LSSF Technology Portal

Technology Portal Overview – Phase I

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Objectives of Phase I

- Catalog of items and inventory for all member institutions:
  - Piloting Institutions
    - Florida Atlantic University
    - Florida International University
    - Max Planck Florida Institute
    - Nova Southeastern University
    - University of Miami
- Technology Portal functionality
  - Designated point of contact for each instrument listed
  - Items and inventory indexed and searchable by any tagged fields
  - Members can update and manage their own shared equipment list

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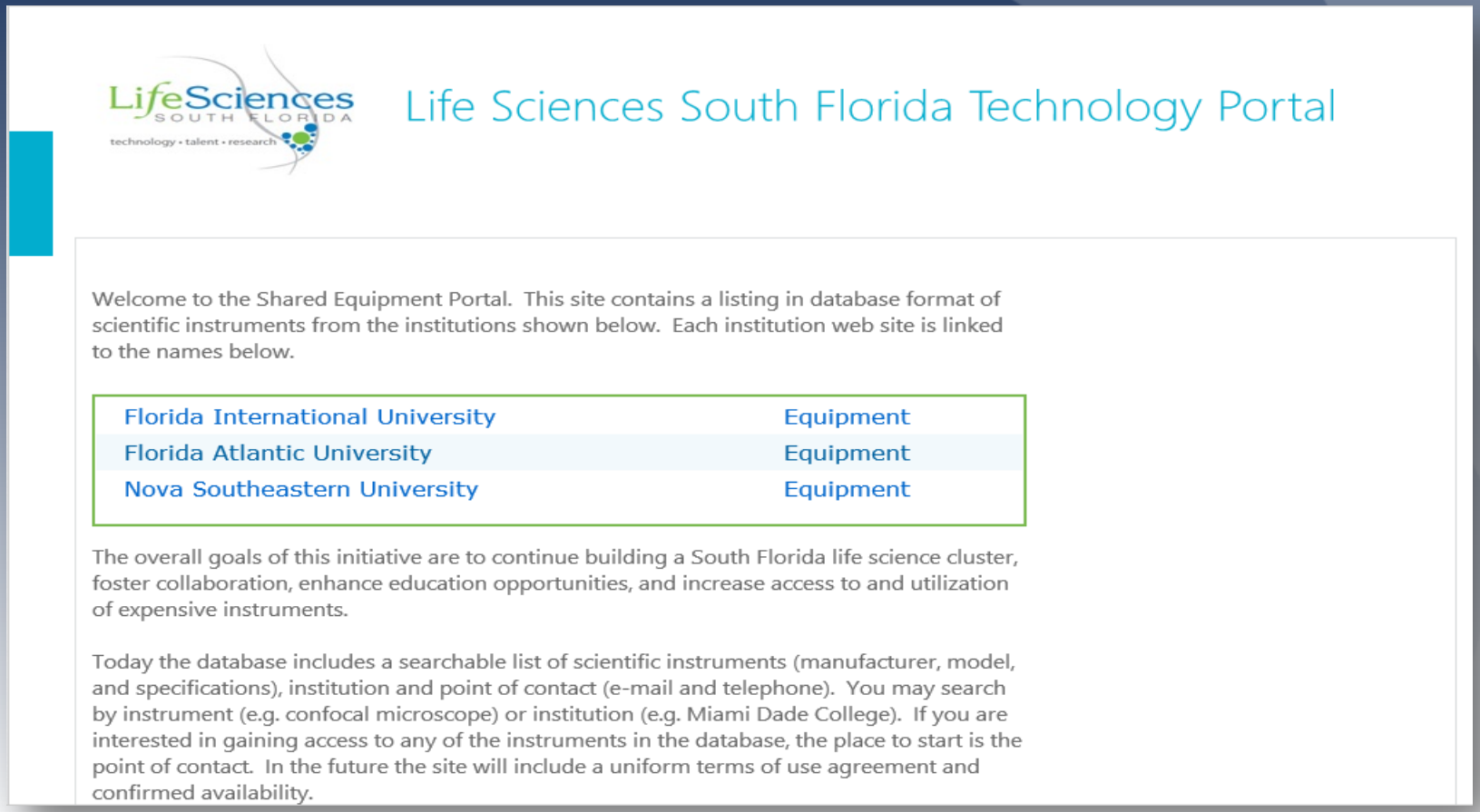
Homepage



- Initial landing page
  - Explains objectives and goals
  - Associated link to lists of equipment by institute

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Institute Focused Equipment List

Example:

- Equipment grouped by institute
- Equipment details include:
  - Name of equipment
  - Last modified date
  - Model number

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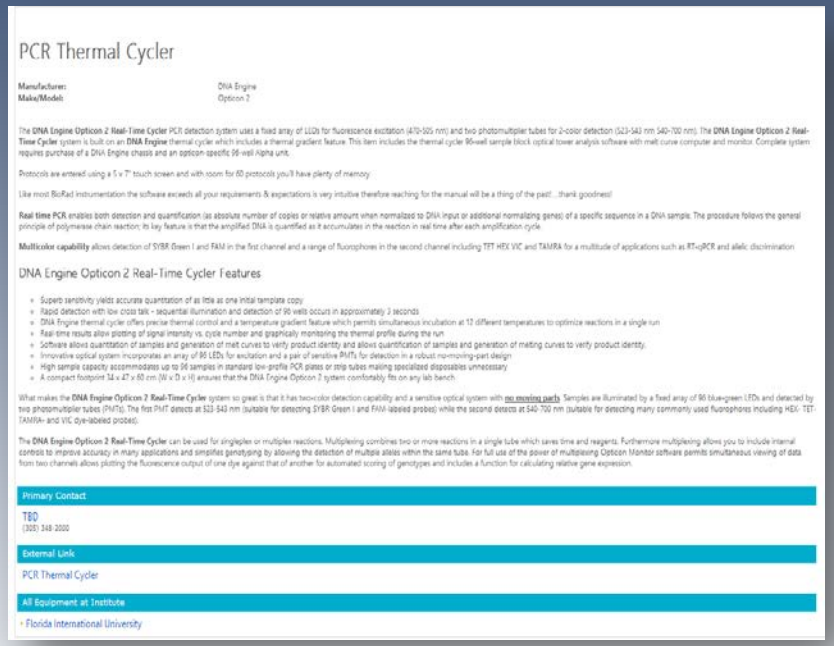
Equipment Detail Page and Search

Example:


PCR Thermal Cycler

Manufacturer: DNA Engine
Make/Model: Opticon 2

The **DNA Engine Opticon 2 Real-Time Cycler** PCR detection system uses a fixed array of LEDs for fluorescence excitation (470-505 nm) and two photomultiplier tubes for 2-color detection (523-543 nm 540-700 nm). The **DNA Engine Opticon 2 Real-Time Cycler** system is built on an **DNA Engine** thermal cycler which includes a thermal gradient feature. This item includes the thermal cycler 96-well sample block optical tower analysis software with melt curve computer and monitor. Complete system requires purchase of a DNA Engine chassis and an opticon-specific 96-well Alpha unit.

Protocols are entered using a 5 v 7" touch screen and with room for 60 protocols you'll have plenty of memory.

Like most BioRad instrumentation the software exceeds all your requirements & expectations is very intuitive therefore reaching for the manual will be a thing of the past....thank goodness!

Real time PCR enables both detection and quantification (as absolute number of copies or relative amount when normalized to DNA input or additional normalizing genes) of a specific sequence in a DNA sample. The procedure follows the general principle of polymerase chain reaction; its key feature is that the amplified DNA is quantified as it accumulates in the reaction in real time after each amplification cycle.

Multicolor capability allows detection of SYBR Green I and FAM in the first channel and a range of fluorophores in the second channel including TET HEX VIC and TAMRA for a multitude of applications such as RT-qPCR and allelic discrimination

DNA Engine Opticon 2 Real-Time Cycler Features

- Superb sensitivity yields accurate quantitation of as little as one initial template copy
- Rapid detection with low cross talk - sequential illumination and detection of 96 wells occurs in approximately 2 seconds
- DNA Engine thermal cycler offers precise thermal control and a temperature gradient feature which permits simultaneous incubation at 12 different temperatures to optimize reactions in a single run
- Real-time results allow plotting of signal intensity vs. cycle number and graphically monitoring the thermal profile during the run
- Software allows quantitation of samples and generation of melt curves to verify product identity and allows quantification of samples and generation of melting curves to verify product identity.
- Innovative optical system incorporates an array of 90 LEDs for excitation and a pair of sensitive PMTs for detection in a robust no-moving-part design
- High sample capacity accommodates up to 96 samples in standard low-profile PCR plates or strip tubes making specialized disposables unnecessary
- A compact footprint 34 x 47 x 60 cm (W x D x H) ensures that the DNA Engine Opticon 2 system comfortably fits on any lab bench.

What makes the **DNA Engine Opticon 2 Real-Time Cycler** system so great is that it has two-color detection capability and a sensitive optical system with no moving parts. Samples are illuminated by a fixed array of 90 blue-green LEDs and detected by two photomultiplier tubes (PMTs). The first PMT detects at 523-543 nm (suitable for detecting SYBR Green I and FAM-labeled probes) while the second detects at 540-700 nm (suitable for detecting many commonly used fluorophores including HEX- TET- TAMRA- and VIC dye-labeled probes).

The **DNA Engine Opticon 2 Real-Time Cycler** can be used for singleplex or multiplex reactions. Multiplexing combines two or more reactions in a single tube which saves time and reagents. Furthermore multiplexing allows you to include internal controls to improve accuracy in many applications and simplifies genotyping by allowing the detection of multiple alleles within the same tube. For full use of the power of multiplexing Opticon Monitor software permits simultaneous viewing of data from two channels allows plotting the fluorescence output of one dye against that of another for automated scoring of genotypes and includes a function for calculating relative gene expression.

Primary Contact

TBD
(305) 348-2000

External Link

PCR Thermal Cycler

All Equipment at Institute

- Florida International University

- Detailed equipment page with point of contact and link to external content
- Descriptions, titles and tags fully searchable and sortable

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Member Institutions

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