

**Tender Notification for the procurement of a Small Animal In Vivo Imaging System
(Last Date for submission of tenders: July 25th 2017)**

Dear Sir/ Madam,

Kindly send your best price quotation for the following items with specifications under mentioned as CIP Bangalore basis to the undersigned. Your quotation should clearly indicate the terms and conditions of the quotations, delivery, delivery schedule, entry tax, payment terms, warranty coverage etc. The tender should be submitted in two separate sealed envelopes – one containing the technical bid and other containing the commercial bid, both of which should reach the undersigned, duly signed on or before 1700 hours 14th July 2017. The technical bid must include details of technical specifications of the equipment along with commercial terms and conditions; however, the price components should NOT be shown.

The commercial bid must include the price of the item indicating the breakup of the following:

- (i) The price of the goods quoted on FA (named place of delivery abroad) or FOB (names port of shipment).
- (ii) The charges for insurance and transportation of the goods by Air up to Bangalore.
- (iii) The agency commission charges, if any.
- (iv) The installation, commissioning and training charges including any incidental services, if any.

Please enclose a compliance certificate along with technical bid.

Detailed specifications:

1. System should be of latest generation fully automated In-Vivo small animal multi-modality optical imaging capability for Bioluminescence, Fluorescence, Cherenkov luminescence and X-ray imaging.
2. Systems should be of high sensitive detection capability to detect weak fluorescence as well as low bioluminescence and should be capable of quantification of absolute photon counts (ph/d/cm^2 , $\text{ph/s/cm}^2/\text{sr}$, pWatt/cm^2). System should be capable of precise co-registration of multimodality images without any artifacts. System should be capable of imaging multiple fluorophores with capability of spectral un-mixing.

The system should be complete with animal handling and anesthesia equipment and fully operational for experiments.

Technical specifications:

1. Back illuminated, back thinned, Grade 1 cooled camera:
 - Absolute cooling down to -90degC.
 - 4 Mega pixel sensor chip or higher.

- >95% quantum efficiency @ 550nm or higher.
- Minimum detectable radiance of 50 photons/s/cm²/sr or lower.
- Read noise of <3 electrons.
- Dark current of <100 electrons/s/cm².

2. Fluorescent illumination and filters

- High power broad band white light source capable of deep penetration covering the spectral range of 380-1000nm.
- Maximum number of narrow band excitation filters covering the excitation range from 400-850nm.
- High transmission wide angle emission filters covering the emission range from 500-900nm.
- Filter selection should be motorised and automated through software control.

3. X-Ray Source and filters

- 20-45 kV, 500µA, <60µm spot size or better.
- Image resolution of 18lpm or <25µm or better.
- 3 or more aluminium filters with software control selection.
- System cabinet should be of safety compliant to international safety standards..

4. Animal handling and temperature

- The system should be capable of acquiring images of animal at various depths of focus.
- The system should be capable of acquiring images of multiple mice simultaneously
- Animal chamber should have all the required tubing for gas anesthesia of multiple animals, with appropriate waste gas management facility
- System should have facility to maintain the animal temperature uniform throughout the body.

5. Image acquisition and analysis software including system hardware control

- Software supplied should include complete system hardware control including image acquisition and processing.
- Software should include image acquisition for Bioluminescence, Fluorescence, Cherenkov luminescence and X-ray imaging.
- Software should include capability for multicolour fluorescence imaging with capability of spectral separation or un-mixing.
- Software should include capability of volume image reconstruction of animal based on multiple topographic images for positioning of (FL) light signal in deep tissue anatomical structure.
- Software should be capable of accurate co-registration of different modalities including X-ray image without any artifacts.
- Software should include capability of viewing the animal in different angles and to also create a cross sectional image planes.
- Bone density analysis software should be included with the system.
- System should be supplied with unlimited offline analysis licenses.

6. Control Computer

- Latest generation control computer with Quad core 2.8 GHz, 32GB RAM, 2TB HDD or better with 24" high resolution HD monitor.
- Supply should include suitable online UPS system for trouble free un-interrupted operation.

Please quote for additional optional recommended accessories for improving the systems capabilities. It is highly preferred to have 360deg rotational or 3D image reconstruction capabilities and the same may be quoted under optional accessories.

Supplier/distributor should have trained service technician stationed at Bangalore to provide prompt after sales service supports.

System should include 5 year CMC warranty as standard.

Yours Sincerely,

Prof. Sandhya S. Visweswariah
Chair, Department of MRDG
(on behalf of the purchase committee)