

CIST: Centre for Innovation in Science Teaching, IIS University, Jaipur

Center for Innovation in Science Teaching (CIST) was established at the IIS School Campus by The IIS University, Jaipur from September, 2019.

Honorary Director: Prof. Y K Vijay, Retired from University of Rajasthan, Jaipur.

Aim and Objectives:

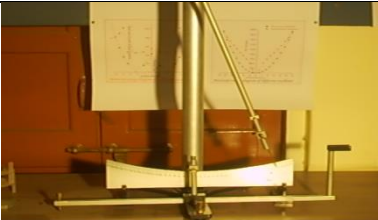


In order to improve the Science Teaching, experimental demonstrative projects will be designed developed and used by the Teachers in their classes. All the working models will be displayed in the Innovation Hub. Student and Teachers in different groups can visit the innovation Hub any time during the school timing.







Student Activity Projects can be developed by students at home by taking any idea from the displayed models.




Teachers can use the models in their classes for discussion of fundamental concepts.

Innovation Hub:

Innovation hub is collection of low cost and working scientific models to learn fundamental concepts in the visible range. Over 30 models are developed and installed at several institutions. All the parameters are in the range of human perception. The quantum phenomena are brought to visible range.

<p>An-harmonic Oscillator It consists of a bar pendulum with a magnet and another magnet mounted on stand, with arrangements for restoring force measurements and dial.</p>	 A photograph of a bar pendulum setup. A horizontal bar is suspended from a vertical stand. A magnet is attached to the bar, and another magnet is mounted on the stand. A dial is visible for measurements.
<p>Demonstration of Bohr Orbits A metallic strip is mounted on a speaker in a circular shape. An oscillator is connected to speaker to setup stationery waves in the range of 20-100 Hz.</p>	 A photograph showing a circular metallic strip mounted on a speaker. A white electronic oscillator is connected to the speaker. A digital display on the oscillator shows the date and time: 17/01/2019 20:33.
<p>Doppler Effect. An electronic buzzer of 3 K Hz, is mounted on a strip oscillators.</p>	 A photograph of an electronic buzzer mounted on a strip oscillator. The setup is on a table with various electronic components and wires.

<p>Importance of Curved Surface Hyperbolic surface is generated from a stretchable sheet fixed on a bicycle rim. Central point is pulled down. Rolling balls show spiral motion.</p>	
<p>Kundt's Tube Using PVC pipes 40 mm and 50 mm, rectangular shape fitting is made with 5 feet fixed length and 5-7 feet variable length. Electronic buzzer of 3 K Hz.</p>	
<p>Lissajous Figures Two bar pendulums of length 60 cm, coupled with mass 20-50 g, and oscillate in a plane. A lens connection between the pendulum at 90 degree show superposed motion. The image of a LED lamp on a screen shows lissajous figure.</p>	
<p>Lorentz Oscillitor A light weight bar pendulum is suspended on a steel ball. It has all degrees of freedom. A magnet attached to the bottom and another at the stand.</p>	
<p>Manual Lift with 1/8 Effort Door pulleys are attached to the rooftop and a set of four pulleys attached to the pair of chairs. A rope connect the same at height of 8-10 feet.</p>	
<p>Motion on Inclined Plan An aluminium channel of 1" wide and 72" long has linear portion and a loop of Dia 12", mounted on wooden stand, with balls can roll.</p>	

<p>Mechanical Transmission Line 20 no. of 12" scales are mounted on a Steel tape of 2 Meter length hanged from a wall mounted.</p>	
<p>Rotation Dynamics A rotating platform is developed, using cycle parts.</p>	
<p>Reduction of Friction A friction less track is developed using air blower and aluminium gliders.</p>	
<p>Racing Track Two 1" aluminium channel are used 1 Meyer length.</p>	