

Bernal Biolabs

Bioscience and Bioengineering Research


Overview

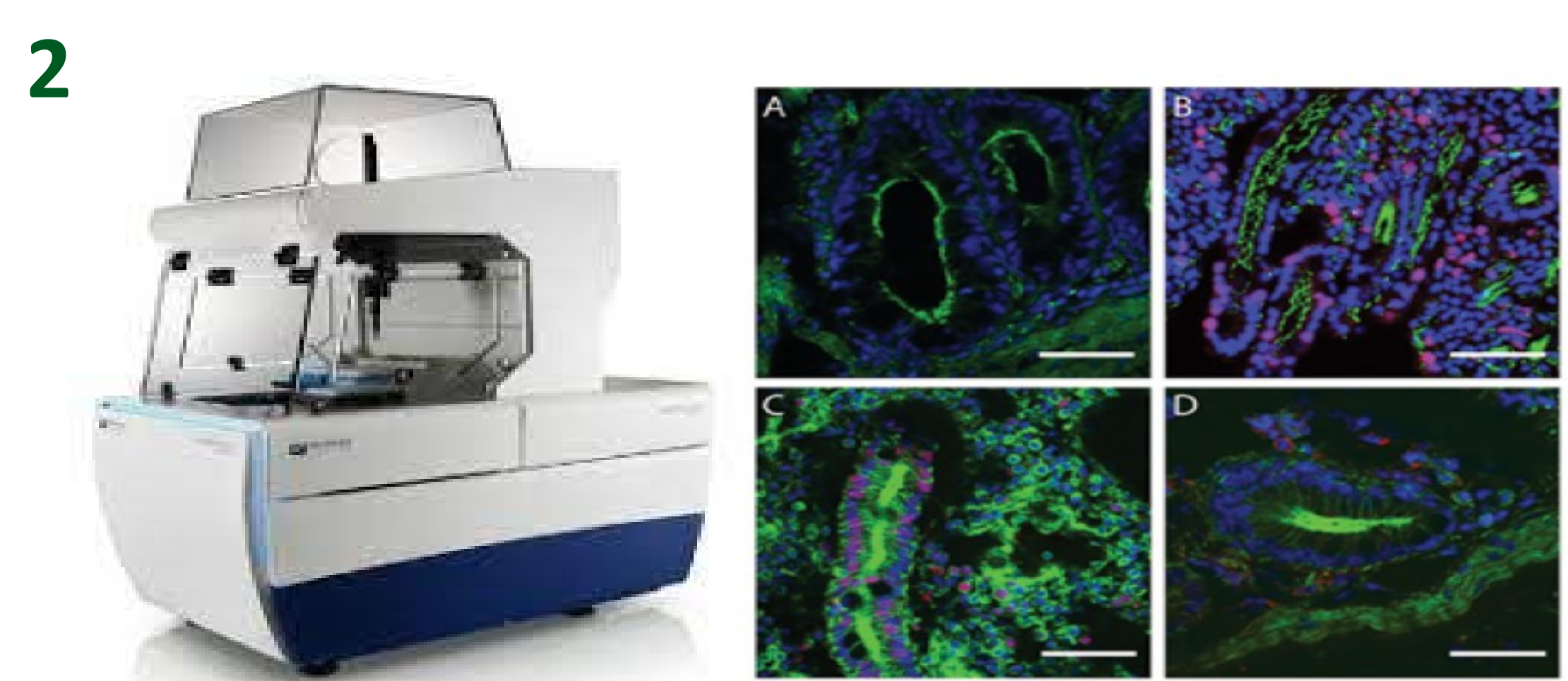
BioSciBer is an interdisciplinary research cluster in the area of BioScience and BioEngineering that develops *in vitro* models of diseased biological systems to bridge the gap between solid/fluid mechanics, cellular mechanobiology and cell biology by creating mimetic systems of *in vivo* pathologies. Our areas of expertise include neurobiology, nanotechnology, cell signalling, cell behaviour, cell biology, cell mechanobiology, biofluids and soft tissue biomechanics.

Facilities:

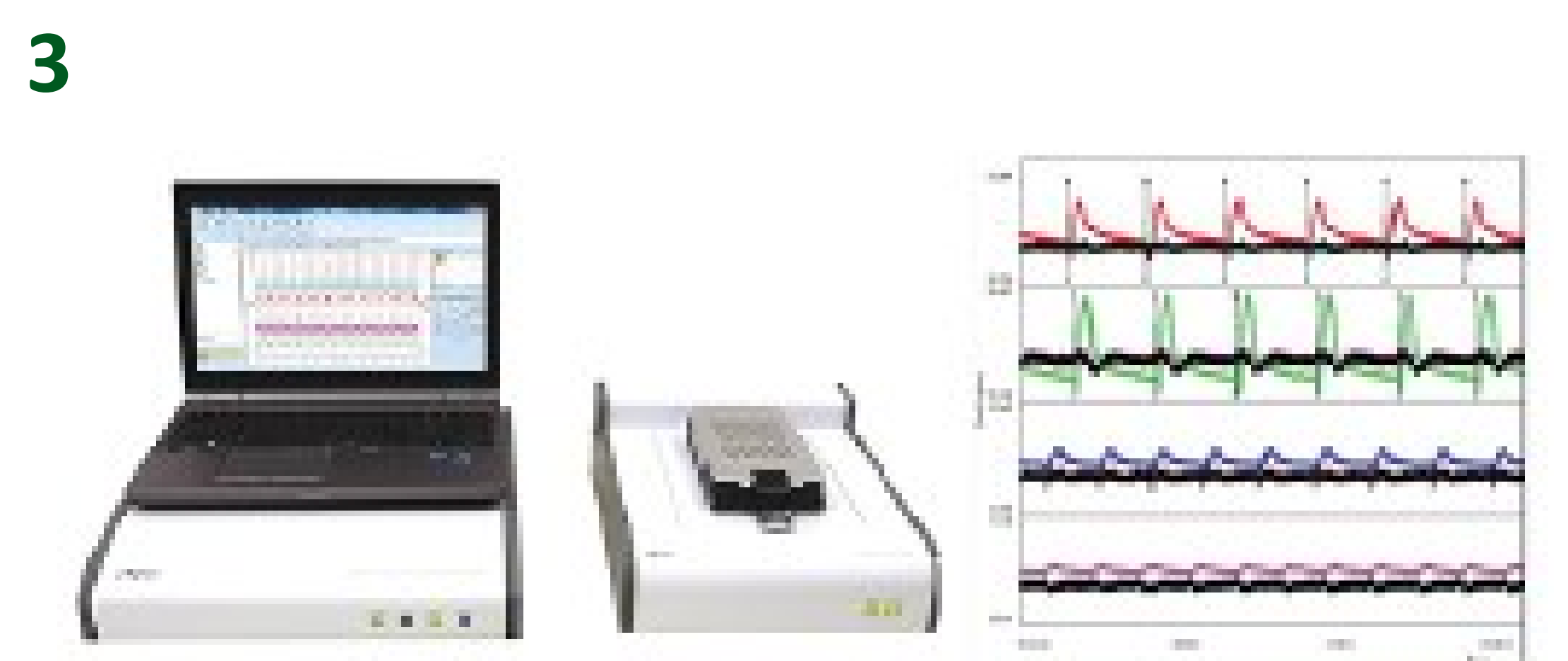
1 Zeiss LSM710 Confocal Microscope with automated xy stage upgrade
Excitation vw: 405, 458, 488, 514 & 633 nm
Objectives: 5x, 10x, 20x, 43x oil & 63x oil



2 ImageXpress Micro Spinning Disc Confocal High-Content Imaging System with Fluid  a fully automated high throughput bioimaging platform that allows for the design and automated implementation of highly complex parallelised experimental setups.
Excitation vw: 405, 488, 555, 594 and 647 nm
Confocal disks: widefield, 50 µm slit, 60 µm pinhole
Objective range: 4x, 10x, 20x, 40x and 60x



3 Real Time Cell Analysis (RTCA) Epithelial/Cardio System and impedance based Multi Electrode Array - allow the simultaneous real-time measurement of cell excitation and contractility by impedance while simultaneously measuring electric activity by monitoring field potential measurements.



BioMechanical Testing Suite
 (biaxial tester, pressure/diameter DIC, and fracture toughness)

Full Cell Culture Suite and histology/
 microscopy prep lab

BioChemical Suite
 (PCR, Western Blot, ELISAs, Uvitec Alliance Imaging System.)

Flow cytometry capabilities
 (BD Accuri C6 flow cytometer, Cell Sorter BD FACS Canto II)