

# Science and Engineering Research Board

## **Special Call for Proposals**

SERB has been promoting and supporting new ventures under its flagship programs such as CRG, SRG, IRHPA, SUPRA etc. in the areas of Science and Technology ecosystem growth. Additionally, to support areas which require immediate scientific intervention & attention (e.g., COVID related R&D) and thrust fields of scientific research which are meant to address the key scientific gaps in the specific discipline or to provide better technological solution to a particular problem, proposals are invited through the special calls time to time.

In line with the above, SERB announces special calls on the following areas:

### **(A) Wearable Electronics for Biomedical Applications:**

Mobile health technologies offer great potential for reducing healthcare expenses and improving patient treatment. Wearable technological solutions are providing a transformation in the mobile health era in terms of improvising healthcare and providing real-time analysis on improved health management and tracing.

The focus of proposals under this category is expected to develop portable, wearable & implantable electronic devices those are essential for medical purposes such as diagnosis, examination, treatment, care, assistance, and research.

Interdisciplinarity: Electronics, Healthcare, Software, Algorithms, and Information Technology.

### **(B) Reagentless Organic Synthesis:**

It is desired to achieve maximum atom economy through 'clean' chemical reactions with minimal waste generation to avoid adverse environmental impact. One of the best approaches for reducing unwanted and wasteful materials emerging from a reaction or chemical technology process would be where the reactions could be achieved by the application of heat, light, sound or using electrolysis, leading to development of sustainable technologies. This call will look for disruptive developments in reagentless enabling strategies for synthetic applications both at lab and kilo scale reactors. These ideas will have to be inextricably intertwined with potential applications in frontier areas.

Interdisciplinarity: Chemical Science and Chemical Technology/ Pharmaceuticals

### **(C) Selective Fluorination Strategies:**

Many commercially successful chemicals ascribe their biological activity and metabolic stability to the presence of strategically placed fluorine atoms in their structures. Despite the advances, the preparation of many fluorinated pharmaceutical building blocks and active agrochemical intermediates remains a significant challenge. This

special call will support development of benign fluorination strategies for diverse organic substrates and amides, including late-stage fluorination.

Interdisciplinarity: Chemical Science and Pharmaceuticals/Fine Chemicals

**(D) Biology of Plants under extreme environments:**

India is one of the biodiversity hotspots which covers diversity in all the levels of producers (flora). The diversity of producer species, on which all life depends, is immense, and it ranges from cyanobacteria to forest trees. Plant life covers much of Earth's land surface, providing structure to ecosystems (e.g., interacting systems of organisms and their physical environment), habitat for consumers, and regulating the exchange of energy and chemicals with the atmosphere.

The present scenario of climate change insists us to think seriously on climate change resilient research specially in the area of extreme biology. The increasing threats of climatological extremes including high/ low temperature, light, abiotic and biotic factors. It has also been reported that there is a differential effect of climate change both in terms of geographical location and productivity yield of crops. The above-mentioned factors have wide range of effects on plants in terms of physiology, biochemistry and gene regulation pathway.

Interdisciplinarity: Plant Sciences, Climate

The typical duration of projects under these special will be of 3 years and component of grant will be similar to CRG projects supported by SERB. The PI(s) who are having an ongoing SUPRA or IRPHA project are not eligible to apply under these special calls. However, other eligibility conditions as applicable to the CRG projects will be followed.

Proposals should be submitted in the prescribed format through SERB online portal: [www.serbonline.in](http://www.serbonline.in)

**Call open from:** February 05, 2022

**Extended date of submission:** March 07, 2022

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