









Pt. Ravishankar Shukla University, Raipur Chhattisgarh – 492010

Aishe Code: U-0093 (Under The Initiative of Ministry of Education's Innovation Cell)

IIC ID: IC201810375

Report

Institute Innovation Council, Pt. Ravishankar Shukla University, Raipur

Conducted

On

"Mathematics of Climate Change: Predicting the Future"

On

23rd August 2025

In association with

Innovation & incubation Centre

Centre for Basic Science,

Pt. Ravishankar Shukla University, Raipur













Pt. Ravishankar Shukla University, Raipur Chhattisgarh – 492010

Aishe Code: U-0093 (Under The Initiative of Ministry of Education's Innovation Cell)

IIC ID: IC201810375

Poster













Mathematics of Climate Change:
Predicting the Future
By
Dr. Govind Sahu
IIC Member & innovation Ambassador
Centre for Basic Science, pt. Ravishankar













Pt. Ravishankar Shukla University, Raipur Chhattisgarh – 492010

(Under The Initiative of Ministry of Education's Innovation Cell) Aishe Code: U-0093

IIC ID: IC201810375

Details of the Event

Name of Program Type	Awareness program (Self driven activity IIC 7.0)
Name of Program Theme	Using mathematical models and data to understand, predict, and mitigate climate change impacts.
Objective	Use math models to predict climate trends, assess impacts, and guide future environmental action.
Benefit	Empowers informed decisions by modeling climate trends, risks, and solutions using mathematics.
Duration of Activity	2 hour
Mode of Event	Offline
No. of Students Participants	40
No. of Faculty Participants	3
No. of External Participants	00



Aishe Code: U-0093











Institute Innovation Council

Pt. Ravishankar Shukla University, Raipur Chhattisgarh – 492010

(Under The Initiative of Ministry of Education's Innovation Cell)

IIC ID: IC201810375

Attendance

Lecture on "Matternatia of Climate change;	25) Lawlyn Kumor Chandrawanshi Sem I. Zantya
Pate: 23/08/2025, Place: Lecture Hall. 4, Center for Bousic Sciences: Pt Ranisbankar shuken university, Peripus	26) Kortik Brakash Singh 181 sem Kemp
Name class Shilki faikra stisem(c) Phuroshi strem(c) Nishita St	Related 1st sum Phrimal 1st su
22) Kornajkant Pischa 1st sem Frich. 24) Prokhar Sao 3rd sem Jukh page (12)	Poge (D)













Pt. Ravishankar Shukla University, Raipur Chhattisgarh – 492010

(Under The Initiative of Ministry of Education's Innovation Cell) Aishe Code: U-0093

IIC ID: IC201810375

Program Summary

The lecture "Mathematics of Climate Change: Predicting the Future" was delivered by Dr. Govind Prasad Sahu (Center for Basic Sciences, Pt. Ravishankar Shukla University, Raipur) for the students of the Integrated M.Sc. program at CBS at 1.30 PM on 23rd August, 2025. The session was organized under the selfdriven activities of the Institute Innovation Council; Pt. Ravishankar Shukla University aims to expose young scholars to the applications of mathematics in climate science.

Climate science is inherently complex, but mathematics provides the essential framework for modelling, prediction, and informed decision-making. It highlighted how mathematical modelling, data analysis, and nonlinear systems offer powerful tools for predicting climate dynamics, assessing risks, and informing policy. The session highlighted how mathematical methods connect theory with practical climate challenges. The lecture concluded by motivating students to consider their own role in contributing to climate research and sustainable futures.

The lecture highlighted four interconnected themes showing how mathematics underpins climate science: climate models, where differential equations, numerical simulations, and nonlinear systems capture energy balances and chaotic dynamics; observations and data, where statistical tools, time series analysis, and probabilistic methods reveal trends and uncertainties in temperature-CO₂ relationships and climate cycles; climate impacts, where population dynamics, epidemiological models, and optimization frameworks assess risks to biodiversity, health, and energy systems; and policy and case studies, where scenario analysis, carbon budgets, and India-specific challenges such as monsoon variability and food security demonstrate how mathematical insights guide real-world decision-making.

Students gained an understanding that mathematics is not abstract in this context—it is a powerful tool for predicting our climate future and guiding policy. They were encouraged to reflect on their role in contributing to climate science through mathematical and interdisciplinary approaches



Aishe Code: U-0093











Institute Innovation Council

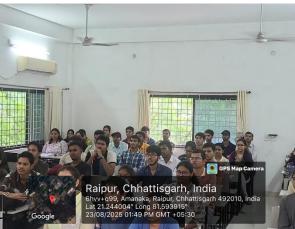
Pt. Ravishankar Shukla University, Raipur Chhattisgarh – 492010

(Under The Initiative of Ministry of Education's Innovation Cell)

IIC ID: IC201810375

Photos of the Event













Aishe Code: U-0093











Institute Innovation Council

Pt. Ravishankar Shukla University, Raipur Chhattisgarh – 492010

(Under The Initiative of Ministry of Education's Innovation Cell)

IIC ID: IC201810375

Conclusion

The mathematics of climate change plays a vital role in understanding and predicting Earth's future. Through advanced models, data analysis, and simulations, we can anticipate temperature changes, sea level rise, and extreme weather patterns. These mathematical tools enable scientists and policymakers to make informed decisions to mitigate the effects of climate change. As models become more accurate and data becomes more accessible, our ability to respond proactively improves. Ultimately, mathematics not only helps us grasp the scale and urgency of the crisis but also provides a foundation for creating effective, science-based solutions for a sustainable and resilient future.

Dr. Kavita Thakur President, IIC PRSU