PROTOSHOP

VENTURE CENTER

One Day Summer Camp

"Magic with Physictronics"

Think - Design - Build

- Organized by Venture Center -

Potential gains	• Learning about one of the basic terms of physics: pendulum motion and oscillation. • Learning different parameters in optics such as reflection, refraction with the help of laser lights. • Learning of non-newtonian fluid made from water and cornstarch and its properties. • Learning of gears and its proportions. • Learning of fundamentals of Electric Components • Learn how Pressure and Force play a important role in day to day applications
Organized by	Protoshop at Venture Center
For whom	Students of 7th - 12th grade
When	May 31, 2024 | 10:30 am to 05:00 pm
Where	Protoshop, Venture Center, 300 NCL Innovation Park, Dr. Homi Bhabha Road, Pashan, Pune-411008
Contact	**Registration queries:** Mr. Adarsh Lodhi | 8956226076 | adarsh.lodhi@venturecenter.co.in Mr. Anjan Kumar N | 8956457047 | anjan@web.venturecenter.co.in
Cost	• **Rs.2,000/-** per student • Only 30 seats: First come first serve • Register online at: "Summer Camp" Note:- • Registration closes once 30 seats are full • Attendance only after confirmation of registration by organizers. • Organizers reserve the right to accept or refuse or delay registrations so as to optimize the composition of the group and hence maximize learning for all participants.

Introduction

As budding scientists, engineers, and thinkers of tomorrow, it's crucial to grasp the fundamental principles that govern these phenomena, for they not only unveil the mysteries of the natural world but also pave the way for groundbreaking innovations that shape our future.

In this journey of exploration, we delve into the captivating domains of pendulums, optics, non-Newtonian fluids, and the mesmerizing world of gears and proportions.

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Event Outline

Action with pendulums

Pendulums, seemingly simple yet profoundly intricate, serve as quintessential examples of harmonic motion. Imagine a weight suspended from a fixed point, gracefully oscillating back and forth with rhythmic precision.

Realm of optics

From the wonders of reflection in mirrors to the intricate workings of lenses in telescopes and microscopes, optics is the art and science of understanding how light interacts with matter.

Fluid dynamics with Non-newtonian fluid (find some simple word)

From the gooey consistency of oobleck to the mesmerizing dance of cornstarch and water, non-Newtonian fluids challenge our understanding of fluid mechanics and offer tantalizing possibilities for applications in industries ranging from automotive engineering to biomedical technology.

Mechanics of gears and proportions

Understanding the principles of gear ratios, torque transmission, and rotational motion not only unlocks the secrets of machinery but also empowers us to design and build mechanisms that drive progress and innovation.

Fundamentals of Electric Components

Join us for an electrifying adventure into the world of DIY electric components! In this interactive workshop, you'll uncover the secrets of resistors, capacitors, breadboards and circuits through hands-on activities and fun experiments. Get ready to unleash your inner engineer as we dive into the fundamentals and **build your very own capacitor from scratch**. Whether you're a novice or a seasoned tinkerer, this workshop promises to spark your curiosity and ignite your creativity.

Activity based on Hydraulics

Build your own Hydraulic lift and learn about how force and area contributes to pressure

Finally we will be moving to an activity to make a hydraulic system which shows the principles of Pascal's law by making a injection and syringe linkage system.

Terms and Conditions

- No sessions will be repeated if a participant is unable to attend due to any reasons

Event includes

- Free membership in mailing list to follow-up on program and intimation of relevant events/ funding opportunities from Venture Center
- Certificates will be given to only those candidates who complete the workshop assignments and have 100% attendance.

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Schedule			
Time	**Session**	**Venue**	**Faculty**
10:15am to 10:25am	Registration	Protoshop	Protoshop Team
10:30am to 11:30am	Magic with Physics	Protoshop	Protoshop Team
11:30am to 12:00pm	Break	Protoshop	
12:00am to 12:45pm	Magic with Electronics	Protoshop	Protoshop Team
12:50pm to 01:30pm	Lunch	Protoshop	Protoshop Team
01:45pm to 02:45pm	Hands on Activity (Build your own capacitor, LED circuit)	Protoshop	Protoshop Team
02:45pm to 03:15pm	Break	Protoshop	
03:20pm to 04:20pm	Hands on Activity (Build your own hydraulic system to lift heavy objects)	Protoshop	Protoshop Team
04:20pm to 04:30pm	Quiz	Protoshop	Protoshop Team
04:30pm to 04:45pm	Issuing Certificates/Photography	Protoshop	Protoshop Team

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Speakers (in alphabetical order of last names)	
	Adarsh is working as a Senior Engineer – Product Design and Prototype. He is a Mechanical Engineer with 4 years of industry experience in product design of medical devices. Adarsh lives and breathes design and feels that through good design specialists in different fields can collaborate and create better living conditions for everyone.
	Anjan is working as a Lead - Product Design & Prototyping in Venture Center. He is a Mechanical Engineer graduate from CMR Institute of Technology, Bengaluru. He is responsible for supporting the startups, innovators, budding entrepreneurs at Venture Center in Product Design and Prototype Development. He has specialization in designing of functional and non-functional prototypes, developing POC's, converting POC to Prototype and end Products, Reverse Engineering and also comes up with strong problem solving skills. He has been actively involved in the development of prototypes majorly in healthcare, automobile, renewable energy, biotech, cutlery, agro based, etc. He is also responsible for running facilities at Protoshop and also setting up technical and non-technical workshops at Protoshop.
	Varun serves as a Fellow at the R.K. Lagu Fellowship at Venture Center and is currently pursuing a Master's in Electronics Science from Fergusson College, Pune. He plays a role in managing electronics-related activities, facilitating projects, providing guidance, and ensuring effective resource utilization. With a passion for the field, Varun contributes innovative solutions and fosters knowledge sharing, demonstrating his dedication to advancing Electronics Science.

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About the organizers	
PROTOSHOP	Protoshop combines Tinkering lab and Prayashala, which are the prototyping facilities at Venture Center. Protoshop is an initiative of Venture Center (a technology business incubator hosted by CSIR-NCL) with the generous support from in-house funds and the host Institution. It aims at providing services to the Inventors and Entrepreneurs to design and build their prototypes and bringing their ideas into life. For more information about Protoshop: http://www.protoshop.in/
Tinkering Lab	The Tinkering Lab is a facility developed and managed by Venture Center, NCL Innovation Park, Pune, India. The main aim of the Tinkering Lab is to help inventors and entrepreneurs to build prototypes of their ideas and generally "tinker" around exploring new ideas. The focus is on electronics, instrumentation and optics besides related prototyping and design. For more information, visit http://tinkeringlab.co.in/
VENTURE CENTER 15 years of service to the Nation	Entrepreneurship Development Center (Venture Center) – a CSIR initiative – is a Section 25 company hosted by the National Chemical Laboratory, Pune. Venture Center strives to nucleate and nurture technology and knowledge-based enterprises by leveraging the scientific and engineering competencies of the institutions in the Pune region in India. The Venture Center is a technology business incubator supported by the Department of Science & Technology's National Science & Technology Entrepreneurship Development Board (DST-NSTEDB). Venture Center's focuses on technology enterprises offering products and services exploiting scientific expertise in the areas of materials, chemicals and biological sciences & engineering. For more information, visit: http://www.venturecenter.co.in/