



केन्द्रीय औषधीय एवं सगंध पौधा संस्थान, लखनऊ  
CENTRAL INSTITUTE OF MEDICINAL & AROMATIC PLANTS  
(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)  
(Council of Scientific & Industrial Research)

पोस्ट आफिस, सीमैप, लखनऊ  
P.O. CIMAP Campus, Lucknow-226015

दिनांक

- 04.02.2016

**शुद्धिपत्र**

कॉन्फोकल माइक्रोस्कोप की क्रय हेतु जारी निविदा दिनांक 12.01.16, पूर्व बोली बैठक दिनांक 22.01.16 तथा तकनीकी समिति की बैठक दिनांक 01.02.16 के क्रम में सक्षम प्राधिकारी ने तकनीकी विशिष्टताओं में कतिपय संशोधन अनुमोदित किया है। निविदा की शेष तकनीकी विशिष्टतायें, नियम और शर्तें यथावत रहेंगी।

भंडार एवं क्रय अधिकारी



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**Corrigendum**

In continuation of our tender for procurement of Confocal Microscope dated 12.01.2016 and consequent upon the pre bid meeting held on 22.01.16 & technical committee meeting held on 01.02.16, the competent authority has approved some modifications in the technical specification of the tender.

The rest of the specifications, terms and conditions of the tender document remains unchanged.

Stores & Purchase Officer

# CONFOCAL MICROSCOPE

A State-of-Art Confocal Microscope system complete with all the accessories performing the following functions but not limited to only plant cell and tissues. The specifications and requirements are described below. The firms should quote point-wise how they meet the specifications with documents/evidences. Not meeting specifications / keeping the column blank will be considered as non-fulfilment of specification.

1. Should be capable of imaging (with high sensitivity, resolution and speed) through fluorescence detection from...
  - a) Live plant cell / tissue imaging.
  - b) Live animal cell / tissue imaging.
  - c) Single molecule analysis.
  - d) Co-localization studies.
  - e) Sub-cellular organelles.
  - f) High contrast images (including FRAP and FRET).
  - g) Photo-activation and photo-bleaching studies.
  - h) 3D examinations, spectral imaging and co-localization studies.
2. Should
  - a) Eliminate autofluorescence from samples using spectral detection method in all the channels.
  - b) 3D examination of plant cell and tissues with Z-stack mechanism.
3. Should include latest high end inverted motorized microscope with....
  - a) Automatic motorized movement of all parts. Motorized nosepiece, motorized FL filter wheel, motorized focus, Motorized DIC, automatic shutters etc. for Bright field and FL illumination techniques.
  - b) Provision for confocal scan and digital imaging simultaneously.
  - c) Should have XY scanning stage with universal sample holder such as slides, petri dishes etc.
  - d) Provision for high quality transmittance and fluorescence source with higher life span (Choice will be made for higher life span).
  - e) High quality apochromatic objective 4/5X and high quality colour corrected plan apochromatic objectives (10, 20, 40, 60, and 100X in which 60X and 100X oil/water immersion) suitable for visible, IR, fluorescence and confocal microscopy. Suitable for live cell imaging. DIC Accessories for all objectives for Interference contrast.
  - f) Future upgradation possible for advanced (multi-photon) microscopy to study deeper into the tissue/cells. Future onsite upgradation for super resolution microscopy.
  - g) Fluorescent filters for FITC, GFP, TRTC, Rhodamine, DAPI / Hoechst, Texas Red/Cy3, m-cherry and other dyes with automatic recognition by software.
  - h) Capable of live cell research.
4. Scan head and detection should have
  - a) Minimum of 5 detectors / simultaneous detection of 5 fluorophores. Out of simultaneous acquisition of 5 fluorophores, at least 2 should be in high sensitivity mode by using GaAsP/HyD spectral detectors.
  - b) Minimum one transmitted light detector.
  - c) Noise correction.
  - d) Minimum scan resolution 4K x 4K.
  - e) Scan speed: at least 7 fps@512 x 512 and preferably 200 fps@512 x 16.
  - f) Scan zoom upto 40X or more.
  - g) Scan rotation.
  - h) Computer controlled optics.
5. Laser excitation source(s) should
  - a) Excite samples at all possible monochromatic peak excitation wavelengths to excite above and more available dyes.

- Multiline Ar laser with 458/488/514 nm.
  - Diode laser with 405 nm
  - DPSS Laser with 561 nm
  - Excitation Laser with 594 nm
  - HeNe / Solid state Laser with 633 / 638 / 640 nm
  - OPTIONAL quote for one UV Laser
- b) Take care of low fluorescence emission from samples.
- c) Active connection and control of excitation source(s) to scan head.
6. Work Station with
- a) With high speed Xenon core processor. b) 1 TB x 2 hard disks.
- c) 8 GB RAM.
- d) DVD+R/RW drive.
- e) USB ports minimum
4. f) Bluetooth.
- g) A LCD TFT monitor (screen size of at least 30" with 4K resolution).
7. Suitable software/s for
- a) Basic image acquisition, DIC, confocal imaging.
- b) Control of Microscope, Scan head control and laser control.
- c) Line/Spline, Frame, Z-stack, Lambda stack, time series imaging. d) 3D reconstruction from data series and advanced softwares.
- e) Multiple spectral imaging, overlaying of images from multiple dyes. f) FRET and FRAP appropriate application software.
- g) Acquisition control functions.
8. Other important criteria should be....
- a) International certification standards compliance.
- b) Standard and suitable anti-vibration table must be provided.
- c) Full functional installation and demonstration, and training to users at the site.
- d) A Suitable Stabilizer along with an Online Compatible UPS supporting the whole system including computer for at least 1 h back up.
- e) Comprehensive warranty for at least 3 years. An additional warranty for 2 years may be quoted separately.
- f) List of successful installation at all the sites in India during last 5 years (documents to be provided). Performance certificate from user(s) must be attached.
- g) List of publications using the instrument for plant and animal cell/tissue applications should be provided.
- h) Hardware-based focus-drift compensator.
- i) Optional Quote for: CO<sub>2</sub> incubator with regulated CO<sub>2</sub>, temperature, relative humidity, and thermal control system for housing sample.