



NIHERST

NATIONAL INSTITUTE
OF HIGHER EDUCATION
RESEARCH SCIENCE AND TECHNOLOGY

INCORPORATED BY ACT OF PARLIAMENT ACT NO. 20 OF 1994

NIHERST

8TH MAY, 2015

NIHERST History

NIHERST - Statutory body established
in 1984 by Act of Parliament

NIHERST Core Competencies

Popularization of STI

- Building public awareness and basic scientific literacy
- Fostering a national culture of creativity and technological innovation
- Recognizing our icons and preserving our scientific heritage
- Supporting formal science education

Policy and Research

- Policy formulation and advice
- Statistical research on science education and STI development
- Foresight, innovation and entrepreneurship studies

Regional/ Int'l Cooperation

- Caribbean Council of Science and Technology (CCST)
- CTA-ACP
- International Center for Genetic Engineering and Biotechnology (ICGEB)

The Prime Minister's Awards for Scientific Ingenuity - 2013

Biennial Innovation & Invention Competition (re- launched in 2013).
TT\$1,250,000 in prizes distributed to 60 finalists out of 200 plus initial entrants.

Achievements in 1st cycle of re-launch

- Feedback used to tweak invention and assist in patent applications
- 1 U.S. patent pending & 2 U.S. patents granted
- 1 Local (TTO) Patent granted
- Entrants took part in 2014 Invention & New Products Exposition [INPEX]
- Licencing negotiations with large tool manufacturers (Black & Decker) is currently ongoing for one patented entrant.



INFO-SESSION PROGRAMME



Entrepreneurship Workshops

David Roberts - Manager, IBIS Programme, NEDCO

IP & IPR

Richard Aching - Manager, Intellectual Property Office

NIHERST's FABLAB & Prototyping Assistance

Stage III – What to expect?

Entrepreneurship Workshops

NEDCO

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IP & IPR

Intellectual Property Office

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Stage III – What to expect?

NIHERST FAB LAB

The Creative Design Lab at the National Science Centre was recently added to the global network of Fab Labs curated by the Fab Foundation- an initiative that emerged from the **Massachusetts Institute of Technology's** Centre for Bits & Atoms.



NIHERST is the first Fab Lab in this network from the English speaking Caribbean.

About the FAB LAB

Who is the Fab Lab for?

- Students
- Teachers
- Designers
- Artists & Artisans
- Hobbyists
- Engineers
- Inventors

What is available in the lab?

- 3d Printers
- 3d Scanner
- Laser Cutter
- Vinyl Cutter/Plotter
- CAD software
- Electronics workstations & robotics kits
- CNC Milling (coming soon)

What would be offered?

- Workshops (software & machine use)
- Booking of machines for personal projects

All services provided at the minimal cost to cover consumables.



FAB LAB – Workshops

Introduction to CAD

The workshop would include an introduction into Computer Aided Design with a Q&A session at the end. Practical activities are also used to reinforce these lessons so that a better appreciation for the software can be had and development of the skills necessary for creating designs to be used by CAM machines.

Participants would then follow along with the facilitator as they use the AutoCAD software to create 2D and 3D designs.



FAB LAB – Workshops

Introduction to CAM

The workshop would include the hands on experience of operating the CAM Machines. These machines would include the;

- ❑ MakerBot,
- ❑ Uprint 3D printer,
- ❑ Vinyl Cutter,
- ❑ Epilog Fusion laser cutter.

This workshop would include the operating of these machines and the safety precautions taken when doing so.



FAB LAB – Workshops

Other Workshops

Little Bits Workshop

What are “Little Bits”?

Little Bits are simply an open source library of electronic modules that snap together with magnets for prototyping, learning and making electronics fun.

Prebuilt electronic units, which allow the user to experiment, design and even build an almost limitless amount of electronic circuits without the danger or complication of using soldering tools and risk of electric shock.

Mini Electronics

The workshop would be approximately 1 hour and a half give or take a half hour. The overall workshop comprises of 4 fields in electronics and divided into about 10 projects which is set for ages 12-17. The fields comprised are:

- Electronic circuits and components
- Telecommunication
- Magnetism and electromagnetism
- Digital electronics

Prototyping Assistance

NIHERST FAB LAB

- ❑ What type of assistance we can offer?
- ❑ What type of support would be afforded?

Prototyping Assistance

NIHERST FAB LAB

MakerBot 3D Printer

Availability: Every Wednesday
Time 8:00 a.m-4:00 p.m.
Cost per hour: \$40.00**

** additional charges for filament use

Available Filament Colours:

- True Yellow
- True Red
- True Blue
- Magenta Photochromatic
- Blue Photochromatic
- Glow in the Dark
- Sparkly Black
- Translucent Orange

Prototyping Assistance

NIHERST FAB LAB

uPrint SE 3D Printer	Availability: Every Wednesday Time 8:00 a.m-4:00 p.m. Cost per hour: \$40.00** ** additional charges for filament use
Epilog Fusion Laser Cutter	Availability: Every Wednesday Time 8:00 a.m-4:00 p.m. Cost per half hour: \$40.00** additional charges if using our materials (wood, plexi) no additional charge if using your own materials

Prototyping Assistance

NIHERST FAB LAB

Vinyl Cutter/ Plotter	Availability: Every Wednesday Time 8:00 a.m-4:00 p.m. Cost per half hour: \$10.00** ** additional charges for vinyl use Available Vinyl colours: Red, Blue, Black, White
3D Scanner	Availability: Every Wednesday Time 8:00 a.m-4:00 p.m. Cost per hour: \$40.00
CAD Software	Availability: Every Wednesday Time 8:00 a.m-4:00 p.m. Cost per hour: Free Software: AutoCAD; SolidWorks; TinkerCAD

Prototyping Assistance

NIHERST FAB LAB

Acrylic (clear) (1/8)

12" x 24"

\$35.00 TTD

Acrylic (Black and White) (1/8)

12" x 24"

\$38.00 TTD

Acrylic (Bronze) (1/8)

12" x 24"

\$38.00 TTD

Ply (1/4 inch)

12" x 24"

\$7.00TTD

Ply (1/2 inch)

12" x 24"

\$10.00TTD

MDF (1/4 inch)

12" x 24"

\$5.00TTD

MDF (1/2 inch)

12" x 24"

\$7.00TTD

Vinyl (Black, White, Red and Blue)

12" x 24"

\$5.00TTD

Vinyl (Black, White, Red and Blue)

24" x 24"

\$10.00TTD

PLA Filament (True colours)

Per Gram

\$0.34TTD

PLA Filament (Special Material)

Per Gram

\$0.45TTD

ABS Filament

Per Gram

\$1.00TTD

Please Note

Prices are subject to change.

Sizes may vary by + or - 1/8 of an inch.

Any prices not listed available on request.

Other materials available.

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Prime Minister's Awards for Scientific Ingenuity – Stage III

When is Stage III?

Where would presentation be conducted?

When will the ceremony occur?

The Prime Minister's Awards for Scientific Ingenuity - 2015

Biennial Innovation & Invention Competition (re- launched in 2013).
TT\$1,500,000 in prizes to be distributed.

Achievements of 2015 entrants

- Feedback used to tweak invention and assist in patent applications*
- # of Local (TTO) patents... 1 and counting*
- # of International patents...*
- Products to market...*
- Businesses started or Licencing deals brokered...*
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Thank you