



SARVAJANIK EDUCATION SOCIETY  
**SARVAJANIK COLLEGE OF ENGINEERING & TECHNOLOGY**  
DR. R. K. DESAI MARG, ATHWALINES, SURAT – 395001  
Towards progressive civilization.....

## Report on

TWO DAY WORKSHOP

# **SUSTAINABLE APPROACH TOWARDS URBAN WATER AND WASTEWATER MANAGEMENT**

7- 8 February 2017

**Organised by:**

**DEPARTMENT OF M.E. ENVIRONMENTAL ENGINEERING &  
DEPARTMENT OF CIVIL ENGINEERING**

**Supported by:**

**INDIAN SOCIETY OF TECHNICAL EDUCATION**



**Coordinators:**

Prof. Mehali Mehta  
PG I/C (Env. Engg.)

Prof. Mitali Shah   Prof. Payal Zaveri   Prof. Ankita Parmar

**IN ASSOCIATION WITH:**



## ABOUT THE WORKSHOP

Sustainable Approach towards Water and wastewater management is of utmost need of today. The workshop intends to provide in depth exposure and recent knowledge for research scholars, faculties and students involved in active research on water and wastewater management practices. The lectures will be delivered by distinguished experts in their field to disseminate the recent advances in science and technology towards sustainability. The workshop will focus on the innovative tools and techniques in the field of water and wastewater management.

## WORKSHOP TOPICS:

1. Recycling of Sewage- A Case Study Surat by Er. E. H. Pathan, SMC, Surat
2. Advances in Industrial Wastewater Recycling by Er. Vatsal Naik, Chairman, Globe Enviro Care Ltd., Surat
3. Application of GIS and Remote Sensing in Urban Water Resource Management by Dr. P. G. Agnihotri, SVNIT, Surat
4. Water management Issues in Indian Cities by Dr. S. M. Yadav, SVNIT, Surat
5. Impact of excessive use of Bore Well in context to Industrialization: A Case Study Surat by Er. Kunal Shah, En Vision Environmental Services, Surat
6. Sustainable Water and wastewater Treatment Technology by Dr. Neeraj Sharma, SNPI&RC, Bardoli.
7. Reuse of Grey Water to Sustain Water Demand by Dr. K. D. Yadav, SVNIT, Surat
8. Fundamentals of Reactor Kinetics by Dr. R. A. Christian, SVNIT, Surat

## WHO CAN ATTEND?

The course is open to all academicians, research scholars, persons from industry. As the workshop is interdisciplinary, persons with Civil, Environmental, Chemical and Applied Sciences background can attend the programme. Research scholars working in the above areas are also eligible to apply.

## REGISTRATION FEE :

Participants	Amount
Faculty / Teachers from academic Institution / Colleges / Universities	Rs. 400
Govt. Departments / Industries / Commercial Organisation	Rs. 500
Research Scholars / Students	Rs. 300

Registration charges include Course Material, Lunch & High Tea. The number of participants is limited to 50 based on first come first serve

## ACCOMMODATION:

Accommodation shall be managed by candidate.

## VENUE:

NJ Seminar Hall, SCET, Surat



**TWO-DAY WORKSHOP ON**

## SUSTAINABLE APPROACH TOWARDS URBAN WATER AND WASTEWATER MANAGEMENT

ISTE Faculty Chapter  
Department of M.E Environmental Engineering & Department of Civil Engineering  
SARVAJANIK COLLEGE OF ENGINEERING & TECHNOLOGY, SURAT  
(7-8 February, 2017)

## Registration Form

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Organization: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Tel.: \_\_\_\_\_

Email: \_\_\_\_\_

Signature: \_\_\_\_\_



## ABOUT INSTITUTE

Sarvajnik Education Society is an emblem of quality and value education for more than nine decades. Sarvajnik College of Engineering & Technology (SCET), Surat is a self-financed institute offering undergraduate & post graduate degrees in engineering as well as architecture. The institute is recognized by the All India Council for Technical Education (AICTE) and affiliated to Gujarat Technological University (GTU). This institute has been set up under the aegis of Sarvajnik Education Society. The institute strives to impart highest level of quality technical education through course curriculum and various professional short-term training programme in advanced areas.

## ABOUT DEPARTMENT OF ME ENVIRONMENTAL ENGINEERING

Department of M.E Environmental engineering was founded in 2011 with the annual intake of 18 students. The M.E. course is conducted for two years with minimum eligibility of degree in B.Tech. or B.E. Environmental Engineering, civil engineering & chemical engineering. Subjects usually studied under this degree are Environmental Chemistry, Environmental Microbiology, Computational Methods, Water Supply Management, Waste Water Management, Municipal Water Treatment, Industrial Water Treatment, Applied Statistics for Environmental Engineering, Environmental Impact Assessment, Industrial Pollution Prevention, Air Pollution Control, Solid and Hazardous Waste Management, Remote Sensing and GIS Application.

## ORGANIZING COMMITTEE

Patron:  
Dr. Vaishali Mungurwadi  
Principal SCET &  
ISTE Institutional Head

Head of Department:  
Dr. Pratima Patel

Co-ordinators:  
Prof. Mehali Mehta  
(PG In-charge, ME Environment)

Prof. Mitali Shah Prof. Payal Zaveri

Prof. Ankita Parmar

## The Registration form may be sent to:

Prof. Mitali Shah / Prof. Payal Zaveri  
Civil Engineering Department,  
Sarvajnik College of Engineering & Technology,  
Surat-395001  
Mob: +91 81415 52883 / +91 98794 33591

Email:  
mitali.shah@scet.ac.in  
payal.zaveri@scet.ac.in

## Important Dates:

Last date for receipt of application

**31.01.2017**

Notification about selection:

Within 2 days of receipt of filled registration form

**TWO DAY WORKSHOP ON**

## SUSTAINABLE APPROACH TOWARDS URBAN WATER AND WASTEWATER MANAGEMENT



In Association with



South Gujarat Textile Process Association

PIL  
Pandrasara Infrastructure Ltd.

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Colourtex Pvt. Ltd.



Organized by:  
SARVAJANIK COLLEGE OF  
ENGINEERING & TECHNOLOGY, SURAT.  
Towards Progressive Civilization....

Department of M.E Environmental Engineering  
&  
Department of Civil Engineering

Dr. R.K. Desai Marg, Athwalines, Surat-395001  
Website: www.scet.ac.in Ph: 0261-2240145-148

## SCHEDULE OF THE WORKSHOP: 7-8 February 2017

DAY – 1 (07/02/2017)	
8:45-9:15 AM	<b>REGISTRATION</b>
9:15-10:15 AM	<b>INAUGURAL FUNCTION</b>
10:15-10:45 AM	<b>BREAK FAST</b>
10:45-12:00 AM	<b>EXPERT LECTURE-I</b> Recycling of Sewage- A Case Study Surat By Shri. Bhairav Desai, Surat Municipal Corporation, Surat
12:00-1:15 PM	<b>EXPERT LECTURE-II</b> Requirement of CETP for Industrial Wastewater Management by Dr. A. K. Khambete, SVNIT, Surat
1:15-2:00 PM	<b>LUNCH BREAK</b>
2:00-3:30 PM	<b>EXPERT LECTURE-III</b> Fundamentals of Reactor Kinetics by Dr. R. A. Christian, SVNIT, Surat
3: 30-3:45 PM	<b>HIGH TEA</b>
3:45-5:15 PM	<b>EXPERT LECTURE IV</b> Water Management Issues in Indian Cities by Dr. S. M. Yadav, SVNIT, Surat

DAY – 2 (08/02/2017)	
8:45-9:15 AM	<b>BREAK FAST</b>
9:15-10:30 AM	<b>EXPERT LECTURE I</b> Sustainable Water and Wastewater Treatment Technology by Dr. Neeraj Sharma, SNPIT&RC, Bardoli
10:30-12:00 AM	<b>EXPERT LECTURE II</b> Impact of Excessive Use of Bore Well in Context to Industrialization: A Case Study Surat by Er. Kunal Shah, En Vision Environmental Services, Surat
12:00-1:00 PM	<b>EXPERT LECTURE III</b> Reuse of Grey Water to Sustain Water Demand by Dr. K. D. Yadav, SVNIT, Surat
1:00-1:30 PM	<b>LUNCH BREAK</b>
1:30-3:00 PM	<b>EXPERT LECTURE IV</b> Application of GIS and Remote Sensing in Urban Water Resource Management by Dr. P. G. Agnihotri, SVNIT, Surat
3:00-3:15 PM	<b>HIGH TEA</b>
3:15-4:30 PM	<b>EXPERT LECTURE V</b> Recycling of Industrial Effluent by Er. Vatsal Naik, Managing Director, Mahavir Synthesis Pvt. Ltd. & Mahavir Eco project Pvt. Ltd., Surat
4:30-5:00 PM	<b>VALEDICTORY FUNCTION &amp; CERTIFICATE DISTRIBUTION</b>



## INTRODUCTION OF THE WORKSHOP:

Department of M.E Environmental Engineering and Department of Civil Engineering organized two day workshop on “Sustainable Approach towards Urban Water and Wastewater Management” on 7-8 February 2017. The workshop was supported by Indian Society of Technical Education, Faculty chapter, SCET, Surat. The workshop aimed in providing in depth knowledge and exposure about the sustainable approaches towards urban water and wastewater management. Gamut of speakers from Surat Municipal Corporation, Industries, Environmental firms and National Institutes shared their research and expertise making the workshop vibrant and interactive. The subject is vast in itself; however the beginning on getting insights towards sustainable approach is necessary. This two day workshop was aimed to provide a platform for faculties, research scholars and students to interact and have an insight over the sustainable approaches to mitigate the water crisis and wastewater management. The workshop included 106 counts of participants including faculties, research scholars, post graduates, under graduates, industry employees and trainees.

## THE INAUGURAL FUNCTION:



The inaugural ceremony started with the melodious prayer, followed by lighting the lamp by all the dignitaries including Shri Persi Engineer, Principal Architecture and Shri K. O. Shah, Member of Advisory committee of Civil Engineering Department.



**Prof. Dr. Vaishali Mungurwadi**, Respected Principal, Faculty of Engineering, SCET, welcomed the chief Guest Er. Bharat Dalal, I/C City Engineer, Surat Municipal Corporation, Shri Chandrakant Jariwala, President of the function and Vice Chairman I of Sarvajanik Education Society, Shri Kamlesh Yagnik, the Keynote speaker of the function and Vice Chairman II of Sarvajanik Education Society, all dignitaries present in the function and the participants of the workshop.



**Prof. Mehali Mehta**, coordinator of the workshop, PG I/C Environment Engineering, and faculty of Civil Engineering, SCET, briefed about the purpose of organizing the workshop and the need for sustainable approaches to mitigate the crisis by proper usage of water and efficiently managing wastewater by adopting 4'R: reduce, reuse, recycle and recover approach.

**Prof. Payal Zaveri**, coordinator of the workshop and faculty of Civil Engineering introduced the chief guest of the function.



**Shri Bharat Dalal**, I/C City Engineer, Surat Municipal Corporation gave his kind consent for the chief guest of the function. He discussed about efficient water supply management measures and quoted the example of the practises followed by Surat Municipal Corporation.

**Shri Chandrakant S. Jariwala**, President of the function and Vice Chairman I of Sarvajanic Education Society congratulated the coordinators and the institution for organising the workshop and motivated the participants for attending the workshop on the topics beneficial to the society for sustainable development conserving the environment.



**Shri Kamlesh Yagnik**, Keynote speaker and Vice Chairman II of Sarvajanic Education Society, emphasised on Gandhiji's quote, "Be the Change you want to see". He said mother earth has enough resource for everyone's need but the major problems are due to human greed. He emphasised to work collectively, holistically and in a focused manner to deal with the major challenges like water and wastewater management, climate change, poverty, corruption, population and urbanisation.

**Prof. (Dr.) Pratima Patel**, Head of the department, briefed about the department and gave vote of thanks to one and all involved in the workshop.



**The inauguration function concluded with the national anthem.**



### Expert Lecture 1 (07/02/2017) : *Recycle of Sewage - A Case Study Surat*



**Er. Bhairav Desai**, Assistant Engineer, Drainage Department, Surat Municipal Corporation, Surat gave an overview on recycle of sewage at Bamroli sewage treatment plant, Surat and talked about the initiative towards sustainable wastewater treatment by adopting tertiary treatment which includes membrane technology, ultra filtration, reverse osmosis, activated carbon filter.

### Expert Lecture 2 (07/02/2017) : *Requirement of CETP for Industries for Wastewater Management*

**Dr. Anjali K. Khambete**, Associate Professor, Sardar Vallabhbhai National Institute of Technology, Surat gave the current scenario of common effluent treatment plant in the country, and importance of CETP for small and medium scale industries especially heterogeneous industrial cluster which cannot afford treatment of wastewater at the plant due to space and financial constraint.



### Expert Lecture 3 : (07/02/2017) : *Fundamental of Reactor Kinetics*



**Dr. Robin A. Christian**, Associate Professor, Sardar Vallabhbhai National Institute of Technology, Surat discussed selection of reactor, its design criteria's and various parameters of the reactor design for sewage treatment plant.

#### **Expert Lecture 4 (07/02/2017) : *Water Management Issues in Indian Cities***

**Dr. Sanjay M. Yadav**, Professor, Sardar Vallabhbhai National Institute of Technology, Surat, started with the definition of sustainability in context with water usage. He discussed systematic framework for evaluating water resources through sustainable development. He also discussed water management issues in Indian cities citing few examples with solutions.



#### **Expert Lecture 5 (08/02/2017) : *Sustainable Water and Wastewater Treatment Technology***

**Dr. Neeraj Sharma**, Principal & Professor, S. N. Patel Institute of Technology & Research Centre, Bardoli, discussed three major factors like economical development, social development, and environmental protection for sustainable development. He discussed in depth on reed bed system, for wastewater treatment as a sustainable option for wastewater management.



#### **Expert Lecture 6 (08/02/2017) : *Impact of Excessive Use of Bore Well in Context to Industrialization-A Case Study, Surat***



**Er. Kunal Shah**, Director, En-Vision Environmental Services, Surat, discussed on the impact of excessive use of bore well in context to industrialisation. He discussed the impact of excessive extraction of ground water leading to sinking of ground water table and ground water intrusion. This was elaborated with the case study of Kadodra region in context to the industries located in the region.



### **Expert Lecture 7 (08/02/2017) : *Reuse of Grey Water to Sustain Water Demand***

**Dr. K. D. Yadav**, Assistant Professor, Sardar Vallabhbhai National Institute of Technology, Surat, started with sources and characteristics of grey water and talked about the experimental setup for the treatment of grey water with reuse and recycle. He also showed the setup at SVNIT campus, the grey water treatment, reuse and recycle.



### **Expert Lecture 8 (08/02/2017) : *Application of GIS and Remote sensing in Urban Water Resource Management***

**Dr. P. G. Agnihotri**, Associate Professor, Sardar Vallabhbhai National Institute of Technology, Surat, talked about the application of GIS and Remote sensing in urban water resource management. He started with the basic concept of GIS, GPS and Remote Sensing and focused on the ways in which GIS can facilitate effective water resource management.



### **Expert Lecture 9 (08/02/2017) : *Recycling of Industrial Effluent***



**Er. Vatsal Naik**, Chairman and Managing Director, Mahavir Synthesis Pvt. Ltd. & Mahavir Eco Project, Surat, talked on the advances in industrial wastewater treatment and recycling of industrial effluent. He described methods to achieve sustainable development through 4R concept. He explained in depth various advance physical, chemical and biological technologies for the treatment of industrial effluents.

## THE VALEDICTORY FUNCTION

Valedictory function started with a prayer followed by welcome song. The function was preceded by Shri Yatish Parekh, Chairman of Sarvajanic Education Society and Er. Vatsal Naik, Chairman and Managing Director, Mahavir Synthesis Pvt. Ltd. & Mahavir Eco Project, Surat .



**Dr. Vaishali Mungurwadi**, Respected Principal, Faculty of Engineering, SCET, welcomed the chief Guest and the President of the function. She congratulated the coordinators, HOD and the participants for the success of the workshop. She appreciated the selection of appropriate topic with eminent speakers for the workshop. She concluded with her kind remarks that such workshops provide an interactive platform for the technocrats to discuss and learn new innovations as well as current technologies and methods practiced.



**Prof. Mitali Shah**, coordinator of workshop and faculty of Environmental Engineering Department, SCET, gave an overview of two day workshop and highlighted the important discussions by each expert.



**Er. Vatsal Naik**, Chief Guest of the valedictory function and Chairman and Managing Director, Mahavir Synthesis Pvt. Ltd. & Mahavir Eco Project, Surat, talked about sustainability in context to the growth and threw light on zero discharge as a vital element to achieve sustainability to achieve industrial growth.



**Shri Yatish Parekh**, Hon'ble Chairman of Sarvajani Education Society, appreciated the initiatives taken by the coordinators and the department on the relevant theme required for sustainable environment. He believed such talks and topics are a benefit to a society. He highlighted the importance of water in context to panchtatva and showed concern on the uncontrolled industrial development harming the panchtatva leading to unpredicted weather patterns. He concluded emphasising the department and institute for organising such expert talks and workshops continuously for upgrading the knowledge with new innovations, new ideas in context to current scenario.

**Prof. (Dr.) Pratima Patel**, Professor and Head of Environmental and Civil Department, SCET, gave vote of thanks to one and all involved in the workshop. She briefed about many such expert talks and workshops to be held in the department. She congratulated the participants for their active involvement throughout the workshop. She appreciated the efforts put by the coordinators for organising such informative workshop within short time.





## ACKNOWLEDGEMENT

The Department of Environmental Engineering and Department of Civil Engineering humbly acknowledge the support of one and all for extending their help in organizing this event and are thankful to the college for providing the infrastructure help during the workshop. We are fortunate to be family member of Sarvajanik Education Society and reciprocate a gesture of appreciation towards,

**Shri Yatish Parekh**, Chairman, Sarvajanik Education Society

**Shri Chandrakant S. Jariwala** Vice Chairman I of Sarvajanik Education Society

**Shri Kamlesh Yagnik**, Vice Chairman II of Sarvajanik Education Society

**Dr Vaishali Mungurwadi**, Respected Principal, Faculty of Engineering, SCET and ISTE Institutional Head

**ISTE Faculty Chapter**, SCET

**Teaching and Non-teaching Members**, Department of Civil Engineering

**In charge Registrar and Administrative staff** of SCET

All those who directly or indirectly supported the workshop.

## SOME GLIMPSES OF THE WORKSHOP















***Report Compilation by Prof. Mehali J. Mehta***