

REPORT- Online ATL Workshop

Program Title: ATL UNBOX Tinkering digital summer camp under "Tinker from home"
Organized by: AIM- Niti Aayog, in association with SRF Foundation and IBM

Day/Date: Thursday 25th June- Saturday 25th July and 29th July 2020.

Medium: Webinars held on Cisco Webex

Time/ Duration: 3:00 pm - 5:00pm (two hours)

Participants: Ms Kavita Tewari (Biology Department/ ATL In-charge)

Ms. Sonu Khandelwal (TGT- Physics Department /ATL teacher)

Ms. Rachna Bhatia (TGT- Biology Department/ ATL Teacher)

Ms. Anjali Balana (TGT- Computer Department / ATL Teacher)

ATL Incharges and teachers from various schools.

Resource Person: Mr Avinash Rathi (key resource Person), Mr Nikhil and various other guest speakers arranged for sessions by SRF Foundation.

Atal Innovation Mission, NITI Aayog in collaboration with IBM and SRF Foundation organized a month long - 30 days intensive Online Workshop under “ATL Tinker from Home” for all the ATL in-charges spread across all states of the country.

The aim of the programme was to develop future skills through intensive online Training on “ATL Tinker from home” where teachers could get real time access to tech experts. The ATL In-charge teachers were trained on latest technologies like TinkerCAD, 3D printing, IoT, Arduino, Raspberry pi, SCRATCH programming, animation and 21st-century skills like critical thinking, design thinking.

The resource persons Mr. Avinash Rathi and Mr. Nikhil explained the concepts in a very simplified manner and handled all queries with patience.

In addition, to enrich the program, weekly quizzes and assignments were given (every Friday) to track the progress. The requirement of submission of a prototype of project encouraged the participants to think, analyse and give solutions to a problem.

Furthermore, to make it even more intriguing for the participant’s, weekly Expert Guest sessions were also be organized to give an exposure to the latest technologies being used in the world.

The Guest speaker sessions included:

- 1 Augmented reality and virtual reality
- 2 Importance of space education and research in 21st century
- 3 Robotics through remote learning
- 4 Biomedical Engineering and 3D printing
- 5 Concept of satellites

In one session, officials from Atal Innovation Mission, Niti Aayog, shared their views about the role of technology and innovation in 21st century. They appreciated the efforts of SRF

Foundation and IBM and all the participants. They also encouraged participants to motivate their students to innovate. Participants also shared their experiences in this session.

The remaining content and doubt clearing session was conducted on 29th July 2020, followed by a survey and a quiz on 30th July to know the outcome of the workshop. The attendance was mandatory on each day as a criterion for certificate of participation in the training program. Overall, the entire training program was very well planned and executed. It was highly engaging and enriching, providing a unique learning opportunity to all teachers.

Submitted by:

- Ms. Kavita Tewari
- Ms. Sonu Khandelwal
- Ms. Rachna Bhatia
- Ms. Anjali Balana

The collage consists of six promotional slides for guest sessions, a screenshot of a Teams meeting, and two images related to Arduino.

- Slide 1 (Top Left):** Guest Session on: **Augmented Reality and Virtual Reality**. 1st July 2020, 3:00pm – 4:30pm. Speaker: Mr. K.R. Vijayarajen, Founder and CEO, Multifarious Academy of Excellence. Bio: Mr. Vijayarajen is skilled at creating Virtual / Augment reality applications for Manufacturing, Healthcare and Education sectors. He comes with a rich experience in Drones, 3D Printing, Web Development, User Experience and Web Accessibility, Setting up of Virtual reality Lab in Schools and colleges. He is also a Mentor of Change for Atrial Tinkering Labs.
- Slide 2 (Top Right):** Guest Session on: **Importance of Space Education & Research in 21st Century**. 8th July 2020, 11:00am – 12:30pm. Speaker: Mr. Govind Yadav, Aerospace Engineer, Space Development Nexus (SDN). Bio: Mr. Govind today is an expert in rocket propulsion systems. Contributed 13 research papers in various Aerospace Technology domains. Responsible for the establishment of India's first Open Centre for Space Research and Technology in Uttarakhand and Maharashtra.
- Slide 3 (Middle Left):** Guest Session on: **Robotics through Remote Learning**. 15th July 2020, 3:00pm – 4:30pm. Speaker: Dr. S.R. Pandian, Adjunct Faculty – Mechatronics, Thiagarajar College of Engineering, Madurai. Bio: Dr. S R Pandian is presently Adjunct Faculty in Mechatronics at Thiagarajar College of Engineering, Madurai. During 2015-19, he was Dean (Planning) and Coordinator of Teaching Learning Centre at Indian Institute of Information Technology, Design and Manufacturing (IIITDM), Kancheepuram in Chennai. His areas of specialization are Robotics, Mechatronics, Control Systems, and their applications to Education, Energy and Environment. He has 20 years teaching and research experience at leading universities in India and the USA. He is active in school outreach and community service, especially STEAM education of children using robotics.
- Slide 4 (Middle Right):** Guest Session on: **Biomedical Engineering, Joint replacement, Cadaver Lab Overview, Structures of bones, Project Management, 3D Printing**. 21st July 2020, 3:00pm – 4:30pm. Speaker: Mr. Sankalp Shukla, Project Manager, Stryker Company. Bio: Mr. Sankalp Shukla is a Project Manager at Global Growth Ambassador works in Stryker Company. He has 10 yrs of experience in Automotive, Agri machinery, Polymer & Healthcare Engineering.
- Slide 5 (Bottom Left):** Guest Session on: **Concept of Satellites**. 22nd July 2020, 3:00pm – 4:30pm. Speaker: Dr. Madhusudan, Retired ISRO Scientist, Bangalore. Bio: Dr. Madhusudan is a retired DGM (Deputy General Manager) of Satellite Integration and Test Laboratory at Bangalore. He served the satellite Centre of ISRO for forty years. During his tenure he worked for all Satellites from Bhaskara-1 to MOM (Mars Orbiter Mission).
- Slide 6 (Bottom Right):** A screenshot of a Microsoft Teams meeting interface showing a presentation slide.
- Image 1 (Bottom Left):** A photograph of an Arduino Uno board connected to a breadboard with various electronic components.
- Image 2 (Bottom Right):** A screenshot of a presentation slide titled "Anatomy of Arduino" showing a diagram of an Arduino Uno board with labels for various components like USB connection, 5V, GND, DC voltage input (VIN), DC voltage output (VOUT), 5V, GND, Reset button, Power jack, 14 digital inputs/outputs (5V, GND), LED, and Voltage regulator.