

Due to file size constraint of the files to be uploaded in the website only sample reports are mentioned in the website. Complete activity reports are available in the link:

<https://tinyurl.com/3jns6nh6>

5.1.3 Capacity building and skills enhancement initiatives taken by the institution include the following

1. Soft skills, 2. Language and communication skills, 3. Life skills (Yoga, physical fitness, health and hygiene), 4. ICT/computing skills

| Name of the capability enhancement program | Date of implementation (DD-MM-YYYY) | Number of students enrolled |
|--|--|------------------------------------|
| Soft Skills - Professional Attire and Grooming | 28-02-2021 | 32 |
| Soft Skills - Azadi ka Amrut Mahotsav | 17-04-2021 | 12 |
| Soft Skills - Revealing the hidden talents of Vidyalankar | 03-10-2020 | 130 |
| Soft Skills - Online Dussehra Carnival | 25-10-2020 | 581 |
| Soft Skills - Vspeak Workshop | 23-04-2021 | 35 |
| Language and Communication Skills - CMPN | 06-07-2021 | 143 |
| Language and Communication Skills - EXTC | 06-07-2021 | 150 |
| Language and Communication Skills - INFT | 06-07-2021 | 143 |
| Language and Communication Skills - ETRX | 06-07-2021 | 148 |
| Language and Communication Skills - BIOM | 06-07-2021 | 70 |
| Language and Communication Skills - FE | 18-01-2021 | 113 |
| Life Skills -Vhorizon | 12-06-2021 | 113 |
| Life Skills - Engineering a Secure Future | 24-10-2020 | 232 |
| Life Skills - Industry Expectations from Engineering Students | 22-10-2021 | 651 |
| Life Skills - Journey from Student Council towards living your Passion | 12-10-2020 | 1600 |

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| A panel discussion cum interview session | | |
| Life Skills - FE Induction Events | 18-01-2021 | 113 |
| Life Skills - Tribute to Doctors | 01-07-2021 | 24 |
| Life Skills - Creative Writing | 30-03-2021 | 78 |
| Life Skills - The Expedition of Drug Development | 13-03-2021 | 109 |
| ICT/Computing Skills - Awareness on Basics of Coding | 11-07-2021 | 222 |
| ICT/Computing Skills - Chemistry Virtual Lab | 18-01-2021 | 110 |
| ICT/Computing Skills - Workshop on MS Teams and Ms notes | 27-11-2020 | 18 |
| ICT/Computing Skills - Modern Educational Tools and Pedagogical Practices for Online Teaching | 21-06-2020 | 705 |
| ICT/Computing Skills - Excel at "MSExcel" for effective organization of quantitative metrics data of NAAC | 2020-2021 | 222 |
| ICT/Computing Skills - Collaboration Tools of Office 365 and it's use in Online Education Setup | 28-05-2020 | 90 |
| ICT/Computing Skills - Design Thinking | 07-12-2020 | 200 |
| ICT/Computing Skills - Mini Workshop Series | 04-10-2020 | 1804 |
| ICT/Computing Skills - BMSA_Raspberry Pi Workshop | 21-09-2020 | 65 |
| ICT/Computing Skills - IMPACT OF 3D PRINTING IN BIOMEDICAL ENGINEERING | 15-09-2020 | 67 |
| ICT/Computing Skills - Battery Management System | 27-03-2021 | 112 |
| ICT/Computing Skills - MEDICAL IMAGING AND DIGITAL IMAGE PROCESSING | 15-03-2021 | 75 |
| ICT/Computing Skills - Retinal Image Analysis | 05-03-2021 | 112 |

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|---|------------|-----|
| ICT/Computing Skills - 3D Modelling and Printing | 17-10-2020 | 111 |
| ICT/Computing Skills - PRINCIPLES AND INSTRUMENTATION OF RADIO-DIAGNOSTIC AND RADIOTHERAPY TECHNIQUES | 01-02-2020 | 20 |
| ICT/Computing Skills - Technological Advancements and Challenges of Radiation Based Techniques in Diagnosis and Therapy of Cancer | 20-03-2021 | 200 |
| ICT/Computing Skills -Indian Healthcare System : Technology and Data Privacy Issues | 05-10-2020 | 45 |

**Report of Short Series Seminar on Personality Enrichment
Session 4: Professional Attire and Grooming**

| Name of the Speaker | Ms. Jaishri Kimmatkar | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------|---|------------|-------|------------|---|---|----|---|---|----|---|---|-------|---|---|----|---|---|-------|--------|-------|------------|---|---|----|---|---|----|---|---|-------|---|---|-------|---|---|----|--------|-------|------------|---|---|----|---|---|----|---|---|-------|---|---|-------|---|---|-------|
| About Speaker | Director, Chief Image consultant and soft skills trainer at Image personified | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Topic | “Professional Attire and Grooming” | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Class | CMPN A, ETRX A, INFT A and INFT B, First Year Engineering | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Course | Personality Enrichment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Activity | Friday, Date: 28 February 2021 Time: 1.00 pm to 3.00 pm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Venue | M-413 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of Participants | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Average Feedback | <p>Avg Feedback (Effectiveness of Speaker): 2.33</p> <p>The value addition of the guest seminar to me is 3 responses</p> <table border="1"> <thead> <tr> <th>Rating</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0%</td> </tr> <tr> <td>1</td> <td>0</td> <td>0%</td> </tr> <tr> <td>2</td> <td>2</td> <td>66.7%</td> </tr> <tr> <td>3</td> <td>0</td> <td>0%</td> </tr> <tr> <td>4</td> <td>1</td> <td>33.3%</td> </tr> </tbody> </table> <p>Effectiveness of Speaker 3 responses</p> <table border="1"> <thead> <tr> <th>Rating</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0%</td> </tr> <tr> <td>1</td> <td>0</td> <td>0%</td> </tr> <tr> <td>2</td> <td>2</td> <td>66.7%</td> </tr> <tr> <td>3</td> <td>1</td> <td>33.3%</td> </tr> <tr> <td>4</td> <td>0</td> <td>0%</td> </tr> </tbody> </table> <p>Event organization 3 responses</p> <table border="1"> <thead> <tr> <th>Rating</th> <th>Count</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0%</td> </tr> <tr> <td>1</td> <td>0</td> <td>0%</td> </tr> <tr> <td>2</td> <td>1</td> <td>33.3%</td> </tr> <tr> <td>3</td> <td>1</td> <td>33.3%</td> </tr> <tr> <td>4</td> <td>1</td> <td>33.3%</td> </tr> </tbody> </table> | Rating | Count | Percentage | 0 | 0 | 0% | 1 | 0 | 0% | 2 | 2 | 66.7% | 3 | 0 | 0% | 4 | 1 | 33.3% | Rating | Count | Percentage | 0 | 0 | 0% | 1 | 0 | 0% | 2 | 2 | 66.7% | 3 | 1 | 33.3% | 4 | 0 | 0% | Rating | Count | Percentage | 0 | 0 | 0% | 1 | 0 | 0% | 2 | 1 | 33.3% | 3 | 1 | 33.3% | 4 | 1 | 33.3% |
| Rating | Count | Percentage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 0 | 0% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 0 | 0% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 2 | 66.7% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 0 | 0% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 1 | 33.3% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rating | Count | Percentage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 0 | 0% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 0 | 0% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 2 | 66.7% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 1 | 33.3% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 0 | 0% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rating | Count | Percentage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 0 | 0% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 1 | 33.3% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 1 | 33.3% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 1 | 33.3% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|----------------------------|--|
| Objective | <ul style="list-style-type: none"> To inculcate healthy habits in our students To understand level of professional attire and personal grooming |
| Faculty coordinators | Prof. Uday Kashid Prof. Ishan Upadhyay |
| Roles and responsibilities | Prof. Uday Kashid and Prof. Ishan Upadhyay: Inviting guest, Proposal, Event Management, Feedback Printouts, Report, Publicity and Event Management |
| Major Points Shared: | <ul style="list-style-type: none"> Understanding of difference between professional and casual wear. Need of professional attire Levels of professional attire Importance of personal grooming |

Photos of session conducted for First Year students on 28 February 2020



V- Katta (नाण्याची दुसरी बाजू)

Revealing the hidden talents of Vidyalankar
Faculty and Staff, 3rd October 2020

Our faculty and staff members are skilled in their respective field but apart from this professional aspect, some are also master in various activities like singing, drawing, acting, writing etc. These skills can be put forth before all faculty, staff members and students. V-Katta is an interactive session organized to recognize hidden talent of faculty and staff. They can motivate others to nurture their hobbies. The event was in the form of online gathering of all speakers who were interviewed by some faculty and their other talents was showcased in front of the viewers.

About Program

Faculty and Staff members were identified who passionate in their respective hobby. An interactive session was scheduled to have revealing discussion about their passion. Speakers were asked with questions like, how they nurtured hobby? How the journey started? And respective achievements if any. At the end of the program, speakers showcased their respective skill and program was concluded with vote of thanks.

Honorable Invitees

1. Dr Amit Oak, COO, VIT (Acting)
2. Dr Anjali Deshpande, Ex-HOD, ETRX (Singing)
3. Prof Madhavi Amondkar, VSIT (Mimicry)
4. Mr Bhupesh Hate, FE, VIT (Painting)
5. Mr Satish Gode, Security Officer (Ex-IAF)

Takeaways

Dr Amit Oak focused on his journey of acting with eminent personalities like Dr Kashinath Ghanekar, Laxmikant Berde etc. He mentioned that there is no option for hard work in any field. Dr Anjali Deshpande mentioned her journey of singing. She specially elaborated idea of connecting music with soul. Prof Madhavi Amondkar expressed her thoughts about mimicry. Prof Madhavi said that observation is the key factor of mimicry. Mr Bhupesh Hate, who is very good in painting. He revealed about journey of colors from artist's mind to paper. Mr Satish Gode who is Ex Air Force Employee shared his thrilling experience of Kargil war. He explained about daily schedule of arm force. The session motivated many of faculty, staff, and students to go into flashback and to look for missed out hobbies.

| | |
|---|--|
| Organizing Department | First Year Engineering, VIT |
| Event date with duration | Date: 25 October 2020 Time: 05:30 pm to 06:15 pm |
| Platform | VIT YouTube Channel |
| Target participants | Faculty and students |
| Event Coordinators | Prof Vishwas Patil, Prof Mitalee Gangal |
| Event Title | Online Dussehra Carnival |
| Objective and Outcome of the Event | <p>'Dussehra' is one of the major Hindu festivals that is celebrated across India on the tenth day of Navratri every year. The main objective of this event was to showcase various traditions, cuisines, and costumes from the North, East, West, South, Central India, and North-east India during Navratri on Vijayadashami.</p> <p>This event created a positive vibe by narrating different stories, enactments, dance, and celebrations by VIT students and faculty. It showcased our tradition through vibrant Navratri colours and the regional delicacies to portray a sense of rich cultural heritage, belongingness and togetherness when everyone is apart from one another.</p> |
| Takeaways | <p>This event was a pre-recorded video that was featured on VIT's YouTube channel. It has got 581 views so far. The prominent takeaways of this event were as follows –</p> <ol style="list-style-type: none"> 1. It inculcated positivity, strength, wisdom, and devotion by seeking the blessings of Goddess Durga, an embodiment of power 2. Stunning performances by our VIT students illuminated this event with lots of happiness 3. It showcased various traditions from all over India |

Some glimpses of this event –



Language Lab

| Name of the capability enhancement program | Date of implementation (DD-MM-YYYY) | Number of students enrolled |
|---|--|------------------------------------|
| Language and Communication Skills - CMPN | 06-07-2021 | 143 |
| Language and Communication Skills - EXTC | 06-07-2021 | 150 |
| Language and Communication Skills - INFT | 06-07-2021 | 143 |
| Language and Communication Skills - ETRX | 06-07-2021 | 148 |
| Language and Communication Skills - BIOM | 06-07-2021 | 70 |
| Language and Communication Skills - FE | 18-01-2021 | 113 |

PCE – 1 Videos Shown Report

- <https://youtu.be/TJNYI6vOEpy> - Speech example (National Public Speech Competition)

This video is an example of a powerful and amazing speech given by a student that won the 2nd Place at the 2018 National Public Speaking Competition, organized by the Public Speaking Academy, Tvisha Bandhu, Tanjong Katong Girls' School. It helped students to understand the body language, tone, pitch, content of a speech.

- <https://youtu.be/nlQhHEWpdWs> - Effective communication

In the world of business, communication is everything—from making sure that everyone is on the same page, to motivating colleagues towards better productivity. This video explains some reasons why effective communication is so important for management. It helps to know the specifics on how communication becomes a driving force in all walks of life.

- <https://www.youtube.com/watch?v=dBT6u0FyKnc> – Communication Problems (funny video)

This funny video explains how communication problems leads to misunderstanding of other people while talking

- <https://www.youtube.com/watch?v=zacF1pZR1Fg&list=PLeroZ-zM8lWti1HM0P5ktfTX97jPoFtB9&index=4> – Importance of Teamwork

Though this is merely an advertisement, but watching it makes you understand the Importance of TEAM WORK Where there is a will, there is a Way. This was shown during interpersonal skills explanatory session

- <https://www.youtube.com/watch?v=4Kudo7alpFA> – Being assertive

This video helped the students to understand the difference between expressing their thoughts and ideas in a self-confident manner (being assertive) and forcing ideas on others and intimidating them (being aggressive)

- <https://www.youtube.com/watch?v=-o6wdrT0R2A> – Formal or Informal

It helped to understand the difference between formal and informal methods of communication

- <https://www.youtube.com/watch?v=8Ox5LhIJSBE> – a failure to communicate

In this video, two girls meet in a station. One wears a veil. The other is deaf. Problems arise. It states the problems that arise out of communication failure

- <https://youtu.be/sPIWvRtrvXw> - Verbal Cues in communication

This video focusses on the verbal cues used in communication such as: Voice projection Tonal and Voice Variation Stress Intonation Pregnant pause

- <https://www.youtube.com/watch?v=NkyrvdUQREk> – barriers to interpersonal communication

This explains the barriers that cause harm to interpersonal communication.

- <https://www.youtube.com/watch?v=D3a3fgUkw6c> – Language barrier

It helps to know the barriers that may arise due to language, tone, accent differences in an organization between two or more persons

- <https://www.youtube.com/watch?v=YJvXsiDvdSo> – ways to overcome barriers

In this video, you will find out about the top 5 effective ways to overcome barriers in communication such as: No.5 Use language that fits the audience No.4 Get feedback from the receiver No.3 Use the right communication channel No.2 Be a Good Listener No 1. Be respectful

- https://www.youtube.com/watch?v=X3KQJRoW_P0 – Kinesics communication

Kinesics communication is the technical term for body language, i.e., communicating by body movement.

- https://www.youtube.com/watch?v=mCf_1_z_LrE – Proxemics

This video helps to understand what is proxemics communication. It shows how to communicate effectively by maintaining a proper physical distance

- <https://www.youtube.com/watch?v=9LhLjpsstPY> – Body Language

In this video, Mr. Bean has to take an exam but he doesn't know any of the answers! It helps to understand the significance of body language

- https://www.youtube.com/watch?v=biocrCx5T_k- – technical writing

This video explains how to communicate technically complex information to the audience.

- <https://www.youtube.com/watch?v=gMMaDoBacoU> - Business Letter Writing Format and Example

This video is a step-by-step guide for writing a business letter with descriptions and examples. Everything you need to know about writing a business letter is in this video!

- <https://www.youtube.com/watch?v=roJ7PBLdFts> – Professional email etiquette

It helps you to understand the professional email etiquettes

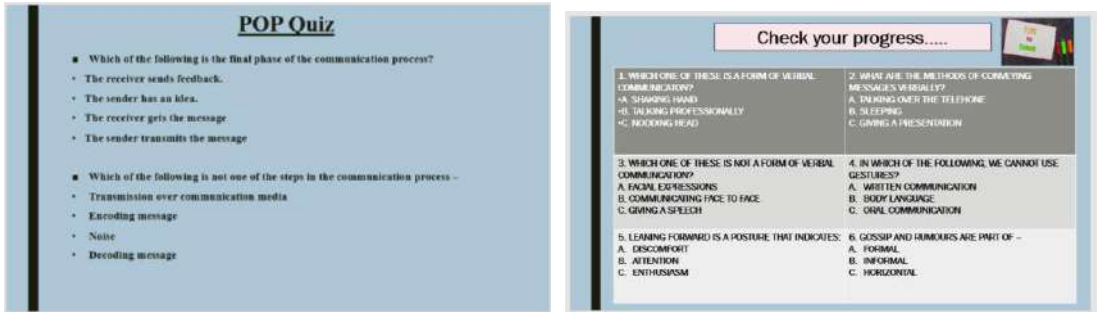
- https://www.youtube.com/watch?v=p_-gZH_0wwE – Enquiry letter

It helps to understand the basics of business letter writing

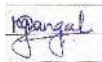
- <https://www.youtube.com/watch?v=jPj0Z2lb8jq> – Social etiquettes

This video helps to understand 20 Bad Social Etiquette/Manners You Should Quit Now. Social etiquette is not just about greeting people, a warm smile and a firm handshake. You may know all the soft skills from your personal development book, but it's not necessary you follow the right social etiquette.

Pop-Quiz Report

| | |
|----------------------------------|---|
| Activity Name | Pop-Quiz |
| Program | First Year Engineering |
| Course | Professional Communication and Ethics - 1 |
| Subject Teacher | Mitalee Gangal |
| Objective of the Activity | To speak and respond effectively along the various channels of communication |
| CO Mapping | CO2 |
| Conducted on | FE CMPN, FE EXTC, FE ETRX – 28.6.21 FE BIOM – 06.07.21 |
| Snaps |  |

Submitted by



Mitalee Gangal

Take Home Test Report

| | |
|----------------------------------|--|
| Activity Name | Take Home Test Report |
| Program | First Year Engineering |
| Course | Professional Communication and Ethics - 1 |
| Subject Teacher | Mitalee Gangal |
| Objective of the Activity | To successfully incorporate grammatical correctness in communicating with people |
| CO Mapping | CO1 |
| Conducted on | FE EXTC, FE ETRX – 14.7.21 FE CMPN, FE BIOM – 15.07.21 |
| Description | <ul style="list-style-type: none"> • Take Home Test was assigned to FE Students; which was evaluated under PCE – I. • MCQ based test was given to students on verbal aptitude on vocabulary and grammar for competitive exams • It enables the students to study independently. It helps to boost their confidence level • It helped students to take this activity at their own pace • The marks of individual students were evaluated under the TW of PCE - 1 |

Mitalee Gangal



FE, Humanities

Life Skill Development

| Name of the capability enhancement program | Date of implementation (DD-MM-YYYY) | Number of students enrolled |
|---|--|------------------------------------|
| Vhorizon | 12-06-2021 | 113 |
| Engineering a Secure Future | 24-10-2020 | 232 |
| Industry Expectations from Engineering Students | 22-10-2021 | 651 |
| Journey from Student Council towards living your Passion - A panel discussion cum interview session | 12-10-2020 | 1600 |
| FE Induction Events | 18-01-2021 | 113 |
| Tribute to Doctors | 01-07-2021 | 24 |
| Creative Writing | 30-03-2021 | 78 |
| The Expedition of Drug Development | 13-03-2021 | 109 |

First Year Engineering Department Report on Induction Programme – A.Y. 2020-21

The Department of First Year Engineering had organized a four weeks online 'Student Induction Program' from 18 January to 13 February 2021 on the VIT's YouTube channel with an objective to make the new students adjust and feel comfortable in the new environment, inculcate in them the ethos and culture of the institution, to help them build bonds with other students and faculty members, and expose them to a sense of larger purpose and self-exploration.

This program comprised of various sessions to acclimatize new entrants to their new roles and environment. It enabled our First Year students to learn about various institutional policies, processes, practices, culture and values.

Please find below the list of sessions conducted during this online 'Student Induction Program' with the recorded links –

| Sr No | Date | Title of the Induction Session | Recorded Session Link |
|-------|------------------|--|---|
| 1 | 30.1.21 | Webinar on Digital Profiling | https://www.youtube.com/watch?v=RSOYOL6-Mwo |
| 2 | 18.1.2021 | Orientation Programme | https://youtu.be/PSWdc1CZPhU |
| 3 | 1.2.21 to 6.2.21 | Core Department Expert Sessions, Session on Psycho-geometric, Gardening Workshop | https://tinyurl.com/j3ts7p8j |
| 4 | 2.2.21 | Seeds of Vidyalankar | https://www.youtube.com/watch?v=K5uThXNDvIk |
| 5 | 3.2.21 | Path Towards Excellence | https://www.youtube.com/watch?v=27ffihBct4Y |
| 6 | 3.2.21 | Rejuvenate Mind Through Yoga | https://www.youtube.com/watch?v=sj7GdtTjNk&t=496s |
| 7 | 3.2.21 | Stay Fit, Stay Healthy | https://www.youtube.com/watch?v=Ma9qE5x8QDQ |
| 8 | 4.2.21 | Pursue your Dreams | https://www.youtube.com/watch?v=quT9Z1YejGU |
| 9 | 5.2.21 | Path to be a Professional | https://www.youtube.com/watch?v=eR9CP_hE1FY |
| 10 | 6.2.21 | Rendezvous with VIT Alumni | https://youtu.be/dMu6kZ4iijl |
| 11 | 6.2.21 | Destination Fitness | https://www.youtube.com/watch?v=JI4L_wzqL8I |
| 12 | 9.2.21 | FE Induction - Grow With the Best | https://www.youtube.com/watch?v=NeyJvIEnQfi |
| 13 | 13.2.21 | Campus to Corporate | https://www.youtube.com/watch?v=eDluOOIILIU |
| 14 | 13.2.21 | FEs Got Talent | https://www.youtube.com/watch?v=4tqWPdYgX9g |
| 15 | 22.2.21 | Webinar on "Basics of MATLAB" | https://www.youtube.com/watch?v=zR3iK1aNOv8&feature=youtu.be |

First Year Engineering Department Report on Induction Programme – A.Y. 2020-21

Some snapshots of this program –



Orientation Programme for First Year Engineering students AY 2020-21



Orientation Programme for First Year Engineering students AY 2020-21



Campus to Corporate



First Year Engineering Induction Program 2020-21 'Industry Expectations from Engineering Students' Report

| | |
|---|---|
| Organizing Department | First Year Engineering, VIT |
| Event date with duration | Date: 22 March 2021 Duration – 5.30 pm – 7.00 pm |
| Platform | Cisco Webex Online Platform provided by TCS |
| Target participants | Students of First Year Engineering |
| Event Coordinators | Prof Micky Barua, Prof Mitalee Gangal |
| Event Title | Industry Expectations from Engineering Students |
| Objective and Outcome of the Event | <ul style="list-style-type: none"> • As a part of the four weeks First Year Induction program 2020-21, a webinar titled “Industry Expectations from Engineering Students” was organised online in collaboration with TATA Consultancy Services. The primary objective of this webinar was to prepare the students to meet the challenges of collegiate academics, to make them feel confident about their future, to get clarifications on the expectations related to future career prospects, and much more • This event helped the students to get a laser focus to reduce the gap between industry and academia |
| Takeaways | <p>This event was streamed on the Cisco Webex Online Platform provided by TCS. The prominent takeaways of this event are as follows –</p> <ol style="list-style-type: none"> 1. This session was liked by all the attendees as it was highly interactive and many useful insights from the industry perspectives were shared by the resource person, Mr. Sumeet Samat, Consultant, TCS 2. Our esteemed guest shared many aspects of knowledge skills and attitude that students need to develop in their engineering journey 3. Many practical suggestions were shared with a lot of positive emphasis like willingness to learn, being adaptable, thinking out of the box, importance of being updated about the latest innovations in their respective domains |

First Year Engineering Induction Program 2020-21 'Industry Expectations from Engineering Students' Report

Event Poster -



Department of First Year Engineering
presents Webinar on

"Industry Expectations From Engineering Students"

INDUSTRY EXPERT

Mr. Sumeet Samat
Consultant,
TATA Consultancy
Services



Monday, 22 March 2021
05:30 PM to 07:00 PM
Online Platform: Cisco Webex

Scan the QR code to join the webinar



Organizers

Meenakshi Nandula Micky Barua Mitalee Gangal

VIT

Vidyalankar
Institute of
Technology
Accredited A+ by NAAC

Department of Biomedical Engineering
Report (IMPULSE 2021)



Webinar Poster

VIT Vidyalankar Institute of Technology
Accredited A+ by NAAC

HEALTH MIND

PULSE

ASSOCIATION OF BIOMEDICAL STUDENTS

BIOMEDICAL ENGINEERING SOCIETY OF INDIA

Biomedical department in association with BMESI & BMSA
DRUG DEVELOPMENT & ACCURACY OF COVID VACCINES
by Mr. Sachin Khedkar

13th March 2021
4:00pm - 6:00pm

For more details contact:
Krutika-7030586824 Rutwik-7028370211 Akshata-99305370532

| | |
|------------------------------|--|
| Name of the Institute | Vidyalankar Institute of Technology |
| Name of the Committee | Biomedical Engineering Society of India (BMESI-VIT) and Biomedical Student's Association (BMSA). |
| Activity Title | Webinar on "The Expedition of Drug Development". |
| Date | 13 th March 2021 |
| Time | 4:00 PM to 6:00 PM |
| Platform | MS Teams |
| Description | <p>The webinar was addressed by Dr. Sachin Khedkar, Senior Scientist-Analytical Development (Senior Manager), Janssen. Pharmaceutical, Mumbai Region.</p> <p>A short introduction of the speaker was given by the host, Ms. Trupti Oroskar, President of BMSA. Sir then started off with the introduction of Drug Development and then gave the overview of all the topics which he was going to cover.</p> <ol style="list-style-type: none"> 1. Firstly, Dr. Sachin Khedkar explained about the drug development pathway and the phases it involves which were the Discovery phase, Pre-clinical research phase, Clinical phase and finally the approval is given. 2. Further, Dr. Sachin mentioned about the Drug Review Step in which Pre-clinical (animal) testing is done. After which an investigational New Drug Application (NDA) is carried out. Three phases of testing are performed- (Phase 1, Phase 2, and Phase 3) on people. The FDA (Food and Drug Administration) then reviews and approves the application. |

3. He also discussed about the Phases involved in Clinical Trials:
 - a) Phase 1- New drug is tested and treatment is done on a small group of people.
 - b) Phase 2- The drug is given to a larger group of people.
 - c) Phase 3- Testing the drug on a larger group of people but now to confirm its effectiveness and monitor side effects if any.
 - d) Phase 4- Studies are done after the drug has been marketed to gather information on the drug.
4. A detailed information was given on the Pre-formulation and Optimization Studies. The Pre-formulation study provides framework for drugs combination with pharmaceutical ingredients in the fabrication of dosage form. In Optimization studies, a synthetic route optimization is done for the Active Pharmaceutical Ingredient (API) followed by formulation process optimization and analytical methods.
5. Moving on, various types of dosage forms were also discussed by sir. It included four types: Solid, Semi-solid, Liquid and Gas.
6. The solid form consists of tablets, capsules, powder, and dusting powder. The semi-solid form includes creams, pastes, gels, and suppositories. The liquid form consists of a syrup or solution and emulsion or suspension. In the gaseous form, inhalers and aerosols are used.

| | |
|----------------------|---|
| | <p>Many more concepts were shared by him to the students throughout the webinar.</p> <p>Sir concluded by saying that Drug Development accounts for about two-thirds of the total R & D costs and will reach new heights in the future because of the modern technologies that will be introduced.</p> <p>Students' queries and questions were answered by sir at the end.</p> <p>The students found the webinar quite informative and got to know about something new.</p> <p>The event was concluded by Ms. Trupti Oroskar followed by Prof Neelam Punjabi, BMSA Convener, VIT.</p> <p>We witnessed participation of about 80 students including professors from VIT as well as other colleges which added to our glory.</p> |
| Attendance | Students of F.E, S.E, T.E, B.E, professors of VIT and also students from other colleges had attended the webinar. |
| Further scope | The future of Drug Development is in AI (Artificial Intelligence) and Machine learning as they have the potential to drastically reduce the amount of time required to develop a new drug. |
| Other | Photographs of the webinar are attached below. |

The Expedition of drug development

28:08

Request control

Leave

Drug Discovery/ Development Process

Discovery=find new active structure : Development=convert it to a useful drug

```

graph TD
    A([Discovery; refinement; chemical & biological characterization]) --> B([Safety & Toxicity in animals; Formulation Development])
    B --> C([Volunteer studies; Patient studies])
    C --> D([Regulatory process])
    D --> E([Marketing])
    E --> F([Post Registration monitoring])
    F --> G([Lessons & development])
    G --> A
  
```

Khedkar, Sachin [IAMIN]

+62 JH SS TO NP AK

Trupti Oroskar Gaurav Pawar Neelam Punjabi Aryan Komare

THE EXPEDITION OF DRUG DEVELOPMENT by Sachin Khedkar

Type here to search

16:16 13-03-2021

The Expedition of drug development

01:16:01

Request control

Leave

Submissions and Approvals

- Registration batches
- Registration Stability
- Data trending
- Review
- Submissions
- Approvals

Khedkar, Sachin [IAMIN]

Participants

Type a name

Share invite

Presenters (9)

- Aryan Komare
- Gaurav Pawar Organizer
- Geeta Narayanan
- Khedkar, Sachin [IAMIN] Editorial
- Neelam Punjabi
- Ruchita Aggaonkar
- Sanika Thakur
- Swara Surve
- Trupti Oroskar

Attendees (82)

- Ishika Shirade

ASWANYA CAVARANI & ... 5:04 PM 3/13/2021

The Expedition of drug development

29:44

Request control

Leave

Drug Review Step

- Preclinical (animal) testing
- An investigational New Drug Application
- Phase -1
- Phase- 2
- Phase- 3
- Submission of New Drug Application
- FDA review and approval

Khedkar, Sachin [ANIN]

+63 JH SS TO NP AK

Tripti Choudkar Gaurav Pawar Neelam Punjabi Anyan Komare

THE EXPEDITION OF DRUG DEVELOPMENT by Sachin Khedkar

Type here to search

16:18 13-03-2021

Workshop for Biomedical Engineers

on

**“PRINCIPLES AND INSTRUMENTATION OF RADIO-
DIAGNOSTIC AND RADIOTHERAPY TECHNIQUES”**

1 February 2020

Report

Preamble

Vidyalankar Institute of technology (VIT) always promotes interaction with industries and research laboratories to inculcate research culture among faculty and students. In this regard VIT had conducted two workshops

1. “Application of Radiation and Radioisotopes in Diagnosis and Therapy of Cancer” on Saturday, 15 October 2016.
2. “Current Challenges in Diagnosis and Radiotherapy of Cancer” on 6 October 2018.

Biomedical Engineering Department of VIT wanted to continue interaction with the Society. In the year 2020 under the mentorship of Dr. Badri .N. Pandey , Secretary of SRR it was decided to conduct a hands on workshop for Biomedical Engineers on **“PRINCIPLES AND INSTRUMENTATION OF RADIO-DIAGNOSTIC AND RADIOTHERAPY TECHNIQUES** “an area relevant to Biomedical Engineers. Dr. Badri suggested collaborating with Dr. Nagaraj Huilgol at **Advanced Center For Radiation Oncology, Balabhai Nanavati Hospital Swami Vivekanand Road, Vile Parle West, Mumbai**. A convenient date was proposed and agreed by VIT, Balabhai Nanavati Hospital and SRR as 1 February 2020.

About Society for Radiation Research

Society for Radiation Research is a Society of Scientists, Clinicians, Students, Academia and Industries having interest in field of Radiation Research. The society is started with the following objectives:

1. To promote research in the areas of:
 - Radiation biology with basic and applied aspects;
 - Clinical radiation biology and oncology;
 - Radiation hormesis and low dose radiation biology;
 - Environmental radiation biology, non-ionizing radiation effects;
 - Radiation medicine, radiation technologies;
 - Transnational research;

- Terrestrial and space radiation biology and any other relevant research areas.
- To facilitate integration and interaction of different radiation research areas.
 - To promote the diffusion of knowledge in these research areas through organizing meetings, conferences, workshops, awareness programs, scientific publications etc.
 - Promote discussion, interactions amongst scientist-public-industry and acting as liaison to communicate facts and research developments to public, government and regulatory bodies.
 - Integration of Society with other National and International Scientific Bodies.
 - Facilitate and promote research in areas of radiation research by various means. Encourage and promote young researchers and students to pursue research and build career in the areas of radiation research
 - Promote and facilitate education of radiation research in national Institutes and Universities.

About Biomedical Engineering Department, VIT

The Biomedical Engineering Department of VIT has a clear vision to become a **Center of Excellence** in the field of Biomedical engineering where learners are nurtured in a scholarly environment to evolve into competent professionals to benefit society. Department has been accredited by National Board of Accreditation and has signed MoU with GE Healthcare for creating a Centre of Excellence lab under the leadership of current Head of Department Dr. Jitendra Toravi. VIT is also accredited with A+ grade by NAAC.

About the Workshop

VIT had approached SRR to organise a hands on workshop on Principles and Instrumentation of Radio-Diagnostic for Biomedical Engineers, at any hospital associated with SRR. In response to our request Dr. Badri Pandey Secretary of SRR had contacted Nanavati Hospital and Dr. Nagraj to organise the same. Jointly a convenient date was fixed and a brochure was circulated among faculty and on SRR website. No of participants were limited to 20 as per Nanavati Hospital norms.

| | | | |
|---|--|---|---|
| <p>SOCIETY FOR RADIATION RESEARCH (SRR) In Association of Vidyalankar Institute of Technology Wadala, Mumbai</p> <p> organizes  Vidyalankar Institute of Technology Accredited A+ by NAAC</p> <p>WORKSHOP FOR BIOMEDICAL ENGINEERS ON PRINCIPLES AND INSTRUMENTATION OF RADIO-DIAGNOSTIC AND RADIOTHERAPY TECHNIQUES</p> <p>DATE/TIME: FEBRUARY 1, 2020 (SATURDAY), 2-4 PM</p> <p>Venue Advanced Center For Radiation Oncology, Balabhai Nanavati Hospital Swami Vivekanand Road, Vile Parle West, Mumbai, Maharashtra 400056</p> <p>Limited Participants (First-Cum-First Basis)  No Registration Fee</p> | <p> Nanavati Super Speciality Hospital a passion for healing...  Vidyalankar Institute of Technology Accredited A+ by NAAC</p> <p>PROGRAM OUTLINE</p> <ol style="list-style-type: none"> Brief Lecture Series on: <ul style="list-style-type: none"> Principle, Instrumentation and Applications of Radio-Diagnostic Techniques (SPECT-CT & PET-CT) Radiotherapy Units (Cobalt Teletherapy, Accelerators) Visit to Imaging Facilities <p>REGISTRATION PROCESS</p> <ul style="list-style-type: none"> Workshop is mainly aimed for Students and Faculties of Biomedical Engineering. Number of participants is limited to 20 on first-cum-first basis. There is no registration fee. No travel support/accommodation provided to participants. <table border="1"> <tr> <td data-bbox="821 1713 1141 1848"> <p>Contact details Prof. Geetha Narayanan, Mob: +91-9821854617 Email: geetha.narayanan@vit.edu.in Prof. Arunkumar Ram, Mob: +91 9821608918 Email: arunkumar.ram@vit.edu.in Registration can be done online Last Date for Registrations: Jan. 25, 2020 Intimation of Selected Participants: : Jan. 27, 2020</p> </td> <td data-bbox="1149 1713 1484 1848"> <p>Society for Radiation Research (SRR) (Registration No.: Maharashtra State, Mumbai 2280, 2014-08850) Registered Office: Advanced Centre for Radiation Oncology, Dr Balabhai Nanavati Hospital, Vile Parle (W), Mumbai 400 056 Email: srrindia15@gmail.com Web page: www.srrindia.org Facebook: https://www.facebook.com/Society-for-Radiation-Research-SRR-77127076929168/</p> </td> </tr> </table> <p>Registration Link: http://tiny.cc/SRRWS</p> | <p>Contact details Prof. Geetha Narayanan, Mob: +91-9821854617 Email: geetha.narayanan@vit.edu.in Prof. Arunkumar Ram, Mob: +91 9821608918 Email: arunkumar.ram@vit.edu.in Registration can be done online Last Date for Registrations: Jan. 25, 2020 Intimation of Selected Participants: : Jan. 27, 2020</p> | <p>Society for Radiation Research (SRR) (Registration No.: Maharashtra State, Mumbai 2280, 2014-08850) Registered Office: Advanced Centre for Radiation Oncology, Dr Balabhai Nanavati Hospital, Vile Parle (W), Mumbai 400 056 Email: srrindia15@gmail.com Web page: www.srrindia.org Facebook: https://www.facebook.com/Society-for-Radiation-Research-SRR-77127076929168/</p> |
| <p>Contact details Prof. Geetha Narayanan, Mob: +91-9821854617 Email: geetha.narayanan@vit.edu.in Prof. Arunkumar Ram, Mob: +91 9821608918 Email: arunkumar.ram@vit.edu.in Registration can be done online Last Date for Registrations: Jan. 25, 2020 Intimation of Selected Participants: : Jan. 27, 2020</p> | <p>Society for Radiation Research (SRR) (Registration No.: Maharashtra State, Mumbai 2280, 2014-08850) Registered Office: Advanced Centre for Radiation Oncology, Dr Balabhai Nanavati Hospital, Vile Parle (W), Mumbai 400 056 Email: srrindia15@gmail.com Web page: www.srrindia.org Facebook: https://www.facebook.com/Society-for-Radiation-Research-SRR-77127076929168/</p> | | |

Schedule of the workshop

| | |
|---------------|---|
| 2.00pm-2.30pm | Assembly at Nanavati Hospital |
| 2.30pm-3.00pm | “Introduction to development of Radio Diagnostics and Radiotherapy Equipments”- Dr. Nagraj Huilgol , Chief Radiation Oncologist, Nanavati Super speciality Hospital and Centre for Hyperthermic Oncology & Medicine |
| 3.00pm-3.30pm | “Introduction to different techniques in treatment of Cancer”- Dr. Gopal , Nanavati Super speciality Hospital and Centre for Hyperthermic Oncology & Medicine |
| 3.30pm-3.45pm | Creation of Moulds for planning treatments- Ms. Leela ,Physicist , Nanavati Super speciality Hospital and Centre for Hyperthermic Oncology & Medicine |
| 3.45pm-4.15pm | Demonstration of Brachithery machine-Ms. Anuradha, Physicist , Nanavati Super speciality Hospital and Centre for Hyperthermic Oncology & Medicine |
| 4.15pm-4.45pm | Demonstration and Hands on Linear Accelerator-Mr. Gopal , Physicist , Nanavati Super speciality Hospital and Centre for Hyperthermic Oncology & Medicine |
| 4.45p-5.15pm | Demonstration of Treatment planning and software-Mr. Gopal , Physicist & Ms. Leela Physicist , Nanavati Super speciality Hospital and Centre for Hyperthermic Oncology & Medicine <i>Followed by Q&A Session and Certificate distribution</i> |

Overview of the Workshop

The participants were assembled near Nanavati Superspeciality Hospital at 2.00 pm. After getting gate permission and permission from Centre for Hyperthermic Oncology & Medicine students were assembled in Conference Room. Later they were taken to Seminar Hall. The first session was by **Dr. Nagraj Huilgol**, Chief Radiation Oncologist, Nanavati Super speciality Hospital and Centre for Hyperthermic Oncology & Medicine. Dr. Nagraj talked about what is cancer and what are the different ways for treatment. According to him unorganised growth of cells in one’s body is said to be cancer. He was taking example of growth of foetus which is very fast and organised whereas cancer also grows almost the same rate but unorganised. There is persistent injury created in cells to repair cells in the body. But is if there is a small change in process it can create random mutations. He also explained about the various treatments like Radiotherapy, Chemotherapy, Immunotherapy, Surgery etc as possible treatments of cancer. He explained the role of Physicist and Biomedical Engineers in development and maintenance of high end equipments in Medical field.



Participants at Nanavati Super speciality hospital

The next session was on treatment methods for cancer by Dr. Gopal, Centre for Hyperthermic Oncology & Medicine. He explained the various methods as Medical Oncology, Surgical Oncology and Radiation Therapy. In his opinion all treatments are not suited for everyone. He also explained the stages of treatment as Radiotherapy, Adjuvant, Neo adjuvant, Concurrent and Palliative. He had also explained when these treatments are selected depending upon the type of cancer and patient. Later he explained about the different equipments like external beam radiation, basic linear accelerator and Brachithery,



Dr Nagraj Huilgol, Chief Radiation Oncologist, Nanavati Super speciality Hospital and Centre for Hyperthermic Oncology & Medicine



Dr. Gopal , Nanavati Super speciality Hospital and Centre for Hyperthermic Oncology & Medicine on treatment methods

This was followed by visit to various facilities available in the centre. Initially participants were taken to the treatment planning stages. In first stage before starting the treatment is creating patient's moulds using biocompatible material to exactly direct the radiation or other treatments. This was explained by Ms. Leela at the centre. There were different moulds prepared for different affected areas



Ms. Anuradha demonstrating Brachithery machine



Ms. Leela Demonstrating moulds

The next session was about demonstration of Brachithery equipment by Ms. Anuradha. She explained the process as keeping radiation material inside the body for some time. And this will provide radiation to only affected areas. But this is an invasive treatment so patients are not comfortable.

Next session was demonstration of linear accelerator by Mr. Anand. He has explained the working and hands on demonstration of the machine. He had also opened the control circuitry and explained the electronics involved. It is a robotic arm of which fins of the collimeter can be moved and area of interest can be focussed. The system is based on X- rays and only the patient will be inside the room. Operators sit in the control room outside. The treatment room is having radiations so for the safety walls of the room are of radiation AERB standards like 2 metre thick. The treatment is patient specific and they do phantom study on models to verify the effectiveness.



Mr. Anand on Linear Accelerator

In the next session the participant were taken to treatment planning room where we were explained the various algorithms like AAA algorithm, Monte Carlo Algorithm. As a Special case

treatment process for treating brain tumour was explained with importance of avoiding radiation in key areas like optical nerve and hypothalamus in brain. A brief Q&A session was held where students asked about various aspects of treatment and radiation hazards etc.

This was followed by a brief discussion about conference organised by Nanavati Super speciality Hospital on "Hyperthermia". Participants were briefed about the conference and were told to attend.

A group photograph was taken at the end of the session. Later faculty had discussion with Dr. Nagraj regarding possibility of collaborative projects at the centre.



Mr. Anand on treatment planning software



Token of appreciation from VIT

All the sessions were quite interactive and the participants were involved in the demonstrations which were obvious from the level of questions asked by them. The speakers were also interested in all demonstrations as the participants were interactive and were asking specific doubts

+The workshop was really useful for all the participants. The session came to a conclusion with feedbacks from the participants. This was followed by a meeting and vote of thanks by Dr. Jitendra Toravi, Head Biomedical Department and Prof. Geetha Narayanan from VIT.



Faculty

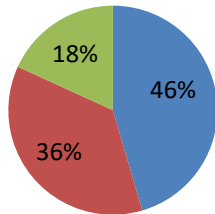


Participants with Dr. Nagraj Huilgol

Feedbacks on various aspects of the workshop

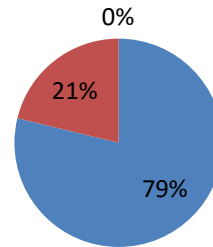
Course Content

■ Excellent ■ Very Good ■ Good



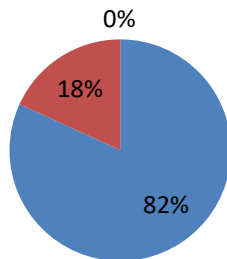
Lecture Arrangements

■ Excellent ■ Very Good ■ Good



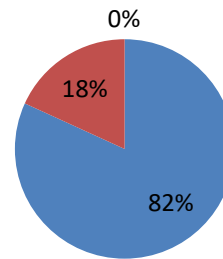
Facilities

■ Excellent ■ Very Good ■ Good



Staff Co-operation

■ Excellent ■ Very Good ■ Good



Convener

Head Biomedical Engineering

20 March 2021

Report

Preamble

Vidyalankar Institute of technology (VIT) always promotes interaction with industries and research laboratories to inculcate research culture among faculty and students. In this regard VIT had conducted workshops for three consecutive years,

1. “Application of Radiation and Radioisotopes in Diagnosis and Therapy of Cancer” on Saturday, 15 October 2016.
2. “Current Challenges in Diagnosis and Radiotherapy of Cancer” on 6 October 2018.
3. “Principles and Instrumentation of Radio-Diagnostic and Radiotherapy Techniques”
1 February 2020

Biomedical Engineering Department of VIT wanted to continue interaction with the Society. In the year 2021 since pandemic is going on it was decided to organize online session. Under the mentorship of Dr. Badri.N. Pandey , Secretary of SRR it was decided to conduct a a workshop on “Technological Advancements and Challenges of Radiation Based Techniques in Diagnosis and Therapy of Cancer” an area relevant to Biomedical Engineers. Dr. Badri collaborated with appropriate faculty from India and abroad and decided 5 talks related to the area on two different themes namely,

- **PET-CT, Radiopharmaceuticals and Accelerators in Cancer Diagnosis and Therapy, Chaired by Dr Dindyal Ramotar, HBK University, Qatar .**
- **Advances in Cancer Radiotherapy , chaired by Dr Nagraj Huilgol, Nanavati Hospital, Mumbai**

A convenient date was proposed and agreed by VIT and SRR as 20 March 2021.

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About the Workshop

VIT organizes regular workshops in collaboration with SRR and since 2020-21 is a time of pandemic VIT had approached SRR to organise workshop in online mode. The broad area of the workshop is mutually decided as "Technological Advancements and Challenges of Radiation Based Techniques in Diagnosis and Therapy of Cancer". In response to our request Dr. Badri Pandey Secretary of SRR had collaborated with speakers in India and abroad to organise the same. Jointly a convenient date was fixed, and a brochure was circulated among faculty and on SRR website. We received an overwhelming response of around 200 participants registered for the workshop. The workshop was organized on the ZOOM link of Vidyalkar as per details below.

Date: 20 March, 2021

Time: 10:00 AM Onwards

Venue: Zoom Platform

Join Zoom

Meeting: <https://zoom.us/j/99957868146?pwd=dUNqL1RxUFNxl2ZxV1pTdjZNSU5nQT09>

Meeting ID: 999 5786 8146

Passcode: 463429

Registration Form

Registration can be done online by visiting this link
<https://srr.vit.edu>



Scan the QR Code using your Smartphone

Organizing Committee

Prof. Geetha Narayanan
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Faculty

Dr. Sunita Sonavane, RMC, BARC, Mumbai
Dr. Jayant Sastri Goda, ACTREC, Tata Memorial Centre, Kharghar, Navi Mumbai
Dr. Teerthraj Verma, King George's Medical University, Lucknow
Dr. Jaya Shukla, PGIMER, Chandigarh

Organizing Committee and Other Faculty

PROFESSOR

Dr. Jayant Sastri Goda, ACTREC, Tata Memorial Centre, Kharghar, Navi Mumbai
Dr. Teerthraj Verma, King George's Medical University, Lucknow
Dr. Jaya Shukla, PGIMER, Chandigarh

MEMBERS

Dr. Sunita Sonavane, RMC, BARC, Mumbai
Dr. Jayant Sastri Goda, ACTREC, Tata Memorial Centre, Kharghar, Navi Mumbai
Dr. Teerthraj Verma, King George's Medical University, Lucknow
Dr. Jaya Shukla, PGIMER, Chandigarh

VIT Vellore Institute of Technology
ACCREDITED 'A' by NAAC

One day Workshop on "TECHNOLOGICAL ADVANCEMENTS AND CHALLENGES OF RADIATION BASED TECHNIQUES IN DIAGNOSIS AND THERAPY OF CANCER"

Organized by Dept. of Biomedical Engineering, Vellore Institute of Technology

Under the aegis of Society for Radiation Research (SRR)
Reg. No. MEMBERSHIP NUMBER: 2001-2014-00000

SRR Workshop: www.srr.vit.edu
SRR Facebook: <https://www.facebook.com/srr.vit.edu>
SRR Instagram: <https://www.instagram.com/srr.vit.edu>

Date: 20th March, 2021
Time: 10:00 AM
Venue: Online



<https://www.facebook.com/srr.vit.edu>
<https://www.instagram.com/srr.vit.edu>

About Society for Radiation Research (SRR)

The Society for Radiation Research (SRR) is a scientific body of radiation researchers and professionals from the area of radiation research. The SRR has been organized in December 20, 2014 by a group of seven eminent scientists.

Objectives of Radiation Research Society:

- To promote research in the area of radiation biology, radiology and related areas; to disseminate findings and progress;
- To initiate research and low dose radiation therapy; to promote interdisciplinary research, including radiobiology, radiation medicine, radiation technology, environmental research;
- To promote and disseminate findings and progress in other related research areas;
- To facilitate integration and interaction of different radiation research areas;
- To promote the diffusion of knowledge in these research areas through organizing meetings, conferences, workshops, seminars, symposia, etc. on publications;
- To promote scientific, interactive amongst scientists, professionals and other in conducting basic and research investigations in public, government and regulatory bodies;
- To organize a library with other National and International Scientists.
- To facilitate and promote research in radiation research by visiting scientists, students and research fellows and students to pursue research and full time in the area of radiation research;
- To promote and facilitate activities of radiation research in related disciplines and disciplines.

Organized by Vellore Institute of Technology, Vellore, Tamil Nadu, India
Society for Radiation Research, Vellore Institute of Technology, Vellore, Tamil Nadu, India
Website: www.srr.vit.edu

About VIT

Vellore Institute of Technology (VIT) is an A grade Engineering college approved by the AICTE, the ETE (Ministry), and affiliated to the University of Mumbai. Institute is accredited by NAAC and three departments are NAAC Accredited.

VIT conducts courses in Electronics, Electronics and Telecommunication, Computers, Information Technology and Biomedical Engineering with an average annual intake of 240 students in the undergraduate level. The Institute also conducts Masters in Engineering programs in Electronics and Telecommunication, Computers, Information Technology. In addition to Masters in Management Studies, Institute also offers doctoral program (Ph.D.) in Computer Engineering.

About Department of Biomedical Engineering

Department of Biomedical Engineering at VIT is Accredited by National Board of Accreditation. New Delhi for the course in Biomedical Engineering.

The Department emphasizes on experimental learning and has modern lab facilities to enable students in their experiments. The department has a recently established Centre for Academic Excellence in collaboration with I.I. Healthcare.

Organized by

Vellore Institute of Technology, Vellore, Tamil Nadu, India
Society for Radiation Research, Vellore Institute of Technology, Vellore, Tamil Nadu, India
Website: www.srr.vit.edu

Program (Tentative)

SESSIONS

- Dr. T. K. Sharan, Manipal University, Manipal
- Dr. Sunita Sonavane, Associate Professor, Scientific Officer, ICRMC and Scientist, RMC, Mumbai
- Dr. Jaya Shukla, PGIMER, Chandigarh
- Dr. Jayant Sastri Goda, Professor and Clinical Scientist, Radiation Oncology, Member, Human Lymphoid and Stem Cell Biology, Human Management Group, ACTREC, Navi Mumbai
- Dr. Teerthraj Verma, Addl. Professor, Dept. of Radiation Oncology (Medical Physics), King George's Medical University, Lucknow

Topics to be covered

- Cancer Teletherapy
- Radiobiology
- Accelerators
- State-of-the-art in Diagnosis and Therapy of cancer

Target Audience: Faculty members, Researchers and final year students from Biomedical, Electronics and Physics departments of colleges across India. Any person with keen to have awareness about Clinical Uses of Radiotherapy.

Registration: Registration is free of charge and seats will be provided online on VIT Facebook Platform.

Last Date for Registration: March 20, 2021
E-Certificate would be provided to all the Participants.

Schedule of the workshop

| | |
|-------------------|--|
| 10.00-10.30am | Welcome note: Dr Saurabh Mehta- Chief Academic Officer VIT Inaugural address: Dr K. P. Mishra, Founder President, SRR About Dept of Biomedical Engineering, VIT: Dr. Jitendra Toravi, Head Biomedical Engineering, VIT About SRR: Dr Shayam Shrivastava, President, SRR |
| 10:30 am-13:30 pm | Scientific Session I: PET-CT, Radiopharmaceuticals and Accelerators in Cancer Diganosis and Therapy (Chairperson: Dr Dindyal Ramotar, HBK University, Qatar) |
| 10.30–11.30 am | Applications and Challenges of PET-CT in Cancer Diagnosis Dr Sunita Sonavane, RMC, BARC, Mumbai Session In-charge-Prof. Geetha Narayanan, VIT |
| 11:30am-12..30pm | Advancement of Radiopharmaceuticals in Diagnosis and Therapy of Cancer Dr. Jaya Shukla, PGIMER, Chandigarh Session In-charge-Prof. Suvarna Udgire, VIT |
| 12.30-1.30pm | Applications of Accelerators in Cancer Therapy Dr Teerthraj Verma, King George's Medical University, Lucknow Session In-charge-Prof. Arunkumar Ram, VIT |
| 1.30-2.30pm | Lunch Break |
| 2.30-4.30pm | Scientific Session II: Advances in Cancer Radiotherapy (Chairperson: Dr Nagraj Huilgol, Nanavati Hospital, Mumbai) |
| 2.30-3.30pm | Brachytherapy in Cancer Radiotherapy Dr T. K. Sharan, Manipal University, Manipal Session In-charge-Prof. Neelam Punjabi, VIT |
| 3.30-4.30pm | Advancement and Challenges of Teletherapy in Cancer Radiotherapy Dr Jayant Sastri Goda, ACTREC, Tata Memorial Centre, Kharghar, Navi Mumbai Session In-charge-Prof. Priyanka Shrivastava, VIT |

4.30pm

Concluding Session and Valedictory Function

Comments and feedback by participants

Vote of thanks and concluding words by Dr. B.N Pandey, Secretary, SRR

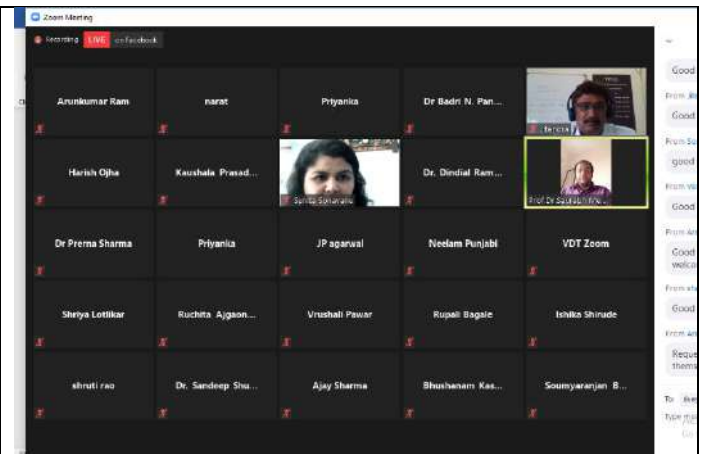
Vote of thanks and concluding words by Dr. Gajanan Nagare Professor, Biomedical Engineering,VIT

Overview of the Workshop

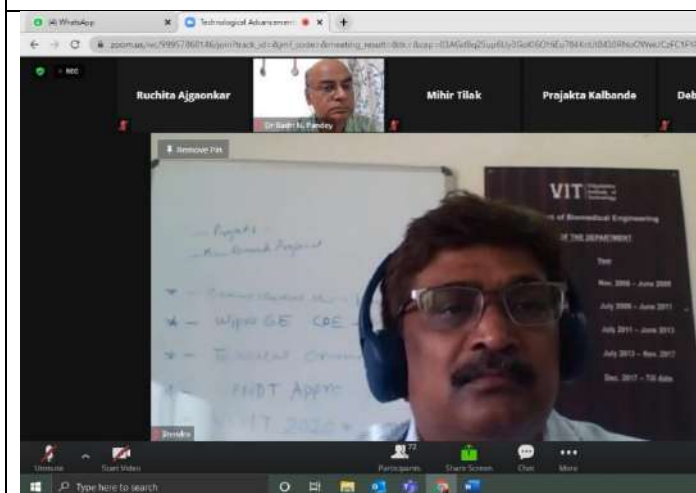
The participants were joined the ZOOM link well in advance. The program started with a simple inaugural function which was presided over by honoured guests Dr. K.P. Mishra Founder President, SRR, Dr. Badri Pandey, Secretary SRR, and Scientific officer BARC, Dr. Saurabh Mehta, Chief Academic Officer, VIT, Dr. Jitendra Toravi, Head Biomedical Engineering Department, VIT. The function started with welcome address by Dr. Saurabh Mehta, Chief Academic Officer VIT. This was followed by Inaugural address by Dr. K. P. Mishra in which he spoke about Emerge of radiation and therapy, application of radiation in production of energy and cancer treatment, which was followed a brief overview about department of Biomedical Engineering and its activities by Dr. Jitendra Toravi Head of Biomedical Department. Following this Dr. Pandey elaborated on the purpose of the Society for Radiation Research and its objectives.



Inaugural address by Dr K. P. Mishra



Welcome address by Dr Saurabh Mehta



Dr Jitendra Toravi



Dr B.N.Pandey

The first Scientific Session was on : **PET-CT, Radiopharmaceuticals and Accelerators in Cancer Diganosis and Therapy** chaired by **Dr Dindayal Ramotar, HBK University, Qatar**

In this the first talk was on **"Applications and Challenges of PET-CT in Cancer Diagnosis"** by **Dr. Sunita Sonavane, Radiation Medicine Centre (RMC)**. She started with Molecular imaging, advantages and limitations of Nuclear Imaging. According to her cost and scarcity of trained personal are major limitations for Nuclear Imaging. She also explained about the 2 types of cancer as Haematological and Solid Tumor type. Then she also talked about the role of engineers in the treatment and elaborated on facilities at RMC

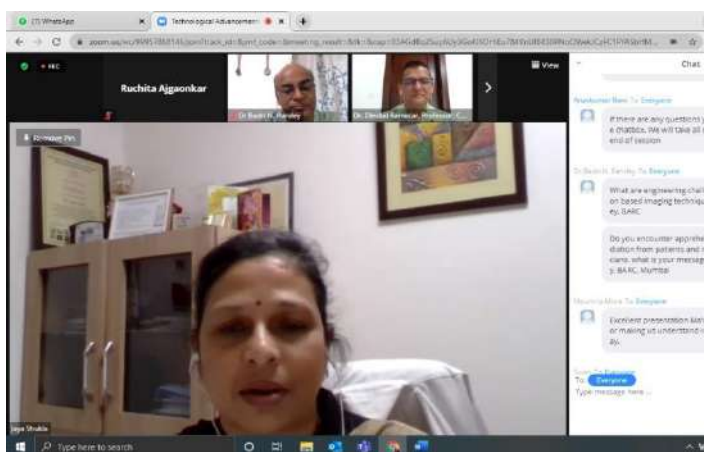
The next talk was on **Advancement of Radiopharmaceuticals in Diagnosis and Therapy of Cancer** by **Dr. Jaya Shukla, PGIMER, Chandigarh**. Speaker started with the introduction of radiopharmaceuticals as they permit the mapping of physiological function and metabolic activity of malfunctioning organs, as well as the diagnosis of common cancers. With the precision of PET scans, these results are becoming the standard of care for cancer diagnosis. She also explained on key side effects of radiopharmaceuticals.



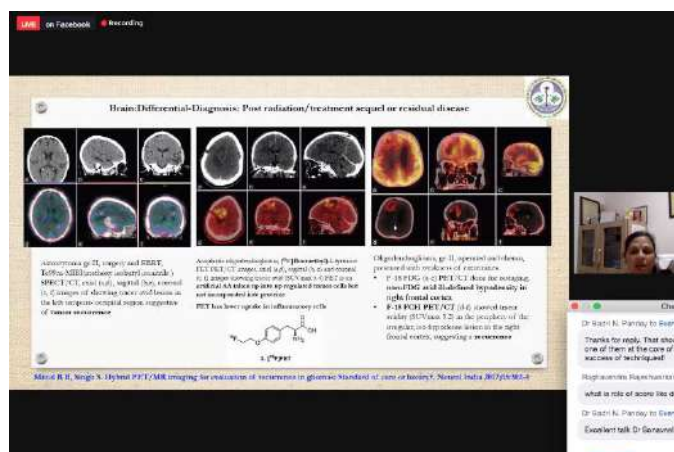
Dr Dindayal Ramotar, HBK University, Qatar



Dr Sunita Sonavane, Radiation Medicine Centre, Mumbai

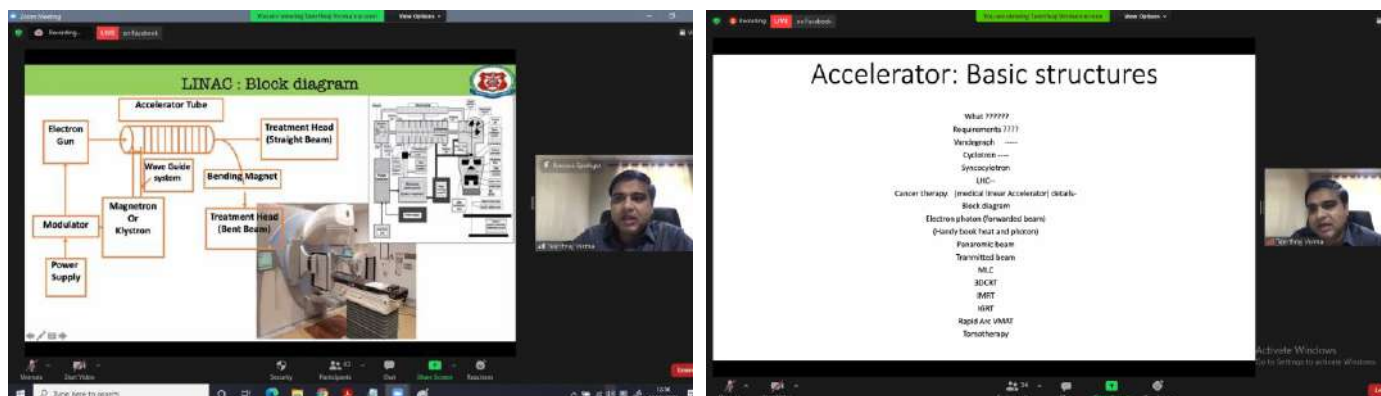


Dr Jaya Shukla, PGIMER, Chandigarh on Advancement of Radiopharmaceuticals in Diagnosis and Therapy of Cancer



The next talk was on **Applications of Accelerators in Cancer Therapy**, by **Dr Teerthraj Verma, King George's Medical University, Lucknow**. In the session Dr Teerthraj explained about fundamentals of Radiotherapy. He elaborated on different accelerators used in radiotherapy like, LINAC and Betatron. He also explained the workflow of radiation beam and patient. He had also

mentioned Flash Radiotherapy as a paradigm shift in radiotherapy. This session was followed by lunch break.

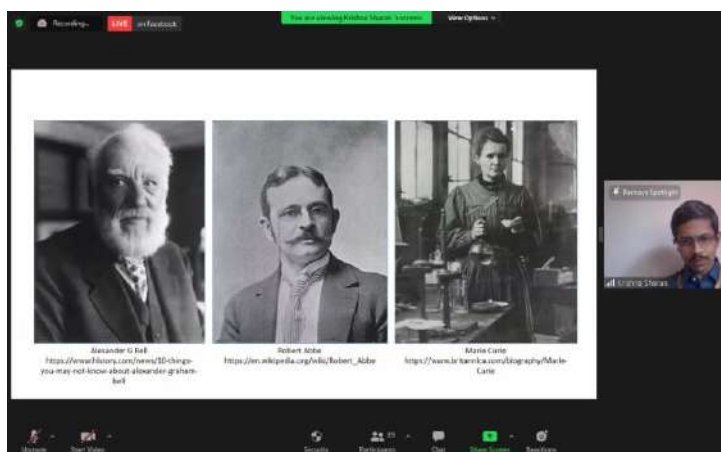
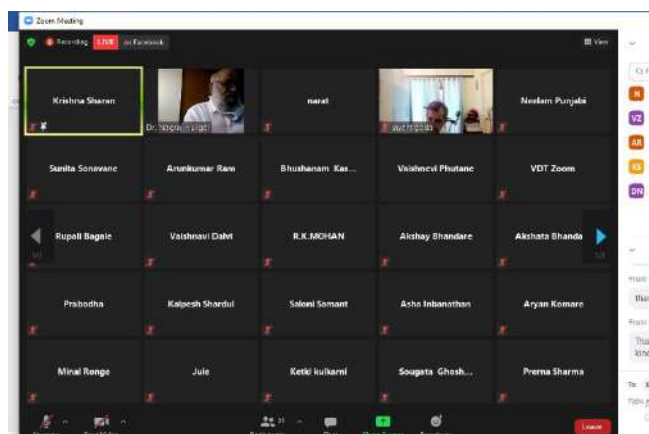


Applications of Accelerators in Cancer Therapy, by Dr Teertraj Verma, King George’s Medical University, Lucknow

The second Scientific Session after lunch was on **Advances in Cancer Radiotherapy** chaired by **Dr Nagraj Huilgol, Nanavati Hospital, Mumbai**

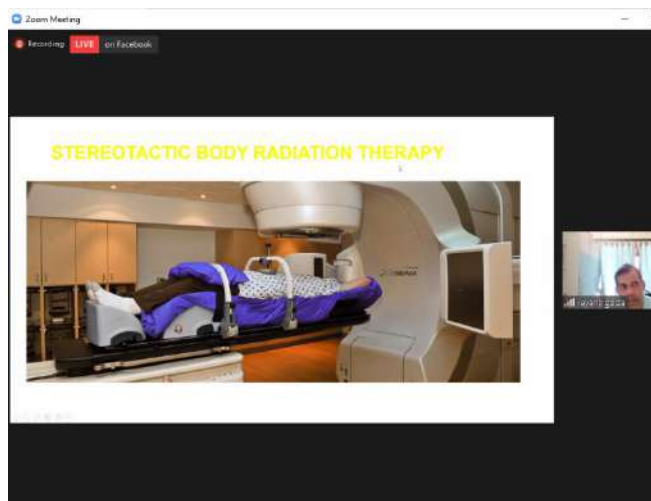
In this the first talk was on **Brachytherapy in Cancer Radiotherapy, by Dr T. K. Sharan, Manipal University, Manipal**. In this session Dr. Sharan started with history of Brachytherapy and rationale for the therapy. Later he elaborated that there are two ways through ionising radiations are transferred: External Beam Radiation and Brachytherapy. According to Dr. Sharan Brachytherapy allows doctors to deliver higher doses of radiation to more-specific areas of the body, compared with the conventional form of radiation therapy (external beam radiation) that projects radiation from a machine outside of your body.

The last session of the program was on **Advancement and Challenges of Teletherapy in Cancer Radiotherapy, Dr Jayant Sastri Goda, ACTREC, Tata Memorial Centre, Kharghar, Navi Mumbai**. He started with radiation therapy, the 5 Rs of radiation. He covered a vast area of Radiotherapy and many advanced methods like Stereotactic Body radiation Therapy, Cyberknife, Helical Tomography, Volumetric Arc Radiotherapy, Ultra high dose rate radiotherapy, Silver Bullet etc. to name a few. The session was very exhaustive with a lot of pictures and various methods



Advances in Cancer Radiotherapy chaired by Dr Nagraj Huilgol, Nanavati Hospital, Mumbai

Brachytherapy in Cancer Radiotherapy, by Dr T. K. Sharan, Manipal University, Manipal.



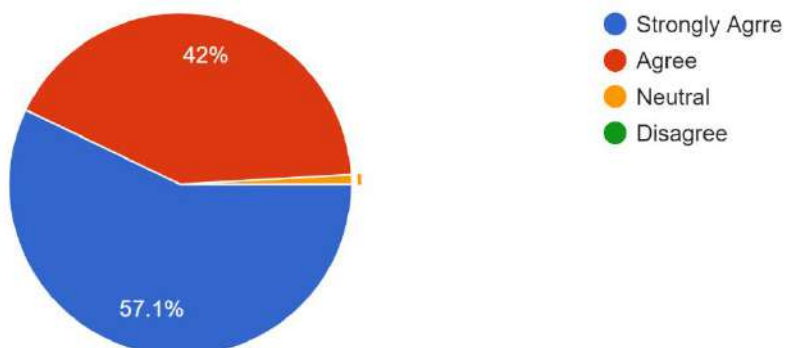
Advancement and Challenges of Teletherapy in Cancer Radiotherapy, Dr Jayant Sastri Goda, ACTREC, Tata Memorial Centre, Kharghar, Navi Mumbai

The workshop concluded with feedbacks from the participants. One of the participant Ms Sharma had expressed that the workshop made her know advancements in the field Nuclear Medicine. Session Chair Dr. Ramotar also gave a feedback to reduce the duration of the sessions. Another participant Mr. harish Ojha pointed out these types of programs make the participants aware of new developments in the field cancer treatment. A written feedback was taken from all the participants. This was followed by vote of thanks by Dr. Pandey from Society and Prof. Geetha Narayanan from VIT.

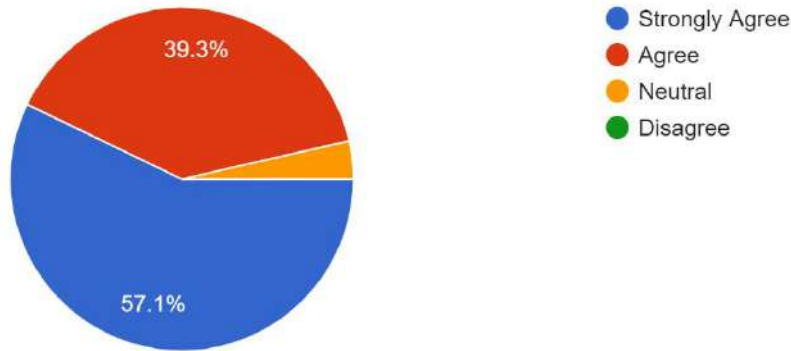
Feedbacks on various aspects of the workshop

A total of 112 participants have given feedback to the session on various aspects as given below.

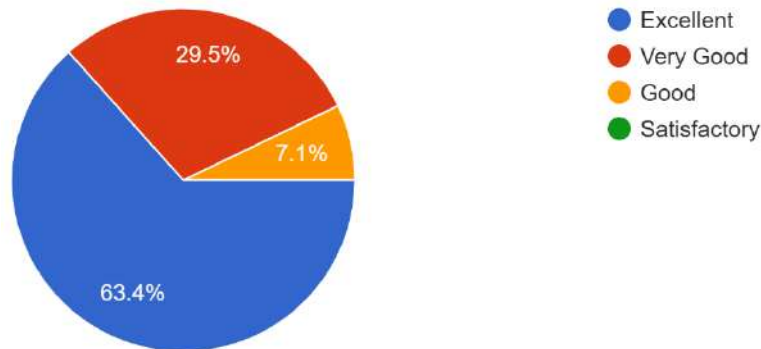
The Workshop helped me to understand the Technological Advancements and Challenges of Radiation Based Techniques



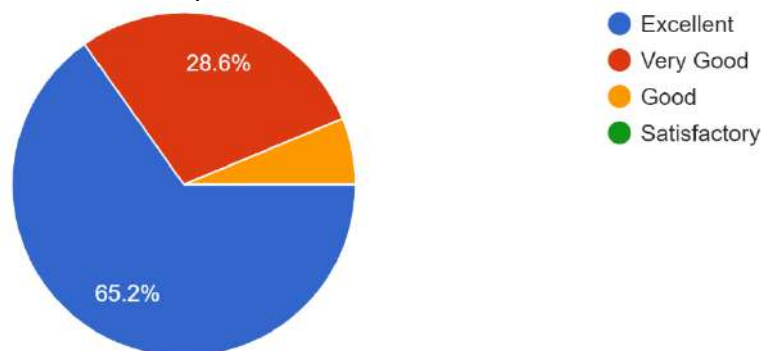
The Resource Person and Experts were able to explain the concepts and helped solve my queries



Rate the content and presentations shared by the Experts



How would you Rate the workshop overall



Some of the Individual Suggestions and Comments given by the Participants

- No suggestions from my side. Today's workshop was extremely useful and illuminating. I would like to attend such workshops in future too.
- Talks need to be shorter keeping time for discussion.
- It was well organised and conducted smoothly.
- Keeping this pandemic in mind, if situation is same then a live online tour to hospital would be nice. Live working of machines directly from hospitals.
- Yeah. This kind of workshops should be taken once in a while. For the betterment of our students. Thank you! As all the concepts regarding this topic were cleared.
- Yes indeed. It would be best to have 25 mins presentation with 5 mins discussion to accommodate more participants.
- The synchrony of the talks in this workshops were nice. Excellent planning by SRR team for focusing the clinical aspects, specially the use of technologies in radiation oncology is quite helpful. It was very informative for a basic radiation biology researcher like me to get further advancement in my knowledge on "technological advancements and challenges of

radiation based techniques". Lot of thanks to VIT Biomedical engineering group for their superb execution of the workshop.

- Looking forward to participated in such excellent Work Shop, or relevant events in near future.



Convener



Head Biomedical Engineering

ICT/Computing Skills

| | | |
|--|------------|------|
| Awareness on Basics of Coding | 11-07-2021 | 222 |
| Chemistry Virtual Lab | 18-01-2021 | 110 |
| Workshop on MS Teams and Ms notes | 27-11-2020 | 18 |
| Modern Educational Tools and Pedagogical Practices for Online Teaching | 21-06-2020 | 705 |
| Excel at "MSEcel" for effective organization of quantitative metrics data of NAAC | 2020-2021 | 222 |
| Collaboration Tools of Office 365 and it's use in Online Education Setup | 28-05-2020 | 90 |
| Design Thinking | 07-12-2020 | 200 |
| Mini Workshop Series | 04-10-2020 | 1804 |
| BMSA_Raspberry Pi Workshop | 21-09-2020 | 65 |
| IMPACT OF 3D PRINTING IN BIOMEDICAL ENGINEERING | 15-09-2020 | 67 |
| Battery Management System | 27-03-2021 | 112 |
| MEDICAL IMAGING AND DIGITAL IMAGE PROCESSING | 15-03-2021 | 75 |
| Retinal Image Analysis | 05-03-2021 | 112 |
| 3D Modeling and Printing | 17-10-2020 | 111 |
| PRINCIPLES AND INSTRUMENTATION OF RADIO-DIAGNOSTIC AND RADIOTHERAPY TECHNIQUES | 01-02-2020 | 20 |
| Technological Advancements and Challenges of Radiation Based Techniques in Diagnosis and Therapy of Cancer | 20-03-2021 | 200 |
| Indian Healthcare System : Technology and Data Privacy Issues | 05-10-2020 | 45 |



“Indian Healthcare System : Technology and Data Privacy Issues”

By

Mr. Prathamesh Churi

Ph.D. Research Scholar in Data Privacy in Healthcare in Computer Science.

Online lecture held on

5th October 2020, 4.30 p. m

During the session, Mr. Prathamesh Churi , Ph.D. Research Scholar in Data Privacy in Healthcare in Computer Science shared his thoughts and Experiences on “Indian Healthcare System : Technology and Data Privacy Issues”. In this talk Mr. Prathamesh Churi explained the Indian healthcare system and technology and the issues related to data privacy. He pointed out the development in the system and emerging technologies which are changing the face of healthcare industry.

Introduction

Mr. Prathamesh Churi is Ph.D. Research Scholar in Data Privacy in Healthcare in Computer Science and currently working as an assistant professor at NMIMS. His experience in the field of healthcare was relevant in the diverse areas he handled during the talk. He presented almost every available data regarding Indian Healthcare system along with the security issues.

Indian healthcare system: overview

New technology has been developed in the healthcare system where distant monitoring of patients is possible. Doctors can manage the patient data more efficiently and keep records with the help of technology. It has helped in the treatment of patients as well as managing the patient data.

Healthcare in India: Reformation in policies

Healthcare reforms started around 2005 through programs aimed at strengthening rural health services and providing partial financial protection for health care to vulnerable families. Fresh initiatives proposed this year promise to open the road to Universal Health Coverage (UHC)

Case Study: NITI aayog report

The National Institution for Transformation of India or NITI aayog has been created to serve as the think tank of the government of India. It is used to propel actions in the states to improve health outcomes and improve data collection systems. It will also aid in monitoring of health performance, thereby enabling transparency in the system.

Segments of Indian healthcare system

Healthcare industry in India comprises of hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance and medical equipment.

Types of healthcare data

Clinical data falls into following types:

- Electronic health records
- Administrative data
- Claims data
- Patient / Disease registries
- Health surveys
- Clinical trials data



Key data sources of health information in India

The government of India collects epidemiological information periodically through the Health Management Information System (HMIS) and other varied survey sources such as National Family Health Survey (NFHS), District Level Household Survey (DLHS; for reproductive and child health information), and Sample Registration

Healthcare data privacy

Data privacy is a big concern as most of the data is directly available to public through internet. This creates privacy issues which are a big challenge to the government. To solve the issue concept of blockchain can be used.

There was active Q&A session with the student's as well as with the faculty members, speaker cleared all the doubts related to data privacy in healthcare system

Conclusion

Technological advancements have helped the healthcare system to be more effective and accessible to remote areas but there are few issues considering the privacy of the healthcare data that should be solved.

About section

Chemistry V-Lab is specifically prepared on the concept of learn through games. As games have different levels to pass through, V-Lab gives the similar experience to users. The students can test their knowledge in initial levels in the form of nice visual graphics. Once they clear all the knowledge game levels, they can go to the last level which is simulation of experiment.

The Objective of this virtual lab is to provide remote access to experiments in Chemistry at the undergraduate level of Engineering. Students can use any device as the software is user friendly.

Chemistry V-Lab was ideated and conceptualised by **Prof. Sonaali Borkar** and the content was developed by **Prof. Nilima Main** of Applied Science department of first year engineering of Vidyalakar Institute of Technology.

Mr. Balaji Durai Masanam, a second-year student of Electronics and Telecommunication, Vidyalankar Institute of Technology has developed the virtual laboratory for Engineering Chemistry.

Disclaimer: This lab is prepared purely for educational purpose and for usage of First Year Engineering students.