



# J.K.K.MUNIRAJAH MEDICAL RESEARCH FOUNDATION'S ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY

Ethirmedu, B.Komarapalayam – 638 183, Namakkal Dist. Tamilnadu. India  
Approved by : Pharmacy Council of India, New Delhi & The Tamilnadu Dr.M.G.R Medical University, Chennai.  
Website : [www.jkkmmrfpharmacy.edu.in](http://www.jkkmmrfpharmacy.edu.in) | E-Mail : [principal@jkkmmrfpharmacy.edu.in](mailto:principal@jkkmmrfpharmacy.edu.in)  
Contact No. : +919789456750, +919943069944, +919943066944

DATE:18.11.2021

## DEPARTMENT OF PHARMACEUTICS

### **REPORT**

#### **RESOURCE PERSONS**

**1.Dr.N.SENTHILKUMAR,M.PHARM, Ph.D.,**  
PRINCIPAL

JKKMMRF'S ANNAI JKK SAMPOORANIAMMAL  
COLLEGE OF PHARMACY,  
KOMARAPALAYAM.

**2. Dr.S.CHANDRA., M. PHARM, Ph.D.,**  
PROFESSOR AND HOD ,

JKKMMRF'S ANNAI JKK SAMPOORANIAMMAL  
COLLEGE OF PHARMACY,  
KOMARAPALAYAM.

No. of students enrolled: 298

No. of students certified: 293

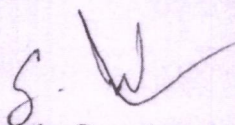
**No.of students certified in our Institution : 24**

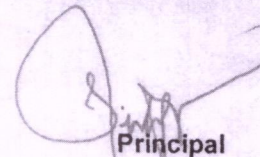
#### Objective:

The term 'in silico' is a modern word usually used to mean **experimentation performed by computer** and is related to the more commonly known biological terms in vivo and in vitro. The history of the 'in silico' term is poorly defined, with several researchers claiming their role in its origination. Computer-aided drug design (CADD) methodologies are playing an ever-increasing role in drug discovery that are critical in the cost-effective identification of promising drug candidates

#### Learning outcomes:

Students know about Computer-Aided Prediction of Pharmacokinetic (ADMET) Properties.

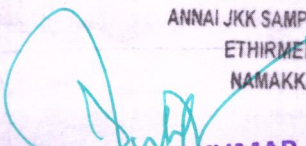
  
Head of the Department

  
Principal

Dr. N.SENTHILKUMAR,  
PRINCIPAL

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ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY  
ETHIRMEDU, KOMARAPALAYAM - 638 183.  
NAMAKKAL-DISTRICT. TAMILNADU. INDIA.



  
Dr. N.SENTHILKUMAR,  
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## CIRCULAR

This is informed to the B. Pharm-I, II, III, IV Students that the following **workshop** can be conducted by the Department of Pharmaceutics, JKKMMRF'S ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY, KOMARAPALAYAM and it will be commenced as per the schedule:

WORKSHOP NAME	SCHEDULE	DURATION	VENUE	RESOURCE PERSON
RESEARCH DESIGN AND OPTIMIZATION OF DRUG DELIVERY SYSTEM USING INSILICO MODELS	18.11.2021	3 HOURS	SEMINAR HALL	Dr.N.SENTHILKUMAR Dr.S.CHANDRA

All the above-mentioned students must enroll and actively participate in the course without fail.

**NOTE:** Certificates should be issued to all the students after completion of the course and examination.



**PRINCIPAL**

**Dr. N. SENTHILKUMAR,**  
PRINCIPAL,

JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION  
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## DEPARTMENT OF PHARMACEUTICS

ONE DAY SEMINAR ON RESEARCH DESIGN AND OPTIMIZATION OF DRUG DELIVERY SYSTEM USING  
INSILICO MODELS

VENUE: SEMINAR HALL

Date: 18.11.2021

### RESOURCE PERSONS

1. Dr. N. SENTHILKUMAR, M. PHARM, Ph.D.,

PRINCIPAL

JKKMMRF'S ANNAL JKK SAMPOORANI AMMAL  
COLLEGE OF PHARMACY,  
KOMARAPALAYAM.

2. Dr. S. CHANDRA., M. PHARM, Ph.D.,

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Contact No. : +919789456750, +919943069944, +919943066944

REF.NO: JKKM/PHARM/CEU/REQ/2021/005

Date: 17.11.2021

**From**

Department of Pharmaceutics,  
JKKMMRF'S Annai JKK Sampoorani Ammal College of Pharmacy.  
Komarapalayam, Namakkal [Dist]  
Tamil Nadu, PIN:638183.

**To**

The Principal,  
JKKMMRF'S Annai JKK Sampoorani Ammal College of Pharmacy.  
Komarapalayam, Namakkal [Dist]  
Tamil Nadu, PIN:638183.

Subject: **Letter for requesting Permission to Conduct an one day workshop regarding: -**

**Respected Sir,**

We Are writing this letter to request permission to conduct an one day workshop in the **SEMINAR HALL** on **18.11.2021**. We wish to conduct workshop regarding **the RESEARCH DESIGN AND OPTIMIZATION OF DRUG DELIVERY SYSTEM USING INSILICO MODELS**. We request you to kindly permit to conduct workshop program as this would be a great opportunity for Students to learn and that would help a great deal to shape the students.

Looking forward to hearing from you.

Thank you,

Yours sincerely,

Head of the Department



Dr. N. SENTHILKUMAR,  
PRINCIPAL,

JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION  
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,  
ETHIRMEDU, KOMARAPALAYAM - 638 183,  
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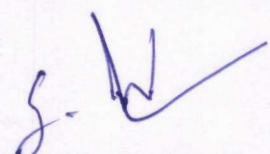
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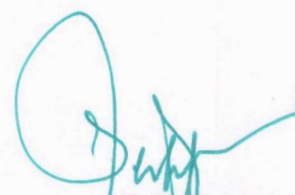
## SYLLABUS

DATE	HOURS	WORKSHOP TOPIC	SUB TOPICS	RESOURCE PERSON
18.11.2021	3 HOURS	RESEARCH DESIGN AND OPTIMIZATION OF DRUG DELIVERY	In Silico Methods for Drug Design and Discovery	Dr.N.SENTHILKUMAR
		SYSTEM USING INSILICO MODELS	Polymer-Based Matrices for Drug Delivery	Dr.S.CHANDRA

TOTAL HOURS=3 hours

  
Head Of the Department



  
Principal

Dr. N, SENTHILKUMAR,  
PRINCIPAL,  
JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION  
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**JKKMMRF's-ANNAI JKK  
SAMPOORANI AMMAL COLLEGE  
OF PHARMACY**

**Komarapalayam, Nammakal Dt-638183**

**DEPARTMENT OF PHARMACEUTICS**

**ONE DAY WORKSHOP ON**

**Research design and optimization of  
drug delivery system using  
insilico models**

**held on 18.11.2021**



**Dr. N. SENTHILKUMAR,  
PRINCIPAL,**



**Venue: SEMINAR HALL**

**JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION  
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY  
ETHIRMEDU, KOMARAPALAYAM - 638 183.  
NAMAKKAL DISTRICT, TAMILNADU.**



## **ABOUT US**

Dr. J. K. K. Munirajah is a reputed industrialist technocrat and educational besides, being a social worker, a person imbued in deep spiritual values and philanthropist. At Present Annai J. K. K. Sampoorani Ammal Charitable Trust runs Paramedical Institutions offering Diploma, Graduate, Post Graduate & Ph.D, Courses and Research Scholarships in Pharmacy, Nursing, Physiotherapy and Occupational Therapy at Komarapalayam. The Trust has won many national and state awards. These renowned Educational Institutions spared education to promote knowledge, wisdom and service -Orientation.

## **RESOURCE PERSONS**

**Dr. N. SENTHIL KUMAR., M. PHARM., PH. D .,**

PRINCIPAL & HOD,

JKKMMRF'S College of Pharmacy, Komarapalayam-638183

**Dr S. CHANDRA, M. PHARM., PH. D .,**

PROFESSOR & HOD ,



**Dr. N. SENTHIL KUMAR,**  
PRINCIPAL,

JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION  
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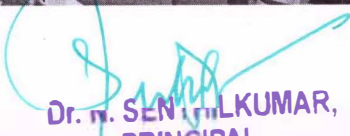
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## TITLE: ONEDAY WORKSHOP ON RESEARCH DESIGN AND OPTIMIZATION OF DRUG DELIVERY SYSTEM USING INSILICO MODEL

DATE : 18/11/21

WELCOME SPEECH AND INTERACTION TO RESOURCE PERSON



  
**Dr. N. SENIL KUMAR,**  
**PRINCIPAL,**  
**JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION**  
**ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,**  
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## DEPARTMENT OF PHARMACEUTICS

# STUDENT FEEDBACK FORM

NAME OF STUDENT:

COURSE :

SEMINAR TOPIC :

REGISTRATION NO. :

YEAR & SEMESTER:

DATE & TIME:

1. Overall, how satisfied were you with this seminar?

- Very satisfied
- Satisfied
- Neutral
- Dissatisfied
- Very dissatisfied

2. How clear were the ideas and concepts we presented?

- Extremely clear
- Very clear
- Moderately clear
- Not very clear
- Not at all clear

3. What percentage of the information was new to you?

- 100%
- 75%
- 50%
- 25%
- 0%



  
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PRINCIPAL,

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ETHIRMEDU, KOMARAPALAYAM - 638 183.  
NAMAKKAL DISTRICT, TAMILNADU.



4. **How informative did you find our seminar?**

- Extremely Informative
- Very Informative
- Moderately Informative
- Not very informative
- Not informative at all

5. **Were there any technical issues that prevented you from seeing or hearing the seminar?**

- Yes
- No

6. **Would you like to learn more about this topic?**

- Yes
- No

7. **Rate the content of the slides/virtual aid?**

- Extremely clear
- Very clear
- Moderately clear
- Not very clear
- Not at all clear

8. **How accurate was the session description?**

- Extremely clear
- Very clear
- Moderately clear
- Not very clear
- Not at all clear

9. **How did the session compare to your expectations?**

- Excellent
- Good
- Fair
- Poor
- Not at all clear



**Dr. N. SENTHILKUMAR,  
PRINCIPAL,**

**JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION  
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,  
ETHIRMEDU, KOMARAPALAYAM - 638 183.  
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10. How Would you rate the content of the seminar?

- 1
- 2
- 3
- 4
- 5



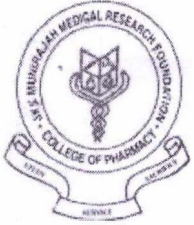
Student Name With Signature

A handwritten signature in blue ink, appearing to read "Dr. N. Senthil Kumar".

Dr. N. SENTHILKUMAR,  
PRINCIPAL,

JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION  
ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,  
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## STUDENTS FEEDBACK ANALYSIS

DATE: 18.11.2021

S.NO	QUESTION DESCRIPTION	ANSWERS	MARKS	TOTAL MARKS
1	Satisfaction	Very satisfied	5	5
		Satisfied	3	
		Neutral	2	
		Dissatisfied	1	
		Very dissatisfied	0	
2	Clarity	Extremely clear	5	5
		Very clear	4	
		Moderately clear	2	
		Not very clear	1	
		Not at all clear	0	
3	Percentage of the information was new	100%	5	5
		75%	4	
		50%	3	
		25%	2	
		0%	1	
4	Informative	Extremely Informative	5	5
		Very Informative	3	
		Moderately Informative	2	
		Not very informative	1	
		Not informative at all	0	



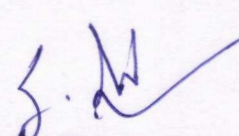
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5	Technical issues	Yes	5	5
		No	0	
6	Like to learn more about this topic	Yes	5	5
		No	0	
7	Rate the content of the slides/virtual aid	Extremely clear	5	5
		Very clear	3	
		Moderately clear	2	
		Not very clear	1	
		Not at all clear	0	
8	Accuracy of the sessions	Extremely clear	5	5
		Very clear	3	
		Moderately clear	2	
		Not very clear	1	
		Not at all clear	0	
9	Session expectations	Excellent	5	5
		Good	3	
		Fair	2	
		Poor	1	
		Not at all clear	0	
10	Rate the content of the seminar	1	1	5
		2	2	
		3	3	
		4	4	
		5	5	

**Total marks = 50**

  
**Head Of the Department**



  
**Principal**

**Dr. N. SENTHILKUMAR,**  
**PRINCIPAL,**  
**JKK MUNIRAJAH MEDICAL RESEARCH FOUNDATION**  
**ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY,**  
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## REPORT SUMMARY

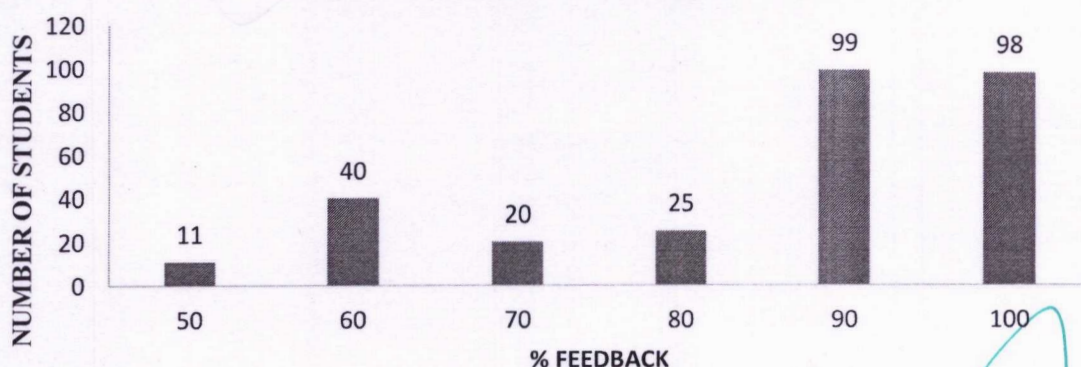
DATE: 18.11.2021

Duration of the Course	3 HOURS
Total participants Enrolled	298
Successfully Completed	293
Type of Feedback Assessment	Multiple Choice Questions (MCQ's)
Course Outcome	Computer-Aided Prediction of Pharmacokinetic (ADMET) Properties.

### Feedback Question Analysis – Question Asked-Feedback Rating

1.Satisfaction	6.Like to learn more about this topic
2.Clarity	7.Rate the content of the slides/virtual aid
3. Percentage of the information was new	8.Accuracy of the sessions
4.Informative	9.Session expectations
5.Technical issues	10.Rate the content of the seminar

## STUDENT FEEDBACK ANALYSIS



Dr. N. SENTHILKUMAR,  
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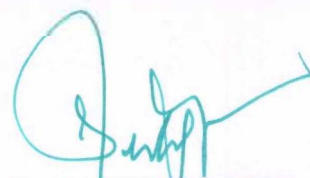
## DEPARTMENT OF PHARMACEUTICS

### ONE DAY SEMINAR ON RESEARCH DESIGN AND OPTIMIZATION OF DRUG DELIVERY SYSTEM USING INSILICO MODELS

#### ABOUT THE SEMINAR

Design of an impeccable drug delivery product normally encompasses multiple objectives. For decades, this task has been attempted through trial and error, supplemented with the previous experience, knowledge, and wisdom of the formulator. Optimization of a pharmaceutical formulation or process using this traditional approach involves changing one variable at a time. Using this methodology, the solution of a specific problematic formulation characteristic can certainly be achieved, but attainment of the true optimal composition is never guaranteed. And for improvement in one characteristic, one has to trade off for degeneration in another. This customary approach of developing a drug product or process has been proved to be not only uneconomical in terms of time, money, and effort, but also unfavorable to fix errors, unpredictable, and at times even unsuccessful. On the other hand, the modern formulation optimization approaches, employing systematic Design of Experiments (DoE), are extensively practiced in the development of diverse kinds of drug delivery devices to improve such irregularities. Such systematic approaches are far more advantageous, because they require fewer experiments to achieve an optimum formulation, make problem tracing and rectification quite easier, reveal drug/polymer interactions, simulate the product performance, and comprehend the process to assist in better formulation development and subsequent scale-up. Optimization techniques using DoE represent effective and cost-effective analytical tools to yield the "best solution" to a particular "problem." Through quantification of drug delivery systems, these approaches provide a depth of understanding as well as an ability to explore and defend ranges for formulation factors, where experimentation is completed before optimization is attempted. The key elements of a DoE optimization methodology encompass planning the study objectives, screening of influential variables, experimental designs, postulation of mathematical models for various chosen response characteristics, fitting experimental data into these model(s), mapping and generating graphic outcomes, and design validation using model-based response surface methodology. The broad topic of DoE optimization methodology is covered in two parts. Part I of the review attempts to provide thought-through and thorough information on diverse DoE aspects organized in a seven-step sequence. Besides dealing with basic DoE terminology for the novice, the article covers the niceties of several important experimental designs, mathematical models, and optimum search techniques using numeric and graphical methods, with special emphasis on computer-based approaches, artificial neural networks, and judicious selection of designs and models.



  
**Dr. N. SENTHILKUMAR,**  
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NAMAKKAL DISTRICT, TAMILNADU.





# J.K.K.MUNIRAJAH MEDICAL RESEARCH FOUNDATION'S ANNAI JKK SAMPOORANI AMMAL COLLEGE OF PHARMACY

Ethirmedu, B.Komarapalayam – 638 183, Namakkal Dist. Tamilnadu. India

Approved by : Pharmacy Council of India, New Delhi & The Tamilnadu Dr.M.G.R Medical University, Chennai.

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JKKMMRF'S ANNAI JKK SAMPOORANI AMMAL

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# CERTIFICATE

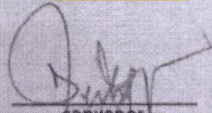
OF EXCELLENCE

Department of Pharmaceutics

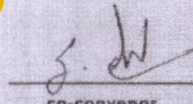
ONE DAY WORKSHOP

THIS CERTIFICATE IS AWARDED TO


Mr./Ms \_\_\_\_\_ has participated in one day WORKSHOP about RESEARCH DESIGN AND OPTIMIZATION OF DRUG DELIVERY SYSTEM USING INSILICO MODELS was organized by department of pharmaceutics held on 18 NOVEMBER 2021

  
\_\_\_\_\_  
convener



  
\_\_\_\_\_  
co-convener



  
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JKKMRF'S ANNAI JKK SAMPOORANI AMMAL  
COLLEGE OF PHARMACY



**CERTIFICATE**  
OF EXCELLENCE

**Department of Pharmaceutics**  
ONE DAY WORKSHOP


THIS CERTIFICATE IS AWARDED TO  
Mr./Ms JITHIN.TG has participated in one day WORKSHOP about RESEARCH DESIGN AND OPTIMIZATION OF  
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