National Institute of Immunology
New Delhi-110067, INDIA

Notification for Inviting proprietary purchase Dated: 27.08.2024

NII is planning the procurement of the following item through proprietary mode.

Name of the item: Worm Imaging, tracking and analysis system

Make:- MBF Bioscience.

Model:- MBF Worm Lab System

Any other firm with item meeting the below mentioned specification may contact to equipment@nii.ac.in latest by 11-9-2024 or sand the quotation in two bid system (technical and price separately)

Specifications for a Worm Imaging, tracking and analysis system

- The system should have the capability to perform imaging, tracking, and analysis of C. elegans and other nematodes/worms.
- It should have a user-friendly software interface with a powerful model-specific tracking algorithm that collects data about a single worm or multiple worms, even through omega bends, reversals, and entanglements. The tracking algorithm should provide the accurate worm tracking data to help automate worm research.
- Should support Crawling worms, simultaneous tracking of multiple worms, swimming/thrashing worms, whole plate and long-term tracking etc.
- Should be supplied with a fully supported and documented commercial software package.
- The workflow should be simple where researcher would load, detect & track, then analyse the data with ease with minimum intervention.
- Researcher should be ablet to perform multiple worm tracking from video files.
- Should be able to track selected worms, or all worms in the frame.
- Should be able to track worms through entanglements and overlap.
- Tracking should be available at high, medium, or low magnification.
- Advanced worm model with peristaltic progression movement including elongation should be included
- Multiple-hypothesis tracking should be available.
- The software should be able to discriminates between head and tail using both curvature and motion direction.
- Should allow selective viewing of worm outlines, midpoints, tracks, and head/tail markers.
- Locomotion data should be exportable to Microsoft Excel. The tracking data should be in a multi-tabbed table format. Options should be available to export all data to Microsoft Excel or cut-and-paste portions to any other application.
- Frame-by-frame detailed data should be provided for each worm track as well as track summary data.
- Should support hundreds of different video codecs.
- Tool to save and recalls experimental parameters should be available in the software.
- Batch processing capability for higher throughput should be included.
- For analyses, ~10,000 measures to analyse specimens should be available.
- Analysis output should include:
    - Worm Position (Head, midpoint and tail) frame-by-frame
    - CenterLine Points (variable resolution, selected by user)
    - Speed (instantaneous and moving average)

- Body Area
- Body Wavelength
- Track Length
- Direction
- Body Bending Angles
- Head Bending Angle
- Omega Bend Detection
- Reversal Detection
- Group Analytics
- Novel swimming metrics
- User configurable analytics using graphical tools

- Software updates should be provided free of charge for 5 years.
- A workstation with minimum of Intel i7 processor (12 core 3.6GHz), 16 GB DDR4 RAM, 512 GB SSD, 4 GB video card, DVD/RW Optical drive, optical mouse and keyboard should be provided. 24-inch Ultra HD 4K monitor should be provided.
- Three years comprehensive warranty should be included for the entire system, including computer.
- Demonstration and training should be provided during installation and as and when required.
- Appropriate UPS should be supplied with the system and computer.