# SciTinyML: Scientific Use of Machine Learning on Low-Power Devices



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TinyML enables machine learning technologies to perform ondevice analytics of sensor data at extremely low power. This allows for new scientific applications to be developed at an extremely low cost and at large scale.

In recent years, hardware advancements have made it possible for microcontrollers to perform calculations much faster. Improved hardware has made it easier for developers to build programs on these devices. Perhaps the most important trend for scientists has been the rise of tiny machine learning, or TinyML.

Between hardware advancements and the TinyML community's recent innovations in machine learning, it is now possible to run increasingly complex deep learning models directly on microcontrollers. TinyML represents a collaborative effort between the embedded power systems and machine learning communities, which traditionally have operated independently.

#### **Topics:**

- ML general concepts
- Scientific Applications of ML

Further information: http://indico.ictp.it/event/9622/ smr3612@ictp.it

#### **Directors:**

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## **Speakers:**

B. PLANCHER, Harvard University, USA
V.J. REDDI, Harvard University, USA
M. ROVAI, UNIFEI, Brazil
S. STINCKWICH, United Nations University
Institute in Macau, China

- Introduction to TinyML
- Examples of TinyML applications

## How to apply:

Online application: http://indico.ictp.it/event/9622/

Female scientists are encouraged to apply.



There is no registration fee.

### **Deadline:** 8 October 2021

Trieste, Ital





Harvard John A. Paulson School of Engineering and Applied Sciences





The Abdus Salam International Centre for Theoretical Physics

