St.Wilfred's Education Society's

CSMIT,PANVEL

Deparment of Civil Engineering

A Seminar

on

Bacterial Concrete

NAME OF ACTIVITY: Seminar

DATE & DURATION: 21/09/2019

TYPE OF ACTIVITY: A Seminar on Bacterial Concrete.

ORGANIZER(S): Department of Civil Engineering, Chhatrapati Shivaji Maharaj Institute of Technology, Panvel.

EXPECTED OUTCOMES:

CO1: The self-healing mechanism of bacterial concrete helps to repair cracks that develop over time, preventing the ingress of water and other harmful substances that can weaken the concrete structure. This enhances the overall durability and longevity of the concrete.

CO2: By autonomously repairing cracks, bacterial concrete reduces the need for manual repairs and maintenance interventions. This can lead to significant cost savings over the lifespan of a structure, especially in infrastructure projects where maintenance can be expensive and disruptive.

BRIEF BIODATA OF RESOURCE PERSON: Mr.M.D Daniyal,CSMU, Panvel

ABSTRACT OF THE SESSION:

Department of Civil Engineering CSMIT organized a A Seminar on Bacterial Concrete delivered by **Mr.M.D Daniyal,CSMU,Panvel** Maharashtra. He explained the Bacterial Concrete in Civil Engineering

Mr. Shreyas Pandey, Head, Department of Civil Engineering, Chhatrapati Shivaji Maharaj Institute of Technology, Panvel welcomed the students in session.

The main objective of this session is to get students to understand the Bacterial Concrete.

1. Introduction

- Definition of bacterial concrete and its significance in sustainable construction
- Brief overview of conventional concrete and its limitations
- Introduction to the concept of microbial-induced calcium carbonate precipitation (MICP) as the foundation of bacterial concrete

2. The Science Behind Bacterial Concrete

- Explanation of MICP: how bacteria facilitate the formation of calcium carbonate
- Types of bacteria commonly used in bacterial concrete (e.g., *Bacillus* species)
- Chemical reactions involved in the process and their implications for concrete properties

3. Production Process

- Selection criteria for bacterial strains suitable for MICP
- Cultivation and propagation of bacteria in concrete mixtures
- Incorporation of bacterial agents into concrete production processes
- Quality control measures to ensure effective bacterial activity and calcium carbonate precipitation

4. Properties and Performance of Bacterial Concrete

- Enhanced durability and self-healing capabilities compared to traditional concrete
- Mechanical, chemical, and physical properties of bacterial concrete
- Resistance to various environmental factors such as corrosion, erosion, and freeze-thaw cycles

5. Applications and Case Studies

- Infrastructure projects: bridges, tunnels, dams, highways, etc.

- Repair and rehabilitation of deteriorated concrete structures
- Marine and coastal protection applications
- Real-world examples of successful implementation and performance of bacterial concrete projects

6. Advantages and Benefits

- Longevity and reduced maintenance costs over the lifecycle of structures
- Environmental sustainability: reduction in carbon footprint and resource consumption
- Potential for cost savings and improved resilience in infrastructure development

7. Challenges and Limitations

- Engineering challenges in optimizing bacterial activity and calcium carbonate formation
- Compatibility with existing construction practices and standards
- Long-term performance and reliability under different environmental conditions

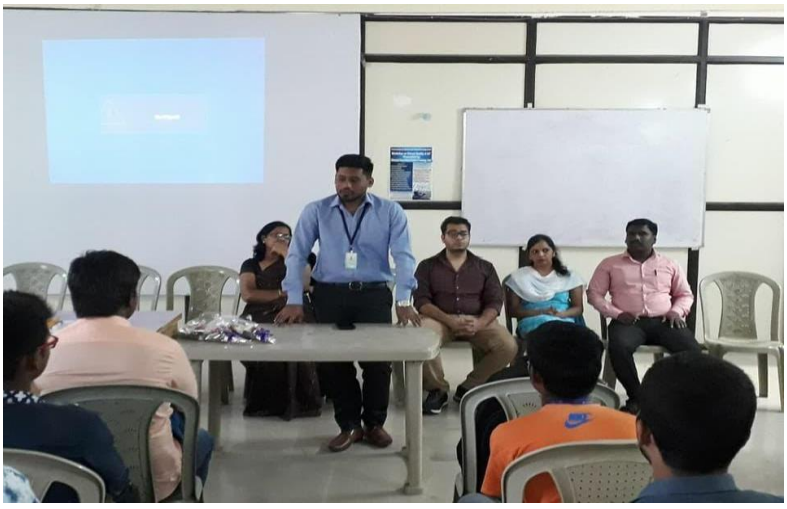
8. Future Directions and Research Opportunities

- Emerging trends and innovations in bacterial concrete technology
- Potential integration with other sustainable construction materials and practices
- Research areas for further enhancing the performance and applicability of bacterial concrete

9. Conclusion

- Recap of key points and insights presented
- Affirmation of the potential of bacterial concrete in advancing sustainable construction practices
- Call to action for stakeholders to embrace and invest in bio concrete technology for a more resilient and eco-friendly built environment

GLIMPSES:



ATTENDANCE SHEET:

Chhatrapati Shivaji Maharaj Institute of technology

Department of Civil Engineering

A Seminar on bacterial Concrete

Sr.No	Name of Participants	College Name	Date :21/09/2019
1	Pratik Anil Ubhare	Chhatrapati Shivaji Maharaj Institute of Technology	
2	Kiran Keshav Kamble	Chhatrapati Shivaji Maharaj Institute of Technology	
3	Ajay Revanasidhd Ruhi	Chhatrapati Shivaji Maharaj Institute of Technology	
4	Nikhil Chandrakant Katke	Chhatrapati Shivaji Maharaj Institute of Technology	
5	Harsha Sandeep Kamble	Chhatrapati Shivaji Maharaj Institute of Technology	
6	Sudarshan Prakash Tambe	Chhatrapati Shivaji Maharaj Institute of Technology	
7	Aakash Anand Virkayade	Chhatrapati Shivaji Maharaj Institute of Technology	
8	Akshay Shantaram Ingale	Chhatrapati Shivaji Maharaj Institute of Technology	
9	Ajay Devdas Khare	Chhatrapati Shivaji Maharaj Institute of Technology	
10	Suchitra Sunil Jadhav	Chhatrapati Shivaji Maharaj Institute of Technology	
11	Akshay Sahebrao Rasal	Chhatrapati Shivaji Maharaj Institute of Technology	
12	Ketan Avinash Kamble	Chhatrapati Shivaji Maharaj Institute of Technology	
13	Akshay Ashok Kamble	Chhatrapati Shivaji Maharaj Institute of Technology	
14	Anjali Pradeep Domkondwar	Chhatrapati Shivaji Maharaj Institute of Technology	
15	Aditya Prabhakar Jadhav	Chhatrapati Shivaji Maharaj Institute of Technology	
16	Prajwal Pandhari Waghmare	Chhatrapati Shivaji Maharaj Institute of Technology	
17	Siddhesh Raju Pawar	Chhatrapati Shivaji Maharaj Institute of Technology	
18	Kiran Bhau Bhise	Chhatrapati Shivaji Maharaj Institute of Technology	
19	Vishal Ashokrao Kharatmol	Chhatrapati Shivaji Maharaj Institute of Technology	
20	Pranay Ramchandra Sawant	Chhatrapati Shivaji Maharaj Institute of Technology	
21	Ashwini Ashok Sonwane	Chhatrapati Shivaji Maharaj Institute of Technology	
22	Rohan Sudhakar Kadam	Chhatrapati Shivaji Maharaj Institute of Technology	
23	Chetan Arvind Kambale	Chhatrapati Shivaji Maharaj Institute of Technology	
24	Chinmay Sunil Suryawanshi	Chhatrapati Shivaji Maharaj Institute of Technology	
25	Shreyas Shashikant Kamble	Chhatrapati Shivaji Maharaj Institute of Technology	
26	Satyasheel Vijay Kamble	Chhatrapati Shivaji Maharaj Institute of Technology	
27	Ajinkya Arunkumar Kamer	Chhatrapati Shivaji Maharaj Institute of Technology	
28	Sourav Sanjay Jagtap	Chhatrapati Shivaji Maharaj Institute of Technology	
29	Shruti Purushottam Fule	Chhatrapati Shivaji Maharaj Institute of Technology	
30	Shreyas Narendra Kamble	Chhatrapati Shivaji Maharaj Institute of Technology	
31	Akshay Nagesh Solnki	Chhatrapati Shivaji Maharaj Institute of Technology	
32	Shubham Zumber Gaikwad	Chhatrapati Shivaji Maharaj Institute of Technology	

33	Sameep Chandrashekhar Ubale	**Chhatrapati Shivaji Maharaj Institute of Technology**	
34	Vrishabh Ganesh Ghodke	**Chhatrapati Shivaji Maharaj Institute of Technology**	
35	Swaraj Sanjay Nikam	**Chhatrapati Shivaji Maharaj Institute of Technology**	
36	Akshay Nagesh Solnki	**Chhatrapati Shivaji Maharaj Institute of Technology**	
37	Sourabh Sanjay Gaikwad	**Chhatrapati Shivaji Maharaj Institute of Technology**	
38	Abhijeet Adesh Jadhav	**Chhatrapati Shivaji Maharaj Institute of Technology**	
39	Ashutosh Vidyadhar More	**Chhatrapati Shivaji Maharaj Institute of Technology**	
40	Sourav Sanjay Jagtap	**Chhatrapati Shivaji Maharaj Institute of Technology**	
41	Shruti Purushottam Fule	**Chhatrapati Shivaji Maharaj Institute of Technology**	
42	Shreyas Narendra Kamble	**Chhatrapati Shivaji Maharaj Institute of Technology**	
		Sign of co-ordinator	

FEEDBACK ANALYSIS:

SESSION FEEDBACK ANALYSIS								
Sr.no.	Attributes	Total Feed Back	Total Feed Back- 40					
			>80% Objective Achieved, 60 to 79 %- Satisfactory, Below 60%, Need improvement					
1	Do you think session was useful for you?	40	Yes	No	Partial	---	---	Remark
			35	0	5	0	0	Objective Achieved (90.00%)
			90.00	0.00	10.00	0.00	0.00	
2	Did you receive all the information you expected by the session?	40	Yes	No	Partial	---	---	Remark
			37	0	3	0	0	Objective Achieved (93.33%)
			93.33	0.00	6.67	0.00	0.00	
3	Opinion on Rating the speaker for the session	40	Outstanding	Excellent	Good	Average	Satisfactory	Remark
			40	0	0	0	0	Objective Achieved - Outstanding & Excellent (100%)
			100	0	0	0.00	0	
4	Audience Query Response by the Speaker	40	Outstanding	Excellent	Good	Average	Satisfactory	Remark
			40	0	0	0	0	Objective Not Achieved (100%)
			100	0	0	0	0	
5	Overall experience about the Session	40	Outstanding	Excellent	Good	Average	Satisfactory	Remark
			32	4	4	0	0	Objective Achieved - Outstanding & Excellent (83.99%)
			83.99	7.34	7.34	0	0	
6	Would you like to attend future Alumni Session conducted by the department?	40	Yes	No	---	---	---	Remark

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CHHATRAPATI SHIVAJI MAHARAJ INSTITUTE OF TECHNOLOGY
Affiliated to the Mumbai University, Approved By AICTE - New Dehli.
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Ref. No. :-Ref.id/CSMIT/WDC/02/2019/001 **Date-13/ 09/2019**

Invitation

To,
Mr.M.D Daniyal,
CSMU, Panvel.

Subject:- Letter of invitation for a Seminar on Bacterial Concrete.

Dear Sir,

We are very happy to inform you that our organization Chhatrapati Shivaji Maharaj Institute of Technology, Panvel is organizing a Seminar on Bacterial Concrete.The main focus of the topic is startup opportunities in various domains for shaping your ideas into reality and also to inform everyone present in the seminar about the importance, usages, and setbacks of the above-mentioned topic.

The seminar will take place online on 21 Sept 2019 and it will commence from 11:00 AM to 1:00PM

We hope you will give us time from your busy schedule.

Savita

Dr.Savita Agarwal

(Principal)

St.Wilfred's Education Society's

CSMIT,PANVEL

Deparment of Civil Engineering

CSMIT/CIVIL/DO/2019-20/ Date 13 /09/2019

NOTICE

An “A Seminar on Bacterial Concrete” is organized by the Department of Civil Engineering Chhatrapati Shivaji Maharaj Institute of Engineering, Panvel on 21/09/2019 The activity will be held as per the schedule.

Date : 21/09/2019

Activity Name :“A Seminar on Bacterial Concrete”

Venue : Seminar Hall

Time: 11am Onwards

The Students are to present on time. For further query you may contact the Faculty Coordinator.

Mr. Shreyas Pandey
HOD (CIVIL)

Dr.Savita Agarwal
(Principal)

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LETTER OF APPRECIATION

To,

Mr.M.D Daniyal,
CSMU, Panvel.

Subject : Letter of Appreciation.

I would like to extend my sincerest gratitude towards you for your"Seminar on Bacterial Concrete of Civil Engineering." held by **CHHATRAPATI SHIVAJI MAHARAJ INSTITUTE OF TECHNOLOGY, NAVI MUMBAI** on 21 Sep 2019 .

Please accept our Appreciation for such a commendable job. We will take your words into practice.

I, once again, would like to thank you for such a wonderful speech and guidance and hope to get a chance to hear such speeches from you in future also.

Thanks & Regards,

Dr.Savita Agarwal
(Principal)