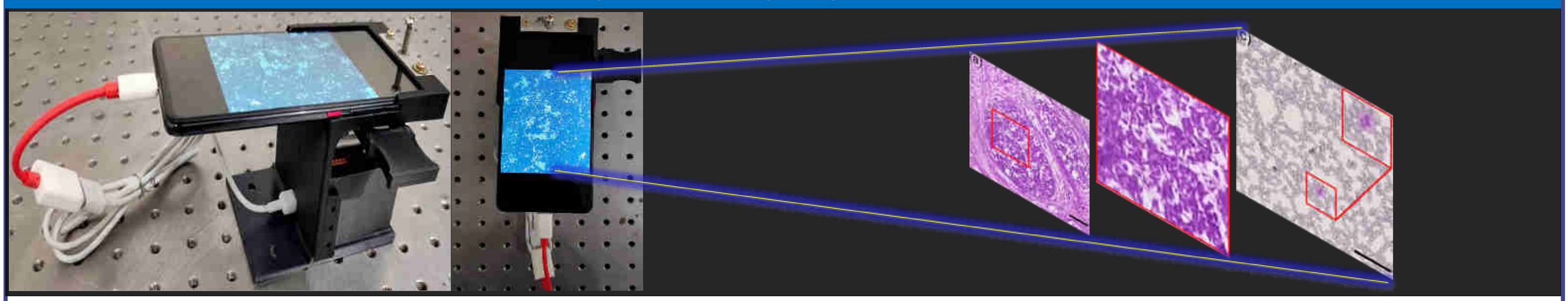
LABDIG INNOVATIONS AND SYSTEMS PRIVATE LIMITED

(a Company incorporated under the Companies Act 2013, Reg. No. 022556)

SUPPORTED BY

Centre for Innovation Incubation and Entrepreneurship

Tezpur University, Napaam-784028



The Team

Dr. Pabitra Nath, Hon. Director

Diganta Rabha, Director

Diganta Hatiboruah, Technical member

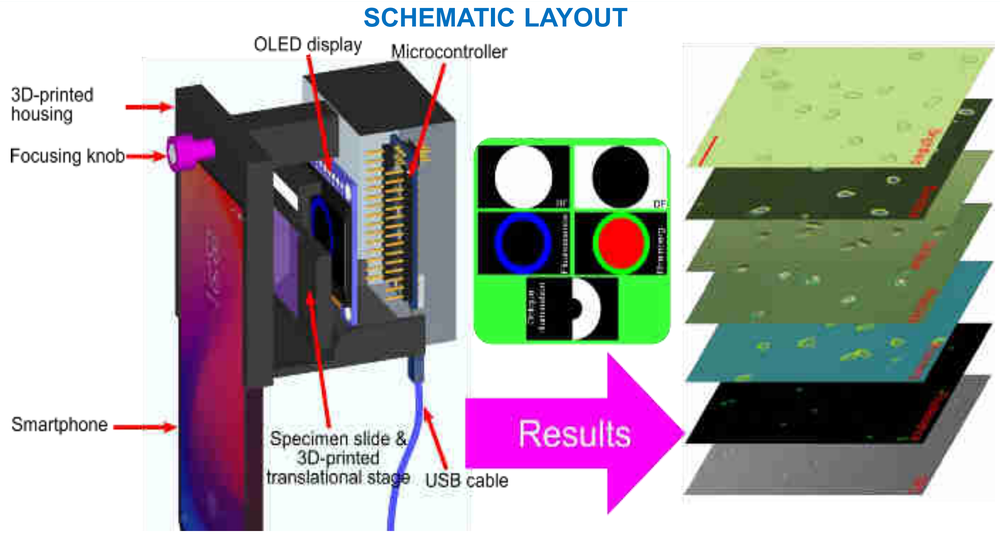
Biprav Chetry, Technical member

Dr. Chayanika D. Nath, CEO & Director

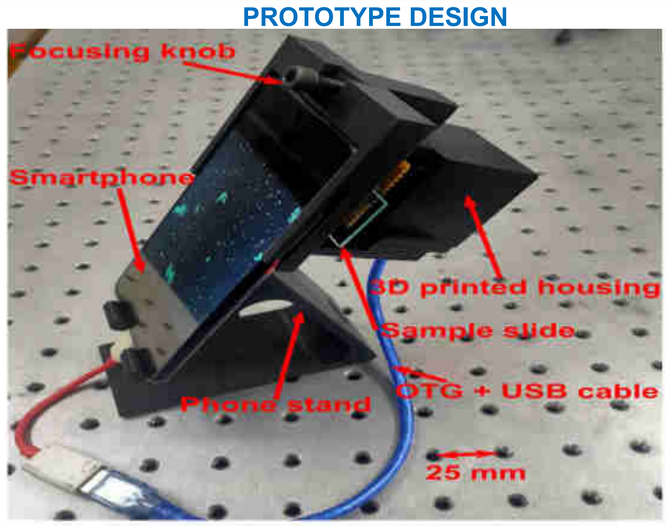
Detailed Design

PROGRAMMABLE ILLUMINATION MULTIMODAL IMAGING ON A LOW-COST PLATFORM FOR LABORATORY AND CLINICAL APPLICATIONS[1]

SCHEMATIC LAYOUT



PROTOTYPE DESIGN



PERFORMANCE EVALUATION

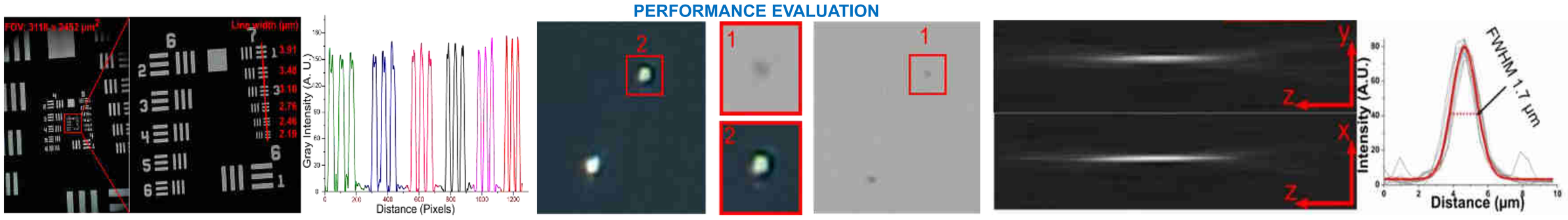
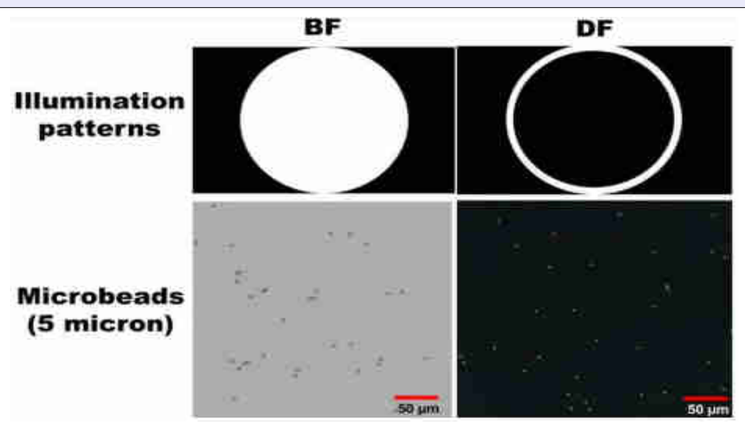
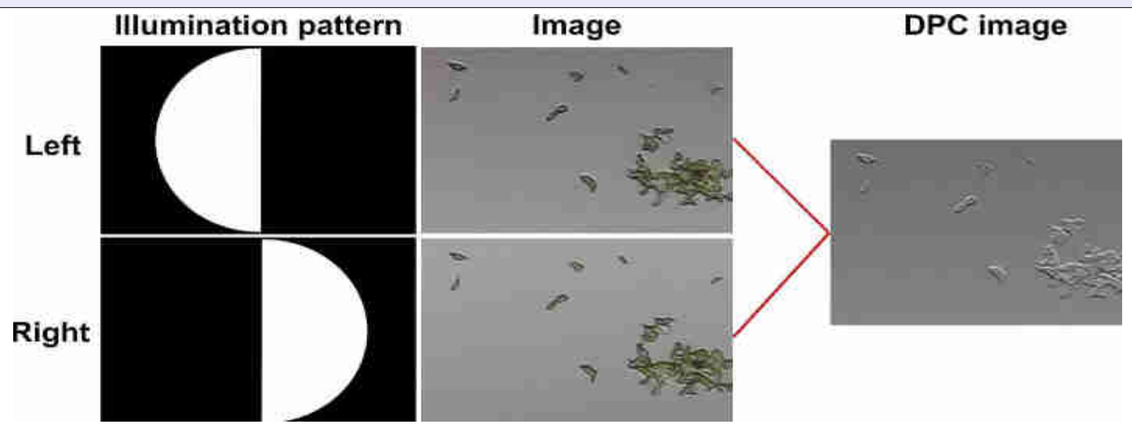


Figure: Imaging of 1951 resolution test target and 1 µm microbeads using the developed smartphone microscope. Point spread function (PSF) estimation of the designed imaging platform with 1 µm microbeads.

IMAGING SYSTEM PARAMETERS

- **Optical resolution: 1.7 µm (theoretical1.45 µm)**
- **Optical magnification : 1.66x (finite conjugate system)**
- **Field of view: 3118x2452 µm²**





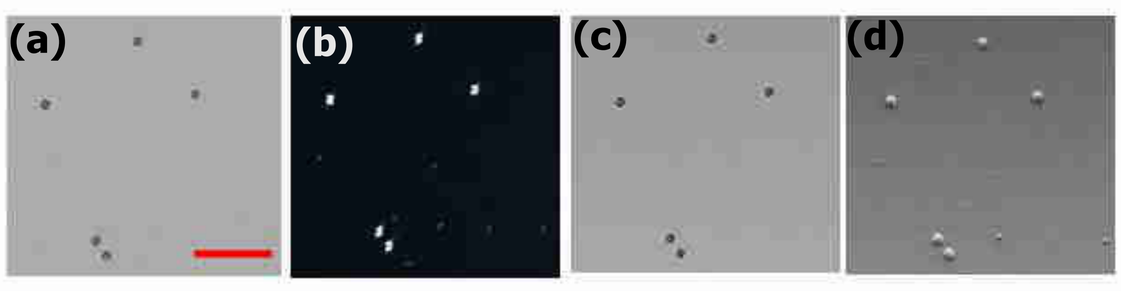


FIGURE: Image of the standard 5micron microbeads under (a) BF, (b) DF, (c) OI and (d) DPC mode

1. Methods And Apparatus of Multi-Modal Microscopic Imaging on a smartphone and OLED display illumination" D. Rabha, and P. Nath (Indian Patent application number **202231030989**)