



# **Training Workshop on Digital Detector Signal Processing for Scientific Instrumentation and Reconfigurable Computing**

**Hosted by the**

**Government of the Austria**

**through the**

**Seibersdorf, Austria**

**11 - 15 May 2026**

**Ref. No.: EVT2504068**

## **Information Sheet**

### **Introduction**

Digital pulse processing (DPP) for nuclear spectroscopy is a well understood, mature technology, and backbone for many commercial instruments used for environmental radiation monitoring, dosimetry, X-ray fluorescence and other nuclear techniques and applications. Although the deployment of DPP-based systems has proliferated quickly, the training of the users and developers has been still inadequate in many places due to lack of training material and platforms.

### **Objectives**

The aim of this training is to use an open software and hardware platform, and guide participants through all phases of designing a DPP system. The platform features a SiPM detector with preamplifier, analogue front-end, a FPGA module, and communication with a computer via Ethernet or USB. The participants will learn about underlying DPP algorithms, use a library of IP cores for communication and DPP in the development environment to create a reconfigurable instrument for measuring energy spectra, and test the instrument using radioactive sources. The platform features:

- Pulse shaper
- Base-line restorer
- Peak detector
- Pile-up rejector
- Real and Live-time counters
- MCA memory controller
- DPP oscilloscope

## Target Audience

This training workshop is intended for developers of nuclear instruments and advanced users. Expected basic knowledge in Python and embedded C, FPGA and digital design.

## Working Language(s)

English

## Participation and Registration

All persons wishing to participate in the event have to be designated by an IAEA Member State or should be members of organizations that have been invited to attend.

In order to be designated by an IAEA Member State, participants are requested to send the **Participation Form (Form A)** to their competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) for onward transmission to the IAEA by **2 March 2026**. Participants who are members of an organization invited to attend are requested to send the **Participation Form (Form A)** through their organization to the IAEA by the above deadline.

**In addition to the Form A, applicants are requested to send a short CV with a brief justification statement why this training would be beneficial for their organization and their professional development.**

Selected participants will be informed in due course on the procedures to be followed with regard to administrative and financial matters.

Participants are hereby informed that the personal data they submit will be processed in line with the [Agency's Personal Data and Privacy Policy](#) and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required. The IAEA may also use the contact details of Applicants to inform them of the IAEA's scientific and technical publications, or the latest employment opportunities and current open vacancies at the IAEA. These secondary purposes are consistent with the IAEA's mandate.

## **Expenditures and Grants**

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the event. The IAEA has, however, limited funds at its disposal to help meet the cost of attendance of certain participants. Upon specific request, such assistance may be offered to normally one participant per country, provided that, in the IAEA's view, the participant will make an important contribution to the event.

The application for financial support should be made using the **Grant Application Form (Form C)** which has to be stamped, signed and submitted by the competent national authority to the IAEA together with the **Participation Form (Form A)** by **2 March 2026**.

## **Visas**

Participants who require a visa to enter Austria should submit the necessary application as soon as possible to the nearest diplomatic or consular representative of Austria.

## **Organization**

### **Scientific Secretary**

#### **Mr Mladen Bogovac**

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Department of Nuclear Sciences and Applications  
International Atomic Energy Agency  
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### **Administrative Secretary**

**Ms Gaukhar Permetova**

Division of Physical and Chemical Sciences  
Department of Nuclear Sciences and Applications  
International Atomic Energy Agency  
Vienna International Centre  
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Tel.: +43 1 2600 28227

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Email: [G.Permetova@iaea.org](mailto:G.Permetova@iaea.org)

Subsequent correspondence on scientific matters should be sent to the Scientific Secretary/Secretaries and correspondence on other matters related to the event to the Administrative Secretary.

## Participation Form

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Seibersdorf, Austria

11 to 15 May 2026

To be completed by the participant and sent to the competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA, or National Atomic Energy Authority) of his/her country for subsequent transmission to the International Atomic Energy Agency (IAEA) either by email to: [Official.Mail@iaea.org](mailto:Official.Mail@iaea.org) or by fax to: +43 1 26007 (no hard copies needed). Please also send a copy by email to the Scientific Secretary, Mr Mladen Bogovac, Division of Physical and Chemical Sciences, Department of Nuclear Sciences and Applications (Email: [M.Bogovac@iaea.org](mailto:M.Bogovac@iaea.org)) and to the Administrative Secretary, Ms Gaukhar Permetova, (Email: [G.Permetova@iaea.org](mailto:G.Permetova@iaea.org)).

Participants who are members of an invited organization can submit this form to their organization for subsequent transmission to the IAEA.

**Deadline for receipt by IAEA through official channels: 2 March 2026**

Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms	
Institution:			
Full address:			
Tel. (Fax):			
Email:			
Nationality:	Representing following Member State/non-Member State/entity or invited organization:		
If/as applicable:			
Do you intend to submit a paper?		Yes	No
Would you prefer to present your paper as a poster?		Yes	No
Title:			

Participants are hereby informed that the personal data they submit will be processed in line with the [Agency's Personal Data and Privacy Policy](#) and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required. The IAEA may also use the contact details of Applicants to inform them of the IAEA's scientific and technical publications, or the latest employment opportunities and current open vacancies at the IAEA. These secondary purposes are consistent with the IAEA's mandate. Further information can be found in the [Data Processing Notice](#) concerning IAEA InTouch+ platform.

# Grant Application Form

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Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms:
Mailing address:		Tel.:
		Fax:
		Email:
Date of birth (yyyy/mm/dd):	Nationality:	

**1. Education (post-secondary):**

Name and place of institution	Field of study	Diploma or Degree	Years attended from _____ to _____

**2. Recent employment record (starting with your present post):**

Name and place of employer/ organization	Title of your position	Type of work	Years attended from _____ to _____

**3. Description of work performed over the last three years:**

**4. Institute's/Member State's programme in field of event:**

**Date:** \_\_\_\_\_ **Signature of applicant:** \_\_\_\_\_

**Date:** \_\_\_\_\_ **Name, signature and stamp of Ministry of Foreign Affairs,  
Permanent Mission to the IAEA or National Atomic Energy  
Authority**

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