



# MARUDHAR KESARI JAIN COLLEGE FOR WOMEN, VANIYAMBADI

(A Project of Sri Marudhar Kesari Jain Trust)



Recognised u/s 2(f) & 12(B) by UGC Act, 1956 - Permanently Affiliated to Thiruvalluvar University  
Re-Accredited by NAAC with "A" Grade, An ISO 21001:2018 Certified Institution

**PG AND RESEARCH DEPARTMENT OF BIOTECHNOLOGY ORGANIZED TWO WEEKS INTERNSHIP PROGRAM ON PATHOGENIC ISLAND PREDICTION AND DRUG DESIGNING (PIPAD) – 20.07.2022 to 30.07.2022**

## INVITATION



### MARUDHAR KESARI JAIN COLLEGE FOR WOMEN- VANIYAMBADI ORGANIZE



#### TWO WEEKS NATIONAL LEVEL INTERNSHIP PROGRAM ON "PATHOGENIC ISLAND PREDICTION AND DRUG DESIGNING – (PIPAD)"

Date : 20/07/2022 - 30/07/2022

Marudhar Kesari Jain College (MKJC) for Women is a charitable organization, committed towards providing quality education for women in all the areas of arts and science. MKJC has always been in forefront in promoting women empowerment by providing and supporting the skill development of women in rural areas.

The national level Internship program on "Pathogenic Island Prediction and Drug Designing" is designed to provide immense knowledge on various infectious and dreadful diseases and the gene involved in it. In addition, this course will also enlighten the individual to understand in depth about the processes involved in the drug development and discovery. The PIPAD program is designed in a way to provide hands on techniques to every individual. Registration is of first come first basis.

- > Registration fee – Rs. 1000 (Certificate and course material will be given)
- > 50% Fee concession for MKJC students
- > Registration is of first come basis

Limited no. of seats

**HURRY !!!**

#### Who can Participate ?

Participants – All science students: Chemistry, Physics, Biochemistry, Zoology, Botany, Biotechnology, Microbiology etc.,

#### Resource persons

**Dr. Jesu Jaya Sudan - Research Coordinator, Assistant Professor, Research Department of Biotechnology**

**Dr. Lesitha Jeeva Kumari - Research Associate, Assistant Professor, Research Department of Biotechnology**

#### Objectives of Workshop

Introduction to Computational Biology  
Cell – Central Dogma  
Diseases and its causative agents  
Biological Databases and Drug Databases  
Drug Development Process  
Tools to Design Drug *insilico* – Preclinical trials (ADMET)

#### Registration Details

##### On-Spot Registration:

**ON 20/07/2022 – Wednesday 9.30 am**

**Last date for registration: 19-07-2022**

**Contact: 9894170894 to confirm your registration.**

#### Managing Trustees

Sri. M. Vimmal Chand Jain, President  
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For Accommodation and Enquiry

#### Contact :

Event Coordinator – 9894170894

**Email : [research\\_coordinator@mkjc.in](mailto:research_coordinator@mkjc.in)**

#### Further Details :

visit [www.mkjc.in](http://www.mkjc.in)


**Dr. M. INBAVALLI, M.Sc., M.C.A., M.Phil., Ph.D.**  
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Marudhar Kesari Jain College for Women  
Vaniyambadi-635 751.



## AGENDA



Day	Date	Session (10:00-11:00)	Assignment/ Practical (11:30-12:45)	Theory Sessions	Practical Sessions
1	20-07-22	Registration	General introduction	Dr. R. Jesu Jaya Sudan & Dr. J. Lesitha Jeeva Kumari	-
2	21-07-22	Introduction to Pathology and computational biology	Selection of pathogenic and non-pathogenic strain of bacteria	Dr. J. Lesitha Jeeva Kumari	Dr. J. Lesitha Jeeva Kumari & Dr. R. Jesu Jaya Sudan
3	22-07-22	Central dogma, Databases-Genome, Gene and Protein	Identification of virulency causing genes and proteins	Dr. J. Lesitha Jeeva Kumari	Dr. J. Lesitha Jeeva Kumari & Dr. R. Jesu Jaya Sudan
4	23-07-22	Genome decoding-principles	Sequence analysis, blast and clustal W	Dr. J. Lesitha Jeeva Kumari	Dr. J. Lesitha Jeeva Kumari
5	25-07-22	Genome decoding-Tools andsoftwares	Genome decoding tools	Dr. J. Lesitha Jeeva Kumari	Dr. J. Lesitha Jeeva Kumari
6	26-07-22	Pathogenic island Prediction and tools	PIP tools	Dr. J. Lesitha Jeeva Kumari	Dr. J. Lesitha Jeeva Kumari
7	27-07-22	Selection of disease causing protein and its structure	PDB database and structure visualization	Dr. J. Lesitha Jeeva Kumari	Dr. J. Lesitha Jeeva Kumari & Dr. R. Jesu Jaya Sudan
8	28-07-22	Drug designing-principles and docking	Pubchem, structure visualization	Dr. J. Lesitha Jeeva Kumari	Dr. J. Lesitha Jeeva Kumari
9	29-07-22	Docking with hex	Docking visualization	Dr. J. Lesitha Jeeva Kumari	Dr. J. Lesitha Jeeva Kumari
10	30-07-22	Report submission and feedback	Valedictory function	Dr. J. Lesitha Jeeva Kumari & Dr. R. Jesu Jaya Sudan	Dr. J. Lesitha Jeeva Kumari & Dr. R. Jesu Jaya Sudan

  
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ON PATHOGENIC ISLAND PREDICTION AND DRUG DESIGNING (PIPAD) – 20.07.2022 to 30.07.2022**

**REPORT**

The 2 weeks Internship on “Pathogenic Island Prediction and Drug Designing” was organised by PG and Research Department of Biotechnology and conducted between 20-07-2022 to 30-07-2022. About 14 participants registered for the program. The theory and practical sessions were handled by Dr. R. Jesu Jaya Sudan and Dr. J. Lesitha Jeeva Kumari. During the internship program the students were taught about the genome level differences between a pathogenic and non-pathogenic bacteria and their identification using computational programs such as Island viewer, Co Ge, GI Hunter, Predict Bias etc. Comparative sequence analysis using Blast, Clustal W for detecting genomic similarities and variations. Concepts of identifying disease causing proteins of pathogenic bacteria and visualization of protein structures and the binding cavity analysis are dealt in detail. Principles of drug designing and designing of ligands to inhibit such pathogenic proteins were explained and practical exposure on the steps involved were demonstrated with PDB for protein structure retrieval, Rasmol for protein structure visualization, Pubchem for ligand structure retrieval and iGem Dock for binding cavity prediction and docking studies. At the end of every session the participants were given assignment to carryout in their lab. On the final day the students were asked to present the collective report of their findings and explain the inferences. During the valediction day the students were asked to give the feedback and the internship ended with Certificate distribution.

**HEAD OF THE DEVELOPMENT**

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## PHOTOS



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