

**One Day National Online Webinar  
on  
Cancer and the Molecular Complexity**

**17-06-2021**

**Report on Webinar Organized**

**Title:** Cancer and the Molecular Complexity

**Date:** 17-06-2021.

**Resource Person:** Dr. A. Sandhya, Assistant Professor, Department of Genetics, Osmania University

**Description of the Program:**

Vignan's Foundation for Science Technology and Research is NAAC 'A' grade institution and secured good rank in Engineering category by the National Institutional Ranking Framework (NIRF).

The University as well as our department planned to organize a series of webinars on emerging technologies for faculty and research scholars to improve the research potentiality.

As the part of series of webinars department of Biotechnology organized one-day national online webinar on "Cancer and the Molecular Complexity". This programme has received an overwhelming response. About 356 Faculty members and research scholars from various engineering colleges and industry have participated.

Dr. S. Anil Kumar, Coordinator has welcomed the speaker and all the participants to the webinar. Dr. S. Anil Kumar, Assistant Professor has introduced the resource person Dr. A. Sandhya. In his talk, he highlighted the main objectives and importance of this webinar.

Dr. A. Sandhya explained about Cancer and the Molecular Complexity. Cancer is a complex disease characterized by abnormal cell growth and proliferation manifested as several diverse cancer types. Cancer incidence and mortality has been on the rise globally at an alarming rate and remains a major health concern. Despite tremendous efforts and progress made in cancer research for the past three decades, path towards its cure remained a clinical challenge. The studies on molecular basis of cancer could reveal many deregulated mechanisms at epigenetic and genetic levels in the origin of malignant cell transformation, progression and tumor evolution. Identification of key driver events including somatic and germline mutations mainly in oncogenes, tumor suppressors and DNA repair genes had facilitated majorly in discovery of tumor specific markers for effective diagnosis, prognosis and targets for molecular therapy for many cancers, contributing to increased survival rates and improved outcomes. However, tumor metastasis, chemoresistance, drug response and recurrence are the current challenges in cancer therapy associated with clinical and molecular heterogeneity. Adding to the complexity, intra and inter-tumor heterogeneity is a technical barrier to understand tumour microenvironment and phenotype. Functionally distinct hallmarks of cancer are influenced by various integrative signalling pathways based on metabolic fates and nuclear responses mediated by various intrinsic factors including RNA regulators such as miRNAs and lncRNAs. Molecular evaluation of these pathways has been central to gain the

potential leads in cancer research by comprehensive analysis via genomic screening, transcriptome analysis, metabolome profiling and even tumor cell profiling. In recent years, clinical as well as in vitro/in vivo cancer models provided huge insights not only for better understanding of this complex genomic disease but also for development of effective molecular/cellular therapeutics for its cure and better management. In view of the above, the current talk will highlight the complex molecular mechanisms of tumor origin and metastasis, current challenges in cancer research and advanced therapeutic approaches.

Finally, vote of thanks was given by Dr. S. Jagadish, he thanked every participant for their active participation during entire session. He also expressed the gratitude to the Resource Person, Dr. A. Sandhya, for sharing of latest research issues with all participants. Also, he expressed his sincere thanks to Dr. L. Rathaiah Garu Chairman, Vignans group of institutions, Vice-Chancellor Dr. M.Y.S. Prasad and HOD, for giving an opportunity to organize this webinar.

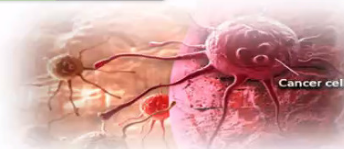
At the end the session the feedback of the participants was very positive and motivational for the organizers. The participants felt very happy for conducting the webinar on “Cancer and the Molecular Complexity”. They have learned the importance of complex molecular mechanisms of tumor origin and metastasis, current challenges in cancer research and advanced therapeutic approaches. They said that, this program was very useful and helpful for them in their research work and guiding the projects to the students. All the participants appreciated the sessions by our Resource Person and the arrangements made by the organizers.

### Snapshots of the Program:


The image is a vertical poster for a webinar. At the top, it says 'Invitation Webinar on' with a play button icon. The title 'CANCER AND THE MOLECULAR COMPLEXITY' is in large, bold, red letters. Below the title, the date and time '17<sup>th</sup> June, 2021 from 10:00 AM to 11:30 AM' are displayed in a yellow box. A 'Speaker' section features a photo of Dr. A. Sandhya, an Assistant Professor in the Department of Genetics at Osmania University. The bottom section includes Zoom meeting details: a URL, meeting ID 825 2509 8687, and passcode 5271334. It also lists the webinar coordinator as Dr. S. Anil Kumar, Assistant Professor. The footer contains the logo and name of the Department of Biotechnology at Vignans University, along with contact information for Vadlamudi, Guntur, Andhra Pradesh, India.

### 1. Invitation of the Programme

You are viewing Dr. Sandhya Annamaneni's screen View Options



# Cancer and the Molecular Complexity



**Dr. A. SANDHYA**  
 Assistant Professor  
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 Vignan University, Guntur @17-06-2021

Mute Stop Video Security Participants 47 Polls Chat Share Screen Record Reactions More End

Civil Services Academy  
 P. B. Kavi  
 Dr. Sandhya Annamaneni

## 2. Screen Shot of the Programme

Zoom Meeting You are viewing Dr. Sandhya Annamaneni's screen View Options

### Transforming Oncology- Goals in translational research

**Comprehensive genomic interrogation of tumors**



- Aggressive/metastatic tumors
- Distinctive characteristics
- Enterprise-wide

"Cutting-edge" and emerging technologies

- Integrative heuristic algorithms
- Focused experimental validation?

- Evaluation committee
- Framework for decision making
- Hypothesis-driven phase I trials
- Mechanism-based clinical studies

- Registry studies
- Pharmacodynamic analyses

- Molecular mechanisms/correlates
- Integration with preclinical studies

Inform novel therapeutic trials or therapeutic combinations

Garraway L.A. Genomics-driven oncology: framework for an emerging paradigm. *Journal of clinical oncology: official journal of the American Society of Clinical Oncology*. 31(15): 1996-1914 (2013).

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