

Webinar on

## "Mathematical Modeling and Simulations on Epidemic Diseases"

Organized by

Center for Computational Mathematics in association with the Department of Mathematics, School of Applied Sciences, Centurion University of Technology and Management, Odisha

**Date:** June 28, 2022 (Tuesday)

### **Resource Person Details:**

Dr. Buddhadeo Mahato completed his M.Sc. (Mathematics and Computing) from IIT Guahati, M.Tech. (Scientific Computing) from BIT Mesra, Ranchi and Ph.D. from IIT (ISM) Dhanbad. Presently he is working in the Department of Mathematics, University College of Engineering and Technology (UCET), Vinoba Bhave University (VBU), Hazaribag, Jharkhand, India-825301.

Dr. Mahato is actively engaged in research. He has a wide range of research interest. His research interest includes Artificial Intelligence, Cyber Security and Computational Bio-Mathematics (Modeling and Simulation on Epidemic Diseases). He has published many of his research articles in the journals of National/International repute. He has presented many of his research articles in different National/International conferences/seminars. Apart from the participation in different FDPs, Workshops, Induction/Orientation programmes and Refresher courses Dr. Mahato has also organized successfully an ATAL Academy sponsored 5-Days Online FDP on "Artificial Intelligence" and a TEQIP-III sponsored 3-Days Online workshop on "Mathematics and its Applications in Engineering & Technology" as a coordinator and convener respectively. Dr. Mahato is also a life member of different learned societies including Indian Science Congress Association and Indian Mathematical Society.

**No. of Students and/or Faculty Participated:** 45

### **Co-ordinator Details:**

1. Dr. Goutam Kumar Mahato (**Coordinator**), Department of Mathematics, School of Applied Sciences, CUTM, Odisha
2. Dr. Ashok Misra (**Convener**), Department of Mathematics, School of Applied Sciences, CUTM, Odisha

### **Detailed report of the activity:**

A webinar on "Mathematical Modeling and Simulations on Epidemic Diseases" is organized successfully by the Centre for Computational Mathematics in association with the Department of Mathematics, School of Applied Sciences, Centurion University of Technology and Management, Odisha, India. Dr. Buddhadeo Mahato, Department of Mathematics,

University College of Engineering and Technology (UCET), Vinoba Bhave University (VBU), Hazaribag, Jharkhand, India-825301 was the Invited Speaker of the webinar. There were more than 45 participants (faculty members as well as students) from different schools of Centurion University of Technology and Management who had registered and attended this webinar.

The program was conducted via Zoom. Agenda of the whole program was divided into following steps:

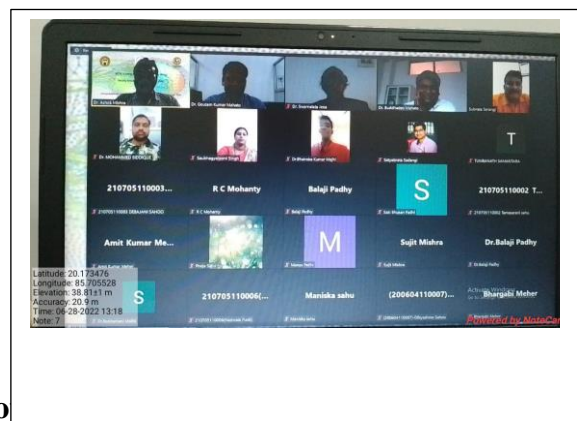
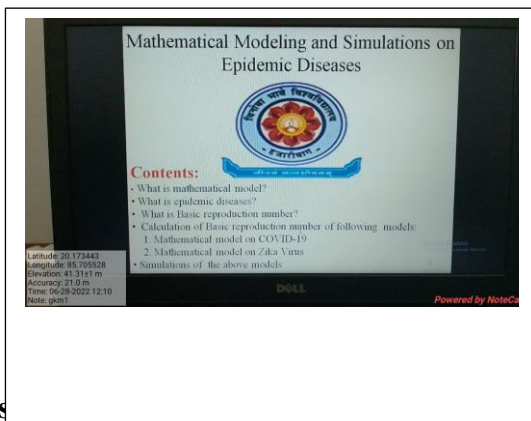
- Introduction of the Resource Persons by Dr. Goutam Kumar Mahato
- Welcome address by Prof. Ashok Misra
- Session taken by Dr. Buddhadeo Mahato
- Question and Answer Session
- Vote of Thanks by Prof. Ashok Misra

The webinar covered the following topics of discussion:

- What is mathematical model?
- What are epidemic diseases?
- What is Basic Reproduction Number?
- Calculation of Basic Reproduction Number of following models:
  - i. Mathematical model on COVID-19
  - ii. Mathematical model on Zika Virus
- Simulations of the above models

The whole session was fully interactive. The speaker discussed the topic from the very basic to the higher level. He also gave some live calculations (manual) and computations using MATLAB which made the session so interesting. Participants were also involved in the calculations.

**Geo-tagged Photographs of the event with date and caption:**



List n Co

Timestamp	Name	Email ID	Contact No.	Category	Department	Campus
6/25/2022 23:43	a	a	a	Faculty	a	Bhubaneswar
6/25/2022 23:57	b	b	b	Student	b	Paralakhemundi
6/26/2022 18:30	Saubhagyalaxmi Singh	saubhagyalaxmi.singh@cutm.ac.in	9853345330	Faculty	Mathematics	Bhubaneswar
6/26/2022 18:34	Barsarani Mohanty	210705110007@cutm.ac.in	9348998095	Student	Mathematics	Bhubaneswar
6/26/2022 18:35	Namrata Pusti	210705110006@cutm.ac.in	7735888271	Student	Mathematics	Bhubaneswar
6/26/2022 18:47	Shibasmita subhadarshini sahu	210705110001@cutm.ac.in	9178365900	Student	Mathematics	Bhubaneswar
6/26/2022 19:09	suman parre	seven.suman@gmail.com	9178516998	Faculty	genetics and plant breeding	Paralakhemundi
6/26/2022 19:44	Debajani Sahoo	210705110003@cutm.ac.in	8327729944	Student	Applied Mathematics	Bhubaneswar
6/26/2022 21:36	Sujit Mishra	sujit.mishra@cutm.ac.in	8763889160	Faculty	Mechanical	Paralakhemundi
6/27/2022 8:40	Subrata Sarangi	subrata.sarangi@cutm.ac.in	7008398388	Faculty	Physics	Bhubaneswar
6/27/2022 9:21	Vijay Mditana	vijay.miditana@cutm.ac.in	8074016346	Faculty	Mechanical Engineering	Paralakhemundi
6/27/2022 9:42	Dwity Sundar Rout	routdwitysundar@gmail.com	9777726185	Student	Department of Agricultural Extension Education	Paralakhemundi
6/27/2022 10:22	Dr. Swarnalata Jena	swarnalata.jena@cutm.ac.in	9861306412	Faculty	Mathematics	Bhubaneswar
6/27/2022 15:27	Tamasarani sahu	210705110002@cutm.ac.in	6371606941	Student	Mathematics	Bhubaneswar
6/27/2022 15:53	Amisha Kumari Paswan	200704110004@cutm.ac.in	7008574415	Student	BSc mathematics	Bhubaneswar

6/27/2022 16:20	Chandra Sekhar Patro	chandrasekhar.patro@cutm.ac.in	8331887509	Faculty	Pharmacy	Rayagada
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6/28/2022 11:18	Satyabrata Sadangi	satyabratashadangi@cutm.ac.in	7008043827	Faculty	Mathematics	Balangir
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6/28/2022 11:21	P. Utkal Bharat Kumar	pubharatkumar@cutm.ac.in	8917274252	Faculty	Zoology	Balangir
6/28/2022 11:23	JYOTI PRAKASH RATH	jyotiprakash.rath@cutm.ac.in	8939220470	Faculty	BOTANY	Balangir
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6/28/2022 11:44	Dr. Balaji Padhy	balaji.padhy@cutm.ac.in	8093875271	Faculty	Mathematics	Paralakhemundi
6/28/2022 11:58	Dr. Nilaya Kumar Mohanty	nilaya.mohanty@cutm.ac.in	9853161452	Faculty	Physics	Balangir
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6/28/2022 12:16	Sonali Majhi	200604110003@cutm.ac.in	8895811056	Student	Applied Mathematics	Balangir
6/28/2022 12:22	Dr. Mohammed Siddique	siddique@cutm.ac.in	9090238860	Faculty	Mathematics	Bhubaneswar
6/28/2022 12:26	Aishwarya khatua	200604110001@cutm.ac.in	8260697326	Student	Applied Mathematics	Balangir
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6/28/2022 12:41	Barsharani Guru	200604110005@cutm.ac.in	7008144268	Student	Mathematics	Balangir
6/28/2022 12:55	Smita Sahu	200604110002@cutm.ac.in	7606880038	Student	Applied Mathematics	Balangir
6/28/2022 13:24	Ashok Misra	ashok.misra@cutm.ac.in	9937563329	Faculty	Mathematics	Paralakhemundi

Brochure related to the event:



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UNIVERSITY

## Webinar on **MATHEMATICAL MODELING AND SIMULATIONS ON EPIDEMIC DISEASES**

Organised by  
Centre for  
Computational Mathematics

In association with  
Department of Mathematics  
School of Applied Sciences

 28 June 2022 from 12:00 to 01:30 PM



**Speaker**  
**Dr. Buddhadeo Mahato**  
Department of Mathematics  
University College of Engineering and Technology  
Vinoba Bhave University, Hazaribag, Jharkhand, India



**Convener**  
Dr. Ashok Misra

**Coordinator**  
Dr. Goutam Kumar Mahato

**Join Zoom Meeting**  
<https://zoom.us/j/98273986437?pwd=RWZyVHB2aVE0bitIR2RLU2J5ZDNmUT09>  
**Meeting ID:** 982 7398 6437 **Passcode:** 1YpKN5

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*Shaping Lives... Empowering Communities...*

*A. Misra*

(Dr. Ashok Misra)  
Coordinator  
Centre for Computational Mathematics