

## Recent Trends in Epigenetics in Cancer Diagnosis and Therapy

The 2-day ANRF-sponsored National Conference titled "Recent Trends in Epigenetics in Cancer Diagnosis and Therapy" was organized by Dr. M. Janaki Ramaiah, Professor, Department of Biotechnology, KLEF on 27<sup>th</sup> and 28<sup>th</sup> of August, 2024 in Peacock Hall, KLEF Campus, Guntur. The conference brought together leading experts, researchers, and clinicians to explore the latest developments in the field of epigenetics as it pertains to cancer. The focus was on understanding how epigenetic modifications influence cancer progression, and how this knowledge is being translated into innovative diagnostic tools and therapeutic strategies. Attendees had an opportunity to learn about groundbreaking research that is paving the way for more personalized and effective cancer treatments. The conference featured presentations on the role of DNA methylation, histone modification, and non-coding RNAs in cancer, as well as discussions on the clinical implications of these findings. The inaugural function was attended by the chief guest, Dr. Rajasekhar Rekapalli, Assistant Professor of Neurosurgery at AIIMS Mangalagiri, Dr. K.S. Jagannatha Rao, Honorable pro-chancellor, KLEF, Dr. K Subba Rao, Registrar, KLEF, Dr. K. Raghava Rao, and Dr. M. Janaki Ramaiah.

This event was designed for professionals involved in cancer research, diagnosis, and therapy, offering a platform for networking, collaboration, and the exchange of ideas that could shape the future of cancer care.

The lectures were as follows:

1. Dr. Rajasekhar Rekapalli

He is an Assistant Professor of Neurosurgery at AIIMS Mangalagiri. Dr. Rekapalli's journey in medicine is truly remarkable. He completed his MBBS from Guntur Medical College in 2012, followed by an MS in General Surgery from PGIMER, Chandigarh, in 2015.

2. Dr. Suresh Kumar Rayala

Dr. Rayala is a leading cancer biologist at the Indian Institute of Technology Madras. His pioneering work includes developing small molecules and peptides to target novel oncogenes and employing advanced CRISPR/Cas9 techniques to explore drug mechanisms and therapy resistance.

3. Dr. Shaik Mohammad Naushad

He is a distinguished scientist with a Ph.D. in Biochemistry and currently serves as the Chief Scientific Officer at Yoda Diagnostics Pvt Ltd. He extensively researched about mutations of BRCA genes and precision medicine.

4. Dr.T Anjana Devi

Dr. Anjana is a leading figure in the field of chemical technology and a prominent researcher at the CSIR-Indian Institute of Chemical Technology, Hyderabad.

Dr Anjana have shown the impact of autophagy inhibitor in driving the neuroblastoma cancer cells towards apoptosis from autophagy pathway

5. Dr.Rajakumara Eerappa

He is a professor and Head of Biotechnology Department at IIT Hyderabad. He has conducted groundbreaking researches in Structural Biology, Epigenetics and DNA, Repair and PAR1 role in cancer.

We are grateful for the insights gained and the conference gave us complete information about cancer cells, and how they get mutated and lead to death. We also understand the applications in *invitro* and *in vivo* and the more interesting part was the hallmarks of cancer and uses of biomarkers, fluorescence-guided systems, DNA methylation, histone modifications, the evolution of the brain and we came to know how biotechnology plays a major role in cancer identification and even came to know about advanced technologies and various methods. We also had the young minds sharing their new ideas and research with us during the online and offline poster presentations.

On the 2<sup>nd</sup> day, the sessions were filled with groundbreaking research, innovative treatment strategies, and inspiring success stories. It was compelling to learn about the latest advancements in immunotherapy and precision medicine, which are revolutionizing patient outcomes.

The lectures were as follows

1. Dr. Siva Kumar Arumugam- Associate Professor-Sr and HoD, VIT Vellore, worked on Ras mutant driven colorectal cancer treatment by effective drugs by mol modelling strategies
2. Dr. M. Raja Sekhar Reddy- Associate Professor, Research PGP Chair, Amrita Vishwa Vidyapeetham, Amaravati. He has limelighted about AI tools and strategies for cancer detection.
3. Dr. Rajesh Jha –Principal Scientist, CDRI, Lucknow. He worked on role macrophage and T cells in dictating endometriosis.
4. Dr. Damodar Reddy Edla- Associate Professor, Dean, NIT – Goa. He works on AI in cancer detection.

Prof. Vijaya Ramu Dirisala, Dean, of the School of Biotechnology and Pharmaceutical Sciences and Dean of Faculty Affairs at Vignan's University was the chief guest at the valedictory function. He inspired the students with his words and gave away prizes to the winners of the poster presentation

along with honorable pro-chancellor Dr. K. Jagannatha Rao and Dr. M. Janaki Ramaiah. Networking with professionals and thought leaders allowed for enriching discussions and diverse perspectives, reinforcing the collaborative spirit needed to tackle cancer and even got to know more about cancer cells and Wireless Sensor Networks, Cognitive Neuroscience, and Medical Imaging and learned how AI is going to play a major role in detecting the cancer cells and their interactions.

We thank the participants, the sponsors, the management of KLEF, the officials, the purchase and account departments, students, and staff for all their help and continuous efforts to make this conference a great success in the stipulated amount of time.

**KL Deemed to be University Leads the Charge in Cancer Research with National Conference on Epigenetics in Cancer Diagnosis and Therapy**



**केएल डीड टू बी यूनिवर्सिटी का कैंसर निदान और उपचार में कदम**

एपिजेनेटिक्स का अध्ययन करने के लिए एक राष्ट्रीय सम्मेलन के दौरान केएल डीड टू बी यूनिवर्सिटी के प्रमुखों ने कैंसर निदान और उपचार में एपिजेनेटिक्स के क्षेत्र में नए कदम के लिए एक राष्ट्रीय सम्मेलन का आयोजन किया।

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## AI tools crucial for detecting cancer cells: expert

**The Hindu Bureau**  
HYDRABAD

Artificial Intelligence (AI) tools form an essential part of modern technology used to identify cancerous cells, said Rajasekhara Reddy, Dean

Research and Development at Amrita University. At a conference on 'National Level Trends in Epigenetics Cancer Diagnosis and Therapy' at KL Deemed University, Mr. Rajasekhara Reddy explained to the students the use

of AI to predict a patient's condition and use of machine learning technology tools for diagnosis. He said there were ways to detect cancer at an early stage. Conference convener M. Janakiramaiah explained how

cancer cells undergo genetic changes in human body and how the living cells in a person undergo changes due to diet and lifestyle modifications. "It is impossible to prevent cancer if it is not detected at the right time," he said.