

Market survey

- Avviso ai sensi dell'art. 216 comma 9 D.Lgs. 50/2016 under italian law -

OBJECT: Commitment of an optical equipment for Quantitative Phase Imaging on a microscopic scale.

The Politecnico di Torino PolitoBIOMed Lab - Biomedical Engineering Lab lets be known that it wants to commission **an optical equipment for Quantitative Phase Imaging on a microscopic scale.**

In order to contact as many as possible the interested suppliers and to obtain several quotes from them, it publishes this communication.

Information of this communication have only an approximate value and do not represent an obligation for Politecnico di Torino regarding interested suppliers, that cannot demand anything to Politecnico di Torino, with regard to this communication.

1. Description service

N. 1 optical equipment for Quantitative Phase Imaging on a microscopic scale.

The Quantitative Phase Imaging (QPI) system must fulfill the following minimal requirements, under penalty of exclusion:

- the system is an add-on module that can be integrated on different optical microscopes, without restricting their conventional functionalities;
- the system is adapted to be operated either on microscopes for biological use (for example, microscopes equipped with compact incubators for cells) or on microscopes for materials characterization;
- the system is provided with a high-resolution and low noise (2 electrons rms or better) scientific camera and it includes a bypass mode allowing the acquisition of images according to the different channels present on the microscope (for example: bright field, dark field, DIC/phase contrast, epifluorescence, etc.) and QPI images with the very same camera;
- the system is provided with a sCMOS or CCD camera able to acquire images at 100 frame per second (fps), with a resolution of at least 4.2 Megapixel and 16 bit digitization;
- the system should allow to operate a conventional imaging (bright field, DIC/phase contrast, fluorescence) with objectives up to 1.4NA and magnification from 10X to 100X;
- the system should allow to perform quantitative phase imaging using either the white light illumination (LED or halogen lamp) of the microscope, or an additional infrared (IR) source, for higher depth penetration;
- the system must allow to switch between Quantitative Phase Imaging and Fluorescence imaging, while keeping the same field of view;
- the system can be programmable for acquiring images from x-y-z scans and in time-lapse mode;
- the system should provide optical sectioning and multiple scattered light suppression, for improving the axial resolution and the penetration depth in semi-transparent, thick samples;
- the system must provide quantitative measurements of optical path length changes with axial sensitivity of less than 2 nm and diffraction limited transversal resolution for all magnifications present on the microscope frame;
- the acquisition rate for QPI images must be at least 10 frames per second at full frame camera resolution (4.2 MP or better);
- the system is controlled by a single software package, that can be also employed to control the microscope operation;
- the system is provided with a software package implementing the following features:
 - image acquisition of Z-stacks, mosaic and tile images and time-lapse series, also in combinations (4D imaging);
 - multichannel image acquisition, including the ability to overlay imaging information from different modalities (e.g. QPI and epi-fluorescence).
 - automatic recognition of fluorescent filter sets installed in the microscope;
 - Auto-focus and XY-position adjustments, computation of 2D and 3D spatial power spectrum for analysis of temporal dynamics
- complete documentation should be provided with the system;
- delivery and installation should be included in the quoted price. The delivery comprises a complete setup of the equipment: the system should be ready to run after preparation and starting-up procedures are effected;
- a training period of at least 2 days is included in the quoted price and an acceptance test should take place after the installation;
- a warranty of 1 year at least should be included in the quoted price.

2. Maximum costs

Euro 130.000 VAT not included

3. Minimum requirements of economic/financial and technical/professional capabilities

The interested supplier must possess:

- requirements of article 80 of D. Lgs. n. 50/2016, implementing art. 57 EU directive 24/2014
- **suitability to pursue the professional activity;** *Contracting authorities may require economic operators to be enrolled in one of the professional or trade registers kept in their Member State of establishment, described in Annex XI directive 24/2014*

4. Due date

Within the day January 31, 2018, the suppliers with the above mentioned requirements interested to participate to the further negotiation for the equipment below would reply to this market survey sending a communication by email:

Email Address: procurement.tecnici@polito.it

OBJECT: the same subject of this advice

Text of the communication:

I undersigned _____, Fiscal code _____, on behalf of the company _____ - VAT ID, declare that our company is interested to participate to a further negotiation for the equipment in object.

I declare:

- To possess the requirements detailed in the art. 216, comma 9 del D. Lgs. 50/2016;
- Not to pretend any fees from Politecnico di Torino replying to this market survey;
- I consent to the processing of my personal data, in accordance with the privacy laws D.Lgs. 30 giugno 2003, n. 196.

5. Further information

Clarifications and further technical information could be required only by email at the addresses procurement.tecnici@polito.it.

Torino, January 15, 2018