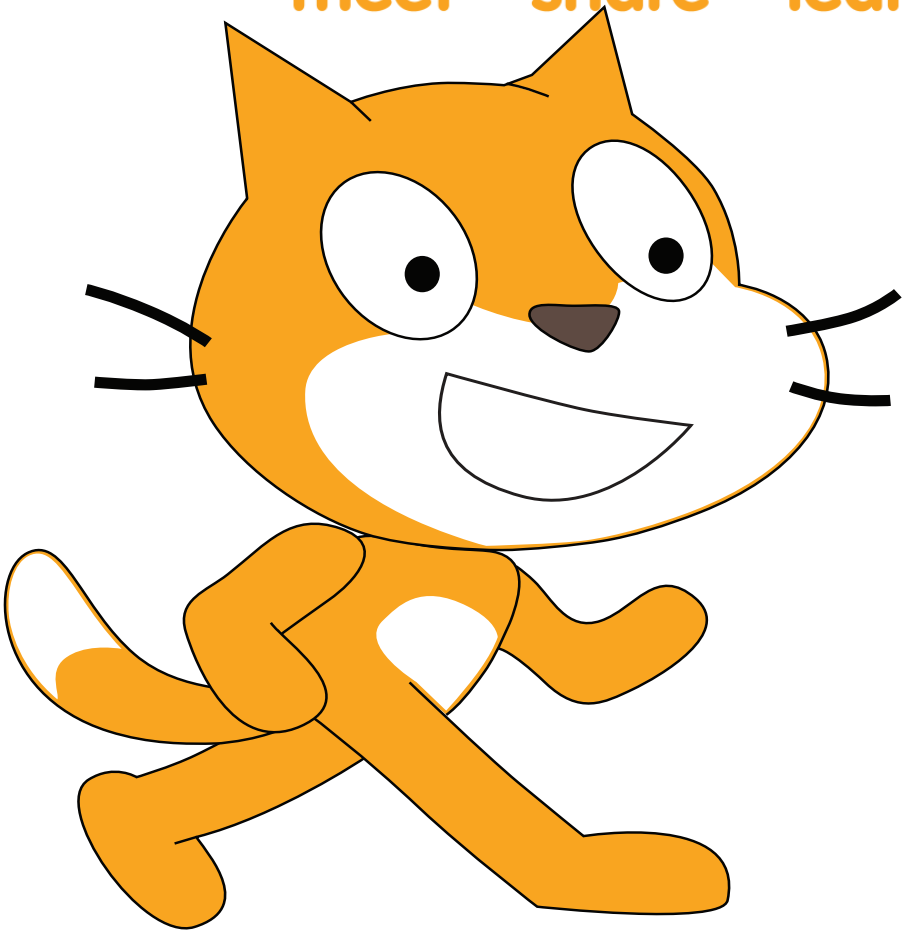
DECEMBER 6, 2014

TEACHERS COLLEGE, COLUMBIA UNIVERISTY

SCRATCH DAY

meet • share • learn



THE MACY ART GALLERY | PROGRAM IN ART AND ART EDUCATION

THE LOGO FOUNDATION | CODE-TO-LEARN FOUNDATION

Welcome to Scratch Day!

SPONSORED BY THE LOGO FOUNDATION

SUPPORTED BY CODE-TO-LEARN FOUNDATION

HOSTED BY THE PROGRAM IN ART & ART EDUCATION, TEACHERS COLLEGE, COLUMBIA UNIVERSITY

Schedule

8:30 to 9:00 am	Sign In
9:00 to 9:15 am	Opening
9:15 to 9:45 am	Keynote
10:00 am to Noon	Morning Workshops
Noon to 1:00 pm	Lunch: Grace Dodge Cafeteria
1:00 to 3:00 pm	Afternoon Workshops
3:15 to 4:00 pm	Closing & Raffle

The Logo Foundation is a nonprofit educational organization devoted to informing people about Logo and supporting them in their use of Logo-based software and learning environments. http://www.logofoundation.org/

Code-to-Learn is a new foundation that supports creative coding for everyone. http://codetolearn.org/

The Program in Art and Art Education at Teachers College embraces a wide range of traditions, from fine art to popular objects of visual culture. A concern for the role of the arts in nurturing human growth and development across the life span is central to our work and research. http://www.tc.columbia.edu/arted/

Opening 9:00 – 9:15 am

Welcome!

Millbank Chapel, Zankel Hall, 1st Floor

JUDITH BURTON, Program Director, Art & Art Education, Teachers College
SEAN JUSTICE, Co-Organizer, Teachers College
MICHAEL TEMPEL, Co-Organizer, The Logo Foundation

WIFI NETWORK: TCWiFi (NO PASSWORD REQUIRED)

INSTAGRAM: #SCRATCHTC

SCRATCH STUDIO: http://scratch.mit.edu/studios/712762

Keynote Address 9:15 – 9:45 am

Family Creative Learning

Millbank Chapel, Zankel Hall, 1st Floor

RICAROSE ROQUE

MIT Media Lab and Family Creative Learning

Families have game nights and movie nights, so why not Scratch nights? Scratch is not just for young people, but also for big kids and adults. During Family Creative Learning workshops families use Scratch to make crafts and share stories. Together, families help each other invent and express themselves by creating interactive cards, building musical instruments, and designing exciting games. In this presentation I will share what I've learned in designing workshops for whole families to create and invent together using Scratch and MaKey MaKey. An important takeaway is that kids and parents can both take on important roles, such as giving feedback, sharing ideas, and co-creating projects together. And at the same time, they help each other grow as creators and inventors.

Ricarose is a PhD student with the Lifelong Kindergarten group at the MIT Media Lab. She is interested in the design of technologies and experiences to enable people, especially youth, to design and build their own creations that contribute to their lives and enrich their communities. Her current project, Family Creative Learning, involves collaborating with community centers and outreach programs to design creative learning experiences for families in communities that have limited access to resources and social support around computing. She also studies creative collaboration in online learning communities for kids, in particular the Scratch online community.

Follow @ricarose or contact her at ria@mit.edu.

AI in Scratch Games

345b Macy Hall (3rd FL)

GREGORY WICKHAM

This workshop will demonstrate how to program games that are usually for two players, now with the computer as one of the players. The demonstrations will include various methods to make Artificial Intelligence using Scratch. Participants will make their own games or remix others'. Led by a self-taught 11 year old programmer.

Audience: people of all ages. Some prior Scratch experience is needed.

Beginners' Basecamp

406 Zankel Hall (4th FL)

HOPE CHAFIIAN AND DENISE DALEY

Spence School

CLAIRE WEAVER

Teachers College

New to Scratch? Come learn how to get started using Scratch at this introductory workshop. Get your account set up, explore the Scratch website, and build your first project!

Audience: people of all ages who want to get started with Scratch.

Coding is a Cinch with Finch

Zankel Hall, East Hallway (4th FL, outside 406 Zankel)

DAN TAYLOR & STUDENTS

Mount Hebron Middle School

URSULA WOLZ & STUDENTS

RiverSound Solutions

At Mount Hebron Middle School, Montclair, New Jersey, 600 students and their teachers participated in the 2014 "hour of code" with Finch/Snap! Using agile design, teachers and students created activities relevant to our school. This session provides hands on experience with Finch Robots (from Birdbrain Technologies) using the materials developed by our teachers, students and community computing collaborators.

Audience: people of all ages. no prior Scratch experience is needed. Please go to http://www.finchrobot.com/software/snap to download the Bird Brain Server, which will allow you to use the Finch Robot with Snap!

Morning Workshops 10:00 - noon

Creative Scratch in the Physical World

447 Macy Hall (4th FL)

SHARON THOMPSON

Dream Workshop

Creative talking books, musical instruments, game controllers, museum exhibit narrator and sound sculptures are just a few of the creative ways we will show you how to use Makey Makey with Scratch. Come make the world your sound stage and give your students the power to connect hardware and software by programming their inventions with Scratch and Makey Makey.

Audience: people of all ages. No prior Scratch experience is needed.

Make a Flappy Bird Game

345c Macy Hall (3rd FL)

DYLAN RYDER AND STUDENTS

The School @ Columbia

Learn how to make your own custom version of FlappyBird! Students from The School at Columbia University will demonstrate an easy introduction to coding this compelling 1-button game that even a beginner can make. After setting up basic gameplay mechanics, we'll explore full features like score, medals and resets.

Audience: people of all ages; no prior Scratch experience is needed.

Make!Sense

A versatile and simple sensor interface board and sets of great sensors

446 Macy Hall (4th FL)

STEPHEN LEWIS

Architectronics, Inc.

Make!Sense makes it fun and easy to invent physical interfaces for Scratch programs, and also to use sensors with Scratch in science experiments in order to visualize and display data. Make!Sense is plug and play, and easy to configure with keystrokes that are sent back to Scratch. It's a snap to get up and running quickly, but Make!Sense is extremely powerful. The kit comes with different sets of really interesting and fun sensors.

Audience: all ages. Some prior Scratch experience is needed.

Morning Workshops 10:00 - noon

Music with Light and Shadow

445 Macy Hall (4th FL)

JAYMES DEC

Marymount School

Learn about music scales as we use Scratch to make sounds using light and shadow. We will connect the PICO Sensor board and external light sensors to Scratch. Then we write Scratch scripts that read light levels and turn them into sounds. We will experiment with several musical scales that evoke different emotions.

Audience: 8 years old and up who like music. Some prior Scratch experience is needed.

Robots Mimic the Nervous System

Macy Gallery, Macy Hall (4th FL)

ERIK NAUMAN, CHRIS WEAVER AND STUDENTS

The Hewitt School

Sixth grade students from the Hewitt School will present their Nervous System robots, made with Lego NXT Mindstorms robotics kits and programmed in Enchanting. Students will show what can be learned about the human nervous system by making robots that use sensors to react to stimuli. Participants will explore making and programming their own stimulus/response systems with robots.

Audience: 10 years old and up, no prior Scratch experience is needed. Please download and install Enchanting from http://enchanting.robotclub.ab.ca/.

Scratch for Arduino, LEDs and Music

51c Thorndike Hall (basement)

STEVE FARNSWORTH

Dwight School

We will use Scratch to program the Arduino microcontroller to do such things as light up LEDs in different patterns and make a theremin-like instrument that uses Scratch4Arduino sounds. Explore the world of building circuits with electronic components, wires, the Arduino and a breadboard.

Audience: 12 years old and up. No prior Scratch experience is needed. Please go to http://s4a.cat/ to download and install Scratch for Arduino.

Morning Workshops 10:00 - noon

ScratchJr for Fun

418 Zankel Hall (4th FL)

JENNIFER LAU

Greenwich Public Schools

JULIANNE B. ROSS-KLEINMANN

Foote School

Introduce your child to the creative possibilities of ScratchJr. Parent and child will create together using any of the short, easy mini-projects. You and your child can animate an adventure in the city, underwater, or the African savannah. Imagine your story and tell it through ScratchJr.

Audience: children up to 8 years old and their parents. No prior Scratch or ScratchJr experience is needed. Please bring an iPad with ScratchJr already installed. Go to http://www.scratchjr.org/ to find out more about ScratchJr and for a link to the Apple App Store for a download.

Contribute Pictures and Projects

Instagram: #ScratchTC

Scratch Studio: http://scratch.mit.edu/studios/712762

Please upload pictures and Scratch projects through the day. At the closing we will share our work with each other.

Lunch Noon – 1:00 pm

Lunch is available for all Scratch Day participants in the Teachers College cafeteria, ground floor of Grace Dodge Hall.

Beginners' Basecamp & Beyond

406 Zankel Hall (4th FL)

HOPE CHAFIIAN AND DENISE DALEY
Spence School

CLAIRE WEAVER
Teachers College

New to Scratch? Come learn how to get started using Scratch at this introductory workshop. Get your account set up, explore the Scratch website, and build your first project!

If you attended Beginners' Basecamp in the morning, this is an opportunity to continue working on the project you started, or try something new.

Audience: all ages who want to get started with Scratch, or have a little experience and want more.

Make!Sense

A versatile and simple sensor interface board and sets of great sensors

446 Macy Hall (4th FL)

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Audience: all ages. Some prior Scratch experience is needed.

MaKey MaKey

55 Macy Hall (basement)

TRACY RUDZITIS AND STUDENTS
The Computer School

The Computer School students have been exploring projects with the Makey Makey. Create musical instruments out of cardboard, Play-Doh and fruit, and life

Afternoon Workshops 1:00 – 3:00 pm

size game consoles. Extend your Scratch projects into the physical world.

Example projects include using the Makey Makey with the Raspberry Pi, an interactive sound sculpture, and making your own handheld game consoles.

Audience: all ages. Some prior Scratch experience is needed. Bring your own Makey Makey if you can. We have six Makey Makey's to play with.

Music with Light and Shadow

445 Macy Hall (4th FL)

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Marymount School

Learn about music scales as we use Scratch to make sounds using light and shadow. We will connect the PICO Sensor board and external light sensors to Scratch. Then we write Scratch scripts that read light levels and turn them into sounds. We will experiment with several musical scales that evoke different emotions.

Audience: 8 years old and up who like music. Some prior Scratch experience needed.

Please Touch: Musical Sculptures with Scratch and Makey Makey

447 Macy Hall (4th FL)

RICAROSE ROQUE
MIT Media Lab and Family Creative Learning

LISA O'BRIEN
Code-to-Learn Foundation

This hands-on session will explore sculpture and sound through digital and physical making using Scratch and Makey Makey. Participants will work in small groups to create interactive Scratch and Makey Makey projects using a variety of craft materials and recycled objects. With Makey Makey, you can create your own computer interfaces to Scratch using conductive materials like aluminum foil and Play-Doh. We will end the session sharing our projects.

Audience: all ages. Some prior experience with Scratch is helpful but not necessary.

Afternoon Workshops 1:00 – 3:00 pm

Scratch > Processing > Java > Android through Game Design

345c Macy Hall (3rd FL)

URSULA WOLZ

RiverSound Solutions

Many expert Scratch coders dream about converting their game to a killer Android app. Using a “reading to write” methodology and a framework for a side scroller game, participants write a full Java program in an afternoon and see how this can lead to an Android App.

Audience: experienced Scratchers.

Scratch for Arduino, LEDs and Music

51c Thorndike Hall (basement)

STEVE FARNSWORTH

Dwight School

We will use Scratch to program the Arduino microcontroller to do such things as light up LEDs in different patterns and make a theremin-like instrument that uses Scratch4Arduino sounds. Explore the world of building circuits with electronic components, wires, the Arduino and a breadboard.

Audience: people 12 years old and up. No prior Scratch experience is needed. Please go to http://s4a.cat/ to download and install Scratch for Arduino.

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Audience: children up to 8 years old and their parents. No prior Scratch or

ScratchJr experience is needed. Please bring an iPad with ScratchJr already installed. Go to http://www.scratchjr.org/ to find out more about ScratchJr and for a link to the Apple App Store for a download.

Snap! is a Snap if You Know Scratch

345b Macy Hall (3rd FL)

KAREN BLUMBERG

The School @ Columbia

Snap! is an enhanced version of Scratch that allows you to do everything you can do in Scratch while allowing for more advanced programming. If you already know Scratch, it will be easy to navigate the online Snap! environment. If you’ve never used Scratch, no worries! Come and do a few introductory projects!

Audience: people of all ages; no prior Scratch experience is needed.

Closing 3:15 – 4:00 pm

Slide Show, Sharing & Raffle

Five Makey Makey kits and five Make!Sense kits will be raffled off. Everyone who is registered for Scratch Day is automatically entered in the raffle. You must be present to win.

Contribute Pictures and Projects

Instagram: #ScratchTC

Scratch Studio: http://scratch.mit.edu/studios/712762

Don’t forget to upload pictures and Scratch projects!

At a Glance

Morning Workshops	***10:00 am to Noon***
AI in Scratch Games	345b Macy (3rd FL)
Beginners' Basecamp	406 Zankel Hall (4th FL)
Coding is a Cinch with Finch	Zankel Hallway (4th FL outside 406 Zankel)
Creative Scratch and the Physical World	447 Macy (4th FL)
Flappy Bird Game	345c Macy (3rd FL)
Make!Sense	446 Macy (4th FL)
Music with Light and Shadow	445 Macy (4th FL)
Robots that Mimic the Nervous System	Macy Gallery (4th FL)
Scratch for Arduino, LEDs and Music	51c Thorndike (basement)
ScratchJr for Fun	418 Zankel Hall (4th FL)

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Snap! is a snap if you know Scratch	345b Macy (3rd FL)

WiFi
Open Network > no password > TCWiFi

Instagram
Take pictures all day! Tag: #ScratchTC

Scratch Studio
Share your Scratch Day projects: http://scratch.mit.edu/studios/712762

Code-to-Learn FOUNDATION

LOGO FOUNDATION

TEACHERS COLLEGE
COLUMBIA UNIVERSITY
Program in Art & Art Education