(Declared as deemed to be University u/s 3 of UGC Act 1956)
Kanathur, Chennai - 603112

Biology is a natural science concerned with the study of life and living organisms, including their structure, function, growth, origin, evolution, distribution, and taxonomy. However, the modern advancements in research over a period of 300 and more years have created and developed so many branches and interdisciplinary fields of Biology. The modern concepts of Biology have started to arise during the start of 19th century and the field is still not yet completely defined. So, the scope of Biology Research is always having high values. While most of the fundamental principles of other basic sciences such as Physics, Chemistry and Mathematics have been well understood, the basic breakthrough of many Biology fundamentals are yet to be made. Because of the inherent hindrance of dealing with living things and delicate molecules that are associated with their life, the basic works in Biology are always a tough task.

Over the 18th and 19th centuries, biological sciences such as Botany and Zoology became increasingly professional scientific disciplines. Cell theory provided a new perspective on the fundamental basis of life. These developments, as well as the results from Embryology and Paleontology,

were synthesized in Charles Darwin's Theory of Evolution by natural selection. The end of the 19th century saw the fall of spontaneous generation and the rise of the germ theory of disease, though the mechanism of inheritance remained a mystery. In the early 20th century, the rediscovery of Mendel's work led to the rapid development of genetics by Thomas Hunt Morgan and his students, and by the 1930s the combination of population genetics and natural selection in the "neo-Darwinian synthesis". New disciplines developed rapidly, especially after Watson and Crick proposed the structure of DNA. Following the establishment of the Central Dogma and the cracking of the genetic code, biology was largely split between organismal biology—the fields that deal with whole organisms and groups of organisms—and the fields related to cellular and molecular biology. By the late 20th century, new fields like Genomics and Proteomics were reversing this trend, with organismal biologists using molecular techniques, and molecular and cell biologists investigating the interplay between genes and the Environment, as well as the Genetics of natural populations of organisms. However, still the fundamental enthusiasm of unraveling

the mysteries of Biology continues with great hope by many scientists across the globe. One can very easily find the fact that the Nobel prizes for other disciplines such as Chemistry have also

---Short Communication

been given to Biologists. While the chances of making breakthroughs in other disciplines are decreasing year by year, the same chances are increasing for the case of Biology Research.