

Institution's Innovation Council 5.0 Report for Academic Year 2022-23



NEW HORIZON COLLEGE OF ENGINEERING
Outer Ring Road, Kadubeesanahalli, Bengaluru,
Karnataka - 560103, India

NEW HORIZON COLLEGE OF ENGINEERING (NHCE)

Institution's Innovation Council 5.0

A. About IIC Institute

In December 2018, New Horizon College of Engineering (NHCE) had established the Institution's Innovation Council (IIC) under the direction of the MHRD's Innovation Cell (MIC). The council was given an abbreviated name as NHCE-IIC. The council's objective is to promote and foster an entrepreneur, IPR and a culture of innovation among students. The council is frequently involved in various kinds of entrepreneurship-related events. The council has additionally organized idea, POC, and prototype building competitions to motivate students to create and develop startups. The training program for MIC Innovation Ambassador involves nominated faculty members. They have contributed to the other IICs by serving them as mentors. The NHCE-IIC has been recognized as the SWRO's top performing institute, by receiving a 5-star rating for exclusive performance in 2019-20 and expects to maintain it up to 2023. NHCE-IIC is mainly concerned with encouraging excellent local innovation circumstances, a start-up guidance mechanism inside the institute, and greater intellectual abilities for Engineering Students.

Vision

- To sensitize faculty members, students and researchers about R&D initiatives of the NHCE.
- To initiate activities for setting-up of Patent Facilitation Centre, Technology Transfer Cell and to recognize and encourage original and novel research contributions, both from within the NHCE and outside, which is expected to add thrust to the Institution's R&D efforts.
- To initiate Mentoring Programmes, Internships and Incubation at NHCE.

Mission of IIC established at the Institute

- To produce high quality Under-Graduates and Post-Graduates in Engineering, Technology, Science, Humanities, Management and Allied Science with a sound theoretical and practical knowledge and civic responsibility, who can contribute effectively to the progress of the country and society in the years to come through their chosen profession.
- To establish and develop research and extension activity in Engineering and Technology courses.

Diversified representation in the IIC established at the institute from industry, Interdisciplinary and Departments/ Units etc.

The 'New Horizon College of Engineering (NHCE)' is a renowned educational institution dedicated to bring changes in the society not only through creating quality education but also by supporting students and whole ecosystem to build more job creators than job seekers an initiative towards 'Atamanirbhar Bharat Abhiyan'. NHCE has established a self-funded incubation centre,

“New Horizon Council for Innovation, Incubation and Entrepreneurship (NHCIE), CIN: U88900KA2023NPL178028, incorporated by **Ministry of Corporate Affairs (MCA)**, as Not-for-Profit License (NPL) Company under Section 8(1) of the Company Act, 2013, [Formerly, New Horizon Centre for Innovation, Incubation and Entrepreneurship (NCHIE)], as Incubation/Pre incubation facility. After constitution of IIC (Post 2022), the Institute has realized the importance of dedicated infrastructure facilities like Maker Space, Innovation Lab, ED Cell, IPR Cell and Incubation Centre. The Incubation Centre ‘NHCIE’ is upgraded with built-up area of more than 1700 sq. ft., with separate space for ED Cell of more than 700 sq. ft. and IPR Cell of more than 600 sq. ft. built-up area. They have facilities for technology incubation, work stations and board room. For co-creation of I&E activities, it has collaborated with reputed industries for various supporting to the NHCIE.

B. Brief mention of key functionaries at the IIC Institute

NHCE - IIC Key functionaries comprise faculty members from each department headed by the Principal Dr. Manjunatha, NHCE-IIC Chairman and Dr. Agalya V, Associate Head R&D and NHCE-IIC President as shown below:

Name of Member	Key Role/ Position assigned in NHCE-IIC
Dr. A.Sujin Jose	Vice President and Convener
Dr. Piyush Kumar Soni	NISP and YUKTI Coordinator
Dr. Priyabrata Adhikary	NIRF Coordinator
Ms. Shruthi S	IPR Activity Coordinator
Mr. Ajay Bale	Innovation Activity Coordinator
Dr. K. Gopal	ARIIA Coordinator (ARIIA/NIRF-Innovation)
Dr. Kavitha	Social Media Coordinator
Dr. Natchimuthu Subramani	Internship Activity Coordinator
Dr. Punniyamoorthy	Start-up Activity Coordinator

Portfolio/graphical/Tabular representation of Resource strength (human capital and Physical capital) of the IIC institution

Resource	Strength (in Nos.)
Total No. of IIC Members(Internal/External)	55
Total No. of IAs	28
Total No. of faculty Mentors	19
Pre-Incubation Unit	01
Incubation Unit	01
IP Facilitation Unit	01

C. Highlight Facilities, Infrastructure of Pre-Incubation and Incubation kind and Student bodies/clubs engaged in promotion of Innovation and Entrepreneurship in the campus.

For financial year 2022-2023 NHCE has allocated a budget of 1% of Annual Budget towards various Entrepreneurship initiatives. The primary objective is to inculcate entrepreneurship and motivate students to start ventures to solve various grass root level problems through the initiatives including:

- In-house intercollegiate events
- Organizing awareness talks by entrepreneurs or alumni entrepreneurs.
- Organizing field exposure events for innovation and entrepreneurship skill development.
- Sponsoring initiatives for entrepreneurship development at the state and national levels.

The detailed budget allocated is divided into two parts, 'Awareness and I&E' for Rs.11 Lakhs, and 'Startup and Lead Innovation' for 25 Lakhs.

Particulars	Achievements (in Nos.)
Number and Different types of I&E and IPR activities Conducted	72
No. of student's and faculty ideas generated	60
No. of student's and faculty Innovation/prototypes developed	37
No. of IPs generated, published and granted	132 patents filed and published 7 design registration received grant 9-design registration received FER 3- design filed
No. of Student and Faculty Start-ups/Ventures established	MSME Startup-37,DPIIT Startup-01,Section 8 Company -02
Amount spent on promotion and awareness generation on Innovation Entrepreneurship in the campus	INR 11,00,000
Amount grant or fund supported to student and Faculty lead Innovations, start-ups and IPR	INR 25,00,000
No. of Technology Transfer and Commercialisation happened	NIL

D. Highlight Achievements

Students and faculty members are participated in national /International level Hackathon like CMTI Design innovation Challenge 2023, YUKTI Innovation Challenge 2023, Intra College level business plan competition and UDAAN give wings to budding entrepreneurs 2023.

Total no of Students participated	195
Total no of Student Winners	41
Total no of Faculties Participated	84
Total no of Faculty winners	13

Highlight few best IIC Faculty members and their achievements

Name	Faculty/Student(s)	Achievements/Rewards
Dr.Vinoth Kumar	Faculty	Appreciation award received for Highest Patent Publication during 2022-23
Mr.Ajay Bale	Faculty	Appreciation received for Highest Patent Publication during 2022-23
Dr.Sujitha S	Faculty	Mentorship reward received for the basement of state level student project competition in KSCST 2023
Dr.Nirmala M	Faculty	Mentorship reward received for the basement of state level student project competition in KSCST 2023
Mrs.Thanga Shuba Devi	Faculty	Mentorship reward received for the basement of state level student project competition in KSCST 2023
Dr.Agalya V	Faculty	Mentorship reward received for the basement of state level student project competition in Design and Innovation Clinic 2023 hosted by Central Manufacturing technology Institute, Government of India, Bangalore
Dr.Suijn Jose	Faculty	Mentorship reward received for the basement of state level student project competition in Design and Innovation Clinic 2023 hosted by Central Manufacturing technology Institute, Government of India, Bangalore

Dr.Piyush Kumar Soni	Faculty	Mentorship reward received for the basement of state level student project competition in Design and Innovation Clinic 2023 hosted by Central Manufacturing technology Institute, Government of India, Bangalore
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Highlight few best IIC student members and their achievements

S.no	Name of the students	Title of Innovation	Title of Award	Awarded by
1	Ms.S.J.Kennath Ms.Tejaswin Mr.Rohit Manivel from CSE Dept	Student's Soul: The Non Transferable Token	Best Project of the Year	Department of Science and Technology, Government of Karnataka and Government of India.
2	Mr.Rohit Kumar Reddy Ms.Harshitha Ms.Aisrim U R S Mr.Koushik P from EEE Dept	Design of Fabrication of Quad Bike for Physically Challenged	Best Project of the Year	Department of Science and Technology, Government of Karnataka and Government of India.
3	Sandeep Prakash G, Karthikeyan M.,Pradeep Ronaldo P.R.,6 th Sem AU/NHCE and S. Evengiline,6 th Sem AIML /NHCE	Auto Turn off indicators in Two/Three Wheelers by angular measurement by Compass	the Team BLINK-OFF bagged the first runner up with 16,000/-	48Hrs prototype building challenge- Design and Innovation Clinic 2023 hosted by Central Manufacturing technology Institute, Government of India, Bangalore



Title: "UDAAN Ideation Challenge" was launched at New Horizon College of Engineering, envisioning the identification and creation of student ideas and start-ups, and supporting them with seed funding.



An overwhelming response was received, and after a series of knowledge sessions, mentoring sessions, and mock presentations, 15 teams had made it to the PRE-FINAL of UDAAN. From this pre-final to final, 6 teams had been received seed funding support from NHCIIE.

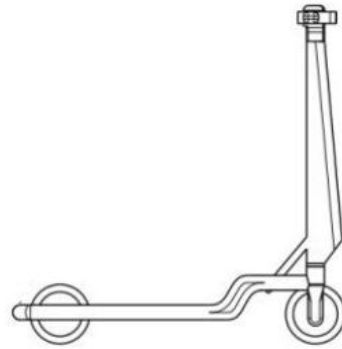
Winners List of UDAAN IDEATION CHALLENGE			
S. No.	Student Innovator	Prize Money	Name of Business Idea
1	TEJAS M	Rs.50000/-	CREARE SILVA (Wind Turbine)
2	JAIKISHAN NAIK and NANDAN PAIL	Rs.10000/-	Diploma Pro (Study Material App)
3	MUNNA SUPRATHIK RAJA HARSHINI SANGEERTHANA SAI TEJASWAR	Rs.10000/-	GARSTUP (Career Development App)
4	RAJARSHI CHATTERJEE BHARATDEEP HAZARIKA ANAYAA SUNDAR ABHISHEK BEDANT	Rs.10000/-	HELJUM (Click Bed Healthcare Application)
5	Mr. Bharatdeep Hazarika Mr. Abhisek Bedant Ms. Ananyaa Sundar Mr. Ayush Bansal	Rs.10000/-	SOUMYA: ANYTIME HEALTHCARE KIT
6	Shreyas S.G Dhyan D.K	Rs.5000/-	INVEST-INN (Start-up Mentor Application)

E. Highlight selected best Innovations and images with mention of inventor/innovation name

BEST (PATENTED and INDUSTRIAL DESIGN GRANTED) INVENTOR/INNOVATION NAME	
	
<p>NEW HORIZON COLLEGE OF ENGINEERING, Dr.C.R.Rathish and Anjali</p>	<p>New Horizon College of Engineering, Dr.Agalya V, Dr.Sujitha S, Rohith Kumar</p>

Vyas/ Intelligent Virtual Assistant Robot

Reddy M, Koshik P, Dheeresh Vijay
Devadiga, Srinivas Abhinay Gandla/
Lumbar support Quard Bike



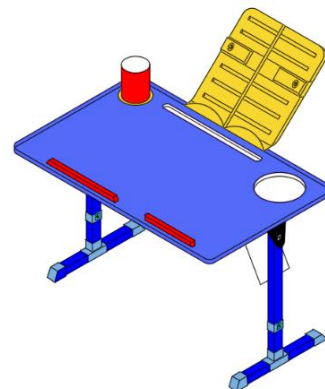
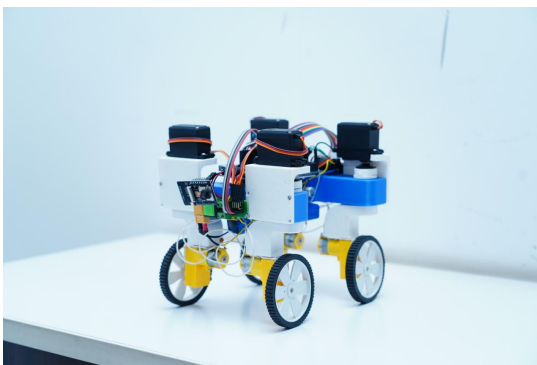
Dr.Agalya V / Multi-function Foldable
Hair Dryer

Dr.Sujin Jose, Mohammed Saaim,
Mohammed Riza, Shaik Arbaz Ahmed,
Suneesh M.S, Smitha B.S /
Foldable Self-standing Electric Scooter



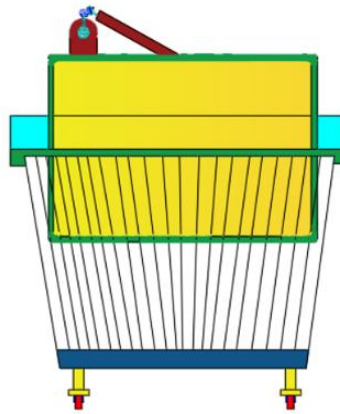
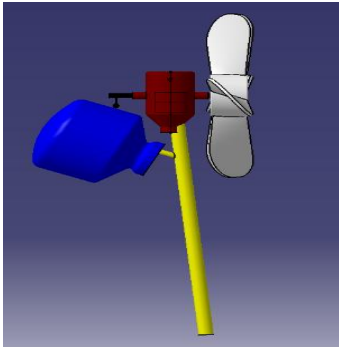
Dr. Piyush Kumar Soni /
Electric Heating Blazer

Mr. D. Kodanadapani and Mr. Karthik
Vangadara / Rear Camera fixtures for
Military Applications

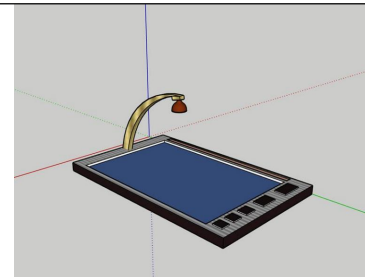
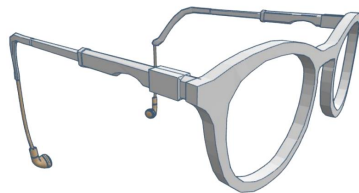


Dr.Sanjeev Sharma and Ms.Salna Joy / Pipeline Leakage Detection Robot

Dr.B.V.Santhosh Krishna and Dr.Agalya V/ anti-fall height adjustable table/



Dr.B.V.Santhosh Krishna and Dr.Agalya V / Bird repellent/ smart trolley

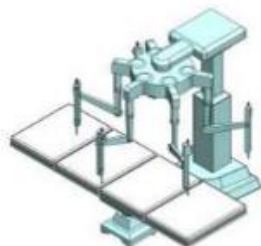


Mr.Ajay Bale / Bluetooth Eye Wear / In built lamp for Digital Writing Pad



Dr.Gunapriya / Foldable Television Remote

Dr.C.R.Rathish / Pet Bot



Dr.Manikandan / Robotic Surgery Machine / AI Based Apparatus for identification of diabetic patient

F. Highlight selected start-ups established by students/faculties with mention of founder/co founder name

Registered with Ministry of Corporate Affairs as Private Limited Companies:

S. No.	Founder/Co-Founder/Guide	Academic Year	Start-Up Name
1	TEJAS M	2022-23	CREARE SILVA PVT. LTD.
2	MUNNA SUPRATHIK	2022-23	GARSTUP PVT. LTD.


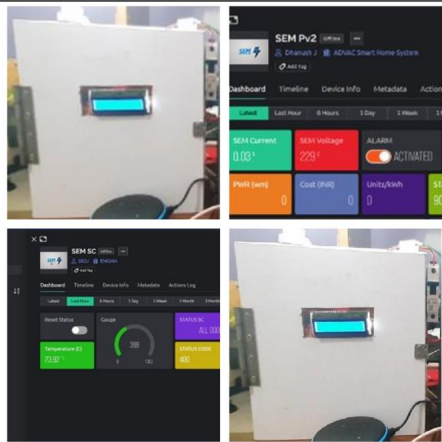
Registered with MSME – Udyam:










S. No.	Founder/ Co-Founder / Guide	Academic Year	Start-Up Name
1	AADAVAN A	2022-23	MEDIA PLAYER CONTROL USING HAND GESTURES
2	ADITHYA U	2022-23	LAND AND RIVER CLEANING ROBOT
3	BILAL AHMAD PINDTH	2022-23	DESIGN OF MEMORY BLOCK (FROM OPEN SOURCE)
4	BURRA HIMASREE	2022-23	SIGNATURE RECOGNITION USING MATLAB
5	CEDRIC BABY	2022-23	PERSISTENCE OF VISION DISPLAY
6	CHANDANA	2022-23	FOLK ROOTS
7	DEVARSHIKA NALLAPAPIREDDIG ARI	2022-23	CLIMATIC DATA ANALYSIS USING PAYSPARK
8	HARISH JUNG SHAHIS	2022-23	MECHPRENEUR
9	JITHIN J NAIR	2022-23	LONELINK MESSENGER
10	KINGSHUK GHOSH	2022-23	CULTUREHUB

11	LIKITHA T	2022-23	PROSTHETIC ARM USING EMG SENSOR
12	MALEEHA	2022-23	SMART GLASSES FOR THE BLIND
13	NANDISH	2022-23	EQUIYKNOX
14	MOHD A SAHIL	2022-23	CHAT BOT FOR BLIND PERSON
15	MONISHA N	2022-23	IOT BASED PATIENT HEALTH MONITORING SYSTEM USING ESP8266
16	MUNNA SUPRATHIK	2022-23	GARSTUP
17	N RAGHAVA REDDY	2022-23	RAGTECH SOLUTIONS
18	NANDINI R	2022-23	SMART VACCUM CLEANER USING ULTRASONIC SENSOR AND ARDUINO
19	NAREN PARASURAM	2022-23	AUTOMATIC STREET LIGHT
20	NITISH NIRANJAN	2022-23	VITTUAL SHOPPING IN JAVA
21	PATEEL SUHAS GOWD	2022-23	IOT BASED IRRIGATION MONITORING SYSTEM
22	PREETHI SWAPNA	2022-23	SHINTANZEE
23	RAMA KRISHNA U	2022-23	LUMINANET
24	RAMBARKI RAHUL	2022-23	BUTTON CODE
25	RAMBARKI RAHUL	2022-23	ECHO VIBE INNOVATIONS
26	RASHI AGARWAL	2022-23	PANDETEENS
27	RISHIK R	2022-23	RR VENTURES
28	S V HARSHITHA	2022-23	HARWEB
29	SAGARGOUDA PATIL	2022-23	SP VENTURES
30	SANDEEP PRAKASH. G	2022-23	BLINK OFF
31	SHASHANK S	2022-23	SPECTRUM SENSING ENERGY DETECTION

32	SHREENIDHI KULKARNI	2022-23	SOFT KITCHEN INTERIO
33	SOMARA MEGHANA	2022-23	SUBSTRATE INTERGATED WAVEGUIDE ANTENNA WITH 5G COMMUNICATION
34	SUGURU RAVIKANTH	2022-23	ROAD SAFETY MODEL IN ACCIDENT PREVENTION
35	V NIKHIL YADAV	2022-23	PLAYBUDS
36	VIGNESH P	2022-23	UNBIASED ELECTRONIC DIE WITH LED
37	VIMARSHA R	2022-23	FABRICATION OF WATER SPRINKLER AND PESTICIDE SPRAYING ROBOT
38	YENNAM VENI	2022-23	FREQUENCY AND RADIATION PATTERN RECONFIGURABLE ANTENNA WITH 5G COMMUNICATION

G. List if any break through Innovations / Technology Developed at the institute (2-3 technology with 2-3 lines about technology and innovation

Break Through Innovation	Technology Developed at the Institute
	<p>This Innovation Talks about “ Design and Fabrication of Multi-Mode Bi-Copter” done by the students Aswajith B, Amulya Choudary , Anjan Kumar M S,Hariprasad L,8th Sem ME /NHCE. guided by Dr.Sudharsan, AP/ME,NHCE</p>
	<p>The innovation talks about “ smart energy meter with natural disaster identification and gas leakage detection device” has been tested for its performance in real time situations.This is an invention where reading of electricity meter is automated thereby, it is used to make the work of reading man redundant.</p>

	<p>TLDWR is a novel system designed to remedy this hassle. The innovation is highly scalable since it can be used by people of all ages to accelerate their learning. The software has been tested and validated on a small scale by students and teachers.</p>		
<p>Implementation of Smart E-Vehicle Charging Station powered by Renewable Energy</p> 	<p>Solar Refrigerator for Portable Refrigerator</p> 	<p>Optimization of Battery Performance in Electric Vehicle</p> 	<p>Implementation of parameter estimation o an electric bicycle using IoT for village / rural/disabled community</p> 
<p>Solar Driven Vaccine Refrigerator using environment-friendly refrigerants for Off-Grid locations</p> 	<p>Solar based energy efficient hybrid SLBLDC motor for agriculture</p> 	<p>Artificial Intelligence based SRLF-Driving car using Robotic Model</p> 	<p>Design and Implementation of solar fed food alert system using Bolt Wi-Fi Module</p> 

H. Testimonials from IIC members and external about IIC institute and IIC of MoE's Innovation Cell

“As per the guidelines of MOE’s Innovation cell our Vision is to create research in innovation towards Teaching Learning Process , network with peers and national entrepreneurship development organization ”

- Dr.Manjunatha, Principal and IIC Chairman, NHCE

“Institution’s Innovation Council is a set up to encourage the creative energy of NHCE students and faculty members to work on new ideas and innovation to promote them to create start-up and entrepreneurial ventures”

- Dr.Agalya V, Head IPR Cell and IIC-President, NHCE

“NHCE IIC is actively focused on innovations and various activities on Entrepreneurship and IPR under the guidance of MIC. We are extremely thankful for all the guidelines pertaining to NISP and Entrepreneurship activities for promoting start up Eco system at the institution level”

- Dr.Piyush Kumar Soni, Head-NHCIIE and NISP Coordinator, NHCE

“NHCE IIC is a very vibrant platform to organize various events related to Innovation, IPR, start-up and entrepreneurship for the benefit of students and faculty fraternity. Due to these activities, students are getting a chance to participate in various innovation related initiatives, idea competitions, Smart India Hackathon and Innovation contests organized by MOE ”

- Ms.Shruthi S, IIC- IPR Coordinator,NHCE

"I am privileged to be part of NHCE IIC at New Horizon College of Engineering, Bangalore. The program's mission to cultivate top-tier undergraduates and postgraduates in various fields is evident in its rigorous curriculum and emphasis on practical knowledge. Through NHCE IIC, I've gained invaluable insights, both theoretical and hands-on, that have fortified my understanding and civic responsibility. The cell's dedication to fostering research and extension activities in Engineering and Technology is commendable, paving the way for innovative advancements. This experience has been transformative, equipping me to contribute meaningfully to the progress of our country and society. NHCE IIC is a beacon of excellence in education and research."

- Mr.Shreyas S G, Student Innovation Coordinator,IIC -NHCE.

“My experience with NHCE IIC is fantastic as the professors in the department always helped me in which ever technology I seek help of. I was always encouraged to create and innovate, trust is something that is difficult earn in life. In many cases centers place their trust initially on those students who perform exceptionally well at academics. But NHCE IIC has respected talent from all students who promised to deliver. This places this center in a unique place as it not only encouraged their students to innovate but also re ignited the fire of curiosity and likeliness towards research which essentially made many of us to revisit the problems with clearer first principles. Hence, transforming us into better students with each opportunity to learn”

- Mr.Gurusaran Reddy, IIC student member - NHCE.

I. Images

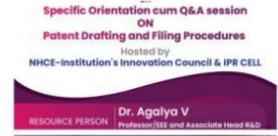
<https://researchnhce.newhorizoncollegeofengineering.in/institutions-innovation-cell/>



The inaugural of 'QuantumX 2022' took place on December 8th, 2022, at 10:00 am, Mr. Hanumanth S.N. CEE Lead Data Engineering, Brillus was the Chief Guest, and



Figure.1 Glimpses of Infrastructure facilities of NHCIE and UDAAN(Give wings to budding entrepreneurs) seed funding scheme



Specific Orientation cum Q&A session
ON
Patent Drafting and Filing Procedures
Hosted by
NHCE-Institution's Innovation Council & IPR CELL

RESOURCE PERSON
Dr. Agalya V
Professor IITB and Associate Head R&D



Figure.2 Glimpses of Infrastructure facilities of IPR in R&D and IPR Awareness Activities on Tech-Innovation



Figure.3 Glimpses of Infrastructure facilities of Innovation Lab and Tech-Innovation

J. Contact

S.No	Name	Role	Email-Id	Mobile
1	Dr.Agalya V	President	Dr.agalyav.nhce@newhorizonindia.edu	6369053454
2	Dr.Sujin Jose A	Convener	dr.sujin jose@newhorizonindia.edu	8973919442
3	Dr. Piyush Kumar Soni	NISP Coordinator	dr.piyushkumars.nhce@newhorizonindia.edu	7898060802