



SS INSTITUTE OF PHARMACY

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REF.NO:SSIP/ REQ/2023/006

Date: 26/09/2023

From

Department of Pharmacology,
SS institute of pharmacy,
Sankari, Salem (DIST) - 637301.

To

The principal,
SS institute of pharmacy,
Sankari, Salem (DIST) – 637301.


Subject: Letter for requesting permission to conduct **ADD ON COURSE** -Reg.

Respected sir,


We are requesting you to grant permission to conduct add-on course in the seminar hall on **03/10/2023 to 19/10/2023**. We wish to conduct add on course on the title “**Cell Designer - Modeling Tool For Gene-Regulatory & Biomedical Networks**”. This add-on course program would be a great opportunity for students to learn and that would help to shape the students.

Thanking you,

Yours truly,


PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301




PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301

NH-544, Kuppanur (Po), Sankari (Tk), Salem(Dt) – 637301, Tamilnadu, India

Phone : 04283 241080 | E-mail : ssip1718@gmail.com | Website : www.ssip.edu.in



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DATE: 26/09/2023

CIRCULAR

This is to inform that will B.PHARM students have the schedule of following value - added course to be conducted by our SS Institute of Pharmacy and it as mentioned below.


COURSE NAME	SCHEDULE	DURATION	VENUE	RESOURCE PERSON
CELL DESIGNER - MODELING TOOL FOR GENE- REGULATORY & BIOMEDICAL NETWORKS	03/10/2023 to 19/10/2023	36 HOURS	SEMINAR HALL	DR.C.JOTHIMANIVANNAN

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

Note: Certificates will be issued for the eligible students after completion of the course and examination.


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CELL DESIGNER - MODELLING TOOL FOR GENE-REGULATORY & BIOMEDICAL NETWORKS

- Graphical User Interface (GUI)
- Modeling Gene-Regulatory Networks
- Modeling Signal Transduction Pathways
- Modeling Metabolic Networks
- Biosimulation and Simulation Techniques
- Model Validation and Analysis
- Model Export and Import Formats
- Dynamic Simulation and Time-Series Analysis
- Advanced Editing and Customization Features
- Application in Systems Biology and Biomedical Research

Resource person :

Dr.C.Jothimanivannan
Professor / Principal
SS Institute of Pharmacy

VENUE : SSIP SEMINAR HALL

DATE : 03/ 10/ 23-19/10/23

TIME : 10.00AM - 01.00PM

Visit Us

NH- 47, MANJAKKAL EATRY
SANKARI, SALEM

Mbl : 9443020056

ssip@edu.in

ssip1718@gmail.com



**SS INSTITUTE OF
PHARMACY,
SANKARI, SALEM**



**DEPARTMENT OF
PHARMACOLOGY**
PRINCIPAL,
SS INSTITUTE OF PHARMACY,
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SYLLABUS

CELL DESIGNER AND ITS USE IN MODELING TOOL FOR GENE- REGULATORY AND BIOMEDICAL NETWORKS

Sl. No.	Topic	Date
1	Introduction and Fundamentals of Cell Designer <ul style="list-style-type: none">- Overview and Purpose of Cell Designer- Key Features and Capabilities- Applications in Systems Biology and Biomedical Research	3/10/2023- 4/10/2023
2	Modeling Biological Networks <ul style="list-style-type: none">- Gene Regulatory Networks: Representation, Creation, and Analysis- Signal Transduction Pathways: Modeling, Simulation, and Data Integration- Biochemical Reactions: Representation, Parameterization, and Simulation	5/10/2023- 7/10/2023
3	Integration and Compatibility <ul style="list-style-type: none">- Exporting and Importing Models Between Different Tools- Integration with Databases and External Resources- Compatibility with Simulation and Analysis Software	9/10/2023- 11/10/2023
4	Visualization and Analysis Techniques <ul style="list-style-type: none">- Visualizing Complex Biological Networks- Analyzing and Interpreting Simulation Results- Customizing Visual Representations	13/10/2023- 17/10/2023
5	Validation, Applications, and Advanced Features <ul style="list-style-type: none">- Model Validation and Verification Methods- Applications in Biomedical Research, Drug Discovery, and Disease Modeling- Advanced Features, Customization, and Extending Cell Designer	18/10/2023- 19/10/2023

RESOURCE PERSON: Dr. C. Jothimaniyannan

TOTAL HOURS:36Hrs



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ADD ON / CERTIFICATE VALUE ADDED COURSES ACADEMIC YEAR 2023-2024



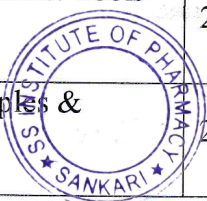
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ACADAMIC YEAR 2023-2024

S.NO	NAME OF ADD ON CERTIFICATES PROGRAMS	COURSE CODE	NO OF STUDENTS ENROLLED	TYPE OF ADD ON CERTIFICATE PROGRAMS
1.	Advanced therapy topics in immunotherapy	23ATTI01	55	Self-framed course
2.	Green cell factories	23GCF02	58	Self-framed course
3.	Advanced techniques in enzymology .	23ATE03	70	Self-framed course
4.	Biomechanics and orthopaedic implants	23BOI04	58	Self-framed course
5.	Blockchain technology in pharmaceuticals	23BTP05	30	Self-framed course
6.	Cell designer modeling tool for gene-regulatory & biomedical networks	23CDMTGRBN06	27	Self-framed course
7.	Computational protein modeling and analytics	23CPMA07	59	Self-framed course
8.	Scientific writing in health research	24SWHR08	54	Self-framed course
9.	Systematic reviews for pharmacy health professionals	24SRPHP09	57	Self-framed course
10.	Advanced bioinformatics: Tools & applications	24ABTA10	111	Self-framed course
11.	Telemedicine: Principles & practices	24TPP11	58	Self-framed course



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ADD ON COURSE – ENROLLMENT LIST

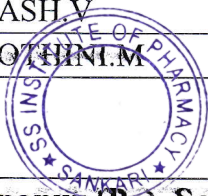
NAME OF ADD ON COURSE : CELL DESIGNER MODELING TOOL FOR GENE-
REGULATORY & BIOMEDICAL NETWORKS

COURSE INSTRUCTORS : Dr.C.JOTHIMANIVANNAN

YEAR OFFERED : 2nd SEM B.PHARM

COURSE DURATION : 36 hrs

S.NO	NAME OF THE STUDENT	REGISTER NO	COURSE
1.	PRAKASH.M	560022523532	1 st B.PHARM
2.	PRAVEEN.T	560022523533	1 st B.PHARM
3.	PRETHIKA.B	560022523534	1 st B.PHARM
4.	PRIYA.V	560022523535	1 st B.PHARM
5.	PRIYADHARSHINI.P	560022523536	1 st B.PHARM
6.	PRIYADHARSHINI.S	560022523537	1 st B.PHARM
7.	PUKAZENTHI.R	560022523538	1 st B.PHARM
8.	RAGUL.R	560022523539	1 st B.PHARM
9.	RAMAKRISHNAN.S	560022523540	1 st B.PHARM
10.	SAKTHIPRIYA.K	560022523541	1 st B.PHARM
11.	SAKTHIVEL.S	560022523542	1 st B.PHARM
12.	SANTHOSHINI.C	560022523543	1 st B.PHARM
13.	SENTHAMIZHAN.S	560022523544	1 st B.PHARM
14.	SHALINI.R	560022523545	1 st B.PHARM
15.	SHIVABHARATHI.P	560022523546	1 st B.PHARM
16.	SHIVADHARSHINI.S	560022523547	1 st B.PHARM
17.	SRIDHAR.S	560022523548	1 st B.PHARM
18.	SUGAVANAM.C	560022523549	1 st B.PHARM
19.	SURIYA PRAKASH.I	560022523550	1 st B.PHARM
20.	SWATHI.V	560022523551	1 st B.PHARM
21.	THANIGAIVALLI.S	560022523552	1 st B.PHARM
22.	THARANI.G	560022523553	1 st B.PHARM
23.	THARUNKUMAR.S	560022523554	1 st B.PHARM
24.	VIJAYALAKSHIMI.M	560022523555	1 st B.PHARM
25.	VIJAYALAKSHIMI.V	560022523556	1 st B.PHARM
26.	VIKASH.V	560022523557	1 st B.PHARM
27.	VINOTHINI.M	560022523558	1 st B.PHARM



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ADD ON COURSE – ENROLLMENT LIST

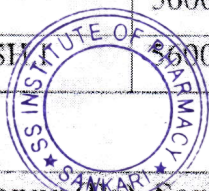
NAME OF ADD ON COURSE : CELL DESIGNER MODELING TOOL FOR GENE-REGULATORY & BIOMEDICAL NETWORKS

COURSE INSTRUCTORS : Dr.C.JOTHIMANIVANNAN

YEAR OFFERED : 2nd SEM B.PHARM

COURSE DURATION : 36 hrs

S.NO	NAME OF THE STUDENT	REGISTER NO	ATTENDANCE					
			3/10/23	2/10/23	5/10/23	6/10/23	7/10/23	9/10/23
1.	PRAKASH.M	560022523532	P	P	P	P	P	P
2.	PRAVEEN.T	560022523533	P	P	P	P	P	P
3.	PRETHIKA.B	560022523534	P	P	P	P	P	P
4.	PRIYA.V	560022523535	P	P	P	P	P	P
5.	PRIYADHARSHINI.P	560022523536	P	P	P	P	P	P
6.	PRIYADHARSHINI.S	560022523537	P	P	P	P	P	P
7.	PUKAZENTHIL.R	560022523538	P	P	P	P	P	P
8.	RAGUL.R	560022523539	P	P	P	P	P	P
9.	RAMAKRISHNAN.S	560022523540	P	P	P	P	P	P
10.	SAKTHIPRIYA.K	560022523541	P	P	P	P	P	P
11.	SAKTHIVEL.S	560022523542	P	P	P	P	P	P
12.	SANTHOSHINI.C	560022523543	P	P	P	P	P	P
13.	SENTHAMIZHAN.S	560022523544	P	P	P	P	P	P
14.	SHALINI.R	560022523545	P	P	P	P	P	P
15.	SHIVABHARATHI.P	560022523546	P	P	P	P	P	P
16.	SHIVADHARSHINI.S	560022523547	P	P	P	P	P	P
17.	SRIDHAR.S	560022523548	P	P	P	P	P	P
18.	SUGAVANAM.C	560022523549	P	P	P	P	P	P
19.	SURIYA PRAKASH	560022523550	P	P	P	P	P	P



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20.	SWATHI.V	560022523551	swa	swa	swa	swa	swa	swa
21.	THANIGAIVALLI.S	560022523552	tha	tha	tha	tha	tha	tha
22.	THARANIG	560022523553	tha	tha	tha	tha	tha	tha
23.	THARUNKUMAR.S	560022523554	tha	tha	tha	tha	tha	tha
24.	VIJAYALAKSHIMILM	560022523555	vij	vij	vij	vij	vij	vij
25.	VIJAYALAKSHIMILV	560022523556	vij	vij	vij	vij	vij	vij
26.	VIKASH.V	560022523557	vika	vika	vika	vika	vika	vika
27.	VINOTHINLM	560022523558	vin	vin	vin	vin	vin	vin



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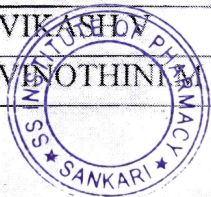
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S.NO	NAME OF THE STUDENT	REGISTER NO	ATTENDANCE					
			11/10/23	13/10/23	16/10/23	17/10/23	18/10/23	19/10/23
1.	PRAKASH.M	560022523532	PR	PR	PR	PR	PR	PR
2.	PRAVEEN.T	560022523533	PR	PR	PR	PR	PR	PR
3.	PRETHIKA.B	560022523534	PR	PR	PR	PR	PR	PR
4.	PRIYA.V	560022523535	PR	PR	PR	PR	PR	PR
5.	PRIYADHARSHINI.P	560022523536	PR	PR	PR	PR	PR	PR
6.	PRIYADHARSHINI.S	560022523537	PR	PR	PR	PR	PR	PR
7.	PUKAZENTHIL.R	560022523538	PR	PR	PR	PR	PR	PR
8.	RAGUL.R	560022523539	PR	PR	PR	PR	PR	PR
9.	RAMAKRISHNAN.S	560022523540	PR	PR	PR	PR	PR	PR
10.	SAKTHIPRIYA.K	560022523541	PR	PR	PR	PR	PR	PR
11.	SAKTHIVEL.S	560022523542	PR	PR	PR	PR	PR	PR
12.	SANTHOSHINI.C	560022523543	PR	PR	PR	PR	PR	PR
13.	SENTHAMIZHAN.S	560022523544	PR	PR	PR	PR	PR	PR
14.	SHALINI.R	560022523545	PR	PR	PR	PR	PR	PR
15.	SHIVABHARATHI.P	560022523546	PR	PR	PR	PR	PR	PR
16.	SHIVADHARSHINI.S	560022523547	PR	PR	PR	PR	PR	PR
17.	SRIDHAR.S	560022523548	PR	PR	PR	PR	PR	PR
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20.	SWATHI.V	560022523551	PR	PR	PR	PR	PR	PR
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22.	THARANI.G	560022523553	PR	PR	PR	PR	PR	PR
23.	THARUNKUMAR.S	560022523554	PR	PR	PR	PR	PR	PR
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26.	VIKASHI.V	560022523557	PR	PR	PR	PR	PR	PR
27.	VINOTHINI.V	560022523558	PR	PR	PR	PR	PR	PR



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ADD ON COURSE	CELL DESIGNER MODELING TOOL FOR GENE-REGULATORY & BIOMEDICAL NETWORKS
DEPARTMENT	PHARMACOLOGY
ACADEMIC YEAR	2023-2024
DATE	03/10/2023 to 19/10/2023
VENUE	SEMINAR HALL
NAME: Vinodhini M	COURSE: 1 st - 8 th

ANSWER ALL THE QUESTIONS:

DATE: 19/10/2023

MULTIPLE CHOICE QUESTIONS

MARKS: 15

- Which tool is specifically designed for creating and simulating biochemical networks, including gene regulatory networks?
A) BioNetGen
B) COPASI
☒ C) CellDesigner
D) KEGG PATHWAY Database
- What is the primary file format used by CellDesigner to represent models?
☒ A) SBML
B) XML
C) JSON
D) CSV
- Which tool is known for its graphical interface that allows users to create detailed network diagrams of biochemical systems?
A) COPASI
☒ B) CellDesigner
C) BioNetGen
D) KEGG PATHWAY Database
- Which software is particularly useful for the simulation of biochemical systems and supports the analysis of metabolic networks?
☒ A) CellDesigner
B) COPASI
C) BioNetGen
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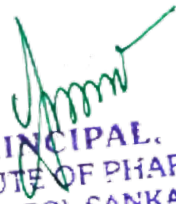


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5. BioNetGen is designed for which of the following purposes?
- A) Network **diagram** creation
 - B) Biochemical simulation
 - ☒ C) Model specification and simulation
 - D) Data storage
6. Which of the following tools is most suitable for integrating gene regulatory networks with known biological **pathways**?
- ☒ A) CellDesigner
 - B) KEGG PATHWAY Database
 - C) BioNetGen
 - D) COPASI
7. What is the main advantage of using SBML in biochemical modeling?
- A) It provides a graphical user interface.
 - ☒ B) It is a standard format for model interchange.
 - C) It performs real-time simulations.
 - D) It manages **experimental** data.
8. Which tool provides **support** for both simple and complex biochemical network analyses through simulation and dynamic modeling?
- A) KEGG PATHWAY Database
 - B) BioNetGen
 - C) CellDesigner
 - ☒ D) COPASI
9. What type of networks can be modeled with CellDesigner?
- ☒ A) Gene regulatory networks
 - B) Social networks
 - C) Economic **models**
 - D) Traffic flow **networks**
10. Which tool uses a graphical interface to build models and is also capable of exporting models in SBML format?
- A) BioNetGen
 - B) KEGG PATHWAY Database
 - C) COPASI
 - ☒ D) CellDesigner


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11. In the context of computational biology, what does COPASI primarily focus on?
- A) Modeling gene regulatory networks
 - B) Creating biological pathways
 - ☒ C) Simulating biochemical networks
 - D) Managing biological data
12. What is a major feature of BioNetGen?
- A) It allows for real-time data analysis.
 - B) It supports large-scale genomic data integration.
 - ☒ C) It enables rule-based modeling of biochemical systems.
 - D) It focuses on graphical representations of networks.
13. Which tool provides a comprehensive database for biological pathways and is often used for reference in network modeling?
- A) CellDesigner
 - ☒ B) KEGG PATHWAY Database
 - C) BioNetGen
 - D) COPASI
14. Which software is specifically designed to handle dynamic simulations and analysis of metabolic and signaling networks?
- A) CellDesigner
 - B) BioNetGen
 - C) KEGG PATHWAY Database
 - ☒ D) COPASI
15. Which of the following tools would you use for rule-based modeling of biochemical interactions?
- A) KEGG PATHWAY Database
 - ☒ B) BioNetGen
 - C) CellDesigner
 - D) COPASI

[Signature]
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DEPARTMENT	PHARMACOLOGY
ACADEMIC YEAR	2023-2024
DATE	03/10/2023 to 19/10/2023

ANSWER KEY:

DATE: 19/10/2023

MULTIPLE CHOICE QUESTIONS

MARKS: 15

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 - COPASI
 - BioNetGen
 - KEGG PATHWAY Database



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5. BioNetGen is designed for which of the following purposes?
 - A) Network diagram creation
 - B) Biochemical simulation
 - C) **Model specification and simulation**
 - D) Data storage
6. Which of the following tools is most suitable for integrating gene regulatory networks with known biological pathways?
 - A) **CellDesigner**
 - B) KEGG PATHWAY Database
 - C) BioNetGen
 - D) COPASI
7. What is the main advantage of using SBML in biochemical modeling?
 - A) It provides a graphical user interface.
 - B) **It is a standard format for model interchange.**
 - C) It performs real-time simulations.
 - D) It manages experimental data.
8. Which tool provides support for both simple and complex biochemical network analyses through simulation and dynamic modeling?
 - A) KEGG PATHWAY Database
 - B) BioNetGen
 - C) CellDesigner
 - D) **COPASI**
9. What type of networks can be modeled with CellDesigner?
 - A) **Gene regulatory networks**
 - B) Social networks
 - C) Economic models
 - D) Traffic flow networks
10. Which tool uses a graphical interface to build models and is also capable of exporting models in SBML format?
 - A) BioNetGen
 - B) KEGG PATHWAY Database
 - C) COPASI
 - D) **CellDesigner**



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11. In the context of computational biology, what does COPASI primarily focus on?
 - A) Modeling gene regulatory networks
 - B) Creating biological pathways**
 - C) Simulating biochemical networks
 - D) Managing biological data
12. What is a major feature of BioNetGen?
 - A) It allows for real-time data analysis.
 - B) It supports large-scale genomic data integration.**
 - C) It enables rule-based modeling of biochemical systems.
 - D) It focuses on graphical representations of networks.
13. Which tool provides a comprehensive database for biological pathways and is often used for reference in network modeling?
 - A) CellDesigner**
 - B) KEGG PATHWAY Database
 - C) BioNetGen
 - D) COPASI
14. Which software is specifically designed to handle dynamic simulations and analysis of metabolic and signaling networks?
 - A) CellDesigner**
 - B) BioNetGen
 - C) KEGG PATHWAY Database
 - D) COPASI
15. Which of the following tools would you use for rule-based modeling of biochemical interactions?
 - A) KEGG PATHWAY Database
 - B) BioNetGen
 - C) CellDesigner
 - D) COPASI**



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ADD ON COURSE – MARK LIST

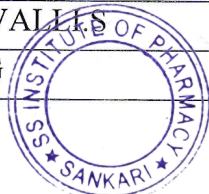
NAME OF ADD ON COURSE : CELL DESIGNER MODELING TOOL FOR GENE-
REGULATORY & BIOMEDICAL NETWORKS

COURSE INSTRUCTORS : Dr.C.JOTHIMANIVANNAN

YEAR OFFERED : 2nd SEM B.PHARM

COURSE DURATION : 36 hrs

S.NO	NAME OF STUDENT	REGISTER NO	MARKS (15)	PERCENTAGE (%)
1.	PRAKASH.M	560022523532	12	80%
2.	PRAVEEN.T	560022523533	12	80%
3.	PRETHIKA.B	560022523534	14	93%
4.	PRIYA.V	560022523535	13	86%
5.	PRIYADHARSHINI.P	560022523536	13	86%
6.	PRIYADHARSHINI.S	560022523537	14	93%
7.	PUKAZENTHI.R	560022523538	15	100%
8.	RAGUL.R	560022523539	13	86%
9.	RAMAKRISHNAN.S	560022523540	13	86%
10.	SAKTHIPRIYA.K	560022523541	12	80%
11.	SAKTHIVEL.S	560022523542	13	86%
12.	SANTHOSHINI.C	560022523543	12	80%
13.	SENTHAMIZHAN.S	560022523544	12	80%
14.	SHALINI.R	560022523545	12	80%
15.	SHIVABHARATHI.P	560022523546	14	93%
16.	SHIVADHARSHINI.S	560022523547	15	100%
17.	SRIDHAR.S	560022523548	13	86%
18.	SUGAVANAM.C	560022523549	13	86%
19.	SURIYA PRAKASH.I	560022523550	12	80%
20.	SWATHI.V	560022523551	13	86%
21.	THANIGAIVALLI.S	560022523552	14	93%
22.	THARANI.G	560022523553	12	80%



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23.	THARUNKUMAR.S	560022523554	13	86%
24.	VIJAYALAKSHIMI.M	560022523555	14	93%
25.	VIJAYALAKSHIMI.V	560022523556	12	80%
26.	VIKASH.V	560022523557	14	93%
27.	VINOTHINI.M	560022523558	15	100%

TOTAL NUMBER OF STUDENT : 27

TOTAL NUMBER OF PERCENTAGE : 87.4%



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ADD ON COURSE : SUMMARY REPORT

Course code and Name : 23CDMTGRBN06/ Cell Designer - Modeling Tool For Gene-Regulatory & Biomedical Networks

Date Of Add On Programme : 03/10/2023 to 19/10/2023

Course Duration : 36 Hours

Year Offered : 2nd Sem B.Pharm

Course Instructors : Dr.C.Jothimanivannan.,M.Pharm,Ph.D.,
Professor & Principal, SSIP.

Course Outcomes :

- **Proficiency in cell designer software:** develop a thorough understanding of how to use cell designer, including its interface, tools, and functionalities. Gain the ability to navigate the software and utilize its features effectively for network modeling.
- **modeling gene-regulatory networks:** learn how to create and modify gene-regulatory network models using cell designer. Understand how to represent genes, transcription factors, regulatory interactions, and signaling pathways in graphical form.

Course Type : Add on Course

Assessment Mode:

Total Duration : 36 Hours

Number of Participants : 27

Scheme of Exam : MCQ type, offline Mode

Date of Exam : 19/10/2023

Course Coordinator



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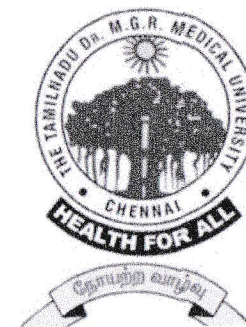
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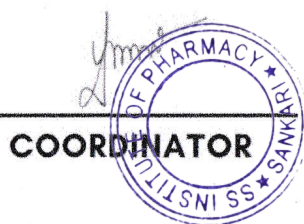


ONE DAY WORKSHOP

Organized by
Department of
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.....M. VINOTHINI.....

HAS APPRICATED FOR HIS / HER
PARTICIPATION IN ONE DAY SEMINAR ON
CELL DESIGNER MODELING TOOL FOR
GENE-REGULATORY&BIOMEDICAL
NETWORKS
03/10/2023 TO 19/10/2023



COORDINATOR

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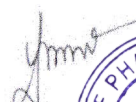

ONE DAY WORKSHOP


Organized by
Department of
PHARMACOLOGY

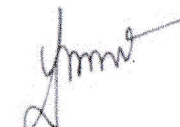
.....V. VIKASH.....

HAS APPRICATED FOR HIS / HER
PARTICIPATION IN ONE DAY SEMINAR ON
CELL DESIGNER MODELING TOOL FOR
GENE-REGULATORY&BIOMEDICAL
NETWORKS

03/10/2023 TO 19/10/2023
.....


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STUDENT FEEDBACK FORM

STUDENT NAME: I. Swiya Prakash. DATE: 19/10/2023.

YEAR/COURSE: B. Pharm - II Sem.

NAME OF THE ADD ON COURSE: cell designer modeling tool for Gene-Regulatory & Biomedical networks.

COURSE CODE: 23CDMT G1RBN05. DURATION: 36 hrs.

EVALUATE HONESTLY:

Questions	Excellent	Good	Fair	Poor
How was the objectives of the training	✓			
How satisfied are you with our seminar			✓	
How would you rate the clarity and effectiveness of the presenter's delivery	✓			
Was the seminar duration appropriate		✓		
How engaging and interactive was the seminar	✓			
Usefulness of the information provided		✓		
Overall quality of session		✓		



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PHOTOGRAPH

DATE : 3/10/23

CELL DESIGNER MODELING TOOL FOR GENE- REGULATORY & BIOMEDICAL NETWORKS

NAME OF ADD ON COURSE : CELL DESIGNER MODELING TOOL FOR GENE-
REGULATORY & BIOMEDICAL NETWORKS

COURSE INSTRUCTORS : Dr.C.JOTHIMANIVANNAN

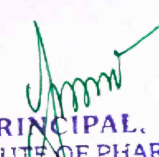
YEAR OFFERED : 2nd SEM B.PHARM

COURSE DURATION : 36 hrs



Add-on course regarding the Topic Application of Cell Designer Modeling Tool For Gene-Regulatory & Biomedical Networks 3/10/23, the speech delivered By Dr.C.Jothimanivannan.,M.Pharm,Ph.D.,which was an interactive session and students could able to understand the Application of Cell Designer Modeling Tool For Gene-Regulatory & Biomedical Networks in the fields of pharmaceutical sciences




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