



Educational Workshop Series

**Five-Day Introductory Workshop on
HAVING FUN WITH SCRATCH PROGRAMMING & SENSOR BOARDS
(For 8-11 year olds)**

Learn	<ul style="list-style-type: none"> • Introduction to the fundamentals of Scratch • Creating interactive software projects on Scratch • Connecting Scratch to a hardware sensor board • Creating games and projects combining software and hardware 		
Organized by	<ul style="list-style-type: none"> • Exciting Science Group • AntFarm Robotics Pvt Ltd • Venture Center – a Technology Business Incubator 		
Co-sponsored by	DSM India Innovation Center 		
Anchor Faculty	Shraddha Gargatti : Associate –Exciting Science Group		
VC Organization Team	Shraddha Gargatti : Associate –Exciting Science Group Lipika Biswas : Events Desk – Venture Center ; Shiv Tripathi : ICT – Venture Center ; Kiran Talele : Sr.Admin Executive – Venture Center		
For whom	<ul style="list-style-type: none"> • Children: 8 to 11 year olds • Maximum 35 seats per wave <ul style="list-style-type: none"> ○ WAVE 1 : 25 seats (for those who bring their own laptops) 10 seats (reserved for children from municipal school) ○ WAVE 2 : 25 seats (for those who bring their own laptops) 10 seats (for those who do not bring their own laptops; 2 persons sharing 1 PC) Booking schedule : First-come-first-serve		
When	<ul style="list-style-type: none"> • Wave 1 (First batch): Saturday, 26 Oct 2013-Thursday, 31 Oct 2013; 10 am-12:30pm • Wave 2 (Second batch): Saturday, 26 Oct 2013-Thursday, 31 Oct 2013; 2:00pm – 4:30pm 		
Where	E Class Room, Venture Center, NCL Innovation Park Dr. Homi Bhabha (Pashan) Road, Pune-411008		
Contact	<table border="0"> <tr> <td> For registrations: Ms. Lipika Biswas Venture Center, 100, NCL Innovation Park, Dr. Homi Bhabha Road, Pune – 411008; Phone: +91-20-64011023; +91-20-25865877 Email: eventsdesk@venturecenter.co.in </td> <td> For technical queries: Ms Shraddha Gargatti Venture Center, 100, NCL Innovation Park, Dr. Homi Bhabha Road, Pune – 411008; Phone: +91-20-64011025 Email: outreach@excitingscience.org </td> </tr> </table>	For registrations: Ms. Lipika Biswas Venture Center, 100, NCL Innovation Park, Dr. Homi Bhabha Road, Pune – 411008; Phone: +91-20-64011023; +91-20-25865877 Email: eventsdesk@venturecenter.co.in	For technical queries: Ms Shraddha Gargatti Venture Center, 100, NCL Innovation Park, Dr. Homi Bhabha Road, Pune – 411008; Phone: +91-20-64011025 Email: outreach@excitingscience.org
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Cost	<ul style="list-style-type: none"> • Free. Prior registration and booking of seat required. • Seat is booked against refundable deposit * of Rs 500. (*See detailed terms on receipt coupon) • We expect to make available 5 PC for 10 children in a group of 2. • Children who have laptops are requested to bring their own laptops to enhance their learning experience as well as enable more students to participate.
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Introduction

Scratch (scratch.mit.edu) is a graphical programming language developed by the MIT Media Lab (www.media.mit.edu) to create animation, games, and much more. It is designed as a first introduction to structured logic and programming, and allows children to develop their creativity. The Scratch software can also be interfaced to a sensor board so that the software responds to signals from the sensor board. While the software is available freely from the Scratch website, the sensor board was not available India till recently.



This workshop aims to expose 8-11 year olds to the joys of programming. This workshop is meant to provide a general introduction to the fundamentals of scratch. The workshop will comprise classroom lectures, which will be interactive and will convey the excitement of programming using scratch, as well as demo programs, which will enable participants to understand and get familiar with the scratch interface. Special session shall be run to explore the use of Sensor Board to develop interactive projects. The workshop will also have 'group activity' sessions in which participants will learn to create their own games/projects. At the end of the workshop, children should be able to develop their own animation, games and graphic stories.

Course Outline

- Introduction to scratch programming
- Demo programs to explore the usage of programming blocks
- Introduction to variable and data storage basics
- Use of control statements/loops
- Making Graphics and Sound effects. Creating interactive software projects on Scratch
 - Introduction to Sensor Board. Connecting Scratch to a hardware sensor board
 - Game demonstrations using Sensor Board. Creating games/projects combining software and hardware



Schedule

Time	Session title	Lead	Venue at Venture Center
26 Oct 2013	INTRODUCTION TO SCRATCH		
0930-1000	Registration		Foyer
1000-1010	Introduction to the workshop and faculty	SG	E Classroom
1010-1115	Lecture cum Activity: Introduction to Computer Basics. Introduction to Scratch Programming Interface Examples of what you can do with Scratch and the Sensor Board	SB	E Classroom
1115-1130	Break		Foyer Area
1130-1230	Lecture cum Activity: Getting Started with Scratch. Introduction to Motion Blocks and Looks. Making a Character move in Scratch Project 1: Random picture and movement; Pick your own sprite	SG	E Classroom
28th Oct 2013	MOTION; CONTROL STATEMENTS/LOOPS		
1000-1115	Lecture cum Activity: How to Repeat Code using Loops? Variables and Data Storage Basics ("Buckets" and "water"). Running Codes based on conditions: if else-if	SG	E Classroom
1115-1130	Break		Foyer Area
1130-1230	Project 2: Pong Game with Score Board	SG	E Classroom
29th Oct 2013	GRAPHICS AND SOUND EFFECTS		
1000-1115	Lecture cum Activity: Making Graphics: How to Draw in Scratch? How to record sound and playback in Scratch?	SG	E Classroom
1115-1130	Break		Foyer Area
1130-1230	Project 3: Give your sprite some sound and action.	SG	E Classroom
30th Oct 2013	INTRODUCTION TO SENSOR BOARD		
1000-1115	Introduction to Sensor Board. How to Interface the Sensor Board in Scratch. Making a Piano using Sensor Board	SB	E Classroom
1115-1130	Break		Foyer Area
1130-1230	Project 4: Make your own Game Ideation session on your own (group) projects	SB & SG	E Classroom
31th Oct 2013	GAME DEMONSTRATIONS		
1000-1115	Lecture cum Activity: Finishing Touches. Demonstrations (Games)	SG	E Classroom
1115-1130	Tea Break		Foyer Area
1130-1230	Project 5: Build your own (group) project with help from faculty and volunteers	SG	E Classroom
1230-1300	Workshop feedback, certificate distribution	ESG team	E Classroom



WORKSHOP FACULTY:



SHRADDHA GARGATTI
Associate – Exciting Science Group

Shraddha has a BE in Electronics and Communication, and has previously worked as a Science Communicator in the DST-Max Planck Institute-Indian Railways supported Science Express. Shraddha is managing the current activities of the Exciting Science Group, and will seek to expand the scope of its activities in future.



SUBHOJIT BASU
Founder, AntFarm

Profile: M.Tech from IIT Kharagpur, Indian National Maths Olympiad awardee, 1998. Design Engineer with experience in both Digital and Analog Design. Experienced in a multitude of EDA and simulation tools. Strong interests in Embedded systems design and multi core code design. Hobby Robotics fan and entrepreneur in related field. Puzzle solving enthusiast. Founding member of IIT Kharagpur Robotics Club.



Course includes

- Lectures
- Demo games
- 1 PC shall be shared by groups of 2
- If you bring your laptop, the instructors will help you with installations
- Each PC / laptop shall be provided (on a returnable basis) a Sensor Board for use during the workshop.
- Certificate of Participation issued by Exciting Science Group
- Workshop includes soft drink during the break at Foyer Area

Note:

- **Parents are not required to purchase the Sensor Board.**
- **If they wish to purchase the board, they can do so directly from M/s AntFarm Robotics**
- **Venture Center or Exciting Science Group is not directly involved in any transaction related to the Sensor Board.**
- **Any queries relating to sales or after sales should be directed to AntFarm Robotics directly. Exciting Science Group and Venture Center will not be able to assist in these matters.**



About the Organizers



About Exciting Science Group

The Exciting Science Group comprises of scientists from two of Pune's best research institutions, NCL and IISER-Pune. This initiative is aimed at conveying the excitement of science and technology to school students. The motivation behind our programme is to attract the brightest talent from the next generation towards careers in science and technology, since it will be these students who will drive tomorrow's science and innovation based economy.

For more information, visit: www.excitingscience.org



About AntFarm

ANTfarm Robotics' main objective is to introduce innovative robotic toys at an affordable price. ANTfarm believes in making smart toys for smart kids, and provide learning opportunities for kids from an early age. ANTfarm is based out of Pune, India and is incubated by Venture Center, a Technology Business Incubator. More information can be found at www.antfarmrobotics.com, which has hobby kits for sale for 10+ kids.



About Venture Center

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/>

About the Sponsors



About DSM

DSM is a global science-based company active in health, nutrition and materials. By connecting its unique competences in Life Sciences and Materials Sciences DSM is driving economic prosperity, environmental progress and social advances to create sustainable value for all stakeholders. DSM delivers innovative solutions that nourish, protect and improve performance in global markets such as food and dietary supplements, personal care, feed, pharmaceuticals, medical devices, automotive, paints, electrical and electronics, life protection, alternative energy and bio-based materials.

For more information, visit: www.dsm.com