



॥ सा विद्या या विमुक्तये ॥

भारतीय प्रौद्योगिकी संस्थान धारवाड  
Indian Institute of Technology Dharwad

## **EXPRESSION OF INTEREST**

**No. IITDh/GA/CRF/2018-2019/07**

**EXPRESSION OF INTEREST (EoI) FOR PROCUREMENT  
of  
FLUORESCENCE SPECTROPHOTOMETER**

## 1. Introduction

IIT Dharwad is an Institute of National Importance created by an Act of Parliament in 2016. IIT Dharwad has been steadily establishing its operations in its transit campus. Simultaneously, the institute is employing bright young and accomplished faculty. A number of unique research and development programs are on the anvil. The institute now needs to raise the levels of the capacity with the best of the facilities and infrastructure. This will provide highly talented and accomplished faculty to pursue not only their research but also think of innovative way of introducing instructional/teaching/learning solutions to practical problem of the students.

## 2. Objective

The objective of this invitation of Expression of Interest (EoI) is to seek responses from eligible Vendors for SUPPLY, INSTALLATION, COMMISSIONING, DEMONSTRATION and TRAINING OF **Fluorescence Spectrophotometer as per Annexure-I**

## 3. Timelines

3.1 Major activities in the procurement process will be as given below: -

Sl No	Activity	Remarks
(a)	Pre-Bid Meeting	<ul style="list-style-type: none"><li>To clarify the issues/ queries raised by intrested firms facilitate submission of bids.</li></ul>
(b)	Deadline for submission of EoI	<ul style="list-style-type: none"><li>Till 11.00 Hrs on 12/11/2018</li></ul>
(b)	Issue of Tender Document	<ul style="list-style-type: none"><li>Only to the vendors who submit the response to the EoI. The tender document to such vendors will be sent via e-mail</li></ul>
(c)	Submission of Tender Documents	<ul style="list-style-type: none"><li>Deadline for bid submission: Till 16.30 hrs on 03/12/2018 (Tentative). Based on updated specifications and tender document</li></ul>
(d)	Evaluation of Technical Bids	About 3 weeks (Tentative)
(e)	Opening of Commercial Bids	<ul style="list-style-type: none"><li>The shortlisted bidders will be intimated by e-mail the schedule of opening of the commercial bids</li></ul>
(f)	Award of Contract	<ul style="list-style-type: none"><li>The selected vendor will be awarded the contract.</li></ul>

## 4. MATERIAL DESCRIPTION

### Fluorescence Spectrophotometer as per specifications described below in Annexure-I

#### 4.1

#### Annexure-I:

##### • Specification for Fluorescence Spectrophotometer

**Name of the instrument:** Fluorescence Spectrophotometer

**Source:** The instrument must have a Xenon flash lamp based instrument that has room light immunity for fluorescence mode allowing samples or accessories to be measured without closing the sample compartment lid. The Xe flash lamp should be capable to minimize fluorescence photo-bleaching of any samples and must also flash at 80 Hz to allow fast data collection. It must come with its standard warranty.

**Wavelength range:** 200 to 850-900 nm. Detector should have PMT for both excitation and emission.

**Sensitivity:** The instrument must have a guaranteed signal-to-noise specification of >720:1 for the Raman Band of Water. 350 nm excitation, excitation and emission slits 10 nm, 1s Signal Averaging time.

**Wavelength accuracy:**  $\pm 0.5$  nm or better

**Minimum sample volume:** 0.6 ml (in use of standard 10 mm rectangular cell)

**Slit width:** Variable widths from 2.5 to 15 nm or better

**Scanning Speed:** 1-nm increments from 10-1500 nm/minute. Possibility of higher scanning speed of more than 1500 nm/minute will be preferred.

**Software:** • Software should provide specific applications such as Scan, Time Drive, Data Collection

- Control over spectrometer components such as lamps, monochromator and detector settings
- Should incorporate a software-controlled filter wheel containing excitation, and emission and polarizer filters
- Data handling routines (normalization, arithmetic, integration, smooth etc.)
- File import/export options, including ASCII

**Computer:** • Processor: Dual Core i3 processor • RAM: At least 4 GB RAM • Hard Disk: 500 GB hard drive • DVD drive • Windows 7 (or higher)

**Accessory:** • Built in automated polarizer with software selectable vertical or horizontal orientation

- Single cell Peltier accessories with probe, pump/fluid circulator & software (0 to 100 °C).

- Should be compatible with 96 well plate accessories for future upgradation

**Integrating Sphere (absolute PLQY) with spectralon:** • Integrating sphere with size of minimum 100 mm diameter. • The sphere must be calibrated and should have various size sample holders for solids (powders, films etc.) and liquids. • The system should be capable of measuring absolute PLQY for both solid and liquids. • Software for absolute and relative PLQY calculations and CIE colour-chromaticity plotting and analysis

**Printer:** Printer compatible with Windows 7 (or higher)

**Cell:** • 3 nos. of Rectangular Quartz cell (3 mL) with 10 mm path length should be offered  
• 2 Nos of Rectangular Quartz cell (850  $\mu$ l) with 10 mm path length should be offered

**Instrument performance:** Should have the ability to analyse solution sample, solid samples, thin films & powders

**Data Analysis:** Should be available for performing mathematical calculations on stored data including arithmetic functions, smoothing, area, peak, normalization, merge, difference, and interpolate.

**Warranty:** 3 years' warranty should be provided

Annual Maintenance contract (AMC): Annual Maintenance contract for two years after the warranty period should be offered

**Installation and**

**Demonstration:** • Demonstration and Training on system should be done by the supplier at installation site.

- Basic training for a period of one week after installation of the equipment to technical personnel should be provided. An extended training after 2-3 months should be offered to clarify any hardware, software and application queries.

- At least one periodical training per year should be conducted during the warranty period at installation site in order to clarify on interpretation of data, method development and application support.

**Inspection &**

**Acceptance criteria:** Fluorescence spectra of two dyes (one low and the other one high extinction co-efficient) will be recorded at (i) three different concentrations and (ii) three different slit width. Satisfactory and reproducible signal to noise ratio will be needed to accept the instrument. Additional User list within India should be provided

**Service back-up** • Technical support should be available at short notice at the places where fluorescence spectrophotometer will be installed

- Troubleshooting training (instrumentation/application) as and when required free of cost.

**Service manuals** Complete operation and service manuals should be provided

**Shifting** One time free of cost shifting and reinstallation in main campus should be done after 3-4 years

**Delivery** 6-8 weeks from the date of receipt of PO

## **DETAILS OF PRE-BID MEETING**

To clarify the issues/queries raised by interested firms and to facilitate in submission of bids, the pre-bid meeting would be held as follows:

Place	Time	Date
Board Room, Admin Building, IIT Dharwad	11.00 Hrs	12/11/2018

## **PROCEDURE FOR SUBMISSION OF RESPONSE TO THE EoI**

The response to the EoI should reach IIT Dharwad on or before 12/11/2018 by 11.00 hrs on the following address:

The Assistant Registrar  
IIT Dharwad  
P.B. Road, Near High Court, Dharwad-580011

Or can be forwarded by e-mail at [pro@iitdh.ac.in](mailto:pro@iitdh.ac.in) on or before 12/11/2018 by 11.00 hrs.

For any queries, you may reach us at 0836-2212839

Please acknowledge the receipt of this invitation for EoI

Sd/-  
Assistant Registrar  
IIT Dharwad