

**DEPARTMENT OF BIOTECHNOLOGY**

**REPORT ON**

**“Guest Lecture on "Clinical Basis of Chemotherapy and  
Drug Resistance”**

**by**

**Dr. Ricardo J. Parker Director, Cancer Research  
SageMedic Corp California, USA**

**23-MAY-2023**


“Guest Lecture on “Clinical Basis of Chemotherapy and Drug Resistance”

by


Dr. Ricardo J. Parker Director, Cancer Research SageMedic Corp California,  
USA

23-MAY-2023

## PROGRAM BROCHURE





**SRI VENKATESWARA COLLEGE OF ENGINEERING**  
(An Autonomous Institution – Affiliated to Anna University, Chennai)  
Sriperumbudur Tk – 602 117, Tamil Nadu



INSTITUTION'S  
INNOVATION  
COUNCIL  
(Ministry of HRD Initiative)


Department of Biotechnology  
&  
BioAcademy





SVCE IQAC  
Consciousness for Quality

Solicit your esteemed presence for an **Guest Lecture**  
On  
**“Clinical Basis of Chemotherapy and  
Drug Resistance”**  
by




**Dr. Ricardo J. Parker**  
Director, Cancer  
Research  
SageMedic Corp  
California, USA

**ALL ARE CORDIALLY INVITED**

Venue : [Google Meet \(https://meet.google.com/uic-phww-zdt\)](https://meet.google.com/uic-phww-zdt)  
Date : 23<sup>rd</sup> May 2023 (Tuesday)  
Time : 9:00 to 10:00 AM (IST)

<b>Conveners</b> Prof. M. Sivanandham Secretary, SVEHT Prof. E. Nakkeeran HoD-BIO	<b>Organizing Secretary</b> Mr. N. Sathish AP-BIO	<b>Coordinators</b> Dr. K. Ganesh Prasath AP-BIO Mr. J.G. Aswin Jen0 AP-BIO
---	---	---

svce.ac.in



**“GUEST LECTURE ON "CLINICAL BASIS OF CHEMOTHERAPY AND DRUG  
RESISTANCE”**

**BY**

**DR. RICARDO J. PARKER DIRECTOR, CANCER RESEARCH SAGEMEDIC CORP  
CALIFORNIA, USA**

**23-MAY-2023**

The Department of Biotechnology at Sri Venkateswara College of Engineering organized an insightful program focusing on the "Clinical Basis of Chemotherapy and Drug Resistance." The program featured Dr. Ricardo J. Parker, the esteemed Director of Cancer Research at SageMedic Corp in California, USA. The event aimed to provide students with a deep understanding of the clinical aspects of chemotherapy and drug resistance, critical components in the fight against cancer. Dr. Ricardo J. Parker commenced the program with an enlightening keynote address that elucidated the fundamental principles of chemotherapy, its role in cancer treatment, and the challenges posed by drug resistance. Drawing from his extensive experience in cancer research, Dr. Parker emphasized the importance of personalized treatment strategies to combat drug resistance effectively. The interactive session served as a platform for students to engage in meaningful discussions with Dr. Parker. Participants actively posed questions related to clinical challenges, treatment advancements, and future prospects in cancer therapy. Dr. Parker's adept responses provided students with valuable insights and a broader perspective on the subject. The interactive session facilitated interactions between students and Dr. Parker, allowing students to establish connections with a leading expert in the field. This networking opportunity could potentially lead to mentorship and collaborative research endeavors.

The program on the "Clinical Basis of Chemotherapy and Drug Resistance" by Dr. Ricardo J. Parker proved to be a transformative experience for the students of the Department of Biotechnology. The event succeeded in bridging the gap between theoretical knowledge and clinical applications, equipping students with insights into the challenges and advancements in cancer treatment. The interactive session enhanced the learning experience, enabling students to engage directly with an industry expert and gain practical insights that will undoubtedly shape their future endeavors in biotechnology.

Mr. N. Sathish  
**Organizing Secretary**

Dr. K. Ganesh Prasath  
Dr. J. G. Aswin Jen  
**Coordinators**

Screenshots captured during the event

**Clinical Basis of Chemotherapy and Drug Resistance**

Ricardo J. Parker, Ph.D.  
Professor & Academic Program Director,  
Department of Health Services, School of Health  
Professions, National University, San Diego, CA  
&  
Director of Cancer Research, SageMedic Corp,  
Redwood City, CA

**Classification of Antitumor Agents**

**Cell Cycle Specific Agents**

- Have activity in specific phases of cell cycle
- Examples: vinca alkaloids work in M-phase, antimetabolites work in S-phase


**Cell Cycle Nonspecific Agents**

- Examples: alkylating agents, anthracyclines

**Mechanisms Of Single-Agent Drug Resistance**

Mechanism	Drugs	Target
Defective Transport	Methotrexate	Folate transporter
	Cytarabine	Nucleoside transporter
	Mechlorethamine	Choline transporter
Decreased Act. Enzyme	Cytarabine	Deoxycytidine kinase
	Mercaptopurine	Hypoxanthine-guanine pyrophosphorylase
Increased Drug Inactivation	Methotrexate	Folyl-polyglutamate synthetase
	Bleomycin	Bleomycin hydrolase
	Cyclophosphamide	Aldehyde dehydrogenase
Increased Target Enzyme	Cytarabine	Cytidine deaminase
	Fluorouracil	Thymidylate synthase
	Methotrexate	Dihydrofolate reductase
Alteration in Target	Pentostatin	Adenosine deaminase
	Fluorouracil	Thymidylate synthase
	Hydroxyurea	Ribonucleotide reductase
	Vincristine	Tubulin
Decreased Drug Uptake	Paclitaxel	P-glycoprotein (MDR1)

Report Prepared by:

  
Dr. Aswin Jeno J G, AP/BIO

  
Prof. E. Nakkeeran, HoD/BIO

Prof. E. NAKKEERAN, M. Tech., Ph.D.  
Professor & Head  
Department of Biotechnology  
Sri Venkateswara College of Engineering  
Sriperumbudur Tk - 602 117, Tamilnadu, INDIA