



Koneru Lakshmaiah Education Foundation

(Category -1, Deemed to be University estd. u/s. 3 of the UGC Act, 1956)

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Campus: Green Fields, Vaddeswaram - 522 302, Guntur District, Andhra Pradesh, INDIA.

Phone No. +91 8645 - 350 200; www.klef.ac.in; www.klef.edu.in; www.kluniversity.in

Admin Off: 29-36-38, Museum Road, Governorpet, Vijayawada - 520 002. Ph: +91 - 866 - 3500122, 2576129

30-09-2020

Webinar

on

“Broadcasting technologies – A foresight of cloud, HD and virtual reality”

Circular:

Webinar on “Broadcasting technologies – A foresight of cloud, HD and virtual reality” – Reg.

Registrar <registrar@kluniversity.in>

Mon 9/28/2020 2:47 PM

To:KLU Chancellor <chancellor@kluniversity.in>;PRESIDENT <president@kluniversity.in>;Havish <havish@kluniversity.in>;Raja H Koneru <krh@kluniversity.in>;konerurajaharin@gmail.com <konerurajaharin@gmail.com>;Dr. S S Mantha <ssmantha@kluniversity.in>;Shankar Mantha <ssmantha33@gmail.com>;Chancellor Office <chancelloroffice@kluniversity.in>;Dr.Venkat <drvenkat@kluniversity.in>;Pro Chancellor Office <prochancelloroffice@kluniversity.in>;Vice Chancellor - KLU <vc@kluniversity.in>;Dr. LSS Reddy <drissreddy@kluniversity.in>;Dr.Ramakumar Ambatipudi <dramakumara@kluniversity.in>;N Venkat Ram <venkatram@kluniversity.in>; Dean Academics <dean.academics@kluniversity.in>;DR G.P SARADHI VARMA <gpsvarma@kluniversity.in>;Pro-VC-Academics <provc-academics@kluniversity.in>;Pro-VC-Academics Office <pro-vc-academicoffice@kluniversity.in>;Office Of Pro-VC <provcoffice@kluniversity.in>;Registrar <registrar@kluniversity.in>

1 attachments (4 MB)

Broadcasting ECE Webinar on 30.09.2020.jpg

Ref: KLEF/RO/HOD-ECE/2020-21

Date: 28-09-2020

Orders of the Vice-Chancellor dt.28-09-2020

CIRCULAR

Sub: Webinar on “Broadcasting technologies – A foresight of cloud, HD and virtual reality” – Reg.

Ref: Letter dated 28.09.2020 from Dr.M. Suman, HoD-ECE.

This is to inform all the faculty members and students that Department of ECE, KLEF, is organizing a webinar on “Broadcasting technologies – A foresight of cloud, HD and virtual reality” by eminent speaker Mr.P. Kalee Prasad, Assistant Engineer, Doordarsahan Kendra, Vijayawada from 02.00 p.m. to 3.30 p.m. on 30th September 2020 (Wednesday).

Registration is free and the webinar link is given below.

<https://kluniversity.webex.com/kluniversity/j.php?MTID=m9876aaf081144b8d8452128ec6afd92d>

For any queries on webinar the following faculty members can be contacted.

Sl.No.	NAME OF THE FACULTY	DESIGNATION	CONTACT NUMBER
1.	Dr.N.V.K.Ramesh	Assoc.Prof	9866583364
2.	Ms.Sri.Madhuri	Assist.Prof	9491443457
3.	Sri.K.T.P.S.Kumar	Assist.Prof	7306303654

Brochure of the webinar is attached herewith.

REGISTRAR

Encl: Brochure

-

Mail & Hard copy to: Hon'ble President, KLEF

Mail to: Hon'ble Vice-Presidents,

KLEF

Mail & Hard copy to: Hon'ble Chancellor / Hon'ble Pro Chancellor / Hon'ble Vice-Chancellor

Mail & Hard copy to: OSD to Hon'ble Chancellor-Dr.Ambatipudi Rama Kumar

Mail & Hard copy to: Pro Vice-Chancellor (Administration)-Dr.N.Venkatram / Pro Vice-Chancellor (Academics)-Dr.GP5 Varma

Mail to:Chief Coordinating Officer-Dr.A. Jagadeesh / Chief Coordinating Officer of Examinations-Dr.K.J.Babu

Mail to: Special Officer -Dr.A. Vani, / Special Officer in VC's Peshi -Dr.K. Subrahmanyam /

Special Officer (Academic Audit) - Dr.A.Anand Kumar / Special Officer (Research Audit) &

Head (Research Consultancy & Smart Campus)-Dr.Vinay Kumar Mittal



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Poster:



KL | Department of **Electronics & Communications**

**ONE DAY ONLINE WEBINAR ON
 TITLED BROADCASTING
 TECHNOLOGIES
 A FORESIGHT OF CLOUD
 HD AND VIRTUAL REALITY**

Conventional TV Broadcasting has rose its production methodologies from scenic design from cloth to cloud. Single transmitter and coverage to a single city to global reach through wired, wireless and present in any form - anywhere. Display technology improved from CRT to LCD,LED with HD quality and beyond also like Ultra 4K. Real studio environment augmented with virtual and augmented realities. An insight to all these technologies really and virtually is the theme of webinar presentation.

**30th OF SEPT.
 @ 2 PM**

SPEAKER

P. Kalee prasad
 Assistant Engineer, Doordarsan Kendra Vijayawada
 Hon. Secretary IETE Vijayawada Local Center
 Email: p.kaleeprasad@gmail.com

Webinar Link: <https://kluniversity.webex.com/kluniversity/j.php?MTID=m9876aaf081144b8d8452128ec6afd92d>

Organized by
CSR Group, Department of ECE, KLEF

Department Chair Dr. V. K. Mittal Professor, ECE	HODs Dr. M. Suman Professor and Head, ECE, KLVZA Dr. KoteswaraRao Professor and Head, ECE, KLH	Convener Dr. N. V. K. Ramesh Assoc. Professor, ECE	CSR Group Head Dr. K. S. Ramesh Professor, ECE	Co-ordinators K. T. P. S. Kumar Asst. Professor, ECE A. V. S. Madhuri Asst. Professor, ECE
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Fig. Poster of webinar

1. Objective and discussions:

Understanding Technological Trends: Analyze current and emerging broadcasting technologies, such as cloud-based broadcasting, high-definition (HD) transmission, and virtual reality (VR) integration, to understand their impact on the broadcasting industry.

Assessing Market Potential: Evaluate the market potential of cloud-based broadcasting, HD transmission, and VR integration in the broadcasting sector, including market size, growth projections, and key players.



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Enhancing Viewer Experience: Investigate how these technologies can enhance the viewer experience, including improved visual quality, immersive experiences, and interactive features.

Optimizing Content Delivery: Explore how cloud-based broadcasting can optimize content delivery, improve scalability, and reduce infrastructure costs for broadcasters.

Identifying Challenges and Barriers: Identify potential challenges and barriers to the adoption of these technologies, such as technical limitations, cost implications, and regulatory issues.

Developing Strategies for Implementation: Develop strategies for broadcasters to leverage cloud, HD, and VR technologies effectively, considering factors such as content creation, distribution, monetization, and audience engagement.

Addressing Technical Requirements: Outline the technical requirements for implementing cloud-based broadcasting, HD transmission, and VR integration, including hardware, software, networking infrastructure, and compatibility considerations.

Considering Societal Implications: Consider the societal implications of these technologies, such as accessibility, privacy concerns, and digital divide issues, and propose measures to address them.

Exploring Business Opportunities: Identify new business opportunities and revenue streams enabled by cloud, HD, and VR technologies in the broadcasting industry, such as targeted advertising, subscription models, and content licensing.

Fostering Collaboration and Innovation: Encourage collaboration between broadcasters, technology providers, content creators, and other stakeholders to foster innovation and drive the evolution of broadcasting technologies.



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By addressing these objectives, stakeholders can gain valuable insights into the potential of cloud, HD, and VR technologies to reshape the broadcasting landscape and create new opportunities for content delivery and audience engagement.

2. Key Technologies:

Cloud Computing: Cloud computing facilitates the storage, processing, and delivery of multimedia content over the internet. Broadcasters leverage cloud-based infrastructure for content management, transcoding, streaming, and distribution. Cloud solutions offer scalability, flexibility, and cost-effectiveness compared to traditional on-premises systems.

High-Definition (HD) Transmission: HD transmission refers to the delivery of high-quality audiovisual content with superior resolution, clarity, and fidelity. Broadcasting in HD formats such as 1080p or 4K enhances the viewing experience by providing sharper images, vibrant colors, and immersive visuals. Advanced compression algorithms and transmission protocols optimize bandwidth utilization for HD broadcasts.

Virtual Reality (VR) and Augmented Reality (AR): VR and AR technologies enable immersive and interactive experiences for viewers. VR immerses users in virtual environments, while AR overlays digital elements onto the real world. In broadcasting, VR and AR applications include immersive storytelling, virtual studio environments, interactive advertisements, and virtual tours.

IP-based Broadcasting: Internet Protocol (IP)-based broadcasting leverages IP networks for content production, distribution, and delivery. IP-based workflows replace traditional broadcast infrastructures with networked solutions, enabling greater flexibility, scalability, and efficiency. IP technologies include IP cameras, software-defined networking (SDN), and Internet Protocol Television (IPTV) platforms.



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Content Delivery Networks (CDNs): CDNs optimize the delivery of multimedia content by distributing it across geographically dispersed servers. CDNs accelerate content delivery, reduce latency, and enhance scalability for live and on-demand broadcasts. Edge computing technologies within CDNs enable local caching and processing of content near the end-users, improving performance and reliability.

Advanced Compression Standards: Advanced compression standards such as High-Efficiency Video Coding (HEVC/H.265) and Versatile Video Coding (VVC) optimize video compression to reduce file sizes while maintaining high visual quality. These standards enable efficient transmission and streaming of HD and 4K/Ultra HD content over bandwidth-constrained networks.

Machine Learning and Artificial Intelligence: Machine learning (ML) and artificial intelligence (AI) technologies enhance various aspects of broadcasting, including content recommendation, personalization, metadata tagging, and video analytics. AI-driven algorithms automate content analysis, improve searchability, and enable real-time content moderation and contextual advertising.

Immersive Audio Technologies: Immersive audio technologies such as Dolby Atmos and DTS:X deliver spatial audio experiences that complement HD and VR visuals. These technologies create immersive soundscapes with precise positioning of audio objects, enhancing the realism and immersion of multimedia content.

Interactive Broadcasting Platforms: Interactive broadcasting platforms enable real-time engagement and participation from viewers through interactive features such as live polls, chats, and social media integration. These platforms foster audience interaction, community building, and user-generated content creation during live broadcasts.



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Blockchain and Digital Rights Management (DRM): Blockchain technology and DRM solutions secure digital content rights, transactions, and distribution channels in the broadcasting ecosystem. Blockchain-based DRM systems ensure content authenticity, traceability, and royalty management, safeguarding intellectual property and revenue streams for content creators and broadcasters.

These key technologies collectively drive innovation, efficiency, and audience engagement in the evolving landscape of broadcasting, paving the way for new content formats, delivery methods, and business models.

3. Applications:

Cloud-Based Production and Post-Production: Cloud computing facilitates collaborative content creation, editing, and post-production workflows. Broadcasters can leverage cloud-based editing suites, storage solutions, and collaboration tools to streamline production processes, reduce costs, and enable remote work capabilities for production teams.

Live Streaming and Video-on-Demand (VOD): Cloud-based streaming platforms enable broadcasters to deliver live events, sports, news, and entertainment content to global audiences in real-time. Additionally, VOD services hosted on cloud infrastructure offer on-demand access to a vast library of content, personalized recommendations, and seamless playback across devices.

Virtual Studio Environments: Virtual reality technologies enable broadcasters to create immersive virtual studio environments for live presentations, news broadcasts, and entertainment shows. Virtual sets, augmented reality graphics, and immersive storytelling techniques enhance viewer engagement and provide innovative ways to present information.



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360-Degree Video and Virtual Tours: Virtual reality and 360-degree video technologies enable broadcasters to produce immersive experiences such as virtual tours, documentaries, and live events. Viewers can explore environments from different perspectives, enhancing their sense of presence and engagement with the content.

Augmented Reality (AR) Broadcasting: Augmented reality overlays digital elements onto real-world scenes, enhancing storytelling, and visual presentation in broadcasting. Broadcasters use AR graphics, overlays, and interactive elements to provide contextual information, highlight key points, and engage audiences during live broadcasts.

High-Definition (HD) and 4K/Ultra HD Broadcasting: High-definition and 4K/Ultra HD broadcasting technologies deliver superior visual quality, clarity, and resolution to viewers. Broadcasters utilize HD and 4K cameras, production equipment, and transmission standards to capture and broadcast high-fidelity content across various platforms.

Immersive Audio Experiences: Immersive audio technologies such as Dolby Atmos and DTS:X enhance the auditory experience for viewers by providing spatial audio cues and realistic soundscapes. Broadcasters use immersive audio to create immersive storytelling experiences, enhance realism in virtual environments, and immerse audiences in live events.

Interactive Broadcasting Platforms: Interactive broadcasting platforms enable real-time engagement and participation from viewers through interactive features such as live polls, chats, and social media integration. Broadcasters use interactive platforms to foster audience interaction, community building, and user-generated content creation during live broadcasts.

Personalized Content Recommendations: Machine learning and artificial intelligence algorithms analyze viewer preferences, behavior, and viewing patterns to deliver personalized content recommendations. Broadcasters leverage recommendation engines to enhance



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content discovery, retention, and viewer satisfaction on streaming platforms and VOD services.

Blockchain-Based Content Distribution and Rights Management: Blockchain technology enables secure content distribution, rights management, and royalty payments in the broadcasting industry. Broadcasters use blockchain-based DRM solutions to protect intellectual property, verify content authenticity, and ensure fair compensation for content creators and rights holders.

These applications demonstrate how cloud, HD, and virtual reality technologies are transforming the broadcasting landscape, enabling immersive experiences, personalized content delivery, and interactive engagement with audiences across diverse platforms and devices.

Online Link

<https://kluniversity.webex.com/kluniversity/j.php?MTID=m4a574b9ee4fbd71f3043e3e683b1a451>

Number of participants: 47



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BROADCAST TECHNOLOGIES A FORESIGHT ON CLOUD, HD & VIRTUAL REALITY

PAMMI KALEE PRASAD
M.SC M.TECH [IITK]
ASST ENGINEER DORRDARSHAN
HON SECRETARY – IETE VIJAYAWADA

4:38 / 1:37:06

BROADCASTING TECHNOLOGIES- AFORESIGHT OF CLOUD, HD&VIRTUAL REALITY [Compatibility Mode] - Microsoft PowerPoint

Home Insert Design Animations Slide Show Review View

Slides Outline

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- 42
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- 45

CLIENT CLIENT CLIENT

Ethernet

SERVERS

Hub Bridge Switch

SAN

ATL JBOD Tape drive Disk array

Click to add notes

1:28:49 / 1:37:06

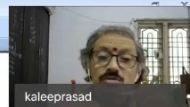


Fig. List of students



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List of the Participated Students:

S. No.	Roll No	Name
1	190040276	LAKSHMI DURGA ANUHYA SREERAM
2	190040501	SURAGAM GNANENDRA
3	190040197	KALVALA KUSHAL SAI KARTHIKEYA
4	190040559	VEMU ROSHAN
5	190040033	ARUMALLA SASI KEERTHI
6	190040306	MANDADAPU SANDEEP
7	190040615	GADIYAM MAHENDHAR REDDY
8	190040151	GORLA SAI SRI TEJA
9	190040579	YALAMARTHI JAYARAM PRADEEP
10	190040345	MULAPARTI V S K VISHAL
11	190040042	BANDI NANDITHA
12	190040488	SONTI SAMPATH KUMAR
13	190040516	THAVITI HARSHA VARDHAN REDDY
14	190040495	SUBRAMANYAM YADAVILLI
15	190040303	MANCHALA VENKATA NAGA SAI
16	190050008	BHALLAMUDI SRI CHARITHA
17	190040025	ANISSETTY DEVI SUPRAJA
18	190040294	MAHAMKALI NAGA PRUDHVI
19	190040224	KAVALA KAILASH
20	190040057	BHAVANAM VINEETHA
21	190040512	TADEPALLI SOWMYA
22	190040534	URLANA YASWANTH
23	190040689	BODEMPUDI SWARNA
24	190040245	KOMMULA AMRUTHA
25	190040472	SHAIK MASTAN VALI
26	190040280	LANKA SRI DATTA KIRAN
27	190040126	DUDEKULA PEDDA KASIM
28	190040332	MOGANTI BHARGAV SAI KRISHNA
29	190040481	SIKHARAM SIVA RAM
30	190040258	KORRAPATI GANESH PAVAN NAGASAI
31	190040560	VEMULA JAYAVANTH
32	190040596	VETSA SAI VIVEK
33	190040467	SHAIK FAREED BABA
34	190040078	CHANDALURI NAGA VENKATA SAI KUMAR
35	190040356	MUVVA ADI VIGNESWARA REDDY
36	190040215	K SAI SIVA SANDEEP
37	190040357	NADAKUDITI TARUN CHANDU
38	190040423	PUPPALA DEVIKA CHANDINI
39	190040368	NEREDUPALLI KARTHIK
40	190040066	BUDDEPU VENKAT BHAGAVAN



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41	190040406	POLAVARAPU RATHNESH
42	190040282	LOLLA SREEKAR
43	190040030	ANUMOLU VENKATA SAI RISHITHA
44	190040213	KARRI JAGADEESH MANI SIVA KUMAR
45	190040044	BANDLAMUDI GNANA DEEPIKA
46	190040034	ARUMALLA VENKAT REDDY
47	190040346	MULA DIWAKAR BABU


HOD/ECE
Dr. M. Suman
Dr. M. SUMAN
Professor & Head
Department of ECE
K L E F
Green Fields, Vaddeswaram
Guntur Dist., A.P. PIN: 522 502